

“E-TENDER”**MILITARY ENGINEER SERVICES**
GARRISON ENGINEER BHOPAL

NAME OF WORK: PROVN OF DENTAL STORE AT MDC (LBW-11), SORTING OUT SHED AT ASC (LBW-24) AND ATTACHED TOILET WITH BLDG NO.T-300 FD HOSPITAL (REV-05) AT BAIRAGARH UNDER GE BHOPAL.

SL NO	DESCRIPTION	PAGES
1.	Contents.	1
2.	Forwarding letter	2
3.	Instructions for tenderers	03 to 04
4.	Notice of Tender (IAFW – 2162) with Appendix ‘A’ to notice of tender including amendments thereto.	05 to 08
5.	Item rate tender and contract for works required (IAFW –1779-A) (Revised-1955) Sch ‘A’, ‘B’, ‘C’, ‘D’.	09 to 31
6.	*General conditions of contracts (IAFW –2249) (1989 Print) including Errata & Amendments thereto.	32 to 64
7.	*Schedule of Minimum Fair Wages.	65 to 74
8.	Particular Specifications Part – I (Special Conditions)	75 to 78
9.	Particular specifications Part II (Material and Workman ship).	79 to 105
10.	Errata/ Amendments to the tender documents.	
11.	Relevant correspondence.	
12.	Acceptance letter.	
	Total No. of Pages	
	Total Nos. of Drawings	NIL

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

Tele No.: 0755-2646769
E-Mail: bhp4-mes@nic.in

Garrison Engineer Bhopal
PO Bairagarh, Bhopal – 30

8503/ 05 /E8

06 Oct 2018

M/S _____

NAME OF WORK: PROVN OF DENTAL STORE AT MDC (LBW-11), SORTING OUT SHED AT ASC (LBW-24) AND ATTACHED TOILET WITH BLDG NO.T-300 FD HOSPITAL (REV-05) AT BAIRAGARH UNDER GE BHOPAL.

Dear Sir(s),

1. Tender documents for the above-mentioned 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 INVITING TENDER.
2. Bids will be received online by accepting officer upto the date and time mentioned in the 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 before bid submission start date. You are requested not to write piece meal points and forward your points duly consolidated before bid submission start date.
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, Bhopal 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. (a) Contractors having not executed standing bond and standing security deposit in any MES formation shall upload scanned copy of earnest money deposit (EMD) mentioned in NIT and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time for this purpose. In case of failure to abide by any of these two requirements, the financial bid will not be opened.
(b) Contractors having executed standing bond and standing security deposit in any MES formation would be required to deposit individual security on acceptance of tender which will be calculated with reference to the tendered cost as per scales laid down by MES for calculation of "EARNEST MONEY" enhanced by 25% subject to maximum of Rs.18,75,000/-
7. Enlisted contractors of MES shall submit the scanned copies (pdf file) of enlistment letter, tender fee and such other documents as mentioned in Appendix A to NIT on e-procurement portal and submit physical documents in the office of Garrison Engineer Bhopal before date & time fixed for this purpose..
8. All tenderers, whether enlisted or not enlisted shall upload their GST/Service Tax Registration Number alongwith the 'T' bid (cover-I). Tenderers who do not upload the GST/Service Tax Registration Number shall be disqualified in the 'T' bid evaluation and his financial bid (Cover-2) shall not be opened
9. All tenderers, whether enlisted or not enlisted shall upload their Provident Fund Code Number alongwith the 'T' bid (cover-I).
10. 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 quotation/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.
11. 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.
12. General Condition 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.
13. 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

FOR ACCEPTING OFFICER

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER

- 1.0 **Earnest Money Deposit (EMD)**:- Contractor(s) who are not enlisted with MES/who are enlisted but have executed the Standing security Bond shall submit Earnest Money Deposit as detailed in Notice Inviting Tender in one of the following forms, along with their tender:-
(a) Deposit at call receipt/FDR from a Scheduled Bank in favour of Garrison Engineer, Bhopal.
(b) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of Garrison Engineer, Bhopal.
- It is advisable that earnest money is deposited in the form of deposit call receipt from an approved scheduled bank for easy refund. In case the tenderer/bidder wants to lodge EMD in any other form allowed by MES, a confirmation about its acceptability will be obtained from the accepting officer well in advance of the bid submission end date and time. Earnest money deposit shall be submitted in the name of Garrison Engineer Bhopal.
- Note :- Earnest money deposit (EMD) in the form of Cheque/Bank Guarantee, etc will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (scanned copy along with technical bid and hard copy before the date and time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR COVER II (FINANCE BID)*
- 2.0 **SECURITY DEPOSIT**:- In case the tender/bid submitted by such contractor who is not enlisted with MES is accepted, the contractor will be required to lodge with the Controller of Defence Accounts, "INDIVIDUAL SECURITY DEPOSIT" calculated with refer to "Tendered Cost" as notified by the Accepting Officer subject to a maximum of Rs 18,75,000.00. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender/bid, failing which the sum shall be recovered from the 1st RAR payment or from the final bill [See condition 22 of GCC(IAFW-2249)].
- 3.0 **CONTRACTOR ENLISTED UNDER CE SOUTHERN COMMAND AND WHO HAVE EXECUTED SECURITY BOND AND DEPOSITED STANDING SECURITY DEPOSIT BUT OF A LOWER CLASS**:- In Case the tender/bid of such a contractor is accepted, the amount of Additional Security deposit will be as notified by Accepting Officer. This amount would be the difference between the 'Individual Security Deposit' calculated with reference to the "Tendered Cost" and the Standing Security Deposit lodged. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender/bid, failing which the sum shall be recovered from the 1st RAR payment or from the final bill [See condition 22 of GCC(IAFW-2249)].
- 4.0 **CONTRACTORS ENLISTED IN MES FORMATIONS OTHER THAN CE SOUTHERN COMMAND** :-Contractors whose names are on the approved list of MES formation i.e. other than CE SOUTHERN COMMAND and who have deposited standing security and have executed standing security bond may tender/bid without depositing EMD with the tender and if the Accepting Officer decides to accept the tender/bid, such tenderer will be required to lodge Security Deposit as notified by the Accepting Officer. The amount is required to be lodged within 30 (Thirty) days of the receipt by the contractor of notification of acceptance of tender/bid, failing which the sum shall be recovered from the 1st RAR payment or from the final bill.
- 5.0 **GENERAL INSTRUCTION FOR COMPLIANCE** :
- 5.1 The bids received only in the electronic form will be considered. All bids shall be submitted on "www.defproc.gov.in" portal. Documents should be scanned and forwarded in 'pdf' form as indicated.
- 5.2 Bids shall be uploaded on "eprocuremes.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 Bids should be digitally signed using valid DSC. All pages of tender documents, corrections/alterations shall be signed/initialed by the lowest bidder after acceptance.
- 5.4 Drawings, if issued in physical form, must be returned duly initialed by the tenderer/bidder in separate envelope indicating his name and address.
- 5.5 The tender shall be signed, dated and witnessed at all 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 articles 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 conforming 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 partners (s) or on behalf of a firm or company using 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 partners(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.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER

- 5.7 Even in case of firms 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 (Cover1 & 2) shall be uploaded online well in time.
- 5.10 The contractor shall employ Indian National after verifying their antecedents and loyalty. Attention is also drawn to special condition referred hereinafter and also conditions 24 & 25 of GCC (IAFW-2249).
- 5.11 Tenderers/bidders who uploaded their priced tenders/bids and are desirous of being present at the time of opening of the tenders/bids, 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 the BOQ (excel sheet) he can do so only in the BOQ, through eprocuremes.gov.in site before the bid closing time & date.
- 6.0 **REVOCATION/REVISION OF OFFER UPWARD/OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDER:**
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.
- 7.0 **CPM (CRITICAL PATH METHOD)**
- 7.1 The project planning for work covered in scope of tender is based on CPM.
- 7.2 The tenderer is expected to be fully conversant with the technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literatures on the subject are widely available which the tenderer may make use of.
- 7.3 The tenderers/bidders attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedules 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 prospects of receiving tenders for works.
- 7.4 Department may issue amendments/errata in form of CORRIGENDUM to the tender/ revised BOQ to the tender documents. The tenderer is requested to read tender documents in conjunction with all the errata/amendments/corrigendum, if any, issued by the department.
- 8.0 These instructions shall form part of the contract documents.

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

MILITARY ENGINEER SERVICES
NOTICE INVITING TENDER (NIT)

- 1.0 A tender is invited for the work as mentioned in Appendix 'A' to this NOTICE INVITING TENDER (NIT).
- 2.0 The work is estimated to cost as indicated in aforesaid Appendix 'A'. This estimate however is not a guarantee and it is merely given as rough guide and if the work costs more or less, the tenderer/bidder will have no claim on this account. The tender shall be based as mentioned in aforesaid Appendix 'A'.
- 3.0 The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with the phasing, if any, indicated in the tender from the date of handing over site which will be on or about two weeks after the date of Acceptance of tender.
- 4.0 Normally contractors whose names are on the MES approved list for the area in which the work lies, and within whose financial category the estimate amount would fall, may tender/bid but in case of term contracts, contractors of categories SS to E may tender/bid. In case, where the tender amount is in excess of the financial limit of the contractor and the Accepting Officer decides to accept the tender/bid, in which event the tenderer/bidder would be required to lodge additional security deposit as notified by the Accepting Officer in terms of conditions of contract. Contractors whose names are on the MES approved list of any MES formation and who have deposited standing security and have executed standing security bond may also tender/bid without depositing earnest money along with the tender/bid and if the tender/bid submitted by such a tenderer/bidder is accepted, the contractor will be required to lodge with the Controller of Defence Accounts concerned the amount of 'INDIVIDUAL SECURITY DEPOSIT' within thirty days of the receipt by him of notification of acceptance of his tender/bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill. In the case of term/running contracts, remaining sum shall be recovered from subsequent bill(s) of the contractor. Not more than one tender/bid shall be submitted/uploaded by one contractor or one firm of contractors under no circumstances will a father and his son(s) or other close relations who have business dealing with one another be allowed to tender/bid for the same contract as separate competitors. A breach of this condition will render the tenders/bids of both the parties liable for rejection.
- 5.0 The GARRISON ENGINEER, BHOPAL -30 will be the Accepting Officer, hereinafter referred to as such for the purpose of this contract.
- 6.0 The Technical Bid and Financial Bid (Cover-1 and Cover-2) shall be uploaded by the tender/bidder on or before the date & time mentioned in **NIT**. A scanned copy of DD with enlistment details, Service Tax Registration Number, Provident Fund Code Number documents shall be uploaded as packet-1/cover-1 ('T' bid) of the tender/bid on e-tendering portal. DD is refundable in case T-bid is not accepted resulting in non-opening of 'Q' bid. The applicant contractor shall bear the cost of bank charges for procuring and encashing the DD and shall not have any claim from Government whatsoever on this account.
- 6.1 Tender form and conditions of contract and other necessary document shall be available on eprocuremes.gov.in / eprocure.gov.in site for download and shall form part of contract agreement in case the tender/bid is accepted.
- 6.2 In case of contractor who has not executed the Standing Security Bond, the Cover-I shall be accompanied with by Earnest Money of amount as mentioned in Appendix 'A' in the form of deposit at call receipt in favour of concerned GE (see Appendix 'A') by a scheduled Bank or in receipted treasury Challan the amount being credited to the revenue deposit of the concerned GE (see Appendix 'A').
- 6.3 A contractor who is not enlisted for the area in which the work lies but whose name is in the MES approved list of any MES formation and who has deposited standing security and executed standing security Bond may bid without depositing earnest money along with the tender; but if the Accepting Officer accepts the tender/bid, the contractor will be required to lodge with the Controller of Defence Accounts concerned the amount of the 'Individual security deposit' within thirty days of the receipt by him of notification of acceptance of his tender/bid, failing which this sum will be recovered from 1st RAR payment or from the first final bill. In the case of term/running contracts, remaining sum shall be recovered from subsequent bill(s) of the contractor.
- 6.4 A contractor who has executed standing security Bond but not corresponding to the appropriate class as mentioned above, shall lodge with the Accepting Officer, Additional Security Deposit as notified by the Accepting Officer within thirty days of the receipt of his notification of acceptance of his tender/bid, failing which this sum will be recovered from the first RAR payment or from the first final bill. In the case of term/running contracts, remaining sum shall be recovered from subsequent bill(s) of the contractor. However, in case where any payment is made to the contractor within thirty days of the receipt by him of notification of acceptance of tender/bid, the amount of additional security deposit shall be recovered from such payment.
- 6.5 The GE will return the Earnest Money wherever applicable to all unsuccessful tenderers/ bidders by endorsing an authority on the deposit-at-call receipt for its refund, on production by the tenderer, bidder a certificate of the Accepting Officer that a bonafide tender/bid was received and all documents were returned.

NOTICE INVITING TENDER (NIT)
(CONTD....)

- 6.6 The GE will either return the Earnest Money to the successful tender/bidder by endorsing an authority on the deposit-at-call Receipt for its refund on receipt of an appropriate amount of Security Deposit or will retain the same in part or full on account of security deposit if such a transaction is feasible.
- 6.7 Copies of the drawings and other documents pertaining to the work signed for the purpose of identification by the Accepting Officer or his accredited representative, sample of materials and stores to be supplied by the contractor will also be available for inspection by the tenderer/bidder at the office of Accepting Officer and concerned GE during working hours.
- 7.0 The tenderers/bidders are advised to visit the site of work by making prior appointment with GE who is also the Executing Agency of the work (See appendix 'A'). The tenderers/bidders are deemed to have full knowledge of all relevant documents, samples, site etc. whether they have inspected them or not.
- 8.0 Any tender/bid which proposes any alteration to any of the conditions laid down or which proposes any other condition or prescription whatsoever, is liable to be rejected.
- 9.0 The uploading of bid implies that bidder has read this notice and the Conditions of Contract and has made himself aware of the scope and specification of work to be done and of the conditions and rates at which stores, tools and plants etc will be issued to him and local conditions and other factors having bearing on the execution of the work.
- 10.0 Tenderers/bidders must be in possession of a copy of the MES Standard Schedule of Rates (see appendix 'A') including amendments and errata thereto.
- 11.0 Invitation for e-tender does not constitute any guarantee for validation of 'T' bid and subsequent opening of finance bid of any applicant/bidder, even of enlisted contractors of appropriate class, merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the 'T' bid and not open the finance bid of any applicant/bidder. 'T' bid validation shall be decided by the Accepting Officer based on, inter alia, capability of the firm as per criteria given in Appx 'A' to this NIT. The applicant contractor/bidder will be informed regarding non-validation of his 'T' bid assigning reasons thereof through the eprocurement website. The applicant contractor/bidder if he so desires may appeal to the next higher Engineer authority viz Commander Works Engineer, Bhopal on email id bhp3-mes@nic.in with copy to the Accepting Officer on email before the schedule date of opening of Finance Bid. The decision of the Next Higher Engineer Authority (NHEA) shall be final and binding. The contractor/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
- 12.0 The Accepting Officer reserves the right to accept a tender submitted by a Public Undertaking, giving a price preference over other Tender(s)/bids which may be lower, as are admissible under the Government Policy. No claim for any compensation or otherwise shall be admissible from such tender/bidder whose tender/bid is rejected.
- 13.0 Accepting Officer does not bind himself to accept the lowest or any tender/bid or to give any reason for not doing so.
- 14.0 This **Notice Inviting Tender (NIT)** including Appendix 'A' shall form part of the contract.

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

APPENDIX 'A' TO NOTICE INVITING E-TENDER (Contd/-)

1	Name of work	PROVN OF DENTAL STORE AT MDC (LBW-11), SORTING OUT SHED AT ASC (LBW-24) AND ATTACHED TOILET WITH BLDG NO.T-300 FD HOSPITAL (REV-05) AT BAIRAGARH UNDER GE BHOPAL.
2	Estimated Cost	Rs. 13.30 Lakhs (At par Market)
3	Period of completion	183 DAYS (6 Months).
4	Cost of tender documents	Rs.500/- in the form of DD/Bankers cheque from any Scheduled bank in favour of GE BHOPAL and payable at BHOPAL .
5	Website/portal address	www.defproc.gov.in and www.mes.gov.in
6	Type of Contract	The tender shall be based on GCC (IAFW-2249) and IAFW-1779-A with Schedule 'A' (BOQ) (list of items of works) to be quoted by the tenderers online on website : www.defproc.gov.in
7	Information & Details	
	(a) Bid submission start date (b) Last date of bid submission (c) Date of bid opening	Refer critical dates.
8	<u>ELIGIBILITY CRITERIA</u> (a) For MES enlisted contractors	All contractors enlisted with MES in Class - 'E' and above and Category – a (i) shall be considered qualified provided they do not carry adverse remarks in WLR of competent engineer authority.
	(b) For other contractors	(a) The firms not enlisted with MES shall meet the enlistment criteria of 'E' Class MES contractors & category a(i) i.e. with regard to having satisfactorily completed requisite value works, Annual turnover, Solvency, working capital, immovable property/fixed assets, T&P, Engineering establishment, no recovery outstanding in any Govt Department, Policy verification/Passport etc. Enlistment criteria may be seen in Para 1.4 of Section 1 of Part I of MES Manual on Contracts, 2007 (Reprint 2012) as available in all MES formations. (b) These firms shall also submit copy of Policy verification from policy authority of the area where the registered office of the firm is located/notarised copy of valid passport of proprietor/each partner/each Director. (c) They should not carry adverse remarks in WLR/or any other similar report of any authority.
	(c) For all contractors	(i) Contractor will not be allowed to execute the work by subletting or through power of attorney holder on his behalf to a third party/another firm except sons/daughters of proprietor/partner/Director and firm's own employees, Director, Project Manager. This shall be subject to certain conditions which will be prescribed in the NIT forming part of the tender documents. (ii) All tenderers, whether enlisted or not enlisted shall upload their GST/Service Tax Registration Number and Provident Fund Code Number alongwith the 'T' bid (cover-1). Tenderers who do not upload the GST/Service Tax Registration Number shall be disqualified in the 'T' bid evaluation and his financial bid (Cover-2) shall not be opened
9	Tender issuing and Accepting Officer	Garrison Engineer, Bairagarh Bhopal-462030.
10	Executing agency	Garrison Engineer, Bairagarh Bhopal-462030
11	Earnest Money	RS.26,600/- IN FAVOUR OF GE BHOPAL PAYABLE AT BHOPAL
12	E-Mail	HQ CWE BHOPAL : bhp3-mes@nic.in GE BHOPAL : bhp4-mes@nic.in
13	Name of person to be contacted	Sh.SK Verma, IDSE, GE Shri MP Thakur, AGE (Contracts)
14	Jurisdiction	Court of the place from where tender has been issued shall alone have jurisdiction to decide any dispute out of or in respect of this tender. After acceptance of tender, Condition-72-Jurisdiction of courts of IAFW-2249 shall be applicable.

NOTES :

- (a) The contractor enlisted upto one* class below the eligible class may also apply/bid. Application/bids from one class below eligible class applicants may be considered in the event of inadequate response/bids from the applicants of eligible class.
“Application from two class below eligible class applicants may also be considered in the event of inadequate response from the applicants of eligible class and one class below eligible class.”
- (b) (i) Applications/bids not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) shall not be considered for validation of ‘T’ bid and their finance bids will not be opened.
(ii) Tenderers/bidders to note that they should ensure that their original DDs and earnest money (as applicable) are received within 05* days of bid submission end date.
(iii) In case of applications/bids from enlisted contractors of MES, where scanned copies of requisite DD/Bankers Cheque towards cost of tender has been uploaded but physical copies are not received by the stipulated date, finance bids will be opened. However, non-submission of physical copies of cost of tender shall be considered as willful negligence of the bidder with ulterior motives and such bidder shall be banned from bidding for a period of six months commencing from the date of opening of finance bid.
(iv) In case of applications/bids from unenlisted contractors, where scanned copies of requisite DD/Bankers Cheque towards cost of tender has been uploaded but physical copies are not received by the stipulated date, finance bids will not be opened. Name of such contractors alongwith complete address shall be circulated for not opening of their bids for a period of six months commencing from the date of opening of finance bid..
(v) In case of applications/bids (enlisted contractor as well as unenlisted contractor) where scanned copies of requisite. Earnest money (as applicable) were uploaded but the same are not received in physical form within stipulated time, such bids shall not qualify for opening of finance bid.
- (c) Contractors enlisted with MES will upload following documents for checking eligibility :
(i) Application for bid in Firm’s letter head
(ii) Enlistment letter (with latest information).
(iii) Scanned copy of DD of cost of tender.
- (d) Contractors not enlisted with MES will be required to upload necessary documents to prove their eligibility for enlistment in eligible class & category of work, including Affidavit for no recovery outstanding. List of documents required for enlistment in MES has been given in para 1.5 of section of Part I of MES Manual on Contracts 2007 (Reprint 2012). Following documents shall also be uploaded amongst others :
(i) Details of three highest valued similar nature of works executed during last five years, financial year-wise in tabular form giving name of work. Accepting Officer’s details viz Address, Telephone, Fax No. E-mail ID etc. date of acceptance of tender and actual date of completion. This shall be duly signed by proprietor /all partners/ authorised Director of Pvt / Public Ltd as applicable. It should indicate whether extension was granted or compensation was levied. Attested copy of acceptance letter and completion certificate shall be enclosed of each work. In case performance report has been given by the client same shall also be submitted duly attested.
(ii) Solvency certificate and working Capital Certificate issued by scheduled bank.
(iii) Annual turnover certificate for last 2 years issued by Chartered Accountant along with relevant pages of audited balance sheets in support thereof.
(iv) Affidavits for possession of movable & immovable properties by proprietor/partner owning the immovable property alongwith Valuation Certificate from Regd Valuer in support of movable & immovable properties. In case of Limited Company, the immovable property is required to be in the name of the company. In case of Limited Company, the immovable property is required to be in the name of the Company.
(v) In addition, the un-enlisted contractors shall also furnish affidavit on non Judicial stamp paper in the form of hard copy declaring their turnover for last 2 (Two) years.
(vi) Scanned copy of DD of cost of tender and earnest money.
- (e) In case of rejection of technical / prequalification bid, contractor may appeal to next higher Engineer authority i.e. CWE Bhopal on email bhp3-mes@nic.in against rejection, whose decision shall be final and binding. However, contractor/bidder shall not be entitled to any compensation whatsoever for rejection of technical/prequalification bid.

Signature of Contractor

AGE (Contracts)

For Accepting Officer

8503/ 04/ E8 Dated : 06 Oct 2018
Garrison Engineer, PO – Bairagarh, Bhopal-4
Copy to: -

01	CE Bhopal Zone, Bhopal	02	Station Master, Railway Station, Bhopal-462010
03	CE Jabalpur Zone, Jabalpur, PIN -901124	04	HQ CWE Bhopal
05	CWE (A) Maharajpur, PIN-474020	06	CWE Mhow PIN-906769
07	CWE Jhansi, PIN-900225	08	CWE Jabalpur, PIN-901103
09	GE (Dronachal) Bhopal	10	GE Nasirabad, PIN-305601
11	GE Saugor, PIN-900127	12	AGE (I) Dhana, PIN-470228
13	GE Itarsi, PIN-461122	14	GE Gwalior, PIN-474006
15	AGE (I) Pachmarhi, PIN-903777	16	SBI, Sultania Road, kohefiza, Bhopal-462001
17	Chief Post Master General, Dak Bhawan, Hoshangabad Road, Bhopal- 462011	18	Engineer-in-Chief, PWD, 27-28, ‘Nirman bhawan’, Bhopal-462001
19	Executive Engineer (Civil) BSNL, Civil Division No.1, 4-B, Saket Nagar, Bhopal-462024	20	Executive Engineer (Civil),CCW: prasar Bharti, 54, Shyamla hills Road, Nera Bharat Bhawan, Bhopal -62002
21	Senior Divisional Engineer (Co-ord) DRMs Office Habibganj, Bhopal-462001	22	Executive Engineer, Central Division, CPWD, Opp Habibganj Railway Station, Bhopal-462016
23	MES Builder Association of India (Regd) 807-808, Sahyog, 58, Nehru Palace, New Delhi- PIN-110019	24	MES Builder Association of India (Regd) Commerce Centre, 7 th Floor Dadjee Road Trade Co, Mumbai-400034
25	Chairman, MES BAI, Bhopal Branch, 12, Devlok Colony, Sector-B, Near C.T.O. Bairagarh, Bhopal 462030	26	MES Builders Association of India (Regd)DH-101. Deen Dayal Nagar, Mandir, Gwalior (MP)-474020
27	MES Builders Association of India (Regd) Saugor Branch, Saugor-470001	28	MES Builders Association of India (Regd) C/o M/s Vij & Co, 26 Mall Road Kamptee, Nagpur-01

ERRATA/AMENDMENT TO
APPENDIX `A` TO NOTICE OF TENDER

Srl No	Location	Description
1	2	3
		NIL

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

In lieu of IAFW 1779-A (Revised 1947)
TO BE USED IN CONJUNCTION WITH GENERAL CONDITIONS OF CONTRACTS
IAFW – 2249
MILITARY ENGINEER SERVICES

Tele Mil – 3451

Garrison Engineer's Office
Bairagarh (PO), Bhopal

No. 8503/ 05 /E8

06 Oct 2018

E-TENDER

**ITEM RATE TENDER AND CONTRACT FOR WORKS REQUIRED IN SERVICES OF
“PROVN OF DENTAL STORE AT MDC (LBW-11), SORTING OUT SHED AT ASC
(LBW-24) AND ATTACHED TOILET WITH BLDG NO.T-300 FD HOSPITAL (REV-05)
AT BAIRAGARH UNDER GE BHOPAL.”**

1. M/s _____
of _____ is/are hereby authorised to tender for the above work. The bids i.e. Cover 1 & 2 shall be submitted/ uploaded on web site www.defproc.gov.in between 0900 hrs on **22 OCT 2018** to 1800 hrs on **27 OCT 2018** and Technical bid (Cover-1) shall be opened after 1500 hrs on **29 OCT 2018**. Opening of BOQ (Cover-2) will be intimated on line after completion of evaluation of Technical bid (Cover-1).
2. All requisite documents shall be uploaded along with the bid. Last date/time of submission/receipt of documents (Offline) in support of cover-1 is **01 NOV 2018 UP TO 1400 Hrs.**
3. Any correspondence concerning this tender shall be addressed as indicated at the top of this sheet, quoting the reference as given.
4. THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR ANY TENDER AND RESERVES THE RIGHTS TO ACCEPT THE TENDER IN WHOLE OR IN GROUPS AS HE MAY DECIDE.

Signature of Officer
Issuing the documents.

SIGNATURE OF CONTRACTOR
DATED. _____

ACCEPTING OFFICER

SCHEDULE 'A' NOTES**NAME OF WORK: PROVN OF DENTAL STORE AT MDC (LBW-11),
SORTING OUT SHED AT ASC (LBW-24) AND ATTACHED TOILET WITH
BLDG NO.T-300 FD HOSPITAL (REV-05) AT BAIRAGARH UNDER GE
BHOPAL.**

1. The quantities shown in column 3 are approximate and are inserted as a guide only (as per details of job wise). They shall, however, not be varied beyond the limits laid down in condition 7 of IAFW-2249 (general conditions of contracts).
2. Rates in column 5 are to be filled by the tenderer. Rates in figures and words in column 6 and amount in column 7 will be filled automatically.
3. Total amount in column 7 is not firm but will be treated as the contract sum referred to in IAFW-2249 (General conditions of contracts).
4. Unless specifically specified otherwise the unit rate of each items of work filled in column 5 shall be deemed to be inclusive of supply of all material and labour for fixing, etc complete. All specials for water supply and equipment for electrical works shall be deemed inclusive of supply installation, commissioning and testing etc complete.
5. The entire work under this contract shall be completed within **06 (SIX) MONTHS [183 DAYS]** from the date of handing over site as per WORK ORDER NO.1.
6. Descriptions of items of works given in schedule 'A' are in brief. These are deemed to be amplified and read in conjunction with the special conditions, particular specifications for materials and workmanship and conditions in relevant sections of MES standard schedule of rates Part I (2009) and Part II (2010) and contract drawings if any.
7. The rates quoted by the contractor shall include all taxes, duties for building construction workers welfare act as per rules and law and other statutory levies etc (enforced)
8. Comprehensive list of approved makes of materials has been enclosed as per appx. The same shall however be followed as applicable for this work.
9. **GST/SERVICE TAX** :-The rates quoted shall be deemed to include for service tax as applicable for the subject work. The bidders are advised to ascertain the same from tax authorities before submission of bid.
10. Unit RM, Cum or CUM, Sqm or SQM, 10 SQM and Quintal or Qtl, kg or KG wherever mentioned in the tender documents denotes the unit, Running meter, cubic meter, square meter, ten square meter, Quintal and Kilogram respectively.
11. If Contractor does not quote his rate against any item or 'NQ' / '0.00' appears in rate/amount column, then it shall be deemed that rate quoted is Rupees Zero i.e. the contractor intends to execute the particular item at no cost basis (free of cost) to the Govt. Items and their quantities for which no rates or prices have been quoted shall be deemed to have been covered by the rates and prices quoted for the other items of bills of quantities. Hence contractors are requested to thoroughly check their quoted rates before submitting bid online. No representation by the contractor on this matter shall be entertained by the department in the matter.
12. **DISMANTLING/DEMOLITION/TAKING DOWN**
- 12.1. Refer section 21 of MES schedule Part I for demolition and dismantling. The demolition /dismantling shall generally proceed systematically in the descending order. An inventory of all the items to be demolished/ dismantled/ taken down/shall be prepared by the Engineer-in-charge and contractor, agreed accepted and signed jointly as work proceeds. A copy of the inventory shall also be handed over to contractor for his record.
- 12.2. The contractor shall take down/demolish/dismantle the work to the extent all as mentioned in Schedule 'A' and as specifically ordered by GE/ Engineer-in-charge.
- 12.3. Dismantled/Demolished material indicated in schedule of credit shall become the property of the contractor and contractor shall give credit for it at the rates mentioned in Schedule of credit. The rates given for credit are fixed and no variation on this amount shall be admissible on account of quality/conditions of the materials obtained from dismantling/demolition. The contractor at his own expense shall carry out transportation of old materials. Materials retrieved from dismantling/demolition shall not be used in the new work.
- 12.4. All retrieved materials obtained from demolition/ dismantling which are not mentioned in schedule of credit shall become Govt. property and contractor shall deposit the same in MES store yard of GE. Such materials shall be stacked properly by contractor at his own arrangements and own cost at MES store all as directed and the same shall be recorded in MB for record purpose only duly signed by GE, Engineer-in-Charge and contractor and necessary RV thereof shall be obtained by the contractor from Engineer-in-Charge.
- 12.5. Contractor is advised to 'visit' the site with Engineer-in-Charge/ GE before quoting the lump sum prices against credit Schedule.

SCHEDULE 'A' NOTES [CONTD/-].

- 12.6 The Govt does not guarantee for the value of the materials that will naturally accrue to the contractor. The contractor shall be deemed to have visited the site of work and have made himself conversant with present state of materials before tendering for the purpose of assessing their quality, condition and money value of materials that would be obtained from dismantling/demolition etc. and no extra cost whatsoever shall be entertained on this account.
- 12.7 Refer condition 10, 47 and 48 of IAFW-2249, General Conditions of Contracts and Para 21.1 to 21.3 stipulated on page 21-1 to 21-3 of MES SSR' 2009 Part I. All materials shall be sorted out, stacked at site for joint measurements and recorded in the measurement book. Both parties will sign entries. Govt property shall be removed and handed over to Engineer-in-Charge through proper receipt in proper manner as described above at the MES store yard. Site shall be cleaned off rubbish/waste materials etc. to the entire satisfaction of Engineer-in-Charge. Debris/unserviceable materials obtained from demolition, taking down, dismantling, etc shall be thrown away outside MOD land as directed without any extra cost to the Govt.
- 12.8. Any damages caused to the existing structure and fitting/fixtures, due to the negligence and carelessness of the contractor or his workmen, shall be made good by the contractor at his own expense to the entire satisfaction of Engineer-in-Charge. Extent of materials/items damaged due to negligence and carelessness of the contractor or his workman due to bad workmanship will be assessed by the GE, whose assessment in writing shall be final and binding on the contractor and in case of contractor's failure in making good the damages inspite of GE's notice, cost thereof assessed by GE shall be recovered from the contractor's payment due to him and decision of GE in this respect shall be final & binding.
- 12.9 The contractor shall be responsible for the safe custody of materials until handed over to MES which are Govt. property or are to be incorporated in the work and receipt obtained for the same.
- 12.10 For the purpose of calculating compensation in terms of condition 50 of IAFW-2249, deductions at source towards VAT/Income tax etc. the amount of Credit for Old materials becoming contractor's property shall not be taken into account.
- 13.0 Comprehensive list of approved makes of materials has been enclosed as per Appx 'C'. The same shall however be followed as applicable for this work.
14. **GST (GOODS AND SERVICE TAX ACT)**
- 14.1 Contractor's quoted rates shall be deemed to include GST as applicable and appropriate percentage (as notified by the Govt) will be deducted at source from contractor's payments. The clauses pertaining to tax liabilities wherever mentioned in the tender documents shall be deemed to be amended accordingly
- 15.0 The subject work comprises of the following Jobs as per quantities given in Annexure –I to BOQ :-

(i)	JOB 'A'	11/LBW/PMPA/BHOPAL/18-19/Q3W: Provn of dental store at MDC Bhopal
(ii)	JOB 'B'	24/LBW/PMPA/BHOPAL/18-19/Q3W: Provn of sorting out shed for POG at 436 coy ASC (Sup) type A Bhopal
(iii)	JOB 'C'	STN HQ/BPL/2018-19/REV-05: Provn of toilet/bathroom att with bldg No.T-300 of 4021 Fd Hospital Bhopal

SIGNATURE OF CONTRACTOR
DATED. _____

FOR ACCEPTING OFFICER

BOQ SCHEDULE 'A' [CONTD/-].**DETAILS OF JOB WISE QUANTATIES FOR COMMON ITEMS (Contd/-)**

Item No. of BOQ	JOB 'A'	JOB 'B'	JOB 'B'	Total
1.10	21.50	15.00	3.00	39.50
2.00	17.00	40.00	10.00	67.00
3.00	23.35	59.00	6.00	88.35
4.00	11.00	20.00	1.00	32.00
5.00	10.00	20.00	1.00	31.00
6.00	4.00	17.00	2.50	23.50
7.00	16.00	10.00	10.00	36.00
8.00	89.00	50.00	7.00	146.00
9.00	40.00	100.00	-	140.00
10.00	90.00	50.00	15.00	155.00
11.00	22.00	60.00	1.00	83.00
12.00	12.16	-	5.00	17.16
13.00	20.00	-	8.00	28.00
14.00	41.00	-	10.00	51.00
15.00	2000.00	-	130.00	2130.00
16.00	10.00	-	1.50	11.50
17.00	11.00	-	5.00	16.00
18.00	1.00	-	1.00	2.00
19.00	1.00	-	1.00	2.00
20.00	8.00	-	7.00	15.00
21.00	12.00	-	5.00	17.00
22.00	4.00	-	2.00	6.00
23.00	5.00	-	1.00	6.00
24.00	6.00	-	2.00	8.00
25.00	1.00	-	1.00	2.00
26.00	6.00	-	2.00	8.00

SIGNATURE OF CONTRACTOR
DATED. _____

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

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)**

Sl. No.	Qty.	Particulars of T and P	Details of MES crew supplied	Hire charges per unit 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

FOR ACCEPTING OFFICER

SCHEDULE 'D'**TRANSPORT TO BE HIRED TO THE CONTRACTOR****(See condition 16 and 35 of IAFW-2249)**

Sl. No.	Qty.	Particulars.	Rate per unit per working day.	Place of issue by name.	Remarks.
---------	------	--------------	--------------------------------	-------------------------	----------

-----NIL-----

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

TENDER

To,

The President of India

Having examined and perused the following documents:-

1. Specifications signed by AGE (Contracts).
2. Drawings detailed in the specifications.
3. Schedule 'A', 'B', 'C' and 'D' attached hereto.
4. MES Standard Schedule of Rates Part-I 'SPECIFICATIONS' (2009) including amendment No. 1 to 3 and Part-II 'RATES' (2010) including amendment No. 1 to 59 to Part II (hereinafter and in IAFW-2249 referred to as MES Schedule).
5. General Conditions of Contracts IAFW-2249 (1989 print) together with Errata 1 to 20 and amendments No.1 to 40.
6. **WATER CONDITION 31 OF IAFW 2249-GENERAL CONDITIONS OF CONTRACTS**

"Water will be supplied by MES and shall be paid for by the contractor at RS 3.75 for every 1000/- rupees worth of work done, priced at contract rates."
7. Should this tender be accepted, I/We Agree.

* (a) That the sum of Rs. _____ forwarded as earnest money shall either be retained as part of the Security Deposit or be refunded by the Government on receipt of the appropriate amount of Security Deposit all as per Condition 22 of IAFW-2249.

(b) To execute all the works referred to in the said documents upon the terms and conditions contained/referred to therein at the Item rates contained in the said Schedule 'A' or at such other rates as may be fixed under the provisions of condition 62 of IAFW-2249 and to carryout 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 by Condition 70 of IAFW-2249 to the sole arbitration of a serving officer to be appointed by Chief Engineer, Bhopal Zone, Bhopal or in his absence the officer officiating as Chief Engineer, Bhopal Zone, Bhopal whose decision shall be final, conclusive and binding.

* To be deleted where "NOT" applicable.

Contd/-

TENDER (CONTD..)

Signature _____ in the capacity of _____ duly authorised to sign the tender for and on behalf of M/s _____

(IN BLOCK LETTERS)

WITNESS _____	Dated: _____
Address _____	Postal Address _____
_____	_____
_____	_____

TELEPHONE NO _____

ACCEPTANCE

_____ alterations have been made in these documents and as evidence that these alterations were made before the execution of the Contract Agreement., they have been initialed by the Contractor and Shri. MP Thakur, AE (QS&C), AGE (Contracts)

The said officer is hereby authorised 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 schedule 'A' for the contract sum of Rs. _____ (Rupees _____ only.)

on the _____ day of _____ 2018 .

Signature _____

Dated _____

APPOINTMENT : GARRISON ENGINEER, BHOPAL(MP)
(FOR AND BEHALF OF THE PRESIDENT OF INDIA)
ACCEPTING OFFICER

GENERAL CONDITIONS OF CONTRACTS
(IAFW-2249-1989 PRINT)
ITEM RATE CONTRACTS (IAFW-1779-A) *

A copy of the GENERAL CONDITIONS OF CONTRACTS (IAFW-2249)1989 PRINT with errata 1 to 20 and amendment Nos. 1 to 40 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 shall abide by the terms and conditions thereof, as modified, if any, elsewhere in these tender documents.

It is hereby further agreed and declared by me/us that the General Conditions of Contracts including condition 70 pertaining to the settlement of disputes by Arbitration, IAFW-2249 (1989 Print) containing **33 pages** Errata 1 to 20 (IAFW-2249) (1989 Print) and amendment 1 to 40 (IAFW-2249) (1989 Print) in **20 pages** form part of these tender documents.

SIGNATURE OF CONTRACTOR

AGE (Contracts)

For Accepting Officer

DATED: _____

(*) Retain as applicable.

CA NO. GE(B)/ OF 2018-19

SERIAL PAGE NO. 65 to 74

SCHEDULE OF MINIMUM FAIR WAGES

It is hereby agreed that the "Schedule of Minimum Fair Wages" (SMFW) as Published vide Government of India Notification dated 10-3-92 comprising 10 pages Or the latest notification of Central or state Govt.(whichever is higher) up to the date of submission of tender forms part of these tender documents.

My/Our signature hereunder amounts to my/our having signed the aforesaid documents forming part of this tender.

SIGNATURE OF CONTRACTOR

AGE (Contracts)

For Accepting Officer

DATED: _____

NOTES : "Schedule of Minimum Fair Wages" referred to above is available for reference in the office of the Garrison Engineer, Bhopal.

PARTICULAR SPECIFICATION PART – I
SPECIAL CONDITIONS

GENERAL

1. The following special conditions shall be read in connection with the General conditions of contracts IAFW-2249 (1989-Print) and IAFW-2159 of IAFW-1779A including Errata/Amendments there to. If any provision in these special conditions is variance with that of the aforesaid documents the former shall be deemed to take precedence thereover.

INSPECTION OF SITE

2. For the purpose of inspection of site, the tenderer is advised to contact the Garrison Engineer who will give reasonable facilities therefore. The tenderer shall also make himself familiar with the working conditions, accessibility to site of works, availability of labour and materials and such other relevant conditions which effect execution and entire completion of the works. The tenderer shall be deemed to have inspected the site and made himself familiar with various factors which effect his quotations whether he actually inspects the site or not.

SECURITY AND PASSES

3.1 Tenderer's attention is drawn to the site plan enclosed with the tender. Site of work is located in UNRESTRICTED area as indicated in site plan.

3.2 Contractor's attention is invited to condition No.25 IAFW-2249; he shall employ only Indian Nationals after verifying their antecedent and loyalty. The contractor shall on demand by the Engr-in Charge, submit list of his agent, employees and work people concerned and shall satisfy the Engr-in-Charge as to the bonafides of such people.

3.3 The contractor and his agents, employees and work people shall observe, all the rules promulgated by the authority controlling the installation/area in which the work is to be carried out eg. Prohibition of smoking and lighting, fire, precautions, search of persons on entry and exist, keeping to specific routes, observing specified timing etc. Noting extra shall be admissible for any man hours, etc lost on this account.

3.4 Engineer-in-Charge shall at his discretion, have right to issue passes as per rules and regulations of the installation/area in force to control the admission of the contractor, his agents, employees and work people to the site of the work or any part thereof. Passes be returned at any time on demand by the Engineer-in-Charge or the authorities concerned and on any case in completion of work.

WORK ON HOLIDAYS

4.1 The contractor shall not carry out any work on gazette holidays, weekly holidays and other non-working days except when he is specifically authorized in writing to do so by the GE. The GE may at his sole discretion declare any day as holiday or non-working day without assigning any reasons for such declaration.

FIRE PRECAUTION

5.1 The contractor, his agents, representatives, work men etc shall strictly observe the orders pertaining to fire precautions prevailing within the area concerned.

5.2 Motor transport vehicles, if any allowed by authorities to enter the area concerned must be fitted with serviceable fire extinguishers.

SAFETY PRECAUTIONS

6.1 The contractor shall take every precaution to control traffic on road by keeping danger boards, necessary lighting arrangements, fencing etc & watchman to avoid any damage. In case due to excavation of otherwise the road.

TRAFFIC REGULATIONS

7.1 The contractor shall take every precaution to control traffic on road by keeping danger boards, necessary lighting arrangements, fencing etc & watchman to avoid any damage. In case due to excavation of otherwise the road is to be blocked, the contractor shall without any extra cost to the Govt provide separate bypass so that normal traffic will not disturbed.

SECURITY OF CLASSIFIED DOCUMENTS

8. Contractors special attention is drawn to conditions 2A and 3 of General conditions of contracts IAFW-2249. The contractor shall not communicate any classified information regarding work either to sub contractors or others without prior approval of the Engr-in-Charge. The contractor shall also not make copies of the design/drawing and other documents furnished to him in respect of works and he shall return all documents on completion of the works or on either determination of contracts. The contractor shall along with final bill attach receipt from the Engr-in-Charge in respect of his having returned the classified documents as per condition 3 of General condition of Contracts.

PARTICULAR SPECIFICATION PART – I
SPECIAL CONDITIONS

CONTRACTORS REPRESENTATIVE AGENT AND WORKMEN

9. The contractor shall employ only Indian National as his representatives. Servants and workman 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 reasons of technical collaboration or consideration, the employment of any foreign national is unavoidable, the contractor shall furnish full particulars of this effect to the Accepting Officer at the time of submission of tender. The GE shall order the contractor to cease to employ in connection with this contract any representatives, agents servants and workman or employees whose continued employment in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

MINIMUM FAIR WAGES

10 Refer condition 58 General conditions on contracts IAFW-2249. The contractor shall have no claim what so ever, if for reason other than those mentioned in condition 63 of IAFW-2249 he is required to pay wages in excess of the minimum fair wages shown in schedule of minimum fair wages under condition 58 of IAFW 2249.

ROYALTIES

11. Refer condition 14 of General conditions of Contracts IAFW-2249. No quarries on Defense land are available. The contractor shall make his arrangement for the procurement of materials such as stones/aggregate/moorum and approved earth from any quarries location outside MD land, required to be incorporated in the work. All royalties, duties, taxes as applicable shall be paid by the contractor on such account for the materials to be incorporated in the work or works ordered in subsequent deviations.

LAND FOR TEMPORARY WORKSHOP STORES ETC

12. Delete the following from lines 5 to 9 of sub para 1 of conditions 2.1 of iafw-2249 as under. In the event of area of land marked on the layout plan(s) for the purpose of erection of temporary works shop, stores etc, plan of land so allotted shall not be used for accommodation of labour canteen for which the contractor shall make arrangements at his own expense.

CO-OPERATION WITH OTHER AGENCIES

13. The contractor shall permit free access and generally afford reasonable facilities to other agencies or departmental workman engaged by the Government to carry out their part of the work. If any, under separate arrangements.

WATER

14. Refer condition 31 of General conditions of contract IAFW-2249. Water will be supplied by MES at the point (s) marked on site plan or as directed by GE. As the water supply by MES is likely to be intermittent, the contractor shall make his own arrangement for storing the water required for the works, labour and workmen etc, at his own expense.

If the contractor does not desire to take water supply from MES he shall categorically mention it while submitting the tender otherwise the contractor shall deemed to have agreed to take water supply from MES.

ELECTRIC SUPPLY

15. Electricity will be supplied by MES. The contractor will be charged for electric energy consumed at the rates of Rs 5.37 per unit for light and power.

15.1 Electric supply required for works shall be made available by the MES at the incoming terminal of the main switch marked on the layout plan or as directed by GE. The main switch and KWH meter to register the electric energy supplied shall be provided and installed by 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. Government will not guarantee continuity of supply and no compensation what so ever shall be allowed for supply becoming intermittent or for breakdown in the system or any reason what so-ever.

CLEANING DOWN

16. Refer condition 49 of IAFW-2249, General conditions of Contract:-

The contractor shall clean all floors, walls, remove cement lime, paint marks, drops, etc. clean the joinery, glass panes etc. Touch up all painters work, carry out all other necessary items of work in connection there with, and leave the whole premises clean and tidy before handing over the buildings.

DAMAGE TO EXISTING WORK

17. Any damage done to the existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement etc. shall conform to the standard of materials originally used in the work and finished work shall match with existing work in all respects 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.

PARTICULAR SPECIFICATION PART – I
SPECIAL CONDITIONS

SALE TAX AND OTHER DUTIES

18. The rates as quoted by the contractor shall include for all taxes, duties and levies as shall be required to be paid by him to concerned authorities as per the rules and laws in force. No additional payment on these account shall be made under this contract from MES. Department shall issue form 'D' of its equivalent on demand to avail tax concession as permissible by the central/state Govt. under their rule and regulations. Form 'D' or its equivalent shall be issued in the name of contractor for procuring materials involving inter-state transactions, and not in the name of the suppliers. No claim shall arise against MES in case issue of the above form does not result in Sales Tax concessions to the tenderer. Tenderer is advised to check the rules and regulations from concerned authorities before submitting his tender.

REIMBURSEMENTS/REFUND ON VARIATION IN 'TAXES DIRECTLY RELATED TO CONTRACT VALUE'

19 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 statues. No reimbursement/ refund for variation in rates of taxes, duties, Royalties, Octroi and other Levies, an/or imposition/abolition of any new/existing taxes, duties, Royalties, Octroi and other levies shall be made except as provided in sub para (b) here-in-below.

(a) The taxes which are levied by Govt 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, Labour welfare cess/tax and like but excluding Income Tax. The tenderer 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 payment due to the contractor. Similarly imposition of the new "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.

(b) 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 there to which he may be in a position to supply. The contractors shall submit the other documentary proof/information as the GE may require.

(c) 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 authorized representative of Govt. and shall further, at the request of 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.

(d) Reimbursement for increase in percentage rates/imposition of "taxes directly related to contract value" shall be made only if the contractor necessarily & properly pays additional "taxes directly related to contract value" to the Govt, without getting the same adjusted against any other tax liability or without getting the same refunded form the concerned Govt Authority and submits documentary proof for the same as the GE may require.

ATTENDANCE TO DEPARTMENTAL LABOUR AND OTHER CONTRACTORS

20. The contractor shall permit free access and afford facilities to department labour or other contractor carrying out work to the same premises as on the same site.

OFFICIAL SECRET ACT

21. The contractor shall be bound the Indian Official Secret Act.

SIGNING OF CONTRACT DOCUMENTS

22. The person signing the tender on behalf of another or on behalf of the firm shall attach with the tender a proper power of attorney duly executed in his favour by such person or all the parties of the firm stating that he has authority to bind such other persons or the firms as the case may be in all matters pertaining to the contract including arbitration clause.

BANK GUARANTEE BOND

23. In case the contractor desires to furnish Bank Guarantee in lieu of retention money/security Deposit, the guarantee bond shall be executed as per specimen prescribed by the Government of India, Ministry of Defence on non judicial stamp papers or appropriate value from a schedule bank. In case the bank guarantee bond in 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.

PARTICULAR SPECIFICATION PART – I
SPECIAL CONDITIONS

SAFETY & OTHER DUTIES

24. The contractor shall quote unit rates for various items of equipments and works, including cost of supply, installation, commissioning and testing and inclusive of all taxes and duties etc. Even if the contractor shows his rates separately for supply of equipments and installations, the contract, will be treated as composite and individual work contract and the contractor shall not be entitled to any reimbursement of sale tax or any other tax he may pay to authority concerned.

24.1 Form 'D' shall be issued by the department to the contractor in respect of such items of the equipment required for the works, the procurement of which shall involved payment of inter state sales tax by the contractor. Form 'D' will be only issued in the name of contractor.

PERIOD OF KEEPING THE TENDER OPEN FOR ACCEPTANCE

25. The tender shall remain open for acceptance for a period of 60(Sixty) days from the date of which the tenders are due to submitted.

(Sign of the Contractor)
Date :

AGE (Contracts)
For Accepting Officer

PARTICULAR SPECIFICATIONS PART -II
(MATERIAL & WORKMANSHIP)

1. **GENERAL.**
- 1.1. The work under this contract shall be carried out in accordance with Schedule 'A' provisions all as per particular specifications and General specifications.
- 1.2. The term 'General specifications' referred to here-in-before as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule.
- 1.3. General Rules, specifications, Special Conditions and all preambles in the MES Schedule shall be deemed to apply to the works under this Contract, unless mentioned otherwise in these documents. In case of varied provision in tender documents, the provision as contained in this documents shall take precedence over the provisions in the MES Schedule.
- 1.4. Particular specifications given hereinafter are in brief and are meant only to particularize, amend and emphasis the specifications given in MES Schedule. In respect of such items of work for which particular specifications are not given, the specifications as given in MES schedule and relevant ISS shall be followed.
2. **MATERIALS TO BE SUPPLIED BY CONTRACTOR.**
- 2.1. Refer condition 10 of IAFW-2249 (General conditions of contracts).
- 2.2. The tenderer is advised to inspect the samples of ISI marked materials and other than IS/BIS marked 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.
 - a. The materials/articles must conform to IS/BIS requirement.
 - b. The change shall be subject to price adjustment i.e. minus 10% (Ten percent) of the cost of the IS/BIS marked material and in the absence of the availability of rate of the IS/BIS marked materials/articles, the rate of the adjustment shall be at minus 11% (eleven percent) of the cost of the material actually incorporated, the element of sales tax etc and 15% (fifteen percent) for overheads and profits as per condition 62 of IAFW-2249 shall be in addition to price adjustment stated above.
- 2.3. The Contractor shall not procure bulk materials unless the samples of each article are got approved in writing from GE.
- 2.4. The relevant Indian Standards (IS) shall be of the year of publication (Edition) as specified in the MES SSR Part I. The contractor may, however, at his discretion provide and incorporate in the work, such materials complying with the requirements or any corresponding subsequently amended or revised edition of the IS without any price. Adjustment.
- 2.5. The contractor shall ensure that the materials are brought at site in original sealed or packing bearing manufacturer's marking.
- 3.0. **MATERIALS WHICH LOOSE INDENTITY AFTER INCORPORATION.**
- 3.1. Materials such as water proofing compound, paint etc the quantity of which cannot be checked after incorporation in the work, shall when collected as site, be recorded in the measurement book and signed by both MES representative and the contractor as a checker to ensure that the requirement quantity has been brought to site for incorporation in the work. Reference to Purchase Vouchers No, Name of the manufacture/dealer from whom materials have been purchased shall be recorded in the Measurement Book(s).
- 3.2. The Contractor shall obtain/procure materials from manufacturers authorized dealers/stockiest where such authorized stockiest have been appointed. The contractor shall produce original receipted voucher of supplier to the GE, to ensure that the contractor has actually brought the all required quantity and the quality of the materials from the authorized dealers/manufactures and also to find out the rates thereon. These vouchers shall be endorsed, date and initialed by the Engineer-in-charge and the contractor and shall be kept on records with the Engineer-in-charge who shall forward these to the GE soon after completion of the works. Materials brought at site shall be stored as directed by the Engineer-in-charge and those already recorded in Measurement Book shall be suitably marked for identification.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**3. PRODUCTION OF RECEIPTED BILLS/CASH MEMOS FOR MATERIALS PROCURED.**

4.1 The tenderer shall produce receipted bills/cash memos from the manufacturer's and/or their authorized agents for the full quantity of the following materials as applicable, as a prerequisite before submitting claims for payments of advances on account of work done and/or materials collected in accordance with condition 64 of General Conditions of contracts IAFW-2249 :-

- a. Cement.
- b. Builders hard ware and aluminium sections/fittings.
- c. GI pipe & fittings.
- d. All sanitary fittings, appliances & plumbing items.
- e. All steel items.
- f. AC sheets & ridges.
- g. PVC pipes & fittings.
- h. Paints.
- i. Electrical & water supply fitting/fixtures where names of manufactures/brands are specified or approved.
- j. Glazed ceramic tiles & glazed earthen ware tiles.
- k. PVC door shutters & frame.
- l. HDPE tanks
- m. Pressed steel panel / flush shutters
- n. Galvalume plain / corrugated sheet
- o. PGI sheet
- p. MCB/MCB DB / MCCB
- q. Plywood
- r. Water proofing compound
- s. CGI / PGI sheet
- t. Kitchen sink & rack
- u. Bathroom fittings

When the cost of each category of materials for entire contract is less than Rs 500/- productions of vouchers may not contract is less than Rs 500/- productions of vouchers may not be insisted upon, if the GE is otherwise satisfied with the quality and quantity of materials.

5. EXCAVATION AND EARTHWORK.**5.1 GENERAL.**

The rate quoted by the Contractor shall be deemed to include for excavation and earth work in the type of soil as mentioned in Schedule "A". If rock is met with during excavation, it shall be treated as deviation. Hard rock shall become Contractor's property for which the Contractor shall give a credit at the rate of Rs. 646.20 per cubic metre of solid measurement to the Govt. Soft/Disintegrated rock shall be disposed off/reused in filling as and where permitted by the GE. The Contractor may use the hard rock obtained from excavation in the work for building stone, hard core, lean concrete and WBM if the rock is approved by the GE in writing for use. The hard rock becoming Contractor's property shall be removed off the site only after written permission of the Engineer-in-Charge.

5.2 DEWATERING:

No extra payment shall be admissible for dewatering, if water is met with or accumulated in the foundations or any other excavations due to any cause, whatsoever, and for excavation in mud, bailing and pumping of water if required, shall be done as described in Para 3.17 of MES Schedule Part-I.

5.3 REMOVAL OF SURPLUS EXCAVATED EARTH/ DEMOLISED MATERIAL:

All surplus spoil/ demolished material obtained from excavation/ demolition shall be disposed off to a distance as specified at the location(s) as directed by Engineer-in-Charge, deposited, spread and levelled as specified in MES Schedule

5.4 FINE AGGREGATE

- (a) Fine aggregate (sand) for concrete work shall conform to specifications and grading within the limits of grading Zone I to III as specified in clause 4.4.1 to 4.4.7 of SSR Part-I.
- (b) Fine aggregates(sand) for plastering/pointing work, shall conform to the specifications and gradings specified in clause 14.5.2 of SSR Part I.
- (c) Fine aggregate(sand) for mortar, for brick work, stones masonry work and all other works, shall be as specified in clause 5.4 of SSR Part I.
- (d) Fine aggregate(Sand) shall be washed if deleterious materials are beyond the limits as specified in the IS. Fine aggregate (sand) for filling around foundation and the like, wherever shown on drawings, may be unwashed and unscreened.

5.5 COARSE AGGREGATE

- (a) Coarse aggregate(stone aggregate) for all cement concrete work i.e. PCC/RCC shall be obtained from source indicated in Appendix 'B' and of approved quality all as specified in clauses 4.4.1 to 4.4.7 of SSR Part I. Mixture of two type shall however not to be used.
- (b) Coarse aggregate (stone aggregate) 20 mm and below shall be machine crushed and above 20 mm may be hand broken.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**5.6 HARD CORE**

(a) Refer para 3.27 of MES schedule Part-I

(b) The materials for hard core shall be of broken stone or boulder broken to gauge not exceeding 65 mm and shall be obtained from source as per Appx 'A'. The hard core shall be watered and rammed. The thickness of hard core is the consolidated thickness after ramming. Wherever hard core is used for base of concrete pavement the same should be blinded with screenings of the same material/moorum watered and rammed.

6. CEMENT

6.1 (a) All cement required for completion of this contract shall be ordinary Portland cement 43 grade conforming to IS : 8112-1989/ Portland Pozzolana Cement and each bag shall bear BIS marking.

(b) However, the OPC and PPC cement both will not be used in one building. Before commencement of building the contractor will intimate type of cement to be used and get the same approved by GE for each building separately. Thereafter only one type of cement will be used in one building. In case of hard standing/PQC to runway etc, one continuous length will be treated as one building for the purpose of cement.

(c) All cement required for completion of this contract shall be procured by the contractor, under his own arrangement direct from the manufacturers. The cement shall be procured from the following manufacturers (in case total consumption of cement is less than 1200 bags can be procured from authorized dealers) :-

6.2.1 The contractor shall furnish the particulars of the manufacturers of cement alongwith the date of manufacturer to the GE for every lot of cement separately. The documents in support of the purchases of cement shall be verified by the site staff and GE. The cement so brought shall be fresh and in no case older than 60 days from the date of manufacture. Before placing the order for cement by the contractor, he shall obtain written approval from the GE regarding name of manufacture, quantity of cement etc. Cement shall be procured for requirement of not more than two months at a time. The cement shall be consumed in the work within three months after receipt cement shall conform to the requirements of IS specification and each bag of cement shall bear relevant ISI mark. The weight of each consignment shall be verified by the GE and recorded. The content of cement shall be checked at random to verify the actual weight of cement per bag.

6.2.2 **Use of PPC:** for using PPC, the following requirement should be met:-

(a) PPC should meet the strength criteria of 43 Grade OPC as laid down in IS-8112-1989.

(b) The minimum period for curing and skirting off form work shall be as under in lieu of that specified in clause 4.11.6.3 of MES schedule Pt-I:-

- | | | | |
|-------|--|---|-------------|
| (i) | Curing : Structural RCC work, PCC work, Plastering etc | : | 14 days. |
| (ii) | Striking off formwork from walls, columns and vertical sides of beams | : | 3 to 4 days |
| (iii) | Slabs (Props left under) | : | 8 days |
| (iv) | Beam Soffits (Props left under) | : | 9 days |
| (v) | Removal of props to slab/beam | | |
| | (aa) Spanning upto 6m Span | : | 16 days |
| | (ab) Spanning beyond 6m Span | : | 22 days |
| (vi) | For cantilever portion of slab form work support shall be retained until the completion of the casting of the entire frame work of the building. | | |

(c) In cold climate region, where temperature is lower than 15°C, only OPC shall be used.

(d) Mixing of OPC & PPC shall not be allowed in a work, However with strict control of the ground executives, different buildings can have different type of cement.

(e) While procuring PPC, the following requirements are to be ensured and certificate to effect is to be obtained by the contractor for each batch from the manufacturer and the same shall be submitted to the GE for approval to procure PPC.

(f) For construction of water tanks cement used shall be OPC only. PPC will not be allowed.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

SN	Company Name	Grade	Address
1.	M/s Cement Manufacturing Company Ltd [Brand "STAR"]	OPC 43, 53 & PPC	Mayur Garden, 2 nd Floor, Opp-Rajuv Bhawan, GS Road, Guwhati – 781005 Ph : 0361-2462215/216/513, Fax : 0361-2462217
2.	M/s Ultra Tech Cement Ltd [Brand "ULTRATECH"]	PSC, OPC 43 & PPC	'B' Wing, 2 nd Floor, Mahakali Caves Road, Andheri (East) Mumbai – 400093, Ph : 022-66917800
3.	M/s OCL India Ltd [Brand "KONARK"]	OPC 43 & PPC	Rajgangpur, Dist – Sundargarh Orissa, Pin – 770017 Ph : 0361-2668504, Fax : 2662131
4.	M/s Dalmia Cement (Bharat) Ltd [Brand "DALMIA CEMENT"]	OPC 43 & PPC	Dalmiapuram Dist-Tiruchirappalli, Tamil Nadu – 621651
5.	M/s Chettinad Cement Corporation Ltd [Brand "CHETTINAD"]	OPC 43, PPC & PSC	4 th Floor, Rani Seethai Hall Building, 603, Anna Salai Hall, Chennai – 600006 Tel No.044-42951800 Fax No.044-28291558
6.	M/s Heidelberg Cement India Ltd [Brand "MYCEM"]	PPC	9 th Floor, Infinity Tower 'C', DLF Cyber City, Gurgaon, Haryana – 122002 Ph : 0124-4503700,
7.	M/s My Home Industries Ltd [Brand :- "MAHA SHAKTI" for PSC, "MAHA" for OPC 43, "MAHA SHAKTHI" for PPC]	OPC 43, PPC & PSC	9 th Floor, Block-3, My Home Hub, Madhapur, Hyderabad – 500081 Ph : 040-66929696
8.	M/s Parasakti Cements Ltd, [Brand "PRASAKTI"]	OPC 43 & PPC	123/3RT, Plot # 8-3-214/21, Srinivasa Nagar Colony (West) Hyderabad – 500038 Tel : 040-44119100/200 Fax : 040-23747562
9.	M/s Zuari Cement Ltd, [Brand "ZUARI"]	OPC 43 & PPC	No.6, MC Nichols Road, Chetpet Chennai – 600031 Ph : 044-28363958, 28365047
10.	M/s Toshali Cements Pvt Ltd, [Brand "GAJAPATI"]	OPC 43, PPC, PSC	123/3RT, 2 nd Floor, Sanjeeva Reddy Nagar, Hyderabad – 500038 Ph : 040-2300675
11.	M/s Saifco Cement Pvt Ltd, [Brand "SAIFCO"]	OPC 43	Opposite Post Office, Batwara Srinagar – 190004 (J&K) Ph : 0194-2466061
12.	M/s Prism Cement Ltd, [Brand "PRISM"]	OPC 43 & PPC	3/113, Vivek Khand, Gomto Nagar Lucknow – 226010 Ph : 0522-2396847, 2397589
13.	M/s Shree Guru Kripa Cement (P) Ltd, [Brand "SARTAJ"]	OPC 43 & PPC	4/4 Trikuta Nagar Jammu Ph : 0191-2472043
14.	M/s Barak Valley Cements Ltd, [Brand "BVCL"]	OPC 43	Debendra Nagar Badarpur Ghat, Distt – Karimganj Assam – 788803 Ph : 03845-269258
15.	M/s Dhruv Industrial Company Ltd, [Brand "DHRUV"]	OPC 43	49/27 Sinha Market General Ganj Kanpur – 208001
16.	Madras Cement, [Brand "MADRAS"]	OPC 43 & PPC	Auras Corporate Centre, 98-A, Dr. Radhakrishnan Salai Mylapore, Chennai – 600004, Ph : 044-28478666
17.	Saurashtra Cement [Brand "SAURASHTRA"]	OPC 43 & PPC	Gala No.A-1, Ground Floor, Udhog Sadan No.3 MIDC, Central Road, Andheri (East), Mumbai – 400093, Ph : 022-3295557/67
18.	Lafarge Cement (Lafarge India Pvt Ltd), [Brand "LAFARGE"]	OPC 43 & PPC	Crescenzo, 1004, B-wing, 10 th Floor, C-38/39, G Block, Bandra Kurla Complex, Bandra (East) Mumbai – 400051
19.	The Associated Cement Companies Ltd, [Brand "ACC"]	OPC 43 & PPC	414-421, Splendor Forum (4 th Floor), 3, District Centre, Jasloa, New Delhi-110044. Ph -011 46583600
20.	Grasim Industries Ltd, [Brand "GRASIM"]	OPC 43 & PPC	Birlagram, Nagda, Madhya Pradesh. Ph No.07366-246760/246766
21.	The India Cement, [Brand "STAR"]	OPC 43 & PPC	Dhun Building, 827, Anna Salai, Chennai-600002
22.	Andhra Cement Ltd	OPC 43 & PPC	Durga Cement Works, Durgapuram, Dechepalli Guntur, Andhra Pradesh Pin-522414 Ph No.022 220239636
23.	Century Cements, [Brand "CENTURY"]	OPC 43 & PPC	Industry House, 159 Church Gate Reclamation, Mumbai – 400020 Ph No.022 22023936
24.	Binani Cements Ltd, [Brand "BINANI"]	OPC 43 & PPC	Mercantile Chambers, 12 JN Heredia Marg, Ballard Estate, Mumbai- 400001 Ph No. 022 22690506/10
25.	Mangalam Cement Ltd, [Brand "MANGALAM"]	OPC 43 & PPC	PO Adiyaganagar, Morak, Dist-Kota, Rajasthan – 326520 Ph No.9351468076
26.	Birla Corporation Ltd, [Brand "BIRLA"]	OPC 43 & PPC	Birla Building (3rd & 4th floor) 9/1, RN Mukherjee Road, Kolkata- 700001, Ph No. 033 30573700
27.	Orient Cement, [Brand "ORIENT"]	OPC 43 & PPC	5-9-22/57/D, 2nd & 3rd floor, GP Birla Centre, Adarsh Nagar, Hyderabad- 500063 Ph No.-044 23688600
28.	Shree Cement, [Brand "SHREE"]	OPC 43 & PPC	Bangur Nagar, Beawar, Dist-Ajmr, Rajasthan-305901, Ph No. 01462 228101-06
29.	JK Cement, [Brand "JK"]	OPC 43 & PPC	
30.	JK Lakshmi Cement Ltd, [Brand "JK LAKSHMI"]	OPC 43 & PPC	Jaykaypuram, Dist-Sirohi, Rajasthan Ph No.02971 244409/10
31.	Jaypee Rewa Cement, [Brand "JAYPEE"]	OPC 43 & PPC	
32.	Ambuja Cement Ltd, [Brand "AMBUJA"]	OPC 43 & PPC	Kodinar, PO-Ambujanagar, Taluka-Kodinar, Dist-Junagarh, Gujrat-362715, P No.02795 237000
33.	M/s Sanghi Industries Ltd, [Brand "SANGHI"]	OPC 53 & PPC	10 th Floor, Katana Arcade, Off SG Highway, PO-Makarba, Dist-Ahmedabad, Pin-380051, Mo\09825803690, Tel-079 26838000, Fax-0361 2462217, www.sanghicement.com

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

- (i) The quality of fly ash is strictly as per IS-1489 (Part-I) 2002.
 - (ii) Fly ash is inter-ground with clinker not mixed with clinker.
 - (iii) Dry ash is transported in closed containers and stored in silos. Only pneumatic pumping should be used.
 - (iv) The fly ash has been received from thermal power plants using high temperature combustion above 1000°C.
 - (v) The fly ash content in PPC does not exceed 25% to ensure consistency.
- (f) For using PPC non-availability of OPC shall not be insisted upon. Also no price adjustment shall be made for use of PPC.

6.2.2.1 TESTING OF CEMENT.

The manufacturer/main producer shall carry out inspections and testing of cement in accordance with the relevant BIS provisions. The contractor shall submit the Manufacturer's Test certificate in original along with the test sheet giving the result of each 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 Acceptance Register (Appx 'A') given here-in-after, after due verification.

The GE shall also organize independent physical testing of random samples of cement drawn from each lot from the NATIONAL TEST HOUSE, SEMT WING CME, REGIONAL RESEARCH LABORATORIES, GOVERNMENT APPROVED LABORATORIES, ZONAL LABORATORIES as per IS 3535-1986 (method of sampling hydraulic cement) and IS 4031 (Method of physical test for hydraulic cement) and IS-4032-1985 (Method of chemical analysis of hydraulic cements) and record the result in the relevant portion of cement Acceptance Register (Appx 'A'). In order to undertake departmental testing, requisite facilities alongwith materials, conveyance etc. shall be organized by the contractor without any extra cost to the Govt., the random sample of cement to be tested shall be drawn as per Quality Assurance Manual, the cost of materials for testing, samples, conveyance etc shall be borne by the contractor irrespective of the test result.

However the cost of testing charges shall be governed in terms of condition 10 (A) of IAFW 2249. In case as per the result of independent test, the cement is found to be not of requisite standard despite manufacturer's test certificate, the contractor shall remove the total consignment from the site within 24 hrs at his own cost after written rejection order of consignment by the GE. In case requirement of cement is less than 600 bags for the work as a whole, the GE shall organize independent testing (at option/discretion of GE, if the manufacturer test certificate not produced by the contractor the testing by GE is mandatory) as per IS-4031-1995 (method of physical test for hydraulic cement) of random sample of cement drawn from each lot of the consignment from the National Test House, SEMT wing, CME, Regional Research Laboratories and IS approved laboratories, approved Govt Engg college.

6.2.2.2 The record of random samples selected by the GE for testing shall be properly maintained in the cement testing register giving cross reference to relevant consignment of cement and quantity received etc.

6.2.2.3 The contractor shall be required to set up adequate testing facilities at site to the entire satisfaction of GE for conducting setting time test and compressive strength test as per IS codes referred to here-in-before for the samples collected from the lot brought at site. These tests shall be carried out within 7 days of receipt of cement at site. The test can alternatively be carried out at the Zonal laboratory, or any other recognized laboratory so designated by GE.

The contractor shall be allowed to use the cement only after, satisfactory strength of 7 days. 7 days strength will be relied upon to accept the lot of cement. 28 days compressive strength test will be final criteria to accept/reject the lot.

6.3 **STORGAE.** Cement shall be stored over dry platform at least 20cm high, in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store rooms, the stock shall be at least 20cm away from floors and walls. The stocking of cement shall not be more than 10 bags high. It shall be ensured that tested and untested cement are segregated and stored separately with distinct identification.

6.4 **DOCUMENTATION.** The contractor shall submit original vouchers from the main producer/manufacturer for the total quantity of cement 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 vouchers and test certificate shall be defaced by the Engineer-in-charge and kept on record in the office the GE duly authenticated with cross reference to the control number recorded in the Cement Acceptance Register. The Cement Acceptance Register shall be signed by JE (Civ), 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 all cement shall also be suitably recorded in the Measurement Book for record purpose before incorporation in the work and shall be signed by the Engineer-in-charge and the Contractor.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

- 6.4.1 Identification of cement bags by the manufacturer shall be as per relevant BIS codes.
- 6.4.2 The entire lot of cement brought by contractor to the site shall be removed by contractor under the own arrangements and at his own cost whenever the test result are not found within the prescribed acceptable limits. Decision of GE in this respect shall be final and binding.
- 6.5 The proper accommodation for storage, preservation and maintenance of cement shall be proved by the contractor at his own cost till consumption of cement in the work at the place (s) decided by GE. All arrangement for proper storage and safety of cement as indicate here-in-after shall be made by contractor at his own cost. The cement storage accommodation shall be provides with two locks at each door. The key of one lock at each door shall remain with the Engineer-in-Charge or his representative and that of other lock shall remain with the contractor's authorized agent at site of works so that cement is removed from godown/storage accommodation according to daily requirement with the knowledge of both the parties.
- 6.6 Schedule of supply of cement shall be worked by contractor in consultation with GE so as to match with the progress contemplated in CPM chart prepared for the project.
- 6.7 **WEIGHING AND PAYMENT FOR CEMENT.**
- 6.7.1 Random samples of 5 bags shall be got weighed by Engineer-in-Charge in presence of representative of contractor from each consignment to arrive at average weight per bag for calculating total quantity of cement brought at site for incorporation in the work. All arrangement for weighing of cement bags including labour etc shall be provided by the contractor at his own cost.
- 6.7.2 The quantity of cement arrived at as aforesaid shall be considered for payment as applicable in accordance with IAFW-2249, General conditions of contracts.
- 6.7.3 Payment for cement shall only be allowed after production of original purchase vouchers, manufacturer's test certificates for each consignment of cement brought by contractor and after the results of random testing carried out by GE are found satisfactory a specified here-in-before.
- 6.8 **CONCRETE WORK**
- 6.8.1 **Cement** shall be ordinary Portland 43 grade or Portland Pozzolana Cement (PPC) as specified here-in-before.
- 6.8.2 **Fine Aggregate (Sand)** for concrete work shall confirm to materials, specification and grading within the milits of grading zone I to III as specified in clause 4.4.1 to 4.4.6 and 4.4.7 (2) to MES Schedule Part I and shall confirm to approved sample kept in the office of GE. Fine Aggregate (Sand) be obtained from Narmada River.
- 6.8.3 **Coarse Aggregate (Stone Aggregate)** for all cement concrete work i.e. PCC/RCC except for lean concrete in foundation, sub-base in floor shall be out of granite/basalt/trap stone of approved quality and coarse aggregate for lean concrete in foundation and sub base in floor shall be sand stone of approved quality all as specified in clause 4.4.1 to 4.4.7 (1) of MES Schedule Part I, Mixture of two type of stone shall not be permitted.
- 6.8.3.1 Coarse aggregate (stone aggregate) 20mm and below shall be machine crushed and above 20mm may be hand broken.
- 6.8.3.2 Grading of coarse aggregate (stone aggregate) unless specified otherwise in the specifications here-in-after in various location/work i.e PCC/RCC shall be as specified in MES Schedule Part-I.
- 6.8.3.3 Coarse aggregate for the lime concrete however be brick aggregate as specified in clause 4.5 of MES Schedule Part –I.
- 6.8.4 **WATER :-** Water used for mixing and cutting shall be clean and free from injurious amounts of oils, acids, alkalis, salt, sugar, organic materials or other substance that may be deleterious to concrete or steel. The PH value of water shall not be less than six, The permissible limit for solids shall be as per Table_i of IS-456-2000. Water shall comply with requirements and shall be tested as given in clause 5.4 to 5.4.4 of IS-456-2000.
- 6.8.5 **ADMIXTURES :-** Admixtures if used, shall comply with IS-9103 and clause 5.5 to 5.6 of IS-456-2000.
- 6.8.6 **STORAGE OF MATERIALS:-** Storage of materials shall be as described in IS-4082.
- 6.8.7 **NOMINAL MIX :-** Wherever nominal mix concrete is specfieid, shall be designed as per IS-456. The periodicity of mix design and other tests on materials/mix shall be as decided by the GE.
- 6.8.8 **MIXING OF CONCRETE :-** Refer clause 4.11.5 of MES Schedule Part –I. All cement concrete, both plain and reinforced shall be mixed in mechanical mixer of approved type. However, in exceptional cases involving small quantity the quantity of concrete required being less than on batch of mix, the contractor may after prior written permission of the GE adopt hand mix.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

CEMENT SUPPLY AND ACCEPTANCE REGISTER

1. CA No & Name of Work :.....
2. Control No *:.....
3. Name of Manufacture / Branch 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. Random Test Details
 - (a) Physical test report from vide their letter No
(Name of approved Lab / Engg College)
 - (b) Chemical test report from vide their letter No.....
(Name of approved Lab / Engg College)

7. Details of Physical & Chemical properties

	Physical requirement (As per IS 4031)									Chemical Requirements (As per IS 4032)								
	Specific surface area (Sqm / Kg)	Soundness by Le Chatellar	Soundness by Auto Clave	Initial Setting time (Minutes)	Final setting time (minutes)	Compressive strengths (Mpa)			Temp during testing ° C	Standard Consistency (%)	Lime Saturation Factor (Ratio)	Alumina iron Ratio (Tario)	Insoluble Residue (%)	Magnesium (%)	Sulphuric Anhydride (%)	Loss on ignition (%)	Alkalies (%)	Chlorides (%)
03 days						07 days	28 days											
As per relevant IS																		
As per manufacturer's test certificate																		
As per random test certificate																		

Remarks with Signature

Accepted / Rejected

Contractor

Junior Engineer

Engineer-in-Charge

GE

Remarks of BOO / Inspecting Officer /GE

* To be allotted serially by GE consignment wise

PARTICULAR SPECIFICATIONS PART -II (CONTD...)

6.9 **COMPACTION/CONSOLIDATION ETC:-** The compaction/consolidation of concrete works shall be carried out all as described in MES schedule part I using mechanical vibrator of approved type as approved by GE.

6.10 **CURING :-**Curing of all concrete work shall be carried out all as specified in MES schedule.

6.11 **FORM WORK**

6.11.1 Form work shall be of steel plates or water proof ply of adequate strength at the option of the contractor. However, deformed steel sheets shall not be permitted for use as form work. Form work shall be approved by GE before casting of concrete. For circular or other special work, GE may permit wooden form work as on required basis.

6.11.2 Surfaces of concrete which are required to be plastered as indicated above after removal of form work shall be hacked out closely to prepare surface for plastering.

6.12 **PLACING AND CURING OF CONCRETE**

Placing & curing of concrete shall be as specified in SSR Part-I & as per IS.

6.13 **MIXING AND COMPACTION OF CEMENT CONCRETE**

(i) Design mix concrete at site shall be done by using semi automatic batching plant of capacity 12 to 15 Cum/hour.

(ii) All RCC work shall be consolidated with approved mechanical vibrators except where not practicable in the opinion of the Engineer-in-Charge. RCC in slabs shall be compacted with plate/surface type vibrator and in beams/columns with needle/pin vibrator.

7. **BRICK WORK.**

7.1. **Brick** (Modular or old size) shall be of best quality well burnt kiln bricks sub class 'B' as per sample kept in GE's office having compressive strength not less than 50 kg/sqm and maximum water absorption shall be 20%.

7.2. The nominal size of old size bricks shall be 230mm x 115mm x 75mm (9" x 4 1/2" x 3") and the nominal size of modular bricks shall be 200mm x 100mm x 100mm. Tolerance for the size of brick shall be as under :-

7.2.1 In case of old size bricks tolerance in each dimensions upto $\pm 8\%$ (Plus or minus) shall be permitted.

7.2.2 In case of modular bricks tolerance as per IS-1077 for sub class 'B' shall be permissible.

7.3 Cement:- Refer clause 6 here-in-before.

7.4 Fine aggregate (sand) for mortar for masonry shall be as specified in Para 5.4 and 5.4.1 of MES schedule Part I and for plaster it shall be as specified in Para 14.5 to 14.5.2 of MES schedule Part I and shall be procured from the sources as approved by GE.

8. **STEEL & IRON WORKS.**

8.1 All steel and iron work shall be as per details shown on drawings and shall be carried out as described in MES Sch Part I and as specified here-in-after..

8.1.2 The types of steel shall be used in the construction work are as under :-

(a) **Reinforcement of steel.** High strength deformed steel bars produced by Thermo mechanical treatment process (TMT steel bars of grades Fe 415, Fe 500 and Fe 550) meeting all other requirement of IS-1786.

(b) **Structural steel :-**

(i) Standard quality - conforming to IS - 2062.

(ii) Ordinary quality - Conforming to IS 1977.

(c) **Galvanized steel sheets.** (Plain & corrugated) conforming to IS-277.

(d) **Fabric reinforcement for concrete.** Conforming to IS-1566.

Note :- Steel only for hold fast, grills and guard bars shall be ordinary quality. Balance structural steel shall be standard quality. Test certificate for ordinary quality steel is not required. For pricing deviation, for reinforcement, rate of deformed or twisted steel shall be applicable irrespective of the fact that HCR bars are being used.

8.1.3. **SOURCE OF PROCUREMENT.** All steel required for completion of this contract shall be procured by the contractor under his own arrangement. Requirement a steel for the quantity more than 2MT the following requirements shall be followed but for the quantity required upto 2MT the contractor may procure skill locally as appoint by GE.

PARTICULAR SPECIFICATIONS PART -II (CONTD...)

8.1.4 **STRUCTURAL STEEL.** The structural steel and galvanized sheet to be supplied by the contractor shall be procured from main manufacturer namely SAIL, IISCO, TISCO and Rashtriya Ispat Nigam Ltd.

8.2. **TESTING OF STEEL.:-** The contractor shall submit the manufacturer's test certificate in original alongwith the test sheet giving the result of each mechanical test as applicable and the chemical composition of steel or authenticated copy thereof duly signed by the manufacturer with each consignment. The Engineer in charge shall record these details in a steel Acceptance/rejection register after due verification. GE shall also organize independent testing of random samples of steel drawn from various bulks from National test house, SEMT CME Pune, Regional Research Labs, Zonal Laboratories or Govt approved Labs etc as per the recommended minimum frequency shown in table at Annexure I. In order to undertake departmental testing, requisite facilities shall be organized by the contractor. Cost of samples and cost of testing shall be borne by the contractor. In addition to the above tests the TMT steel received from secondary producers will be tested by GE/CWE in person, before incorporation in the work, by simple field tests and record shall be maintained. However, GE will carry out random checks where he has not tested the steel by himself. The record of such random checks would be maintained in the steel test register. Simple field test involves sand papering the X- section of the TMT bars 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. Tests are mandatory and hence there shall be no extra cost will be given to the contractor. Cost of sample and cost of testing shall be borne by the contractor.

8.2.1 **Note applicable for all tests**

Minimum one test from each section of steel to be used shall however be carried out. For various tests, acceptance, criteria, tolerances etc, provisions of relevant BIS shall be followed. CWE may appoint a board of officers for the purpose of knowing the acceptable tolerance in diameter and weight of the various steel sections. In the event of any lot not found complying with the requirements given in relevant BIS, the GE has the right to reject that lot even though the manufacturer test certificate show that the steel complies with requirement given in relevant BIS and the contractor shall have no right whatsoever on such objection of lot procured by him. The format of steel acceptance/rejection register shall be as given Annexure-I.

8.3 **DOCUMENTATION**

8.3.1 The contractor shall submit original vouchers from the supplier for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at work site shall be inspected by the GE alongwith relevant documents before acceptance of steel for incorporation in the work. The original vouchers and the test certificates produced by the contractor shall be defaced by the Engineer-in-Charge and kept in the record in the office of the GE duly authenticated with cross reference of control number recorded in the steel acceptance/rejection register. The steel acceptance/rejection register shall be signed by the Junior Engineer (Civil), Engineer-in-Charge, GE and the contractor. The steel shall be incorporated in the work only after it is accepted by the Garrison Engineer. The accepting officer is also at liberty to carry out random check of quality of steel and verification of connected documents through the board of officers. In case of such check if it is found that steel brought on site/incorporated in work does meet the requirement laid down in the contract, such steel/work in which such steel has been incorporated shall be rejected on devalued based on the seriousness of the defect.

8.3.2 Accepting officer's decision shall be final and binding in this regard and the contractor shall have not claim whatsoever on account of such rejection. The cost for steel testing either by the GE or accepting officer shall be borne by the contractor. The entire quantity of all steel items shall also be recorded in measurement book indicating size, quantities, vouchers numbers, dates brought on site for record purpose as "not be abstracted" and signed by Engineer-in-Charge contractor before incorporation in the work.

8.3.3. Item of steel rejected shall be removed by the Contractor from the site within 72 hrs at his own expenses. No extra payment towards loading/unloading and transportation shall be made to the contractor.

8.4. **STORAGE, ACCOUNTING, PRESERVATION, MAINTENANCE AND SCHEDULE OF SUPPLY BY THE CONTRACTOR**

8.4.1 The steel shall be procured and brought to the site one month before it is required to be incorporated in the work taking into account the time required for its, inspection and acceptance as specified herein before.

8.4.2 The steel brought on site and accepted shall be properly stored, preserved and maintained as per normal practice if the steel is not being incorporated in the work within three months of procurement, leapt cement slurry shall be applied.

8.4.3 As and when the steel is received in trucks/by train, steel shall be taken to weight bridges and weighed. Actual weight of steel shall be recorded by Engineer-in-Charge in presence of Contractor or his accredited representative. Expense on this account shall be borne by the contractor.

8.5 **WELDING.:-** Welding shall be metal are electric welding and shall be done as specified in clause 10.15 of MES Schedule Part I and in as approved manner and shall be as per IS-816, 1969 and IS-9585-1980. All weld shall be fillet weld and actual throat thickness shall not be less than 3mm.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**8.6 STRUCTURAL STEEL WORK.**

8.6.1 Structural steel work shall be executed as specified in relevant clauses of selection 10 of MES Schedule Part –I.

8.6.2 Steel shall be arranged by the contractor and shall comply with requirement of following specifications:-

- (a) Structural Steel - (Grade 'A') confirming to grade Fe-410 WA (IS 2062 of 1999)
- (b) Mild Steel (misc) and confirming to grade Fe-290 or Fe-330
- (c) Hold Fast

8.6.3 For pricing deviation in respect of steel items the quality of steel shall be as given below:-

- (a) Structural Steel - Standard Quality Fe-410-WA and as mentioned MES Schedule
- (b) MS Round bars - IS-432 (Part – I) (9182) Gde –I and as mentioned reinforcement for reinforcement in MES Schedule 6mm can be wire drawn quality
- (c) Steel items other - Ordinary quality Fe-290 or Fe-330
Than structural Steel and reinforcement

9 REINFORCEMENT.

9.1 Reinforcement shall be provided in accordance with the provisions of IS-456 and as directed by Engineer-in-Charge. Reinforcement shall be fabricated and placed in position as specified in clause 10.17 to 10.23 of MES Schedule Part-I. Laps and crossings shall be tied with mild steel wire (annealed) of not less than 0.90mm dia meter. Laps shall be staggered. The Contractor shall be responsible for accurate fixing of reinforcement and shall not pour any concrete until the reinforcement has been inspected in position and approved in writing by Engineer-in-Charge. The Contractor shall take necessary precaution to prevent any displacement of reinforcement during concreting. .

9.2 Re-inforcement bars shall be provided in accordance with the provisions of is- 456 and as directed by Engineer-in-Charge/GE/AGE(I).

9.3 Reinforcement shall be fabricated & placed in position as specified in Clause 10.17 to 10.22 of MES Schedule Part-I.

9.4 All steel for reinforcement to be used in the work shall be contractor's supply. TMT steel bars of grade Fe-500 or Fe-550 shall only be used. All reinforcement steel required for completion of this contract shall be procured by the contractor under his own arrangement from main producers of steel as given here-in-before. The particulars of manufacturers/supplier of steel shall be furnished by the contractor to Engineer-in-charge for every lot of steel separately. In case the steel is not available by these steel manufactures, the same will be procured from secondary manufacturer. However in case of non availability no price adjustment will be done on account of procurement.

9.5 **PRE-PAINTED GALVALUME SHEET ROOFING :** Galvalume sheet roofing shall be all as described in Sch 'A' and shall be all as per clause 11.3 of SSR Part-I 2009. Galvalum sheet shall be colour coated, pre-profiled (Trapezoidal or High Rib) of 0.5mm thickness with zinc coating of 120 gms, top organic coating of polyster paint 16-18 microns over 5-7 mocrons epoxy primer. The sheet shall be fixed on angle iron bracket with & including self drilling and self tapping screws of appropriate size, sealed with integrated EPDM rebber washer for water tight fixing and side laps to be stiched using Alluminium pop rivets fixed on top of roof complete all as specified and directed by Engineer-in-charge. Make of sheet shall be given in Appx 'C'

9.5.1 Fixing of pre-profiled galvalume steel sheet shall be all as per SSR PART-I 2009 and all as per manufacturer's instructions.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**STEEL SUPPLY & ACCEPTANCE REGISTER**

1. CA No & Name of Work : _____
2. Contract No : _____
3. Name of Manufacture's TC No : _____
4. Manufacturer : _____
5. Random Test Details
 - (a) Physical test report from _____ vide their letter No. _____
(Name of NABL approved lab / Govt .Engg College)
 - (b) Chemical test report from _____ vide their letter No. _____
(Name of NABL approved lab / Govt Engg College).
6. Type of Steel, Dia & Qty:
 - (a) Type: TMT/CRS
 - (b) Dia : ____mm
 - (c) Actual Wt : ____MT
 - (d) Conversion Wt : ____MT

	Chemical Test							Mechanical Test						
	Car-bon %	Sulphur%	Phosphorous%	Sulphur % + Phosphorus %	Manganese%	Silicon %	Corrosion Resistant element	Wt per Mtr	Yield Stress (N/mm ²)	Tensile Strength (N/mm ²)	Percentage Elongation (Min 18%)	Bend test	Re-bend Test	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
As per IS-1786 – 2008														
As per Manufacture's test cert														
As per independent Test														

Remarks with Signature

Accepted/Rejected

Contractor

Junior Engineer

Engineer –in –Charge

GE

Remarks of BOO/Inspecting officer/CWE-----

Contd ...

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**8.7 APPROVED PRIMARY STEEL MANUFACTURERS**

1	RASHTRIYA ISPAT NIGAM LTD (RINL)	Visakhapatnam steel plant Visakhapatnam – 530031 (India) Tel:-(91 891) 518226, 518376, Fax :- (91 891) 518316 Email :-cmdvsp@itpvis.ap.nic.in	
2	TATA IRON & STEEL COMPANY (TISCO, OR TATA STEEL)	Bombay House 2, 4 Homi Modi Street Mumbai -400001, India, Tele :- 91 22-2049131 Fax :- (91 22) 204 9522, 287 0840 Email :-corpcomm@jsr.tatasteel.com	
3	STEEL AUTHORITY OF INDIA LTD (SAIL)	Central Marketing Organization, Northern Region 17 th Floor, Scope Minar, Laxmi Nagar Distt centre Delhi 110092	
4	M/S JAI BALAJI INDUSTRIES LTD	5 Bentek Street, Kolkata-700001 <u>Delhi Office</u> :- 510, Block-B, Navraung House, 21 Kasturba Gandhi Marg, New Delhi-110001 Tel:-(91 11) 43620219, 43620220 Mob :- 7838272772/9958936103 Email :-info@jaibalajigroup.com	TMT Bars of Gde Fe 500, Fe 500D
5	M/S SHYAM STEEL INDUSTRIES LTD	Shyam Towers EN-32, Sector-V, Salt lake, Kolkata – 700091. Tele :- 033-40074007, Fax :- 033-40074010, Email :-marketing@shyamsteel.com	TMT Bars of Gde Fe 500, Fe 500D CRS
6	M/S SPS STEEL ROLLING MILLS LTD	Elegant Towers, 68A, Ballygunge Circular Road, Kolkata-700019 Ph No – 033-2895160/67, Fax :- 033-22894386 Email :- spsdelhi@spsgroup.co.in	TMT Bars of Gde Fe 500, Fe 500D, Fe 550
7	M/S STEEL EXCHANGE INDIA LTD	My Home Laxminivas Apartments Ameerpet, Hyderabad – 500016 (AP) Tele :- 040-23403725, Fax :- 040-23413267 Email :-info@seil.co.in	TMT Bars of Gde Fe 500, Fe 500D
8	M/S JINDAL STEELS AND POWER LTD	OP Jindal Road, Hissar, Haryana - 125005 Tele :- +91 1662 222471-84, Fax :- +91 1662 220476	TMT Bars of Gde Fe 500/ Fe 500D Fe 550/Fe 550D
9	M/S SRMB SRIJAN LTD	SRMB House, 7, Khetra das lane, Kolkata - 700012 Tele :- 033-6600 6600 Fax :- 033-2211 0483	TMT Bars of Gde Fe 500/ Fe 500D Fe 550/Fe 550D (size 8-32mm)
10	M/S CONCAST STEEL & POWER LTD	21 Hemant Basu Sarani, Suit Nos – 511 & 512 5 th Floor Kolkata - 700001 Tel:-91-33-2213 0481 -87, 91-33-2213 0488 Email :-info@concastgroup.com	TMT Bars of Gde Fe 500 (size 8-32mm)
11	M/S ADHUNIK METALIKS LTD	Lansdowne Towers, 2/1A Sarat Bose Road, Kolkata – 700020, Tele :- 033 30517100, Fax :- 91 33 2289 0285, Email :-info@adhunikgroup.com	TMT Bars of Gde Fe 500/ Fe 500D (size 8-32mm)
12	M/S SHRI BAJRANG POWER & ISPAT LTD	Vill –Borjhara, Urla Industrial Area, Raipur – 493221, Chhattisgarh , Tele :- 0771-4288019 / 29 / 39	TMT Bars of Gde Fe 500/ Fe 500D (size 8-32mm)
13	M/S JSW STEEL LTD	Jindal Mansion, 5A Dr G Deshmukh Marg, Mumbai – 400026 Tele :- 022-2351-3000, 022-2352-6400	TMT Bars of Gde Fe 500/ Fe 500D CRS (size 8-40mm)
14	M/S ELECTROSTEEL STEELS LTD	GK Tower, 2 nd & 3 rd floor, 19 Carmac Street Kolkata – 700017 (WB), Board No 91-33-2283-9990, 7103-4400, Fax :- 91-33-2290-2882 Website:www.electrosteel.com	TMT Bars of Gde Fe 500D (size 8-36mm)
15	M/S JINDAL STEELS AND POWER LTD	Jindal centre, Plot No.2, Sector-32, Gurgaon-122001, Haryana, Tele :- 0124 661 2000, Fax :- 0124 661 2125, Website:www.jindalsteelpower.com	Structural Steel (Angle, beam, column, channel, plate)
16	M/S SHYAM METALICS & ENERGY LTD	Viswakarma, 1 st Floor, 86 C, Topsia Road, Kolkata-700046, Tele:+91 33 2285 2212, Website:www.shyamgroup.com	TMT Bars of Gde Fe 500 (size 8-32mm)
17	M/S KAMACHI SPONGE & POWER CORPORATION LTD	ABC Trade Centre, 3 rd Floor (Inside Devi theatre complex), Old No.50, New No.39, Anna Salai, Chennai-600002, India Ph No: +91 044 42961100, Fax : +91 044 42961122 Email :- sales@kamachitmt.com , Website:www.kamachitmtl.com	TMT Bars of Gde Fe 500, Fe 500D Fe 550, Fe 550D HCRM (size 8-40mm)

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**10. WOOD WORK AND JOINERY.****10.1 TIMBER.**

- 10.1.1 Timber for all wood work and joinery shall be as per specifications given in clause 7.3 of MES Schedule Part-I and shall be within permissible limits of defects defined in clause 7.4 and 7.5 of MES Schedule Part-I.
- 10.1.2 Timber shall be well-seasoned air or kiln dried at the Contractor's option but without any price adjustment. The moisture content of the timber shall not exceed the limits laid down in clause 7.7 of MES Schedule Part-I.
- 10.1.3 **SPECIES OF TIMBER** Species of timber shall be as described in respective items of Schedule 'A'. Second class hard wood shall be 'Indian sal', Bijasal or Sandan and first class hard wood shall be MP teak as per the approved samples kept in GE's Office.
- 10.1.4 Preservative antitermite treatment shall be carried out to all wood works and joinery, Contractor's quoted rates shall be deemed to cater for this provision. Factory made ply wood, particleboards & factory made shutters ASCU-Vacuum pressure treated are not to be further treated with any chemical against termites.
- 10.1.5 Chemical used for antitermite treatment to wood work and joinery other than factory made plywood, particle board and factory made shutters as described above shall be copper Napthanate or any other chemical specified in IS-401 of 1982 applied in any one of the manners specified in ibid IS.

10.2 PLY WOOD AND PARTICLE BOARD.

- 10.2.1 Veneered particle board where indicated shall be three layers flat pressed with commercial or teak veneer (one side or both sides) as indicated in schedule 'A' and shall be BWP grade bonded with phenol formaldehyde synthetic resin adhesive ISI marked (IS-3097) Grade-I, Type-1 for commercial veneer and Type-2 for decorative veneer all as specified in para 12.14 of MES Schedule Part-I.
- 10.2.2 Plywood where indicated shall be BWP grade bonded with phenol formaldehyde synthetic resin adhesive ISI marked, IS-303 for general purpose plywood and IS-1328 for decorative face plywood. Facing shall be of teak veneer or commercial veneer as indicated in Schedule 'A'.

10.3 SHUTTERS.

- 10.3.1 **GENERAL.** Only one type of species of timber shall be used in stiles and rails. Shutters with mixed species will not be accepted.
- 10.3.2 **FACTORY MADE SHUTTERS.**
Factory made shutters shall be as under: -
(a) Stiles and rails shall be of thickness as described in schedule 'A' ASCU vacuum pressure treated out of kiln seasoned wood (BIJASAL/SAL/BANTEAK) and as per IS-1003.
(b) Panels for doors (other than bath and WC) shall be of 12mm thick commercial veneered (both faces) particle board. Panels for doors in bath and WC shall be of 9mm thick commercial veneered plywood.
- 10.3.3 **OTHER THAN FACTORY MADE SHUTTERS.** Door/window shutters as described in Schedule 'A' (other than factory made) shall be made locally all as specified in section 8 (joinery) of MES Schedule Part-I and all as directed by Engineer-in-Charge.

10.4 WORKMANSHIP.

- 10.4.1 Timber exposed to view shall be wrought and not exposed to view shall be clean sawn. The workmanship and fixing of joinery shall be as specified in clause 8.11 to 8.23 of MES Schedule Part-I.
- 10.4.2 Timber members upto 3.00 metres length shall be in one piece.
- 10.4.3 Use of nails in the joinery is prohibited. Wood screw of appropriate size shall be used and shall be of "Nettle fold" brand or any other equivalent brand as approved by GE.

10.5 PRELAMINATED PARTICLE BOARD.

Pre-laminated particle board where indicated shall be BWP grade, bonded with phenol formaldehyde synthetic resin adhesive with Malamine finish, ISI marked IS 12823 (Gde I, Type-I). Colour, shade, tint and design of lamination shall be as approved by the GE.

10.6 PVC SOLID PANEL FOR SHUTTER

- 10.6.1 Factory made solid panel PVC door shutter shall be as per BOQ, consisting of frame made out of MS tubes for top and bottom rails. MS frame shall be covered with heat moulded plain colour PVC 'C' channel having a PVC sheet strip of 20mm width stuck inside with solvent cement for stiles and plain colour PVC sheets for top rail, lock rail and bottom rail on either side and as gap insert for top rail and bottom rail; Panelling of plain colour PVC sheet to be fitted in the MS frame welded/sealed to the stiles and rails with suitable PVC sheet beading and jointed together with solvent cement, supplying and fixing in the frame at site as per SSR. Factory Made Solid Panel PVC Door Shutters shall conform to the permissible limit as per testing methods provided in IS 4020.
- 10.6.2 **PVC SOLID FRAME FOR DOOR SHUTTER :** - Factory made PVC door frames shall be as per specifications given in clause 8.34.3 of SSR part-I. Colour & shade shall be as directed by GE.

11. BUILDERS HARDWARE.

- 11.1 All articles of builders hardware shall be as per IS specifications and the specifications given in the MES Schedule Part-I for relevant items.
- 11.2 Articles of builders hardware shall be as mentioned in various items of Schedule 'A'.
- 11.3 Articles of builders hardware (fittings) shall conform to or shall be superior to the samples kept in GE's Office in respect of quality, finish etc.
- 11.4 Screws for fixing items of builders hardware shall be as specified in clause 9.2.6 of MES Schedule Part-I.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**12. STEEL WINDOWS AND VENTS.**

- (a) Steel windows and ventilators shall be all as per clause 10.25 of MES Schedule Part-I except that corners of frame shall be welded to form solid fused welded joints conforming to the requirements listed in IS-1038 and the process of welding adopted may be flash butt welding or any other suitable method which give the desired requirements.
- (b) Steel window frames shall be provided with horizontal glazing bars where directed. These glazing bars shall be tennoned and riveted into the frame. Fixing and glazing of windows/vents shall be in accordance with IS-1081. Glazing shall be fixed to frames with oil putty. Special spring glazing clips shall be used if the size exceeds that specified in aforesaid IS. Wire cloth/gauze shall be fixed to windows with mild steel flat fillets/beads of suitable section.
- (c) Steel windows/vents frames in contact with brick work/concrete work shall be painted in mastic of one part of bitumen and three parts of sand or ready made mastic supplied by the manufacturer. In no case painting with cement will be allowed.
- (d) Hinges for side hung shutters shall be projecting type as specified in IS-1038. Fittings (builders hardware) for steel windows shall be of MS black japanned, pressed steel heavy duty corrosion resistant without wrinkle finish.
- (e) Steel windows/vents shall be fixed to walls with lugs. Lugs shall not be provided for fixing to lintels and cills even though its provision exists in the IS specifications.
- (f) The dimensions of steel windows/vents unless directed otherwise shall conform to IS-1038. However, minor variation in the overall size to suit the standard practice of the manufacturer will be accepted.
- (g) Steel windows/vents shall be given one shop coat of anticorrosive zinc chromate primer and two coats of synthetic enamel paint of approved shades after erection.
- (h) The Contractor shall procure steel windows and vents from any of the firms given under makes of materials. Steel windows and vents manufactured at site shall not be accepted.
- (j) Rolled steel sections for fabrication of steel windows shall conform to IS : 7452 of 1982.
- (k) Corners of fixed and open frames are to be welded to form a solid fused welded joint by using flush butt weld.
- (l) Friction hinges shall be provided with washers in pairs back to back with serrated spacers made of stainless steel/galvanized steel/high carbon steel. Peg stays shall not be provided where friction hinges are provided.

13 WATER PROOFING TREATMENT**13.1 TO RCC ROOF SLAB (FOR ACCESSIBLE/NON ACCESSIBLE ROOFS & TERRACE):**

13.2. WATER PROOFING TREATMENT shall be carried out as described in BOQ

NOTE: - Water proofing treatment i.e. primer coat and laying of membrane shall be done through authorized applicator of manufacturer.

13.3 SECURITY DEPOSIT TOWARDS WATER PROOFING TREATMENT

13.3.1 Should the GE at any time during constructions or reconstruction or prior to the expiration of a period of **10 (ten) years** after the certified date of completion of buildings or group of buildings find that the buildings show leakage, dampness or any sign of defective water proofing treatment the contractor shall on demand in writing from the 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 buildings water proof at his own expense for a period of ten years from the certified date of completion of said buildings 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 his risk and expense in all respects of the contractor, the liability of the contractor under the condition shall not extend beyond the period of 10 years from the certified date of completion unless the GE had previously given notice to the contractor.

13.3.2 The amount calculated as per table given below shall be retained from the contractor's final bill amount as security deposit for the water proofing treatment and the same shall be released after satisfactory completion of guarantee period as stated above. The contractor may alternatively submit fixed deposit receipt for the said sum from a scheduled/Nationalised Bank in lieu of the sum to be retained out of the final bill :-

Amount of water proofing treatment to roof at contract rate		Amount to be retained from contractors dues rounded to nearest thousand rupees
(i)	Up to Rs 50.00 lakh	2% of amount subject to minimum of Rs 5000/- and enhanced by 25%

13.3.3 The security deposit herein before may be refunded to the contractor after expiry of the period of 10 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 'No demand certificate' IAFW-451 condition 10, 48 & 68 of General Conditions of Contracts (IAFW-2249) shall be deemed to be amended to the extent mentioned above.

13.7 Materials required for waterproofing shall be purchased by the contractor from the manufacturers or their authorised agent only and brought to site. The GE before approval shall verify name of authorised agent from the manufacturer.

13.8 **GUARANTEE FOR WATER PROOFING TREATMENT :-** The contractor shall give a service guarantee of 10 years for the water proofing treatment. The aforesaid guarantee period of 10 year shall reckon from the certificate date of completion of work.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

- 15 **FLOORING:-**
- 15.1 **GENERAL.**
- (a) Type of floor topping shall be as described in relevant item(s) of Schedule 'A' and shall be laid as specified in MES Schedule Part-I.
- (b) Floors shall be laid to level or falls as directed by the Engineer-in-Charge.
- (c) Pozzolana slag cement shall not be used for floor toppings.
- (d) PCC sub base may not be laid in panels/bays.
- 15.2 **FLOOR TOPPING.**
- (a) Cast in situ plain cement concrete floor toppings shall be laid in panels, each panel not exceeding 3.5 Sqm.
- (b) Joints in floor toppings shall not be staggered where glass dividing strips are being used in joints.
- 15.3 **GLASS DIVIDING STRIPS.**
- (a) Pin headed glass dividing strips of thickness as indicated in relevant item of Schedule 'A' shall be provided to the full depth of PCC floor toppings.
- (b) Top of glass dividing strips shall be smooth finished with corborandum stone wherever required.
- 15.4 **NON SKID CERAMIC TILES :-** Non skid ceramic tiles shall be 1st class superior/premium quality confirming to grade B-II (A) as per IS- 13712-1993. Tiles shall be of size not less than 300mm x 300mm and 7 to 8mm thick or of size not less than 400mm x 400mm and 8 to 9mm thick as specified in schedule of finishes. Tiles shall be white/light coloured as per BOQ and as approved by GE.
- 15.5 **POLISHED KOTA STONE SLAB/TILE FLOORING**
- 15.5.1 Polished Kota stone slab/tile flooring shall be laid all as specified in clause 13.47 of MES SSR Part-I and as directed by the Engineer-in-Charge. Thickness of stone slab shall be 20 to 25 mm. Size of the stone shall not be less than 550x550mm.
- 15.5.2 Kota stone shall be polished. Mirror polishing shall be with 7 cuts as per local practice.
- 15.6 **POLISHED KOTA STONE IN SKIRTING/DADO**
- Polished kota stone skirting/dado shall be provided to heights directed by Engineer-in-Charge. Kota stone shall be as specified here-in-before. Stone shall be laid bedded and jointed neat grey cement slurry. The tiles shall be cleaned and rubbed after they are set. The joints shall match with the joints in floor.
- 15.7 **VITRIFIED TILES :-**Refer clause 13.15 of MES Schedule Part-I for specification of tile.
- 15.7.1 Vitrified tile shall be of as quality as indicated in Sch 'A'. Laying of tiles shall be all as per 13.41 of SSR Part-I. Make & design of Vitrified tile shall be as approved by GE.
- 15.7 **GLAZED CERAMIC TILE DADO/SKIRTING**
- (a) Glazed ceramic tiles shall be got approved from GE before incorporation in the work. Quality of tiles shall be 1st class superior/premium quality confirming to grade B-III as per IS-13712-1993. Tiles shall be light coloured and plane shade as given in BOQ. Make of tiles shall be as specified in Appendix 'C'.
- (b) Tile shall be provided over cement mortar screed as per schedule of finishes drawing and as specified in clause 13.40 of SSR Part I. Joints of dado shall match with the joints in floor tiles.
- (c) Colour of tiles shall be as approved by GE.
- 15.8 **.INTERLOCKING PAVER BLOCK FLOORING:-** Interlocking pre-cast coloured block shall as given in BOQ. The makes of tiles shall be same as specified in APPX 'C'. The colour/size/pattern/design of blocks shall be as approved by GE. The joints shall be filled with sand.
16. **PLASTERING.**
- 16.1. **GENERAL.**
- 16.1.1. Refer Paras 14.12 to 14.17, 14.24, 14.25 & 14.28 of MES Schedule Part-I for workmanship.
- 16.1.2. All plastered surfaces shall be trowel led to a smooth and even surface without using extra cement or as directed in respective item of schedule 'A'.
- 16.1.3. Thickness of cement plaster mentioned in items of Schedule 'A' shall be finished thickness exclusive of dubbing. Dubbing may however be done in one operation with plaster. The rate quoted for plaster in Schedule 'A' shall be deemed to be inclusive of dubbing.
- 16.1.4. Thickness of plaster and mix of mortar for plaster shall be as mentioned in respective item of Schedule 'A' Part I.
- 16.2 **MATERIALS**
- 16.2.1. Cement :- Refer clauses for cement given herein before.
- 16.2.2. Sand :- Refer clause 14.5 of MES Schedule 'A' Part I.
- 16.2.3. Sand for plastering/pointing work shall conform to the materials specification and grading as specified in clause 14.5 of MES Schedule Part-I.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

17. **FINISHES.**
- 17.1 **GENERAL** :Finishes shall be carried out as specified in section 15 of MES Schedule Part-I and as described in Schedule 'A' after preparation of surfaces as specified.
- 17.2 **WHITE WASH.**
- (a) Number of coats of white (lime) wash shall be as described in Schedule 'A'. White wash shall be carried out after preparation of surfaces as specified in MES Schedule Part-I.
- (b) For white washing on ceiling adequate quantity of zinc oxide shall be added to lime wash for achieving egg white finish.
- 17.3 **DISTEMPERING WITH OIL EMULSION DISTEMPER.**-Distemper, oil emulsion shall conform to IS-428. Colour and shade shall be as approved by GE. Workmanship shall be all as specified in clause 15.14 of MES Schedule Part-I.
- 17.4 **EXTERIOR GRADE ACRYLIC EMULSION PAINT.**- Exterior grade Acrylic emulsion paint shall be as per BOQ and all as specified in MES Schedule Part-I. Preparation, application and other instructions shall be followed as stipulated in clause 15.17 of MES SSR Part-I.
- 17.5 **CEMENT PAINTING.**-Cement paint shall comply with IS-5410. Workmanship for cement painting shall be all as specified in clause 15.15 of MES Schedule Part-I.
18. **GLAZING.**
- 18.1 Glass shall be as indicated in Schedule 'A' and all as specified in clause 16.2 and 16.3 of MES Schedule Part-I. Unless indicated otherwise sheet glass shall be of 'B' quality as specified in MES Schedule Part-I Putty for glazing shall be all as specified in clause 16.5 of MES Schedule Part-I.
- 18.2 Preparation for glazing and glazing shall be carried out all as specified in clause 16.7 and 16.9 to 16.13 of MES Schedule Part-I.
19. **PAINTING.**
- 19.1 **GENERAL.**
- 19.1.1 All synthetic enamel paints, emulsion paint and aluminium paint shall be first quality manufactured by any of the firms listed in makes of materials.
- 19.1.2 The Contractor shall inform the GE, within three weeks of the acceptance of the tender, the brand/names of manufacturers of paint proposed to be used in the works and submit sample thereof and obtain prior written approval of GE before their use in work.
- 19.1.3 Paint for priming coat, under coat and finishing coat shall be of the same manufacturer.
- 19.1.4 Tint of paint, if not mentioned in the drawings/schedule 'A' shall be as approved by GE.
- 19.1.5 Painting shall be carried out all as described in respective items of Schedule 'A'.
- 19.2 **WORKMANSHIP.**
- All woodwork required to be painted shall be smoothened, sized and knotted and then applied with priming coat. Stopping and filling (filler coat) shall be done after priming coat and surface rubbed down to a level and smooth surface and thereafter under coat and finishing coat shall be applied all as specified in clause 17.6 of MES Schedule Part-I. Steel and ironwork shall be painted in the manner specified in clause 17.8 of MES Schedule Part-I.
20. **SANITARY FITTINGS AND PLUMBING WORKS.**
- 20.1 **GENERAL.**
- 20.1.1 Water closets, wash hand basins etc shall be vitreous China first/standard quality white glazed and shall conform to relevant part of IS-2556 (Vitreous China Sanitary appliance) and shall be ISI marked or of superior quality and finish. Tolerance in the size of fittings as given in IS shall be permissible. Also refer relevant clause of MES Schedule Part-I.
- 20.1.2 Flush pipe and sockets of flushing rim of WC shall be jointed with Epoxy Putty manufactured by Unique Enterprises or M seal or any other equivalent epoxy putty.
- 20.1.3 "P" or "S" trap shall be jointed to WC pan with Epoxy Putty as mentioned in clause above.
- 20.1.4 Plumbing works shall be carried out as specified in clause 18.13 to 18.23 of MES Schedule Part-I and the Contractor shall employ licensed plumber.
- 20.1.5 Where particular size of sanitary fittings mentioned in Schedule 'A' is not available, the contractor will provide the next higher size.
- 20.2 **WASH BASINS**
- Vitreous china wash basins shall conform to IS-2556 (Part-IV) 1972 and shall be as indicated in schedule 'A' and as specified in clause 18.32.5 of MES Schedule Part-I. Wash basins shall be fixed as specified in clause 18.89 of MES Schedule Part-I.
- 20.3 **WATER CLOSET PEDESTAL PATTERN.**
- Vitreous china water closet apparatus pedestal pattern shall conform to IS-2556 and shall be as indicated in Schedule 'A' and as specified in clause 18.32.2 of MES Schedule Part-I. Plastic water closet seat and cover shall conform to IS-2548, also refer clause 18.36 of MES Schedule Part-I for other specifications. Fixing of water closet, seat and cover and flushing cistern shall be carried out as specified in clause 18.87 of MES Schedule Part-I.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

- 20.4 **URINALS:-**Vitreous china urinal basins shall conform to IS-2556 (Part-VI section-I) 1979 and shall be as indicated in Schedule 'A'/BOQ and as specified in clause 18.32.7.1 of MES Schedule Part-I. Urinals shall be fixed as specified in clause 18.88 of MES Schedule Part-I.
- 20.5 **PVC SOIL, WASTE & RAINWATER (SWR) DRAINAGE PIPES.**
PVC (SWR) pipes shall conform to IS : 4985 (4 KGF/CM²). Rubber rings for pipes & fittings shall conform to IS : 5382. PVC (SWR) fittings shall be used as per recommendations of the manufacturer of the pipes. In case there is no IS code for fittings, these shall generally conform to the requirements of BS : 4515 DIN 19531 and DIN 19534.
- 20.5.1 **FIXING, JOINTING & TESTING.**
Fixing, jointing and testing of PVC (SWR) pipes & fittings shall be carried out as specified in clause 18.67.7A of MES Schedule Part-I.
21. **WATER SUPPLY WORKS.**
- 21.1 **GENERAL.**
- 21.1.1 Work shall be carried out by licensed plumbers/fitters/skilled labourers.
- 21.1.2 Layout of pipes shall be as directed by Engineer-in-Charge.
- 21.1.3 All pipe runs shall be truly vertical/horizontal. At all corners either bend or elbow shall be provided. Suitable sleeves shall be provided for full width of the wall where the pipe is passing through walls. The sleeves shall be of medium grade G.I. pipe. Even though diameter of the sleeve is more than dia of water tube(s) passing through it, the smaller diameter of G.I tube passing through sleeve will be measured for payment purpose that too in running metre (RM) and not in short lengths. This aspect shall be deemed included in unit rate for water pipes.
- 21.1.4 **DRAWINGS.** The contractor shall submit to the Engineer-in-Charge three copies of drawings for internal water supply layouts and three copies of drawings for external water supply layout plans showing actual routes/alignment of various pipe lines with indication of their sizes and fittings and location of various valves, valve chambers, etc and also indicating the distance of pipe line from main buildings and roads without any extra cost.
- 21.1.5 Samples of following materials (as applicable) shall be produced by the Contractor for approval of GE within 15 days of the date of issue of work order : -
- Steel water tubes and fittings.
 - Bib taps.
 - Stop valves.
 - Ball valves.
 - Polyethylene connection.
- 21.2 **STEEL WATER TUBES AND FITTINGS.**
Mild steel galvanised tubes (Pipes) and fittings shall comply with IS-1239 (Part-I and II). Refer clause 18.4 of MES Schedule Part-I for other specifications. These shall be laid in trenches/under floors or fixed on wall/ceiling and jointed all as specified in clause 18.50 and 18.51 of MES Schedule Part-I.
- 22.3 **BIB TAPS, STOP VALVES AND BALL VALVES.**
Copper alloy bib taps and stop valves shall comply with IS-781 high pressure quality. Crutch handles, spindles, glands, etc of bib taps and stop valves shall be cast brass (extruded rolled or forged) in lieu of brass rod as specified in IS-781. Fancy type bib taps and stop valves shall conform to IS:8931-1978 and shall be as specified in clause 18.15 of MES Schedule part-I. Ball valves shall be as specified in clause 18.19 of MES Schedule Part-I.
- 22.4 **PILLAR TAPS :-**Pillar taps shall conform to IS 1795-1982 and IS 8934-1978 for ordinary and fancy type respectively and shall be as specified in clause 18.16 of MES schedule Part-I.
- 22.5 **SLUICE VALVE**
Sluice valve shall be ISI marked (IS-14846-2000). Pressure rating shall be Class PN-1.0 long body type, flanged and drilled unless mentioned otherwise. Sluice valves shall be provided as specified in Clause 18.57 of MES Schedule Part I. Manufacturers test certificate (in original) duly linked with serial no of the sluice valve shall be submitted before installation/ claiming payment.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)**23. ELECTRIFICATION.****23.1 SAMPLES AND MATERIALS.**

- 23.1.1 All materials to be incorporated in the work shall be of the highest standard and unless specifically specified otherwise here-in-after, shall strictly comply with the relevant ISS (or BSS for which no ISS has been published.)
- 23.1.2 Sample of following materials (as applicable) shall be supplied by the Contractor to the GE for approval within 15 days of the date of issue of work order: -
- (a) All types of cables.
 - (ii) Fittings, wires and accessories used for internal electrification.
 - (iii) All types of insulators.
 - (iv) All types of conductors.
 - (v) Light fittings.
 - (vi) All other types of fittings like MCB, MCCB, Meters, switches, etc
- 23.1.3 The Contractor after obtaining written approval of samples by the GE shall obtain materials and equipment from the approved firms or through their authorised agents only. As a proof that a particular material has been obtained from the firms or through their authorised agents, the Contractors shall produce such evidence to the satisfaction of GE when asked for with regard to quality and quantity. The materials shall be brought to the site with maker's original packing with seal intact.
- 23.1.4 The Contractor shall ensure that materials used in the work are identical with the approved samples. The materials shall be brought to the site by the Contractor in maker's original packing and shall not be incorporated in the work unless approved by the Engineer-in-Charge.

23.2 WORKMANSHIP.

- 23.2.1 The specifications and general rules as laid down in MES Standard Schedule of rates (Part-I & II) shall be applicable to the whole work. These shall be read in conjunction with the relevant IS.
- 23.2.2 The work carried out shall be of the highest standard conforming to modern Engineering practice both as regards to design and execution. The work shall be executed to the entire satisfaction of the Garrison Engineer.
- 23.2.3 The Contractor shall employ qualified supervisors and skilled tradesmen during the entire period of execution of the Contract. He shall on demand by the Engineer-in-Charge, produce such evidence of qualifications of his supervisors/tradesmen at the time of commencement of work or at any time during the execution of the contract.
- 23.2.4 All work shall be executed as per the code of practice as listed in the I.S. All electrical work shall be governed by IE Act/Rules with latest Amendments. The code of practice for electric wiring installation as per IS-2274 with Amendment No.1 shall be strictly followed.
- 23.2.5 Internal wiring shall conform to IS-732 Code of practice for electrical wiring installation. Point wiring shall be with 1100 volts grade cable with stranded aluminium/copper conductor all as described in Schedule 'A' items.
- 23.2.6 Conduit wiring and batted wiring shall be carried out all as described in Schedule 'A' and as specified in MES Schedule Part-I.

23.3 WIRING (CONDUIT WIRING):-

- 23.3.1 The system of wiring shall consist of PVC insulated and PVC un-sheathed copper conductor/PVC insulated copper conductor in stove enamelled steel/PVC conduit as specified in Schedule 'A'.
- 23.3.2 Prior to laying and fixing of conduits the contractor shall carefully satisfy himself about the sufficiency of number and sizes of conduits, location of junction boxes, sizes and location of switch boxes and other relevant details.
- 23.3.3 Joint between conduits and accessories shall be securely made to ensure earth continuity.

23.4 RIGID PVC CONDUIT AND CONDUIT ACCESSORIES:-

- 23.4.1 Conduit and conduit accessories shall conform to relevant Indian Standards. Each length of rigid PVC conduit and accessories shall be marked with the following:-
- (a) Manufacturers name or trademark
 - (b) Nominal size of the conduit
- 23.4.2 Each length of conduit and conduit accessories may also be marked with ISI certification mark.
- 23.4.3 Separate conduit shall be used for normal light, fan, exhaust fan, 5 Amp socket.
- 23.4.4 In case of concealed wiring, conduits shall be laid before casting in the slab so as to conceal the entire run of conduits and ceiling outlet boxes. Vertical drops shall be buried in columns or walls.
- 23.4.5 All wiring from FFL up to a height of 100 cm shall be drawn through welded steel conduit, concealed in walls. Contractor's rates for the respective item of point wiring shall included for this provision.
- 23.4.6 Conduit pipes shall be fixed by heavy gauge saddles, secured to suitable wood plugs or other plug with screws in an approved manner at an interval of not more than half metres. Saddles shall be fixed at a distance of 30 cm from the centre of such fittings. All necessary bends in the system including diversion shall be done by bending pipes or by inserting suitable solid or inspection type normal bends, elbows or similar fittings, or fixing cast iron inspection boxes whichever is more suitable. Conduits fittings shall be avoided as far as possible a conduit system exposed to weather, where necessary solid type fittings shall be used.

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

- 23.4.7 The conduit of each circuit or section shall be completed before conductors are drawn in the entire system of conduit after erection shall be tested for mechanical and electrical continuity through out and permanently connected to earth wire by means of suitable earthing clamp efficiently fastened to conduit pipe in a workman like manner for perfect continuity between earth wire and conduit. Gas or water pipes shall not be used as earth medium.
- 23.4.8 Inspection type conduit fittings such as inspection boxes drawn boxes, bends, elbows and tees shall be so installed that they can remain accessible for such purposes as to withdrawal of existing cables or the installing or additional cables.
- 23.5. **PVC INSULATED SINGLE CORE 1100 VOLTS GRADE CABLE** :-The conductor shall be of copper wires. Cables shall be as specified in Schedule 'A' and shall conform to IS 694 and 8130 and shall be ISI marked IS- 694.
- 23.6 **SUNK TYPE BOXES** : - Boxes for housing electrical accessories recessed into wall shall be of sheet steel and conform to IS 5133. The boxes shall be painted black with two coats of black bituminous paint. The boxes shall be covered with 3 mm thick plastic sheet. Point wiring shall be deemed to include the above provisions.
- 23.7 **MCB AND DB**
- 23.7.1 **MINIATURE CIRCUIT BREAKER (MCB)** :- MCBs shall be as specified in clause No 19.46 of MES SSR Part-I. MCBs shall be ISI marked IS- 8828.
- 23.7.2 **DISTRIBUTION BOARD (DB)** :- Distribution boards shall conform to relevant IS and controlled by circuit breaker as specified in schedule 'A'. Distribution board shall be provided as specified in clause 19.107 and 19.108 of MES SSR Part-I. Distribution boards and MCBs shall be of same make. Suitable earth terminal shall be provided on the distribution boards for bonding to earth.
- 23.8 **SWITCHES/SOCKET OUTLETS 3 PIN 5 AMPS SP/6 PIN 15 AMPS**
- 23.8.1 Switch/socket outlets shall be provided as specified in clause 19.114.1 and 19.114.5 of MES SSR Part-I. Switches and sockets outlets shall be ISI marked. Switches – IS-3854, Socket outlet- 1239-1988.
- 23.9 **LAMP HOLDERS** : It shall conform to SSR Part-I, 2009, Clause No. 19.41.
- 23.10 **FLEXIBLE CORD TWISTED WITH COPPER CONDUCTOR** : Flexible cord twin core, with tinned copper conductor, stranded, insulated and textile braided, of size nominal cross sectional area 0.5 sqmm as per IS-9968 (Part-I).
- 23.11 **PLUG, SCREWS AND FASTENER** : These shall be all as specified in clause No 19.30 and 19.31 MES Schedule Part-I.
- 23.12 **FAN REGULATOR** : These shall be of non humming type electronic regulator as indicated in Schedule 'A' and conform to SSR Part-I 2009, clause No. 19.115.4.
- 23.13 **ISOLATOR** : It shall be conform to SSR Part-I 2009, clause No. 19.46.3
- 23.14 **EARTHING**
- 23.14.1 Earthing shall be with and including PCC pit with cover and all materials and fittings as shown in electrical plate No 5 of MES Schedule Part I and as specified in Schedule 'A'. Earth plate shall be galvanised iron 60 cm x 60 cm x 6.0 mm thick and shall be buried directly in ground vertically not less than 2.25 metre below ground level, with its top edge at depth of not less than 1.5 metre below ground level. Also refer clause 22.5 hereinafter.
- 23.14.2. The Contractor shall provide, between main switchboard and earth plate, earth lead with suitable lugs. The earth conductor shall be housed in 15 mm GI tubing, medium grade, while running along wall/column etc, and fixed to the earth plate all as described in MES Schedule Part I. All metallic casting frameworks of electrical fittings shall be connected to main earth conductor by GI wire.
- 23.14.3 No extra payment shall be made, if the contractor is required to provide extra depth of pit and extra quantity of charcoal dust to achieve specified test result. Earth electrode shall be installed all as per MES Sch. Part I.
- 23.15 **MCCB's, MCBs & MCB DBs** : These shall be provided all as specified in MES Schedule and relevant Indian Standard specifications. Cable connection to RCCB/ RCBO/ ELCB, MCCB shall be done with cable socket and adapters of suitable types and adequate size. The cost of this shall be deemed to be included in the rate of RCCB/ RCBO/ ELCB/ MCB/ MCBDB under relevant items of Schedule 'A'. Sheet steel enclosure of MCB DB shall be 2 mm thick & shall be fixed flushed to wall.
- 24 **TAKING OVER OF EQUIPMENTS/INSTALLATIONS.**
All the test required to be carried out by the Contractor shall be to the entire satisfaction of Engineer-in-Charge/Board of Officers as ordered by Accepting Officer. If the test results are not found satisfactory, the Contractor shall at his own expense rectify/replace the defective material or any part thereof as directed by Engineer-in-Charge. The decision of the GE shall be final and binding in this regard. The tests shall be carried out again after rectification/replacement of defective components. The installation/equipment shall be finally taken over only after satisfactory test results.

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

SOURCE OF MATERIAL

Ser No	Name of materials	Name of sources
1	2	3
1	COARSE AGGREGATE FOR CEMENT CONCRETE	JHIRNIA
2	COARSE STONE AGGREGATE FOR PREMIX CARPET, SOLING, HARD CORE & WBM	JHIRNIA
3	FINE AGGREGATE (SAND) FOR ALL WORKS.	NARMADA
4.	COARSE SAND FOR MASONRY	NARMADA
5.	STONE FOR STONE MASONRY	JHIRNIA
6.	STONE/KERBS, BERMS, CILLS, COPING AND LINTEL ETC.	JHIRNIA

NOTES:-

- 1 Sources of materials shall be as given in Srl No 1 to 6 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 extra cost to Govt.

SIGNATURE OF CONTRACTOR
DATED. _____

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

APPENDIX 'B'**LIST OF BIS CERTIFICATE NOS OF VARIOUS PRODUCTS**

List of BIS Nos are given below for various items. Items for which Makes are not specified in Appendix 'C' shall be procured from any manufacture holding valid CML No.

1. **CONCRETE:**
 - (a) Plywood for concrete shuttering work (IS-4990-1981)
 - (b) White Portland cement (IS-8042-1978)
2. **BUILDING HARDWARE:**
 - (a) Steel Butt hinges (IS:1341-1981)
 - (b) Non-ferrous butt hinges (IS:205-1978)
 - (c) Ferrous Tower bolts (IS:204 Part-I-1978)
 - (d) Non-ferrous tower bolts (IS:204, Part-II-1978)
 - (e) Door handles ferrous and non-ferrous (IS:208-1979)
 - (f) Parliament hinges, ferrous (IS:362-1982)
 - (g) Hydraulically operated door closer (IS:3564-1986)
 - (h) Continuous piano hinges (IS:3818-1986)
 - (i) Non-ferrous metal sliding door bolts (IS:2681-1979)
 - (j) Tee and strap Hinges (IS:206-1981)
 - (k) Mild steel sliding door bolts (IS:281-1979)
3. **ROOF COVERING:**
 - (a) Bitumen felts for water proofing and damp proofing (IS - 1322-1982).
4. **CEILING AND LINING:**
 - (a) Plywood for general purposes (IS:303-1975(Second revision)
 - (b) Block boards (IS:1659-1986)
 - (c) Veneered particle board (IS:3097-1985)
 - (d) Pre-laminated particle board (IS:12823)
5. **FLOORING:**
 - (a) Cement concrete flooring tiles (IS: 1237-1980)
 - (b) Glazed earthenware tiles (IS: 777-1970)
6. **WATER SUPPLY PLUMBING, DRAINS AND SANITARY APPLIANCES:**
 - (a) Concrete to pipes with or without reinforcement (IS:458-1971)
 - (b) Salt glazed stone ware pipes and fittings (IS:651-1980)
 - (c) Flushing cistern for water closets and urinals other than plastic (IS:774-1984)
 - (d) Galvanised mild steel tubes (IS:1239 Part I-1979)
 - (e) Cast copper alloy screwed down bib taps and stop valves (IS:781-1984)
 - (f) Galvanised mild steel tube fittings (IS:1239 Part-II-1982)
 - (g) Ball valves (Horizontal plunger type) including floats for Water supply "purposes (IS: 1703-1977)
 - (h) AC pressure pipes (IS:1592-1980)
 - (i) Automatic flushing cisterns (IS:2326-1987)
 - (j) Vitreous china sanitary appliances
 - (i) Wash down water closets (IS:2556-1981 Part-II)
 - (ii) Squatting pans (IS:2256-1981 Part III)
 - (iii) Wash basins (IS:2556-1972 Part IV)
 - (iv) Urinals bowl type (IS:2556-1979 Part VI Section I)
 - (v) Foot rests (IS:2556-1974 Part X)
 - (vi) Plastic WC seats and covers (IS:2548-1983)
 - (vii) Vertically cast iron pressure pipes for water, gas and sewage (IS:1537-1976)
 - (viii) Pillar Taps (IS:1795-1982)
 - (ix) Centrifugally cast(spun) iron pressure pipes for water, gas and sewage (IS:1536-1979)
 - (x) Centrifugally cast(spun) iron spigot and socket soil, water and ventilating pipes, fittings and accessories (IS:3989-1984)
 - (xi) Rubber sealing rings for gas mains, water mains and sewage(IS:5382-1985)
 - (xii) Cast Iron fittings for pressure pipes for water, gas and sewage (IS:1538-1976) Part II to XXIV
 - (xiii) Sluice valves (IS:14846-2000)
7. **ELECTRICAL WORKS:**
 - (a) Ceiling rose (IS:371-1979)
 - (b) Socket, outlet 3 pin plug and socket (IS:1293-1988)
 - (c) Switch fuses (Main switch) (IS:4064-1978, Part I & II)
 - (d) Single core cable polyethylene insulated and PVC sheathed cable (IS: 1596-1977)
 - (e) Rigid non metallic conduit (IS:9537 – 1983 Part III)
 - (f) Starter for tube light (IS:2215-1983)
 - (g) Fluorescent lamps (IS:2418-1977 Part I to Part IV)
 - (h) Aluminium stranded conductor (IS:398-1976-Part -I& II)
 - (i) Switch gear (IS:2268-1969)
 - (j) HRC cartridge fuse links up-to 650 volts (IS:9224-1979-Part II)
 - (k) Porcelain insulators for overhead power lines (IS:731-1971)

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

SN	DESCRIPTION OF ITEM	LIST OF MAKES/BRANDS/MANUFACTURERS	REMARKS
1	2	3	4
1	STEEL	AS SPECIFIED IN PARTICULAR SPECIFICATIONS	
2	CEMENT	AS SPECIFIED IN PARTICULAR SPECIFICATIONS	
3	MOSAIC/ CEMENT FLOORING TILES (ISI MARKED)	(A) M/S MEHATAB TILES, 8, RANI SHOPPING CENTRE BHANWAR KUAN MAIN ROAD, INDORE-452001 Ph- 0731-4092550, 2761223(FAX) (B) M/S GWALIOR GRANITE, SHABAD PRATAB ASHRAM ROAD, GWALIOR (C) M/S B G SHRIKE CONSTN TECNOLOGY LTD. 72-76 MUNDHAWA PUNE-411036 (D) M/S NAVYA TILES, 68, NEHRU PARK, SARDARPUR, JODHPUR- 342003 Ph. 0291-2650094, 2627963	
4	PVC TILES/ FLOORING	(A) M/S MARBLEX TILES (B) M/S KRISHNA VINYL (C) M/S POLYFIN	
5	CORRUGATED, SEMI-CORRUGATED AND PLAIN AC SHEETS	(A) M/S ETERNIT EVEREST LTD (B) M/S UP ASBESTOS (C) M/S CHARMINAR (D) M/S RAMCO (E) M/S SWASTIK (F) M/S EVERST INDUSTRIES LTD	
6	FLOAT / PLAIN / PIN HEADED / FROSTED / TOUGHTENED GLASS	(A) HINDUSTAN PILKINGTON GLASS WORKS (B) SAINT GOBAIN (C) MODI FLOAT/MODIGUARD (D) ATUL GLASS INDUSTRIES (E) GOLD FISH (F) TIRUPATI	
7	MIRROR	(A) MAYUR (B) MODI (C) ATUL (D) GOLD FISH (E) TIRUPATI	
8	PVC RAINWATER/ SEWERAGE PIPE (ISI MARKED)	(A) FINOLEX (B) SUPREME (C) KISAN (D) PRINCE (E) RELIANCE INDUSTRIES (F) DINESH IRRIGATION PVT LTD, JAIPUR	
9	COLOUR COATED METAL SHEET ROOFING	(A) ASIAN COLOUR COATED ISPAT LTD , GURGAON (B) PRESTAR INFRASTRUCTURE PROJECT LTD KOLKATTA	
10	(A) CERAMIC TILES (NORMAL/ANTI SKID)	(A) SPARTEK (B) JOHNSON TILES (C) KAJARIA CERAMIC LTD (D) SOMANY CERAMIC LTD (E) REGENCY (F) NITCO (G) MURUDESHWAR CERAMICS LTD (H) ASIAN (J) ORIENT BELL (K) SWASTIK CERCON LTD (L) CRYSTAL CERAMIC INDUSTRIES PVT LTD	
	(B) GLAZED WALLING /CLADING TILES	(A) SPARTEK (B) JOHNSON TILES (D) SOMANY CERAMICS LTD (E) REGENCY (F) NITCO (G) MURUDESHWAR CERAMICS (H) ASIAN (J) ORIENT BELL (K) SWASTIK CERCON LTD (L) CRYSTAL CERAMIC INDUSTRIES PVT LTD	
11	VITRIFIED TILES	(A) MURUDESHWAR CERAMIC LTD (NAVIN DIAMOND TILE) (B) JOHNSON MARBONITE. (C) BELL GRANATO (D) SOMANY CERAMIC LTD (E) KAJARIA CERAMIC LTD (F) ASIAN (G) ORIENT BELL (H) EURO TILES (J) SWASTIK CERCON LTD	

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

1	2	3	4
12	CEMENT CONCRETE INTERLOCKING PAVER BLOCKS /TILES	(A) MEHTAB TILES INDORE, (B) NAVYA TILES JODHPUR, (C) SAP PAVERS JODHPUR, (D) SAGAR TILES SAHARANPUR	
13	SOIL AND WASTE CI (CENTRIFUGALLY CAST) SPUN PIPES & FITTINGES ISI MARKED	(A) NECO (M/S JAYASWAL NECO INDUSTRIES LTD, F-8, MIDC INDUSTRIAL AREA, HINGANA ROAD, NAGPUR), (B) KAPILANSH (M/S KAPILANSH, 112, HANDLOOM MARKET, GANDHIBAGH, NAGPUR-440 002 (C) ANAND FOUNDER & ENGINEERS (D) "SKF", SINGHAL IRON FOUNDRY Pvt Ltd , MATHURA.	
14	BUILDERS HARDWARE/ ALUMINIUM FITTINGS AND IRON MONGRY	(a) ELITE ENTERPRISES C/6, SHALIMAR HARDWARE 133, JARG MAHAL, DHOBITALOO MUMBAI-02 (b) MOHAN METAL INDUSTRIES, 178/2A, BHOL NATH NAGAR, SHAHADARA, DELHI-32 (c) AJANTA STEEL PVT LTD, 14 NETAJI SUBASH MARG KOLKATTA-01 (d) ORRISA ALUMINUM PRODUCT , B-24 INDUSTRIAL ESTATE CUTTAK-01 (e) ALUMINIUM UDYOG , NEW DELHI (f) KICH ARCHITECTURAL PVT LTD (g) MC POWJEE & CO. 46 EZRA STEEL KOLKATTA-01	
15	FACTORY MADE PANELLED/ GLAZED/WIRE GAUGE SHUTTERS	(A) M/S GOEL BROTHERS, RAIPUR. (B) M/S RAJ UDYOG BHAWAN, DUMKA. . (C) M/S GOYAL INDUSTRIES CORPN, NEW DELHI. (D) M/S MP WOOD PRODUCTS 124 DHAR ROAD,INDORE-2 (E) M/S A-1 TEAK PRODUCTS 124/1 GNT MARKET, DHAR ROAD, INDORE (MP) (F) M/S NORTHEN DOORS PVT LTD. RANIA KANPUR. (G) M/S SUPREME DOORS AND ALLIED PRODUCT INDUSTRIES KANPUR. (H) M/S PIONEER TIMBER, PRODUCT CHANDIGARH (J) M/S SURBHI METAL (INDIA) PVT LTD, JODHPUR (K) M/S JAIN DOORS PVT LTD, HARYANA (L) M/S SWASTIC PLYWOOD PVT LTD, JAIPUR (M) M/S VPRP ART, H-399, MINI GROWTH CENTRE PH-II SANGARIYA JODHPUR (N) M/S CHOITHI INDUSTRIES, ZEENAT MARKET, KANPUR	
16	FLUSH DOORS (ISI MARKED)	(A) M/S SWASTIK BRAND. (B) M/S NORTHERN DOORS PVT LTD. RANIA KANPUR. (C) M/S MP WOOD PRODUCTS 124 DHAR ROAD,INDORE-2 (D) A-1 TEAK PRODUCTS , INDORE	
17	PVC/FRP DOOR FRAME & PVC SHUTTERS	(A) M/S SINTEX INDUSTRIES LTD (B) M/S RAJSHRI PLASTIWOOD ,10/1, SOUTH TUKOGANG, KANCHAN BAGH MAIN ROAD, INDORE- 452001 (C) M/S NANDI PROFILES (D) M/S ASHISH CANS & CONTAINERS PVT LTD, PUNE (E) M/S ENGCO INDUSTRIES, SPECIAL -1, INDUSTRIAL ESTATE, NEW POWER HOUSE ROAD, JODHPUR- 342001, (F) M/S ACCUCCELL (G) M/S DHABRIYA AGGLOMERATES PVT LTD, B-9 D(1), MALVIYA INDUSTRIAL AES, JAIPUR-3021017. (H) ASHWANI & SONS GAZIABAD	
18	STEEL WINDOWS, VENTILATORS AND PRESSED STEEL DOOR/WINDOW FRAMES/ CUPBOARD SHUTTERS/ STEEL LOCKERS (FOR STEEL WINDOWS VENTILATORS CONFIRMING TO IS -1038 OF 1983)	(A) M/S BIHAR BOBBIN & ENGG WORK KATI HAR (BIHAR). (B) M/S SEN-HARVIC, VORA BUILDING IST FLOOR, 50, NAKHODA STREET BOMBAY-400003. (C) M/S AGEW STEEL MFG PVT LTD, AHMEDABAD. (D) M/S SHIV MULLAR, AHMEDABAD. (E) M/S HANUMAN STRUCTURALS PVT LTD, BADA BAZAR, KATI HAR (BIHAR)-854015. (F) M/S METRO INDUSTRIES, KATNI ROAD JABALPUR. (G) M/S MULTIWYN INDUSTRIAL CORPN CALCUTTA (H) M/S ASHWANI & SONS E-15 PATEL NAGAR II, GAZIABAD (UP). (J) M/S TRISUL INDUSTRIES, 284-A, CHAPPEL STREET, MERRUT. (K) M/S GS UDYOG, PANKI INDUSTRIAL AREA KANPUR. (L) M/S JANGID ENGINEERING, JAIPUR (M) M/S SURBHI METAL (INDIA) PVT LTD, JODHPUR (N) M/S MOHATA ENGG & CONST CO. BIKANER (O) M/S ENGCO INDUSTRIES, JODHPUR (P) M/S UMAR STEEL PRESS, 186 CATAGORISED MARKET, BHOPAL(EXCEPT FOR STEEL WINDOWS)	
19	ALUMINIUM SECTIONS FOR DOOR/WINDOWS	(A) HINDALCO (B) AJIT INDIA (C) INDAL (D) JINDAL (E) STERLITE	

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

1	2	3	4
20	FABRICATORS FOR ALUMINIUM WORKS	SECTION FOR ALUMINUM WORK SHALL BE PROCURED FROM JINDAL/INDAL/AJIT INDIA/HINDALCO/STERLITE. FABRICATION CAN BE DONE BY M/S ASHWANI & SONS GAZIABAD OR ANY FABIRACATOR AS APPROVED BY GE. (SAMPLE OF FABRICATED ARTICLE SHALL FIRST BE SUBMITTED AND WRITTEN APPROVAL OF GE SHALL BE OBTAINED BEFORE ENTIRE FABRICATION IS TAKEN IN HAND)	
21	UPVC DOORS & WINDOWS	(a) H2O SOLUTION , NEW DELHI (b) RAMTEX OVERSEAS PVT LTD	
22	CEMENT PUTTY	(A) BIRLA CEMENT (B) JK WHITE	
23	SYNTHETIC ENAMEL PAINT (1 ST QUALITY)	(A) ICI PAINT (DULUX GLOSS) (B) ASIAN PAINTS (APCOLITE) (C) SHALIMAR PAINTS (SUPERLAC HI GLOSS) (D) GOODLASS NEROLAC PAINTS (NEROLAC FULLGLOSS) (E) JENSON & NICHOLSON PAINTS LTD (BOROLAC) (F) BERGER PAINTS (LUXOL HI GLOSS)	
24	CEMENT BASE PAINT	(A) SUPER SNOWCEM (B) DURACEM (C) ACCROCEM	
25	OIL BOUND DISTEMPER/ACRYLIC WASHABLE DISTEMPER	(A) GOODLASS NEROLAC (SUPER ACRYLIC) (B) SHALIMAR PAINTS (No. 1 PREMIUM ACRYLIC DISTEMPER) (C) JENSON & NICHOLSON (JENSOLINE ACRYLIC DISTEMPER) (D) ASIAN PAINTS (TRACTOR ACRYLIC DISTEMPER) (E) 'BERGER' PAINTS (BISON SUPER) (F) ICI INDIA (MAXILITE ACRYLIC DISTEMPER)	
26	PLASTIC EMULSION PAINT	(A) GOODLASS NEROLAC (ALL ESCAPES) (B) SHALIMAR PAINTS (HUSSAIN COLLECTION) (C) JENSON & NICHOLSON (SPECIAL EFFECT) (E) ASIAN PAINTS (ROYAL) (F) BERGER' PAINTS (LUXOL SILK SPLENDER) (G) ICI INDIA (DULUX VELVET TOUCH)	
27	FLUSHING CISTERN PVC ISI MARKED	(A) M/S JOHNSON PEDDAR (B) M/S HINDUSTAN SANITARY WARE INDUSTRIES (C) COMMANDER-WATER BIRD (D) PARRYWARE-SLIMLINE (E) CERA (F) PRAYAG (G) SPEED FLO (H) SHAKTI (J) JAQUAR.	
28	PLASTIC SEAT COVER FOR EWC	(A) HINDUSTAN (B) PARRY WARE (C) CERA (1 ST QUALITY) (D) COMMANDER (E) PRAYAG (F) SPEED FLO (G) JAQUAR	
29	MIRROR CABINET	(A) PRAYAG (B) COMMANDER	
30	SANITARYWARE ISI MARKED 1st QUALITY	(A) HINDUSTAN SANITARY WARE (B) PARRY WARE(SUPER FINE) (C) CERA (1 ST QUALITY) (D) HINDWARE (1 ST QUALITY). (E) NEYCER KERMAG (F) JOHNSON PEDDAR (G) JAQUAR	
31	STAINLESS STEEL SINK WITH OR WITHOUT DRAINING BOARD & PLATE RACK	(A) DIAMOND (B) PRAYAG (C) ANJALI (D) NIRALI (E) KOBRA (F) PARRYWARE BLUE STAR (H) JAYNA (J) SHAKTI	(G)
32	BITUMEN	ISI MARKED MAKE BEARING IS-702	
32(A)	BITUMEN PRIMER	ISI MARKED MAKE BEARING IS-3384	
33	INTEGRAL WATER PROOFING COMPOUND (POWDER/ LIQUID)	(A) WATER SEAL (B) IMPERMO (C) ACCOPROOF (D) PIDILITE (E) ROFF CHEMICALS (F) CICO (G) FOSROC (H) MC BOUCHAMIE, MUMBAI	

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

1	2	3	4
34	PLAIN AND PRELAMINATED PARTICLE BOARD	(A) KITPLY (B) ARCHIDLAM FROM MYSORECHIPBOARD, HUNSUR ROAD, HINKAL, MYSORE-570017 (C) GREENLAM FROM GREENPLY (D) NOVAPAN (E) ECO BOARD INDUSTRIES LTD, KARVE ROAD PUNE- (F) BAJAJ BOARDS (G) A-1 BOARD (H) BALAJI ACTION BUILDWELL, NEW DELHI	
35	PLAIN AND PRELAMINATED MDF BOARDS	(A) BAJAJ BOARDS (B) NUW WOOD (C) A-1 BOARD (D) BHUTAN BOARD (E) BALAJI ACTION BUILDWELL, NEW DELHI	
36	PLYWOOD FOR GENERAL PURPOSES	(A) KITPLY (B) MYSORECHIPBOARD (ARCHIDPLY) HUNSUR ROAD, HINKAL, MYSORE-570017 (C) GREENPLY (D) CENTURY PLYWOOD (E) DUROBOARD FROM SHARADA PLYWOOD	
37	FALSE CEILING	(A) ANCHOR CEILING TILES (B) GYPBOARD (C) ARM STRONG (D) USG BUILDING (E) RAMCO INDUSTRIES LTD (F) BISON PANEL (G) AEROLITE CEILING SYSTEM (G) EVERST INDUSTRIES PRODUCTS INDIA PVT LTD	
38	CEMENT PARTICAL/FIBRE BOARD IS 14276 & IS 14862	(A) BISON PANEL (B) EVEREST	
39	SGSW PIPE	MAKE SHALL BE ISI MARKED IS-651 OF 1992	
40	OIL PUTTY FOR GLAZING	(A) GOLD MOHAR. (B) BURGER (C) J&N (D) SHALIMAR HARDWARE	
41	HDPE WATER STORAGE TANKS (ISI MARKED)	(A) ROTAX (B) SINTEX (C) POLYWELL M/S OKAY POLYMERS PVT LTD. 50, ADHCHINI, SHRI AUROBINDOW MARG NEW DELHI-110017 (D) JS POLYPLAST (E) POLYCON, M/S POLYCON INTERNATIONAL LTD, F-11, HIRAWALA INDUSTRIAL AREA, P.O. KANOTA, JAIPUR -303012 (F) ERGEN PLASTIC INDUSTRIES, P-7 & 8 INDUSTRIAL ESTATE, JODHPUR-342003 Ph- 0291-2433737, 2615203	
42	APP MODIFIED POLYMERIC MEMBRANE	(A) M/S TEXSA INDIA LTD. A-4/8, 1ST FLOOR, DLF CITY GURAGAON-122002 (B) M/S M K PRODUCTS INDIA (PVT) LTD, 315 THAPER CHAMBER-II, OPP KAINDI COLONY, RING ROAD, DELHI (C) M/S TIKKI TAR DONASA (INDIA) PVT LTD VILLAGE ROAD, BHANDUP (W), MUMBAI – 400078 (D) M/S IWL INDIA LTD C&D LAKSHMI BHWAN, 609, ANNA SALAI, CHENNAI-600006 (E) M/S BENGAL BITUMEN B-53, SARITA VIHAR, NEW DELHI – 110044 (F) M/S SHALIMAR TAR PRODUCTS LTD, STP HOUSE, 570, PHASE-V , UDYOG VIHAR, GURGOAN- 122016 (G) JALNIDHI BITUMEN SPECIALITIES PVT LTD (H) MODERN BITUMEN PVT LTD, FARIDABAD (J) TORCH TAR MEMBRANE & BITUMEN PRODUCTS PVT LTD (K) SHIVAM TAR PRODUCTS (L) PIDILITE (DR FIXIT TORCH SHIELD)	
43	METALLIC FLOOR HARDNER	(A) IRONITE (B) HARDONATE (C) KIRONITE	
44	HYDRAULIC DOOR DOSER	(A) EVERLITE (B) UNIVERSAL (C) PRABHAT DOOR KING (D) PERFECT HYDRAULIC (E) DYANA (F) HARDWIN (G) RANJAN (H) KELIN (I) AMAR ENGINEER CO, NEW DELHI	

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

1	2	3	4
45	SHOWER ROSE	(A) JAGUAR (B) MARC (C) ESS- ESS (D) SOMA (E) PARKO (F) KINGSTON (G) CRABTREE (H) KOHLER (J) MEERA	
46	LOW TENSION(LT) CABLES, 1100 VOLT GRADE XLPE/PVC INSULATED WITH ALUMINIUM CONDUCTOR IS 1554, IS-7098 PART-I	(A) ASIAN CABLE CO, 2, IND ESTATE, RAIGARH, CHATTISHGARH, TEL: 07762-22808 CML NO. 8785914 (B) RPG CABLES LIMITED (UNIT: ASIAN CABLE & INDUSTRIES), POKHRAN RAO NO 2 , P.B. NO.11, THANE, MAHARASTRA, - 400601 CML NO. 0115017 & PLOT NO 273/4 DEMNI ROAD, DADRA, SILVASA, DADAR AND NAGAR HAVELI-396191 CML NO 7271571 (C) CABLE CORPORATION OF INDIA LIMITED, DATTAPADA ROAD, BORIVALI (E), GREATER MUMBAI, MAHARASTRA-400066 CML NO. 0034926 & PLOT NO. F3/1, MIDC SINNAR INDAREA, MALEGOAN, NASIK, MAHARASTRA- 422103, CML NO. 7145970 (D) INCAB INDUSTRIES LIMITED,CABLE HOUSE, HADSAPAR IND ESTATE, PB NO 22, PUNE-411013, MAHARASTRA, TEL : 020-26870011-14, FAX: 26872045 EMAIL:INCABPNA@PN3.VSNL.NET.IN (E) FINOLEX CABLE LTD. 26-27, MUMBAI-PUNE ROAD, PIMPRI, PUNE-411018 MAHARASTRA, CML NO. 0689571 (F) ECKO CABLES PVT LTD, C-113, PHASE-VIII, IND AREA, MOHALI, ROOPNAGAR,PUNJAB-160055 TEL: 0172-256727,256440 FAX: 256727 (G) HAVELLS INDIA LIMITED, ALWAR RAJASTHAN-301030 CML NO. 8157482 (H) PRIMECAB (M/S RAVIN CABLE) (J) POLYCAB (K) M/S KEI INDUSTRIES LTD -D-90, OKHLA INDUSTRIAL AREA PH-I, NEW DELHI-110020 (L) CRYSTAL CABLE INDUSTRIES LTD (M) CABCOM CABLES (N) KONARK (M/S POWER CABLE IND) (O) ELEKTRON, M/s PARAGON CABLES (P) MARC CABLES (Q) RAVI CABLES (R) KALINGA CABLES (S) PLAZA CABLES (T) M/S PARAMOUNT CABLES , PARAMOUNT COMMUNICATIONS LTD C-125, NARAINA INDUSTRIAL AREA , NEW DELHI – 110028.	
47	CABLE PVC INSULATED /FLAME RETARDENT LOW SMOKE(FRLS) PVC INSULATED/ HEAT RESISTANT PVC INSULATED, 1100 VOLT GRADE, COPPER CONDUCTOR SHEATHED /UNSHEATHED SINGLE CORE MULTISTRAND FOR HOUSE WIRING IS-696	FINOLEX, ECKO, STANDARD, NICCO, RPG, L&T, ANCHOR, POLYCAB, HAVELLS, BRITE, PLAZA,RAVIN,HPL, KONARK (M/S POWER CABLE IND), INDO-ASIAN, KALINGA, SHALABH , BENTEC ELECTRICALS & ELECTRONICS PVT LTD , NEW DELHI , KEI INDUSTRIES LTD	
48	SWITCH FUSE, FUSE, SWITCHES, CHANGE OVER SWITCHES, CONTACTORS	AREVA, CROMPTON GREAVES, HAVELLS/ HPL, BHARTIYA CUTLER HAMMER, L&T, SCHNIDER, ANCHOR, SIEMENS, STANDARD, CONTROL AND SWITCHGEAR, BRITE' INDO-ASIAN, SHALABH, GE INDIA INDUSTRIAL PVT LTD, NEW DELHI	
49	DISTRIBUTION BOARDS FOR MCBS, MCB PLUG AND SOCKETS,ISOLATORS AND MCBS SP/DP/TPN/4 PLOE,EARTH LEAKAGE CIRCUIT BREAKERS(ELCBS)/ RESIDUAL CURRENT CIRCUIT BREAKERS(RCCB)/ RCBO IS-13032/IS-8864	LEGRAND, INDO-ASIAN, SCHNEIDER, HAVELLS, HPL, CROMPTON GREAVES, MERLIN-GERRIN, CONTROL AND SWITCHGEAR, L&T, ANCHOR, ABB, STANDARD, BRITE (M/S SHALABH SWITCH GEAR (INDIA), ADHUNIK SWITCHGEARS, BENTEC ELECTRICALS & ELECTRONICS PVT LTD NEW DELHI, GE INDIA INDUSTRIAL PVT LTD, NEW DELHI GE INDIA INDUSTRIAL PVT LTD , NEW DELHI (NOTE : ISOLATORS, MCBS, ELCB/RCCB AND DBS TO BE OF SAME MAKE AS FAR AS POSSIBLE)	
50	FLOURSCENT TUBE LIGHT LUMINAIRES/ T5 LUMINAIRES / CFL FITTINGS	PHILLIPS, WIPRO, BAJAJ, CROMPTON, SURYA ROSHNI, INDO-ASIAN, HALONIX LTD	
51	FLOURSCENT LAMPS LIGHT SOURCE/ T5 LAMPS LIGHT SOURCE/ CFL LAMPS	PHILLIPS, OSRAM, WIPRO, BAJAJ, CROMPTON, SURYA, INDO-ASIAN, HPL	
52	LED LIGHT FITTINGS AND LIGHT SOURCES	OSRAM, PHILLIPS, WIPRO, BAJAJ, CROMPTON, HALONIX LTD	
53	CEILING FANS AND FAN REGULATORS	BAJAJ, CROMPTON, KHAITAN, ORIENT, GEC	
54	EXHAUST FANS, WALL MOUNTED FANS, AIR CIRCULATORS, PEDASTAL FANS	PHILIPS, CROMPTON, KHAITAN, BAJAJ, ALMONARD, ANCHOR	
55	INCREASED SAFETY/ TOTALLY ENCLOSED/ FLAME PROOF LIGHT FITTINGS, ROTARY SWITCHES, LT SWITCHGEAR, EXHAUST/CEILING FANS, AIR CIRCULATORS ETC	BALIGA, SUDHIR SWITCHGEAR, FLEXPRO, BAJAJ, CROMPTON, PHILLIPS, SHYAAM SWITCHGEARS PVT LTD 36 SUMTINATH INDUSTRIAL ESTATE, 2ND FLOOR BEHAND INORBIT MALL OFF LINK ROAD MALAAD (W) MUMBAI-400064	
56	ELECTRICAL ACCESSORIES, i.e. PIANO TYPE SWITCHES, SOCKET OUTLETS, SWITCH SOCKET COMBINATIONS, CEILING ROSE, CALL BELLS, BUZZERS, LAMP HOLDRERS, ETC. SWITCHES(IS-3584-1966) CEILING ROSE (IS-371 -1979), SOCKET OUTLETS (IS-1293)	ANCHOR, FINE, CONA, ELLORA, LEADER, KINJAL, KAY, SAINICO, SSK, LICA, FINOLEX, SHYAAM SWITCHGEARS PVT LTD	

PARTICULAR SPECIFICATIONS PART –II (CONTD...)

1	2	3	4
57	MODULAR ELECTRICAL ACCESSORIES, i.e. PIANO TYPE SWITCHES, SOCKET OUTLETS, SWITCH SOCKET COMBINATIONS, CEILING ROSE, CALL BELLS, BUZZERS, LAMP HOLDERS, FAN REGULATORS ETC	ANCHOR, CRABTREE, NORTHWEST, LEGRAND-MOSIAC, M/S TOYAMA ELECTRIC LTD, 338(A2), KIADB, INDUSTRIAL ESTATE HOSKOTE BANGALORE-562114 FINOLEX, L&T, ABB, INDO-ASIAN	
58	FLEXIBLE CORD TWISTED WITH COPPER CONDUCTOR IS-9968	PARAGON, PARAFLEX, PLAZA, KALINGA, ANCHOR, HPL, EMGEE CABLES, BRITE, KONARK	
60	NON METTALLIC RIGID PVC CONDUIT IS-2509	FINOLEX, ANCHOR, LEGRAND-MDS, NEW INDIA CONDUITS PVT LTD, CAP PLASTIC TUBES PVT LTD, R K ELECTRICALS, SHREENATH, PRECISION, POLYCAB	
61	ERW STEEL CONDUITS IS-9537 (PART III)	KALINGA, ASIAN, JINDAL, VIRAJ INDUSTRIES, ANY ISI MARKED WITH VALID CML NO.	
62	CASING CAPPING AND ACCESSORIES	PRECISION, PRESTO PLAST, MODI, POLYCAB ANY ISI MARKED WITH VALID CML NO	
63	BIB COCK/STOP COCK VALVES ISI MARKED,	L&K-ELITE, SIECO, MARC, PARCO, DRIPLESS, LEADER, GEM, JINDAL, JAQUAR, SOMA, PRAYAG, VARDHMAN, SHAKTI, PRIMA	
64	GI PIPES IS-1239/Pt-I	TATA, SWASTIK, JINDAL, PRAKASH, ZENITH, BST, SURYA,	
65	BIB COCKS, STOP VALVES (IS-781/1984) PILLAR TAPS, SURGICAL WATER MIXERS, SHOWER ROSE ETC	SIECO, MARC, PARCO, DRIPLESS, LEADER, GEM, JINDAL, JAQUAR, SOMA, PRAYAG, VARDHMAN, SHAKTI, PRIMA, PARYWARE, PLASTOCRAFT SANITARY INDIA LTD	
66	WALL MIXER UNITS ETC	GEM, PARKO, JAQUAR, MARC, PRAYAG, JAQUAR, PARYWARE	
67	CPVC PIPES & FITTINGS	AS SPECIFIED IN EXTERNAL WATER SUPPLY	
68	PUMPS & MOTORS	KIRLOSKAR, JYOTI, CROMPTON GREAVES, BEACON, KSB, BE, MATHER & PLATT (MOTORS AND PUMPS SHALL BE OF SAME MAKE AS FAR AS POSSIBLE)	
69	FOOT VALVES IS-4038 OF 1979	VENUS, KIRLOSKAR, LEADER, SANT , NORMAX, VARUN, VENUS, AUDCO, L&T, UPADHYA, KEJRIWAL	
70	SLUICE VALVES	VENUS, KIRLOSKAR, LEADER, SANT, AUDCO, L&T, UPADHYA, KEJRIWAL	
26	STEEL TUBULAR POLES HT/LT WITH CI BASE PLATE OFF SIZES IS-2713 Part II	(A) P.S. STEEL TUBES PVT LTD (UNIT II) 27 AKUSH GANGA COMPLEX, SUPELA, BHILAI, RAIPUR, CHATTISHGARH-490023 TEL 355087 FAX: 223543 CML NO 8678105 (B) INDIA ELECTRIC POLES MFG CO , PLOT NO 28 A SHED NO 143 GUT 236/2 VILL DHEKU KHALAPUR, RAIGARH MAHARASTRA. 410203 TEL;02192 325846 FAX: 022-26347194 CML NO 7580685 (C) SURJIT STEEL INDUSTRIES D130 INDUSTRIAL AREA PHASE VII SAS NAGAR MOHALI, ROOPNAGAR PUNJAB TEL 253286 CML NO. 9272179 (D) FABRICO (I) (P) LTD. VILL- RITHANI MOHANPURAM, DELHI ROAD MEERUT (UP) 250103, TEL 2768941 FAX 2769806 CML NO 8299396 (E) QUALITY STEEL PRODUCTS LTD 133/1 JUHI GAYSHALA KANPUR (UP) 208014 TEL:0512 2641293 FAX 2662490 ML CNO 9500570 (F) ADVANCE STEEL TUBES LTD 45/3 IND AREA SITE 4 SAHIBABAD , GHAZIABAD (UP) 201001 TEL 4771355 CML NO 8247680 (G) RAMA STEEL TUBES LTD B-21 SITE 4 IND AREA SAHIBABAD, GHAZIABAD(UP CML NO 8707486 (H) THE NATIONAL TUBING COMPANY, 123/444, FY AREA, FAZAL GANJ, KANPUR – 208012, PH – 2236556, 2236796	
39	LT PANEL/ FEEDER PILLAR BOX	(A) BAFNA ELECTRIC PANEL, JALORI GATE, JODHPUR (B) ADITYA (C) SHASHI ENGG CONSTN PVT LTD JAIPUR (D) MCLAYERS- BHOPAL (E) BSPL, BHOPAL 0755-2581316, 2580562 (F) JUHI ELECTRICALS PVT LTD, BHOPAL (G) JOHN ELECTRIC CO. JODHPUR (H) DOER CONTROLS PVT LTD, BHOPAL (I) DIVYA SWITCH GEAR , JODHPUR (j) NATIONAL ENGG WORKS, NEW DELHI (k) UNIVERSAL SWITCH GEAR, NES DELHI (L) M/S PREM ASSOCIATES , KOTA (M) A.I. AUTOMATION PVT LTD, GOVINDPURA, BHOPAL (N) SHALABH (O) HYDERABAD INDUSTRIES LTD (P) ALSTONE (Q) ITE GURGAON	

SIGNATURE OF CONTRACTOR
DATED. _____AGE (CONTRACTS)
FOR ACCEPTING OFFICER