

MILITARY ENGINEER SERVICES
GARRISON ENGINEER (AF) No 2 JODHPUR

CA NO. GE (AF) 2/JODH/ OF 2026-27: PETTY REPAIR AND INTERNAL WATER SUPPLY
AT BUNDELA ENCLAVE, DILBAG ENCLAVE & MES COLONY UNDER AGE B/R-II,
GE (AF) NO.2 JODHPUR

INDEX SHEET

Ser No	Particulars	Serial Page Nos
1.	Index Page	01
2.	Tender forwarding letter together with Instructions on filling and submission of tender	02 to 06
3.	Notice inviting tender (IAFW-2162) and Appendix 'A' to Notice inviting tender.	
4.	Item rate tender and contract for work (IAFW-1779A, Revised 1955), {Except Schedule 'A' (BoQ)}, 'B', 'C', 'D' & General Summary.	
5.	General Conditions of Contracts IAFW-2249 (1989 PRINT) including amendments & errata and Schedule of Minimum Fair Wages.	
6.	Particular Specification Section-I (Special Conditions)	
7.	Particular Specification Section-II including Appendix 'B', 'C', 'D', 'E', 'F' & 'G'	
8.	Schedule (Excel sheet in BOQ)	
9.	Errata/Amendments to tender documents	
10.	Relevant correspondence	
11.	Acceptance letter	

Drawings : NIL

Total Pages _____

Signature of Contractor

Dated:

AGE (Contracts)
for Accepting Officer

Tele : 0291- 2671846
Fax : 0291 - 2671847
E-mail : af2jodh4-mes@gov.in

Garrison Engineer (AF) No 2
Military Engineer Services
Air Force Area, Jodhpur

No. 8576/ /E8

Apr 2026

M/S _____

**CA NO. GE (AF) 2/JODH/ OF 2026-27: PETTY REPAIR AND INTERNAL WATER SUPPLY AT
BUNDELA ENCLAVE, DILBAG ENCLAVE & MES COLONY UNDER AGE B/R-II,
GE (AF) NO.2 JODHPUR**

Dear Sir(s),

1. Tender documents in respect of above work are uploaded on the site www.defproc.gov.in. The tender is on single stage two cover e-tendering system. The contents of Cover I & Cover II are specified in NOTICE OF TENDER.
2. Bids will be received online by ACCEPTING OFFICER upto the date and time mentioned in the **NOTICE INVITING TENDER (NIT)**. No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bonafide tender/bid.
3. Bid will be opened on due date and time fixed for opening in the presence of tenderers / bidders or their authorized representatives, who have uploaded their quotation bid and who wish to be present at the time of opening the bids.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents and/or depute your technical representative for discussion on tender/drawings and to clarify doubts, if any, on or before bid submission start date and time mentioned in the NIT. You are requested not to write piece meal points and fwd your points duly consolidated before bid submission start date mentioned in the NIT.
5. Un-enlisted contractors are required to submit the scanned copies (in pdf file) of documents required as per eligibility criteria mentioned in instructions for filling the tender documents and Appendix 'A' to **NIT** alongwith EARNEST MONEY DEPOSIT (EMD) and tender fee on e-procurement portal and submit the physical documents in the office of Garrison Engineer (AF) No 2 Jodhpur within time limit specified in **NIT**. Inadequacy/deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of finance bid.
6. Contractor having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of Tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date and time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.
7. Enlisted contractors of MES shall submit the scanned copies (pdf file) of enlistment letter, tender fee and such other documents as mentioned in Appx 'A' to **NIT** on e-procurement portal and submit physical documents in the office of GE (AF) No 2 Jodhpur before date & time fixed for this purpose.

8. The contractor must ensure that the tender/bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations/offer received in any other electronic or physical form like email/fax/by hand/through post from tenderer/bidder even if they are received in time.
9. In view of delays due to system failure or other communication related failures, it is suggested that the tender/bid be uploaded, if necessary, sufficiently in advance of the last due date and time fixed.
10. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and MES SSR (Part-I and Part-II) are not enclosed with these documents. These are available for perusal in the office of GE concerned and this office.
11. ANY TENDERER, WHICH PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.

Yours faithfully,

Encls : As above

Signature of Contractor

AGE (Contracts)
for Accepting Officer

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**1. EARNEST MONEY DEPOSIT (EMD)**

Contractor(s) who are not enlisted with MES/who are enlisted but have not executed the Standing Security Bond shall submit Earnest Money Deposit as detailed in Notice of Tender in one of the following forms, alongwith their tender/bid :-

- (a) Deposit at Call Receipt from Scheduled Bank in favour of GE (AF) No 2 Jodhpur.
- (b) Receipted treasury Challan, the amount being credited to the Revenue Deposit of GE(AF) No 2 Jodhpur.

It is advisable that Earnest Money is deposited in the form of deposit call receipt from an approved Schedule Bank for easy refund. In case the tenderer/bidder wants to lodge 'EARNEST MONEY DEPOSIT' in any other form allowed by MES, a confirmation about its acceptability will be obtained from the Accepting Officer will in advance of the bid submission end date and time. Earnest Money Deposit shall be submitted in the name of concerned GE.

NOTE : Earnest Money Deposit (EMD) in the form of cheque/Bank Guarantee etc will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (EMD) (Scanned copy alongwith Technical Bid and hard copy before the date & time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR OPENING OF COVER II (FINANCE BID).

2. PERFORMANCE SECURITY

2.1 Refer Condition 19 of IAFW-2249 (General Conditions of Contracts). Within 28 days of receipt of the letter of Acceptance, the successful contractor shall deliver to the Accepting Officer a Performance Security in the form of Bank Guarantee (Issued by Nationalized/Scheduled Bank as per Appx 2.1 to Manual of Contracts 2007 with modifications with respect to Performance security in place of security deposit), Govt Security, FDR for an amount equivalent to **5%** of the contract sum. Non compliance of this provision shall constitute sufficient grounds for cancellations of awarded contract and forfeiture of Earnest Money. SSD deposited by Registered contractor shall serve the purpose of exemption of Earnest money. If the Performance Security is not deposited by the registered contractor, the contract shall be cancelled and contractor shall deposit the amount equal to Earnest Money through MRO and issue of tender shall remain suspended to such contractor till the aforesaid amount is deposited in Govt Treasury.

2.2 The Performance Security shall be in favour of Accepting Officer and shall be in any of the forms mentioned above. Work Order No 01 shall be placed only after submission of performance Security of adequate value by the contractor. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the Performance Guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss cause thereby shall fall on the contractor and the contractor shall forthwith on demand furnished additional security to the Government to make good the deficit.

2.3 The period of validity of the Bank Guarantee Bond against Performance Security shall be initially valid upto the stipulated date of expiry of Defects Liability Period plus minimum sixty days beyond that. In case final bill is not paid during this period, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time required for payment of final bill.

2.4 BLANK

3. BLANK

4. BLANK

5. GENERAL INSTRUCTIONS FOR COMPLIANCE

5.1 The bids received only in the electronic form will be considered. All the bids shall be submitted on 'defproc.gov.in' portal. Documents should be scanned and forward in 'pdf' form and 'xls' form as indicated.

5.2 Bids shall be uploaded on 'defproc.gov.in' portal on or before the bid closing date mentioned in the tender. No tender/bid in any other electronic or physical form like email/fax/by hand/through post will be considered.

5.3 Bid should be DIGITALLY signed using valid DSC. All pages of tender documents, corrections/alterations shall be signed/initialed by the lowest bidder after acceptance.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (CONTD)

5.4 Drawings, if issued in physical form, must be returned duly initialled by the tenderer/bidder in separate envelope indicating his name and address.

5.5 The tender shall be signed, dated and witnessed at the places provided for in the documents after acceptance. All corrections shall be initialed. The Contractor shall initial every page of tender and shall sign all drawings forming part of the tender. Any tender/bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.

5.6 In the technical bid, a scanned copy of Power of Attorney in favour of the person uploading the bid using his/her DSC shall be uploaded. In case the digital signatory himself is the sole proprietor, scanned copy of an affidavit on stamp paper of appropriate value to this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or a limited company, digital signatory of the bid/tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or Memorandum and Article of Association of the Company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy of the documents confirming of such authority shall be attached with the tender/bid in 'pdf' form, if not submitted earlier. The person uploading the bid on behalf of another partner(s) or on behalf of a firm or company using his DSC shall upload with the tender/bid a scanned copy (in 'pdf' form) of Power of Attorney duly executed in his favour by such other or all of the Partner(s) or in accordance with constitution of the company in case of company, stating that he has authority to bind such other person of the firm or the Company, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.

5.7 Even in case of Firm or Companies which have already given Power of Attorney to an individual authorizing him to sign tender in pursuance of which bids are being uploaded by such person as a routine, fresh Power of Attorney duly executed in his favour stating specifically that the said person has authority to bind such partners of the Firm, or the Company as the case may be, including the condition relating to Arbitration Clause, should be uploaded in 'pdf' form with the tender/bid; unless such authority has already been given to him by the Firm or the Company. It shall be ensured that power of attorney shall be executed in accordance with the constitution of the company as laid down in its Memorandum & Article of Association.

5.8 Hard copies of all above documents should be sent by the contractor to the Tender issuing authority well in advance to be received before the date and time fixed for the same.

5.9 Bid (Cover 1 & 2) shall be uploaded online well in time.

5.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to Special Condition 4 referred hereinafter and also conditions 24 & 25 of IAFW 2249 (General Conditions of Contracts).

5.11 Tenderers/bidders who uploaded their priced tenders/bids and are desirous of being present at the time of opening of the tenders/bid, may do so at the appointed time.

5.12 The tenderer/bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted, else the bid will be disqualified and summarily rejected.

5.13 In case the tenderer/bidder has to revise/modify the rates quoted in BoQ (excel sheet) he can do so only in the BOQ, through defproc.gov.in site only before the bid closing time and date.

5.14 Department may issue amendments/errata in form of CORRIGENDIUM to tender/revised BOQ to the tender documents. The tenderer/bidder is requested to read the tender documents in conjunction with all the errata/amendments/corrigendum, if any, issued online by the department.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (CONTD)

5.15 Tenderer is required to check if any Revised BOQ has been uploaded, and quote in Revised BOQ only. Uploading bid in pre-revised BOQ shall be considered as a willful negligence by the bidder and his bid shall be considered Non-Bonafide.

5.16 The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time otherwise the uploaded bid will be rejected.

5.17 The server time which is displayed on defproc.gov.in will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

5.18 The date of receipt of tender as referred to in tender documents at various locations / for various purposes shall be the last date of bid submission (i.e. Bid submission end date).

5.19 No out of pocket expenditure incurred by tenderer for quoting the tender will be reimbursed.

6. REVOCATION/REVISION OF OFFER UPWARD/OFFERING VOLUNTARY REDUCTION, AFTER CLOSING OF BID SUBMISSION DATE & TIME

In the event of lowest tenderer/bidder revoking his offer or revising his rates upward/offering voluntary reduction, after closing of bid submission date & time, his offer will be treated as revoked and the Earnest Money deposited by him shall be forfeited. In case of MES enlisted Contractors, the amount equal to the Earnest Money stipulated in the Notice of tender, shall be notified to the tenderer/bidder for depositing the amount through MRO. Bids of such Contractors/bidders shall not be opened till the aforesaid amount equal to the earnest money is deposited by him in Govt Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent calls. Reduction offered by the tenderer/bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

7. CPM (Critical Path Method)

7.1 The project planning for work covered in the scope of tender is based on CPM.

7.2 The tenderer/bidder is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available in the market which the tenderer/bidder may make use of.

7.3 The tenderer's/bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer/bidder in using the technique will be taken as his technical inefficiency and will affect his class of enlistment and future prospect/invitation to tenders for future works.

8. These instructions shall form part of the contract documents.

Signature of Contractor

AGE (Contracts)
for Accepting officer

(In lieu of IAFW-1779A (Rev-1955))

**TO BE USED IN CONJUNCTION WITH GENERAL CONDITIONS OF CONTRACTS
IAFW-2249 (1989 PRINT)****MILITARY ENGINEER SERVICES**

Tele : 0291- 2671846
Fax : 0291 - 2671847
E-mail : af2jodh4-mes@gov.in

E-PROCURE

Garrison Engineer (AF) No 2
Military Engineer Services
Air Force Area, Jodhpur

No. 8576/ /E8

Apr 2026

**TENDER AND ITEM RATE CONTRACT FOR CA NO. GE (AF) 2/JODHI/ OF 2026-27: PETTY
REPAIR AND INTERNAL WATER SUPPLY AT BUNDELA ENCLAVE, DILBAG ENCLAVE & MES
COLONY UNDER AGE B/R-II, GE (AF) NO.2 JODHPUR**

1. Shri/M/S_____ of _____
is/are hereby authorized to tender for the above mentioned work. The tender is to be submitted on line
(www.defproc.gov.in) by the time and date mentioned in NIT issued by the GE (AF) Jodhpur No 2.
2. All correspondence concerning to this tender shall be addressed as indicated on the top of this
letter quoting the reference as given.

**THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR ANY
OTHER TENDER.**

Signature of the Contractor

(Signature of the Officer
Issuing the tender Documents)
Appointment : AGE (Contracts)
for Accepting Officer
(for and on behalf of the President of India)

SCHEDULE 'A'**NOTES :-**

1. **SCOPE OF WORK** : The work required to be completed under said tender is all as described in Schedule 'A' items and all as specified in particular specifications, drawings (where applicable) and general specifications.
2. The quantities for all items of Schedule 'A' (BOQ) as indicated in column 3 are approximate/provisional and are inserted as a guide. They do not constitute any guarantee to the ultimate quantities which will be ordered under this contract.
3. The contractor shall calculate his own details and insert unit rates in figures in appropriate column of Schedule 'A' (BoQ). The aforesaid unit rates shall be based on description of items in Schedule 'A', drawings (where mentioned in Schedule 'A' or specifications), specifications and other general specifications attached herewith.
4. All items in Schedule 'A' (BoQ) are for **Material and Labour** or **Supply and Fixing** and laying, jointing, connecting, installing, commissioning, testing etc complete in all respect, unless specifically described otherwise as "Labour only" and/or "Supplying only" and in the description of Particular items under Col 2. Abbreviation used in description of item as "S&F" means "Supply and fixing" and "M&L" means "Material and labour".
5. Description of items of works given under column 2 of Schedule 'A' is in brief. These shall be deemed to be amplified and read in conjunction with Special Conditions, Particular Specifications, specifications contained in the relevant trade sections of MES Standard Schedule of Rates (SSR) including preambles and contract drawings including notes therein. The tenderers are requested to visit the site under this contract before quoting their rates. No claim on this ground shall be entertained at later stage.
6. **PERIOD OF COMPLETION** The entire work covered under this contract shall be completed within an overall period of **180 days** from the date of commencement of work as given in the Work Order No 1.
7. The unit rates quoted by the tenderer in respect of the works covered under this contract shall be deemed to include for any minor details of work which are obviously and fairly intended and which may have not been included in these documents but which are essential for the execution and entire completion of the work in a workman like manner and sound construction. In case of any difference of opinion between the GE (AF) Jodhpur No 2 and the contractor to whether or not a certain item of work constitutes "Minor Details" of construction and cost of which is deemed to have been included in the rates quoted by the contractor the decision of the Accepting Officer in this regard shall be final, conclusive and binding.
8. The total amount of Schedule 'A' shall be treated as "CONTRACT SUM" referred to in IAFW-2249 (General Conditions of Contracts). However, the amount of Schedule of Credit shall be deducted from the total quoted amount of BoQ (Schedule 'A') to arrive at "Contract Sum".
9. The rate quoted by the tenderer shall be inclusive of all types of taxes, levies including GST, labour welfare cess, etc as prevailing on the date of submission of tender. Certain taxes such as Central excise duty, service tax, additional custom duty, state level value added tax, octroi and other levies which were applicable on interstate transportation of goods are subsumed by GST, thus Special Condition No. 24 here-in-after for Reimbursement/Refund on Variation in "Taxes Directly related to Contract Value" of tender shall be deemed to be amended incorporating GST in lieu of taxes mentioned in the condition but subsumed by GST. No price adjustment in quoted rates on account of any changes in above mentioned tax structure shall be made. The contractor is advised to quote his rates duly keeping this aspect in mind.

SCHEDULE 'A' (CONTD)

10. All the materials to be incorporated in the work shall be tested as per the latest and relevant IS codes if not otherwise specified elsewhere in tender documents. The cost of the same shall be deemed to be included in the unit rates quoted.
11. The following abbreviations have been used in the Schedule 'A' :-
- | | | | |
|--------------|-----------------|--------------|----------------|
| (a) RM | : Running Metre | (b) SQM, Sqm | : Square Metre |
| (c) CUM, Cum | : Cubic Metre | (d) Kg | : Kilo Gram |
| (e) CM, cm | : Centimetre | (f) MM, mm | : Millimetre |
| (g) Qtl | : Quintal | | |
12. Site for execution of work shall be available as soon as the work is awarded, in case it is not possible for the department to make the entire site available on the award of the contract the tenderer will have to arrange his working programme accordingly. No claim what so ever for not giving him the entire site on award of contract and for giving the site gradually will be admissible.
13. Items and their quantities for which no rates or prices have been quoted by the tenderer shall be deemed to have been covered by the rates and prices quoted by him for the other items of Schedule 'A' (BOQ). In case any repeated items catered in BoQ, the payment shall be made on the minimum rate quoted against any of items.
14. The contractor shall organise required tools, plants and transportation etc at his own level. Cost element of organising and functioning of these shall be included in the unit rates quoted by the tenderer and nothing extra shall be payable to the contractor in this regard.
15. Police verification of the antecedents of contractor's representative/labour deployed at site in connection with execution of work under the contract as per security requirement of cantonment shall be the responsibility of the contractor and all expenses in connection with verification of antecedents by the police authorities/Security agency shall be borne by the contractor.
16. The old unserviceable materials obtained under Schedule 'A' shall be Contractors property and recovery shall be made as per Schedule of Credit. However, other material which are not included in the Schedule of Credit shall be Govt property and be deposited to the store by contractor at his own arrangement.
17. **Defect Liability Period:** In terms of Condition 46 of IAFW-2249 (as amended vide amendment No 49), the Defect Liability Period in respect of this tender shall be Twelve (12) calendar months.
18. **SPECIAL (STAR) RATE**
- (a) In case of any deviation, mode of pricing shall be decided by Accepting Officer in terms of Condition 62 of IAFW-2249.
- (b) In the event of a deviation order involving fixation of Special (Star) Rate, Draft Rate shall be prepared by GE (within a maximum period of 30 days) while initiating the proposals for deviation seeking approval of Accepting Officer and notified to contractor. While notifying the Draft Rate, it will be clearly stipulated that the same is merely an estimated rate and firm rate shall be fixed based on actual and receipt of supporting documents from contractor such as vouchers/literature of product/test certificates etc (as applicable) on completion of the work involving Star Rate. Any objection to the method of fixing Star Rate will be dealt as per Condition 7 of IAFW-2249.
- (c) Draft Star Rate shall be made based on market enquiry through telephonic enquiry / quotations / email / rate lists / internet based sources, material & labour constants available in various Civil Engineering books and record available in respect of Star Rates approved in the past for similar items of work etc. Contractor may also assist GEs office in preparation of draft Star Rate.

SCHEDULE 'A' (CONTD)

(d) The Draft Star Rate shall be purely a draft rate and shall not be used for claiming final payment during execution of work. However GE shall allow part payment to the tune of 80% during execution to avoid any financial hardship to contractor.

(e) After completion of the item of work involving Star Rate, contractor shall submit the vouchers/literature of product/test certificates (as applicable, decision of GE being final in case of any disagreement) for finalisation of Star Rate. The Star Rate shall be technically checked by DCWE(C)/Director(C) depending upon the financial effect & approved by competent authority within a period of one month from submission of the relevant documents by contractor as mentioned above.

(f) The Star Rate as approved by competent authority after technical check by DCWE(C)/Director(C) depending upon the financial effect shall be referred as "the rate decided by GE" under Para 62(G) of IAFW-2249.

SCHEDULE 'A' (CONTD)

Sl. No.	Description of items of Works	Ref to Drg. No.	Unit	Appx Nos of unit required	Unit rate (Both in figures and words)	Amount	Period of completion of individual items after date of handing over of site	Remarks
1	2	3	4	5	6	7	8	9
	Refer Ser. Item Nos 1.00 to 74.00 inserted in BoQ	-	As per BoQ	As per BoQ	Rate to be quoted by the bidder in BoQ			

Signature of Contractor

AGE (Contracts)
for Accepting officer

SCHEDULE OF CREDIT**NOTES:-**

1. The quantities given in Column 4 are approximate and are inserted as guide only. They do not constitute any guarantee of the quantities which will be ordered under this contract. However the materials listed in this schedule shall be measured jointly by contractor and Engineer-in-Charge at the unit shown and recorded in the MB and abstracted separately (as done for provisional items under Schedule 'A') at the assessed credit rates given in this Schedule.
2. The total amount of credit inserted by MES in Column 6 shall be taken as lump sum for the purpose of acceptance of tender.
3. The rates of unserviceable materials obtained from demolition/dismantling are assessed by the department and are inserted in Column 5 here-in-below. The contractor shall have no claim whatsoever if the actual value of material is different from the assessed value indicated in Column 5. The tenderers shall be deemed to have visited the site and accounted themselves with the nature, extent and quality of material that become contractor's property as per this Schedule.
4. The final quantities for different items listed in this schedule shall depend upon the quantities ordered for taking down/dismantling etc., under various items of Schedule 'A'.
5. The items becoming the property of contractor under this schedule, and shall not be reused in the work by the contractor.
6. The serviceable materials obtained from taking down/dismantling etc., other than those listed in this schedule shall be the property of MES and the contractor shall be responsible for returning the same to MES store yard of Engineer-in-Charge at no extra cost to the Government. Accepting Officer reserve the right to retain any or the full quantity of demolished / dismantled materials which in his opinion is serviceable and same shall be deposited by the contractor in the store yard of Engineer-in-charge without any extra cost to Govt. The contractor shall not have any claim whatsoever on this account. However, the recovery shall be effected only for the quantities issued to the contractor.
7. The materials listed in this schedule will not be allowed to be removed by the contractor from the site till such time in which the value of work done is more than the value of credit for such materials.
8. The Credit Schedule shall be taken into account by the tenderer while arriving at the amount for works under Schedule 'A'. It is clarified that no percentage (Plus/Minus) can be quoted by the tenderers on rates/amount of this Schedule of Credit and each credit rate as inserted by the department is firm. The rates/amount inserted by the department in Schedule of Credit shall be considered with regard to arriving at the Contract Sum & for payment purpose etc.
9. The credit amount shall be deducted in the RARs as and when the materials are obtained after taking down/dismantling.
10. The dismantled materials shall be removed from the site only after recording measurement in the MB and after obtaining written permission from the Engineer-in-Charge. Removal/ transportation of retrieved unserviceable materials which shall become contractor's property shall be the responsibility of the contractor without any extra cost to Govt.
11. The unserviceable materials obtained, if any out of taking down/dismantling shall be disposed off to a distance 100 m but not exceeding 5 Km from the starting point which has not been included in this Schedule and debris shall also be disposed off at places as directed by Engineer-in-Charge.
12. Abbreviation used in description of item as "U/S" means "unserviceable".

SCHEDULE OF CREDIT (CONTD)

Sr No	Description of item	Unit	Approx. Nos. of units	Rate in Rs	Amount in Rs.	Remarks
1	2	3	4	5	6	7
1	Old U/S water tank exc. 250 but n. exc 500 litres capacity retrieved from serial item No. 3.00 of BOQ.	Each	25	50.00	1250.00	Refer Notes for all items of Credit Schedule
2	Old U/S water tank exc. 500 but n. exc 1000 litres capacity retrieved from serial item No. 4.00 of BOQ.	Each	8	100.00	800.00	
3	Old U/S gate valve 15 mm bore retrieved from serial item No. 7.00 of BOQ.	Each	10	40.00	400.00	
4	Old U/S gate valve 20 mm bore retrieved from serial item No. 8.00 of BOQ.	Each	75	50.00	3750.00	
5	Old U/S gate valve 25 mm bore retrieved from serial item No. 9.00 of BOQ.	Each	8	55.00	440.00	
6	Old U/S GI tubing 15 mm bore retrieved from serial item No.10.00 of BOQ.	RM	555	10.00	5550.00	
7	Old U/S GI tubing 20 mm bore retrieved from serial item No.11.00 of BOQ.	RM	380	15.00	5700.00	
8	Old U/S GI tubing 25 mm bore retrieved from serial item No.12.00 of BOQ.	RM	110	15.00	1650.00	
9	Old U/S bib tap, pillar tap, stop cock retrieved from serial item No. 16.00 to 18.00 of BOQ.	Each	1200	20.00	24000.00	
10	Old U/S shower rose retrieved from serial item No. 20.00 of BOQ.	Each	180	20.00	3600.00	
11	Old U/S stainless steel sink retrieved from serial item No. 21.00 & 22.00 of BOQ.	Each	14	100.00	1400.00	
12	Old U/S wash basin, urinal pot & WCs retrieved from serial item No. 23.00 to 25.00 & 34.00 of BOQ.	Each	92	25.00	2300.00	
13	Old U/S flushing cistern retrieved from serial item No. 26.00 of BOQ.	Each	220	10.00	2200.00	
14	Old U/S floor trap, nahani trap retrieved from serial item No. 29.00 & 33.00 of BOQ.	Each	125	5.00	625.00	
15	Old U/S tank cover retrieved from serial item No. 35.00 of BOQ.	Each	280	5.00	1400.00	
16	Old U/S waste pipe & PVC connection retrieved from serial item No. 37.00 & 47.00 of BOQ.	Each	970	2.00	1940.00	
17.	Old U/S center basin mixture, wall mixture & sink mixture retrieved from serial item No. 19.00, 41.00 & 60.00 of BOQ.	Each	17	50.00	850.00	
Total carried over to next page					87,855.00	

SCHEDULE OF CREDIT (CONTD)

Sr No	Description of item	Unit	Approx. Nos. of units	Rate in Rs	Amount in Rs.	Remarks
1	2	3	4	5	6	7
Total brought forward					87,855.00	
18.	Old U/S towel rail retrieved from serial item No. 43.00 of BOQ.	Each	20	5.00	100.00	Refer Notes for all items of Credit Schedule
19.	Old U/S plate rack retrieved from serial item No. 44.00 of BOQ.	Each	10	100.00	1000.00	
20.	Old U/S health faucet retrieved from serial item No. 47.00 of BOQ	Each	350	20.00	7000.00	
21.	Old U/S aluminum tower bolt, handle, sliding door bolt retrieved from serial item No. 49.00, 50.00, 51.00 & 61.00 of BOQ.	Each	490	10.00	4900.00	
22.	Old U/S MS wire cloth any size retrieved from serial item No. 53.00 of BOQ.	Sqm	180	5.00	900.00	
23.	Old U/S PTMT Bib tap of 15mm bore retrieved from serial item No. 62.00 of BOQ.	Each	250	5.00	1250.00	
24.	Old U/S PTMT Pillar tap of 15mm bore retrieved from serial item No. 63.00 of BOQ.	Each	190	5.00	950.00	
25.	Old U/S 2in1 Tap rail retrieved from serial item No. 71.00 of BOQ	Each	150	20.00	3000.00	
26.	Old U/S toilet paper holder retrieved from serial item No. 59.00 of BOQ	Each	10	5.00	50.00	
27.	Old U/S curtain rod with bracket retrieved from serial item No. 54.00 of BOQ	RM	500	2.00	1000.00	
28.	Old U/S PVC Seat cover retrieved from serial item No. 55.00 of BOQ	Each	100	2.00	200.00	
29.	Old U/S PVC Cabinet mirror retrieved from serial item No. 56.00 of BOQ	Each	60	3.00	180.00	
30.	Old U/S Looking mirror retrieved from serial item No. 57.00 of BOQ	Each	180	2.00	360.00	
31.	Old U/S Glass Shelf retrieved from serial item No. 58.00 of BOQ	Each	230	2.00	460.00	
Total amount of Schedule of credit carried over to General Summary					79,205.00	

Signature of Contractor

AGE (Contracts)
For Accepting officer

GENERAL SUMMARY

1. Total amount of Schedule 'A' (BoQ)	Rs. _____
2. Deduct : Amount of Schedule of Credit	Rs. 79,205.00
CONTRACT SUM	Rs. _____

Signature of Contractor

AGE (Contracts)
for Accepting Officer

SCHEDULE 'B'
(ISSUE OF MATERIALS TO THE CONTRACTOR)
(See condition 10 of IAFW-2249)

Srl No.	Particulars	Rate at which materials will be issued to the contractor		Place of issue by name	Remarks
		Unit	Rate		
1	2	3	4	5	6

----- NIL -----

Signature of Contractor

AGE (Contracts)
for Accepting officer

=====

SCHEDULE 'C'
LIST OF TOOLS AND PLANTS (OTHER THAN TRANSPORT)
WHICH WILL BE HIRED TO THE CONTRACTOR
(See Condition 15, 34 and 35 of IAFW-2249)

S.No	Quantity	Particulars	Details of MES crew supplied	Hire Charges Per unit Per working day	Stand by charges Per unit Per Off day	Place of issue by name	Remarks
1	2	3	4	5	6	7	8

----- NIL -----

Signature of Contractor

AGE (Contracts)
for Accepting officer

=====

SCHEDULE 'D'
TRANSPORT TO BE HIRED TO THE CONTRACTOR
(SEE CONDITION 16 AND 35 OF IAFW- 2249)

S.No	Quantity	Particulars	Rate Per unit Per working day	Place of issue by name	Remarks
1	2	3	4	5	6

----- NIL -----

Signature of Contractor

AGE (Contracts)
for Accepting officer

TENDER

To,

THE PRESIDENT OF INDIA

Having examined and perused the following documents :-

1. Special Conditions & Specifications signed by the Officer issuing the tender documents.
2. Drawings detailed in the specifications.
3. Schedule 'A', 'B', 'C' and 'D' attached here to.
4. MES Standard Schedule of Rates 2009 Part-I (Specifications) and Standard Schedule of Rates 2020 Part-II (Rates) (hereinafter and in IAFW-2249 referred to as the MES Schedule) together with errata/amendments as under :-

SSR-2009 (Part-I) : 1(a) to 3
SSR-2020 (Part-II) : 1 to 122 & Section 30
5. General Conditions of Contracts IAFW-2249 (1989 Print) together with amendment No. 1 to 49 and errata No. 1 to 20.
6. Water : Refer Condition 31 of IAFW-2249 (General Conditions of Contracts) : The water will not be supplied by the MES to contractor
7. Should this tender be accepted :-

I/We agree :-

*(a) That the sum of **Rs. 60,000/-** forwarded as earnest money shall either be retained as a part of the Performance Security or refunded by Government on receipt of the appropriate amount of Performance Security as per condition 19 of IAFW-2249.

(b) To execute all the work referred to in the said documents upon the terms and conditions contained or referred to therein at the item rates contained in the aforesaid Schedule 'A' or at such other rates as may be fixed under the provision of Condition 62 of IAFW-2249 and to carry out such deviations as may be ordered vide Condition 7 of IAFW-2249 up to a maximum of **10% (Ten percent)** and further agree to refer all disputes as required vide condition 70 of IAFW-2249 to the sole Arbitrator of a serving officer having degree in Engineering or equivalent or having passed final/direct final examination of sub division II of Institution of Surveyors (India) recognized by the Govt. of India, to be appointed by the Chief Engineer Gandhi Nagar Zone, Air Force Stn Gandhi Nagar or in his absence, the officer officiating as Chief Engineer Gandhi Nagar Zone, Gandhi Nagar, if specifically delegated in writing by Chief Engineer Gandhi Nagar Zone, Air Force Stn Gandhi Nagar, whose decision shall be final, conclusive and binding.

* Delete whichever is not applicable.

In lieu of IAFW-1779 A (R-1955)**TENDER (Contd)**

Signature _____ (with name in block capital letters) in the capacity of _____ duly authorised to sign the tender for and on behalf of M/s _____ (IN BLOCK CAPITAL LETTERS).

Witness : _____

Dated: _____

Address : _____

Postal Address _____

E-mail ID _____

Telephone No. _____

ACCEPTANCE

_____ alteration(s) have been made in these documents and as evidence that these alteration(s) were made before the execution of the contract agreement, they have been initialed by the contractor and Shri _____, AGE (Contracts), for Accepting Officer. The said officer(s) is/are hereby authorized to sign and initial on my behalf the documents forming part of this contract.

The above tender was accepted by me on behalf of THE PRESIDENT OF INDIA at the item rates contained in the Schedule 'A' for the Contract Sum of Rs. _____

Rupees _____

_____ on the _____ day of _____ 2026.

Signature _____

Dated this _____ day of _____ 2026

Appointment : GE (AF) No 2 JODHPUR
MILITARY ENGINEER SERVICES, JODHPUR
ACCEPTING OFFICER
(FOR AND ON BEHALF OF THE PRESIDENT OF INDIA)

GENERAL CONDITIONS OF CONTRACTS (IAFW-2249 : 1989 PRINT)**FOR****MEASUREMENT CONTRACTS (IAFW-1779 & 1779-A)**

1. A copy of the General Conditions of Contracts (IAFW-2249 : 1989 Print) with errata 1 to 20 and amendments 1 to 48 has been supplied to me/us and is in my/our possession. I/We have read and understood the provisions contained in the aforesaid GENERAL CONDITIONS OF CONTRACTS before submission of this tender and I/We agree that I/We shall abide by the terms and conditions therefore, as modified, if any, elsewhere in these tender documents.
2. It is hereby further agreed and declared by me/us, that the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249: 1989 PRINT) including Condition 70 thereof pertaining to settlement of disputes by Arbitration containing 33 pages (Serial Page Nos. **24 to 56**) with errata 1 to 20 and amendments Nos 1 to 48 in 29 pages (Serial Page No. **57 to 85**) and Schedule of minimum fair wages in 9 pages (Serial page No. **86 to 94**) shall form an integral part of these tender documents.
3. My/our signature here under/is in token of my/our having accepted aforesaid documents as forming an integral part of this tender.

NOTES :- (i) The documents mentioned above can be seen in the office of GE (AF) No. 02 Jodhpur or in any other MES office during working hours.
(ii) In case of difference in interpretation due to wording of English and Hindi Version, the English version will prevail as per article 348 of Constitution of India.

Signature of Contractor

AGE (Contracts)
for Accepting officer

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS

1. **GENERAL**

(a) These special conditions shall be read in conjunction with the General Conditions of Contracts (IAFW-2249-1989 PRINT), IAFW- 1779-A(R-1955) / IAFW- 2159(R-1947) including errata and amendments thereto. If there are any provisions in these special conditions which are at variance with the provisions in the above mentioned documents, the provisions in these special conditions shall be deemed to take precedence.

(b) All headings and marginal notes to these special conditions or to any other documents of this contract are solely for the purpose of giving a concise indication and not a summary of the contents of the clause.

(c) The tenderers are advised to point out in writing discrepancy(s) if any of the tender documents, at least five days before the due date of opening of Cover-1. In case discrepancy(s) in contract documents is/are noticed by the contractor during execution of the work, it shall be brought out to the notice of the Accepting officer of contract and other concerned in writing before commencement of the particular work where the discrepancy(s) is/are noticed failing which the contractor shall forfeit his right to claim on account of such discrepancy(s).

(d) Also where there are obvious mistake in any of the contract provisions, the Accepting officer shall be the sole deciding authority with regard to the intention of the contract documents and his decision in this respect shall be final, binding and conclusive.

2. **VISIT TO SITE OF WORK** : (Reference Para 7 & 9 of Notice of Tender (IAFW-2162) and Condition 4 of IAFW-2249).

(a) The tenderers are advised to contact the GE concerned and visit the site of works with his permission. The tenderer shall be deemed to have inspected and examined the site and its surroundings and shall be deemed to have satisfied himself before submitting his tender as to the nature of the ground, the climatic conditions, the nature of the site, nature of work and materials necessary for the completion of the works and the means of access to the site, the accommodation he may require and in general shall be deemed to have himself obtained all necessary information of site risks, contingencies and other circumstances which may influence his tender. No extra payment consequent on any mistake or misunderstanding or otherwise on this account will be allowed.

(b) The tenderer shall be deemed to have inspected the site(s) and made themselves familiar with the working conditions, whether they have actually inspected the site(s) or not.

3. **OTHER AGENCIES AT SITE OF WORK**

The contractor's attention is invited to the fact that during the currency of this contract, works or other services which are outside the scope of work of this contract may be entrusted for execution to other agencies. The contractor shall permit full access and afford normal facilities and usual convenience to other agencies or departmental workmen if any, engaged by the Govt to carryout connected works or services under separate arrangements. The contractor will not be allowed any extra payment on this account.

4. **EMPLOYMENT OF PERSONNEL**

(a) Contractor shall employ only Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no person of doubtful, antecedent and nationality is in any way, associated with the work. If for the reasons of technical collaboration or other considerations the employment of foreign national(s) is unavoidable, the contractor shall furnish full particulars to this effect to the Accepting officer at the time of submission of the tender. As a proof that the contractor has employed only Indian Nationals, he shall render a certificate to GE within one month from the date of acceptance of the tender to this effect. In case the GE desires, contractor will have the police verification done of personnel employed by him.

(b) The GE shall have full powers and without giving any reason to order the contractor immediately to cease to employ, in connection with this contract, any agent, servant or employee whose continued employment is, in his opinion, undesirable. The contractor shall not be allowed any compensation on this account.

(c) The contractor's attention is also drawn to Condition 25 of IAFW-2249 in this connection.

(d) Verification of antecedents of Contractor's representatives/labour deployed at site in connection with execution of work under the contract, as per security requirement of User Unit/installation shall be the responsibility of the contractor and all expenses in connection with verification of antecedents by Police Authority/Security Agency shall be borne by the contractor.

(e) Contractor shall be required to strictly ensure engagement of engineer(s) as stipulated in Condition 25 of IAFW-2249. Inadequate engagement of engineer(s) shall be considered as serious lapse attracting ban / removal / downgrading / debarment of the Firm/Company.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

5. CONDITION OF WORKING (RESTRICTED AREA)

5.1 All work lies in **RESTRICTED AREA**. The restrictions for entry to work site and conditions of working in restricted area shall be as under :-

5.2 **Entry and Exit** : The contractor / his agents / representatives / workmen etc. and his materials, carts, trucks or other means of transport etc will be allowed to enter through and leave from only such gate or gates and at such times as the GE or authorities in charge of the restricted area may at their sole discretion permit to be used. Contractor's authorised representative is required to be present at the places of entry and exit for purpose of identifying his carts, trucks, etc. to the person in charge of the security of the restricted area.

5.3 Identity of Workmen

(i) Every workman shall be in possession of an identity card. The identity card shall be issued after a thorough investigation of antecedents of the labourers by the contractor and attested by Officer-in-Charge of the unit concerned in accordance with the standing rules and regulations of the unit. Contractor shall be responsible for conduct of his workmen, agents or representatives.

(ii) **Identity Card or Passes** : The contractor, his agents and representatives are required individually to be in possession of an identity card or pass which will be examined by the security staff at the time of entry into or exit from the restricted area at any time or number of times inside restricted area.

5.4 **Search** : Thorough search of all persons and transport shall be carried out at each gate and for as many times the gate is used for entry or exist and may also be carried out any number of times at the site within the restricted area.

5.5 **Working Hours** : The units controlling restricted area, usually work during six days in a week and remain closed on the 7th day. The working hours available to the contractor's labour and staff are however appreciatory reduced because of the time of entry and exist during working hours. The exact working hours, working days and number of working days observed for these restricted area(s) where works are to be carried out shall be deemed to have been ascertained by contractor before submitting his tender. The tenderer's attention is invited to the fact that number of working hours for a unit are prescribed in regulations and that they cannot be increased by the Garrison Engineer or authorities controlling the restricted area. The definition or "working days" as given under condition 1(t) of IAFW-2249 does not apply in case where the works are carried out in restricted area.

5.6 **Working on Holidays** : The contractor shall not carry out any work on gazetted holidays, weekly holidays and other non working days except when he is specially authorised in writing to do so by the Garrison Engineer. The GE may at his sole discretion declare any day as holiday or non working day without assigning any reasons for such declaration.

5.7 Fire Precautions

(i) The contractor, his agents, representatives, workmen etc. shall strictly observe the order pertaining to fire precautions prevailing within the restricted area.

(ii) Motor transport vehicle, if allowed by the authorities to enter the restricted area must be fitted with the serviceable fire extinguisher.

5.8 **Female Searcher** : If the contractor desires to employ female labour or works to be carried out inside the area of factory, depot, park etc, and a female searcher is not borne on the authorised strength of the factory, depot, park etc. at the time of submission of tender, he shall be deemed to have allowed in his tender for pay and allowances etc. for a female searcher (Class IV servant) calculated for the period female labouris employed by him inside that area. If more than one contractor employs female labour during any month and female searcher(s) has /have to be employed in addition to the authorised strength of the factory, depot, park etc., the salary and allowances paid to the additional female searcher(s) shall be distributed on equitable basis between the contractors employing female labour taking into consideration the values and periods of completion of their contracts. The GE's decision in regard to the amount payable on this account by any contractor shall be final and binding.

6. SECURITY OF CLASSIFIED DOCUMENTS

Contractor's special attention is drawn to condition 2A & 3 of General Conditions of Contracts (IAFW-2249). The contractor shall not communicate any classified information regarding works either to sub-contractor(s) or other without prior approval of the Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of works and he shall return all documents on completion of the works or on earlier determination of the Contract. The contractor shall along with final bill attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per Condition 3 of General Conditions of Contracts (IAFW-2249).

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

7. **OFFICIAL SECRET ACT**

The contractor shall be bound by the Indian Official Secret Act, 1923 particularly section 5 thereof, all as per Condition 2A of IAFW-2249.

8. **VALIDITY OF TENDER**

The tender shall remain open for acceptance for a period of 60 (sixty) days from the last date of bid submission (Bid submission end date) fixed by the department. The sixty days period shall commence from the next date subsequent to last date of bid submission.

9. **RECORD OF MATERIALS AND PURCHASE VOUCHERS**

(a) The quantity of materials such as cement, steel, paint, bitumen, tar, tar felt, APP membrane, water proofing compound, chemicals for antitermite treatment and the like, as directed by the Engineer-in-charge (the quantity of which cannot be checked after incorporation in the works), shall be recorded in measurement books and signed by the contractor and the Engineer-in-charge as a check to ensure that the required quantity has been brought to site for incorporation in the work.

(b) Materials brought to site shall be stored as directed by the Engineer-in-charge and those already recorded in the Measurement Book shall be suitably marked for identification.

(c) Contractor shall produce vouchers/invoices from the manufacturers and/or their authorized agents for the full quantity of the following materials, as applicable as a pre-requisite before submitting the claim for payment for advances on account of the work done and /or materials collected in accordance with Condition 64 of General Conditions of Contracts (IAFW-2249).

- (i) Water proofing compound
- (ii) Chemical for Anti-termite treatment
- (iii) Paints, distemper, cement base paint & like
- (iv) Cast iron pipes & fittings
- (v) Sanitary fittings
- (vi) Steel windows/ventilators/Aluminium windows
- (vii) Factory made door shutter/PVC doors
- (viii) Floor/Wall tiles
- (ix) Iron mongery
- (x) Tarfelt / bituminous products
- (xi) Salt glazed stoneware pipes
- (xii) Electrical and water supply fittings/fixtures where name of manufacturers/brands are specified or approved.
- (xiii) Cables
- (xiv) Cement
- (xv) Steel
- (xvi) GI pipes and fittings.
- (xvii) Aluminium Sections.

(d) The contractor shall, on demand, produce to the AGE (I), original receipted vouchers/invoices in respect of the materials other than as stated in sub para (c). Vouchers/invoices so produced and verified shall be stamped by the Engineer-in-charge indicating contract number. The contractor shall ensure that the materials are brought to site, in original sealed containers/packing, bearing manufacturers marking except in case of the requirement of material(s) being less than smallest packing.

(e) Bitumen shall be purchased directly from manufacturer only. These vouchers/invoices shall be defaced by the GE/Engineer-in-charge, indicating reference to the contract number, under his dated signature, and CTC thereof shall be kept on record so as to avoid their being used again.

(f) The vouchers/invoices will clearly indicate the contract number and the IS No., specific alternative to which the material conforms in case of various alternative in IS.

10. **MATERIALS AND SAMPLES : Refer Condition 10 of IAFW-2249**

(a) All equipment and materials to be incorporated in the work shall be new and of the best of their kind conforming to the latest IS or in their absence to British or other relevant standard specifications.

(b) The materials and articles, which have been specified from certain makers/manufacturers, shall be of makes/manufacturers as specified. If the manufacturers specified in tender documents make both ISI marked and conforming to ISI, the materials/articles shall be ISI marked.

(c) The materials and articles which have not been specified in tender documents by makes/manufacturers, shall be as under :-

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

- (i) If ISI marked materials are being manufactured the same shall be ISI marked. For list of ISI marked manufacturers refer website BIS i.e., www.bis.org.in
 - (ii) If ISI marked materials are not being manufactured the same shall be conforming to IS specifications.
 - (d) Materials of local origin shall be as specified and conforming to samples kept in GE's office. The tenderer is advised to inspect sample of materials which are displayed in the office of GE, before submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfied himself as to the nature and quality of materials, he is required to incorporate in the work irrespective of whether he has actually inspected them or not.
 - (e) The contractor shall not procure materials and articles unless the samples are first got approved by the GE.
 - (f) The approved samples of materials which lose their identity after incorporation in the work shall be preserved with the GE till completion of work. Thereafter the same shall be removed in 'as is where is' condition by the contractor with prior permission of the GE without any extra cost to the Government. However, the approved samples of materials which do not lose their identity after incorporation and which can be incorporated in the work as decided by the Engineer-in-Charge shall be allowed to be used in the sample quarter/block/work.
 - (g) If the cost of particular item of material in this contract exceeds Rupees one lakh, these materials shall be procured only from the manufacturers or from their authorized dealers/stockist (except in case of material of local origin) and the contractor shall furnish proof thereof to the satisfaction of the GE that the material so comply.
11. **HANDING OVER OF SITE**
Site for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the contractor will have to arrange his working program accordingly. No claim whatsoever, for not giving entire site on award of work and for giving site gradually, will be tenable.
12. **DAMAGE TO EXISTING STRUCTURES**
Any damage to the existing structure, construction, building, road, drain etc. during the execution of works shall be made good by the contractor at his own cost and the site of work shall be left clean & tidy on completion. Rectifications, replacement, reinstatement, making good, touching up etc shall be carried out, conforming to the standard of materials and workmanship originally provided in the work and finished work shall match with existing work in all respects and to the entire satisfaction of the GE. In case of any dispute on this account, the matter shall be referred to the CWE whose decision in writing shall be final, binding and conclusive.
13. **APPROACHES**
The contractor shall make arrangements for and provide at his own cost all temporary approaches, if required to the site(s), after obtaining approval in writing of the GE to the layout of such approaches.
14. **QUARRIES AND ROYALTIES**
Quarries are not available on defence land which is in the charge of MES authorities. Condition 14 of IAFW-2249 shall thus be treated as not applicable.
15. **CRITICAL PATH NET WORK METHOD**
- 15.1 The time and progress chart to be prepared as per Condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed net work analysis and a time schedule. The critical path net work will be drawn jointly by the GE and contractor soon after acceptance of the tender. The time schedule of the activities will be done by the contractor so as to finish the work within the stipulated time. On completion of time schedule a firm calendar date schedule will be prepared and submitted by the contractor to the GE who will approve it after due scrutiny. The schedule will be submitted in four copies within two weeks from the date of handing over the site.
- 15.2 During the currency of the work the contractor is expected to adhere to the time schedule and this adherence will be part of the contractor's performance under the contract. During the execution of the work the contractor is expected to participate in the reviews and updating of the net work undertaken by the GE.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

- 15.3 These reviews may be undertaken at the discretion of the GE either as a periodical appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation order or amendments. Any revision of the schedule as a result of the review will be submitted by the Contractor to the GE within a week, who will approve it after due scrutiny. The contractor will adhere to the revised schedule thereafter. In case of contractor disagreeing to the revised schedule, the same will be referred to the Accepting Officer whose decision will be final, conclusive and binding. GE's approval to the revised schedule resulting in completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension. Extension of time shall be considered and decided by the appropriate authority mentioned in condition 11 of IAFW-2249 and separately regulated.
- 15.4 The Contractor shall mobilise and employ sufficient resources to achieve the detailed schedule within the broad framework of the accepted methods of working and safety.
- 15.5 No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by the department.

16. **ALLOTMENT OF LAND FOR STORAGE OF MATERIALS, TEMPORARY SHEDS, ACCOMMODATION OF LABOUR, CANTEEN AND WORKSHOP ETC : Refer Condition 24 of IAFW-2249.**

Delete the following in Para 1 of Condition 24 of IAFW-2249, General Conditions of Contracts.

"In the event of the areas of land ----- separate areas of land allotted to him" and the following shall be read in conjunction with the above lines of Para 1 of Condition 24 of IAFW-2249.

"The contractor shall be permitted to store his materials including erecting temporary sheds thereon and also erect his labour camps, temporary workshop and the like at the area of land-marked for this purpose in the site plan or in the absence of the same, the area decided by the AGE (I). The contractor shall pay a nominal rent of Rs 1.00 (Rupee one) per year or part of a year in respect of each and every separate area of land allotted to him. Soon after completion of work, all the temporary sheds, workshops, labour camps etc. shall be removed completely and the neat and clean site shall be handed over all as provided in Condition 32 of IAFW-2249 (General Conditions of Contracts) and as directed by the GE.

17. **MINIMUM WAGES PAYABLE : Refer Condition 58 of IAFW-2249**

- (a) The contractor shall not pay wages lower than minimum wages for labour as fixed by the Government of India/State Govt/Union territory, whichever is higher.
- (b) Contractor's attention is also drawn amongst other things to the 'explanations' to the schedule of minimum wages referred to above.
- (c) The fair wages referred to in Condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages, referred to above as upto date from time to time.
- (d) Schedule of minimum wages is not enclosed alongwith tender documents. However contractor shall be deemed to have verified the minimum fair wages payable as on the last due date of receipt of tender.
- (e) The contractor shall have no claim whatsoever, if on account of local factor and/or regulations, he is required to pay the wages in excess of minimum wages as described above during the execution of work.

18. **WATER (REFER CONDITION 31 OF IAFW 2249)**

- (a) Reference Condition 31 of General Condition of Contract (IAFW-2249).

(b) Water will be supplied by MES to contractor at a point through meter and recovery for water shall be effected at the rate of Rs 18.17 per 1000 Ltrs of water supplied subject to a minimum of Rs. 3.75 per every Rs. 1000/- worth of work done priced at contract rates. The exact location of water point shall be shown by the GE. Contractor shall arrange for storage and conveyances of water necessary at his own expenses. Water meter including necessary fixing arrangement shall be provided by the contractor without any extra cost to the Govt. However the water meter will be returned to the contractor on completion of the work. The record for consumption of water will be maintained by Engineer-in-Charge.

(c) MES will not be liable for any damage or compensation on account of failure of supply of water or curtailment in the supply as the case may be arising from any cause whatsoever. If the supply of water is not sufficient, the contractor shall make his own arrangement for water at his own cost.

(d) Contractor will not be allowed to dig any well/tubewell inside the Defence land.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

19. ELECTRIC SUPPLY

(a) In case the contractor desires to buy electricity from MES, he shall be charged for the electric energy consumed @ Rs 15.01 (Rupees Fifteen and paise one only) per Kilowatt hours for KWH lighting and power both.

(b) Electric supply required for works shall be made available by the MES at point(s) marked on site plan or in the absence of the same, at the points as decided by the GE. The exact location of electric point(s) shall be shown by the GE. The main switch and KWH meter to register the electric energy supplied shall be provided and installed by the MES. The contractor shall provide all necessary connections, cables, fittings etc from the main switch in order to ensure proper and suitable supply of electricity for the execution of work. All contractor's installation shall conform to and be strictly in accordance with Indian Electricity Act & Rules, moreover, the layout of cable etc, as proposed by him shall be as per plan approved by the Engineer-in-Charge.

(c) The MES do not guarantee for continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for break down in the system.

(d) GE or his representative shall be free to inspect all the power consuming devices or any electric lines provided by the contractor. Any device or electric lines provided by the contractor, which is not to the satisfaction of GE shall be discontinued from the supply if so desired by him.

(e) The supply shall be AC, 3 phase, 230/440 volts, 50 cycles.

20. LOCATION OF BUILDINGS AND WORKS

There may be some changes in layout/sitting of buildings shown in site (layout) plan(s) to suit local conditions and/or departmental requirements. The contractor shall have no claim whatsoever consequent to such change in location/sitting of works.

21. WATCH AND LIGHTING

The contractor shall at his own cost take all possible precautions to ensure safety of life and property by providing necessary fencing, barrier, light, watchmen etc. during the progress of work and as directed by the Engineer-in-Charge.

22. MAKING GOOD

The contractor shall leave or form holes in concrete (plain or RCC), brick work, stone masonry and in any other situation as required for the work or as directed by the Engineer-in-Charge and make good all the holes in the same mortar and mix as specified for that portion of work.

23. CLEANING DOWN

Refer condition 49 of IAFW-2249. The contractor shall clean all floors, remove cement, lime or paint drops, clean joinery, glass panes etc., touch up all paint work and carry out all other necessary items of works in connection therewith and leave the whole premises clean and tidy to the entire satisfaction of Engineer-in-Charge before handing over the items/works. No extra payment shall be admissible to the contractor for this operation.

24. RE-IMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT VALUE"

(a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including Sales Tax/VAT on materials, Sales Tax/VAT on works Contracts, Turnover Tax, Service Tax, Labour Welfare cess/tax etc.), duties, Royalties, Octroi & other levies payable under the respective Statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies, and/or imposition/abolition of any new/existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in sub para (b) here-in-below.

(b) (i) The taxes which are levied by Government at certain percentage rates of Contract Sum/Amount shall be termed as "Taxes directly related to Contract value" such as Sales Tax/VAT on works contracts, Turnover Tax, Service Tax, Labour Welfare Cess/tax and like but excluding Income Tax. The tendered rates shall be deemed to be inclusive of all "taxes directly related to Contract value" with existing percentage rates as prevailing on last due date for receipt of tenders. Any increase in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on last due date for receipt of tenders shall be reimbursed to the contractor and any decrease in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on last due date for receipt of tenders shall be refunded by the contractor to the Govt/deducted by the Govt from any payments due to the contractor. Similarly imposition of any new "taxes directly related to Contract value" after the last due date for receipt of tenders shall be reimbursed to the contractor and abolition of any "taxes directly related to Contract value" prevailing on last due date for receipt of tenders shall be refunded by the contractor to the Govt/deducted by the Govt from the payments due to the Contractor.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

- (ii) The contractor shall within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further "taxes directly related to Contract value", give written notice thereof to the GE stating that the same is given pursuant to this Special Condition, together with all information relating thereto which he may be in a position to supply. The Contractors shall also submit the other documentary proof/information as the GE may require.
- (iii) The Contractor shall, for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspection of the same by a duly authorised representative of Government, and shall further, at the request of the GE furnish, verified in such a manner as the GE may require, any documents so kept and such other information as the GE may require.
- (iv) Reimbursement for increase in percentage rates/imposition of "taxes directly related to Contract value" shall be made only if Contractor necessarily & properly pays additional "taxes directly related to Contract value" to the Government, without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Government Authority and submits documentary proof for the same as the GE may require.
25. **ADJUSTMENT OF TAX CONSEQUENT UPON AMENDMENT TO CONSTITUTION**
Tendered rates shall be deemed to include for all taxes and levies payable under the respective statutes including the sales tax on works contracts levied by the state Govt. in pursuance to Amendment No 46 to the Constitution.
26. **FIRE PRECAUTIONS**
The contractor, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire precaution prevailing within area concerned. Motor transport vehicles, if any allowed by authorities to enter the area concerned must be fitted with serviceable fire extinguishers.
27. **SAFETY PRECAUTIONS**
The contractor shall take every precaution to control traffic on road by keeping danger boards, necessary lighting arrangements, fencing etc. and watchmen to avoid any damage. In case due to excavation or otherwise the road is to be blocked, the contractor shall without any extra cost to the Government provide separate by-pass so that normal traffic is not disturbed. Any damage to existing road/building etc. shall be made good by the contractor with the same specifications as per existing work without any extra cost to the Government. In the event of contractor not fully complying with the above provision to the satisfaction of GE, the GE may provide the same for which the expenses incurred shall be recovered the contractor.
28. **BANK GUARANTEE BOND**
In case the contractor desires to furnish Bank Guarantee in lieu of retention money/Performance security, the guarantee bond shall be executed as per specimen prescribed by the Government of India, Ministry of Defence on Non-judicial stamp paper(s) of appropriate value from a schedule bank. In case the Bank Guarantee Bond is executed from a non schedule Bank the same shall be supported with cover from Reserve Bank of India, Guarantee Bond shall come into force after the same is accepted by the Accepting officer.
29. **WORKING OVER TIME AND ON HOLIDAYS**
The contractor may, if he so desires, be allowed to work around the clock and on Sundays and other Gazetted holidays at the discretion of the GE provided he gives prior notice at least 48 hours before to the GE/Engineer-in-Charge to enable them to make necessary arrangements for provision of work during the late hours and closed days. Contractor shall have no claim, whatsoever, if for any reasons he will not be allowed by the GE to work over time.
30. **ACTION WHERE NO SPECIFICATIONS EXIST**
(a) In case of any class of works for which there is no such specifications in the tender documents including SSR, such works shall be carried out in accordance with Indian Standard Specification and where Indian Standard Specifications do not cover the same, the work should be carried out as per standard Engineering practice subject to the approval of the GE.
(b) No claim whatsoever will be tenable for any misunderstanding or for not having ascertained requisite information/knowledge to muster the resources required in satisfactory completion of the entire work to the requirements as per contract agreement.
31. **APPROVAL OF SAMPLE OF WORKMANSHIP IN BUILDING**
To determine the acceptable standard of workmanship, the GE shall order the contractor to execute work in one block/quarter/building (as decided by the GE) and shall be completed by the contractor well in advance as directed by the GE under close supervision of the Engineer-in-Charge and same shall be got approved from the GE. The workmanship of various trades and finishes of this block/quarter/building shall serve as guiding samples for work in the remaining blocks/quarters/buildings.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

32. **METHOD OF MEASUREMENT**

Measurement of all measurable work executed under this contract shall be taken in accordance with the rules of measurement as laid down in SSR-2020 pertaining to various items of work as applicable unless otherwise indicated in the respective parts of Schedule 'A'.

33. **e-PAYMENT**

Department at their option may make e-payment to contractor. For this purpose contractor shall submit his bank account number and other e-payment details i.e. Name of bank, IFSC code, Bank cancelled cheque or photo copy of cheque or front page of saving bank pass book for making e-payment after acceptance of tender to concerned GE. Bank charges shall be borne by the contractor.

34. **BLASTING**

Blasting is prohibited.

35. **VALUATION OF DEVIATION**

For valuation of deviation refer condition 68 of IAFW-2249.

36. **TESTING**

Irrespective of what is specified in SSR and these tender documents, the cost of all test shall be borne by the contractor. In case any implementation and equipments for the testing at site of work are required, the same shall also be provided by the contractor without any extra cost to the Govt.

37. **OUT OF POCKET EXPENSES**

No out of pocket expenses incurred by the tenderer in submitting the tender shall be reimbursed whether his tender is accepted or not.

38. **PHOTOGRAPHY**

Contractor including his workmen/ representative shall not take photograph of buildings & equipments of cantonment area from security point of view. Mobile phone with Camera and/or Internet facility is prohibited in the cantonment area.

39. **LOSS OR DAMAGE ON ACCOUNT OF ENEMY ACTION**

(Applicable for works in operational/border areas only).

39.1 **Contractor's plant/equipments at sites** : The contractor shall furnish to the Engineer-in-Charge every morning distribution return of his plant/equipment on the site of work stating the following particulars :-

- (i) Particular of plant/equipment, its make, manufacture number, model number if any, registration number if any, capacity, year of manufacture, year of purchase etc.
- (ii) Location indicating number (quantity) at each location on the site of works.
- (iii) Total number (quantity) on site of work(s).
- (iv) Purchase value on the date of purchase. For the purpose of this condition, plant/equipment shall include vehicles i.e. trucks and lorries but neither the workmen's tools nor any manually operated tools/equipments. The Engineer-in-Charge shall record the particulars supplied by the contractor in the works diary and send the return to the AGE (I) for record in his office.

39.2 If as a result of enemy action, the contractor suffers any loss or damage, the Government shall reimburse to the contractor such loss or damage to the extent and in the manner hereinafter provided :-

- (a) The loss suffered by him on account of any damage or destruction of his plant/equipment or materials or any part thereof. The amount of loss assessed by the Accepting Officer of the contract shall be final and binding.
- (b) The compensation paid by him under any law for the time being in force to any workmen employed by him for any injury caused to him or to the workmen's life.
- (c) Payment of compensation for loss or damage to any work or part of work carried out. (The amount of compensation shall be determined in accordance with condition 48 of General Conditions of the Contracts IAFW-2249).
- (d) No reimbursement shall be made nor any compensation shall be payable under the above provision unless the contractor had taken Air Defence precautions ordered in writing by GE/OC concerned or in absence of such order, reasonable precautions. No reimbursement shall be payable nor any compensation shall be payable for any plant/equipment or materials not lying on site of work at the time of enemy action.

PARTICULAR SPECIFICATION SECTION-I
SPECIAL CONDITIONS (CONTD)

40. **LABOUR REGULATION AND ABOLITION ACT**

Contract labour (Regulation and abolition) Act 1970 is applicable to MES contractors. Rates quoted by the contractor shall be deemed to take into account the cost etc. required to comply with the provisions contained in the said Act and the rules framed under the said Act.

41. **DATE OF RECEIPT OF TENDER**

The date of receipt of tender as referred to in tender documents at various locations / for various purposes shall be the last date of bid submission (i.e. Bid submission end date).

42. **REGISTRATION WITH EMPLOYEES PROVIDENT FUND ORGANISATION UNDER EMPLOYEES PROVIDENT FUND & MISCELLANEOUS PROVISIONS ACT-1952 :**

(i) Under Employees Provident Fund & Miscellaneous Provision Act 1952, Registration of a Firm with Employees Provident Fund Organization (EPFO) is mandatory. On registration, the firm will be allotted Provident Fund Code Number which shall be uploaded under Cover-I of their e-Bid.

(ii) While clearing any RAR/FB of a contractor, GE shall ensure that a certificate shall be enclosed with RAR/FB that all workers employed directly or indirectly by the firm are registered for EPF & the due contributions have been credited into their account.

(iii) In case of any failure to comply with the above provision of the Act, GE is liable for penal action under the Act, being the Principal Employer of the Labour.

43. **COVID-19 PROTOCOL**

Contractor should adhere to all COVID protocols as promulgated time to time by state govt Moh FW & AF Stn Jodhpur. He/She will ensure provision of mask, sanitizer, gloves, boot cover & head cover to employs. He/She will also ensure barricading & sanitization of site after work. These times wil be inclusive of unit rate quoted.

PARTICULAR SPECIFICATION SECTION-II**1. GENERAL**

- 1.1 The work under this contract shall be carried out in accordance with Schedule 'A', Special Conditions, Particular specifications, General specifications, Indian electricity rules and other provisions given in MES Part I of SSR 2009 and Part II of SSR 2010 including all amendments and errata thereto and in these tender documents.
- 1.2 The term "General specifications" referred to above as well as in IAFW-2249 (General conditions of contracts) shall mean the specifications contained in MES standard Schedule of Rates 2009 Part-I (Specifications) and 2010 Part II (Rates)" briefly mentioned as MES Schedule or SSR.
- 1.3 General rules, specifications, special conditions and preambles given in the MES schedule shall be deemed to be applicable to the work under this contract, unless mentioned otherwise in these tender documents and in case of conflicting provisions in the aforesaid documents the provisions contained in these tender documents shall take precedence over the above said provisions in the MES Schedule.
- 1.4 Where specification for any items of work is not given in MES schedule or in these particular specifications, specifications as given in relevant Indian Standard or as per code or practice shall be followed.
- 1.5 The rates quoted by tenderer(s) shall be deemed to be included for the cost of necessary safety appliances required for the workers.

2. SCOPE OF WORK

- 2.1 This contract includes for the full, final and entire completion of all work described in Sch 'A' and specified in these particular specification. The tenderer(s) are advised to visit the site in consultation with GE to ascertain the actual locations, nature and quantum of works involved in different locations. The sites shall also be handed over in phases as per availability keeping in view the convenience of the users. All the above aspects shall be deemed to be considered by the contractor while submitting the tender. No claim whatsoever shall be entertained at any stage.

3. SAMPLES AND MATERIALS

- 3.1 The materials to be incorporated under this contract shall be ISI marked and not their equivalent or those complying with IS. If specified make/brands are manufactured with both i.e. with ISI marking and without ISI marking then only ISI marked make/brand shall be incorporated. If any article is manufactured in more than one quality, the material/article of first quality shall be provided.
- 3.2 All type of materials, stores and other parts, required to be incorporated in this contract shall be brought by the contractor in original packings/cartons. The original purchase vouchers/invoices shall be produced by the contractor duly signed by him for verification of Engineer-in-Charge prior to incorporation in the work.
- 3.3 Sample of materials to be got approved from Engineer-in-Charge and Garrison Engineer before their incorporation in the work.

4. WORKMANSHIP

- (a) All the work shall be carried out as per modern practice and shall be executed by only qualified and licensed plumbers/fitters. The evidence of their qualifications and license shall be produced by the contractor on demand by GE or Engineer-in-Charge at the time of commencement of work or any time during the currency of the work.
- (b) The pipes shall be carefully cleared off all matters before being laid.
- (c) No pipe lines shall be laid or fixed so as to pass into/through or adjoining any sewer/sullage outlet or drain any manhole connected with or through any ash pit or manure pit or similar material.
- (d) Under ground pipe line shall be laid at such a depth that it is not damaged by the traffic loads or vibrations.
- (e) All pipes shall be laid along the roads unless otherwise directed by the Engineer-in-Charge. The distance of the trench from the edge of the road shall be as directed by the Engineer-in-Charge.
- (f) Where the trench is on a slope, pipe laying shall proceed in an uphill direction to facilitate jointing.
- (g) Exposed threads of pipe after jointing shall be coated with white lead.
- (h) All the joints in the pipe line/fittings/valves shall be water tight. No joint of pipe line/fitting shall be located within one metre of valve pit. PCC benching in buildings shall be provided for bends, fittings etc wherever required as directed by GE/Engineer-in-Charges.

PARTICULAR SPECIFICATION SECTION-II

(j) When excavation of trenches for a pipe line is required to cross a road, half the width of the road shall be dug at a time and proper sign boards/caution boards and lights shall be displayed to avoid accidents.

(k) The pipe line shall be laid along the routes as directed by the Engineer-in-Charge. The contractor shall measure on the ground the actual length along the route laid down by the Engineer-in-Charge to work out the exact requirement before placing orders for the same.

(l) Where cutting of existing pipe line is to be done, the same shall be made good and connected with new fitting immediately to avoid interruption in the existing water supply system.

(m) Joint shall as far as possible be avoided in the pipes laid under neath the floor.

(n) As far as possible water supply pipe line shall run exposed on external face of walls of the buildings water supply pipe line inside the bldg shall also run exposed.

(o) Necessary cutting/leaving/forming holes, chases etc in walls floors and ceiling and making good involved in providing the installations shall be deemed to have been included in the rate quoted by the contractor for respective item of Sch 'A'.

(p) All GI pipes, CI pipe, UPVC pipes passing wherever through walls shall be encased (150 mm allround in PCC 1:2:4 type B0).

(q) All GI pipes/fittings/traps etc coming under floor in first/subsequent floor shall be encased in PCC 1:2:4 type B0.

(r) The contractor shall use proper bends, elbows, tees at turning corners. Bending of pipes is not permitted except where the pipe has to follow the contour of masonry brick work or where a fitting can not be inserted.

(s) Pipe shall not run diagonally.

(t) Contractor shall provide screwed plugs to all open ends of pipes on completion of days work.

4A.

EXCAVATION AND EARTH WORK

(a) Excavation shall be carried out all as described in SSR Part-I.

(b) Trenches for pipes shall be excavated to the level or gradient as directed by the Engineer-in-Charge.

(c) The excavation for pipe lines shall be restricted to authorized width as laid down in clause 18.42 of MES Sch Part-I and clause 3.2.3 of SSR Part-II as applicable. It shall be measured accordingly. Nothing extra whatsoever will be paid to the contractor in addition to the authorized width.

(d) Any additional width/depth of excavation done at the location of pipe fittings/valves etc. shall not be paid extra over the authorized width and depth of the trench.

(e) Care shall be taken to keep the trenches free from water during the work. All water, which may accumulate from the rains, or any other sources shall be bailed/pumped out or otherwise removed for which no extra payment will be done.

(f) The bottom of trenches shall be carefully prepared so that the barrels of the pipe when laid are well bedded for their whole length on firm surface.

(g) All excavated earth shall be deposited at least one metre away from the edge of trenches.

(h) All surplus soil shall be provided to a distance mentioned in Sch 'A' and spread and levelled all as mentioned in Schedule 'A' and as directed.

(j) Filling in trenches for pipe shall be commenced only after the joints of pipes have been tested and passed by the Engineer-in-Charge. No joint shall be covered with earth till the pipeline is tested under pressure, unless directed otherwise by the Engineer-in-Charge. Filling in trenches shall be carried out all as specified in clause No 3.20.1 & 3.20.3 of SSR Part-I.

5. **CEMENT**

5.1. Contractor shall procure cement under his own arrangements for the entire completion of the work. Provisions of condition 10 of IAFW-2249 be read in conjunction with this clause.

5.1.1 The specifications and other provisions laid down vide section 4 Paras 4.3 to 4.3.1 of SSR (Part-I) shall be read in conjunction with the provisions contained in the subsequent paras here-in-after.

5.2 **TYPE OF CEMENT** : The cement shall be Ordinary Portland Cement (OPC) grade 43 (IS-8112-2013).

PARTICULAR SPECIFICATION SECTION-II**5.3 SOURCE OF PROCUREMENT**

Cement shall be procured by the contractor under his own arrangement and at his own cost directly from main producers of cement as per Appendix 'B'. However, if the estimated requirement of cement is less than 1200 bags, contractor can procure the cement from the authorized distributors/ dealers of the approved producers from the list given in Appendix 'B' but the contractor shall have to submit test certificates of the batch, issued by the main producers. The particulars of the manufacturer of cement alongwith the date of manufacture shall be submitted by the Contractor for each lot of cement procured. Each lot of cement procured by the contractor shall be recorded in the Measurement Book as "Not to be abstracted " and shall be supported with authentic original purchase vouchers highlighting the makes, batch Nos, quantity etc.

5.4 IDENTIFICATION : Marking of each cement bag shall be as per relevant IS Code.

5.5 SCHEDULE OF SUPPLY (FOR OPC)

Schedule of supply of cement shall be finalised by the contractor with GE and shall be incorporated in CPM Chart so that supply of cement is monitored in a way so as to avoid any delay in completion of the work. The complete requirement of cement will be worked out before making any RAR payments and procurement of cement by the contractor will be completed sufficiently in advance of the date of completion. No extension of time will be considered for non-availability of cement. Every cement godown shall be provided with two locks on each door. The key of one lock of each door shall remain with Engineer-in-Charge or his representative and that of the other lock with the contractor's authorised agent at site of work so that cement is removed from the godown only according to daily requirement with the knowledge of both the parties. Cement for purpose of accounting shall be on the basis of number of bags. Minor variations in cement not more than 2% by weight of cement in a bag will be permissible for purpose of accounting of cement bags. However cement shall be incorporated in the work on actual weight basis where specified without any additional cost.

5.6 TESTING OF CEMENT (For OPC)

The contractor shall submit the manufacturer's original vouchers and test certificate along with the test sheet giving the result of physical test as applicable and the chemical composition of the cement or authenticated copy thereof, duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in the Cement Supply and Acceptance Register, as given per "Format For Cement Supply And Acceptance Register" after due verification. The GE shall also organize independent testing at random samples of cement drawn from various lots from the National Test House, SEMT, CME, Regional Research Laboratories, Government approved Laboratories (NABL accredited Laboratories only), IITs, MES Zonal Laboratories, CTL Jaipur, Govt Engg Colleges and National Institutes of Technology as per IS-3535-1986 (Method of sampling hydraulic cement), IS-4031 (Method of physical test of hydraulic cement) and IS-4032 (Method of chemical analysis of hydraulic cement). In case cement test result does not fall within acceptable limit, respective lot of cement shall be rejected and shall be removed by the contractor within 24 hours from the site. The cost of tests shall be borne by the contractor irrespective of status of the results and no claim shall be entertained on this account & Condition 10 of IAFW-2249 shall deem to be amended accordingly.

5.7 Sample of cement from each lot should be collected by the Engineer-in-Charge and GE in accordance with IS-3535-1986.

5.8 STORAGE

The cement shall be stored and stacked properly. Precautions in storage shall be observed as per SSR (Part-I). Inspection shall be carried out once a day by the rep of GE associated with the work and rep of contractor. It shall be ensured that tested and untested cement are segregated and stored separately with distinct identification. Cement for not more than 3 months requirement should be procured and held in stock to avoid its deterioration.

5.9 DOCUMENTATION

The contractor shall submit original vouchers from the manufacturer for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by GE and documents verified before acceptance. The original vouchers and the Test Certificates shall be defaced by the Engineer-in-Charge, signed by contractor and kept on record in the office of GE duly authenticated and with cross reference to the control number recorded in the Cement Acceptance Register. This register will be signed by JE, Engineer-in-Charge, GE and the contractor. The Accepting Officer may order a board of officers for random check of cement and verification of connected documents. The entire quantity of cement shall also be suitably recorded in the Measurement Book (Not to abstracted) for record purposes before incorporation in the work and shall be signed by the Engineer-in-Charge and the contractor.

5.10 In case of any dispute relating to the interpretations arising out of the above referred provisions, the decision of the Accepting officer shall be final, conclusive and binding.

PARTICULAR SPECIFICATION SECTION-II**5.11 RECORD OF CONSUMPTION OF CEMENT**

- 5.11.1 For the purpose of keeping a record of the cement used, the contractor shall maintain properly bounded registers for cement serially numbered (all pages, initialed against the numbering by the Engineer-in-Charge) in the form approved by the Engineer-in-Charge, showing daily receipt, quantity used in the work and balance in hand at the end of each day. The registers shall be maintained with daily entries duly authenticated by the contractor or his authorized representative and the Engineer-in-Charge.
- 5.11.2 The registers shall be kept at site in the safe custody of the Engineer-in-Charge during the progress of the work and shall on demand be produced for verification to the Inspecting Officer. On completion of the work, the cement register shall be deposited with the GE along with the final bill.
- (k) "Any type of soil" means soft/loose soil, hard/dense soil and mud.

6. CEMENT CONCRETE WORK**6.1 MATERIALS:**

6.1.1 **CEMENT:** Refer PS-II **Clause 5** and other sub clauses here-in-above.

6.1.2 COARSE AND FINE AGGREGATE

- (a) Coarse aggregate for all cement concrete work shall be crushed stone.
- (b) Fine aggregate for all cement concrete shall be of natural coarse sand as laid down for Grading Zone - II & III of table 2 of SSR Part-I.
- (c) Coarse and fine aggregate for cement concrete shall be as specified in clause 4.4 of MES Schedule Part-I.
- (d) Coarse aggregate for lime concrete shall be of broken bricks as specified in clause 4.5 of MES Schedule Part-I.
- (e) Fine aggregate for lime concrete shall be natural sand as for cement concrete.
- (f) Grading of coarse aggregate unless otherwise specified shall be as under :-
 - (i) For all PCC and RCC works upto and : 12.5mm graded stone aggregate. including 30mm thickness.
 - (ii) For all PCC and RCC works above 30mm : 20mm graded stone aggregate. and upto and including 75mm thickness.
 - (iii) For RCC work over 75mm thickness : 20mm graded stone aggregate.
 - (iv) For PCC over 75mm thickness. : 40mm graded stone aggregate.
 - (v) Lime concrete : 40mm graded burnt clay brick aggregate.

6.2 PLASTICIZERS

- (a) Plasticizers shall be super plasticizing admixture (Chloride free) normal type conforming to IS-9103. The physical and high workability test shall conform to the relevant clauses of ibid IS. The chloride content in admixture shall be determined as per IS-6925. These plasticizers shall be approved by GE.
- (b) The plasticizers shall be used in accordance with the recommendations of the manufacturer. The manufacturer shall give detailed instructions on the correct use of the admixture for the required purpose. The concrete mix shall be proportioned to have the specified cement contents and to meet the stipulated workability and strength requirements.

6.3 WATER

Water shall comply with the requirement of clause 4.9 of MES Schedule Part-I and as per IS 456-2000. Irrespective of water being supplied by department or brought under the own arrangement of contractor, it shall be tested to confirm its suitability for construction purposes. The record of testing obtained shall be carefully preserved. The testing charges including cost of material and transportation charges shall be borne by the contractor.

6.4 MIX OF CONCRETE

Mix, type and grade of cement concrete in various situations shall be as mentioned in relevant item of Schedule 'A'. Cement concrete mix shall be as specified in clause 4.11 of MES Schedule Part-I and as per IS-456-2000.

PARTICULAR SPECIFICATION SECTION-II**6.5 MIXING AND CONSOLIDATION OF CONCRETE**

(a) All cement concrete shall be done in weigh batcher plant except in small quantities, which may be, hand mixed with prior written permission of GE. The mixing time for design mix shall be as per design mix at trial time.

(b) All reinforced cement concrete shall be consolidated by mechanical vibrators. Consolidation by tamping may be resorted to with prior permission of GE in writing in locations where it is not practicable in the opinion of the GE to operate the vibrator. Care shall be taken to ensure that concrete is not over vibrated so as to cause segregation. For slab needle/Plate vibrators shall be used.

(c) Precast/Cast-in-Situ plain cement concrete shall be deposited and rammed by tamping and punning as specified in MES Schedule Part-I.

(d) Cast in situ plain cement concrete of thickness more than 75 mm to be consolidated by means of plate vibrators.

6.6 CAST IN SITU/PRECAST ARTICLES AND SEISMIC BAND

Unless otherwise specified, all precast articles shall be set and jointed in cement and sand mortar 1: 3. RCC shelves shall however be cast in situ.

6.7 The assembly of reinforcement shall be as per clause 12 of IS-456:2000 & IS-2502.

6.8 Nominal cover to reinforcement: nominal cover is the design depth of concrete cover to all steel reinforcement, including links as given in table below :-

Exposure	Nominal cover in mm not less than	Slab	Walls	Beams	Columns
Mild	20 mm	20 mm	20 mm	20 mm	40 mm*
Moderate	30 mm	30 mm	30 mm	30 mm	40 mm*
Severe	45 mm	45 mm	45 mm	45 mm	50 mm*

6.9 The construction joints and cold joints shall be as per clause 13.4 of IS-456-2000 and IS-11817.
6.10 During hot and cold weather the concreting should be done as per the procedure set out in IS-7861 Part-I and Part-II.

6.11 The under water concreting shall be as per clause 14.2 of IS-456:2000.

6.12 The following documentation shall be maintained at site :-

- Test reports and manufacturers certificate for material.
- Concrete mix design details
- Pour cards for site organization and clearance for concrete placement.
- Record of site inspection of workmanship, and field test.
- Non-conformance reports, change orders.
- Quality control charts
- Statistical analysis.

6.13 Irrespective what ever mentioned in SSR regarding RCC works, all RCC work shall be executed as per IS-456:2000.

6.14 CURING

The concrete shall be protected from premature drying for at least 8 days after pouring and shall be cured as directed by the Engineer-in-Charge for a period of not less than 14 days.

6.15 SPECIFICATION FOR DESIGN MIX CONCRETE

6.15.1 Where concrete is specified by grade that is M-25 & M-30 etc., the same shall be of design mix all as per IS-456-2000, IS-10262-1982, SP-23 (S&T) 1982 and as specified here-in-after.

6.15.2 As soon as possible, after receiving the order to commence the work, the contractor shall procure sufficient quantities of the aggregates and cement and submit samples to the National Test House, SEMT, CME, Regional Research Laboratories, Government approved Laboratories (NABL accredited Laboratories only), IITs, MES Zonal Laboratories, CTL Jaipur, Govt Engg Colleges and National Institutes of Technology to test their characteristics. The mix design shall be carried out by the National Test House, SEMT, CME, Regional Research Laboratories, Government approved Laboratories (NABL accredited Laboratories only), IITs, MES Zonal Laboratories, CTL Jaipur, Govt Engg Colleges and National Institutes of Technology at contractor's cost as approved by GE. The representative of the Garrison Engineer and the contractor shall be associated with the concrete mix design. In case of dispute, the matter will be referred to the Accepting officer, whose decision shall be final and binding. In case the mix design is carried out in SEMT, CME, MES Zonal Laboratories & CTL Jaipur, recovery of Rs. 5,000.00 (Rupees five thousand only) per test shall be recovered from contractor's dues. However in case if same is carried out by National Test House, Regional Research Laboratories, Government approved Laboratories (NABL accredited Laboratories only), IITs, Govt Engg Colleges and National Institutes of Technology, Contractor shall pay the requisite charges to the said agency at his own.

PARTICULAR SPECIFICATION SECTION-II

- 6.15.3 The optimum mix to achieve the Target Mean Strength shall be determined in the laboratory condition. The concrete shall conform to the following specifications : -

S No.	Specifications Required	Grade of Concrete	
		M-25	M-30
(a)	Maximum free water cement ratio.	0.50	0.45
(b)	28 days Characteristic Strength (N/mm ²)	25	30
(c)	28 days Target Mean Strength (N/mm ²)	31.60	38.25
(d)	Minimum Cement Content in Kgs per cum of concrete.	As per IS	As per IS
(e)	Degree of Quality Control	Good	Good
(f)	Type of Exposure	Moderate	Severe

6.15.4 **BATCHING**

In proportioning concrete, the quantity of both cement and aggregate shall be determined by mass and all in accordance with clause 10.2 and sub clauses thereon of IS-456-2000 as applicable. Volumetric batching shall not be allowed.

6.15.5 **MIXING**

Mixing of concrete shall be done with reference to clause 10.3 of IS –456-2000 and weighing of material shall be done with computerized automatic weigh batcher plant with print out facility having minimum capacity of 5 cubic metre per hour. The weigh batcher plant including transit mixer shall be arranged by the contractor at his own expenses. However, smaller/bigger plant manufactured by any reputed company capable of giving required output to commensurate the desired progress shall be brought by the contractor at his own cost.

6.15.6 **WORKABILITY**

The degree of workability and slump for different placing conditions shall be computed with clause 7 of IS-456:2000. The contractor may use plasticizers as per manufacturer's instructions to improve the achievable workability, The cost of plasticizers is deemed to be included in the rates quoted by the tenderers.

- 6.15.7 Transporting placing, compaction and curing of concrete shall be as per clause 13 of IS-456: 2000.

6.15.8 **TRIAL MIXES**

The actual mix proportion will be arrived at by means of number of trial mixes by changing the water cement ratio, proportions of fine and coarse aggregate, fineness moduli of aggregate by changing their grading and proportions etc. Attempts shall be made to make the design mix as economical as possible. In case of the use of plasticizers for the design mix to achieve the stipulated degree of workability, the design mix with and without plasticizers shall be carried out and approved by GE. The later should be treated as the reference for control concrete mixture.

6.15.9 **VARIATION IN QUANTITIES OF CEMENT**

(a) The minimum cement content specified here-in-before shall be provided even if the laboratory mix design gives lower value of cement content.

(b) As a result of mix design, if the quantity of cement required is more than the minimum quantity of cement specified, no adjustment shall be made in the prices in the relevant items of work. The quoted rate is deemed to be inclusive of all and no extra incidental charges shall be admissible.

6.15.10 **SAMPLING**

The sampling procedure and the frequency of sampling shall be as per clause 15.2 of IS-456-2000.

6.15.11 **TEST SPECIMENS**

All test specimens shall be 150mm cubes, for each sample, seven cubes shall be cast out of which, three cubes each shall be tested for 7 days and 28 days compressive strength and one cube shall be reserve. The specimens shall be tested as described in IS-516-1959.

6.15.12 **TEST STRENGTH OF SAMPLE**

The test strength of the sample shall be the average strength of three specimens. The individual variation should not be more than $\pm 15\%$ (percent) of the average.

6.15.13 **ACCEPTANCE CRITERIA**

The acceptance criteria of the test results shall be as laid down in clause 16 of IS-456- 2000.

6.15.14 **WORKABILITY**

The workability of the concrete shall be checked frequently as per IS 1959 (Methods of sampling and analysis of concrete.)

6.15.15 **CHANGE OF MIX DESIGN**

During the progress of the work, mix design will have to be changed due to changes in the qualities of the ingredients of the concrete. The mix design shall be accordingly carried out at discretion of GE.

PARTICULAR SPECIFICATION SECTION-II**6.15.16 PACKING AND TRANSPORTATION OF SAMPLES**

The contractor must at his own expense properly pack the samples. The contractor shall bear the cost of transportation of the samples required to be tested from site of work to the Lab.

6.15.17 Inspection of concrete structure shall be as per clause 17 of IS-456:2000.

6.16 LIME CONCRETE

6.16.1 **LIME** : Refer para 4.2,4.2.1 to 4.2.4 of MES Schedule Part-I. Eminently factory made hydraulic lime class 'A' conforming to IS: 712 shall be used for lime concrete.

6.17 FORM WORK

(a) Form work on all exposed surfaces shall be as described in clause 4.11.6 of MES Sch Part-I and shall be of steel. Contractor shall use only properly designed steel form work (Both props and surfaces). Props of adjustable type shall be used. However, for deviation, if any rates in MES standard schedule of rates for timber form work (Rough finished surface) shall only be applicable. Steel shuttering for form work shall be hole and gap free else 4 mm thick plywood shall be used over complete steel plates to make formwork hole and gap free. This aspect shall be inclusive of the unit rate quoted against the items.

(b) Form work shall be as per clause 11 of IS-456:2000

7. WOOD WORK AND JOINERY**7.1 TIMBER**

7.1.1 Timber for all joinery and woodwork shall conform to specifications given in clause 7.3 of the MES Schedule Part-I and shall be within the permissible limits of defects in clauses 7.4 and 7.5 of the MES Schedule Part-I.

7.1.2 Timber shall be well seasoned whether air or kiln dried at the discretion of the contractor (except factory made door shutters which shall be kiln seasoned only) but without any price adjustments. The moisture contents of timber shall not exceed the limits laid down in clause 7.7 of MES Schedule Part-I. For clarification of zones for the moisture content, this contract shall be deemed to fall under climatic Zone-II.

7.2 PRESERVATION OF TIMBER / ANTITERMITE TREATMENT TO WOOD WORK

Preservation/anti-termite treatment shall be carried out to all wood work and joinery fabricated by the contractor at site. Factory made ply/boards are not to be treated with any chemical at site. All natural timber before painting or other treatment shall be treated with two coats of approved chemical such as ASCU as directed by GE for protection against termites. The quantity and application of chemical shall be as per manufacturer's instructions. Wood work shall be painted/or treated as specified after second coat of anti-termite treatment is completely dried

7.3 TOLERANCE

7.3.1 All wood work both carpenter and joinery, shall hold full dimensions shown on drawings except that an allowance of ± 1.5 mm shall be allowed for each wrought face. Wooden beads and fillets shall however hold the full dimensions as shown on drawings. The contractor shall also maintain the overall size of the doors etc as shown on drawings. No tolerance on factory made shutter thickness would be admissible.

7.3.2 Timber members up to 3.0 metre length shall be in one piece.

7.4 SURFACE FINISH

7.4.1 Surface finish of timber in contact with or buried in masonry/concrete/plaster and surfaces of timber hidden from the view shall be clean sawn. All other surface shall be wrought.

7.5 PELLETING

Counter sunk holes for bolts and screws on wrought surfaces shall be plugged with tightly fitting plugs and plane finished with surrounding surfaces.

7.6 PLUGGING

Plugging to walls shall be as per Clause 7.29 of MES SSR Part-I.

7.7 SCREWING ETC

Use of nails is prohibited. To fix planks/shelves, fillets, moulding and the like with screws, the minimum length of screws and their material shall be as specified in Clause 7.21 of MES SSR Part-I. The wood screws shall be bright finished. The size and designation shall be as specified in IS/MES SSR. Where it is not specified the same shall be as directed by the Engineer-in-Charge.

PARTICULAR SPECIFICATION SECTION-II**7.8 JOINERY**

7.8.1 The over all sizes and dimensions of door shall be as described in Schedule 'A' or as directed by GE.

7.8.2 Factory made door shutters shall be brought at site by the contractor without application of primer from manufacturer. Priming shall be applied to the surfaces of shutters only after approval by GE.

7.8.3 Factory made doors shutter shall be hammer marked as specified in IS and shall be obtained from one of the manufacturer given here-in-after. Contractor will produce manufacturer's test certificate as per BIS code and original purchase vouchers along with each consignment. Independent tests on species/class of wood and moisture content shall be carried out as per IS when specifically ordered by the GE.

7.8.4 FACTORY MADE PANELLED DOOR SHUTTERS

Factory made panelled door shutters shall be made of kiln seasoned as per IS 1141 and chemically treated as per IS-401 second-class hard wood (Non coniferous) Bonsum (Phoebe species)/ Chaplash (Artocarpus chaplasha)/ Hollock (Terminalia myriocarpa) for styles and rails. Panels shall be of 12 mm thick particle board veneered commercial (both faces) BWP grade bonded with liquid phenol formaldehyde synthetic resin adhesive conforming to IS-3097 (ISI marked) for all type of doors except in case of external doors directly exposed to weather. Panels for external doors directly exposed to weather shall be 9 mm thick BWP marine grade ply wood bonded with high quality liquid phenol formaldehyde conforming to IS : 710 (ISI marked)

7.8.5 FACTORY MADE GLAZED & SKELETON / FLY PROOF DOOR SHUTTERS

Factory made glazed & skeleton / fly proof door shutters shall be made of kiln seasoned as per IS-1141 and chemically treated as per IS-401 second class hard wood (Non coniferous) Bonsum (Phoebe species)/ Chaplash (Artocarpus chaplasha)/Hollock (Terminalia myriocarpa) fixed with stain less steel wire cloth as specified hereinafter as well as in MES SSR.

7.8.6 FACTORY MADE FLUSH SHUTTERS

(a) Unless not specified in Sch 'A', flush door shutter shall be solid core types with block board core (prelaminated both sides) all as specified as clause 8.25 of MES SSR Part –I.

(b) Flush door shutter edges shall be provided with teak wood lipping. Size of lipping shall be as directed by Engineer-in-charge.

(c) Shade of prelamination shall be as approved by GE..

7.9 VENEERED PARTICLE BOARD

All veneered particle board shall be ISI marked conform to the requirement of IS 3097. The board shall be BWP grade bonded with phenol formaldehyde synthetic resin.

7.10 PLYWOOD

All plywood except for panelled door/panels shall be BWP grade conforming to IS-303 and shall be ISI marked.

7.11 PARTICLE BOARD

Particle board shall conform to requirements of IS-3087 (specification for wood particle boards (medium density) for general purpose). Adhesive used shall be phenol formaldehyde.

7.12 FACTORY MADE SOLID PVC DOOR SHUTTERS, FRAMES, WALL LINING, PARTITIONS, FILLETS ETC

These shall be provided all as specified in SSR. The over all sizes and dimensions of door & frames, wall lining, partitions, fillets etc shall be as described in Schedule 'A' or as directed by Engineer-in-charge. These shall be obtained from one of the manufacturer given here-in-after. Contractor will produce manufacturer's test certificate and original purchase vouchers along with each consignment.

8. BUILDERS HARDWARE

(a) All articles of builders hardware shall be ISI marked and shall be fixed with screws/bolts to match the fittings and anodized aluminium fittings shall be fixed with steel cadmium plated screws. Screws shall be dipped in adhesive before fixing on particle boards.

(b) The contractor shall produce samples of each articles of builder's hardware (fittings) which are proposed to be used and get it approved. The samples shall be labeled as such and signed by the GE and the contractor and shall be kept in the custody, till the completion of the work.

(c) Butt hinges for doors and windows shall be of cold rolled mild steel medium weight all as specified in clause 9.7.2 of MES Schedule Part-I and conforming to IS-1341.

PARTICULAR SPECIFICATION SECTION-II**8.1 DRAPERY ROD**

Mild steel chromium plated drapery rod of 20 mm inner dia (in lengths as directed) with & including decorative finial at both ends and pair of mild steel chromium plated brackets fixed with rawl plug & steel screws on walls/beam shall be provided. Design of finial and bracket shall be as approved by GE.

9. STEEL AND IRON WORK

9.1 GENERAL: All steel for entire completion of work shall be procured by the contractor at his own cost.

9.2 PROCUREMENT

9.2.1 The structural steel shall be procured from primary producers as referred in Appendix 'B'. In case of non availability with primary producer, the structural steel can be procured from approved secondary producers given in tender documents with a reduction of 5% (Five percent) of the accepted rate of structural steel. Accepted rates shall be rates quoted by the tenderer for respective item in Sch 'A'. In case the desired section of structural steel is not rolled/ manufactured by primary producers there shall be no price adjustment in use of structural steel procured from approved secondary producers.

9.2.2 High strength deformed steel bars for reinforcement shall be procured directly from main producers as mentioned in Appendix 'B'.

9.2.3 The galvanised iron steel sheets and fabric reinforcement for concrete shall be ISI marked and shall be procured from main producers as mentioned in Appendix 'B'.

9.2.4 Steel section for railings, gates, fencing, guard bars, grills, steel chowkhat, hold fasts etc, which do not constitute structural member can be procured from main producers / secondary producers / BIS marked manufacturers or their authorised dealers at the option of contractor without any minus price adjustment. Tests will not be insisted upon for such steel sections.

9.2.5 Reinforcement steel, Structural steel, Galvanised steel sheets and Fabric reinforcement for concrete may be permitted from authorised dealers of main producers in case total requirement of reinforcement steel, structural steel, galvanized steel sheets and fabric reinforcement for concrete is less than 02 (Two) metric tonne.

9.3 TESTING

9.3.1 The manufacturer is to carry out inspection and testing of steel in accordance with relevant BIS provisions. The contractor shall submit the manufacturer's Test Certificate in original along with the test sheet giving the result of each mechanical test as applicable and the chemical composition of the steel or authenticated copy thereof duly signed by the manufacturer with each consignment. The site staff and GE shall verify the original documents in support of the purchase of steel and keep true copy certified by GE. The Engineer-in-Charge shall record these details in a steel acceptance register as per proforma given here-in-after after due verification and send a certified true copy of test sheet to GE for his records. The GE shall also organize independent testing of random samples of steel drawn from various lots from National Test House, SEMT wing CME, Regional Research Labs, NABL approved Lab, Zonal Labs as per the minimum frequency shown in table below. Sample from each lot should be tested for quality and elongation. The minimum elongation shall be as per IS 1786. Cost of samples, transportation and testing shall be borne by the contractor. Record of such checks shall be maintained in steel test register.

9.3.5 Table for frequency for normal mass, tensile, bend and rebend test of steel: -

STEEL FOR REINFORCEMENT

(a) Bars size less than 10 mm dia	1 sample (3 specimen) for each test for every 25 tonne or part thereof
(b) Bar size 10 mm to 16 mm dia	1 sample (3 specimen) for each test for every 35 tonne or part thereof
(c) Bar size more than 16 mm dia	1 sample (3 specimen) for each test for every 45 tonne or part thereof

STRUCTURAL STEEL

(a) Tensile test	1 test for every 25 tonne of steel or part thereof
(b) Bend test	1 test for every 25 tonne of steel or part thereof

PARTICULAR SPECIFICATION SECTION-II**NOTE**

- (i) For various test, acceptance criteria, tolerances etc refer to relevant BIS codes and steel supply and acceptance register.
- (ii) Testing by the GE as per above frequency is mandatory before payment is released to the contractor or steel is incorporated in the work and testing charges for the same shall be borne by the contractor irrespective of the outcome of test results. However, tests will not be insisted upon for the steel required for guard bars, holdfasts, grills, and such other allied items. Any items of steel, not meeting the requirements, shall be rejected and the particular consignment removed from the site by the contractor at his own cost. The contractor shall have no claim on this account. The contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in the test and transportation charges etc. shall be borne by the contractor.
- (iii) The GE may also increase frequency and number of samples/tests for his satisfaction. The cost of these additional tests shall be governed as per condition 10(A) of IAFW-2249. However cost of samples, transportation and other overheads shall be borne by the contractor irrespective of the test results.
- (iv) The TMT steel shall be tested by GE, before incorporation in the work, by simple field tests also and records shall be maintained. Simple field test involves sand papering the cross section of the TMT bar and dipping the same in chemical solution to give a clearly defined annular ring of tempered steel. The contractor at his cost shall arrange facilities for such tests.

9.4

DOCUMENTATION

The contractor shall submit original machine numbered purchase vouchers from the main manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignments received at the work site shall be inspected by the GE along with the relevant documents before acceptance. The original purchase vouchers and the test certificates shall be defaced by the Engineer-in-Charge and kept on record in the office of the GE duly authenticated and with cross reference to the control number recorded in the steel acceptance register. The steel acceptance register shall be signed by JE (Civil), Engineer-in-Charge, GE and contractor. The entire quantity of all steel items shall also be suitably recorded in the Measurement Book for record purposes as "not to be abstracted" before incorporation in the work and shall be signed by the Engineer-in-Charge and the contractor.

9.5

STEEL IN COILS ETC

Any bar of any diameter for reinforcement may be procured in round, bundles or coils and the cost of straightening the same shall be borne by the contractor. When bars are procured in bundles, the length of each bundle shall be worked out on the basis of unit weight pre determined by the GE by getting suitable length (not less than 3 metre) out of each consignment(s) received, getting it straightened, length measured and weighed in presence of contractors accredited representative. The said length(s) and the weight (s) shall be recorded from which unit weight (Weight per unit length) shall be calculated. The length of bars worked out on the basis of unit weight determined as above shall form the basis for the purpose of calculating quantity of steel used/to be used in work and making payment of materials lying at site. However if the unit weight works out more than the unit weight given in MES SCHEDULE then unit weight given in MES SCHEDULE shall be followed for computing weight of steel for the purpose of making payment of steel lying at site.

9.6

QUALITY OF STEEL

- (a) **Reinforcement Steel**: High strength deformed steel bars produced by thermo mechanical treatment process (TMT) of Fe 500D and conforming to IS-1786. The reinforcing steel shall have minimum elongation as per IS-1786-2006.
- (b) **Structural Steel (For Dynamic Loading)** : Structural steel shall be all as per clause 10.4.1 of SSR Part-I and shall be of Grade E 250, quality 'A', ISI Marked (IS-2062-2011).
- (c) **Structural steel (Ordinary quality)**: Structural steel (Ordinary quality) conform to Grade E-165 (Fe 290), ISI marked (IS-15911-2010) shall be used for chowkat, grills, guard bars, hold fasts, fencing posts, tie bars, railings, gate etc all as specified in clause 10.4.2 of SSR Part-I.
- (d) **Galvanised Steel Sheet**: Galvanised steel sheets (plain and corrugated) shall be conforming to IS-277 with medium coating of zinc, nominal 180 gm/sqm.
- (e) **Fabric Reinforcement**: Fabric reinforcement for concrete shall be conforming to IS-1566.

PARTICULAR SPECIFICATION SECTION-II**9.7 STORAGE**

9.7.1 Steel of different sizes shall be stacked separately for each classification of steel. Separate area shall be earmarked. Steel shall be marked with distinct painting marks for easy identification.

9.7.2 All steel shall be as stored at least 30 cm above the GL Steel shall be stored in a manner so as to prevent distortion and corrosion. Any section that has deteriorated and corroded or if considered defective by Engineer-in-Charge shall not be used in the work and shall be removed by the contractor without any extra cost. It shall be the responsibility of the contractor to make sure that all possible arrangements are made for the safe custody of the steel. In case of any loss of steel, contractor shall only be responsible and the loss shall be made good without any delay and no claim shall be admissible on this account.

9.8 SCHEDULING OF SUPPLY

9.8.1 Schedule of supply of steel shall be finalised by the contractor with GE and shall be incorporated in CPM chart as that supply of steel is monitored in a way to avoid any delay in the completion of work.

9.8.2 The complete requirement of steel of various sizes shall be worked out before making any RAR payment and procurement of steel by the contractor shall be completed sufficiently in advance of the date of completion. No extension of time shall be considered for non-availability of any section of steel.

9.9 WELDING

9.9.1 Electrodes shall be as per clause 10.8 of MES Schedule Part-I. Welding where required shall be done by metal arc process in accordance with IS-816 as specified in clause 10.15 to 10.15.19 as applicable of MES Schedule Part-I. The welding shall be continuous welding as directed by the Engineer-in-Charge. Welding of stainless steel works shall be done either the electric process or by the oxy-acetylene method.

9.10 PRESSED STEEL DOOR FRAMES

Pressed steel door frames shall conform to IS-4351. Unless not specified in Sch 'A', pressed steel door frames shall be fabricated with 1.25 mm thick MS plain sheet. Pressed steel door frames shall be procured from any of the manufacturers given here-in-after.

9.11 STEEL WINDOWS AND VENTILATORS

(a) The term steel window use in the particular specifications shall mean 'steel windows and ventilators'. Steel window shall be factory made ISI marked IS-1038.

(b) Steel windows (glazed) shall be provided with horizontal glazing bars as directed. Fixing and glazing of windows shall be in accordance with IS 1081 and shall be tennoned and riveted to the frame.

(c) Side hung windows opening outside shall have Box type hinges and shall have steel peg stays. However, shutters of windows, which are opening inside, shall have Box type hinges and shall not have peg stays. Top hung or bottom hung ventilators shall also be provided with steel peg stays which when closed shall held tight by locking brackets, handles (with spring washers) and catch spring shall be as specified in relevant IS and handle shall be fabricated out of MS sheet 3.15mm thick and fixed as directed by Engineer-in-Charge. Butt hinges for top or bottom hung shutters of ventilators shall be welded to frames without cutting slot. Striking plates for handle shall be of steel.

(d) Steel windows shall be fixed to concrete/masonry with lugs. Lugs shall not be provided for fixing to lintels and cills.

(e) Centre hung windows shall be mounted on antifriction brass pivots.

(f) Steel windows shall be procured from any of the manufacturers listed here-in-after factory made ISI marked (IS-1038). Peg stay shall be of mild steel as per IS, specification. Handle to fly proof windows shall be pressed type.

(g) All factory made steel windows / Vents shall be provided with manufacturers name tag as per IS-1038.

(h) Wherever directed by Engineer-in-charge at site, windows shall be provided with opening for AC/desert cooler and quoted rate shall deemed to include for same.

9.12 GUARD BARS TO STEEL WINDOWS AND VENTILATORS

(a) The term 'window' used in the particular specifications shall mean 'windows/ventilators'.

(b) All steel windows shall be provided with guard bars as shown on drawings. However, in case of double windows in the same opening guard bars shall be provided to glazed windows only.

(c) Guard bars to steel windows unless otherwise shown on drawings shall be 10 mm mild steel square bars. The guard bars shall be integrated during the manufacture of the windows.

PARTICULAR SPECIFICATION SECTION-II**9.13 PRESSED STEEL FRAME /BOX WINDOWS, VENTILATORS & GUARD BARS**

- 9.13.1 All pressed steel frame/box windows and ventilators shall be provided to size and dimensions as shown on drawing No. BTD-888R & BTD-889 as applicable. It shall be factory fabricated and procured from any one of the manufacturers given in Appendix 'B'.
- 9.13.2 Prior to procurement of bulk quantity of windows and ventilators, the contractor shall produce a sample to GE who shall inspect/examine and after satisfying himself with regard to the requirement, pass the sample and convey in writing to the contractor. Bulk procurement shall commence only after approval of the sample. Quality of entire supply shall be as per sample.
- 9.13.3 Factory made steel windows and ventilators shall be provided with manufacturer's name tag as per relevant IS.
- 9.13.4 Guard bars/grills shall be provided to all windows vents as per detail shown on drawings and shall be factory welded.

9.14 COLLAPSIBLE STEEL GATES

Collapsible steel gates shall be of approved design. Collapsible steel gates shall be provided all as specified in clause 10.24 to 10.24.5 of SSR Part-I. These shall be with single leaf or double leaves as directed by Engineer-in-charge. All dimension and other particulars shall generally be of standard trades pattern. The gate shall be cleaned of all rust and mill scales etc. The wheel shall be fitted with ball bearing. All structural steel (standard quality) shall confirm to quality specified here-ib-before. Bolts & Nuts shall be of grade 'Black' (B) confirming to the relevant requirement of IS specifications. Rivets use for fabrication shall be made out of mild steel rivet bar conforming to IS for structural purpose. Head of rivets shall be as directed by Engineer-in-charge.

9.15 STEEL ROLLING SHUTTERS

Steel rolling shutter shall be approved by the GE and shall confirm to the requirement of IS 6248. The size of rolling shutter shall be as directed. The steel rolling shutter shall be provided all as per Sch 'A' and as specified in clause 10.23 MES SSR Part I.

10. ANODISED ALUMINIUM DOORS AND WINDOWS, VENTILATORS AND FIXED GLAZING AND PARTITIONS

These shall be provided all as specified in MES SSR Part-I. Aluminium section for doors/windows/ventilators/fixed glazing /partition shall be procured by the contractor from one of the manufacturer as listed here-in-after. Thickness of glass panes for doors/fixed glazing/partition and windows shall be 5.5mm thick and 4mm thick respectively unless otherwise not specified in Sch 'A'. Glass panes shall be provided with rubber packing/beading of standard glazing clip as per manufacturer's instructions. A thick layer of clear transparent lacquer based on methacrylates, shall be applied on aluminium doors by the manufacturers to protect the surface from damage during installation. This lacquer coating shall be removed after installation is completed.

11. ASBESTOS CEMENT SHEETING CORRUGATED OR SEMI CORRUGATED

Asbestos cement sheeting corrugated or semi corrugated shall be provided as per clause No 11.24 of MES SSR Part-I. AC Sheet and AC ridge shall be ISI marked of approved make.

12. ASBESTOS CEMENT PLAIN BUILDING BOARDS

Asbestos cement plain building boards of thickness as specified in Sch 'A' shall be provided all as per MES SSR Part-I & relevant IS. AC plain building boards shall be ISI marked of approved make.

10. GALVANIZED STEEL SHEET (PLAIN OR CORRUGATED)

- 10.1 Refer Para 10.29 of MES Schedule Part-I. Unless otherwise specified, Galvanized steel sheet shall be 0.63mm thick. Galvanized steel sheet, plain or corrugated shall comply with the requirement of IS 277-2003, Specification for galvanised steel sheets, plain or corrugated. The grade of galvanizing shall be as indicated. Wherever grade of galvanizing is not indicated, same shall be Grade 275. Galvanized steel sheet shall be ISI marked.
- 10.2 Refer Para 11.4, 11.21, 11.22 & other relevant paras of MES Schedule Part-I.

PARTICULAR SPECIFICATION SECTION-II**12.1 GALVALUME SHEET ROOFING**

- 12.1.1 Refer Para 11.3 of MES Schedule Part-I. Galvalume sheet shall be 0.50mm thick (total coated thickness), 550 Mpa minimum, yield strength. Galvalume sheet shall be coated with coating AZ-150 gsm with hot dip alloy of 55% Aluminium 43.5% Zinc 1.5% Silicon and finished with resin coat on both surfaces @ 150 gm/sqm of coating (total both surfaces) having overall width and laid width as specified and shall be fixed using hot dip galvanized, self drilling and self tapping screws neoprene and EPDM washers. Penetrations and laps in sheet shall be sealed by using proper sealant profile. HDPE fillers shall be provided wherever required to close voids between sheets, sheet & fasteners etc. Fixing system shall be as per manufacturer's instructions and shall be safe against effects of Wind velocity.

12.2 GALVALUME SHEET WALL CLADDING

- 12.2.1 Refer Para 11.3 of MES Schedule Part-I. Galvalume Sheet for wall cladding shall be same as for roof and shall be fixed with 8mm and 30mm deep trapezoidal profile sheeting fixed with self trapping fasteners.

12.3 ROOFING ACCESSORIES

- 12.3.1 Roofing accessories ie. Corner piece apron, eaves/valley gutters, hoopers, ridges, sheet floor connectors etc shall be of galvalume sheet and of size shape as specified.

11. MUD PHUSKA

Refer Para 11.9, 11.10 & 11.26 of MES Schedule Part-I.

12. BRICK TILES

Refer Para 5.6 & 11.7 of MES Schedule Part-I.

12.1 LIME CONCRETE TERRACING

Lime concrete shall be prepared all as described in Para 11.27.1 of MES Schedule Part-I.

13. ROOF TREATMENT

- 13.1 Roof treatment shall be carried out all as specified in relevant items of Sch 'A' and as directed by the Engineer-in-Charge.

13.2 SECURITY DEPOSIT TOWARDS ROOF TREATMENT

- 13.2.1 Should the GE at any time during construction or reconstruction or prior to the expiration of a guarantee period of 10 (Ten) years after the certified date of completion find leakage / seepage / dampness or any sign of defective water proofing treatment, the contractor shall on demand in writing from GE specifying the building complained of notwithstanding the fact that the same may have been inadvertently passed certified and paid for, forthwith undertake to carry out such treatment as may be necessary to render the said building free from leakage/ seepage / dampness as noticed at his own expenses for a guarantee period of ten years and in the event of his failing to do so within a period to be specified by the GE in his demand as aforesaid the GE may undertake such treatment at the risk and expense in all respect of the contractor. The liability of the contractor under this condition shall not extend beyond the guarantee period of ten years from the certified date of completion unless the GE had previously given notice to the contractor.
- 13.2.2 The contractor shall give a service guarantee of 10 (Ten) years for water proofing treatment. The aforesaid guarantee period of Ten years shall reckon from the certified date of completion of the contract. Amount @ 2% of value of roof treatment items subject to minimum of Rs. 5000.00 and enhanced by 25% shall be retained from the contractor's final bill amount as security deposit for the water proofing treatment for the guarantee period of 10 (ten) years. The contractor may at his discretion furnish fixed deposit receipt from Schedule Bank in favour of GE for above amount of the security towards guarantee period. The security deposit referred to in condition here-in-before may be refunded to the contractor after the expiration of the period of ten years from the certified date of completion by the GE, provided always that the contractor shall first have been paid the final bill and have rendered a No Demand Certificate (IAFA-451). Condition 10, 46 and 68 of the General Conditions of Contracts (IAFW-2249) shall be deemed to be amended to the extent mentioned above.

PARTICULAR SPECIFICATION SECTION-II**14. FLOORING**

- (a) Type and composition of floor shall be all as specified in relevant items in Sch 'A'.
- (b) Cement as specified in clause here-in-before shall be used for all flooring.
- (c) Provisions contained in clauses 13.25, 13.27, 13.32 & 13.38 of MES Schedule (Part-I) are to be adopted for laying floors and pavements.
- (d) Floors shall be laid to levels or to falls as directed by the Engineer-in-Charge.
- (e) Floor finish shall be extended over dwarf walls, doors and other openings.
- (f) Floor topping of cast-in-situ cement concrete shall be finished even and smooth without using extra cement as specified in clause 13.32.8 of MES Schedule Part-I.
- (g) Sub base shall not be laid in panels.
- (h) Under layer and topping layers of cast-in-situ cement floors shall be laid in panels.

14.1 SUB BASE TO FLOOR

Thickness of sub base of floor shall be as indicated in Schedule 'A'. Bay system or use of glass dividing strip not to be adopted in case of sub base.

14.2 CEMENT CONCRETE FLOOR

PCC floor upto and including 50mm thick shall be laid adopting panel dimension not exceeding 1200mmx1200mm with 3mm thick (nominal thickness) sheet glass as dividing strips for the panels. The width of the glass dividing strips shall be 2mm less than the thickness of the floor and those strips shall be visible in the finished floor. Top of PCC floor shall be finished as described in the Sch 'A'. PCC floor exceeding 50mm thick shall be laid in alternate bay system with panel dimension not exceeding 2.4mx2.4m and glass dividing strips shall not be provided.

14.3 PLINTH PROTECTION

- (a) Plinth protection wherever shown/directed shall be provided to the indicated/directed width. Where width is not shown on drawings, the width of plinth protection shall be 75 cm excluding width of brick edging.
- (b) The surface where plinth protection is to be laid shall first be prepared to the required slope. The bed shall be watered adequately and rammed with iron rammers.
- (c) For brick edging, trench of required depth and width shall be made along the edge of the plinth protection to receive the bricks. The bricks shall be laid true to line in cement mortar (1:4). Bricks shall be laid on edge with thickness of bricks equal to the thickness of edging and depth of edging equal to length of brick. The top face of the brick shall conform to the finished level of plinth protection adjacent to the edging.
- (d) The sub base shall consist of a bed of 40mm nominal size stone aggregates. Stone aggregate shall be spread evenly over the prepared surface to 75 mm thickness (compacted thickness) and with a outward minimum slope of 1:50. The aggregate shall be carefully laid and packed, bigger size being placed at the bottom. The aggregate shall be consolidated dry with heavy iron rammer. The aggregate shall be then grouted with fine sand at the rate of 0.06 cubic metre per 10 sqm adequately watered to ensure filling of the voids by sand and again rammed with heavy iron rammers.
- (e) After the sub base has been compacted, 75 mm thick cement concrete 1:3:6 type C-1 (using 20 mm graded crushed stone aggregates) shall be laid in one operation and finished even and smooth without using extra cement. The length of each panel shall not be more than 4 metre between two panels. 10 mm groove at junction of wall and plinth protection shall be filled with bituminous mastic filling.

14.4 KOTA STONE FLOORING

- (a) Kota stone in all locations shall be machine cut and polished and shall be laid as specified in clause 13.47 of SSR Part I and as directed by Engineer-in-charge. Kota stone in floor shall be of size 550mm x 550mm (minimum) when brought at site, laid over 15mm thick bedding (screed) layer in CM 1:6 all as directed by the Engineer-in-charge. Kota stone shall be free from stains, cracks, decay and weathering. The edges of slab shall be true. The contractor shall get sample of Kota stone approved by GE. The Kota stone shall conform to the sample kept in the office of the GE. Thickness of Kota stone slab shall be 20 to 25mm if not specified elsewhere in the tender documents. The Kota stone flooring shall be mirror polished (i.e. full granite polish as per local trade practice) as directed by Engineer-in-Charge.
- (b) In case of steps/stair case (treads & landings), Kota stone shall be in a single piece to full length & width of tread & landings. All open edges/nosing of stone in situation like Treads, shelves, platforms, stone cills, etc shall be made full round and polished.

PARTICULAR SPECIFICATION SECTION-II**14.5 KOTA STONE SKIRTING**

Kota stone in skirting shall be machine cut and polished and shall be fixed as specified in SSR Part I and as directed by Engineer-in-charge. Kota stone in skirting shall be provided over 10mm thick screed in CM 1:4. Kota stone shall be free from stains, cracks, decay and weathering. The edges of slab shall be true. The quality, grains & texture of Kota stone for skirting shall be same as used in flooring. Thickness of Kota stone shall be 10 to 15mm if not specified elsewhere in the tender documents. The mirror polishing (i.e. full granite polish as per local trade practice) shall be done as specified for floor but by hand grinding machine. In case of steps/stair case (risers), Kota stone shall be in a single piece to full length & width of risers.

14.6 NON SKID CERAMIC TILE FLOORING

Non skid ceramic tiles of size mentioned in relevant item of Sch 'A' shall be first class, superior/premium quality and got approved from GE before incorporation in the work. Shade of coloured tiles shall be as approved by GE. Quality of tiles shall conform to IS-15622 (2006) (Group B II). Make of tile shall be as listed here-in-after.

14.7 GLAZED CERAMIC TILES

Glazed ceramic tiles of size mentioned in relevant item of Sch 'A' shall be got approved from GE before incorporation in the work. Shade of coloured tiles shall be as approved by GE. Glazed tiles shall be of superior/premium quality with glossy finish. Quality of tiles shall conform to IS 13712 B-III Gde & IS 13753 (1st quality). Make of tile shall be as listed here-in-after.

14.8 VITRIFIED TILES

Quality of vitrified tiles shall conform minimum international standard ISO-13006/Europeon standard EN: 176 Group B1a superior/first quality. Shade/texture of coloured tiles shall be as approved by GE. Vitrified tiles shall be of size mentioned in relevant item of Sch 'A' and shall be laid in cement mortar as specified in Sch 'A' all as directed by Engineer-in-Charge. Tiles shall be provided all as specified in clause 13.41 of MES SSR Part-I. Make of tile shall be as specified here-in-after.

14.9 GRANITE WORK

Granite slab shall be hard, sound, dense and homogeneous in texture. It shall be uniform in colour and free from stains, cracks, decay and weathering. The edges of slab shall be true. The contractor shall get sample of Granite slab approved by GE. Unless otherwise specified elsewhere, thickness of granite on any location shall be 18-20 mm. The slab to be used upto 2.40 m long shall be in one piece and width equals to the width of counter/shelves, platforms and the like.

14.10 PRECAST INTERLOCKING PAVER BLOCKS (TILES)

Refer Para 13.18 of MES SSR Part-I. The paver blocks shall be laid all as described in Schedule 'A' and MES SSR Part-I and all as directed by Engineer-in-Charge. Size, shape & colour of PCC interlocking tiles shall be as approved by the Engineer-in-charge. Thickness shall be as specified in relevant item of Sch 'A'. The tiles shall be tested for compressive strength before incorporating in the work. Inter locking pavers block shall be factory made and casted under desired hydraulic pressure. Paver shall be placed over screened compacted sand layer one by one. The pavers shall be packed by hammering and placed at proper angle so that gap at interfaces is kept minimum. After placing the pavers put vibrating plate on them and add sieved fine aggregate to fill the gaps. Make of tile shall be as specified here-in-after.

14.11 CHEQUERED CEMENT CONCRETE TILES FLOORING

The Chequered Cement Concrete tiles shall be all as specified in clause 13.17 of SSR Part-I and confirm to IS 1380. Size of tiles shall be as specified in relevant item of Sch 'A'. Chequered tiles shall be laid all as specified and directed by Engineer-in-Charge.

15. PLASTERING AND POINTING

- (a) Prepare surfaces to be plastered and pointed and wet the surface thoroughly.
- (b) Curing of plaster work shall be properly done. The contractor may use a spray pump or similar device without any price adjustment taking precautions against damage to plaster due to impact of splashing water.
- (c) The contractor shall take every precaution right from the commencement of plaster work to prevent any craziness that may appear on the surface of plaster and shall be responsible to make good any portion of plaster work which in the opinion of the GE requires removal and redoing.

PARTICULAR SPECIFICATION SECTION-II

(d) Unless otherwise specified in Sch 'A', external plastered surfaces shall be finished to fair and even surfaces and internal plastered surfaces shall be finished to even and smooth surface without using extra cement.

(e) Plastering at the junction of walls and floors and to all internal and external angles shall be rounded off to an imperceptible radius as directed by Engineer-in-Charge. Plastering shall be returned in openings in walls.

(f) Sand for plastering and pointing shall conform to the sample kept in the office of GE & shall meet the requirement of relevant IS. Sand shall be obtained from the approved sources.

(g) The proper groove of size 10 to 12 mm width and full depth of plaster as approved by GE shall be provided to all meeting point to RCC and brick work in internal surfaces all buildings. The cost to this effect shall be deemed to be included in the unit rate of plastering.

(h) Thickness of cement plaster mentioned in relevant item. Plaster shall be provided as specified in relevant clauses of SSR Part-I and as mentioned in relevant items of Sch 'A'.

16. **WHITE WASHING & COLOUR WASHING**

16.1 It shall be carried out as laid down in clause & sub clauses 15.12 of SSR Part I. For white washing on ceiling adequate quantity of zinc oxide shall be added to lime wash for achieving egg white shade.

- 16.1.1 (i) Lime used for white washing shall be freshly burnt fat lime (Class C) or magnesium lime (Class D or F), white in colour, conforming to IS-712-1984 specification for building limes
- (ii) Lime fast colour shall be of any of the following manufacturers as approved by the GE.
- | | |
|-----------------------------------|-------------------------------------|
| (a) The Material Products Co. | (b) M/S Khandelwal Paint Industries |
| (c) M/S Lakshmi Paints Industries | (d) M/S The National Tile Works. |
- (iii) The ochre's for making colour wash shall conform to IS-44-1969. The solid lump shall be crushed to powder. For colour wash locally available Geru / Pili mitti shall not be used.

16.2 **DISTEMPERING WITH DRY DISTEMPER**

Distempering shall be carried out as per clause & sub clauses No 15.13 of SSR Part I. Dry Distemper of approved colour and shade shall be obtained ready mixed, ISI marked manufactured either of the manufacturers listed here-in-after.

16.3 **DISTEMPERING WITH OIL EMULSION DISTEMPER**

Distempering shall be carried out as per clause & sub clause No 15.14 of SSR Part-I. Distemper Oil Emulsion (Oil Bound Distemper) and distemper acrylic washable distemper of required tint shall be obtained ready mixed either of the manufacturers listed here-in-after.

16.4 **CEMENT PAINTING**

Cement painting shall be carried out as laid down in clause and sub clauses of 15.15 of SSR Part I. Cement base paint shall be IS-5410 marked and shall be procured in drums/ bags as required. The cement base paint shall be procured either of the manufacturers listed here-in-after.

16.5 **ACRYLIC EMULSION PAINT (EXTERIOR/INTERIOR GRADE)**

Painting with Acrylic emulsion paint (Exterior/Interior grade) to wall surfaces shall be carried out all as specified in clause 17.17 to 17.17.4 of SSR Part-I. Acrylic emulsion paint (Exterior / Interior grade) & acrylic primer shall be procured either of the manufacturers listed here-in-after. Acrylic primer and Acrylic emulsion paint (Exterior/Interior grade) shall be of same manufacturer.

17. **GLAZING**

All glazing shall be with sheet glass of ordinary quality and shall conform to IS -2835. Glass shall be free from all defects viz bubbles, waviness etc. and shall be of uniform thickness. Unless other wise specified in relevant item in Sch 'A' glazing to windows/doors etc. shall be with 4mm thick sheet glass. Glass used shall be plain sheet glass except in baths/WC/Toilets/Lav as applicable where it shall be pinhead glass. The glazing to steel frames, where shown on drgs, shall be fixed with special spring glazing clips with putty and glazing to wooden joinery shall be fixed with wooden beading with putty all as specified in clauses 16.5 to 16.10.2 of MES Schedule Part-I.

PARTICULAR SPECIFICATION SECTION-II**18. PAINTING TO WOODEN, IRON/STEEL, PLASTERED, CONCRETE SURFACES ETC**

- (a) Painting to all type of surfaces shall be carried out all as specified in SSR Part-I.
- (b) Paint shall be first quality synthetic enamel paint not inferior to the specified in the Indian standard specifications mentioned in SSR Part-I for ready mixed paint for wood work and steel work. Paint shall be procured either of the manufacturers listed here-in-after.
- (c) The Contractor shall when so required by the GE produce certificate from the manufacturers or from the authorised dealers to establish that the brands of paints purchased by the contractor from them, satisfy the requirement of relevant Indian standard or are superior to the quality specified in the relevant IS specifications.
- (d) Engineer-in-Charge shall ensure that the paints used are actually brought have been approved by GE.
- (e) Tint of paint, unless otherwise specified shall be approved by the Engineer-in-Charge.
- (f) Paints for priming coat, under coat and finishing coat shall be of the same brand.
- (g) Members specified to be painted shall first be passed by Engineer-in-Charge and marked as such before commencement of painting work. Each coat of paint shall be passed by the Engineer-in-Charge before the successive coat is applied.
- (h) If the under coat of paint is not executed within 6 months after applying the priming coat of paint, the priming coat shall be redone by the contractor without any extra cost to the Govt.
- (j) Surfaces inaccessible for applying further coats shall be painted before fixing.
- (k) Unless otherwise specified, pink primer shall be used for wooden surface and red oxide zinc chromate for steel surface.

19. MATERIAL, WORKMANSHIP AND INSTALLATION OF SANITARY ITEMS**19.1 GENERAL**

- (a) Workmanship and installation shall be all as specified in relevant clauses of SSR Part-I and as directed by the Engineer-In-Charge.
- (b) Vitreous china sanitary appliances shall be of first quality and shall conform to IS-2556 for General requirements and the specific requirements as mentioned in clause 18.32 to 18.40 of MES Schedule Part-I. These shall be of makes specified in relevant appendix attached to this particular specification.
- (c) Flush pipe and socket of flushing rim of WC shall be jointed with white cement and red lead (white cement and red lead in equal proportion by weight) and linseed oil to form paste.
- (d) Cast iron brackets shall conform to IS-775. Cast iron brackets for the relevant sanitary and toilet fittings shall be given two coats of aluminium paint over a coat of primer.
- (e) In case, the sanitary fittings of sizes given in relevant item of Sch 'A' are not available with the manufacturers, the sanitary fittings of nearest size (but not less than size specified in Sch 'A') as per manufacturer's catalogue shall be provided by the contractor without any extra cost to the Govt..

19.2 WASH DOWN WATER CLOSET (PEDESTAL PATTERN)

Wash down water closet shall be ISI marked (IS-2556 (Part II)). Each pan shall have an integral trap either with 'P' or 'S' outlet, inlet depth shall be at least 75mm. The closet shall have an anti-syphonage 50 mm dia vent horn on the outlet side of the trap. These shall be ISI marked and shall be of specified make. WC seat and cover shall be of thermo setting material ISI marked and hinged with chromium plated brass hinges and rubber.

19.3 SQUATTING PANS

Squatting pans shall be ISI marked (IS-2556 (Part III)). These shall be of long pattern or Orissa pattern of size as specified in relevant item of Sch 'A'. Each pan shall be provided with a 100 mm dia 'P' or 'S' trap as directed. Orissa pattern WC shall be provided with integral foot rest and long pan shall be provided with foot rests of size (minimum) 25cm x13cm. Squatting pan shall be ISI marked and shall be of specified make.

19.4 URINALS

Urinals shall conform to IS-2556 (Part VI). These shall be ISI marked and shall be of specified make.

19.5 WASH BASINS

Wash basins shall be ISI marked (IS-2556 (Part IV)) of specified make and all as specified in clause 18.32.5 of SSR Part-I. Wash basin shall be of size & pattern as mentioned in relevant items of Sch 'A'.

19.6 PVC FLUSHING CISTERN

PVC low level flushing cistern 10 litres capacity shall be of body moulded from virgin quality high impact polystyrene and shall be of specified make.

PARTICULAR SPECIFICATION SECTION-II**19.7 MIRROR**

Mirrors shall be of thickness as specified in Sch 'A' polished sheet glass flawless firmly mounted on 6mm thick plywood (ISI marked) / AC building board (ISI marked) backing in aluminium framing or teakwood framing as mentioned in relevant items of Sch 'A'. The edge of plywood shall be finished smooth by sand paper. If thickness of mirror not specified in Sch 'A', it shall be 5.5 to 6mm thick.

19.8 STAINLESS STEEL SINK

Stainless steel sink shall be as specified in Sch 'A' and shall be of specified make.

19.9 PLATE RACK

Plate Rack of minimum size of as specified in relevant item of Sch 'A' fabricated with 0.63mm chrome nickel stainless steel (grade S-304) shall be provided. Make shall be as approved by GE.

20. PLUMBING WORK**20.1 GENERAL**

Plumbing work shall be carried out as specified in clause 18.13 to 18.23, 18.40 and 18.62 to 18.67 of MES Schedule Part-I.

20.2 SOIL/WASTE/VENT PIPES/FITTINGS/ACCESSORIES

These shall be of cast iron (Sand cast) conforming to IS-1729 with or without ears and with spigot and socket ends. All pipes and fittings shall have ISI certification mark.

20.3 JOINTING

20.3.1 CI pipes and fittings laid under floor/hidden portion shall be jointed with run lead joints as specified in clause 18.40 and 18.67 of MES Schedule Part-I and all other joints shall be in cement mortar as specified in MES Schedule Part-I.

20.3.2 Wherever, directed by Engineer-in-charge, CI Pipe Joint Sealant joints with suitable two pack system sealant (Resin & Hardener, which hardens on mixing) such as "DRIPSEAL PJS-43" or equivalent as approved by GE} joint shall be provided all as per manufacturer's instructions and as mentioned in relevant item of Schedule 'A'.

20.4 FIXING OF PIPES TO WALLS

CI pipes and fittings shall be fixed to wall with mild steel clamps as specified in clause 18.67 to 18.67.6 of MES Schedule Part-I.

20.5 UPVC SOIL, WASTE AND RAIN WATER (SWR) PIPES

UPVC (SWR) pipes shall confirm to IS-13592 and as specified in Clause 18.27A of SSR Part-I. UPVC pipes shall be jointed and laid as specified in Clause 18.52 of SSR Part-I.

20.6 SALT GLAZED STONE WARE PIPES, FITTINGS AND GULLY TRAPS

Salt glazed stoneware pipes, fittings and gully traps shall comply with the requirement of IS 651-2007. Pipe & fittings shall be of quality 'Class SP 2'. Jointing of glazed stone ware pipes shall be carried out all as specified in clause 18.70 of SSR Part-I.

20.7 REINFORCED CONCRETE PIPES

Reinforced concrete pipes for drain and culverts shall be non-pressure type class NP-2 and shall confirm to IS-458-2003 and all as specified in clause 18.29 of SSR Part-I. RCC pipes shall be laid all as specified in clause 18.74 of SSR Part-I.

21. MANUFACTURER'S GUARANTEE / WARRANTEE FOR THE MATERIAL

Contractor shall provide the manufacturer's guarantee / warrantee for the materials incorporated in the work to the Engineer-in-Charge and shall be liable for replacement of the items covered under manufacturer's guarantee / warrantee period on becoming the items defective.

22. DEMOLITION/DISMANTLING

Demolition/dismantling work shall be carried out carefully as per the direction of Engineer-in-Charge. All material obtained from demolition/dismantling shall become the property of the Govt except for which credit catered under Sch of credit and shall be removed from the site or deposited at the MES store yard by the contractor as directed by the Engineer-in-Charge. The contractor shall make good the disturbed surface to match with the existing surface. The holes of gutties, small cracks etc shall firstly repaired with cement mortar and then applying the existing treatment like white wash/colour wash/distemper etc to match the existing surface finishes all as directed and to the entire satisfaction of the Engineer-in-Charge and this shall be included in the rates quoted by the contractors.

PARTICULAR SPECIFICATION SECTION-II**23. T&P, MACHINERY AND TRANSPORT**

(a) Contractor shall be required to strictly ensure deployment of following T&P, Machinery & Transport for the execution of work under this contract :-

Ser No.	T&P / Machinery / Transport	Qty
1	One bag capacity concrete mixer (diesel)	01 No
2	Vibrators (Needle and Plate type)	01 No
3	Steel shuttering with spans, props etc (Sqm)	20 Sqm
4	Concrete mobile weigh batcher	01 No
5	Steel/Aluminum ladders 1.6m to 8m (Nos)	02 Nos
6	Chase cutting machines	01 No
7	Torque wrench for nuts/bolts/screws	01 No
8	Blank	-
9	Welding set	01 Set

(b) Inadequate deployment of T&P, Machinery & Transport as stipulated above shall be considered as serious lapse attracting ban / removal / downgrading / debarment of the Firm/Company.

Signature of Contractor

AGE (Contracts)
For Accepting officer

APPENDIX 'B'

LIST OF APPROVED MAKES /MANUFACTURERSGENERAL NOTES :-

- (i) Makes specified in Sch 'A' shall only be provided when makes are mentioned in Sch 'A'.
- (ii) Makes specified in Particular Specification shall be provided only when no makes are specified in the Sch 'A'.
- (iii) Makes specified in this Appendix shall be provided only when no makes are mentioned in the Sch 'A' and Particular Specification.
- (iv) For incorporation in work, contractor can also procure the materials/products from the manufacturers, names of those are not included in this Appendix, with prior approval of Accepting Officer in case the same are approved by the competent authority i.e. CE SWC or E-in-C's Branch in equivalent category (i.e. Group-I).

1. APPROVED CEMENT MANUFACTURERS:-

SI No.	Company Name	Address	Cement Grade	Valid up to	Remarks
1.	The Associated Cement Companies Ltd. Brand: "ACC"	414-421, Splendor Forum (4th Floor), 3, District Centre, Jasola,, New Delhi — 110044, Ph- 011 46583600	All	-	
2.	Ultra Tech Cement Ltd. Brand: "ULTRATECH"	'13' Wing, 2 nd Floor, Mahakali Caves Road, Andheri (East), Mumbai — 400093, Ph- 022- 66917800	All	-	
3.	The India Cement	Dhun Building, 827, Anna Salai, Chennai — 600002	All	-	
4.	Dalmia Cement (Bharat) Ltd. Brand: "DALMIA INFRA PRO"	Dalmiapuram Distt- Truchirappalli, Tamil Nadu — 621651	All	-	
5.	Century Cements. Brand: "CENTURY"	Industry House, 159 Church gate Reclamation, Mumbai -400020, Ph- 022 22023936	All	-	
6.	Saurashtra Cement Brand: "SAURASHTRA"	Gala No A-1, Ground Floor, Udhog Sadan No 3 MIDC, Central Road, Andheri (East), Mumbai- 400093 Ph- 022 32955557/67, Mo- 9320290081	All	-	
7.	The Ramco Cements Ltd. (Formerly Madras Cement) Brand: "RAMCO"	Auras Corporate Centre, 98-A, Dr. Radhakrishnan Salai, Mylapore, Chennai — 600004 Ph- 044 28478666	All	-	
8.	Mangalam Cement Ltd Brand: "MANGALAM"	PO Adityanagar, Morak, Dist- Kota, Rajasthan — 326520 Ph- 9351468076	All	-	
9.	Birla Corporation Ltd Brand: "BIRLA"	Birla Building (3rd & 4 th Floor) 9/1, R.N Mukherjee Road Kolkata — 700001, Ph- 033 30573700	All	-	
10.	Orient Cement Brand: "ORIENT"	5-9-22/57/D, 2nd and 3rd Floor, GP Birla Centre, Adarsh Nagar, Hyderabad- 500063, Pin- 044 23688600	All	-	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT...)

SI No.	Company Name	Address	Cement Grade	Valid up to	Remarks
11.	Nuvoco Vistas Corporation Ltd (Formerly Lafarge Cement) Brand: "NUVOCO"	Equinox Business Park Tower-3, East Wing, 4 th Floor LBS Marg, Kurla (West), Kurla Mumbai, Maharashtra-400070	All	-	
12.	Shree Cement Brand: "SHREE"	Bangur Nagar, Beawar, Dist- Ajmer, Rajasthan- 305901 Ph — 01462 228101-06	All	-	
13.	J K Cement Brand: "J K"	Kamla Tower Kanpur-208001	All	-	
14.	J K Lakshmi Cement Ltd Brand: "J K LAKSHMI"	Jaykaypuram, Dist-Sirohi, Rajasthan- 307019, Ph- 0 2 9 7 1 2 4 4 4 0 9 / 1 0	All	-	
15.	Jay pee Rewa Cement Brand: "JAYPEE"	Jaypee Nagar P.O.- Jaypee Nagar, Rewa-486450 M.P.	All	-	
16.	Ambuja Cement Ltd Brand: "AMBUJA"	Kodinar, PO- Ambujanagar, Taluka- Kodinar, Dist- Junagadh, Gujarat- 362715, Ph- 02795 237000	All	-	
17.	M/S Shree Guru Kripa Cement (Pvt) Ltd Brand: "SARTAJ"	4/4 Trikuta Nagar Jammu Ph. 0191- 2472043	OPC 43 & PPC	-	
18.	MIS Parasakti Cements Ltd. Brand: "PARASAKTI Cement"	12313RT, Plot # 8-3-214/21, Srinivasa Nagar Colony(West) Hyderabad-500038 Tel- 040-44119100 /200, Fax- 040-23747562	OPC 43 & PPC	-	
19.	M/S My Home Industries Ltd Brand: "MAHA CEMENT"	9th Floor, Block-3, My Home Hub, Madhapur, Hyderabad — 500081 Ph- 040-66929696 Fax- 040-66929797/98	PSC	-	
20.	M/s Chettinad Cement Corporation Ltd. Brand: "CHETTINAD Cement"	4th Floor, Rani Seethai Hall Building, 603, Anna Salai Hall, Chennai-600006 Tel No. 044-42951800 Fax No. 044-28291558 Email:-info@chettinadcement.com Website-www.chettinadcement.com	OPC 43 & PPC	-	
21.	M/s Kesoram Industries Ltd Brand: "Birla Shakti"	Cement Division, Office No 613 to 616 White House, Block-III, VI Floor, 6-3- 1192/1/1 Kundanbagh, Begumpet, Hyderabad 500016, Telengana Tele: +91-40-4334-4555 Fax: +91-40-4334-4534 Email: corp.office@wondercement.com	OPC 43, OPC 53 & PPC	-	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT...)

SI No.	Company Name	Address	Cement Grade	Valid up to	Remarks
22.	M/s JSW Cement Ltd, A.P Brand "JSW PSC (Portland Slag Cement)" Brand "JSW OPC 53" Brand "JSW OPC 43"	JSW Centre Opp MIMRDA Ground Bandra Kuria Complex, Bandra (East) Mumbai-400051 Tele: +91-22-4286-5047 Fax: +91-22-2650-2001 Website : www.jswcement.in	PSC OPC 43 OPC 53	-	
23.	M/s Sagar Cements Ltd Brand "SAGAR"	M/s Sagar Cements Ltd Plot No 111, Road No 10, Jubilee Hills, Hyderabad-500 033 Tele : +91-40-23351571, 2335672 Fax : +91-40-2335673 Email :- info@sagarcements.in Web Site : www.sagarcements.in	OPC 43 OPC 53 PPC PSC	-	

2. APPROVED STRUCTURAL STEEL MANUFACTURER:-

SI No.	Company Name	Address	Type of Steel	Valid up to	Remarks
1.	Rashtriya Ispat Nigam Limited (RINL) Brand: "RINL"	Visakhapatnam Steel Plant Visakhapatnam - 530 031, India Tel: (91 891) 518226, 518376 Fax: (91 891) 518316 Email: cmdvsp@itpvis.ap.nic.in	All	-	
2.	Tata Iron & Steel Company (TISCO, or Tata Steel) Brand: "TATA"	Bombay House, 2, 4 Homi Modi Street Mumbai - 400 001, India Tel: (91 22) 204 9131 Fax: (91 22) 204 9522, 287 0840 Email: corpcomm@jsr.tatasteel.com (Br office for North : Jeevan Tara Bldg Patel Chowk New Delhi)	All	-	
3.	Steel Authority of India Limited (SAIL) Brand: "SAIL"	Central Marketing Organization, Northern Region 17th Floor, scope Minar, Laxmi Nagar Distt. Centre, Delhi — 110092	All	-	
4.	M/s Jai Balaji Industries Ltd. Brand: "Balaji Shakti"	5 Bentinck street, Kolkata — 700001 Delhi Office 510, Block-b, Navraung House 21 Kasturba Gandhi Marg, New Delhi-110001 011-43620219, 43620220 Mob: 7838272772/9958936103 E-mail: info@jaibalajigroup.com	TMT Bars of Gde Fe 500 & Fe 500D	-	
5.	M/s Shyam Steel Industries Ltd. Brand: "SHYAM"	Shyam Towers EN-32, Sector-V, Salt Lake, Kolkata-700091 Tel-033-40074007, Fax-033-40074010, E-mail: marketing@shyamsteel.com	TMT Bars of Gde Fe 500, Fe 500D & CRS	-	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SI No.	Company Name	Address	Type of Steel	Valid up to	Remarks
6.	M/s Steel Exchange India Ltd. Brand: "SIMHADRI TMT"	My Home Laxminivas Apartments, Ameerpet, Hyderabad-500016, A.P. Tel- 040-23403725 Fax- 040-23413267 E-mail: info@seil.co.in	TMT Bars of Gde Fe 500, Fe 500D & HSCRM	-	
7.	M/s Jindal Steels and Power Ltd. Brand: "JINDAL PANTHER"	OP Jindal Road, Hissar, Haryana, PIN-125005 Tel- +91 1662 222471-84 Fax- +91 1662 220476	TMT Bars of Gde Fe 500, Fe 500D Fe 550, Fe 550D (Size 8-40mm)	-	
8.	M/s Shri Bajrang Power & (spat Ltd. Brand: "GOEL TMT"	Vill — Borjhara, Urla Industrial Area, Raipur — 493 221, Chhattisgarh. Tel : 0771 4288019 / 29 / 39	TMT Bars of Gde Fe 500 & Fe 500D (Size 8-32mm)	-	
9.	M/s Real Ispat & Power Ltd Brand: "G K TMT"	Vrindavan, Near IDBI Bank Civil Lines Raipur-492001, C.G. Tel: +91-771-4224000 Fax: +91-771-4224010 E-mail. real@realispat.com Website: www.realispat.com	TMT Bars of Gde Fe 500, Fe 500D (Size 8-36mm)	-	
10.	M/s Super Smelters Ltd, Kolkata. Brand: "SUPER SHAKTI"	Premlata, 39. Shakespeare Sarani 3rd Floor, Kolkata-700017 Tele/Fax: +91-33-2289-2734/36 E - mail: info@supershakti.in Website: www.supershakti.in	TMT Bars of Gde Fe 500, Fe 500D & Fe 550 (Size 8-32mm)	-	
11.	M/s SPS Steels Rolling Mills Ltd. Brand "ELEGANT TMT"	"Diamond Prestige", 41 A, A.J.O Bose Road, 8th Floor, Room No 801 Kolkarta-700017 Mob- 9831055568/8910797649 Telefax : 033-66255252 Email: Info@spsgroup.co.in	TMT Bars of Gde Fe 500, Fe 550 & Fe 5000	-	
12.	M/s JSW Steel Ltd. Brand: "NEOSTEEL"	JSW Centre, Bandra Kurla Complex, Bandra (East) Mumbai- 400051, Maharashtra Phone: 022-42861000 Fax: 022-42863000	TMT Bars of Gde Fe 500D, Fe 5500 & CRS (Size 8-40mm)	-	
13.	M/s Kamachi Industries Ltd. Brand: "KAMACHI"	ABC Trade Centre, 3rd Floor (Inside Devi Theatre Complex) Old No. 50, New No. 39. Anna Salai, Chennai- 600002, India Tel: +91-044-42961100 Fax: +91-044-42961122 Custmor care 7700067000 E-mail: sales@kamachitmt.com Website: www.kamachitmt.com	TMT Bars of Gde Fe 500, Fe 500D, Fe 550, Fe 550D & HCRM (Size 8-40mm)	-	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SI No.	Company Name	Address	Type of Steel	Valid up to	Remarks
14.	M/s Shyam Metalics & Energy Ltd. Brand: "SEL"	Viswakarma, 1st Floor, 86 C, Topsia Road, Kolkata — 700046 Ph: +91 33 4011 3000 Fax: +91 33 2285 2212 Website: www.shyammetalics.com	TMT Bars of Gde Fe 500 & Fe 500D (Size 8-32mm)	-	
15.	M/S Electrotherm (India) Ltd Brand "ET TMT"	Survey No. 72, Palodia, (Via-Thaltej, Ahmedabad) Gujarat- 382115 Tel- +91-2717-234553/660550 Fax- +91-2717-234866 Website- www.electrotherm.com	TMT Bars of Gde Fe 500, Fe 500D & CRS (Size 8-36mm)		
16.	M/s Shree Nakoda ispat Ltd Brand "NAKODA TMT"	Near Railway Crossing Mowa, P.O. Shankar Nagar Raipur - 492 007 (C.G.) Website - www.nakodagroup.com Tele - 91-771-22872130 Mob - 7898989741, 7898989205	TMT Bars of Gde Fe 500, Fe 500D (Size 8-32mm)		
17.	M/s Tulsyan NEC Limited Brand "TULSYAN TMT"	APEX Plaza, 1st Floor Old No.3, New No. 77 Nungambakkam High Road Chennai -600 034 (TN) Website- www.tulsyannec.in Tele - 044-61991060/61991045 Mob - 9840354010, 9677088334	TMT Bars of Gde Fe 500, Fe 500D & Fe 550 (Size 8-32mm)		
18.	M/s Incredible Industries Limited (Formerly M/s Adhunik Industries Limited.) Brand "ADHUNIK Fe 500 SD"	Lansdowne Towers 2/1A, Sarat Bose Road 6 th Floor, Kolkata - 700 020 Tele - 033-66384700 Fax - +91-33-2289 0285 Website-www.adhunikindustries.com	TMT Bars of Gde Fe 500D (Size 8-32mm)		
19	Gallantt Metal Ltd, Gujrat Brand: "GALLANTT TMX"	Ward 10BC Plot No. 123, Ground Floor Gandhidham Kutch, Gujarat-370201 Tele - 02836-228164 FAX - 02836-235787 Email - gml@gallantt.com Website - www.gallantt.com	TMT Bars of Gde Fe 500, Fe 500D & CRS		

3. APPROVED STRUCTURAL STEEL MANUFACTURER

SI No.	Company Name	Address	Type of Steel	Valid up to	Remarks
1.	Rashtriya (spat Nigam Limited (RINL) Brand: "RINL"	Visakhapatnam Steel Plant Visakhapatnam - 530 031, India Tel: (91 891) 518226, 518376 Fax: (91 891) 518316 Email: cmdvspitpvis.ap.nic.in	Structural Steel (Angle, Beam, Column, Channel, Plate etc.)	-	
2.	Tata Iron & Steel Company (TISCO, or Tata Steel) Brand: "TATA"	Bombay House, 2, 4 Homi Modi Street Mumbai-400001, India Tel: (91 22) 204 9131 Fax: (91 22) 204 9522, 287 0840 Email: corpcomm@jsr.tatasteel.com (Br office for North : Jeevan Tara Bldg, Patel Chowk , New Delhi)	-do-	-	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SI No.	Company Name	Address	Type of Steel	Valid up to	Remarks
3.	Steel Authority of India Limited (SAIL)	Central Marketing Organization, Northern Region 17th Floor, scope Minar, Laxmi Nagar Distt. Centre, Delhi — 110092	-do-	-	
4.	M/S Jindal Steels and Power Ltd. Brand: "JINDAL"	Jindal Centre, Plot No 2, Sector- 32, Gurgaon-122001, Haryana Tele - 0124 661 2000 Fax - 0124 661 2125 Website: www.jindalsteelpower.com	-do-	-	

4. **APPROVED LIST OF PRODUCTS & MAKES: B&R ITEMS**

SE R No.	PRODUCTS	NAME OF FIRM/BRAND	CAT	VALIDITY OF APPROVAL	APPROVED BY	REMARKS
<u>SECTION – 1 : FLOOR & WALL TILES</u>						
1.	CERAMIC WALL & FLOOR TILES INCL NON-SKID TILES	JONSON	I	30-Sep-24	SWC	
		KAJARIA	I	30-Sep-24	SWC	
		ASIAN GRANITO INDIA (AGL)	I	28-May-26	EC	
		SOMANY	I	07-May-26	ADG (N)	
		RAJASTHAN TILES (ACE)	II	30-Sep-24	SWC	
		HINDWARE/QUEO	II	28-Jun-26	EC	
		EXXARO	II	18-Dec-24	CC	
		APARNA EBTERPRISES LTD	I	10-Jan-26	NC	
		SIMPOLO	I	24-Jun-26	EC	
		SIMERO VITRIFIED PVT LTD	I	16-Jan-26	ADG (P)	
		SUNHEARRT (SUNSHINE TILES)	I	07-Sep-26	EC	
2.	VITRIFIED TILES	JOHNSON	I	30-Sep-24	SWC	
		KAJARIA	I	30-Sep-24	SWC	
		ASIAN GRANITO INDIA (AGL TILES)	I	30-Sep-24	SWC	
		SOMANY	I	07-May-26	ADG (N)	
		RAJASTHAN TILES (ACE)	II	30-Sep-24	SWC	
		HINDWARE/QUEO	II	28-Jun-26	EC	
		SEGA GRANITO LLP	I	13-Jun-26	ADG (N)	
		EXXARO	II	28-Nov-24	EC	
		SIMPOLO	I	24-Jun-26	EC	
		APARNA ENTERPRISES LTD	I	10-Jan-26	NC	
		SIMERO VITRIFIED PVT LTD	I	16-Jan-26	ADG (N)	
		SUNHEARRT (SUNSHINE TILES)	I	07-Sep-26	EC	
3.	ACID RESISTANT TILES	JOHNSON	I	30-Sep-24	SWC	
		KAJARIA	I	30-Sep-24	SWC	
		SOMANY	I	30-Sep-24	SWC	
4.	PVC SHEET AND TILE FLOORING	ARMSTRONG	I	30-Sep-24	SWC	
		SQUARE FOOT	I	30-Sep-24	SWC	
		ECOCCELL/ECHON	I	30-Sep-24	SWC	
5.	CLAY EXTRUDED TERRACOTTA/CLAY FAÇADE TILES	CLAYTON	I	29-Oct-25	ADG(N)	
6.	LEAD-FREE RADIATION SHIELDING (WALL TILES FOR HOSP)	ASSURAYS	II	20-Feb-26	WC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SECTION – 2 : PAINTS						
1.	DISTEMPER OIL-EMULSION / OIL BOUND	NEROLAC	I	30-Sep-24	SWC	
		JENSON & NICHOLSON	I	30-Sep-24	SWC	
		ASIAN PAINTS	I	30-Sep-24	SWC	
		BERGER PAINTS	I	30-Sep-24	SWC	
		SHALIMAR PAINTS	I	07-May-26	ADG (N)	
		BIRLA WHITE	I	07-May-26	ADG (N)	
		ANUPAM PAINTS	II	28-Jun-26	EC	
		JSW PAINTS	I	05-Apr-25	SC	
		NIPPON PAINTS INDIA PVT LTD	I	16-Jan-26	ADG (P)	
		JL MAXX PAINTS	I	27-Mar-26	ADG (P)	
		DULUX (AKZO NOBAL)	I	30-Sep-24	SWC	
2.	PLASTIC EMULSION PAINT AND EXTERIOR EMULSION PAINT	NEROLAC	I	30-Sep-24	SWC	
		JENSON & NICHOLSON	I	30-Sep-24	SWC	
		ASIAN PAINTS	I	30-Sep-24	SWC	
		BERGER PAINTS	I	30-Sep-24	SWC	
		SHALIMAR PAINTS	I	07-May-26	ADG (N)	
		NIPPON PAINT INDIA PVT LTD	I	16-Jan-26	ADG (P)	
		ANUPAM PAINTS	II	28-Jun-26	EC	
		JL MAXX PAINTS	I	27-Mar-26	ADG (P)	
		DULUX (AKZO NOBAL)	I	30-Sep-24	SWC	
3.	CEMENT BASE PAINTS	BERGER PAINTS	I	30-Sep-24	SWC	
		SUPER SNOWCEM	I	30-Sep-24	SWC	
		DURACEM	I	30-Sep-24	SWC	
		AQUACEM	I	30-Sep-24	SWC	
		SHALIMAR	I	30-Sep-24	SWC	
4.	PRIMER	BIRLA WHITE	I	07-May-26	ADG (N)	
		JSW PAINTS	I	05-Apr-25	SC	
		ANUPAM PAINTS	II	28-Jun-26	EC	
		JK MAXX PAINTS	I	27-Mar-26	ADG (P)	
		SHALIMAR PAINTS	I	07-May-26	ADG (N)	
5.	PUTTY	ASIAN PAINTS	I	30-Sep-24	SWC	
		NEROLAC	I	30-Sep-24	SWC	
		BERGER PAINTS	I	30-Sep-24	SWC	
		BIRLA WHITE	I	07-May-26	ADG (N)	
		JK WHITE	I	30-Sep-24	SWC	
		SHALIMAR PAINTS	I	07-May-26	ADG (N)	
		NIPPON PAINT INDIA PVT LTD	I	16-Jan-26	ADG (P)	
		JK MAXX PAINTS	I	27-Mar-26	ADG (P)	
		GOLDEN MHAR	I	30-Sep-24	SWC	
6.	SYNTHETIC ENAMEL PAINT	ASIAN PAINTS	I	30-Sep-24	SWC	
		NEROLAC	I	30-Sep-24	SWC	
		BERGER PAINTS	I	30-Sep-24	SWC	
		JENSON & NICHOLSON PAINTS	I	30-Sep-24	SWC	
		SHALIMAR PAINTS	I	07-May-26	ADG (N)	
		ANUPAM ENTERPRISES	II	28-Jun-26	EC	
		JSW PAINTS	I	05-Apr-25	SC	
		NIPPON PAINT INDIA PVT LTD	I	16-Jan-26	ADG (P)	
		DULUX (AKZO NOBAL)	I	30-Sep-24	SWC	
7.	ROAD MARKING PAINT (THERMOPLASTIC PAINT)	RELIANCE THERMOPLAST	II	19-Oct-25	WC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SECTION – 3 : FACTORY MADE DOORS/WINDOWS						
1.	FIR RATED DOORS	CACTUS	II	29-Oct-25	ADG (N)	
		HORMANN (SHAKT HORMANN)	II	13-Jun-26	ADG (N)	
		AACCESS TOUGH DOORS	I	27-Mar-26	ADG (P)	
		DODIA ENTERPRISES	I	13-Jun-26	ADG (N)	
2.	FACTORY MADE PANELLED/GLAZED/WIRE GAUGE WOODEN SHUTTERS/FRAMES	PIONEER TIMBER, CHANDIGARH	I	30-Sep-24	SWC	
		JAIN DOORS, HARYANA	II	18-Dec-24	CC	
		BLACK COBRA (PUNJAB PLYWOOD)	II	25-Oct-25	ADG (N)	
		A-1 TEAK PRODUCTS, INDORE	I	27-Mar-27	ADG (P)	
		PARSHOTAM STEEL (PSI)	I	17-Oct-25	WC	
		JAYNA (JAIN WOOD IND)	I	17-Apr-27	EC	
		MP WOOD PRODUCTS	II	18-Jan-26	ADG (P)	
		EVEREST	II	17-Oct-25	WC	
3.	FACTORY MADE PVC/FRP SHUTTERS AND FRAMES	RAJSHRI	I	31-Mar-25	SC	
		SINTEX	I	30-Sep-24	SWC	
		DURO PLAST	I	30-Sep-24	SWC	
		ACCUCEL (ACCURA POLYTECH)	I	30-Sep-24	SWC	
		GIZA	II	30-Sep-24	SWC	
		JAYNA (JAIN WOOD IND)	I	17-Apr-27	EC	
		ECOCCELL/ECHON (KUMAR ARCH TECH)	II	01-Aug-26	CC	
		BLACK COBRA (PUNJAB PLYWOOD)	II	25-Oct-25	ADG (N)	
		BLACK COBRA (YAMUNA INTERIORS)	I	29-Oct-25	ADG (N)	
		MAICA	I	17-Apr-26	EC	
		HR ENTERPRISES	I	21-Jul-25	WC	
		SMP-MAGMA (SMP IMPEX)	I	16-Jan-26	ADG (P)	
		ALEX (ALEXIA PANELS)	I	29-Oct-25	ADG (N)	
4.	WOODEN FLUSH DOOR SHUTTER	KIT PLY INDUSTRIES	I	30-Sep-24	SWC	
		CENTURY PLYWOOD	I	30-Sep-24	SWC	
		DURAIN	I	30-Sep-24	SWC	
		JAYNA (JAIN WOOD IND)	I	17-Apr-27	EC	
		JAIN DOOR HARYANA	II	18-Dec-24	CC	
		A-1 TEAK PRODUCTS, INDORE	I	27-Mar-27	ADG (P)	
		GREENLAM (MIKASA)	I	30-Sep-24	SWC	
		ARCHID PLY	I	30-Sep-24	SWC	
		MP WOOD PRODUCTS	II	18-Jan-26	ADG (P)	
		BLACK COBRA (PUNJAB PLYWOOD)	II	25-Oct-25	ADG (N)	
5.	UPVC DOORS, WINDOWS AND VENTILATOR	H2O SOLUTION	I	30-Sep-24	SWC	
		MADHU INDUSTRIES	I	07-Sep-26	EC	
		FENESTA	I	30-Sep-24	SWC	
		NCL VEKA	I	30-Jan-26	ADG (P)	
		AIS	I	30-Sep-24	SWC	
		MAICA	I	17-Apr-26	EC	
		PROFINE INDIA (KOMMERLING ALUPURE)	II	23-Feb-27	EC	
		RAJSHRI	I	31Mar -25	SC	
		PEIZMA WINSOL	I	30-Sep-24	SWC	
		YASHPOLY	I	29-Oct-25	ADG (N)	
		HR ENTERPRISES	I	21-Jul-25	WC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		APARNA ENTERPRISES LTD	I	10-Jan26	NC	
		SMP-MAGMA (SMP IMPEX)	I	16-Jan-26	ADG(P)	
		AMD OVERSEAS IMPEX (I) PVT LTD	II	16-Jan-26	ADG(P)	
		CHANDNI INDUSTRIES (CI)	II	29-Jan-25	ADG(P)	
6.	WPC BOARDS, DOORS & WINDOWS	RAJSHRI	I	31-Mar-25	SC	
		YASHPOLY	I	29-Oct-25	ADG (N)	
		GIZA	II	30-Sep-24	SWC	
		ECOCCELL/ECHON	I	29-Dec-25	WC	
		ALEX (ALEXIA PANELS)	I	29-Oct-25	ADG (N)	
		ALSTONE	I	07-May-26	ADG (N)	
		ALDEKO PANELS PVT LTD	I	13-Jun-26	ADG (N)	
		HR ENTERPRISES	I	21-Jul-25	WC	
		HI WOOD PLASTOTECH	III	18-Jan-26	ADG (P)	
		SMP-MAGMA (SMP IMPEX)	I	16-Jan-26	ADG (P)	
		BLACK COBRA (YAMUNA INTERIORS)	I	29-Oct-25	ADG (N)	
7.	STEEL DOORS, WINDOWs, VENTILATORS & PS FRAMES	MADHU INDUSTRIES, BANGALORE	I	07-Sep-26	EC	
		CHANDNI INDUSTRIES (CI)	II	29-Jan-25	AGE (P)	
		TRISUL	II	21-Jul-25	WC	
		PARSHOTAM STEEL (PSI)	I	17-Oct-25	WC	
		ANOOP INDUSTRIES	I	13-Jun-26	ADG (N)	
		DODIA ENTERPRISES	I			
		TEE PEE ENTERPRISES	III	05-Apr-25	WC	
		ELIXIR MET FORM PVT LTD	I	16—Jan-26	ADG (P)	
		AACCESS TOUGH DOORS	I	27-Mar-26	ADG (P)	
		HORMANN (SHAKTI HORMANN)	II	13 jun-26	ADG (N)	
		FRIENDS MANUFACTURING COY	III	02-Jul-26	WC	
		SHIVAM METAL	I	03 Jan 27	NC	
<u>SECTION – 4 : PLY /VENEERS, LAMINATES /FALSE CEILINGS /PARTICAL BOARDS/ WOODN BOARD SHEETS/ WOODEN FLOOR</u>						
1.	PLYWOOD	CENTURY PLYWOOD	I	30-Sep-24	SWC	
		KITPLY	I	30-Sep-24	SWC	
		ARCHID PLY	I	30-Sep-24	SWC	
		NATIONAL PLYWOOD	I	30-Sep-24	SWC	
		JAYNA (JAIN WOOD IND)	I	17-Apr-27	EC	
		ANCHOR	I	30-Sep-24	SWC	
		WROWN (UNITED TIMBER IND)	III	18-Mar-26	WC	
		BLACK COBRA (PUNJAB PLYWOOD)	II	25-Oct-25	ADG (N)	
2.	VENEERED PARTICLE BOARD/ BLOCK BOARD	CENTURY PLYWOOD	I	30-Sep-24	SWC	
		ANCHOR	I	30-Sep-24	SWC	
		BLACK COBRA (PUNJAB PLYWOOD)	II	25-Oct-25	ADG (N)	
		JAYNA (JAIN WOOD IND)	I	17-Apr-27	EC	
		WROWN (UNITED TIMBER IND)	III	18-Mar-26	WC	
		KITPLY	I	30-Sep-24	SWC	
3.	LAMINATED SHEETS	ARCHID PLY	I	30-Sep-24	SWC	
		FORMICA	I	30-Sep-24	SWC	
		SUNGLOSS	I	30-Sep-24	SWC	
		SUNMICA	I	30-Sep-24	SWC	
		DELTA LAMINATES	I	30-Sep-24	SWC	
		GLOBE PANEL INDUSTRIES	I	30-Sep-24	SWC	
		ALEX (ALEXIA PANELS)	I	29-Oct-25	ADG (N)	
		BACKLITE HYLUM	I	30-Sep-24	SWC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

4.	REINFORCED FIBRE CEMENT BOARD FALSE CEILING INCL MEMBERS	ARMSTRONG	I	30-Sep-24	SWC	
		GYPROC (SAINT GOBAIN)	I	30-Sep-24	SWC	
		DIAMOND CEILING	I	25-Oct-25	ADG (N)	
		EVEREST	I	18-Dec-24	CC	
5.	PERFORATED PARTICLE BOARD/ TILES FOR INSULATION AND ACCOUSTIC	ARMSTRONG	I	30-Sep-24	SWC	
		GYPROC (SAINT GOBAIN)	I	30-Sep-24	SWC	
		GYPTech	I	30-Sep-24	SWC	
		AEROLITE INDUSTRIED PVT LTD	I	30-Jan-26	ADG (P)	
		ANCHOR CEILING TILES	I	30-Sep-24	SWC	
6.	PVC/UPVC FALSE CEILING, WALL LINING & SOLID PARTITIONS	ECOCCELL/ECHON (KUMAR ARCH TECH)	II	01-Aug-26	CC	
		GIZA	II	30-Sep-24	SWC	
		YASHPOLY	I	29-Oct-25	ADG (N)	
		DIAMOND CEILING	I	25-Oct-25	ADG (N)	
		MAICA	I	17-Apr-26	EC	
		BLACK COBRA (YAMUNA INTERIORS)	I	29-Oct-25	ADG (N)	
		RAJSHRI	I	31-Mar-25	SC	
7.	METAL FALSE CEILING WITH GRID SYSTEM	NEW AGE	I	07-May-26	ADG (N)	
		ROYAL CRAFT (MANRAJ CEILING)	I	18-Jun-25	WC	
		AEROLITE INDUSTRIES PVT LTD	I	30-Jan-26	ADG (P)	
		DIAMOND CEILING	I	25-Oct-25	ADG (N)	
8.	GYPSUM CEILING	BIRLA WHITE	I	07-May-26	ADG (N)	
		DIAMOND CEILING	I	25-Oct-25	ADG (N)	
9.	GRG WALL OANELLING/ GRG FALSE CEILING WITH GI GRID	DIAMOND CEILING	I	25-Oct-25	ADG (N)	
		BIRLA WHITE	I	07-May-26	ADG (N)	
10.	PLAIN/PRE-LAMINATED PARTICLE BOARD INCL MDF/HDF BOARD	CENTURY PLYWOOD	I	30-Sep-24	SWC	
		KTPLY	I	30-Sep-24	SWC	
		ACTION TESA	I	30-Sep-24	SWC	
		ANCHOR	I	30-Sep-24	SWC	
11.	PVC BOARD IN ALL THICKNESS	BLACK COBRA (YAMUNA INTERIORS)	I	29-Oct-25	ADG (N)	
		JAIN PIPES	I	11-Mar-26	EC	
		RAJSHRI	I	31-Mar-25	SC	
		ALEX (ALEXIA PANELS)	I	29-Oct-25	ADG (N)	
12.	WOODEN FLOORING	ACTION TESA	I	30-Sep-24	SWC	
		ARMSTRONG	I	30-Sep-24	SWC	
		A-1 TEAK PRODUCTS, INDORE	II	27-Mar-27	ADG (P)	
		PERGO	I	30-Sep-24	SWC	
<u>SECTION – 5 : SANITARY FITTINGS / FIXTURES</u>						
1.	CHROMIUM PLATED (CP)/ BRASS ALLOY BIB TAPs, PILLAR TAPs, STOP VALVES, ANGLE VALVES, WALL MIXER, SHOWER, DIVERTER, WASTE COUPLING, HEALTH FAUCET, JET SPRAY ETC	KOHLER	I	30-Sep-24	SWC	
		GROHE	I	30-Sep-24	SWC	
		JAQUAR	I	18-Jan-26	ADG (P)	
		CERA	I	25-May-25	EC	
		JOHNSON	I	30-Sep-24	SWC	
		HINDEARE/QUEO	I	28-Jun-26	EC	
		STATUS SANITECH (PLAYER)	I	05-Sep-26	WC	
		BLUESTAR (SILVERSHINE)	I	25-Oct-25	ADG (N)	
		DHAWAN SANITARY UDYOG (PRIMA)	I	07-May-26	ADG (N)	
		PRAYAG	II	27-Mar-27	ADG (P)	
		AJANTA SANITARYWARE (MILLENNIUM)	II	29-Oct-25	ADG (N)	
		SOMANY	I	07-May-26	ADG (N)	
		FLORA STEELS (XEN)	I	07-May-26	ADG (N)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		CRYSTAL SANITARY FITTINGS (ARK)	I	07-May-26	ADG (N)	
		VAALVE	II	07-May-26	ADG (N)	
		JAYNAM	III	19-Oct-25	WC	
		GRAVITY	II	19-Oct-25	WC	
		DEXOVIT INTERNATIONAL PVT LTD	II	13-Jun-26	ADG (N)	
		PARKOVIC (PRAKASH INDUSTRIES)	II	27-Jun-26	WC	
		ESSEL BATH FITTINGS	II	12-Jul-26	WC	
		TOPSAN (MACHINOD TECH)	II	13-Jun-26	ADG (N)	
		PLASTOCRAFT SANITARY (I) PVT LTD	III	18-Jan-26	ADG (P)	
		ARGENT INDUSTRIES (ARGENT)	III	18-Jan-26	ADG (P)	
		ALUMINIUM UDYOG (KUNCHAL)	III	30-Sep-24	SWC	
2.	PVC/PTMT BATHROOM FITTINGS, BIB TAPS, PILLAR TAPS, ANGLE VALVE ANDSTOP VALVES (ISI MARKED)	R S INDUSTRIES (POLYTUF)	I	30-Sep-24	SWC	
		PRAYAG	I	27-Mar-27	ADG (P)	
		ZOLOTO	I	30-Sep-24	SWC	
		PEARL	II	30-Sep-24	SWC	
		JAYNAM	III	19-Oct-25	WC	
		BLUESTAR (SIVVER SHINE)	II	25-Oct-25	ADG (N)	
		FLORA STEELS (XEN)	I	07-May-26	ADG (N)	
		DHAWAN SANITARY UDYOG (PRIMA)	I	07-May-26	ADG (N)	
		JAYNAM	III	19-Oct-25	WC	
		PARKOVIC (PRAKASH INDUSTRIES)	II	27-Jun-26	WC	
		AJANTA SANITARYWARE (MILLENNIUM)	II	29-Oct-25	ADG (N)	
3.	LOW LEVEL FLUSHING CISTERN (PVC) (ISI MARKED)	CERA	I	13-May-25	EC	
		HINDWARE/QUEO	I	28-Jun-26	EC	
		PARRYWARE	I	30-Sep-24	SWC	
		KAJARIA	I	30-Sep-24	SWC	
		JOHNSON	I	30-Sep-24	SWC	
		KHOLER	I	30-Sep-24	SWC	
		PRAYAG	I	27-Mar-27	ADG (P)	
		PEARL	II	30-Sep-24	SWC	
		JAQUAR	I	18-Jan-26	ADG (P)	
		DHAWAN SANITARY UDYOG (PRIMA)	II	07-May-26	ADG (N)	
		RS INDUSTRIES (POLYTUF)	III	30-Sep-24	SWC	
		BLUESTAR (SILVERSHINE)	II	25-Oct-25	ADG (N)	
		TOPSAN (MACHINOO TECH)	II	13-Jun-26	ADG (N)	
		PLASTOCRAFT SANITARY (I) PVT LTD	III	18-Jan-26	ADG (P)	
		AJANTA SANITARYWARE (MILLENNIUM)	II	29-Oct-25	ADG (N)	
4.	VITREOUS CHINA SANITARY WARE (WHB, WATER CLOSET & URINAL)	CERA	I	13-May-25	EC	
		HINDWARE/QUEO	I	28-Jun-26	EC	
		PARRYWARE	I	30-Sep-24	SWC	
		JAQUAR	II	18-Jan-26	ADG (P)	
		KOHLER	I	30-Sep-24	SWC	
		JOHNSON	I	30-Sep-24	SWC	
		PRAYAG	II	27-Mar-27	ADG (P)	
		BLUESTAR (SILVERSHINE)	II	25-Oct-25	ADG (N)	
		SOMANY	I	07-May-26	ADG (N)	
		FLORA STEELS (XEN)	I	07-May-26	ADG (N)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		DEXOVIT INTERNATIONAL PVT LTD	II	13-Jun-26	ADG (N)	
		DOLPHY INDIA PVT LTD	II	18-Jun-25	WC	
		TOPSAN (MACHINOO TECH)	II	13-Jun-26	ADG (N)	
		SUNHEARRT CERAMIK	II	29-Oct-25	ADG (N)	
5.	PVC TOILET SEAT COVER	CERA	I	13-May-25	EC	
		HINDWARE/ QUEO	I	13-May-25	EC	
		PARRYWARE	I	30-Sep-24	SWC	
		KAJARIA	I	30-Sep-24	SWC	
		NEYCER	I	30-Sep-24	SWC	
		PEARL	I	30-Sep-24	SWC	
		R S INDUSTRIES (POLYTUF)	I	30-Sep-24	SWC	
		PRAYAG	I	18-Dec-26	WC	
		BLUESTAR (SILVERSHINE)	II	25-Oct-25	ADG (N)	
		JAQUAR	I	18-Jan-26	ADG (P)	
		AJANTA SANITARYWARE (MILLENNIUM)	II	29-Oct-25	ADG (N)	
6.	GUN METAL GLOBE/GATE VALVE/ ANGLE VALVE	LEADER	I	30-Sep-24	SWC	
		ZOLOTO	I	30-Sep-24	SWC	
		KIRLOSKAR	I	30-Sep-24	SWC	
		FLORA STEELS (XEN)	I	07-May-26	ADG (N)	
		PLASTOCRAFT SANITARY (I) PVT LTD	III	18-Jan-26	ADG (P)	
		DHAWAN SANITARY UDYOG (PRIMA)	II	07_May-26	ADG (N)	
7.	CI/BRASS BALL COCKS (FLOAT VALVES)	LEADER	I	30-Sep-24	SWC	
		PRAYAG	I	18-Dec-26	WC	
		DHAWAN SANITARY UDYOG (PRIMA)	II	07-May-26	ADG (N)	
		JAYNAM	II	03-Jul-25	WC	
		PLASTOCRAFT SANITARY (I) PVT LTD	III	18-Jan-26	ADG (P)	
		ZOLOTO	I	30-Sep-24	SWC	
8.	MIRROR/ MIRROR CABINET	RS INDUSTRIES (POLYTUF)	III	30-Sep-24	SWC	
		TOPSAN (MACHINOO TECH)	II	13-Jun-26	ADG (N)	
		CERA	I	13-May-25	EC	
		PRAYAG	III	30-Sep-24	SWC	
9.	STAINLESS STEEL KITCHEN SINKS (ISI MARKED), STAINLESS STEEL PLATE RACKS & DRAINING BOARD	NIRALI	I	30-Sep-24	SWC	
		NEELKANTH	I	30-Sep-24	SWC	
		CERA	I	13-May-25	EC	
		PRAYAG	I	27-Mar-27	ADG (P)	
		PARRYWARE	I	30-Sep-24	SWC	
		BLUESTAR (SILVERSHINE)	I	25-Oct-25	ADG (N)	
		MILLENNIUM	II	29-Oct-25	ADG (N)	
		FLORA STEELS (XEN)	I	07-May-26	ADG (N)	
		JAYNAM	II	03-Jul-25	WC	
		TOPSAN (MACHINOO TECH)	II	13-Jun-26	ADG (N)	
		SHRI NAVKAR METALS LTD	II	05-Apr-25	SC	
		PLASTOCRAFT SANITARY (I) PVT LTD	III	18-Jan-26	ADG (P)	
		DHAWAN SANITARY UDYOG (PRIMA)	II	07-May-26	ADG (N)	
<u>SECTION – 6 : BUILDING HARDWARE / JOINERY</u>						
1.	BUILING HARDWARES	ALUMINIUM UDYOG	I	30-Jan-26	ADG (P)	
		ARGENT INDUSTIES (ARGENT)	III	18-Jan-26	ADG (P)	
2.	STEEL WARDROBES/ CUPBOARDS/LOCKERS	GODREJ INTERIO	I	30-Sep-24	SWC	
		DURAIN	I	30-Sep-24	SWC	
		NEELKAMAL	I	30-Sep-24	SWC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

3.	ALUMINIUM SECTION FOR FRAMES & DOOR/ WINDOW/VENTIALATOR SHUTTER	HINDALCO	I	30-Sep-24	SWC	
		JINDAL	I	30-Sep-24	SWC	
		FENESTA	I	30-Sep-24	SWC	
		AIS	I	30-Sep-24	SWC	
		NALCO	I	30-Sep-24	SWC	
		PROFINE INDIA (KOMMERLING ALUPURE)	II	23-Feb-27	EC	
		CHANDNI INDUSTRIES (CI)	II	29-Jan-25	ADG (P)	
		HALCO	I	08-Feb-27	EC	
		BHAGWATI SAI	I	14-Mar-27	EC	
		DODIA ENTERPRISES	I	13-Jun-26	ADG (N)	
		AGGENT INDUSTRIES (ARGENT)	III	30-Sep-24	SWC	
SECTION – 7 : PIPES						
1.	UPVC PIPES & FITTINGS	ASTRAL	I	18-Jun-25	WC	
		TRUFLO (HINDWARE)	I	30-Sep-24	SWC	
		HIL	I	30-Sep-24	SWC	
		PRINCE	I	30-Sep-24	SWC	
		FINOLEX	I	30-Sep-24	SWC	
		FUSION	I	01-Sep-26	EC	
		SNTINI FLOPIPIPES	II	18-Dec-25	WC	
		JAIN PIPES	I	11-Mar26	EC	
		PRAYAG	I	18-Dec-26	WC	
		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		BALCO (SOLVE PLASTIC PRODUCTS)	II	14-May-25	SC	
		SUPREME	I	30-Sep-24	SWC	
		2.	CPVC (CHLORINATED POLYVINYL CHLORIDE) PIPES AND FITTINGS	FINOLEX	I	30-Sep-24
ASHIRVAD	I			30-Sep-24	SWC	
SUPREME	I			30-Sep-24	SWC	
ASTRAL	I			18-Jun-25	WC	
TRUFLO (HINDWARE)	I			30-Sep-24	SWC	
HIL	I			30-Sep-24	SWC	
PRINCE	I			30-Sep-24	SWC	
JAIN PIPES	I			11-Mar26	EC	
DUTRON	I			30-Sep-24	SWC	
FUSION	I			01-Sep-26	EC	
DHAWAN SANITARY UDYOG (PRIMA)	II			07-May-26	ADG (N)	
SENTINI FLOPIPIPES	II			18-Dec-25	WC	
PRAYAG	I			18-Dec-26	WC	
APL APOLLO TUBES LTD	II			18-Jan-26	CC	
SFMC	I			30-Sep-24	SWC	
3.	GALVANISED IRON (GI) PIPES & FITTINGS	TATA	I	30-Sep-24	SWC	
		JINDAL	I	30-Sep-24	SWC	
		SWASTIK	I	30-Sep-24	SWC	
		NEZONE	I	08-Mar-27	EC	
		FORTUNE	I	07-May-26	ADG (N)	
		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		SURYA PRAKASH	I	30-Sep-24	SWC	
4.	MS PIPE & FITTINGS	TATA	I	30-Sep-24	SWC	
		JINDAL	I	30-Sep-24	SWC	
		SWASTIK	I	30-Sep-24	SWC	
		CRYSTAL SANITARY FITTINGS (ARK)	I	07-May-26	ADG (N)	
		FORTUNE	I	07-May-26	ADG (N)	
		NEZONE	I	08-Mar-27	EC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		SURYA PRAKASH	I	30-Sep-24	SWC	
5.	DI PIPE & FITTINGS	JINDAL SAW	I	30-Sep-24	SWC	
		ELECTROSTEEL	I	30-Sep-24	SWC	
		TATA METALICKS, KOLKATA	I	30-Sep-24	SWC	
		KEJRIWAL	I	30-Sep-24	SWC	
		JAI BALAJI	I	09-Feb-26	EC	
		ELECTROTHERM	III	30-Sep-24	SWC	
6.	HDPE PIPES & FITTINGS	FINOLEX	I	30-Sep-24	SWC	
		SUPREME	I	30-Sep-24	SWC	
		ASTRAL	I	18-Jun-25	WC	
		PRINCE	I	30-Sep-24	SWC	
		KESHAV KRIPA	I	30-Sep-24	SWC	
		KIRAN INFRA TECH (GEMINI)	I	13-May25	EC	
		SFMC	I	30-Sep-24	SWC	
		TIRUPATI PLASTOMATICS (GEMINI)	I	30-Sep-24	SWC	
		PREMIER IRRIGATION ADRITEC	I	08-Mar-26	EC	
		JAIN PIPES (JAIN IRRIGATIONS SYS)	I	11-Mar-26	EC	
		SBM GOLD	I	08-Mar-26	EC	
		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		SHK	I	30-Sep-24	SWC	
7.	PVC SOIL, WASTE, RAINWATER (SWR) & DRAINAGE PIPES	FINOLEX	I	30-Sep-24	SWC	
		ASHIRVAD	I	30-Sep-24	SWC	
		SUPREME	I	30-Sep-24	SWC	
		TRUFLO (HINDWARE)	I	30-Sep-24	SWC	
		HIL	I	30-Sep-24	SWC	
		ASTRAL	I	18-Jun-25	WC	
		SENTINI FLOPIPPES	II	18-Dec-25	WC	
		PRINCE	I	30-Sep-24	SWC	
8.	PPR PIPES & FITTINGS	FINOLEX	I	30-Sep-24	SWC	
		SUPREME	I	30-Sep-24	SWC	
		SFMC	I	27-Mar-26	ADG (P)	
		PRINCE	I	30-Sep-24	SWC	
		EUROAQUA	I	07-May-26	ADG (N)	
		FUSION	I	01-Sep-26	EC	
		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		KPT (KANHA PLASTIC PVT LTD)	II	30-Jan-26	ADG (P)	
		SHK	II	30-Nov-24	SWC	
9.	PVC PIPES & FITTINGS	FINOLEX	I	30-Sep-24	SWC	
		SUPREME	I	30-Sep-24	SWC	
		HIL	I	30-Sep-24	SWC	
		ASHIRVAD	I	30-Sep-24	SWC	
		JAIN PIPES	I	11-Mar-26	EC	
		CCAL (CHEMFAB ALKALIS LTD)	II	30-May-26	SC	
		APL APOLLO TUBES LTD	II	18-Jan-26	CC	
		KPT (KANHA PLASTIC PVT LTD)	II	30-Jan-26	ADG (P)	
		PRINCE	I	30-Sep-24	SWC	
10.	AC SOIL WASTE RAINWATER(SWR) & DRAINAGE PIPE	EVEREST ASBESTOS, HYDERABAD	I	30-Sep-24	SWC	
		VISHAKHA	I	30-Sep-24	SWC	
		HYDERABAD ASBESTOS (CHARMINAR)	I	30-Sep-24	SWC	
		RAMCO	I	30-Sep-24	SWC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

11.	CI (CAST IRON) PIPES & FITTINGS	NECO	I	30-Sep-24	SWC	
		KESORAM	I	30-Sep-24	SWC	
		ELECTRO STEEL	I	30-Sep-24	SWC	
		RAJ PATTERN MAKERS (RPMF)	I	18-Dec-25	WC	
		KEJRIWAL	I	30-Sep-24	SWC	
12.	CI SOIL, WASTE & RAINWATER (SWR) & DRAINAGE PIPES	NECO	I	30-Sep-24	SWC	
		RAJ PATTERN MAKERS (RPMF)	I	18-Dec-25	WC	
		SINGHAL IRON FOUNDRY MATHURA (SKF)	I	21-Jul-25	WC	
13.	HUBLESS CENTRIFUGALLY CAST IRON PIPES & FITTINGS	NECO	I	30-Sep-24	SWC	
		SINGHAL IRON FOUNDRY MATHURA (SKF)	I	21-Jul-25	WC	
		RAJ PATTERN MAKERS (RPMF)	I	18-Dec-25	WC	
14.	RCC PIPES, DRAIN PIPES	EVEREST	I	30-Sep-24	SWC	
		HIMALAYA	I	30-Sep-24	SWC	
		KB SPUN PIPES	II	07-May-26	ADG (N)	
		KALOHA SPUN PIPE	II	19-Oct-25	WC	
		SVRCC (SHREE VISHWAKARMA)	II	19-Oct-25	WC	
		INDIAN HUME PIPES	I	30-Sep-24	SWC	
15.	WATER PROOFING MEMBRANE	M/s SIKA INDIA PVT LTD	-	-	-	
		M/s STP LIMITED	-	-	-	
		M/s TIKI TAR DANOSA (INDIA) PVT LTD	-	-	-	
		M/s SHIVAM TAR PRODUCTS	-	-	-	
		M/s BOSTIK INDIA PVT LTD	-	-	-	
		M/s IWL INDIA LTD	-	-	-	
		M/s FOSROC CHEMICALS	-	-	-	
		M/s ASIAN PAINTS LTD	-	-	-	
		M/s TORCHTAR MEMVRANCE & BITUMEN PVT LTD	-	-	-	
		M/s BENGAL BITUMEN	-	-	-	
		M/s THERMAX LTD	-	-	-	
		M/s CHOKSEY CHEMICAL PVT LTD	-	-	-	

SECTION – 8 : SWITCHES/SOCKETS

1.	MODULAR SWITCHES & SOCKETS	HAVELLS	I	27-Mar-27	ADG (P)	
		PANASONIC	I	30-Sep-24	SWC	
		GM MODULAR	I	30-Sep-24	SWC	
		LEGRAND	I	30-Sep-24	SWC	
		HONEYWELL	I	30-Sep-24	SWC	
		POLYCAB	I	15-Apr-25	EC	
		LARSEN & TURBO	I	30-Sep-24	SWC	
		BILLTECH	III	30-Sep-24	SWC	
		V-GUARD	I	29-Oct-25	ADG (N)	
		HPL	I	07-May-26	ADG (N)	
		GOLD MEDAL	I	27-Mar-26	ADG (P)	
		PRESSFIT PIPES & PROFILES	III	09-May-26	CC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		BENLO/BENTECH	I	29-Oct-25	ADG (N)	

SECTION – 9 : FANS

1.	CEILING FANS (5 STAR RATING)	KHAITAN	I	30-Sep-24	SWC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		ROMPTON GREAVES	I	29-Jan-25	ADG (P)	
		HAVELLS	I	27-Mar-27	ADG (P)	
		USHA	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
		POLAR	I	30-Sep-24	SWC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		V-GUARD	I	29-Oct-25	ADG (N)	
		PANASONIC	I	30-Sep-24	SWC	
		GOLD MEDAL	I	27-Mar-26	ADG (P)	
		HALONIX	I	01-Jun-26	WC	
		CGPISL (CG POWER & IND SOLN)	I	13-Jun26	ADG (N)	
		LUKER	I	07-Jul-26	EC	
		ATOMBERG TECH PVT LTD	I	30-Jan-26	ADG (P)	
		POLYCAB	I	15-Apr-25	EC	
		VENUS	II	30-Nov-24	SWC	
2.	EXHAUST FAN/WALL MOUNTED FAN/ AIR CIRCULATOR	CROMPTON GREAVES	I	29-Jan-25	ADG (P)	
		KHAITAN	I	30-Sep-24	SWC	
		USHA	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
		ALMONARD	I	30-Sep-24	SWC	
		PANASONIC	I	30-Sep-24	SWC	
		HAVELLS	I	27-Mar-27	ADG (P)	
		V-GUARD	I	29-Oct-25	ADG (N)	
		GOLD MEDAL	I	27-Nar-26	ADG (P)	
		HALNOX	II	01-Jun-26	WC	
		CGPISL (CG POWER & IND, SOLN)	I	13-Jun-26	ADG (N)	
		LUKER	I	07-Jul-26	EC	
		ATOMBERG TECH PVT LTD	I	30-Jan-26	ADG (P)	
		POLYCAB	I	15-Apr-25	EC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
3.	AIR CURTAINS	ALMONARD	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	29-Jan-25	ADG (P)	
		DOLPHY INDIA PVT LTD		28_Nov-24	EC	
		AIRCON	I	30-Sep-24	SWC	
SECTION – 10 : LIGHTS AND LIGHT FITTINGS						
1.	SOLAR STREET LIGHT FITTINGS (LED)	PHILIPS	I	30-Sep-24	SWC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		SURYA ROSHNI	I	18-Jan-26	ADG (P)	
		BHEL	I	30-Sep-24	SWC	
		TATA	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		HAVELLS	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
		JILCO	II	21-Nov-25	NC	
		BENLO/BENTECH	I	29-Oct-25	ADG (N)	
		GOLD MEDAL	I	14-Jan-26	WC	
		HPL	I	15-Apr-25	EC	
		LUKER	II	15-Apr-25	EC	
		HALONIX	I	01-Jun-26	WC	
		OREGENAL	II	30-Sep-24	SWC	
2.	STREET LIGHT FITTING (LED)	PHILIPS	I	30-Sep-24	SWC	
		WIPRO	I	30-Sep-24	SWC	
		JAQUAR	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		C&S ELECTRIC (C&S)	I	30-Sep-24	SWC	
		HAVELLS	I	30-Sep-24	SWC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		POLYCAB	I	30-Sep-24	SWC	
		SURYA ROSHNI	I	18-Jan26	ADG (P)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		PANASONIC	I	30-Sep-24	SWC	
		JILCO	II	30-Sep-24	SWC	
		OREGENAL	II	30-Sep-24	SWC	
		LUKAR	II	15-Apr-25	EC	
		BILLTECH	III	30-Sep-24	SWC	
		GOLD MEDAL	I	14-Jan-26	WC	
		PRIMA NX (PRIMA GLOW IND)	II	14-Jan-26	WC	
		HQ LAMPS MANUFACTURING CO PVT LTD	III	09-May-26	CC	
		HPL	I	10-Jan-26	NC	
		GBH ELECTRICAL PVT LTD	II	28-May-25	EC	
		HALONIX		01-Jun-26	WC	
		BENLO/BENTECH	I	29-Oct-25	ADG (N)	
3.	LED LIGHT FITTINGS INCL AVIATION LIGHTS, UNDER WATER LIGHTS, FOOT LIGHTS, WALK OVER LIGHTS, FLOOD LIGHTS, PANEL LIGHTS, DOWN LIGHTS, BOLLARDS, FAÇADE LIGHTS, LANDSCAPE LIGHT	PHILIPS	I	30-Sep-24	SWC	
		OSRAM	I	30-Sep-24	SWC	
		WIPRO	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		SYSKA	II	16-Dec-24	CC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		HAVELLS	I	27-Mar-27	ADG (P)	
		LUKER	I	07-Jul-26	EC	
		JAQUAR	I	05-Nov-25	WC	
		SURYA ROSHNI	I	18-Jan-26	ADG (P)	
		PANASONIC	I	30-Sep-24	SWC	
		GOLD MEDAL	I	27-Mar-27	ADG (P)	
		JILCO	II	21-Nov-25	NC	
		OREGENAL	II	30-Sep-24	SWC	
		POLYCAB	I	15-Apr-25	EC	
		EVEREADY	I	12-Jul-26	WC	
		BILL TECH	III	30-Sep-24	SWC	
		HPL	I	07-May-26	ADG (N)	
		PRIMA NX (PRIMA GLOW IND)	II	14-Jan-26	WC	
		HQ LAMPS MANUFACTURING CO PVT LTD	III	09-May-26	CC	
		HALONIX	I	01-Jun-26	WC	
		MCB ELECTRO CONTROLS	I	13-Jun-26	ADG (N)	
		GBH ELECTRICAL PVT LTD	II	28-May-25	EC	
		ASCENTECH	I	12-Oct-25	NC	
		KCSAD LIGHTS (I) PVT LTD	I	18-Jun-25	WC	
		SHAKTI FIXTURES PVT LTD	II	30-Jan-26	ADG (P)	
		BENLO/BENTECH	II	30-Jan-26	ADG (P)	
4.	FLAME PROOF FITTINGS (ISI) MARKED	CROMPTON GREAVES	I	30-Sep-24	SWC	
		ORIENT ELECTRIC	I	30-Sep-24	SWC	
		SUDHIR SWITCHGEARS	I	30-Sep-24	SWC	
		BALIGA	I	30-Sep-24	SWC	
		PHILIPS	I	30-Sep-24	SWC	
		BAJAJ	I	30-Sep-24	SWC	
5.	HIGH MAST	BAJAJ	I	30-Sep-24	SWC	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		PHILIPS	I	30-Sep-24	SWC	
		SURYA ROSHNI	I	18-Jan-26	ADG (P)	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		HPL	I	10-Jan-26	NC	
		JILCO	II	21-Nov-25	NC	
		UTKARSH INDIA LTD	III	18-Jan26	ADG (P)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		HAVELLS	I	30-Sep-24	SWC	
6.	OT SHADOW LESS LIGHT	PHILIPS	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		WIPRO	I	30-Sep-24	SWC	
		JOLLY TECHNOCRATS	I	30-Sep-24	SWC	
SECTION – 11 : LIGHTS AND LIGHT FITTINGS						
1.	WINDOW TYPE AIR CONDITIONER	BLUESTAR	I	30-Sep-24	SWC	
		VOLTAS	I	30-Sep-24	SWC	
		HITACHI	I	30-Sep-24	SWC	
		CARRIER	I	30-Sep-24	SWC	
		O-GERNAL	I	30-Sep-24	SWC	
		DAIKIN	I	30-Sep-24	SWC	
		HAVELLS (LLOYD)	I	30-Sep-24	SWC	
2.	GEYSERS/WATER HEATER	CGPISL (CG POWER & IND SOLN)	I	13-Jun-26	ADG (N)	
		CROMPTON GREAVES	I	29-Jan-25	ADG (P)	
		HAVELLS	I	27-Mar-27	ADG (P)	
		GOLD MEDAL	I	27-Mar-26	ADG (P)	
		ORIENT ELECTRIC	I	30-Jan-26	ADG (P)	
		CERA	I	13-May-25	EC	
		LUKER	I	07-Jul-26	EC	
SECTION – 12 : LIFT/ELEVATORS						
1.	LIFTS	KONE	I	30-Sep-24	SWC	
		OTIS	I	30-Sep-24	SWC	
		SCHINDLER	I	30-Sep-24	SWC	
		MITSUBISHI	I	30-Sep-24	SWC	
		ESCON				
		FUJITECH INDIA PVT LTD				
		THYSSEN KRUPP				
2.	ELEVATORS	FUJITECH INDIA PVT LTD				
		ESCON				
SECTION – 13 : DG SETS						
1.	DG SET (ENGINE)	CUMMINS	I	30-Sep-24	SWC	
		KIRLOSKAR (KOEL)	I	30-Sep-24	SWC	
		GREAVES-COTTON	I	30-Sep-24	SWC	
		ASHOK LEYLAND	I	30-Sep-24	SWC	
		MAHINDRA	I	05-Mar-26	EC	
		CATERPILLAR	I	30-Sep-24	SWC	
2.	DG SET (ALTERNATOR)	CROMPTON GREAVES	I	30-Sep-24	SWC	
		KIRLOSKAR (KOEL)	I	30-Sep-24	SWC	
		CUMMINS	I	30-Sep-24	SWC	
		STAMFORD	I	30-Sep-24	SWC	
		JYOTI	I	30-Sep-24	SWC	
		BHARAT BIJLEE	I	30-Sep-24	SWC	
3.	DG SETS ASSEMBLED WITH SOUND PROOF CANOPY	SUDHIR	I	30-Sep-24	SWC	
		JAKSON & COMPANY	I	30-Sep-24	SWC	
		STERLING GENERATORS	I	30-Sep-24	SWC	
		GREAVES-COTTON	I	30-Sep-24	SWC	
		MAHINDA	I	30-Sep-24	SWC	
		CUMMINS	I	30-Sep-24	SWC	
SECTION – 14 : CRANES						
1.	EOT/HOT CRANES	TIB CRANES	II	10-Jan-26	WC	
		3-TECH (3-TECH CRANES & LIFTS)	I	02-Aug-26	EC	
		AACCESS EQUIPMENT	I	27-Mar-26	ADG (P)	
		NATIONAL ANGG EKSP	II	18-Jan-26	ADG (P)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

SECTION – 15 : TRANSFORMERS						
1.	TRANSFORMER 22/11KV, 33/11KV, 66/11KV, 22/0, 433 KV & 33/0, 433KV COPPER WOUND (POWER TRANSFORMER)	BHEL	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		BHARAT BIJLEE	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		SCHENIDER	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		ITE GURGAON	I	27-Mar-27	ADG (P)	
		VOLTAMP	I	30-Sep-24	SWC	
		ANDREW YULE	I	30-Sep-24	SWC	
		OSWAL TRANSFORMERS (P) LTD	II	30-Sep-24	SWC	
		ESENNAR	II	30-Sep-24	SWC	
		JAYBEE BTI	I	29-Nov-26	WC	
		RESITECH	II	30-May-26	SC	
		MUSKAAN	I	10-Jan-26	WC	
		SAI ELECTRICALS (POWER WARE)	II	29-Oct-25	ADG (N)	
2.	TRANSFORMERS 11/0.433 KV UPTO ALL CAPACITY (DISTR TRANSFORMER)	ITE GURGAON	I	27-Mar-27	ADG (P)	
		TRANSTRON ELECTRICALS PVT	I	30-Sep-24	SWC	
		VOLTAMP	I	24-Sep-26	EC	
		ABB	I	30-Sep-24	SWC	
		SCHNEIDER	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		BHARAT BIJLEE	I	30-Sep-24	SWC	
		KOTSONS	I	30-Sep-24	SWC	
		UNITED	I	30-Sep-24	SWC	
		OSWAL TRANSFORMERS (P) LTD	II	30-Sep-24	SWC	
		SAI ELECTRICALS (POWER WARE)	II	29-Oct-25	ADG (N)	
		NATIONAL	II	29-Oct-25	ADG (N)	
		ANMOL TRANSFORMER	I	07-May-26	ADG (N)	
		MEGAWIN	I	29-Oct-25	ADG (N)	
		HARTEK	I	29-Oct-25	ADG (N)	
		INSTRUMENTS & EQPT (IECO)	I	18-Dec-26	WC	
		JAYBEE BTI	I	29-Nov-26	WC	
		POWER STAR	II	14-Jan-26	WC	
		AIREN POWER	II	14-Jan-26	WC	
		RESITECH	II	30-May-26	SC	
		MUSKAAN	I	10-Jan-26	WC	
		MSCTTRANSFORMERS PVT LTD	II	05-Apr-25	SC	
		ESENNR	II	30-Sep-24	SWC	
3.	CURRENT & POTENTIAL TRANSFORMERS 11KV, 22KV & 33KV	LARSEN & TURBO	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		STRATON ELECTRICAL PVT LTD	II	18-Jan-26	ADG (P)	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
4.	ISOLATION TRANSFORMER	VINTEK ELECTRONICS (VOLINA)	I	29-Jul-25	EC	
		ITE GURGAON	II	27-Mar-27	ADG(P)	
		INSTRUMENTS & EQPT (IECO)	I	18-Dec-26	WC	
		VINITEC	I	29-Oct-25	ADG (N)	
		AIREN POWER	II	14-Jan-26	WC	
		NUMERIC	I	29-Oct-25	ADG (N)	
5.	PACKAGED/ UNIFIED/ COMPACT SUB STATION (PSS/USS/CSS)	SCHNIEDER	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		ITE GURGAON	I	27-Mar-27	ADG (N)	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		MUSKAAN	I	10-Jan-26	WC	
		CORONET	I	10-Jan-26	WC	
		CGPISL (CG POWER & IND SOLN)	I	29-Oct-25	ADG (N)	
		C-SEC	I	07-Mar-26	EC	
		PSC (POWER SYSTEM & CONTROLS)	II	29-Jul-25	EC	
		MEGAWIN	I	29-Oct-25	ADG (N)	
SECTION – 16 : CENTRAL AC PLANT AND AIR CONDITIONERS						
1.	AIR HANDING EQUIPMENT /AIR HANDLING UNIT (DOUBLE SKIN)	VOLTAS	I	30-Sep-24	SWC	
		BLUE STAR	I	30-Sep-24	SWC	
		DAIKAIN	I	30-Sep-24	SWC	
		HITACHI	I	30-Sep-24	SWC	
		O-GENERAL	I	30-Sep-24	SWC	
2.	COOLING TOWERS	PAHARPUR	I	30-Sep-24	SWC	
		MIHIR	I	30-Sep-24	SWC	
		DELTA	I	30-Sep-24	SWC	
3.	CENTRIFUGAL CHILLERS & SCREW CHILLARS	CARRIER	I	30-Sep-24	SWC	
		VOLTAS	I	30-Sep-24	SWC	
		DAIKIN	I	30-Sep-24	SWC	
		BLUESTAR	I	30-Sep-24	SWC	
		KIRLOSKAR CHILLERS	I	08-Mar-26	EC	
		HITACHI	I	30-Sep-24	SWC	
4.	SPLIT TYPE AIR CONDITIONER	DAIKIN	I	30-Sep-24	SWC	
		HITACHI	I	30-Sep-24	SWC	
		BLUESTAR	I	30-Sep-24	SWC	
		O-GENERAL	I	30-Sep-24	SWC	
		CARRIER	I	30-Sep-24	SWC	
		VOLTAS	I	30-Sep-24	SWC	
		HAVELLS (LLOYD)	I	27-Mar-27	ADG (P)	
SECTION – 16 : HT CIRCUIT BREAKERS						
1.	VACCUM CIRCUIT BREAKER (VCB) SUITABLE FOR 12,24 & 36 KV SYSTEM	SIEMENS	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		BHEL	I	30-Sep-24	SWC	
		SCHNEIDER	II	18-Jan-26	ADG (P)	
		LARSEN & TURBO	I	30-Sep-24	SWC	
		ITE GURGAON	I	27-Mar27	ADG(P)	
		CORONET	I	10-Jan-26	WC	
		CGPISL (CG POWER & IND SOLN)	I	29-Oct-25	ADG (N)	
		C-SEC	I	07-Mar-26	EC	
		PASCAL SWITCHCARE (I) PVT LTD	I	05-Sep-25	WC	
		MEGAWIN	I	29-Oct-25	ADG (N)	
2.	RING MAIN UNIT (RMU)	LARSEN & TURBO	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		SCHNEIDER	II	18-Jan-26	ADG (P)	
		C-SEC	I	07-Mar-26	EC	
		SIEMENS	I	30-Sep-24	SWC	
		CGPISL (CG POWER & INDUSTRIAL SOLN)	I	29-Oct-25	ADG (N)	
		MEGAWIN	I	29-Oct-25	ADG (N)	
3.	HT SWITCH GEAR 66/33/11KV 3 PHASE, GAS CIRCUIT BREAKER SF-6 TYPE	CROMPTON GREAVES	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		BHEL	I	30-Sep-24	SWC	
		TRANSGUAD	I	14-Jan-26	WC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		SCHNEIDER	I	30-Sep-24	SWC	
4.	HT 11 KV, 3 PH AUTOMATIC SWITCH FUSE UNIT	COOMPTON GREAVES	I	30-Sep-24	SWC	
		SCHNEIDER	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		ITE GURGAON	I	27-Mar-27	ADG (P)	
		C&S ELECTRIC (C&S)	I	30-Sep-24	SWC	
5.	GANG OPERATED AIR BREAK SWITCH (33KV/22KV/11KV)/ ISOLATOR	JAIPURIA BROTHERS	I	30-Sep-24	SWC	
		CROMPTON GREAVES	I	30-Sep-24	SWC	
		BHEL	I	30-Sep-24	SWC	
		HEL	I	30-Sep-24	SWC	
		MYSORE ELECTRICAL INDUSTRIES (MEI)	I	30-Sep-24	SWC	
		SOUTHERN SWITCH GEAR	I	30-Sep-24	SWC	
		ANDREW YULE	I	30-Sep-24	SWC	
		ADINATH INDUSTRIES (AD)	I	29-Oct-25	ADG (N)	
		PACTIL	I	30-Sep-24	SWC	
6.	LIGHTENING ARRESTERS HT	BHEL	I	30-Sep-24	SWC	
		CROMPTON & GREAVES	I	30-Sep-24	SWC	
		JAIPURIA BROTHERS	I	30-Sep-24	SWC	
		OBLUM	I	30-Sep-24	SWC	
		ADINATH INDUSTRIES (AD)	II	29-Oct-25	ADG (N)	
		TIRUMALA (COLUMBO ELECTRICAL)	II	27-Mar-26	ADG (P)	
		GEC ELPRO	I	30-Sep-24	SWC	
7.	GIS	CGPISL (CG POWER & IND SOLN)	I	29-Oct-25	ADG (N)	
8.	NUMERICAL RELAY	CGPISL (CG POWER & IND SOLN)	I	29-Oct-25	ADG (N)	
		CORONET	I	10-Jan-26	WC	
9.	HT CONTROL PANELS	HARTEX	I	29-Oct-25	ADG (N)	
		PHOENIX CONTACT	I	10-Jan-26	WC	
		CORONET	I	10-Jan-26	WC	
		ELECTRO ALLIED PRODUCT (EAP)	I	24-Sep-26	EC	
		PSC (POWER SYSTEM & CONTROLS)	II	29-Jul-25	EC	
		CHANDEL & CO	III	25-Oct-25	ADG (N)	
10.	COMPOSIT POLYMER INSULATORS 11KV TO 132KV	ADINATH INDUSTRIES (AD)	II	29-Oct-25	ADG (N)	
11.	11KV TO 33 KV COMPOSITE POLYMER DO FUSE UNIT	ADINATH INDUSTRIES (AF)	II	29-Oct-25	ADG (N)	
SECTION – 17 : APFC PANEL						
1.	APFC PANEL	C & ELECTRIC (C&S)	I	30-Sep-24	SWC	
		UNIVERSAL SWITCH GEAR CONTROL	I	30-Sep-24	SWC	
		SCHNEIDER	I	30-Sep-24	SWC	
		CONZERV	I	30-Sep-24	SWC	
		LARSEN & TURBO	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		EPCOS	I	30-Sep-24	SWC	
		ITE GURGAON	I	27-Mar-27	ADG (P)	
		REW POWER	III	30-Sep-24	SWC	
		SHALABH	I	18-Mar-26	WC	
		INSTRUMENTS & EQPT (IECO)	I	18-Dec-26	WC	
		CORONET	I	10-Jan-26	WC	
		CGPISL (CG POWER & INDUSTRIAL SOLN)	I	29-Oct-25	ADG (N)	
		HARTEX	I	29-Oct-25	ADG (N)	
		SUPERTECH POWER CONTORL PVT LTD	I	15-Feb-26	WC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		NEPTUNE SYSTEMS PVT LTD	I	05-Sep-26	WC	
		HARK POWER CONTROLS	II	10-Jan-26	NC	
		HAVELLS	I	27-Mar-27	ADG (P)	
		ELITE PANELS	II	18-Dec-24	CC	
		SAI ELECTRICALS (POWER WARE)	II	29-Oct-25	ADG (N)	
2.	POWER FACTOR IMPROVEMENT CAPACITOR BANKS	LARSEN & TURBO	I	30-Sep-24	SWC	
		SIEMENS	I	30-Sep-24	SWC	
		SCHNEIDER	I	30-Sep-24	SWC	
		EPCOS	I	30-Sep-24	SWC	
		CROMPTON & GREAVES	I	30-Sep-24	SWC	
		ABB	I	30-Sep-24	SWC	
		HAVELLS	I	30-Sep-24	SWC	
SECTION – 18 : HT CABLES						
1.	CABLE JOINTNG KIT FOR 11 KV/22 KV/ 33 KV	RAYCHEMS	I	30-Sep-24	SWC	
		DENSONS	I	30-Sep-24	SWC	
		M-SEAL	I	30-Sep-24	SWC	
		BIRLA – 3M	I	30-Sep-24	SWC	
		MS-SEAL (VISHWA ELECTRICALS)	I	25-Jun-26	WC	
2.	HT XLPE CABLE PVC INSULATED ALUMINIUM CONDUCTOR FOR 33KV/ 22KV/ 11KV SYSTEM	CABLE CORP OF INDIA (CCI)	I	30-Sep-24	SWC	
		UNIVERSAL CABLES (UCL)	I	30-Sep-24	SWC	
		GEMSCAB	I	14-Jan-26	WC	
		RPG	I	30-Sep-24	SWC	
		GLOSTER	I	06-Jul-27	EC	
		POLYCAB	I	15-Apr-25	EC	
		FINOLEX	I	30-Sep-24	SWC	
		HAVELLS	I	27-Mar-27	ADG (P)	
		KEI	I	13-May-25	EC	
		DIAMOND POWER (DICABS)	II	07-May-26	ADG (N)	
		GRANDLAY	I	07-May-26	ADG (N)	
		LS CABLE	I	14-Jan-26	WC	
		V-MARC	I	14-Jan-26	WC	
		SBEE (SBEE CABLES)	II	30-May-26	SC	
		RALLISON (LKB ENGG PVT LTD)	I	23-Feb-26	EC	
		DYNAMIC CABLES	I	30-Sep-24	SWC	
3.	HT CONTROL CABLES	KEI	I	13-May-25	EC	
		NICCO	I	30-Sep-24	SWC	
		FINOLEX	I	30-Sep-24	SWC	
		CABLE CORP OF INDIA (CCI)	I	30-Sep-24	SWC	
		POLYCAB	I	15-Apr-25	EC	
		HAVELLS	I	27-Mar-27	ADG (N)	
		GLOSTER	I	06-Jul-27	EC	
		UNIVERSAL CABLES	I	30-Sep-24	SWC	
SECTION 19 : FIRE DETECTION, FIRE ALARM AND MEDICAL GAS NETWORKS						
1.	FIRE ALARM	NOTOFIRE	I	18-Jan-25	CC	
SECTION 20 : VOLTAGE STABILIZER SERVO TYPE						
1.	SERVO VOLTAGE STABILIZER	NUMERIC	I	29-Oct-25	ADG (N)	
		VINITEC	I	29-Oct-25	ADG (N)	
		SAI ELECTRICALS (POWER WARE)	I	29-Oct-25	ADG (N)	
		POWER STAR	II	14-Jan-26	WC	
		AIREN POWER	II	14-Jan-26	WC	
		SELVON	II	14-Jan-26	WC	
		INSTRUMENTS & EQPT (IECO)	I	18-Dec-26	WC	
		ITE GURGAON	I	27-Mar-27	ADG (P)	
		VINTEX ELECTRONICS (VOLNA)	I	29-Jul-25	EC	

LIST OF APPROVED MAKES /MANUFACTURERS (CONT....)

		MUSKAAN	I	10-Jan-26	WC	
2.		SAI ELECTRICALS (POWER WARE)	II	29-Oct-25	ADG (N)	
		AIREN POWER	II	14-Jan-26	WC	
		MUSKAAN	I	10-Jan-26	WC	

Note: -

(i) Before placing the bulk supply order or any of the above listed firms/manufacturers copy of same shall be endorsed to GE for reference.

(ii) Manufacture/make valid during currency of contract on date of procurement shall only be approved. Contractor shall consider this aspect while quoting.

(iii) If make for any products not listed in Appendix 'B', any one of the make as approved/validity renews by E-in-C's Branch of CE Command till the date of submission of tender, can be procured but the contractor. However criteria of equivalency including category/group of make etc. are to be strictly adhered. **In case the make deleted by E-in-C/CE Cmnd after the date of submission of bid and during currency of contract shall deemed to be deleted from CA**, if any make approved by E-in-C's Branch/CE Command after end date of submission of tender is felt necessary to be approved due to site requirement, non-availability of items with firms/makes listed in tender, then it shall be approved subject to prices adjustment only with permission of AO supported with complete technical as well as financial data for pricing etc. and it shall be ensured that no plus financial effect shall be permitted.

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Appendix 'C'**LIST OF ISI CERTIFIED PRODUCTS TO BE USED IN WORKS**

1. Concrete: Integral cement water proofing compounds (ISI-2645-2003)(Second revision).
2. Joinery : Wooden flush door shutters, (solid core type), plywood Face panel (IS-2202 (part-I) 1983). (Sixth revision).
3. Builders Hardware :-
 - (a) Steel butt hinges (IS-1341-1992) (Sixth revision).
 - (b) Non ferrous metal butt hinges (IS-205-1992) (Forth revision).
 - (c) Ferrous Tower Bolts (IS-204-1991-part-I), (Fourth revision).
 - (d) Non ferrous tower bolts (IS-204-1992 part-II) (Fifth revision).
 - (e) Door handles (IS-208-1996), Fifth revision.
 - (f) Parliament hinges (IS-362-1991), Fifth revision.
 - (g) Hydraulically regulated door closers (IS-3564-1996), (Fourth revision)
 - (h) Continuous (Piano) Hinges (IS-3818-1992), (Third revision)
 - (j) Non ferrous metal sliding door bolts (IS-2681-1993), Third revision.
 - (k) Tee and strap hinges (IS-206-1992), Fourth revision.
 - (l) Mild steel sliding door bolts for use with padlocks (IS-281-1991) Third revision.
4. Roof Covering: Bitumen felts for water proofing and damp proofing (IS-1322-1993), Fourth revision.
5. Ceiling and lining :-
 - (a) Plywood for General purposes (IS-373-1975), second revision Block boards (IS-1659-2004), Third revision.
 - (b) Veneered particle board (IS-3097-2006), Second revision.
 - (c) Fibre hard boards (IS-1658-2006), Third revision.
6. Flooring :-
 - (a) White portland cement (IS-8042-1989), Second revision.
7. Water supply, plumbing, drains and sanitary appliances :-
 - (a) Concrete pipes with or without reinforcement (IS-458-2003) Fourth revision.
 - (b) Salt glazed stoneware pipes and fittings (IS-651-1992), Second revision.
 - (c) Flushing cisterns for water closets (Valve less syphonic type) other than plastic (IS-774-2004) Fifth revision.
 - (d) Cast copper alloy screw down bib taps and stop valves for water service (IS-781-1984), Third revision.
 - (e) Mild steel tubes, tubulers and other wrought steel fittings (IS-1239 part-I-2004), Sixth revision and mild steel tubular and other wrought steel pipe fittings (IS-1239-(Part-II)-1992), Fourth revision.
 - (f) Sand cast iron spigot and socket soil, waste and ventilating pipes, fittings and accessories (IS-1729-2002), Second revision.
 - (g) Ball valves (Horizontal plunger type) including floats for water supply purpose (IS-1703-2000), Forth revision.
 - (h) Cast iron manhole covers and frames (IS-1726-1991) Third revision.
 - (j) AC pressure pipes (IS-1592-2003), Fourth revision.
 - (k) Automatic flushing cisterns for urinals (IS-2326-1987), Second revision.
 - (l) Vitreous china, sanitary appliances :-
 - (i) Wash down water closets (IS-2556 (Part-II)-2004), Fourth revision.
 - (ii) Squatting pans (IS-2556 (Part-III)-2004), Forth revision.
 - (iii) Wash basins (IS-2556 (Part-IV)-2004)-Third revision.
 - (iv) Laboratory sinks (IS-2556 (Part-V)-1994), Third ` revision.
 - (v) Foot rests (IS-2556 (Part-X)-1974), Second revision.

LIST OF ISI CERTIFIED PRODUCTS TO BE USED IN WORKS (CONTD)

- (m) Plastic WC seats and covers (IS-2548 (Part-I & II)-1996), Fifth revision.
- (n) Vertically cast iron pressure pipes for water, gas and sewage (IS-1537-1976) First revision.
- (o) Pillar taps for water supply purposes (IS-1795-1982), second revision.
- (p) Centrifugally cast (spun) iron spigot and socket soil, waste and ventilating pipes, fitting and accessories) IS-3989-1984), second revision.
- (q) Centrifugally cast (spun) iron pressure pipes for water, gas and sewage (IS-1536-2001) Fourth revision.
- (r) Rubber sealing rings for gas mains, water mains and sewers (IS-5382-1985), First revision.
- (s) Cast iron fittings and pressure pipes for water, gas and sewage (IS-1538-1993 Part I to XXIII First revision).
- (t) Low-density polyethylene pipes for potable water supply (IS-3076-1985), second revision.
- (u) Sand cast iron spigot pipes (IS-1729 of 2002) (Second revision).
- (v) Ductile Iron pipe fittings IS-9523-2000 First revision
- (w) Ductile Iron pipe IS-8329-2000 Third revision
- (x) Galvanized Iron Pipe IS-1239(Part-I) 2004 Sixth revision and Part-II (1992) Fourth revision
- (y) Sluice valve IS 14846 of 2000.
- (z) GI Fittings IS 1879 (Part I to X -87)
- (aa) Thin walled GI pipe : IS 11722 of 1986

8 Electrical Works

- (a) Ceiling Roses (second revision) (IS-371-1979) second revision.
- (b) Three pin plugs and socket outlets (IS-1293-2005) Third revision .
- (c) Switch fuses (main and switch) (IS-4064-1978-Part I & II).
- (d) Rigid steel conduit (IS-9537 (Part-II)-1988) with amendment No.1 superseding IS-1653-72.
- (e) Plain rigid conduit of insulating material. (IS-9537 (Part-III)-1983)(With amendment No.1) superseding IS-1653-72 & 2509-73.
- (f) Polyethylene insulated cables for working voltages upto and including 1100 volts (IS-1596-1977), second revision.
- (g) LT XLPE cable (IS-7098/1/88) Second revision
- (h) Distribution Boards IS-8828 & IEC 898
- (j) Pre-stressed concrete Poles IS-1678-1998
- (k) Steel tubular Poles IS-2713 Part-I to III second revision.
- (l) Lightning Arrestor IS-3070 Part-I Second revision
- (m) RCBO IS 12640 Pt-II of 1988
- (n) MCB IS-8828 of 1996.
- (o) RCCB IS-12640 (Part-I) 2000
- (p) House wiring (Copper wire): 694-1990 Third revision

Note :- (i) Due to any changes in old ISI, latest ISI shall be applicable and old ISI supersede. Products shall be used in Work in accordance with new ISI.

(ii) A photocopy of proof in support of firm valid certification license of BIS mark shall be produced by the contractor to GE along with sample of material.

Signature of Contractor

AGE (contracts)
for Accepting Officer

APPENDIX 'D'

SOURCES OF MATERIALS: LOCAL ORIGIN

Ser No	Name of material	Source of material
1	2	3
1	Coarse aggregate for all RCC and PCC works.	Fidusar/Ratanada/Lal Sagar/Kaga
2	Fine aggregate(coarse sand) for all RCC and PCC works	Bianwas
3	Sand for plastering, pointing, brick work and cushioning.	Bianwas
4	Burnt clay bricks and brick tiles	From the nearest source with specified quality
5	Stone for WBM and Soling (sub base) and premix carpet	Fidusar/Ratanada
6	Stone aggregate for hard core	Fidusar/Ratanada
7	Stone chipping for road works	Fidusar/Ratanada
8	Lime	Jodhpur/Gotan
9	Fly Ash Bricks	From the nearest source with specified quality

NOTES

1. Sources of materials shall be as given in Srl No 1 to 9 above or in the vicinity thereof. The tenderer shall ascertain the actual position/exact location of source before submitting his tender and no additional payment shall be made on account of misunderstanding or its distance from site of works.
2. The tenderer shall amongst other things also ascertain all information such as royalties, taxes, duties and other charges etc, on the materials and no additional payment shall be made on account of the foregoing.
3. However, if due to any ban imposed by the state Govt authority on obtaining the materials from the sources specified above and/or specified materials is not available at the sources mentioned above, these materials conforming to specifications as given in particular specifications will be procured from any other place/source after getting the same approved from GE in writing and without any price adjustment.

Signature of Contractor

AGE (Contracts)
for Accepting officer

APPENDIX 'E'

MATERIAL AND THEIR TESTS
RECOVERY RATES OF TESTING CHARGES

Legend : 'A' - Site lab, 'B' - CTL/Zonal Lab, 'C' - Approved Test Labs / National test house/ SEMT wing Pune/Engg College.

Se r No	Materials	Test	Method of testing	Frequency of tests			Level of test	Rate per test. Rs.Ps.	Remarks	
1	2	3	4	5			6	7	8	
1	Bricks	(i)	Compressive strength	IS-3495 (Part-II)	As per IS 5454 as given under			'A'	330.00	Checks for visual and dimensional characteristics shall also be carried out As per IS-5454
		(ii)	Water absorption	-do-	Lot size	Sample size	Permissible No. of defective bricks	'A'	330.00	
		(iii)	Efflorescence	-do-(Part-I)	1001 to 10000	5	0	'A'	330.00	
					10001 to 35000	10	0			
					35001 to 50000	15	1			
2	Coarse aggregate	(i)	Sieve analysis	IS-2386 (Part-I)	One test for every 15 Cubic Metre of aggregates or part there of brought to site.			'A'	660.00	
		(ii)	Flakiness Index	-do-	-do-			'A'	250.00	
		(iii)	Estimation of deleterious materials	-do-	One test for every 100 Cubic Metre of aggregates or part there of			'A'	600.00	
		(iv)	Organic impurities	-do-	One test per source of supply			'B'	275.00	
		(v)	Moisture content	IS-2386(Part-II)	Regularly as required			'A'	330.00	
		(vi)	Specific gravity	IS-2386(Part-II)	One test for each source of supply			'B'	330.00	

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
		(vii) Aggregate Impact Value / Los Angeles Abrasion value	IS – 2386 (Part– IV)	One test per 50 Cum.	'A' & 'C'	150.00	
		(viii) Striping value of aggregate.	IS – 6241	One test per source.	'A' & 'C'	75.00	
		(ix) Binder Content	-	Two test per day per plant	'C'	120.00	
		(x) Control temperature of binder and aggregate for mixing of the mix at time of laying and rolling.	-	At regular close intervals	'B'	No Recovery	
		(xi) Liquid limit (LL)	-	One test per source.	'B'	120.00	For screening only
		(xii) Plasticity index	-	One test per source.	'B'	120.00	For screening only
3	Fine aggregate	(i) Sieve analysis	IS-2386 (Part-I)	One test for every 15 Cubic Metre of FA or part thereof when brought to site.	'A'	660.00	
		(ii) Test for clay, silt and impurities	-do- (Part-I)	-do-	'A'	500.00	
		(iii) Estimation of deleterious materials	IS – 2386 (Part – I)	One test for every 100 Cum of aggregate or part thereof.	'A'	500.00	
		(iv) Specific gravity	-do- (Part-II)	One for each source of supply	'B'	330.00	

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
4	Structural Concrete (M-15 grade and above)	(v) Moisture content	-do- (Part-II)	Regularly as required subject to 2 tests/ day when being used.		'A'	330.00
		(vi) Test for organic impurities	-do- (Part-II)	One for each source of supply		'B'	275.00
		(i) Slump test or compacting factor test or vee-bee time	IS-1199	The minimum frequency of sampling of concrete of each grade shall be as under:-		'A'	300.00
		(ii) Compressive strength	IS-516	Qty. of concrete in the work(Cubic Metre)	No. of samples	'A'	900.00
				1-5 6-15 16-30 31-50 51 and above	1 2 3 4 4+1 for each addl 50 Cubic Metre or part thereof.	'A'	900.00
5	(a) PCC block for walling (Hollow Block)	(i) Compressive strength	IS:2156-1984 (Appx 'B')	08 block s out of 14		'A'	900.00
		(ii) Water absorption	-do- (Appx 'B')	03 Blocks out of 14		'B'	330.00

Random sampling shall be carried to cover all mix. units.

As per IS-456 Clause 14 for frequency of sampling

Sample:- 14 blocks from consignment of every 5000 blocks or part thereof.

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
		(iii)	Density	-do-	03 Blocks out of 14	'B'	330.00
	(b) PCC solid block for walling	(i)	Compressive strength	(Appx 'A') IS-2185	12 block s out of 18	'A'	900.00
		(ii)	Water absorption	-do-	03 Blocks out of 18	'B'	330.00
		(iii)	Density	-do-	03 Blocks out of 18	'B'	330.00
6	Cement Flooring Tiles/Terrazzo tiles	(i)	Water absorption	IS-1237 (Appx 'E')	06 tiles out of 18	'B'	330.00
		(ii)	Wet transverse strength	-do- (Appx 'E')	-do-	'B'	660.00
		(iii)	Resistance to wear	-do- (Appx 'F')	-do-	'C'	1000.00
7	Burnt clay roofing tiles (hand made) As per IS-2690 (Part-II)	(i)	Water absorption	IS-3495 (Part-II)	06 tiles out of 12	'B'	216.00
	<u>Length</u> 150 mm to 250 mm <u>Width</u> 100 mm to 200 mm <u>Thickness</u> 35 mm to 50 mm	(ii)	Compressive strength	-do- (Part-I)	-do-	'A'	180.00

Sample:- 18 blocks from consignment of every 1000 blocks or part thereof. These blocks to be checked for dimension and weight.

Sample of 18 tiles from each source of supply selected at random.

Samples: 12 tiles from each source of supply selected at random.

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
8	Mangalore Pattern roofing tiles	(i) Water absorption	IS-654 (Appx 'A')	06 tiles out of 32	'B'	180.00	Samples :- 32 tiles from each consignment of 3000 tiles or part thereof. These tiles shall be checked for dimension.
		(ii) Breaking Load	-do- (Appx 'C')	-do-	'B'	120.00	
9	Timber	(i) Specific gravity and weight	IS-1708-1960	Minimum '3' samples from a lot of 4 Cum or 250 pieces of seasoned timber	'B'	120.00	Also refer clause 4.3 of IS 456 and its subsequent sub clauses regarding suitability of water.
		(ii) Moisture content	-do-		'A'	120.00	
10	Water for construction purposes	(i) Test for Acidity	IS-456 & 3015	Once at the stage of approval of source of water	'B'	500.00	
		(ii) Test for Alkalinity	-do-		'B'	500.00	
		(iii) Test for total dissolved solid (TDS) content	-do-		'B'	500.00	
11	Welding of steel work	Visual inspection test	IS-822-1970 Clause 7.1	100% by visual inspection	Work site	360.00	Specialised tests, their method and frequency to be decided on consideration of their importance by the Accepting Officer.
12	Timber panelled and glazed Door/Window and shutters (including Factory made shutters)	(a) Dimensions, sizes, workmanship and finish.	IS-1003-1977 (Part-I)	Frequency of sampling from each lot shall be as under	'A'	180.00	
				<u>Lot size</u>		<u>Sample size</u>	
				26 to 50		05	
				51 to 100		08	
				101 to 150		13	

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
12.	Contd...			151 to 300 301 to 500 501 to 1000 1001 and above	20 32 50 80		
		<u>(b) Strength test</u>					
		(i)	Slamming	IS-1303-1990	From the each lot 5% of the factory made shutters shall be manufacturer tested for strength tests.		
		(ii)	Impact indentation	-do-			
		(iii)	Shock resistance	-do-			
		(iv)	Edge loading	-do-			
13	Plywood (IS-303-1989)	(a)	Moisture content	IS-1734-1983 (Part-I)	Six tests pieces cut from each of the boards selected as per table shall be subjected to tests	'B'	240.00
14	Veneered wood particle board (medium density) IS-3097-1985	(a)	Density	IS-635 (Part-I)	Three test specimens from each sample (size 150 mm x 75 mm)	'C'	60.00
		(b)	Moisture Content.	-do-	-do-	'A' & 'B'	60.00
		(c)	Water Absorption.	-do- (Part-16)	-do- (size 300 mm x 300 mm)	'A'	60.00
		(d)	Swelling due to surface absorption.	- do - (Part-17)	-do- (size 125 mm x 100 mm)	'A'	60.00
		(e)	Swelling in water	- do -	-do- (size 200 mm x 100 mm)	'A'	60.00
		(f)	Modulus of rupture	- do - (Part-4)	Three test specimens as per IS-2380-77	'B'	90.00
		(g)	Screw withdrawal strength	- do - (Part-4)	-do- as per IS-2385	'C'	120.00

Contd.../-

MATERIAL AND THEIR TESTS (CONTD)

1	2	3	4	5	6	7	8
15.	Bitumen	(i) Particular test	IS – 1203 of 1978	One test for each lot	'B'	120.00	
		(ii) Specific Gravity	IS – 1203 of 1978	One test for each lot	'B'	120.00	
		(iii) Flash point and fire point	IS – 1203 of 1978	One test for each lot	'C'	150.00	
		(iv) Loss on heating	IS – 1203 of 1978	One test for each lot	'B'	120.00	
		(v) Penetration of residue from loss on heating as compared to penetration before heating	IS – 1203 of 1978	One test for each lot	'B'	120.00	
		(vi) Ductility at 25 ° C	IS – 1203 of 1978	One test for each lot	'C'	150.00	
16.	Cement	(i) Setting time	IS – 4031	Once for each consignment of 50 MT or part thereof	'B'	500.00	
		(ii) Soundness	- do -	- do -	'B'	550.00	
		(iii) Compressive Strength	- do -	- do -	'B'	550.00	
		(iv) Fineness	- do -	- do -	'B'	275.00	
17.	Reinforcement Steel	(i) Physical tests Bars size less than 10 mm dia (Nominal Mass, tensile elongation, bend & rebend)		1 sample (3 specimen) for each test for every 25 tonne or part thereof	'B'	2500.00	
		(ii) -do- but 10 mm to 16 mm dia		1 sample (3 specimen) for each test for every 35 tonne or part thereof	'B'	2500.00	
		(iii) -do- but more than 16mm dia		1 sample (3 specimen) for each test for every 45 tonne or part thereof	'B'	2750.00	

NOTE :-

1. In case the tests are conducted in national Test House/ CME Pune / Engineering college Labs /any other Govt. approved Lab, contractors shall have to pay the actual amount of test charges levied by these test house , Labs etc. This shall apply to all levels i.e. level A, B and C tests.
2. In case of site laboratories established by the contractor for 'A' level tests, no recovery shall be made.

MATERIAL AND THEIR TESTS (CONTD)**Notes : -****Testing of materials and recovery of testing charges:-**

- (a) In case the tests are conducted in national Test House/ CME Pune / Engineering college Labs /any other Govt. approved Lab, contractors shall have to pay the actual amount of test charges levied by these test house , Labs etc. This shall apply to all levels i.e. level A, B and C tests.
- (b) In case of site laboratories established by the contractor for 'A' level tests, no recovery shall be made.
- (c) All the materials shall be tested/got tested by the contractor under his own arrangements as specified in these tender documents . Materials and arrangements for transportation of the same shall be provided by the contractor all as directed by the Engineer-in-Charge/GE without any extra cost to the Govt.
- (d) Recovery of charges for testing of materials where applicable as clarified in these tender documents shall be made from the contractor at the rates mentioned.
- (e) The in-applicable contents given in this appendix for the materials not required in the subject work & for works not covered in this contract shall be deemed to be deleted in toto.
- (f) It may be possible that the contractor has to spent/pay more charges for tests than the charge specified above but no claim whatsoever shall be entertained on this account.
- (g) IS referred in this appendix, if found any variance due to any reasons, IS as applicable with latest amendments as on last date of receipt of tender shall be considered and no claim/compensation on this account will be entertained. Decision of the GE on this account shall be final, conclusive and binding.
- (h) Latest revisions and number of IS upto the last date of receipt of tender will be applicable.
- (j) For the tests specified to be carried out in the site lab, the contractor at his option shall be permitted to set up a site laboratory at his own cost. All the equipments for testing will be provided by the contractor all as directed by the GE at the commencement of work itself. Where the contractor is not willing to establish his site lab, the tests to be carried out in the site lab shall be got tested by the contractor in the lab, if established by the deptt (if exists) or in the zonal lab or any other approved govt lab as approved/directed by the GE.
- (k) The tests to be carried out in the site lab established by the contractor shall be got done in presence of the Engr-in-Charge/GE.
- (l) The test to be carried out in zonal lab, national test house, SEMT WING PUNE & Engineering College may be got done in any other govt lab approved by GE under the arrangements of the contractor.
- (m) The recovery of testing charges as mentioned above in this appendix for the tests carried out in site lab established by the deptt/zonal lab, SEMT WING PUNE shall only be made.
- (n) A percentage/selective checks as desired by the Accepting Officer/GE may be got done independently in the zonal lab/govt, approved laboratory, the expenditure for such tests shall be borne by the deptt. However, the cost of materials & transportation charges shall be borne by the contractor. In case the test results are found at variance from the test results obtained from testing carried out by the contractor, then the results obtained from the zonal lab/govt approved laboratory shall be final & binding. Further if the test results of the above mentioned independent testing are not within the tolerance limits specified in IS/in these tender documents, the cost of above independent testing shall be recovered from the contractor.
- (o) Where provision for issue of water by deptt exists in these tender documents, the tests mentioned for water need not to be carried out and accordingly no recovery on account of the same shall be made.

(Signature of Contractor)

AGE (Contracts)
for Accepting Officer

Appendix 'F'**CEMENT SUPPLY/ACCEPTANCE REGISTER**

1. CA No. & Name of work.
2. Control No *
3. Name of Manufacturer/Brand Name/Gde of Cement (A) Manufacture_____ (b) Brand_____ (c) Grade
4. Qty of cement & lot No/Week No (in Bags): (Qty_____ (b) Lot No/Week No._____
5. Manufacturer's test Certificate No._____
6. Randon Test Details (a) Physical test report from_____ vide their letter No._____
(Name of approval Lab/Engg College)
- (b) Chemical test report from_____ vide their letter No._____
(Name of approval Lab/Engg College)
7. Details of Physical & Chemical properties

Details of Physical & Chemical Properties																			
Srl No	Details	Physical requirements (As per IS 4031)									Chemical requirements (As per IS-4032)								
		Specific surface area (M²/Kg)	Soundness by Le chatellear Expansion	Soundness by Auto Clave	Initial setting Time (Minutes)	Final setting time (Minutes)	Compressive strengths			Temp during testing °C	Standard Consistency(%)	Lime saturation factor (Ratio)	Alumina Iron Ratio (Ratio)	Insoluble residue (%)	Magnesia(%)	Sulphuric Anhydride(%)	Loss on ignition(%)	Alkalis(%)	Chlorides(%)
							03 Days(Mpa)	07 Days(Mpa)	28 Days(Mpa)										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	AS per relevant IS																		
2	As per manufacture's test certificate																		
3	As per random test certificate																		

Remarks with Signature

Accepted/Rejected

Contractor
Remarks of BOO/Inspecting Officer/CWE

Junior Engineer

Engineer-in-Charge

Garrison Engineer

*To be allotted serially by GE consignment wise

(Signature of Contractor)

AGE (Contracts)
for Accepting Officer

Appendix 'G'**STEEL SUPPLY/ACCEPTANCE REGISTER**

1. CA No. & Name of work.
2. Contract No.
3. Name of Manufacturer's TC No.
4. Manufacturer
5. Randon Test Details (a) Physical test report from _____ vide letter No. _____
(Name of NABL approved Lab/Govt Engg College)
- (b) Chemical test report from _____ vide letter No. _____
(Name of NABL approved Lab/Govt Engg College)
6. Types of steel, Dia & Qty (a) type : TMT/CRS (b) Dia -----mm (c) Actual Wt _____ MT (d) Conversion wt _____ MT

Srl No.	Particulars	Chemical Test							Mechanical Test						Remark
		Carbon %	Sulphur %	Phosphorous %	Sulphur + phosphorus	Manganese %	Silicon %	Corrosion resistant element	Wt per Metre	Yield Stress (N/mm2)	Tensile strength (N/mm2)	Percent Min Elongation 18 %	Bend test	Rebent Test	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	AS per IS 1786-2008														
2	As per manufacture's test certificate														
3	As per independent test														

Remarks with Signature**Accepted/Rejected**

Contractor

Junior Engineer

Engineer-in-Charge

Garrison Engineer

Remarks of BOO/Inspecting Officer/GE

(Signature of Contractor)

AGE (Contracts)
for Accepting Officer