

MILITARY ENGINEER
SERVICES CENTRAL
COMMAND JABALPUR ZONE

**NAME OF WORK: SPL REPAIR/REPLACEMENT OF STREET LIGHT,
NATURE SWITCH (TIMER PANEL) AND CONNECTED ITEMS AT RMA,
JCOs AND NCO MD ACCN AT OTA GAYA**

Ser No	Particulars	Page No
	Contents	01
1.	Tender forwarding letter including Instructions on filling and Submission of Tender.	02 to 06
2.	Notice of Tender IAFW-2162 (Revised 1960) including Appendix 'A' to Notice of Tender	07 to 12
3.	Tender and Item Rate Contract Works by Measurements (IAFW-1779A Revised 1955) (Authorization Page, Schedule 'A' Note, BOQ and Schedule of Credit)	13 to
4.	General Conditions of Contract IAFW-2249 (1989 Print) including Errata & Amendments thereto	
5.	Schedule of Minimum Wages	
6.	Particular Specifications Part-I (SPECIAL CONDITIONS) including Appendix 'A' & 'B'	to
7.	Particular Specifications Part-II (MATERIAL AND WORKMANSHIP) including Appendices and List of Makes	to
8.	Schedule (Excel Sheet in BOQ)	
9.	Corrigendum to Tender Documents.	_____to _____
10.	Relevant Correspondence	_____to _____
11.	Acceptance Letter	_____to _____

Total Number of Drawing_____Nos

Total_____Pages

SIGNATURE OF CONTRACTOR

**AGE (CONTRACTS)
FOR ACCEPTING OFFICER**

DATED:

Tele: 2861

Garrison Engineer
Military Engineer Services
Gaya Mil Station
Paharpur Mil Camp

8081/ GE/25-26/35/E8

27 May 2026

M/s _____

**NAME OF WORK: SPL REPAIR/REPLACEMENT OF STREET LIGHT, NATURE SWITCH
(TIMER PANEL) AND CONNECTED ITEMS AT RMA, JCOs AND NCO
MD ACCN AT OTA GAYA**

Dear Sir (s),

1. Tender documents in respect of above work are uploaded on the site www.defproc.gov.in herewith. The tender is on single stage two cover e-tendering system. The content of Cover I & II are specified in NOTICE OF TENDER.

2. Bids will be received online by Accepting Officer upto the date and time mentioned in the NOTICE INVITING TENDER (NIT). No tender / bid will be received in physical form and any tender / bid received in such manner will be treated as non bonafide tender / bid.

3. Bids will be opened on due date and time fixed for opening in the presence of tenderer / bidders or their authorized representatives, who have uploaded their quotation bid and who wish to 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 document and/or depute your technical representative for discussion on tender/drawings and to clarify doubts, if any, on or before bid submission start date, you are requested not to write piece meal points and forward your points duly consolidated before due date viz bid submission start date.

5. Unenlisted contractors are requested 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 Bid Securing Declaration and tender fee on e-procurement portal and submit the physical documents in the office of GE Gaya Mil Station within five days from Bid Submission End Date. Inadequacy / deficiency of documents shall make the bid liable for rejected resulting in disqualification for opening of finance bid.

6. Contractors having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of Bid Securing Declaration mentioned in Notice of Tender and shall ensure receipt of hard copy of Bid Securing Declaration in the office of **Garrison Engineer Gaya**. Military Station before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.

7. **PERFORMANCE SECURITY**

7.1 Within 28 days of receipt of the letter of acceptance, the successful contractor shall deliver to the Accepting Officer a Performance Security in any of the forms given below for an amount equivalent to 5% of the contract sum.

(a) A Bank Guarantee in the prescribed form

(b) Government Securities, FDR or any other Government Instruments stipulated by the Accepting Officer.

7.2 If the performance Securities is provided by the successful contractor in the form of a Bank Guarantee, it shall be issued by Nationalized / Scheduled Indian Bank but its confirmation shall be done only from Head Office of the Bank.

7.3 Failure of the successful contractor to comply with the requirements of sub clause 7.1 shall constitute sufficient grounds for cancellation of the award of work and forfeiture of the Earnest Money. In case of MES enlisted contractor, amount equal to the Earnest Money stipulated in the Notice Inviting Tender, shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

7.4 All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from, or paid by the sale of a sufficient part of the Performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his Performance Security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum or sums which may have been deducted from or realized by the sale of his Performance Security or any part thereof. Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.

7.5 In the event of contract being cancelled under Condition 52, 53 & 54 of General Conditions of Contract, the Performance Security shall be forfeited in full and shall be credited into Consolidated Fund of India.

7.6 **EARNEST MONEY DEPOSIT (EMD) / BID SECURITY DECLARATION**

7.6.1 (a) All bidders shall be exempted from submission of EMD in all tenders except those who are ineligible from such exemption vide Para 7.6.1 (b) below.

(b) All bidders shall be required to sign the Bid Security Declaration as below:-

“I/we hereby understand and accept that if I/We withdraw or modify my/our bids during the period of validity, or if I/We are awarded the contracts and on being called upon to submit the Performance Security /Security Deposit, fails to submit the Performance Security / Security Deposit before the deadline defined in the request for bid documents/Notice Inviting Tender, I/We shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit for a period of 6 (six) months, from the date I/We are declared disqualified from exemption from submission of Earnest Money Deposit/Security Deposit, for all tenders issued by MES during this period”.

(c) Wherever, there are compelling circumstances to ask for Earnest Money Deposit/ Bid Security, the same shall be deposited by the Contractor.

7.7 **SECURITY DEPOSIT /PERFORMANCE SECURITY**

(a) The benefit of the reduced Performance Security from 5% to 3% shall not be given in the contracts under dispute, wherein arbitration/Court proceedings have already been started or are contemplated.

(b) The benefit shall be given to contractors, where there are no outstanding recoveries against the contractor and the contractor does not intend to abandon the work after entertaining the relief. A certificate to the effect shall be kept on record.

8. 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 **GE Gaya** Mil Station within five days from Bid Submission End Date.

9. The contractor must ensure that the tender / bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations / offer received in any other electronic or physical form like e-Mail / fax / by hand / through post from tenderer / bidder even if they are received in time.

10. In view of delay 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.

11. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and MES SSR (Part-I and Part-II) are not enclosed with these documents. These are available for perusal in the Office of GE Gaya Mil Station.

12. ANY TENDERER, WHICH PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATEVER IS LIABLE TO BE REJECTED.

Yours faithfully

(Narendra Kumar)
AE (QS&C)
AGE (Contracts)
for Accepting Officer

Signature of Contractor
Dated:

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**1. BID SECURING DECLARATION**

Contractor(s) who are not enlisted with MES/who are enlisted, but have not executed the Standing Security Bond shall submit Earnest Money Deposit as detailed in Notice of Tender in any one of the following forms, along with their tender/ bid subject to Para 7.6 & 7.7 on srl Page No. 3:-

(a) Deposit at Call Receipt from a scheduled Bank in favour of **Garrison Engineer concerned.**

(b) Receipted Treasury Challan for the amount being credited to the Revenue Gaya of **Garrison Engineer concerned.**

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

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

2. PERFORMANCE SECURITY

2.1 Within 28 days of receipt of the letter of acceptance, the successful contractor shall deliver to the Accepting Officer a Performance Security in any of the forms given below for an amount equivalent to 5% of the contract sum:-

(a) A Bank Guarantee in the prescribed form

(b) Government Securities, FDR or any other Government Instruments stipulated by the Accepting Officer.

2.2 If the Performance Security is provided by the successful Contractor in the form of a Bank Guarantee, it shall be issued by Nationalized / Scheduled Indian bank but its confirmation shall be done only from the Head Office of the Bank.

2.3 Failure of the successful Contractor to comply with the requirements of sub clause 2.1 shall constitute sufficient grounds for cancellation of the award of work and forfeiture of the Earnest Money. In case of MES enlisted contractor, amount equal to the Earnest Money stipulated in the Notice Inviting Tender shall be notified to the tenderer for depositing the amount through MRO. Issue of tender to such tenderers shall remain suspended till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

2.4 All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from, or paid by the sale of a sufficient part of the Performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his Performance Security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum or sums which may have been deducted from or realized by the sale of his Performance Security or any part thereof. Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.

2.5 In the event of contract being cancelled under Conditions 52, 53 & 54 of General Conditions of Contract, the Performance Security shall be forfeited in full and shall be credited into Consolidated Fund of India.

3. GENERAL INSTRUCTIONS FOR COMPLIANCE:

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

- 3.2 Bids shall be uploaded on 'defproc.gov.in' portal on or before the bid closing date mentioned in the tender. No tender / bid in any other electronic or physical form like email / fax / by hand / through post will be considered.
- 3.3 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.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER

- 3.4 Drawings, if issued in physical form, must be returned duly initialed by the tenderer/ bidder in separate envelope indicating his name and address.
- 3.5 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.
- 3.6 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 of this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or a limited company, digital signatory of the bid / tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or Memorandum and Article of Association of the company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy of the documents confirming of such authority shall be attached with the tender / bid in 'pdf' form, if not submitted earlier. The person uploading the bid on behalf of another partner(s) or on behalf of the 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 Partner(s) or in accordance with constitution of the company in case of company, stating that he has authority to bind such other person or the firm or the Company, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.
- 3.7 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 persons 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.
- 3.8 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 & time fixed for the same.
- 3.9 Bid (Cover 1 & 2) shall be uploaded online well in time.
- 3.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to special condition 3 referred hereinafter and also conditions 24 and 25 of IAFW-2249 (General conditions of contracts).
- 3.11 Tenderers/ bidders who uploaded their priced tender / bids and are desirous of being present at the time of opening of the tenders/ bids, may do so at the appointed time.
- 3.12 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.
- 3.13 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 defproc.gov.in site only before the bid closing time and date.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER

4. **REVOCATION / REVISION OF OFFER UPWARD / OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDERS**
- 4.1 In the event of lowest tenderer/ bidder revoking his offer or revising his rates upwards/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.
5. **CPM (Critical Path Method)**
- 5.1 The project planning for work covered in the scope of tender is based on CPM.
- 5.2 The tenderer/ bidder is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available in the market which the tenderer/ bidder may make use of.
- 5.3 The tenderer's/ bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the works and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer in using the technique will be taken as his technical insufficiency and will affect his class of enlistment and future prospect/ invitation to tenders for works.
- 5.4 The department may issue amendments/erratas in the form of CORRIGENDUM to tender/ revised BOQ to the tender documents. The tenderer/ bidder is requested to read the tender documents in conjunction with the errata /amendments/ corrigendum, if any, issued by the department.
6. These instructions shall form part of the contract documents.

**SIGNATURE OF CONTRACTOR
DATED:**

**AGE (CONTRACTS)
FOR ACCEPTING OFFICER**

MILITARY ENGINEER SERVICES
NOTICE OF TENDER

1. A tender is invited for the work as mentioned in Appendix 'A' to this NOTICE INVITING TENDER (NIT).
2. The work is estimated to cost as indicated in aforesaid Appendix 'A'. This estimate, however, is not a guarantee and is merely given as a rough guide and if the work costs more or less, a tenderer/ bidder will have no claim on that account. The tender shall be based on as mentioned in aforesaid Appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with phasing, if any, indicated in the tender from the date of handing over the site, which will be on or about two weeks after the date of Acceptance of tender.
4. Normally contractors whose names are borne on the MES approved list for the area in which the work lies, and within whose financial category, the estimated amount would fall, may tender/ bid but in case of term contracts, contractors in categories 'SS' to 'E' may tender/ bid. 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 **PERFORMANCE SUCURITY** within 28 days of the receipt by him of notification of acceptance of tender / bid, failing which the action shall be taken as per Conditions specified in IAFW-2249. 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 parties liable for rejection.
5. The Office of GE Gaya Mil Station will be the Accepting Officer here-in-after referred to as such for the purpose of this contract.
6. The Technical Bid and Financial Bid (Cover-1 and Cover-2) shall be uploaded by the tenderer/ bidder on or before the date & time mentioned in NIT. A scanned copy of DD with enlistment details / 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 forms and conditions of contract and other necessary documents shall be available on defproc.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 Contractors who has not executed the Standing Security Bond, the Cover-1 shall be accompanied with the 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 lie 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 "Performance Security" within 28 days of the receipt by the him of notification of acceptance of his tender/ bid, failing which the action shall be taken as per condition specified in IAFW-2249.

NOTICE OF TENDER (CONTD...)

- 6.4 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 certification of the Accepting Officer that a bonafide tender/ bid was received and all documents were returned.
- 6.5 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 office working hours.
7. The tenderers/ bidders are advised to visit site of work by making prior appointment with the GE who is also the Executive 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 are inspected them or not.
8. Any tender/ bid which proposed any alterations to any of the conditions laid down or which proposes any other condition or prescription whatsoever, is liable to be rejected.
9. 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 plant etc. will be issued to him and local conditions and other factors bearing on the execution of the work.
10. Tenderers / bidders must be in possession of copy of the MES Standard Schedule of Rates (see Appendix 'A') 2009 Part-I and 2020 Part-II including amendments and errata thereto.
11. Invitation of 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 '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 defproc website. The applicant contractor/ bidder, if he so desires, may appeal to the next higher Engineer authority (NHEA) i.e. HQ CWE, Ranchi on e-Mail ID ranchicwe@yahoo.in with copy to the Accepting Officer on e-Mail gegaya.nic@gmail.com before the scheduled date of opening of Financial Bid. The decision of the Next Higher Engineering Authority (NHEA) shall be final and binding. The contractor/ bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
12. 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 tenderer/ bidder whose tender / bid is rejected.
13. The Accepting Officer does not bind himself to accept the lowest or any tender/ bid or to give any reason for not doing so.
14. This Notice Inviting Tender (NIT) including Appendix 'A' shall form part of the contract.

SIGNATURE OF CONTRACTOR
DATED:

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

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

**(TO BE USED IN CONJUNCTION WITH GENERAL
CONDITIONS OF CONTRACTS IAFW-2249)**

MILITARY ENGINEER SERVICES

Tele (MIL): 6489

Garrison Engineer
Military Engineer Services
Gaya Mil Station
Paharpur Military camp,
Gaya, Bihar

No. 8081/GE/25-26/35/E8

27 May 2026

**NAME OF WORK: SPL REPAIR/REPLACEMENT OF STREET LIGHT, NATURE SWITCH
(TIMER PANEL) AND CONNECTED ITEMS AT RMA, JCOs AND
NCO MD ACCN AT OTA GAYA**

M/s _____ is hereby authorised to tender for the above work. The technical and price bid (Cover 1 & 2) to be uploaded in the web site www.defproc.gov.in and Bids (cover 1& 2) will be immediately opened on date & time as fixed here-in- before as per NIT. Any correspondence concerning to this tender, should be addressed quoting the reference as to GE Gaya and marked on the outside CA NO. GE/GAYA/ / of 2025-2026.

“THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR ANY TENDERS”.

Appointment : AGE (Contracts)

Signature of the Officer issuing
The Tender Documents:

Dated :

(Signature of Contractor)

Dated:

SCHEDULE 'A' NOTES**UNIT RATES:-**

1. The unit rates shall be based on the description of item in BOQ and as detailed in specification attached herewith. It is an express condition of the contract that the work shall be deemed to include for full entire and final completion of items of works in accordance with the provision of this contract. The Govt will not entertain any claim whatsoever on account of inaccuracies/ misunderstanding if any, in the aforesaid items.

3. Tendered rates shall be deemed to include for the provision of all materials, operation and specific requirements detailed in the particular specifications irrespective of whether these appear as specific item or not in BOQ. The contractor shall not be paid anything extra for the same.

4. The quantities shown in column 4 are approximate and are inserted as a guide only. They do not constitute any guarantee of the ultimate quantities which will be ordered on the contractor. They shall however not be varied beyond the limits laid down in the condition 7 of IAFW-2249 (General Conditions of Contracts).

5. The rates in column 13 of BOQ in MES Posted www.defproc.gov.in are to be filled by the tenderer. The tenderer shall fill with rate in figure only and total amount in number and total amount in words will be generated by system.

6. The total amount in Col 53/55 is not firm but will be treated as the contract sum referred to in IAFW-2249

7. Unit rates quoted by the contractor shall be deemed to include for any minor constructional details which are obviously and fairly intended and which may not have been specified in the particular specification but which are essential for the execution of work and service in workman like manner, sound construction and established Engineering practice.

In case difference of opinion as to whether or not a certain item of work constitutes minor extra constructional details, the decision of the Accepting Officer shall be final conclusive and binding

8. PERIOD OF COMPLETION

The time for completion of entire work is 180 **days** from the date of handing over the site.

9. Work lies in unrestricted area, however carrying camera or camera enabled mobile phone by contractors or their agents are strictly prohibited. Also all vehicles brought by contractors in connection with execution of work shall possess valid papers and license and shall produce for security check. The contractor, his agents, work people etc shall adhere to the security instructions as laid down in the contract conditions strictly. No claim whatsoever for observance of restrictions imposed at site shall be admissible at any stage of work.

10. Unless otherwise specifically mentioned the unit rates for various items shall be deemed to include cost of materials and labour and/ or supplying and fixing complete and shall include GST, Octroi, and all other type of duties/taxes etc.

11. Description of item given in BOQ sheet (excel format) are brief. These are deemed to be amplified and read in conjunction with special condition particular specification of materials and workmanship and condition given in relevant section of SSR Part I (specification) & Part II (rates).

12. Contractors quoted rate shall be deemed to included for cost of testing materials as per relevant IS cords.

13. Schedule of Credit items are given on Ser Page No. _____ here-in-after. Net Contract sum shall be derived by deducting amount of Schedule of credit mentioned on Ser Page No. _____ here-in-after.

14. Summary of Schedule 'A' has not been created in the MES portal for item rate tenders. Hence bidders shall upload the Summary of Schedule 'A' enclosed with tender documents on Ser page No. _____ duly filling the quoted amount along with Cover-2.

Contd .../-

SCHEDULE 'A' NOTES (Contd...)**15. APPLICABILITY OF GST ON WORKS CONTRACTS**

- 15.1 The special Condition of contract (Annexure XVI of Manual on Contracts) provides that rates quoted by tenderer shall be inclusive of all taxes and GST. Reimbursement of GST shall not be applicable.
- 15.2 GST shall be applicable as per latest policy laid down by Government of India / Engr-in-Chief Branch, New Delhi.

16. The following Jobs/works are covered in this tender:-

SRL NO	JOB NOS	BRIEF DESCRIPTION
01.	SHQ/Gaya/SRW (C)/01/2025-2026	SPL REPAIR/REPLACEMENT OF STREET LIGHT, NATURE SWITCH (TIMER PANEL) AND CONNECTED ITEMS AT RMA, JCOs AND NCO MD ACCN AT OTA GAYA

17 NOTE :-

(a) The rates quoted by the Contractor shall be include for incorporation of materials as per make mentioned in BOQ, if makes is not available in BOQ then as per list of product (GROUP OF PRODUCTS BASED ON MAKES /BRAND, materials shall be incorporated in the work with ISI marked material only after getting the written approval of Accepting Officer.

(b) Please note that wherever in Appx 'A' total nos of 'Makes' are less than three, Contractor is permitted to use any ISI marked approved make with specification and conditions as described in Schedule 'A' of relevant items

SIGNATURE OF CONTRACTOR
DATED:

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

SCHEDULE OF CREDIT**NAME OF WORK : SPL REPAIR/REPLACEMENT OF STREET LIGHT, NATURE SWITCH (TIMER PANEL) AND CONNECTED ITEMS AT RMA, JCOs AND NCO MD ACCN AT OTA GAYA****Note:**

- Quantities shown under column 4 are provisional. The same shall be measured at site.
- The old and unserviceable materials to be retrieved from taking down/demolition/dismantling etc are considered in schedule of credit. No claim of contractor with regard to quality/position of old materials shall be entertained.
- Materials other than given in credit schedule shall become Govt. property and remove to store yard of GE Gaya Mil Station without any extra cost to Govt.
- The amount of credit from RARs immediately after demolition of work and contractor will be allowed to take the material from site after recovery from RARs. The mode of measurement for credit Schedule shall be same as for the work to be executed.

Srl No	Description of item	Unit	Qty	Assessed Rate by Department		Remarks
				Rate (Rs)	Amount (Rs)	
1	2	3	4	5	6	7
1	Old unserviceable GI Pipe	RM	36	15.00	540.00	
2	Old unserviceable XLPE aluminium cable any size	RM	5600	20.00	112000.00	
3	Old unserviceable security light/ post top/ flood light fitting	Each	150	35.00	5250.00	
4	Old unserviceable Junction box	Each	150	10.00	1500.00	
5	Old unserviceable timer panel	Each	2	400.00	800.00	
6	Old unserviceable steel/PCC pole	Each	150	3500.00	525000.00	
7	Old unserviceable gi wire/guard wire	QTL	0.5	4000.00	2000.00	
8	Old unserviceable MCB	Each	150	20.00	3000.00	
9	Old unserviceable MS Chanel	QTL	2	4000.00	8000.00	
10	Old unserviceable MS clamp	QTL	0.5	4000.00	2000.00	
Total					660090.00	

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

BOQ (SCHEDULE 'A') (Contd/-)

(LIST OF ITEM OF WORKS)

SUMMARY

Total Amount back forward from BOQ Rs _____

Deduct Amount of Credit Schedule **Rs 6,60,090.00/-**

Contract Sum Rs _____

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

SCHEDULE 'B'
ISSUE OF MATERIALS TO THE CONTRACTOR
(SEE CONDITION 10 OF IAFW-2249)

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

-NIL-

SCHEDULE 'C'
ISSUE OF TOOLS AND PLANTS (OTHER THAN TRANSPORT)
WHICH WILL BE HIRED TO THE CONTRACTOR
(SEE CONDITION 15, 34 & 35 OF IAFW-2249)

Sl No	Qty	Particulars	Details of MES Crew supplied	Hire charges per unit per working day	Stand by charges per unit per day	Place of issued by Name	Remarks
1	2	3	4	5	6	7	8

-NIL-

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

Quantity	Particulars	Rate per unit per working day	Place of issue by Name	Remarks
1	2	3	4	5

-NIL-

SIGNATURE OF CONTRACTOR

AGE (CONTRACTS)
FOR ACCEPTING OFFICER

DATED:-

TENDER

To,

The President of India,

Having examined and pursued the following documents:-

1. Specification signed by AGE (Contracts).
2. Drawing details in the list of drawings.
3. Schedule 'A', 'B', 'C' & 'D' attached hereto.
4. MES standard schedule of Rates 2009 (Part-I) specifications and SSR 2020 Part-II rates(including amendments 1 to 122, (here in after) referred to as the MES schedule together with amendments No 1 to 3 of SSR 2009 Part-I.
5. General conditions of contracts, IAFW-2249 (1989 Print) together with errata No 1 to 20 and amendment 1 to 48.
6. **WATER**: Conditions of contracts IAFW-2249, General conditions of contracts water will be supplied by the MES and shall be paid by the contractor at the rate of Rs. 3.75 per every Rs. 1000/- worth or work done at contract rate.
7. Should this tender be accepted I/We agree: -

* (a) That the sum of Rs. _____(Rupees _____
_____only) forwarded as earnest money shall either be retained as a part of 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 as contained or referred to therein at the items rates contained in the aforesaid Schedule 'A' or at such other rates as may be fixed under provisions of conditions 62 to carry out such deviations as may be ordered vide conditions 7 of IAFW-2249 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 having degree in Engineering or equivalent having passed/final direct final examination in Sub Div-II of institution of Surveyors (India) recognized by Govt of India to be appointed by Chief Engineer Jabalpur or in his absence the officer officiating as Chief Engineer Jabalpur whose decision shall be final conclusive and binding.

* To be deleted whichever is not applicable.

TENDER (CONTD)

Signature _____ in the capacity of _____

Name _____ duly authorized to sign the tender for & on behalf of _____ (IN

BLOCK CAPITAL LETTERS)

Dated _____

Postal Address _____

Witness _____

Telegraphic Address _____

Telephone No _____

ACCEPTANCE

_____ Alterations have been made in this documents and evidence that these alterations were made before the execution of Contract Agreement; they have been initialed by the contractor and Narendra Kumar, AE (QS&C), AGE (Contracts) of Garrison Engineer Gaya Mil Station.

The above tender is / was accepted by me on behalf of the President of India at item rate contained in Schedule 'A'.

On the _____ day of _____ 2026

Dated: This _____ day of _____ 2026

Signature

Appointment

GARRISON ENGINEER
Gaya
ACCEPTING OFFICER
(For & on behalf of the President of India)

SUBSTITUTE PAGE FOR GENERAL CONDITIONS OF CONTRACTS (IAFW-2249)
(1989 PRINT) FOR MEASUREMENT CONTRACT IAFW-1179 & 1779A AND
LUMPSUM CONTRACT BASED ON IAFW-2159

1. A copy of the General Conditions of contracts (IAFW-2249) 1989 PRINT with errata 1 to 20 and amendment No. 1 to 48 has been supplied to me / us and is 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 there of, as modified, if any, elsewhere in these tender documents.

2. It is hereby further agreed and declared by me / us that the General Conditions of Contracts (IAFW-2249-1989 Print) including condition 70 thereof pertaining to settlement of disputes by Arbitration, containing 33 pages and Errata 1 to 20 and amendment No. 1 to 48 form part of these tender documents.

SIGNATURE OF CONTRACTOR
DATED:

AGE (Contracts)
FOR ACCEPTING OFFICER

SCHEDULE OF MINIMUM WAGES

It is hereby agreed that the “Schedule of Minimum Wages” as published by Government of India or provincial Government’s Notification whichever is higher issued up to date of submission of tender shall form part of these tender documents.

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

Note : “Schedule for Minimum Wages” referred to above is available for reference, in the office of GE Gaya Mil Station.

SIGNATURE OF CONTRACTOR

**AGE (Contracts)
FOR ACCEPTING OFFICER**

DATED:

SPECIAL CONDITIONS**1. General:**

1.1 The following special conditions shall be read in conjunction with General Conditions of Contracts (IAFW-2249) 1989 print including amendments and errata thereto. If provisions in these special conditions are at variance with the provisions in the aforesaid documents, the provisions in these special conditions shall be deemed to take precedence there-over.

1.2 The work under this contract shall be carried out in accordance with Schedule 'A', the particular specifications, drawings and other provisions in MES Schedule.

1.3 The term General Specifications referred to herein before as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule.

1.4 General rules, specifications, special conditions and all preambles in the MES Schedule shall be deemed to apply to the work under this contract. In case of any discrepancy, the provisions in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

2. Inspection of Site:

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

2.2 Handing over site:

2.2.1 The site(s) for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the Contractor will have to re-arrange his working program accordingly. No claim what-so-ever, for not giving the entire site on award of work and for giving the site(s) gradually, will be tenable.

3. Security & Passes:-

3.1 Tenderers' attention is drawn to the site plan enclosed with the tender.

3.2 Contractor's attention is invited to Condition 25 of IAFW-2249. He shall employ only Indian National after verifying their antecedents and loyalty. The contractor shall, on demand by the Engineer-in-Charge, submit list of his agents, employees and work people concerned and shall satisfy the Engineer-in-Charge as to the bonafide of such people.

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

3.4 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 e.g. prohibition of smoking and lighting, fire precautions, search of persons on entry and exit, keeping to specific routes. Nothing extra shall be admissible for any man-hours etc. lost on this account.

3.5 Visit to site within the Restricted Area: Permission to enter the restricted area at the time of submission of tenders can be obtained through the Garrison Engineer. Tenderers are advised to send prior intimation of their agents, representatives, etc. if any, date and time of their proposed visit, so that necessary arrangements may be made by GE to secure admission. Whether the tenderer visits the site or not he shall be deemed to have full knowledge of the restriction of; entering into/ exit from, and working within the Restricted Area.

SPECIAL CONDITIONS (Contd...)**3.6 Entry/ Exit:**

3.6.1 The Contractor, his agent(s), representatives, workmen etc. and his materials, carts, trucks or other means of transports etc will be allowed to enter through and leave only from such gate or gates and at such times as the GE or authorities in-Charge of the Restricted Area may at their sole direction permit to be used.

3.6.2 The Contractor's authorised representative is required to be present at the place of entry and exit for the purpose of identifying his carts, truck etc to the personnel in charge of the security of Restricted Area.

3.6.3 The Contractor shall give list of the labourer of the place of entry and exit in advance. Each labourer/ supervisor of contractor shall be issued with Identity Card to be obtained from uses by the contractor at his own expense. At the time of entry of labourer, on every day, Identity card of labourer shall be deposited at entry point and a numbered metal locker shall be obtained in here. At the time of exit, the Identity Card of the labourer shall be retired on deposition of numbered metal disc token. In case labourer force is to be shifted from one butt to another butt on administrative/technical grounds. One responsible supervisor will have to accompany the labourer.

3.7 Identity Cards or Passes: The Contractor, his agents and representatives are required individually to be in possession of an identity card or pass duly verified by the Police Department. The identity card or pass will be examined by the Security Staff at the time of entry into or exit from the Restricted Area and also at any time of number of times inside the Restricted Area.

3.8 Identity of Workmen:

3.8.1 Every workman shall be in possession of an identity card. The identity card will be issued after thorough investigation of the antecedents of the laborers by the Contractors and attested by the Officer-in-Charge of the unit(s) concerned in accordance with the standing rules and regulations of the unit(s).

3.8.2 Contractor shall be responsible for the conduct and action of his workmen, agents or representatives.

3.9 Search: Through search of all persons and transport shall be carried out at each gate and for as many times as a gate is used for entry or exit and may also be carried out at any times or any numbers of times at the work site within the Restricted Area.

3.10 Female Searcher: If the contractor desires to employ female labour on works to be carried out inside the Restricted Area and female searcher is not borne on the authorised strength at the time of submission of tender, he shall be deemed to have allowed in his tender for pay and allowance etc for a Female Searcher (Class IV servant/Group 'D' Servant) calculated for the period female labour is employed by him inside that area. If more than one contractor employs female labour during any month and female searcher(s) has/have to be employed in addition to the authorised strength, the salary and allowances paid to the adult female searcher(s) shall be distributed on an equitable between the contractors employing female labour taking into consideration the value and period of completion of their contracts. The GE's decision regard to the amount recoverable on this account from any contractor shall be final and binding.

3.11 The contractor shall have to make suitable lighting arrangement to ensure proper functioning and to avoid any miss-happening at site of works contractor shall get well acquainted before submitting his tender regarding the site difficulties which may be encountered at the site. No untoward incidental charges, if any shall be claimed by the contractor during the execution and completion of work.

3.13 Access to Restricted Area after completion of works: After the works are completed and surplus stores etc removed the contractor, his agents, representatives, workmen etc may not be allowed to have access to the restricted area except for attending any rectification of defects pointed out to him by the GE.

SPECIAL CONDITIONS (Contd...)

3.14. Contractor's Tools and Plants/ Machineries at site: Contractor shall be required to remove his T & P and other equipment etc every day from the site of the work(s). In case contractor fails to remove the Tools and plants/machinery and other equipment as directed by the Engineer in charge and if any damage occurs due to splinters, the contractor shall not be entitled for any claim/compensation for damages.

3.15 Police verification and security surveillance:

3.15.1 Regarding Police Verification, this condition shall be applicable even if it is at variance with the provisions given elsewhere.

3.15.2 The contractor shall employ only such persons as supervisors/ labourer etc, whose antecedents have been verified by the Police authorities. For this purpose, the following procedure shall be followed by the contractor: -

(a) Contractor shall submit a master list of his labourer and supervisors engaged by him for the work to the security Officer of the area concerned. This list shall comprise of full details of the antecedents of the contractor's personnel as per the Performa approved by the security officer of the area concerned.

(b) The contractor shall get the specimen attestation form from the GE and shall complete it in respect of his supervisor, labourer etc. This attestation form is not being attached with the tender documents and may be seen in the office of the GE.

(c) The contractor shall than submit the completed forms in duplicate to the concerned police authorities through the GE and security officer of the area concerned with request for getting the antecedents of the individuals verified. The period of 90 (Ninety) days may be allowed for receipt of PVR (Police Verification Reports) documents from the police authorities by the security staff of the area/unit concerned, by which time the contractor should get PVR or disengage the casual labour.

(d) Identity documents: The contractor shall provide identity and character certificates of labourer and supervisors engaged by the firm, to cover the 90 (Ninety) days period stated in sub Para (c) above.

(e) On receipt of the report from the Police department, the contractor shall apply to appropriate authority of the area/unit concerned through Engineer-in-Charge along-with three copies of passport size photographs for issue of passes.

(f) Labour Supervisors: - On acceptance of the contract, the contractor will apply for the number of supervisors required for the work till completion. The list of supervisors will be got scrutinised by the security officer of the area concerned. Police verification in respect of every supervisor is mandatory. Each supervisor will be issued temporary Pass (IAFW-3050) after being duly verified by the police (PVR) so as to ensure and guarantee the identity and conduct of the labourer while inside the site of work.

(g) Coloured laminated passes or metal discs:- The security staff of area/unit concerned shall make coloured laminated passes or metal discs, for the labourer and supervisors engaged by the contractor and shall issue the same to the contractor through E.I.C. The contractor shall issue these passes/discs to his labourer or supervisors for easy surveillance by the security staff in the pre-determined enclosures within the area/unit concerned. The pre-determined Zones within the area/unit concerned shall be clearly defined on the passes so that inter-mingling of labourer between the Zones is prevented by the security staff.

(h) Surprise checks:- The security staff of the area/unit will carry out surprise checks at the work sites to ensure that the contractor's supervisors/labourer are present and adhere to the security restrictions imposed by the security staff.

(j) All casual labourer engaged by the contractor shall be subjected to routine gate procedure.

3.16. **Work on holidays:** The contractor shall not carry out any work on Gazetted holidays, weekly holidays and other nonworking days except when he is specially authorised 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.

3.0 MINIMUM WAGES PAYABLE

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

4. LABOUR REGULATION AND ABOLITION ACT

Contract labour (Regulation and Abolition) Act 1970 is applicable to MES contractors. Rates quoted by the contractor shall be deemed to take into account the cost/extra expenditure etc required to comply with the provisions contained in the said Act and the rules framed regarding labour from time to time by Central/State Govt.

5 FIRE PRECAUTIONS:

- 5.1 The contractor, his agents, representatives, workers etc. shall strictly observe the orders pertainin to fire precautions prevailing within the restricted area.
- 5.2 Motor transport vehicles, if any allowed by authorities to enter the restricted area must be fitted with serviceable fire extinguishers.

6. SECURITY OF CLASSIFIED DOCUMENTS

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

7. MATERIALS AND SAMPLES

- 7.1 Material listed in Appx 'A' to special condition will only be accepted if they bear ISI certification marking. Material having only embossing of IS number can be rejected. Materials listed in Appx 'A'. will not be accepted even if they are conforming to relevant IS but not having IS marking. In case of deviation price adjustment @ 10% of the cost of article (on minus side only) shall be made for the articles/materials not having ISI marking. Materials listed in Appx 'A' & 'B' to particular specification are the products which are manufactured by number of firms and are generally superior to certified products though they do not bear the ISI mark. Such materials shall be accepted if they are conforming to the relevant IS.
- 7.2 Materials other than listed in condition 7.1 above required to be provided by the contractor for incorporation in this work shall unless otherwise specified in the particular specification, comply with the relevant Indian standard as specified in MES SSR Part-I subsequently amended or revised. Preference shall be given for ISI marked materials in such cases also. Materials required to be incorporated in the work to be procured by the contractor will be preferred in following order of preference.
- (a) Materials with ISI marking.
 - (b) Materials superior to ISI standards but not ISI marked.
 - (c) Materials conforming to relevant IS.
 - (d) Materials conforming to the samples kept in the GE's office.

- 7.3 The contractor shall produce samples of all materials, articles fittings, accessories etc. that he proposes to use and get them approval in writing by the Garrison Engineer. The materials, articles, etc. as approved shall be signed by the Engineer-in-Charge and the contractor's representative. These samples shall be kept in the custody of the Engineer-in-Charge. Contractor's quoted rates shall be deemed to include the cost of materials and labour for this purpose.
- 7.4 The brands of all materials, articles, fittings etc. approved together with the names of the manufacturers and firms from which supplies have been arranged shall be recorded in the materials passing register.
- 7.5 The materials for which IS do not exist or which are specified in these particular specifications to conform to the samples kept in the GE's office, shall comply with the requirement of these samples. The contractors are advised to inspect the sample which shall remain open for inspection with GE during working hours. The contractor shall be deemed to have full knowledge of the samples whether he inspects them or not.
- 7.6 The contractor shall submit two samples of each item requiring approval of the GE so that an approved sample can be kept in the site office/ incorporated in the sample quarter and other in the AGE/GE office. The contractor shall place order only after approval of the sample by the GE.
8. REIMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT VALUE"
- 8.1 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 as applicable), duties, Royalties, Octroi & other levies payable under the respective Statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies, and/or imposition/abolition on any new /existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in Sub Para 8.2 (a) to 8.2 (d) here-in-below.
8. REIMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT VALUE"
- 8.1 The rates quoted by the contractor shall be deemed to be inclusive of all taxes (including GST on materials, GST on works contracts, Turnover Tax, Labour Welfare cess/tax etc as applicable), duties, Royalties, Octroi & other levies payable under the respective Statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies , and/or imposition/abolition on any new /existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in Sub para 8.2 (a) to 8.2 (d) here-in-below.
- 8.2 (a) The taxes which are levied by Govt at certain percentage rate of contract sum/Account shall be termed as "taxes directly related to contract value" such as GST on works contracts, Turnover Tax , Labour Welfare cess/tax and like but excluding Income tax. The tendered rates shall be deemed to be inclusive of all "taxes directly related to contract value" with existing percentage rates as prevailing on bid submission end date of tender. Any increase in percentage rates of "taxes directly related to contract value" with reference to prevailing rates on bid submission end date of tender 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 bid submission end date of tender shall be refunded by the contractor to the Govt/deducted by the Govt from any payments due to contractor. Similarly imposition of any new "taxes directly related to contract value" after the bid submission end date of tenders shall be r e i m b u r s e d to the contractor and abolition of any "taxes directly related to contract value" prevailing on last due date for receipt of tender shall be refunded by the contractor to the Govt/deducted by the Govt from any payments due to contractor.
- 8.2 (b) The contractor shall, within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of an further "taxes directly related to contract value" , give written notice thereof to the GE stating that the same is given pursuant to this Special Condition, together with all information relating thereto which he may be in a position to supply. The contractors shall submit the other documentary proof/information as the GE may require.
- 8.2 (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 the GE furnish, verified in such a manner as the GE may require, any documents so kept and such other informations as the GE may require.
- 8.2(d) Reimbursement for increase in percentage rates/imposition of "taxes directly related to contract value" shall be made only if the contractor necessarily and properly pays addition "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 from concerned Govt Authority and submits documentary proof for the same as the GE may require.

9. CONTRACTOR'S REPRESENTATIVES, AGENTS & WORKMEN

- 9.1 Refer condition 25 of IAFW-2249. The contractor shall employ only Indian Nationals as his representative, servants and workmen and verify their antecedents and loyalty before employing them for the work. He shall ensure that no person of doubtful antecedents and nationality is, in any way associated with the work. If for the reasons of technical collaboration or other consideration the employment of foreign national is unavoidable, the contractor shall furnish the particulars to this effect, to the Accepting Officer at the time of submission of tender.
- 9.2 The GE shall have full powers and without giving any reason to order the contractor immediately to cease to employ, in connection with this contract any representative, any agents, servants and workmen or employees whose continued employment is, in his opinion undesirable. The contractor shall not be allowed any compensation on this account.

10. SITING OF BUILDINGS

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

11. PERIOD FOR KEEPING THE TENDER OPEN

- 11.1 The tender shall remain open for acceptance for a period of 60 days from the next date subsequent to BID SUBMISSION END DATE of tender specified (or amended through subsequent amendments if any).

12. SIGNING OF CONTRACT DOCUMENTS

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

13. CRITICAL PATH NETWORK

- 13.1 The time and progress chart to be prepared as per Condition 11 of IAFW-2249 (General Conditions of Contracts) shall consist of detailed network analysis and a time schedule. The GE and the contractor will draw the critical path network jointly soon after acceptance of the tender. The time scheduling of the activities will be done by the contractor so as to finish the work within the stipulated time. On completion of the time schedule a firm calendar date schedule will be prepared and submitted by the contractor to the GE who will approved it after due scrutiny. The schedule will be submitted in four copies within two weeks from the date of handing over of site.
- 13.2 During the currency of the work contractor is expected to adhere to the time schedule and this adherence will be part of the contractor's performance under the contract. During the execution of the work, contractor is expected to participate in the review and updating of the network undertaken by the GE.
- 13.3 These reviews may be under taken at the discretion of the GE either as periodic appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation order or amendments. Any revision of the schedule as a result of the reviews will be submitted by the contractor to the GE within a week who will approve it after due scrutiny. The contractor shall adhere to the revised schedule thereafter. In case of contractor not agreeing to revised schedule, the same will be referred to the Accepting Officer whose decision will be final, conclusive and binding. GE's approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time. Extension of time shall be considered and decided by the appropriate authorities mentioned in condition 11 of IAFW-2249 and separately regulated.

13.4 Contractor is expected to mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety.

13.5 No additional payment will be made to the contractor for any multiple shift work or other incentive method contemplated by him in his work schedule even though the time schedule is approved by the department.

14. **CO-OPERATION WITH OTHER AGENCIES**

14.1 The contractor shall permit free access and afford normal facilities and usual convenience to other agencies or departmental workmen, etc. to carryout works of services under separate arrangement. The contractor shall not be allowed any extra payment on this account.

15. **CLEANING DOWN**

15.1 Refer condition 49 of IAFW-2249 General Conditions of Contracts. After the work is complete, the contractor shall clean all floors, remove cement/lime/paint drops, clean joinery, glass etc. touch up all painters work and carry out all other necessary items of work to make the premises clean and tidy before handing over the buildings. No additional payment will be made to the contractor for the purpose.

16 & 17. BLANK

18. **WATER SUPPLY**

18.1 Refer to condition 31 of IAFW-2249.

(a) Water will be supplied by MES to the contractor at points shown on site plan from piped system and shall be paid by the contractor @ Rs 3.75 per Rs 1000.00 worth of work done priced at contract rates. The contractor shall arrange at his own expense for storage of water and lifting pumping, carrying of conveying water to the site of work as required. In case water points are not marked on the site plan, the water shall be supplied at one point at decided by GE. Contractor shall plug the bore hole through a suitable cap as directed by Engineer-in-Charge for removal of hand pump to prevent any accidental failing.

(b) The supply of water may not be continuous. The contractor shall be deemed to have ascertained the hours of availability of water before submitting his tender. The MES do not guarantee the continuity of water supply and no compensation shall be allowed for intermittent or inadequate water supply and break down in the system. If the supply is not sufficient the contractor shall make his own arrangement to supplement the water supply at his own cost. For this purpose the contractor shall be allowed to install hand pumps at the site of work at places as directed by the Engineer-in-Charge without any charges from the contractor on this account. The contractor shall remove the hand pumps as and when asked to do so by Engineer-in-Charge or GE and in any case on completion of work. No compensation whatsoever shall be admissible to the contractor if the GE requires him to remove the pumps before completion of work.

19. **ELECTRIC SUPPLY**

19.1 In case the contractor desires to buy electricity from MES, it will be supplied at point up to 03 km away from site of work shown on site plan./or as decided by the GE.

19.2 Electric supply shall be 415/230 volts, 50 cycles, three phase AC supply at upto 05 KW.

19.3 The contractor shall be charged for the electric energy consumed at Rupees 13.03 per unit (KWH) for lighting and power.

- 19.4 The above rate is all in cost rate. Duties and/or taxes if any, levied by State Govt. and/or any Electricity Undertaking and the like on the electricity charges will be borne by the Department.
- 19.5 Main switches and KWH meter to register the power supplied shall be provided and installed by MES. All other fittings, cable switch, connection etc. for distribution and supply of electricity from main switch to work site shall be arranged by the contractor at his own according to Indian Electricity Rules and along with the routes approved by the GE. The GE shall have free access to inspect all installations, connections, devices for consuming the electricity and if these are not found satisfactory the GE shall have the power to get these disconnected.
- 19.6 Supply of electricity shall be during the hours as decided by the GE. However MES does not constitute any guarantee for the continuity of supply and no compensation shall accrue to the contractor for the supply becoming intermittent or if there is any breakdown for any reason. Contractor shall have provision of sufficient stand by supply under their own arrangement to ensure that no delay occurs on account of no or intermittent supply from the MES.
- 19.7 It is the responsibility of contractor to maintain the unit power factor of electric supply. For this contractor shall provide capacitor of appropriate capacity for each connection for installation of his construction equipments.
- 19.8 pments.

20. **ADVANCES ON ACCOUNT AGAINST MATERIALS (REFER CONDITION 64 OF IAFW-2249)**

- 20.1 Add the following in continuation of Para 8 of Condition 64 of IAFW-2249:-
Provided further, the contractor may be paid advance on account to the full value of the under mentioned materials only, brought on the site, on his furnishing Guarantee Bond(s), from a Scheduled Bank for the amount of the retention money which should otherwise be recoverable from him under the contract. The contractor shall produce genuine purchase Vrs for the materials so procured when demanded by the Engineer in Charge:-
- (a) Factory made doors and windows
 - (b) Sanitary fittings
 - (c) Electrical fittings
 - (d) Water supply fittings/fixtures
 - (e) Iron mongery
 - (f) AC soil waste/vent pipes
 - (g) Any other fittings, fixtures & other manufactured items which do not loose their identity as approved by GE.
- 20.2 The Bank Guarantee Bond(s) shall be executed for a period of six months and on a form as directed by the Accepting Officer. The contractor shall further arrange to extend the period of Guarantee Bond(s) if and when necessary, as directed by the Accepting Officer or shall furnish fresh Guarantee Bond(s) of similar value in lieu.
- 20.3 It shall be noted that, advance on account to the full value against Bank Guarantee is permissible only in respect of fittings and fixtures and other manufactured items which do not loose their identity.

21. **ROYALTIES**

Delete the existing description of Condition 14 of IAFW-2249 and insert the following : “No quarries on defence land are available”.

SPECIAL CONDITIONS (Contd...)**22. CONTRACTORS PLANTS/EQUIPMENT AT SITE :**

22.1 The Contractor alongwith his labour return shall furnish to the Engineer-in-Charge every morning distribution return of his plants/equipments on the site of work stating following particulars:-

- (i) Particular of plants/equipments, their make, manufacturer's model No. if any, Registration No., if any, capacity, year of manufacture and year of purchase etc.
- (ii) Total No. of (Quantity) on site of work.
- (iii) Location indication No. (quantity) at each location on the site of work.
- (iv) For the purpose of this condition, purchase value on the date of purchase for plant/equipment and vehicle No. of trucks and lorries shall be furnished. However neither the workman's tools nor manually operated tools/equipment shall be given. The Engineer-in Charge shall record the particulars supplied by the contractor in the works diary and sent the return to the GE for record in his office.

23. OUT OF POCKET EXPENSES

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

24. DAMAGE TO EXISTING WORKS

Any damage to the existing structures, any existing road etc., during the execution of work shall be made good by the contractor at his own expense. Rectification, replacement, making good and touching up etc. shall be carried out, conforming to the materials and workmanship originally provided and to the satisfaction of the Engineer-in-Charge. In case of any dispute on this account, the decision of the GE shall be final, binding and conclusive.

25. MINOR CONSTRUCTION DETAILS

25.1 Unit rates offered by the Contractor in Sch 'A' shall be deemed to include for all minor details of construction which are obviously and fairly intended and which may not have been referred to in these documents but these are essential for the execution of work and services in workmen like manner and sound construction.

25.2 In case of difference of opinion as to whether or not a certain item of work constitutes minor details of construction included in the contractor's quoted rates, the decision of the Accepting Officer shall be final, conclusive and binding.

26. RECORD OF PROPRIETARY BRANDED MATERIALS WHICH LOOSE IDENTITY AFTER INCORPORATION

26.1 Proprietary/branded materials such as all types of bitumen, cement, steel, sealing compounds, glass grid, SAMI, paints, bonding agents etc, the quantity of which cannot be checked after incorporation in the work, shall when collected at site, be recorded in Measurement Book with reference to Vr No, make, brand and rate charged by manufacturer/supplier, and signed both by the MES representative and the contractor.

26.2 The contractor shall obtain proprietary/branded materials direct from the manufacturer(s) or from their authorised stockiest where such authorised stockiest have been appointed. Contractor shall produce original purchase voucher/bill/invoices for full quantities of materials showing quantity and quality of the materials before claiming advance on account payment or before incorporating these materials into the work to satisfy the Engineer-in-Charge that materials comply with the I.S. Specifications. These vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving the contract number and name of work and a certified copy of each such vouchers signed both by Engineer-in-Charge and the contractor shall be kept in MES record.

26.3 When cost of each category of materials is less than Rs 2500/- production of vouchers may not be insisted upon if the Garrison Engineer is otherwise satisfied of the quality and quantity of the materials.

SPECIAL CONDITIONS (Contd...)**27. STORAGE OF MATERIALS**

27.1 The contractor shall not be provided any storage accommodation at the site by MES. The contractor shall make his own arrangement as per condition 10 of IAFW-2249 and as directed by the Engineer-in-Charge.

28 ROAD ROLLERS (Reference Condition 15 of IAFW-2249)

28.1 Road Rollers required for the execution of this work shall be arranged by the contractor under his own arrangements without any extra cost to the department.

28.2 A log book for each road roller shall be maintained by him for recording hours of working of the road roller. Entries in the log book shall be signed by the contractor or his authorised representative and Engineer-in-Charge at site of work.

28.3 To ensure proper consolidation, roller must work for at least the number of days assessed on the basis of output given here in after. If the roller has not worked for the number of days so assessed recovery shall be effected from the contractor for the number of days falling short of the days assessed on the basis of output stipulated. The recovery shall be affected as under :-

(a) Where road roller is hired out only by the department to contractor, at rates given in Sch 'C'.

(b) Where road roller is hired by the contractor from sources other than department, Rs 1800 per working day of 8 hours for 8 to 12 tonne roller.

(c) Where road roller is hired by the contractor from department and also from sources other than the department at higher of two rates given in schedule `C` of contract and Para 28.3 (b) above.

28.4 The above provision shall not, however, absolve the contractor of his responsibility of properly consolidating surface as required under the provisions of the contract.

28.5 Out put of Road Roller per day of Eight Hours working of power roller (8 to 12 Tonne) :-

(a) Consolidation of formation surfaces/ sub grade	1850	Sqm
(b) Consolidation of stone, soling 20 cm thick (spread thickness) with 8 to 12 tone roller.	590	Sqm
(c) Consolidation of stone, soling 15 cm thick (spread thickness) with 8 to 12 tone roller.	800	Sqm
(d) Consolidation of water bound macadam (stone metal) 10cm compacted thickness including spreading and consolidation with blinding material.	248	Sqm
(e) Consolidation of water bound macadam (stone metal) 7.5 cm thickness (compacted thickness) including spreading and consolidation with blinding material.	372	Sqm
(f) Consolidation of single coat surface dressing.	774	Sqm
(g) Consolidation of two coat surface dressing	558	Sqm
(h) Consolidation of 2.50 cm thick premixed carpet including seal coat.	600	Sqm
(i) Consolidation of 2.50 cm thick premixed carpet including seal coat.	744	Sqm
(j) Consolidation of 2 cm thick premixed carpet including seal coat.	372	Sqm
(k) Consolidation of bituminous mixture 2 parts of broken stone metal and one part of sand and bitumen (consolidated thickness 4 cms)		

SPECIAL CONDITIONS (Contd...)

Note:- (i) Wherever tandom vibratory roller and pneumatic tired rollers & vibratory earth compactor is specified, the output of the same shall be as per manufacturer's instructions for the respective items so as to achieve proper compaction.

(ii) Any other Sch 'A' item for which output not covered above shall be determined on actual site basis as ordered by GE through BOO.

29. RETENTION MONEY/COMPENSATION FOR DELAY

For the purpose of calculating retention money under condition 64 of IAFW-2249 and compensation for delay in completion of work under condition 50 of IAFW-2249, income tax (at source) and like, the value of contract as revised by price variation under condition 63 of IAFW-2249 shall be taken into account.

30. BANK GUARANTEE BOND

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 Govt. of India, Min. of Defence on non-judicial stamp papers of appropriate value from schedule Bank. In case of the BGB is executed from a non-scheduled 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.

31. MATERIALS IN METRIC SIZES

If the materials (other than those issued under Sch. `B`) are not available in metric sizes as shown on drawings, the contractor shall provide materials in equivalent inch sizes which should not be less than the metric size dimensions under any circumstances, at no extra cost to the Govt.

32. LAND FOR TEMPORARY WORKSHOP, STORES ETC

Delete. The following from line 5 to 9 of sub Para 1 of condition 24 of IAFW-2249 reading "In the event of area of land allotted to him" and insert as under :-

"The contractor shall be allotted the area as marked on the layout plan(s) for the purpose of erecting temporary workshop, stores etc. Plot of land so allotted shall not be used for accommodation for labour and canteen, for which the contractor shall make his own arrangements at his own expense. For this purpose, a token rent of Rs. 1/- per year or part of a year will be recovered from the contractor in respect of each and every separate area of land allotted to him. The area so occupied shall be vacated by the certified date of completion and site of work shall be cleared as stipulated in condition 49 of IAFW-2249"

33. TESTING OF MATERIAL

33.1 For works costing more than one crore it will be mandatory for the contractor to establish his own laboratory at his own cost at site on commencement of work to carry out test of level 'A' specified in appendix 'B' to special condition here in after. In case the cost of work is less than Rs. 1 crore it will be at the option of the contractor to set up site laboratory. All equipment of the laboratory will be got calibrated by the contractor from the authorized test house at commencement of work and there after on yearly basis and test certificate produced to the GE

33.2 Contractor will be responsible for carrying out all the tests specified in appendix 'B' for level 'A', level 'B' and level 'C' and all others tests specified elsewhere in tender documents such as test for cement, steel etc. The cost of material and transportation for all the tests will be born by the contractor.

33.3 There will be no recovery by the department for the tests of level "A" carried out in the site lab established by the contractor. For level 'B' or any other tests carried out in zonal lab, testing charges will be recovered at the rates given in appendix 'B'. The recovery for the tests carried out in National test house/Engineering college/SEMT wing, CME, Pune etc shall not be effected by the department and the testing charges for such tests will be borne by the contractor himself.

SPECIAL CONDITIONS (Contd...)

- 33.4 The test in site lab shall be carried out in the presence of Engineer-in-Charge
- 33.5 The percentage/selective checks as desired by the accepting officer/GE shall be got done independently in the Zonal/Govt approved labs. The testing charges only for such tests shall be borne by the department. Cost of material shall be born by the contractor. In case test results are found at variance from the results of site lab, the results obtained form the Zonal/Govt approved lab will be final and binding
- 33.6 For the works costing less than 1 Crore in case contractor does not opt to establish site lab, level 'A' tests shall also be got carried out by the contractor in Zonal lab and recovery shall be effected as specified in Appendix 'B'.
- 33.7 In case the same are got carried out from other Govt/Govt approved/Engg College, the cost of materials, transportation as well as testing charges will be borne by the contractor
- 33.8 The contractor shall employ a full time, competent technical representative having diploma in Civil Engineering for carrying out tests in site laboratory. This will be in addition to Engineer (s) employed for supervision of works as required vide condition 25 of IAFW -2249.

34. HANDING OVER OF SITE

Site for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the contractor will have to arrange his working programme accordingly. No claim whatsoever, for not giving entire site on award of work and for giving site gradually, will be tenable.

35. BLANK**36 WATCH, WARD AND LIGHTING**

- 36.1 The Contractor shall provide and maintain all necessary watch, ward and lighting arrangements to keep the traffic off the trenches. Necessary boards and sign posts shall be provided and set up to the entire satisfaction of the Engineer-in-charge.
- 36.2 The Contractor shall reimburse the loss to the Govt. on account of any damage, that may occur on this account.

37 PRECAUTION AGAINST RISKS

- 37.1 The Contractor shall be responsible at his own expense in taking precaution to prevent any damage from what so ever cause arising, other than out of accepted risks and to minimise the amount of any such loss or damage and for adoption of necessary protective measures required for the purpose in compliance with Condition 38 of IAFW-2249 and Rule 5 of the MES SAFETY CODE vide (Annexure 'B') of IAFW-2249 until the works have been handed over duly completed to the Engineer-in-charge.

38 APPROACHES

- 38.1 The Contractor shall make arrangements for and provide at his own cost all temporary approaches, if required to the site(s), after obtaining approval in writing of the GE to the layout of such approaches.

SPECIAL CONDITIONS (Contd...)**39. REFUND OF PERFORMANCE SECURITY :**

39.1 The Performance Security Deposit mentioned in Condition 19 of the IAFW-2249 may be refunded to the contractor after expiration of the defects liability period (vide Condition 46) by the GE provided always that the contractor shall first have been paid the final bill and have rendered a Non-Demand Certificate (IAFW-451).

39.2 **Defect Liability:** Defects liability period of the contract shall be for twenty four calendar months after the works have been handed to Government.

40. BLANK**41 Record of Materials and Purchase Vouchers:**

41.1 (a) The quantity of material such as cement, steel paints, water proofing compound, chemicals for anti-termite treatment and the like, as directed by the Engineer-in-Charge (the quantity of which cannot be checked after incorporation in the works), shall be recorded in measurement books and signed by the contractor and the Engineer-in-Charge as a check to ensure that the required quantity has been brought to site for incorporation in the work.

(b) Material brought to site shall be stored as directed by the Engineer-in-Charge and those already recorded in measurement book shall be suitably marked for identification.

(c) Contractor shall produce original vouchers/invoice from the manufacturers and/or their authorised agents for the full quantity of the following materials, as applicable as a pre requisite before submitting claims for payment for advances on account of the work done and / or materials collected in accordance with condition 64 of General condition of contracts-IAFW-2249.

(i) Water proofing compound. (ii) Chemicals for Anti-termite treatment.

(iii) Paints Distemper, cement base paints & like. (iv) Cast iron pipes and fittings. (v) Sanitary fittings. (vi) steel windows/ventilator (vii) Factory made door shutters. (viii) Floor/wall tiles. (ix) Iron mongery (x) Tarfelt/bituminous products. (xi) Salt glazed stoneware pipes. (xii) Electrical and water supply fittings / fixtures where names of manufacturers / brands are specified or approved (xiii) Cables (xiv) Cement. (xv) Steel (xvi) PVC pipe and fittings

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

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

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

SPECIAL CONDITIONS (Contd...)**42 ACCEPTANCE QUALITY OF WORK AND FINISHES:**

42.1 To determine the acceptable standard of materials and work man ship, the GE will order to the contractor to execute sample works and shall select a portion of building as sample building in which all the works as per contract agreement will be carried out before in corporate in the whole building. The comments / suggestion received from users / visitors will be implemented firstly on sample quarter and then may be implemented in the whole building based on approval of competent authority. The workmanship of the sample quarters / works shall serve as guiding sample for the remaining works.

43 RECORD OF CONSUMPTION OF CEMENT :

43.1 For the purpose of keeping a record of cement consumed in the works, the Contractor shall maintain a pucca bound register with serially numbered pages duly initialled by Engineer-in-Charge, showing daily receipt, quantity used in works and balance in hand at the end of each day. This register shall be signed daily by the Contractors representative and MES representative in token of their verification of its correctness. This register shall be checked by Engineer-in-Charge at least once a week and on the day, cement is brought by the contractor.

43.2 The register shall be kept at site in the safe custody of the Contractor during progress of the work and he shall on demand produce the same for verification of inspecting Officer. On the completion of the work, cement register shall be handed over to the Engineer-in-Charge for record with MES.

44 SPECIAL CONDITION FOR CONCILIATION

44.1 The following disputes between the parties to the contract shall after written notice by either party to the contract be referred to the "Sole conciliator". This is an serving officer not below the rank of superintending Engineer / Superintending Engineer (QS&C) having degree in Engineering or equivalent or having passed final /direct final Examination of sub division II of Institution of Surveyor (India) recognized by Govt of India to be appointed by the Engineer in Chief, Army Head Quarters, New Delhi or in his absence the officer officiating as Engineer in chief or Director General of works specifically delegated by the Engineer in chief.

44.2 The scope of conciliation shall be restricted to the following types of disputes with financial limits as Rs. 2.00 lacs (Rupees two lacs only) for each claim in dispute.

- (a) Disputes relating to levy of compensation for delay in completion.
- (b) Disputes relating to technical examination of works.
- (c) Disputes relating to interpretation of the provisions of the contract with reference to their application to parties.
- (d) Disputes relating to non return of schedule "B" stores over issued to the contractor.
- (e) Any other dispute having fair chances of being resolved by conciliation and consider fit to be referred to conciliation by the parties.

44.3 If the other party rejects the invitation, there will be no conciliation proceedings. If the party initiating conciliation does not receive a reply within 30 days from the date on which he sends or within such other periods of time as specified in the invitation, he may elect to treat this as a rejection of the invitation to conciliate and if he so elects, he shall inform in writing the other party accordingly.

44.4 The party initiating conciliation shall send to the other party a written invitation to conciliate, briefly identifying the subject of the dispute. The conciliation proceedings shall commence when the other party accepts in writing the invitation to conciliate.

44.5. If the conciliator so appointed resigns his appointment or vacates his office or is unable or unwilling to act due to any reason whatsoever, the authority appointing him may appoint a new Conciliator to act in his place.

44.6. The parties shall not initiate during the conciliation proceedings in respect of a dispute that is the subject matter of conciliation proceedings except that a party may initiate arbitral or judicial proceedings where in his opinion such proceedings are necessary for preserving his rights. The failure of conciliation shall in no way absolve the right of the parties to invoke arbitration for the disputes referred to for the conciliation.

SPECIAL CONDITIONS (Contd...)

- 44.7. The conciliation proceedings shall be governed as per the Arbitration and Conciliation Act 1996.
- 44.8. The settlement agreement signed by the parties as a result of conciliation proceedings shall have the same status and effect as it is an arbitral award on agreed terms.

45. **BLASTING**

- 45.1. Blasting in any form is prohibited.

46. **SITE DOCUMENTS**

- 46.1. In addition to the site documents which are normally maintained for works , the following additional documents (as applicable for this work) shall be maintained at site and signed by GE / his authorized representative and the Contractor :-

- (a) Mix design for quality concrete for rigid pavement.
- (b) Sieve analysis and silt test of sand
- (c) Sieve analysis of stone aggregates of different sizes
- (d) Water absorption test of stone aggregates of different sizes
- (e) Impact value of stone aggregates of different sizes
- (f) Crushing value of stone aggregates of different sizes
- (g) Flakiness index of stone aggregates of different sizes.
- (h) Rolling hours
- (j) Daily work register
- (k) Register of materials daily arrived at site
- (l) Materials approved register
- (m) Aggregate abrasion value register
- (n) Cement consumption register
- (o) Register for soundness test
- (p) Register for temperature control at boiler out at paver
- (q) Register for clay, silt and impurities in aggregate test.
- (r) Cube testing register
- (s) Beam testing register

47. **VALUATION OF DEVIATIONS.** Condition 62 of General Conditions of Contracts (IAFW-2249) shall be referred.

48. **OFFICIAL SECRET ACT.** In reference to condition 2 A of General Conditions of Contracts IAFW-2249, the contractor shall be bound by the Indian Official Secret Act-1923 and particularly section 5 thereof.

49. **CONSTRUCTION ON LABOUR WELFARE TAX.** The lump sum/unit rate quoted by the tenderers shall be deemed to include the element of tax consequent to building and construction workers (Regulation of employment and condition of services) welfare cess act-1996.

50. **TAX ON WORKS CONTRACT CONSEQUENT UPON CONSTITUTION (FORTY SIXTH AMENDMENT) ACT 86**

The tendered rates shall be deemed to be inclusive of all taxes & levies payable under the respective statues including the Sales tax/VAT imposed by State Govt consequent upon constitution (Forty Sixth) amendment Act 1986. All orders notifications in connection with tax on works contracts issued shall be considered by the tenderer & nothing extra on this account shall be paid/reimbursed by the Department.

Signature of Contractor
Dated

AGE (Contracts)
for Accepting Officer

SPECIAL CONDITIONS (Contd...)**APPENDIX 'A' TO SPECIAL CONDITIONS****LIST OF CERTIFIED PRODUCTS TO BE INCORPORATED IN WORKS**

Sl No	Material
1.	<u>Concrete</u> (a) Internal water proofing compounds(IS : 2645) (b) Plywood for concrete shuttering work(IS-4990)
2.	<u>Joinery</u> Wooden Flush Door Shutters, solid core type(IS-2202)
3.	<u>Builders Hardware</u> (a) Steel shutter hinges(IS:1341) (b) Non-ferrous Butt Hinges(IS : 205) (c) Ferrous Tower Bolts (IS:204) (d) Non-ferrous Tower Bolts (IS: 204) (e) Door Handles (non-ferrous)(IS:208) (f) Parliament Hinges(Ferrous)(IS:362) (g) Hydraulically Operated Door Closures(IS:3564) (h) Continuous Piano Hinges(IS:3818) (i) Non-ferrous Metal sliding door Bolts (IS:2681) (k) Tee and Strap Hinges (IS:206) (l) Mild steel sliding door Bolts (IS:281)
4.	<u>Steel And Iron Work</u> (a) Steel doors, windows and ventilators(IS: 1038)
5.	<u>Roof Covering</u> Bitumen Felts for water proofing and damp proofing (IS-1322)
6.	<u>Ceiling and Lining</u> (a) Plywood for General Purposes(IS- 303) (Second revision) (b) Block boards(IS : 1659) (c) Veneered decorative plywood(IS : 1328) (Second revision) (d) Marine plywood (IS : 710) (e) Fiber Hard board(IS : 1658)
7.	<u>Flooring</u> (a) White Portland cement(IS : 8062) (b) Cement concrete flooring (IS : 1237)
8.	<u>WATER SUPPLY, PLUMBING, DRAINS AND SANITARY APPLIANCES</u> (a) Concrete pipes with or without reinforcement (IS: 458) (b) Salt glazed stoneware pipes and fittings (IS: 651) (c) Flushing cisterns for water closets and urinals other than plastic (IS: 774) (d) Cast copper alloys screw down bib taps and stop valves (IS: 781) (e) Galvanised mild steel tubes (IS: 1239) (f) Galvanised mild steel tube fittings (IS: 1239) (g) Sand cast irons spigot and socket soil waste and ventilating pipes and fittings (IS: 1729) (h) Ball valves (Horizontal plunger type) including floats for water supply purposes (IS: 1703) (j) Cast iron manhole covers and frames (IS: 1726) (k) AC presser pipes (IS: 1592) (l) Automatic flushing cisterns (IS: 2326)

SPECIAL CONDITIONS (Contd...)**APPENDIX 'A' TO SPECIAL CONDITIONS (CONTD/-)****LIST OF CERTIFIED PRODUCTS TO BE INCORPORATED IN WORKS**

Sl No	Material
8	(m) Vitreous china sanitary appliances (i) Wash down water closets (IS: 2556 Part II) (ii) Squatting pans (IS: 2556 Part III) (iii) Wash basins (IS: 2556 Part IV) (iv) Laboratory Sinks (IS: 2556 Part V) (v) Urinals Bowl type (IS: 2556 Part VI Section I) (vi) Half Round Channels (IS: 2556 Part VII) (vii) Syphonic wash down water closets (IS: 2556 Part VIII) (viii) Foot rests (IS: 2556 Part X) (n) Plastic WC seats and covers (IS: 2546) (o) Vertically cast iron pressure pipes for water and sewage (IS: 1531) (p) Pillar tap (IS: 1793) (q) Centrifugally cast (Spun) iron pressure pipes for water gas and sewage (IS: 1536) (r) Centrifugally cast (CI spigot and socket soil waste and ventilating pipes, fittings and accessories)(IS: 3989) (s) Rubber sealing rings for gas main water mains and sewers (IS: 5382) (t) Cast iron fittings for pressure pipes for water mains and sewers (IS: 1538)
9.	<u>Electrical Works</u> (a) Ceiling Rose (IS:371) (b) Tumbler switches (IS:3854) (c) Socket outlet 3 pin plug and socket (IS:1293) (d) Switch fuses (main & switch) (IS:1064 Part-I&II) (e) Rigid steel conduit (IS:1063) (f) Rigid Non-Metallic conduit (IS:2509) (g) Single core cable polyethylene insulated and PVC sheathed cable(IS:1596) (h) Starter for tube light (IS:2215) (i) Fluorescent lamps (IS: 2418 Part I&II) (j) Aluminium stranded conductor (IS: 398 Part I & II) (k) Switchgears (IS:2208) (l) HRC cartridge fuse links upto 650 volts (IS:9224 Part II) (m) Porcelain Insulators for overhead power lines (IS:731) (n) MCB (IS:8828)

Signature of contractor
Dated:

AGE (Contracts)
For Accepting Officer

APPENDIX 'B' TO SPECIAL CONDITION

MATERIALS AND THEIR TESTS

Srl No	Material	Tests	Method of testing	Frequency of tests	Level of test	Rate per test Rs.	Remarks	
1	2	3	4	5	6	7	8	
1.	Brick	1) Compressive strength	IS-3495 (Part-II)	As per IS-5454 as given under:-	A	180/-	Checks for visual and Dimensional characteristics shall also be carried out	
		2) Water Absorption	--Do--	Lot Size.	sample	permissible	A 150/-	as per IS:5454
		3) Efflorescence	---Do... (Part-I)	1001 to 10000	5	Nos of defective bricks 0	A 180/-	Legend A-Site Lab B-Zonal Lab/Govt Engg College. C-National Test House/SEMT WING/ Engg. College.
				10001 to 35000	10	0		
				35001 to 50000	15	1		
2.	Coarse Aggregate	1) Sieve Analysis	IS:2386(Part-I)	One test for every 15 cum of aggregates or part there of brought to site.	A	120/-		
		2) Flakiness Index	---do--		A	90/-		
		3) Estimation of deleterious materials	---do--	One test for every 100 cum of aggregate or part thereof.	A	120/-		
		4) Organic impurities	---do--	One test per source of supply	C	120/-		
		5) Moisture content	IS:2386(Part-II)	Regularly as Reqd.	A	120/-		
		6) Specific gravity	--do--	One test for each source of supply.	B	120/-		

CONTD. /.

1	2	3	4	5	6	7	8
3.	Fine aggregate	1) Sieve Analysis	(IS:2386Pt-I)	One test for every 15 cum of FA or part thereof when brought to site.	A	180/-	
		2) Test for clay, silt and impurities.	--do--	--do--	A	90/-	
		3) Specific gravity	--do. but (Part-II)	One for each source of supply	B	180/-	
		4) Test for organic impurities	--do--	One test for each source of supply.	C	180/-	
		5) Moisture content	-do-	Regularly as required subject to 2 tests/ per day when being used.	A	180/-	
4.	Cement	1) Setting time	IS-4031-63 Reaffirmed 1980	Once for each consignment or as and when Reqd.	B	180/-	
		2) Soundness	--do--	--do--	C	120/-	
		3) Compressive strength	--do--	--do--	B	360/-	
		4) Fineness	--do--	--do--	C	120/-	
5.	Structural concrete	1) Slump test or compacting factor time or VEE-BEE test	IS-1199	The Min frequency of sampling of concrete of each grade shall be as under :-	A	180/-	(1) Random sample shall be carried out to cover all mix units.
		2) Compressive strength	IS-516	Qty of Conc. IN THE work(M ³)	A	120/- per sample	(2) Refer IS-456-2000 Clause. 15.2 for frequency of sampling.
				1 - 5		1	
				6 - 15		2	
				16 - 30		3	
				31 - 50		4	
				51 and above		4+1 for each Addl 50 cum or part thereof	
6.	Water for constn purpose	1) Test for acidity	IS:456 & 3025	Once at the stage of approval of source of water	B	240/-	Refer relevant clause of IS-456:2000
		2) Test for alkalinity	-do-		B	240/-	
		3) Test for solid content	-do-		C	300/-	

1	2	3	4	5	6	7	8
7.	(a) PCC block for walling (Hollow Block)	1) Compressive strength.	IS:2156-1984 (Appx 'B')	8 Blocks out of 14	A	60/-	Samples :- 14 blocks from consignment of every 5000 blocks or part thereof.
		2) Water Absorption.	-do- (Appx 'B')	3 Blocks out of 14	B	120/-	
		3) Density.	-do- (Appx 'A')	5 Blocks out of 14	B	90/-	
	(b) PCC solid block for walling.	1) Compressive strength	IS-2185	12 Blocks out of 18	A	60/-	Samples :- 18 Blocks from consignment of every 1000 or part thereof. These Blocks shall be checked for dimensions and weight
		2) Water absorption.	-do-	3 Blocks out of 18	B	120/-	
		3) Density	-do-	3 Blocks out of 18	B	120/-	
8.	Cement flooring Tiles/Terrazzo tiles	1) Water absorption	IS:1237-1980 (Appx 'D')	6 Tiles out of 18	B	180/-	Samples: 18 Tiles from each source of supply selected at Random.
		2) Wet Transverse strength	-do-(Appx "E")	-do-	B	144/-	
		3) Resistance to wear	-do- (Appx 'F')	-do-	C	540/-	
9.	Burnt clay roofing Tiles (Hand Made) IS:2690(Pt-II) <u>LENGTH 150 MM to 250MM, WIDTH 100 MM to 200MM, THICKNESS 35 MM TO 50 MM</u>	1) Water absorption	IS : 3495 (Part-II) -do- (Part-I)	6 Tiles out of 12	B	216/-	Samples 12 tiles from each source of supply selected at Random.
		2) Compressive strength	-do-	-do-	A	180/-	
10.	Manglore Pattern Roofing Tiles	1) Water absorption	IS : 654 (Appx 'A')	6 Tiles out of 32	B	180/-	SAMPLES: 32 tiles from each consignment of 3000 tiles or part thereof. These tiles shall be checked for dimensions and weight.
		2) Breaking load	-do- (Appx 'C')	-do-	B	120/-	

CONTD. /.

1	2	3	4	5	6	7	8
11.	Timber	1) Specific gravity and weight	IS:1708-1960	Minimum 3 samples from a lot of 4 Cum or 250 pieces of seasoned timber.	B	120/-	
		2) Moisture content	-do-		A	120/-	
12.	Welding of steel work	Visual inspection Test.	IS:822-1970 Clause-7.1	100% by visual inspection	Work site	360/-	Specialised tests, their method and frequency to be decided on consideration of their importance by the Accepting Officer.
13.	Timber paneled and glazed door/ window shutters (including factory made shutter)	a) Dimensions, sizes workmanship and finish	IS:1003-1977 (Pt-I)	Frequency of sampling from each lot shall be as under :- Lot size Sample Size 26 to 50 5 51 to 100 8 101 to 150 13 151 to 300 20 301 to 500 32 501 to 1000 50 1001 and above 80	A	180/-	
	-do-	b) STRENGTH TEST	IS:1303-1990				
	-do-	1) Slamming					
		2) Impact Indentation		From each lot 5% of the factory made shutter shall be tested for strength tests.	Man-ufac-turer		
		3) Shock Resistance	-do-				
		4) Edge Loading	-do-				
			-do-				

CONTD. /.

1	2	3	4	5	6	7	8
14.	Ply Wood (IS:303-1989)	a) Moisture content b) Water Resistance	IS:1734-1983 (Pt-I) -do- (Part-6)	Six test pieces cut from each of the boards selected shall be subjected to tests.	B	240/-	Sampling shall be as per IS-7835-1975 Tables
15.	Veneered Wood Particle Board (Medium Density) IS:3097-1985	a) Density b) Moisture content c) Water absorption d) Swelling due to surface absorption e) Swelling in water f) Modules of rupture g) Screw withdrawal strength	IS:635 (Part-1) --do-- --do-- (Part-16) --do--(Part-17) --do-- --do-- --do-- (Part-4) --do-- (Part-14)	Three test specimen from each sample(Size 150mm x 75mm) --do-- --do-- (Size 300mm x 300mm) --do-- (Size 125mm x 100mm) -do- (Size 200mm x 100mm) Three test specimens as per IS : 2380-1977 --do-- as per IS:2385	C A&B A A A B C	60/- 60/- 60/- 60/- 60/- 90/- 120/-	Sampling shall be done as per IS: 3087-83 clause 2 with moisture meter.

SIGNATURE OF CONTRACTOR

Dated:-

AGE (Contracts)
for Accepting Officer

PARTICULAR SPECIFICATIONS**1. GENERAL**

- 1.2 The following particular specifications shall be read in conjunction with the General conditions of contracts IAFW-2249 and IAFW-1779-A including Errata/Amendments thereto if any provision in these particular specification is at variance with that of the aforesaid documents, the specification given below shall be deemed to take precedence there over
- 1.3 The work under this contract shall be carried out in accordance with Schedule 'A' particular specifications and other provisions in MES Schedule and as shown on drawings.
- 1.4 The term "General" specifications referred to therein as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in MES Schedule.
- 1.5 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 which case, the provision in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

2. SAMPLES AND MATERIALS

- 2.1 In case specification of any material needed for incorporation in work is not contained in any of the contract documents, the the specification of such materials proposed to be incorporated in work shall be got approved in writing from the GE before their incorporation in the work.
- 2.2 The contractor at his own discretion if intends to provide material/items conforming to IS and with it certification mark from any other manufacturers other than those listed in the tender if any such materials shall be allowed to be incorporated with prior approval of GE and without any price adjustment. However this option shall be applicable only when none of the manufacturers listed in the tender emboss IS certification mark materials/articles.
- 2.3 The source of materials of local origin/list of manufacturer/ make is given in Schedule 'A' / Appendix 'A'. In case any/all materials of required specification is not available at the sources mentioned in Appendix 'A' the contractor shall bring the material of requisite specification from any other source and get the same approved by GE. The contractor shall be deemed to have satisfied himself about availability of materials of local origin before quoting his rates. The contractor shall have no claim whatsoever for any additional payment incurred on account of bringing materials from sources other than those listed in Appendix 'A'
- 2.4 The material such as water proofing compound, paint, bitumen, chemical for antitermite treatment, cement, steel for reinforcement etc the quantity of which can not be checked after incorporation in the work shall when collected at site be recorded in measurement book and signed by the both MES representative and the contractor as to check to ensure that the required quantity has been brought to site for incorporation in the work. Reference to purchase vouchers/invoice No, Name of the manufacturer/dealer from whom materials have been purchased shall be recorded in the measurement book(s).
- 2.5 The contractor and the executives will ensure that the materials incorporated in work are identical with the approved samples

3. SCOPE WORK:-

The work under the contract includes repairs to for full, final and entire completion of items as indicated in schedule 'A' and prescribed in particular specifications .

4. EXECUTIN OF WORK

The work shall generally be carried out in conformity with technical specification mentioned hereinafter. IS Codes of practice, IEE rules & Act etc., Wherein any variance of specification, the provisions mentioned hereinafter will prevail.

5. **STANDARD OF WORKMANSHIP** : The installation shall strictly comply with the provisions in the latest edition of Indian Electricity Act and Rules framed there under (as amended upto date) as applicable to the work in Schedule 'A' except where such regulations & rules are modified by these specifications. Refer condition 25 of "General Conditions of Contracts (IAFW-2249)" All work shall be carried out by properly skilled & licensed electricians under the supervision of qualified supervisors. The entire work shall be of high standard with approved materials and to the entire satisfaction of the Engineer-in-Charge

PARTICULAR SPECIFICATIONS**6. PRODUCTION OF RECEIPTED BILLS/CASH MEMOS FOR MATERIALS PROCURED**

6.1 It will be mandatory for the tenderer to produce genuine receipted bills/cash memos, invoices from the manufacturer and/or their authorised agents for the full quantity of the following materials as applicable, as pre-requisite before submitting claim for payment 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 | (n) Mirror |
| (b) Steel of all sections | (p) Flush door |
| (c) Pressed steel frame | (q) PVC frame and door |
| (d) Synthetic enamel paint | |
| (e) Floor Tile and Wall tile of all types | |
| (f) Sanitary ware, bath room fittings, Sink | |
| (g) Oil bound distemper | |
| (h) Wall care Putty | |
| (j) Lime | |
| (l) Cement base paint | |
| (m) GI pipe and fittings | |

6.2 When the cost of each category of materials for entire contract is less than Rs 2,500/- production of bills may not be insisted upon, if the GE is otherwise satisfied with the quality and quantity of materials.

7. & 8. BLANK**9 MATERIALS**

9.1 **BRICKS:** Bricks shall be kiln burnt of first quality available locally of size (length 225 mm to 235, width 110mm to 115 mm and height 65 mm to 75mm) having minimum crushing strength not less than 50 kg/sq cm and shall conform to sample kept in GE office. Slight distortion of edges will be permissible if it does not affect the bonding of bricks refer MES Schedule Part I clause 5.6.1 to 5.6.9 Contractor may use modular size bricks. Irrespective of whatever specified in clause 5.6.8 of SSR (Part I), the rating of efflorescence of the bricks shall be nil.

9.2 LIME : Lime shall be conforming to the approved sample.

9.3 FINE AGGREGATE

9.3.1 Fine aggregate (sand) for concrete work shall conform to materials specifications and grading within the limits of grading Zone I to III as specified in Clause 4.4.1 to 4.4.6 and 4.4.7.2 of SSR Part I.

9.3.2 Fine aggregate (Sand) for plastering/pointing work, shall conform to the materials, specifications and grading specified in clause 4.4.5 of SSR Part-I.

9.3.3 Fine aggregate (Sand) for mortar, for brick work stones, Masonry work and all other work, shall be as specified in clause 5.4 of SSR Part I.

9.3.4 Fine aggregate (sand) shall be washed if deleterious materials are beyond the limits as specified in the IS. Fine agg (Sand) for filling around foundation and the lime may be unwashed and unscreened sand as directed by Engineer-in- Charge.

9.4 COARSE AGGREGATE

(a) Coarse aggregate (stone aggregate) for all cement concrete work such as PCC/RCC shall be of approved quality all as specified in clause 4.4.1 to 4.4.7,1 of SSR Part I. Mixture of two types of stone aggregate from different sources shall not be used.

(b) Coarse aggregate (Stone) 20 mm and below shall be machine crushed and above 20 mm may be hand broken.

(c) Grading of coarse aggregate (stone) unless specified otherwise in the specification hereinafter in various location/work shall be as specified in MES schedule Part-I.

(d) Coarse aggregate for lime concrete shall be brick aggregate as specified in clause 4.5 of MES schedule Part-I.

9.5 Water – Water shall confirm to clause 4.9 of MES schedule Part I.

PARTICULAR SPECIFICATIONS**9.6 CEMENT**

9.6.1 Refer Clause 4.3 on Page 51 of MES Schedule Part -I.

9.6.2 PROCUREMENT AND TESTING OF CEMENT

- [a] All cement required for completion of this contract shall be ordinary Portland cement 43 grade conforming to IS: 8112-1989 or Portland Pozzolana Cement conforming to IS: 1489 Part-I 1991 and each bag shall be ISI certification mark and manufacture date.
- [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 more than 1200 bags) : -

(a) M/S Cement Manufacturing Co. Ltd	(b) Ultra Tech Cement	(c) M/S OCL India Ltd
(d) Dalmia Cement (Bharat) Ltd	(e) M/S Chettinad Cement Corporation Ltd	(f) M/S Heidelberg Cement India Ltd
(g) M/S My Home Industries Ltd	(h) M/S Parasakti Cements Ltd	(i) M/S Zuari Cement Ltd
(j) M/S Toshali Cements Pvt Ltd	(k) M/S Saifco Cements Pvt Ltd	(l) M/S Prism Cement
(m) M/S Shree Guru Kripa Cement Pvt Ltd	(n) M/S Barak Valley Cements Ltd	(o) M/S Dhruv Industrial Company Ltd
(p) Madras Cement	(q) Saurashtra Cement	(r) Lafarge cement
(s) The Associated Cement Companies Ltd	(t) Grasim Industries Ltd	(u) The India Cement
(v) Andhra Cement	(w) Century Cement	(x) Binani Cement
(y) Mangalam Cement	(z) Birla Corporation Ltd (Cement division)	(aa) Orient cement
(ab) Shree cement	(ac) JK Cements	(ad) JK Lakshmi Cement
(ae) Jay Pee Rewa Cement	(af) Ambuja Cement	

- [d] Particulars of the manufacturer of cement along with date of manufacture shall be furnished by the Contractor to GE for every consignment of cement separately.

9.6.3 TESTING

- a) The manufacturer is required to 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 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/Rejection Register as appended here in below after due verification.
- b) The GE may organise independent testing as per IS: 3635 (method of sampling hydraulic cement) and IS: 4001-1995 (Method of Physical test for hydraulic cement) and IS-4030-1985 (Methods of chemical analysis of hydraulic cement) of random sample of cement drawn from each lot of the consignment from the NABL laboratories, National Test House, SEMT CME, Regional Research Laboratories, IITs, MES Zonal Laboratories, Govt Engineering collages and National Institutes of Technology as per IS 3535 (Method of Sampling Hydraulic Cement) IS-4031 (Method of Physical Test for Hydraulic Cement) and IS 4032-1995 (Method of Chemical Analysis and Hydraulic Cement). In order to undertake departmental testings, requisite facilities shall be organized.
- c) The contractor shall make available required quantity of cement and other facilities for testing of cement by GE as specified here-in-before and shall bear the cost of cement and testing thereto irrespective of whether sample passes or fails. GE shall make payment to the testing house lab and direct the contractor to deposit the amount in Govt. treasury in favour of GE concerned and submit the treasury challan to the GE within 10 days of the letter issued by the GE for payment of cost of testing of cement. If contractor fails to do so, the testing charges shall be recovered from the dues of the contractor.

PARTICULAR SPECIFICATIONS

- d) The required quantity of samples of the cement shall be taken in two polyethylene bags and sealed by the Engineer-in-Charge in the presence of representative of the contractor. The seal shall be authenticated both by the Engineer-in-Charge and representative of the contractor. Out of two samples, one sample shall be sent for testing and other retained by GE in his office. Record of these samples shall be kept by Engineer-in-Charge in the register and copy of the same shall be sent to GE/CWE/CE by him for record.
- e) Cement brought by the contractor shall be allowed to be incorporated in the work on the basis of manufacturer test certificate. GE shall inform the contractor, about the test results and permission to incorporate in the work, in writing. GE shall ensure that word "pass" is embossed on both sides of the cement bags of lot, which has been found as per specification as per test result. The cost of embossing as indicated herein above shall be borne by contractor.
- f) In case the sample got tested by the GE from the institutions/ laboratories, mentioned here in before, fails, the concerned lot of cement shall stand rejected. The GE shall emboss a mark 'X' on both sides of each bag of the rejected lot. The GE will inform the contractor in writing about the test result and direct him to remove the rejected cement from the site of works within two days of the order by the Engineer-in-charge. Contractor shall have no claim whatsoever on account of rejection and removal of cement.
- g) It shall be the responsibility of the contractor to arrange cement well in advance, to facilitate it's testing before use in the work. The contractor shall submit the program of procurement of cement to the GE before the date of commencement of the work indicating date of procurement and quantity.

9.6.4 STORING

- [a]. The contractor shall store the cement at site in a covered leak proof godown with locking arrangement, over a dunnage at least 20 cm high, in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter. The stack of cement stores shall be at least 60cm away from the walls. The cement so stored shall be inspected by the JE Civil and the rep of the contractor once in a day to ensure that cement is not affected by moisture or by any other means. Engineer-in-Charge shall make such inspections once in a month. In addition to the inspection, the Engineer-in-Charge shall attach a certificate with every RAR that cement is stored as per the above provisions and is safe. The tested and untested cement shall be segregated and stored separately with distinct Identification.
- [b]. The cement godown shall be provided with two locks on each door. One lock by the GE and other lock by the contractor shall be provided. The keys of the lock provided by the GE at each door shall remain with Engineer-in-Charge or his representative and that of the other lock with the contractor's authorized agent at site of work so that cement is removed from the godown only according to the daily requirement with the knowledge of both the parties. It shall be ensured that cement procured by the contractor shall be consumed within 6 months of manufacturing failing which, GE can order for retesting as per clause 6.1.1.3.
- [c]. Procurement of cement shall be made in phased manner to avoid storage for long duration.

9.6.5 DOCUMENTATION

- [a]. The contractor shall submit original vouchers, test certificates and test sheets from the manufacturer/producers for the total quantity of cement supplied under each consignment to be incorporated in the work. The GE alongwith the relevant documents before sample is taken for the testing shall inspect all consignments received at the work site. The original vouchers and test certificates (original/authenticated) shall be defaced by the Engineer-in-Charge and photocopy of the same shall be kept on record in the office of the GE duly authenticated and with cross reference to the control number recorded in the cement acceptance/rejection register. The cement acceptance/rejection register shall be signed by (JE Civil), Engineer-in-Charge, GE and the Contractor. The Accepting Officer may order a Board of Officers for verification of connected documents produced by the contractor. The entire quantity of cement shall also be recorded in the measurement book (not to be abstracted) for record purpose before incorporation in the work and shall be signed by the Engineer-in-Charge and the contractor.

PARTICULAR SPECIFICATIONS

[b]. Record of cement brought by the contractor shall be maintained on the following format.

9.6.6. **REQUIREMENT OF CEMENT**

Requirement of cement to be incorporated in the work under this contract (except for design mixes) shall be calculated on the basis of the cement constants as circulated by Engineer-in-Chief’s Branch, Army HQ, New Delhi. The quantity of cement required shall be checked jointly by the Engineer-in-Charge and the rep of the contractor at different stages of work and recorded in the cement register which shall be checked at the time of payment of RAR.

10. **PLASTERING AND POINTING**

- 10.1 Plaster shall be done as described in schedule ‘A’.
- 10.2 Thickness of plaster shall be the finished thickness exclusive of dubbing. Dubbing wherever required shall be executed without any extra cost.
- 10.3 All corners, angles, junctions and edges unless otherwise specified shall be truly vertical or horizontal as the case may be and shall be carefully finished.
- 10.4 Sand for plastering/pointing work shall conform to the materials specifications and grading as specified in clause 14.5. of MES Schedule Part I-2009.
- 10.5 Plastering shall be done in one coat and shall be of the specified thickness workmanship for plaster shall be as specified in clause 14 to 14.17 of MES Schedule Part I-2009

CEMENT SUPPLY/ACCEPTANCE REGISTER

CA No & Name of Work _____ Control No* _____
 Name of Manufacture/Brand Name/Gde of Cement _____
 (A) Manufacture _____ (b) Brand _____ (c) Grade _____
 Qty of cement & lot No/Week No (in Bags): (Qty _____ (b) Lot No/Week No _____
 Manufacturer’s test certificates No _____ 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)
 Details of Physical & Chemical properties

	Physical Requirements (As per IS 4031)										Chemical Requirements (As per IS 4032)							
	Specific Surface Area (M ² /Kg)	Soundness by Le Chatelier	Soundness by Auto Clave	Initial Setting time (Minutes)	Final Setting Time (Minutes)	03 Days	07 Days	28 Days	Temp during testing °C	Standard Consistency (%)	Lime Saturation Factor (Ratio)	Alumina iron Ratio (Ratio)	Insoluble Residue (%)	Magnesium (%)	Sulphuric Anhydride (%)	Loss on ignition %	Alkalies (%)	Chlorides (%)
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 _____

Garrison Engineer _____

Remarks of BOO/Inspecting Officer/CWE

*To be allotted serially by GE consignment wise.

PARTICULAR SPECIFICATIONS**11. FLOOR FINISHES AND PAVINGS****11.1. GENERAL**

- 11.1.1. Floor shall be provided as indicated in the schedule 'A' and directed by Engineer-in-Charge.
- 11.1.2. Exposed edges of floor shall be finished to match the surface finish of the floors bare shall be carried through all opening in wall.
- 11.1.3. Refer clause 13.25, 13.27, 13.32, 13.38 and 13.40 of MES Schedule Part I for laying of floors.
- 11.1.4. Sub base PCC shall be laid in one operation.
- 11.1.5. PCC floor topping shall be finished even & smooth using extra cement

12. STEEL AND IRON WORK

(a) **REINFORCEMENT STEEL** All steel for reinforcement to be used in the work shall be contractor's supply. The contractor shall procure steel for reinforcement (TMT bars) directly from the following main producers of steel :-

- (i) SAIL
- (ii) TISCO
- (iii) RASHTRIYA ISPAT NIGAM LIMITED
- (iv) Shyam steel Industries Ltd, Shyam Tower EN-32, Sector V, Salt Lake Kolkata - 700091
- (v) SPS steel rolling mills Ltd, Elegant Towers, 68A, Ballygunge Circular Road, Kolkata- 700019
- (vi) Jai Balaji Industries Ltd, 5 Bentek Street, Kolkata- 700001.
- (vii) M/S Jindal Steels and Power Ltd. OP Jindal Road, Hisar, Haryana - 125005.
- (viii) M/S SRMB Srijan Ltd., SRMB House, 7, Khetra Das Lane, Kolkata- 700012
- (ix) M/S Steel Exchange India Ltd., My Home Laxminivas Apartments, Ameerpet, Hyderabad-5000016 (A.P.)
- (x) M/s Concast Steel & Power Ltd, 21, Hemant Basu Sarani, Suit No. -511 & 512, 5th Floor, Kolkata-700001
- (xi) M/s Adhunik Metaliks Ltd, Lansdowne Towers, 2/1A Sarat Bose Road, Kolkata – 700020
- (xii) M/s Shri Bajrarg Power & Ispat Ltd Vill- Borjhara, Urla Industrial Area, Raipur- 493221, Chhattisgarh
- (xiii) M/s JSW Steel Ltd, Jindal Mansion, 5A Dr G Deshmukh Marg, Mumbai- 400026
- (xiv) M/s Electrosteel Steels Ltd, G K Tower 2nd & 3rd Floor, 19 Camac Street, Kolkata – 700017
- (xv) M/s Jindal Streets and Power Ltd, Jindal Centre, Plot No. 2, Sector -32, Gurgaon- 122001, Haryana
- (xvi) M/s Shyam Metalics & Energy Ltd, Viswakarma, 1st Floor, 86 C, Topsia Road, Kolkata- 700046
- (xvii) M/s Kamachi Industries Ltd (xviii) Real Ispat & Power Ltd
- (xix) M/S Super Smelters Ltd Kolkata

(b) **STRUCTURAL STEEL:** Structural steel sections shall be procured directly from main producers SAIL/RINL/TISCO/Jindal Steel and Power Ltd. In case of not availability with main producers, the structure steel can be procured from the following secondary steel producers :-

- (i) M/S K.L. Steel Pvt. Ltd. Post Box No. 61, Lal Kuan, Bulandshahar Road, Ghaziabad (UP) Tele: 0120-2867911, 2867915 Fax: 0120-2867917
- (ii) M/S Shri Badrinarain Alloys & Steels Ltd., 95, Stephen House, 4BBD Bag Kolkata 700001, Tele : 03322205381/22481601, Fax 03322488664
- (iii) M/S Pushpak Steel Industries Pvt. Ltd. Gate No. 119, Alandi Market Road Dhanore, Tah Khed Pune, Tele/Fax 020-26444700/070
- (iv) M/S Amba Shakti Ispat Ltd., Plot No. 6, Phase II Industrial Area Kala Amb, Distt Sirmour-173030 (HP) Tele : 01734-309983, 309986, Fax 01702238927
- (v) M/S SRMB Udyog Ltd. 46, BB Ganguli Street, Kolkata-700012, Tele 2236 9999
- (vi) M/S Shree Parashnath Re-Rolling Mills Ltd. 4C Maharshi Devandre Road 3rd Floor, Kolkata 700007, Phone 033-2274 0045/4475, Fax 03322740039
- (vii) M/S TATA Steel Structure, TATA Steel Tube Division Jeeven Tara Building, 1st Floor 5, Sansad Marg, New Delhi 110001, Tele : 991112334, 264601734, 309983, 309986
- (viii) M/S KL Concast Pvt. Ltd., Z-18, Naraina, New Delhi.
- (ix) M/S Karam Steel Corp, Nasrali Road, PO Box No. 56, Mandl Gobind Garh-147301 as approved, **with a reduction of 5% (five percent)** of the accepted rate of structure steel. In case the desired section of structural steel is not rolled / manufactured by primary producers, there shall be no price adjustment in use of structural steel procured from approved secondary producers.

PARTICULAR SPECIFICATIONS

(c) **GALVANISED STEEL SHEETS & FABRIC REINFORCEMENT FOR CONCRETE.**
These shall be procured directly from main producers as approved by E-in- C's Branch Delhi and shall be ISI marked.

(d) Steel sections for railings, gates, fencing, guard bars, grills, steel chowkhat, holdfasts etc, which do not constitute structural members, can be procured from main producers/ secondary producers/ BIS marked manufacturers or their authorized dealers at the option of Contractor without any minus price adjustment. Tests will not be insisted upon for such steel sections

12.3 TESTING OF STEEL

(a) The contractor shall submit the manufacturer's Test certificate in original alongwith the test sheet giving their results of each mechanical test as applicable and the chemical composition of the steel or authenticated copy thereof duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in a steel Acceptance Register after due verification.

(b) It will be mandatory for the GE to carry out simple field test and record the findings before the contractor is allowed to use steel in the work. GE may also carry out random checks and record his remarks in the Steel Test Register. Such simple testing includes sand papering the cross section of the TMT bar and dipping it in chemical solution to give a clearly defined annular ring of tempered steel. Cost of all such facilities for test shall be borne by the contractor.

(c) The Accepting Officer may order a board of Officers for random check of steel and verification of connected documents. In case of such check, if it is found that steel brought on site/incorporated in work does not meet the requirements laid down in the contract, such steel/work in which such steel has been incorporated shall be rejected or devalued based on the defects. In this regard decision of the Accepting Officer shall be final and binding. Contractor shall have no claim whatsoever on account of such rejection.

(d) Independent testing of steel by the GE from random samples of steel drawn from various lots from National Test House, SEMT wing CME, Regional Research Labs, NABL approved lab, etc. as per the recommended frequency given here-in-after shall be optional at the discretion of the GE in case of procurement of steel from main producers and testing charges shall be borne in accordance with Condition 10 A of IAFW -2249 i.e. testing charges shall be borne by the Deptt, if the test results are found in order otherwise these shall be borne by the Contractor.

(e) Independent testing of steel by the GE from random samples of steel drawn from various lots from National Test House, SEMT Wing CME, Regional Research Labs, NABL approved Labs, etc as per the recommended frequency given here-in-after shall be mandatory in case of procurement of steel from secondary producers and testing charges shall be borne by the contractor irrespective of the outcome of test results.

(f) In both the cases at sub Para 12.3 (d) & (e) above, the Contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in tests shall also be borne by the Contractor.

(g) The elongation of reinforcement steel shall not be less than 18%.

12.4 FREQUENCY OF NORMAL MASS, TENSILE, BEND AND REBEND TESTS OF STEEL.**NOMINAL SIZE****QUANTITY****STEEL REINFORCEMENT**

- | | |
|-------------------------------|---|
| (a) Bars size less than 10mm. | One sample (three specimens) for each test for every 25 tones or part thereof). |
| (b) Bars size 10mm to 16mm. | One sample (Three specimens) for each test for every 35 tones or part thereof). |
| (c) Bars size over 16mm. | One sample (Three specimens) for each test for every 45 tones or part thereof. |

PARTICULAR SPECIFICATIONS

STRUCTURAL STEEL

- (a) Tensile test One test for every 25 tones of steel or part thereof.
- (b) Bend test -One test for every 25 tones of steel or part thereof.

NOTE: - APPLICABLE FOR ALL TESTS.

For various tests, acceptance criteria, tolerance etc. refer to steel supply & Acceptance form given here-in-after and relevant BIS Codes.

STEEL SUPPLY & ACCEPTANCE REGISTER

1. CA NO & Name of Work
2. Contract No
3. Name of Manufacturer's T.C. 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. Types of Steel, Dia & Qty (a) Type: TMT/CRS (b) Dia-____mm
(c) Actual Wt____MT(d) Conversion Wt ____MT.

	Chemical Test							Mechanical Test						
	Carbon%	Sulphur%	Phosphorous %	Sulphur + Phosphorous %	Magnanes%	Silicon %	Corrosion Resistant Element	Wt per meter	Yield Stress (N/mm ²)	Tensile Strength (N/mm ²)	Percent Elongation (Min. 18%)	Bend Test	Rebend Test	Remarks
As per IS-1786-2008														
As per manufacturer's test certificate														
As per independent test														

Remarks with Signature

Accepted/Rejected

Contractor Junior Engineer

Engineer-in-Charge

Garrison Engineer

Remarks of BOO/Inspecting Officer/CWE

12.5 **DOCUMENTATION**

(a) The contractor shall submit original purchase vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignments received at work site shall be inspected by the GE alongwith relevant documents before acceptance. The original vouchers and the test certificates shall be defaced by the Engineer-in-Charge and photocopy of the same shall be kept on the record in the office of GE duly authenticated and with cross reference of control number recorded in the steel Acceptance Register and will be signed by JE (Civil), Engineer-in-Charge, GE and the contractor duly endorsed CA No & Year.

(b) The entire quantity of all steel items shall be recorded in Measurement Book indicating size, quantities, voucher numbers, dates brought on site for record purposes as “not to be abstracted” and signed by Engineer-in-Charge and the contractor before incorporation in the work.

(c) Irrespective of what is shown in drgs or specified elsewhere, steel reinforcement to be used in this project shall be Thermo Mechanically Treated steel bars.

PARTICULAR SPECIFICATIONS

12.6 The steel to be used in the work shall comply with the requirements of following specifications: -

(a) **Reinforcement Steel**

(i) TMT (Thermo Mechanically Treated Process) bars :

High strength deformed bar shall be produced by thermo mechanical treatment process(TMT) & shall be of grade Fe 500/Fe 500d/Fe 550/Fe 550d as indicated meeting all requirements conforming to IS 1786 and only one type of reinforcement steel will be incorporated in one member /structure.

(ii) Mild steel Grade-I : Conforming to IS-432(Part-I).

(b) **Structural Steel:**

(i) Structural steel for all types of structures including those subjected to dynamic loading and where fatigue, wide fluctuation of stresses, reversal of stresses and great restraint are involved shall be E 250 to E410 (quality 'A' 'BR', 'BO' or 'C') or E450 to E650 (quality 'A' or 'BR') (as described in Sch 'A' or shown in drawings) conforming to IS 2062:2011.

(ii) Structural steel for general purposes such as door and window frames, window bars, grills, steel gates, hand rails, building hardware, fencing posts, tie bars etc. which are not subjected to dynamic loading (other than wind loads) shall be E165 to E215 (as described in Sch 'A' or shown on drawings) conforming to IS:15911:2010.

(c) Galvanised steel sheets (Plain and corrugated) : Conforming to IS-277.

For pricing of deviation in respect of steel items, the quality of steel shall be taken as under: -

- | | | |
|-----|--|---|
| (a) | Structural steel (other than general purposes) | : Standard quality Fe410-W (Gde E-250) quality A as Schedule mentioned in MES |
| (b) | MS round bars for reinforcement | : IS-432(Part I) Gde I mild steel/twisted bars and as mentioned in MES Schedule 6 mm can be wire drawn quality. |
| (c) | TMT.Bars for reinforcement | : TMT bars Fe 500/Fe 500d/Fe 550d conforming to IS 1786-1985 |
| (d) | Steel (general purpose) | : Ordinary quality Fe 290 (Gde E-165) |
| (e) | Fabric reinforcement for concrete: Conforming to IS -1566. | |

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 it's inspection and acceptance as specified here-in-before.

Contractor shall be responsible for proper storage, preservation and maintenance of steel at site till it is consumed in the work. Steel rejected shall be stacked separately, so marked and removed as directed by GE.

12.7 **REINFORCEMENT:**

(a) Reinforcement of mild steel and deformed cold twisted bars shall be of TMT bars in lieu thereof without change of any spacing all as shown on drawings in accordance with the provisions of IS: 456 of 2000 without any extra cost to Govt.

(b) Reinforcement shall be fabricated, placed in position all as shown on drawings and specified in Clause 10.17 to 10.22 of MES Schedule Part- I.

(c) Laps and crossing shall be tied with mild steel wire (annealed) (soft drawn) of diameter not less than 0.90mm. Laps shall be staggered.

PARTICULAR SPECIFICATIONS

(d) Irrespective of whether corner reinforcement is indicated or not in RCC plan showing reinforcement of slabs, corner reinforcement shall be provided as shown in TD (typical drawings).

(e) The contractor shall be responsible for accurate fixing of reinforcement shown on drawings, and shall not pour any concrete until the reinforcement has been inspected in position and approved in writing by the GE. The contractor shall take necessary precaution to prevent any displacement of reinforcement bars during concreting.

12.8 STRUCTURAL STEEL WORK

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

NOTE :

Steel for holdfasts, grills, guard bars, cooler brackets etc shall be ordinary quality. Balance structural steel shall be of standard quality. Test certificate for ordinary quality steel is not required.

12.9 MS BLACK, BOLTS, NUTS AND WASHERS

(a) All MS Black, Bolts and nuts shall conform to IS- 1353 part I to III of 1984 and round washer shall conform to IS-5370, IS-5372 or IS- 5374 where ever specification are not available, the American standard specifications to be followed.

(b) Bolts, heads, nuts, shall be of such length as to project and clear thread beyond the nuts when fixed in position and these shall fit in the holes without any shake. The nut shall fit in the threaded ends of bolts properly.

(c) The round washers shall be placed under the heads and nuts of permanent bolts. Maximum two washers for one nut and one for each bolt head shall be used. Bolts threads shall be out side limit of jointing members and un threaded portion of bolt shall not be out side the washer.

(d) Bolts, Nuts & washers shall be thoroughly cleaned and dipped in double boiled linseed oil before used. The bolts shall be tightened starting from the enter of joints towards the edge.

13. BLANK**14. MILD STEEL SHEET**

MS sheet /plates shall be of thickness as specified in Schedule 'A' and locations as directed by Engineer – in – Charge and conforming to Fe-410-S.

15. STEEL WINDOWS AND VENTS

(a) Steel windows and ventilators where shown on drawings shall be factory made and as per clause 10.25 of MES Schedule Part I except that the corners of frames shall be welded to form solid welded joints conforming to the requirements listed in IS-1038 and the process of welding adopted shall be 'FLASH BUTT' welding. "Z" section for steel windows shall conform to relevant IS.

(b) Steel windows frames shall be provided with horizontal glazing bars as per drawings. These glazing bars shall be welded. Fixing and glazing of windows/ventilators 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.

(c) Steel window/ventilator frames in contact with brick work/concrete shall be painted in mastic of one part of bitumen and three parts of sand or ready-made mastic supplied by the manufacturers. Painting with cement will not be allowed in any case.

(d) Hinges for side hung shutters shall be box 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. In lieu of lock handle MS Black japanned tower bolt two Nos on each shutter shall be provided.

PARTICULAR SPECIFICATIONS

(e) Steel windows/ vents shall be fixed to walls with lugs/ hold fasts embedded in PCC blocks. Lugs shall not be provided for fixing to lintels even though its provision exists in the Indian standard specifications and/or drawings. Lugs shall be embedded in PCC (1:3:6) type C-1 using 20 mm graded stone aggregate size 150 x 150 x 200 mm deep.

(f) The contractor shall procure steel windows and ventilators from the firms indicated in Appendix 'C'. Steel windows and ventilators manufactured at site will not be accepted. Samples of the steel windows/vents and fittings accessories shall be submitted to the GE by the contractor for his approval in writing before placing bulk order for procurement.

(g) The dimensions of steel windows/ventilators unless otherwise indicated on the drawings, shall conform to IS-1038. However, minor variations in the overall size to suit the standard practice of the manufacturer will be acceptable without any price adjustment either in the quoted rates or while pricing deviations.

(h) Steel windows/ventilators & lugs shall be given one shop coat of anti-corrosive zinc chromate primer. Two coats of synthetic enamel paint of approved shade shall be given after erection.

(j) In case of deviations, the rate given in the MES Schedule shall be deemed applicable for pricing steel windows and ventilators with above specifications.

(k) Wherever windows marked with 'F' double window are shown on drawings, two separate frames, one for glazed shutter/ paneled shutter and one for gauze shutter as shown on drawing shall be provided. Gap between two frames on cill shall be filled with cement mortar (1:4) and finished smooth.

16. EXPANDED METAL

Expanded metal, where shown on drawings shall be of gauge as approved by the GE. Unless otherwise specified it shall weigh not less than 4 Kg per Square Metre.

17. HOLD FASTS/LUGS

17.1 Hold Fast/lugs to steel frames shall be of section as shown on drawings but of length as under:-

(a) Frames chowkhats for doors /Six numbers to each frame and 250 mm long cup board (MS angle or pressed steel)

(b) Frames for windows, Four numbers to each frame and 200 mm long Independent grills fixed in openings frames for lobby shutters etc.

(c) Frames for vents etc. Two numbers, 200 mm long.

17.2 Hold fasts/lugs 250 mm long shall be embedded in PCC (1:3:6) blocks using 20 mm graded stone aggregate of size 1 Bk x ½ Bk x thickness of wall and with 200 mm length shall be embedded in PCC block 150 x 150 x 200 mm deep. Hold fasts/lugs in the RCC columns etc shall be fixed all as shown on drawings.

18. MILD STEEL GRILLS

Grills shall be provided as per patterns & location shown on drawings. Where type of grills is not mentioned it shall be type 'B'. Grills shall be welded to the frame of glazed window. Where grill is to be fixed independent in the opening, it shall be fixed with 25 x 5 mm FI holdfasts four numbers embedded in PCC block as specified above.

PARTICULAR SPECIFICATIONS**19. GALVALUME SHEET**

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

20. PAINING

- 20.1 The surface of wood work and iron steel work shall be prepared for painting as mentioned in Schedule 'A' and as specified in the MES Schedule 2009 (Part – I) before painting.
- 20.2 All painting as far as possible shall be carried out in dry weather & neatly out in edges other surfaces and shall be protected & cleaned off as necessary.
- 20.3 All iron work specified to be painted shall be scrapped & made free from dust, scale etc, with steel brushed and well dusted before painting.
- 20.4 Surface to be painted shall be rubbed with sand paper to produce clean surface. Surface to be coated primed and stopped to specified in clause 17.6 and 17.10 of MES Schedule (Part – I) 2009.
- 20.5 Cleats and stops to doors etc, shall be treated similarly as adjoining surfaces of doors.

21. PAINTS.

- 21.1 Unless otherwise specified all paint shall be of first quality and no inferior than specified in Indian Standard specifications.
- 21.2 Contractor shall inform to GE within two weeks of the acceptance of the tender, the name of manufacturer and brands of paints, he will use in the work and submit sample thereof and obtain prior written approval of GE before the use in the work.
- 21.3 The contractor shall when required by the GE, shall produce certificate from manufacturers or their representative to establish that brands of paint purchase by the contractor by them satisfactory the requirement of the relevant Indian Standard Specifications.
- 21.4 Tints and shaded shall be as directed by the Engineer-in-Charge. Synthetic enamel paint shall be one of brand as specified in Appendix 'A' to Particular Specifications. The paints shall be brought by the contractor in four litres buckets only for easy consumption without any deterioration of its quality.

22. OIL BOUND DISTEMPERING / PLASTIC EMULSION PAINT

- 22.1 Oil bound distempering and plastic emulsion painting shall be carried out as specified as in section 15 of MES Schedule Part I and as specified in Schedule 'A' and as directed by Engineer – in - Charges after preparation of surfaces. The tint of oil bound distemper shall be approved by the GE. Make shall be as per Appendix 'A' to Particular Specifications and as approved by the GE.

23. WHITE WASHING/CEMENT BASE PAINTING

- 23.1 White washing/cement base painting shall be carried out as specified as in section 15 of MES Schedule Part I and as specified in Schedule 'A' and as directed by Engineer – in - Charges after preparation of surfaces.

PARTICULAR SPECIFICATIONS**24. ANTI TERMITE TREATMENT**

Refer clause 3.26 of SSR Part- I -2009.

25. GI PIPES

25.1 MS Galvanised tubes and fittings shall be of medium grade comply to IS:1239 Part I & II). Refer Clause 18.4 of MES Schedule Part-I for other specifications.

25.2 GI pipes and fittings shall be laid and jointed in trenches all as specified in Clause 18.50 of MES Schedule Part-I.

25.3 GI pipes and fittings shall be laid at a depth not less than 25mm and not more than 600 mm below ground level as specified on clause 18.50 of SSR Part-I.

26. NON SKID CERAMIC TILES FLOORING

26.1 Non skid joint less tiles of size as specified in Schedule 'A' for flooring shall be of uniform texture. Water absorption shall be less than 2%. Tiles shall be made finished thickness as specified and hydraulically pressed with breaking strength 350 to 400 Kg/Sqm and weighing not less than 14 Kg/Sqm. It shall be free from bubbles, distortion due to overheating. Size and shade of tiles shall be directed by GE.

26.2 Tiles shall be set in cement slurry over screed as specified in Schedule 'A'. Tiles shall be filled with white cement mixed with colouring pigment to match with the shade of tiles.

27. GLAZED CERAMIC TILES

27.1 Refer clause 13.14 and 13.40 of SSR Part I (2009).

27.2 Glazed ceramic joint less tiles on the round of wall and dado of shall be of size and thickness as specified in Schedule 'A'. Colour / shade of tile shall be as approved by the GE. Tile shall be laid in dado / skirting over screed bed with cement mortar as specified in Schedule 'A'.

28. ALUMINIUM DOOR / WINDOW / PARTITION

28.1 Aluminum door, windows, ventilators and partition shall be provided as specified in Schedule 'A'. Aluminum sections incorporated in doors, window, ventilators and partition shall conform to designation 63400 given in IS: 737-1986 and shall be powder coated. Minimum average thickness of coating of anodizing on all aluminum section and fittings shall be 15 micron and shall conform to IS: 1968-1983. The testing of anodizing coating shall be in accordance with IS 5523. To avoid damages, scratching etc PVC protection sheet shall be used while fixing of frame. Fixing of frame, shutters shall be as per manufacturer's instructions. Glazing shall be 5.5 mm thick tinted glass conforming to IS: 2835. Floor hinge for aluminum shutter shall be of Make; SANDHU or equivalent as approved by GE. Hydraulic door closer shall be as provided of approved make. Rubber gasket, aluminum clips and/or strip shall be provided to hold the glass in position. The cost of all accessories required for aluminum door, window and partition shall be deemed to be included in schedule 'A' unit rate.

29. WOOD WORK AND JOINERY

29.1(a) Timber for all wooden joinery and wood work shall conform to specifications given in clause 7.3 of the MES Schedule Part I and defects shall be within the permissible limits as specified in Clause 7.4 and 7.5 of the MES Schedule Part I. Unless otherwise specified timber for all joinery and woodwork shall be 2nd class hard wood (Hollock/Sal/Benteak/Bijasal) and as per the approved sample kept in GE's office.

PARTICULAR SPECIFICATIONS

NOTE: - However, The contractor may provide Shisham wood in lieu of Hollock/Sal/Benteak/Bijasal wood without any extra cost to Govt.

- (b) Timber shall be well seasoned and chemically treated under pressure (kiln dried). Factory made shutters shall also be 'kiln' seasoned only. The moisture content of timber shall not exceed the limits laid down vide clause 7.7 of the MES Schedule Part I.
- (c) (i) Preservative anti-termite treatment shall be carried out to all woodwork and joinery. Contractor's quoted rates shall be deemed to cater for this provision. Factory made plywood, particle boards and factory made shutters are not to be further treated with any chemical against termites.
- (ii) Wood work and joinery other than factory made, ply wood particle board and factory made shutters as described above shall be treated with copper Napthanate or any other chemical specified in IS: 401 of 1982 and shall be applied in any one of the manners specified in IS or as directed.
- (d) Timber surfaces hidden or not exposed to view and in contact with brick work/masonry /concrete shall be left clean sawn and applied with two coats of creosote, unless specified otherwise hereafter.

29.2 WORKMANSHIP

- (a). Dimensions of various parts of joinery shall be as shown on drawing and shall supersede those stipulated in clause 8.20 & 8.24 of MES Schedule Part I. For the purpose of pricing deviations, factory made shutters shall be classified as second class hard wood and priced accordingly at the applicable rates in MES Schedule Part-II and no adjustment in SSR rates shall be done for change in sizes of stiles and rails.
- (b). Irrespective of what is shown on drawings, 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.
- (c). All joinery work shall be of full dimensions as shown on drawings. Overall sizes of joinery as shown on drawings shall be maintained. Tolerance in sizes and thickness shall be all as specified in SSR Part-I.
- (d). Plugging/wooden gutties to walls wherever shown on drawings or where required shall be done with wooden plugs made out of hard wood (Hollock/Bijasal/SAL/Benteak/Shisham/Teak) as per clause 7.29 of MES Schedule Part I.

30. FRAME (CHOWKHAT) FOR DOORS

Pressed steel frames/chowkhats shall be machine pressed steel rebated made out of 1.25 mm thick MS sheets (factory made). Pressed steel frame shall comply to IS: 4351(1976). Hollow space of chowkhat frames shall be filled with PCC (1:3:6) Type C-0 using 12.5mm graded stone aggregate as the work proceeds. Refer Clause 10.27.1 of MES Schedule Part-I. For other specifications unless specified otherwise hereafter profile and section, size of frame and lugs/hold fasts shall be as shown in IS. Back of chowkhat and MS hold fasts/lugs shall be given one coat of bituminous paint over primer before fixing in position.

31. PVC FRAME / DOOR

- 31.1 Door shutters for bath, toilet & WC shall be provided as described in Schedule 'A'. PVC moulded door shutter with wood free EPS 28 to 30 mm thick (stiles) with 2, 4 or 6 raised panels design with 2 mm thick moulded PVC sheet on the front face & 2 mm thick plain colour PVC sheet on back face, supplied and fixed in door frames at site as specified and shown on drawings in section 8 of SSR Part-II 2010 of approved colour and make. Contractor may use PVC doorframe for fixing of PVC door.

32. BUILDER'S HARDWARE FITTINGS

- 32.1 Iron mongery (hardware fittings) shall conform to the samples or shall be of approved make and as specified in Schedule 'A'. All iron mongery/ hardware fittings shall be fixed with cadmium plated screws .

PARTICULAR SPECIFICATIONS**33. GLAZING**

- 33.1 The glazing shall be done with ordinary quality sheet glass conform to IS. All sheet glass shall be of good quality, free from speaks, bubbles, smoke wanes, air holes and other defects. Glass shall be fixed to door / window / vents/ aluminium door etc as specified in Sch 'A'.
- 33.2 Figured glass shall confirmed to IS 5437-1969. The same shall not contain any stones with cracks or stones bigger than 2 mm dia.

34. ACID RESISTANT TILES

- 34.1 Refer clause 13.23 of SSR Part I (2009).

35. MS GALVANISED SHEET

- 35.1 Steel sheet shall be as specified as per clause 10.29 of SSR Part I (2009).
- 35.2 Workmanship shall be as specified as per clause 10.21 & 10.22 of SSR Part I (2009).

36. FORM WORK

- 36.1 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.
- 36.2 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.
- 36.3 For the purpose of pricing the deviation involving form work (both omit and add) the rates given in MES Schedule Part II for fair finished surfaces for concrete using steel form work shall be applicable.

37. GRANITE STONE WORK

- 37.1 Granite shall be of best premium quality and source of granite shall be approved by the GE before placing order. Fixing of granite shall be as specified in SSR Part-I.
- 37.2 Granite provided in pillar, cooking platform, jambs, steps and like shall be of single piece and no joint shall be permitted without any written prior approval of the GE. The rate of Granite shall not be less than Rs 240/- per sqft and purchase voucher in support of rate shall be produced by the contractor to Engineer-in- Charge in this regard.
- 37.3 Moulding, if any required and directed by Engineer- in- Charge for best finish shall be carried out by the contractor. The cost of moulding shall be deemed to be included in Schedule 'A' rate.

38. GYPSUM BOARD CEILING

- 38.1 Gypsum plaster board shall conform to IS 2095-1996 Part 1 or 2 as indicated or directed. The type of board shall be well board or base board as indicated. The thickness of board shall be of 12mm. The board shall be square edge board or tapered edge board as indicated.
- 38.2 Gypsum board shall be fixed in ceiling with GI frame of section as specified in Schedule 'A'. Gypsum board shall be treated with chalk whitening and two coats of oil bound distemper over alkali resistant primer. The cost of complete treatment and painting shall be deemed to be included in Schedule 'A' rate.

39. MARBLE FLOORING

- 39.1 Marble slabs shall be plain white marble of source KATNI as approved by the GE. Marble shall be hard, sound, dense and homogeneous in texture with crystalline and coarse grains. It shall be uniform in colour and free from stains, cracks, decay and weathering. Hardness on Mho's scale shall be minimum 3. The edges of the slab and tiles shall be true. Machine cut slabs and tiles with square edges may be supplied by the contractor without any price adjustment. The contractor shall get samples of marble slabs and tiles approved by the GE for their colour and matching or mis-matching of grains.
- 39.2 Marble shall be provided in floor and skirting as specified in SSR Part- I.

PARTICULAR SPECIFICATIONS**40. CEMENT CHEQUERED TILES**

- 40.1 Refer clause 13.17 of SSR Part- I-2009.
- 40.2 PCC chequered tiles shall be provided as described in respective item of Sch 'A'. The tiles shall be hydraulically pressed, high temperature tiles. The tiles shall be laid and jointed in grey cement and pigment to match with the shade of tile.

41. SALT GLAZED STONE WARE PIPES

All salt glazed stone ware pipes shall be Grade 'A' socketed pipe. Pipes shall be laid accurately to line and gradient. The joints shall be made by caulking two strands of gasket of yarn dipped in thick cement slurry upto one fourth or (13 mm) of the depth of the socket. The remaining of the socket shall be filled with CM (1:1) all as specified in clause 18.70 of MES Schedule Part-I. Width of excavation of salt glazed stone ware pipes for purpose of payment shall be authorised width as defined in clause 3.2 of MES Schedule Part-II or actual whichever is less.

42. WALL CARE PUTTY

- 42.1 White cement based putty shall be obtained ready mixed from the approved manufacture as approved by GE. White cement based putty shall be in the form of fine dry homogeneous powder free from odors of putrefaction and when mixed with water shall have the following properties.
- 42.2 (a) Tensile Adhesion strength at 28 days > 1.0 N/mm²
(b) Compressive strength at 28 days > 9.0 N/mm²
(c) Initial setting time > 100 minutes
(d) Final setting time > 500 minutes
(e) Water retaintivity > 98%.
- 42.3 Wall care putty shall be provided as specified in clause 15.19 of SSR Part-I-2009.

43. VITRIFIED TILES

- 43.1 Vitrified tiles flooring shall be provided as specified in para 13.15 & 13.40 of SSR (part –I) 2009. Vitrified tiles in flooring shall be dark shed of size 600 x 600mm and 10mm thick (min) laid on 15 mm thick screed bed in CM 1:6 or as specified in Schedule 'A'.
- 43.2 Vitrified tiles shall meet following requirements :-
(i) Water absorption - less than 0.5%
(ii) Modulus of rupture - 3.5 N/sqmm
(iii) Strength breaking strength Min 1300 N
(iv) Density – 7.20 Gm / cc
(v) Thermal resistance – No damage
(vi) Scratch proof

44. OVERHEAD SERVICES WATER TANKS

HDPE service overhead water tanks having double layered wall shall be of capacity as specified in Schedule 'A' and placed at location as directed by GE. It shall have lockable cover. Tanks shall be placed on 75 mm (average) thick PCC (1:3:6) Type C-I padding. For each tank GI light grade 300mm long over flow pipe of same dia as that of inlet pipe with PVC anti-mosquito cap and 25mm dia GI light grade wash out pipe extended 300mm from outer edge of PCC padding shall be deemed to be included in the cost of unit rate.

45. AC SHEET

- 45.1 Refer clause 11.2.2 and 11.24 of SSR Part- I-2010.
- 45.2 AC sheets shall comply with IS 459-1992; Specification for unreinforced corrugated and semi corrugated asbestos cement sheet and shall not be pigmented. AC sheets shall have a rectangular shape, smooth surface on the exposed side, a good appearance and shall be free from visible defects. The corrugations shall be true and regular. The edges of the sheets shall be straight and clean. Ridge covering and other AC accessories shall be of the same quality as of the sheets.

PARTICULAR SPECIFICATIONS**46. GALVANISED WIRE CLOTH**

46.1 Wire cloth shall comply with IS 1568-1970, Specification for wire cloth for general purposes. Wire shall be of galvanised mild steel and the cloth shall conform to the dimension as specified in Schedule 'A'. Wire cloth shall be regularly woven with a number of equally spaced parallel wires in both warp and weft directions to produce uniformly square meshes or openings. The wire cloth shall be properly selvedged by one or more wires in each edge.

46.2 When fixed in panels of door, window or opening shall be secured into the rebates of stiles and rails or frames and fixed with beads. Edges of the wire cloth shall be bent over heads and the bead pressed well into the angle of the rebate to hold the wire cloth on two faces.

47. RAIN WATER PIPES:

(a) Rain water pipes shall be of HDPE medium density (ISI marked) 110 mm dia / 70mm as specified in Schedule 'A'. RWP fixed to the walls with MS holder bat clamps embedded in cement mortar (1:3) conforming to IS-13512-1992 or in RCC as the case may be. These shall be provided all as specified in MES schedule Part I and given same finish as for wall. Pipes shall be jointed properly as per manufacturer's instructions or as specified

(b) Grating shall be of PVC round type for PVC pipes and CI grating for CI pipes not less than weighing 1.50kg each at the inlet to RW/down take pipes.

48. SANITARY FITTINGS AND PLUMBING WORKS:**48.1 GENERAL**

The work of supplying, fixing/laying and jointing of water closets, wash hand basin, all pipes and fittings with accessories/traps and GT shall be as specified in schedule 'A'.

48.1.1 Water closets, wash hand basin etc shall be vitreous china first/standard quality white glazed and shall conform to relevant part of IS-2556 (Vitreous china sanitary appliances) 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.

48.1.2 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.

48.1.3 'P' or 'S' trap shall be jointed to WC pan with Epoxy Putty.

48.1.4 Plumbing work shall be carried out as specified in Section 18.13 to 18.23 of MES Schedule Part-I and the Contractor shall employ licensed plumber.

48.1.5 Where not indicated elsewhere angle iron bracket shall be fixed to walls with PCC (1:3:6) Type C-1 block of size 100 mm x 100 mm x 75 mm.

48.1.6 Cast iron brackets shall be fixed on walls with wooden plugs (built in walls) or plugged to walls. Size of PCC blocks shall be 100mm x 100mm x 75mm and shall be in PCC (1:3:6) Type C-I.

49. CI SOIL WASTE/ VENT PIPE AND FITTINGS:

[a] All soil & waste shall be of centrifugally cast (spun) pipe bearing IS: 3989 of 1994 spigot and socket ends and shall bear ISI marking. Vent pipe shall be 75 mm dia PVC pipes fixed with slotted cowl. CI fittings and accessories shall be as suitable for spun pipes as specified in IS-3989.

[b] CI bend where resting on ground for soil pipes shall be with duck foot/heal rest. All other CI bends, tees junctions etc shall be of required angle and shall be with oval access door for maintenance.

[c] Jointing of CI pipes and fittings shall be with run lead joints as specified for concealed pipes and cement joints in CM (1:1) as specified for exposed pipes.

[d] All soil, waste and vent pipes and their fitting shall be fixed along vertical face of wall and shall be kept 50 mm to 75 mm away from face of wall while fixing.

PARTICULAR SPECIFICATIONS

- [e] Exposed surfaces of soil, waste and vent pipes, their fittings and accessories shall be given two coats of paints to match adjoining wall finish.
- [f] Soil/waste pipe from WC to first manhole/GT shall be 100/75mm dia CI pipe.
- [g] Cast iron pipe and fitting shall be secured with cast iron holder bats or mild steel clamps all as specified in clause 11.37 and 11.37.5 of MES Schedule Part-I.

50. INTERNAL WATER SUPPLY:**50.1 SCOPE**

The work covers internal water supply as described in Schedule 'A' under respective items. Work shall be carried out by licensed plumbers.

The following Indian Standard shall be applicable in addition to those mentioned in MES Schedule Part-I.

<u>IS NO</u>	<u>SUBJECT</u>
1172	Code of basic requirement for water supply drainage and sanitation (second revision)
2065	Water supply in buildings, Code of practice (First revision)

- 50.2 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 wall. The sleeves shall also be of medium grade GI pipe.
- 50.3 Copper alloy bib cocks and stop cocks shall comply to IS: 781 high pressure qualities. Crutch handles, spindles, glands etc of stop cocks and bib taps shall be of cast brass (extruded rolled or forged) in lieu of brass rod and as specified in IS-781 without any price adjustment. Ball valve shall be as specified in para 18.19 of MES Schedule Part-I. The sample of all items shall be submitted to GE for their approval within 30 days of the date of issue of the work order, before any bulk order is placed.

51. WATER PROOFING TREATMENT TO ROOF

51.1 Water proofing treatment to RCC roof slab shall be carried out as under :-

- (a) Brushing neat cement slurry @ 3 Kg per sqm on roof slab.
- (b) Providing 15mm thick screed with CM (1:4) as directed and specified in schedule 'A' over padding mixed with water proofing compound when concrete is still green.
- (c) After the concrete is fully dried, it shall be cleared free from dust and shall be painted with a coat of bituminous primer @ 0.30 Ltr/Sqm.
- (d) After primer, the entire roof surface shall be painted two coats of aluminium paint over polymeric before and after laying polymeric membrane with hot blown bitumen grade 85/25 conforming to IS-702 @ 1.2 Kg/Sqm.
- (e) Over hot bitumen, polymeric water proofing membrane consisting of 90 to 100 micron thick central core of HMHDPE film and standard weight not less than 3 Kg/Sqm shall be laid with 100mm side lap/end lap on prepared surfaces as per manufacturer's instructions and under strict supervision of manufacturer's technical representative.
- (f) Applying one coat of hot blown bitumen of grade 85/25 @ 1.20 kg per sqm.

PARTICULAR SPECIFICATIONS**51.2 NOTES:-**

- (a) Polymeric water proofing compound shall be as per manufacturer's specifications. Polymeric water proofing compound manufactured by M/S Bauchemi (India) Pvt Ltd. Bombay or equivalent may be used.
- (b) Suitable embodiment of polymeric water proofing membrane shall be inserted into walls/parapet walls. Special care shall be taken in laying the polymeric water proofing membrane at singularities such as drains, expansion joints etc. Details of lying shall be followed from manufacturer's guide. Technical specifications for polymeric shall be as under :-
- (i) It shall have a centre core of HMHDPE (High molecule High density polythene) film of thickness (90+10) micron.
- (ii) Both sides of the centre core will be covered with polymeric asphaltic mix. The polymeric mix is protected on both sides with thermo fusible HMHDPE film :

Softening points of polymeric mix-min 1180C.

Penetration 250C 100g, 5 seconds - 32±5.

Weight not less than 3 Kg/Sqm.

Tensile strength not less than 100 N/Sq cm.

Elongation length wise and cross wise not less than 300%.

Heat resistance 1000 degree C for one hour-does not drip at 1000C. Cold resistance at (-) 50 degree C does not break/crack.

51.3 METHOD OF LAYING

51.3.1 The sequence of operation for all types of treatment shall be as follows :-

- (a) Preparation of the surface including cleaning of roof surface of all foreign materials.
- (b) Laying of treatment on roofs and provision of flashings.
- (c) Treatment of gutters and drain mouths.
- (d) Surface finishing and
- (e) Cleaning and removal of surplus materials.

51.3.2 Throughout the laying operations, care shall be taken to avoid puncturing of the membrane.

51.3.3 The number of laps shall be minimized by selecting film of suitable width and laying it as specified here-in-after. The minimum width of laps shall be 10cm between adjacent membranes and at the end.

51.3.4 As far as possible, the membrane shall be laid down as follows :-

- (a) Flat roofs - At right angles to the direction of flow of water with the overlap facing downwards.
- (b) Sloping roof - Successive layers laid along the slope.
- (c) Curved shell roof - Across the slope in order to avoid excessive laps in the trough portion.

51.3.5 As far as possible, laps shall be avoided in the troughs or valleys, where unavoidable, they shall be covered by an additional membrane strip of adequate width.

51.3.6 Wherever membrane is to be carried over from horizontal to vertical surface, it should be over a fillet and protected with cement plaster or any other treatment. This applies to the portions of the structures, such as corners, gutters, junctions, parapets and all vertical faces.

51.3.7 Typical details of the treatment in case of roofs projecting beyond the wall, junctions of roof with parapet walls and roof with projecting features. The purpose of adopting these details is to ensure that the moisture does not find its way through an unguarded weak link in the complete treatment.

51.3.8 Where parapets exist and down take water pipes are provided to drain off the rain-water, extra piece of membrane shall be provided in the opening covering the edge of the water pipe and covered with cement plaster 1:6.

PARTICULAR SPECIFICATIONS**51.4 FLOODING TEST TO RCC SLABS**

51.4.1 On completion of casting of RCC slabs and sealing up pores the Contractor shall carryout flooding test of each RCC slab after 28 days of curing of RCC slab. Flooding test shall be carried out by forming earthen bunds over parts of the roof slab and at selected locations as directed by the GE. Water shall be ponded for minimum depth of 50mm and shall be allowed to remain over slab for a period of 72 hours. During this period if any defect such as leakage/seepage etc is noticed it shall be rectified by the contractor by grouting to the satisfaction of the GE. After rectification of the defects more tests shall be carried out at the discretion and to the satisfaction of the GE.

51.4.2 Testing

Frequency of test - At least one test consisting of three sample specimen of polymeric membrane at random from each lot. The polymeric membrane shall be got tested from the test house as mentioned hereunder :-

(a) Chemical and metallurgical, Services T.S. No. 63, SIDCO Industrial Estate Ekkaduthangal, Chennai-600097 Fax No : 44-2312944

(b) Central Institute of Plastic Engineering and Technology (Ministry of Chemical and fertilizer, Govt of Ind) Guindy, Chennai-600032 Fax No : 94-44-2344673

(c) National Test House, Alipore, Kolkatta.

51.4.3 MAKES

(a) Heperplas polymeric water proofing membrane manufactured by IWL India Limited, C&D Laxmi Bhawan, 609, Anna Salai, Chennai - 600006.

(b) Multiplas by STP Texsa limited 570 phase V Udyog, Gurgaon 122016 India.

(c) MO Ply FP of STP.

51.5 GUARANTEE FOR WATER PROOFING TREATMENT

51.5.1 The main contractor shall stand; guarantee to the Govt for a period of ten years from the certified date of completion of the work for the effectiveness of the treatment shall be furnished in favour of Garrison Engineer in writing.

51.5.2 If the GE at any time during construction or reconstruction or prior to the expiry of the Guarantee period, finds that the buildings have leakage seepage from the roof, the contractor shall, on demand in writing from the GE specifying the building (s) complied of, notwithstanding that the same may have been inadvertently passed certified and paid for, undertake to carryout forth with such treatment as may be necessary to render the building (s) free from leakage seepage at his own expense, till expiry of the guarantee period. In the event of his failure to do so, within the period to be specified by the GE in his demand aforesaid, the GE may undertake such treatment at the risk and expense in all respect, of the Contractor. The liability of the Contractor under this condition however shall not extend beyond the period of TEN Years from the certified date of completion, unless the GE had previously given notice to the contractor to rectify the defects.

51.5.3 The amount of security deposit to be held back from the Contractor's bill against the guarantee for water proofing treatment shall be calculated on the amount of water proofing treatment at contract rates as per the scales given below enhanced by 1.25 times of the amount so calculated. This shall be worked out by GE and intimated to the Contractor. This amount shall be refunded to him after the expiry of the guarantee period. Alternatively, the Contractor may give a separate interest bearing security deposit to GE valid for 10 Years for this amount.

<u>Cost at contract rates</u>	<u>Amount of Security Deposit</u>
(i). Upto Rs 50 lakhs	2% of the amount subject to a minimum of Rs. 5000/-
(ii). Over Rs. 50 lakhs and upto Rs. 100 lakhs	Rs. 1,00,000/- + 1.5% of the amount exceeding Rs. 50 Lakhs
(iii). Over Rs. 100 lakhs and upto Rs. 500 lakhs	Rs. 1,75,000/- + 1% of the amount exceeding Rs. 100 Lakhs
(iv). Over Rs. 500 lakhs and upto Rs. 1500 lakhs	Rs. 5,75,000/- + 0.5% of the amount exceeding Rs. 500 Lakhs
(v). Over Rs. 1500 lakhs	Rs. 10,75,000/- + 0.5% of the amount exceeding Rs. 1500 Lakhs subject to Rs. 18.75 Lakhs

PARTICULAR SPECIFICATIONS**51.5.4 GUARANTEE:**

The contractor shall obtain Guarantee for 10 years from the manufacturer and submit to the GE after completion and testing of roof. Any defect/leakage/seepage observed during this period notified by the GE in writing shall be made good by the contractor through the manufacturer or their authorised applicator to the entire satisfaction of GE within a reasonable period, failing which, the defects shall be got rectified at the contractors risk and cost. The defects liability period mentioned purpose of this condition. All the expenditure incurred in getting the defects rectified shall be borne by the contractor.

52. INTERLOCKING PAVER BLOCK

52.1 Refer clause 13.18 of SSR Part- I-2009

52.2 Precast concrete Paver blocks shall conform to IS 15658:2006, Specification for Precast concrete blocks for paving. Paver blocks shall be sound and free from cracks or other visual defects. The tolerance on length or breadth of paver blocks shall be +2mm and tolerance on thickness of tiles shall be +3mm. Water absorption shall not be more than 6 percent by mass. Shapes shall be triangular, Zigzag, Hexagon or other shape as approved by the GE. Colour of paver blocks shall be as indicated or as decided by GE. Thickness and grade of concrete of paver blocks as specified in Schedule 'A'.

53. INTERNAL ELECTRIFICATION:**53.1. SCOPE**

The work covers Internal Electrification as described in Schedule 'A' under respective items, Notes to Schedule 'A' as specified and directed.

53.2. WORKMANSHIP:

- [a]. The work carried out shall be of the highest standard conforming to latest edition of Indian Electricity Act and rules framed there under as applicable and Para 19.2 of SSR 1991 (part I) read in conjunction with relevant IS codes for Internal electrification and code of practice for electric wiring installation as per IS 2274 with amendments. All cable connection to the MCBs shall be by using copper lugs/thimbles only.
- [b]. Refer condition 25 of General conditions of contracts (IAFW 2249). All electric work shall be carried out properly by skilled and licensed electrician under the supervision of qualified electrical supervisor. The contractor shall on demand by Engineer in Charge produce such evidence of qualifications of his workmen and supervisor during the currency of contract. This provision shall be complied with even if the contractor himself is qualified and enlisted for electrical work.
- [c]. All the work shall be executed as per the code of practice and as listed in the IS. All electrical work shall be governed by the requirement as specified under the Indian electricity Act/Rules with latest amendments. The code of practice for electric wiring installation as per IS: 2274 with amendment No 1 will be strictly followed.
- [d]. 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 copper conductor all as described in Schedule 'A' items :-
- Screws: All screws shall be of galvanised iron or steel chromium plated.
 - Link clips : These shall be of aluminium conforming to IS: 2412
 - Sunk cast iron/pressed steel terminal boxes. Terminal boxes shall be of suitable sizes required to mount switches, regulators and 3 pin sockets.

Conduit wiring and batted wiring shall be carried out all as described in Schedule 'A' and as specified in MES Schedule part I.

PARTICULAR SPECIFICATIONS53.3. **SAMPLES**

- [a]. Samples of the following shall be supplied within 30 days of the date of issue of work order :-
- (a) All types of cable
 - (b) Fittings, wires and accessories used for Internal Electrification.
 - (c) The contractor shall ensure that the materials used in the works are identical with the approved samples. The materials shall be brought to the site by the contractor in the makers' original packing with the seal intact or with wrapper and shall not be installed unless approved by Engineer in Charge.
- [b]. Height of switch boards, socket outlet, light fittings and fans etc shall be as shown in drawings or as directed by the GE.
- [c]. All electrical fittings & wiring shall run clear of doors, windows & other openings.
- [d]. Arrangement for lighting circuit shall be as decided by Engineer in Charge. Permissible number of points per circuit shall not be more than 8.
- [e]. Loop in system of wiring shall be followed throughout the Installations.
- [f]. No burrs or twisted joints shall be made at intermediate points in the through run of cable. If inevitable, such joint shall be made through proper cut out.
- [g]. In any condition cables shall not come in contact with metallic pipe or non earthed metal work.
- [h]. Not more than two power socket out let points shall be wired on one circuit.
- [j]. Diagonal run of wiring shall not be permitted.
- [k]. Suitable inspection boxes shall be provided for periodical inspection or to facilitate removal of wiring. In concealed wiring these shall be mounted flush with the walls.
- [l]. For conduit wiring colour coding and colour of insulation of wires shall be got approved before the wires/cables are procured.
- [m]. Where conduits are concealed, these shall be held in chases with MS hooks except in RCC work where these can be secured to reinforcement with binding wire.

53.4. **MATERIALS:**

- [a]. All materials to be incorporated in the work shall be of the highest standard and unless specified otherwise, shall strictly comply with the relevant ISS or BSS for which no ISS has been published.
- [b]. Unless otherwise specified point wiring shall be with 1100 volt grade cable conforming to IS: 694 with stranded copper conductor all as described in different items of Schedule 'A'.
- [c]. Wooden battens/blocks/Boards shall be of well seasoned hard wood wrought on all exposed surfaces and coated with shellac varnish. The finished minimum thickness of batten shall be 10 mm

53.5. **CONDUIT & CONDUIT FITTINGS:**

PVC conduits shall be of PVC medium grade of 25mm dia ISI marked. Conduit fittings shall be of un plasticised PVC conforming to IS-3419.

PARTICULAR SPECIFICATIONS

53.6. Other materials shall be as follows:-

Sl No	Material	Reference to Clause of MES Schedule (Part-I)
	Cable cords and earthing leads	19.24
	Cable for internal wiring for light and power	19.25
	Wooden battens, blocks and boards	19.28
	Conduit and conduit fittings and accessories	19.29
	Plug/Gutties	19.30
	Screws and fastenings, link clips	19.31
	Ceiling rose	19.32
	Shades	19.33
	Bulkhead fittings	19.34
	Socket outlets	19.40
	Lamp holders	19.41
	Main switch	19.45
	Switch board	19.105
	Distribution fuse boards	19.44
	Miniature circuit breaker	19.46

53.7 **MS BOXES :-**

For housing the various fittings such as switches, sockets, fan regulators etc, shall be of sheet pressed steel not less than 2mm thick conforming to IS: 5133. The boxes shall be painted with two coats of black bituminous paint and shall be embedded in walls in cement mortar 1:3 and need not be fixed with plugs or screws. The minimum depth of these boxes shall be 75 mm and each box shall have an earth dolly. Corner of boxes shall have 3 mm thick MS sheet corners with screwed holes for fixing laminated sheet, 3 mm uniform thickness. Laminated sheet shall be fixed with brass screws & washer to MS box. It shall be of the colour as decided by GE.

54. **EQUIPMENTS AND MATERIALS**

Piano type switches, lamp holder, main switches and socket outlets/switch fuse, cable for internal wiring, miniature circuit breaker etc shall be of the make as approved by GE. Flexible chord 23/.0076 shall conform to IS: 434. Steel Conduit shall be stove enameled black rigid steel conduit conforming to IS: 9539 (Part I).

[a] The following tests shall be carried out to the entire satisfaction of the Engineer -in-Charge before the work is finally handed over by the contractor and completion certificate is issued :-

(a) Polarity test	Test results shall be lower than the minimum specified in IE rules/ISS.
(b) Insulation resistance test	
(c) Continuity test sectional and overall	
(d) Earth resistance test	

This is not to exceed one ohm

[b]. Clause 19.146 of SSR (Part I) is also applicable.

55. **CREDIT FOR DISMANTLED/ DEMOLISHED MATERIALS**

55.1 The work ordered to be demolished/dismantled shall be done with due care to avoid any damage to adjoining surfaces. Any damage caused due to negligence of workman shall be made good by the contractor at his own cost.

55.2 Measurements of all works except hidden work shall be taken before commencement of demolition/dismantling i.e. at the time of preparation of inventories.

55.3 The materials obtained from demolition/dismantling shall be stacked as per direction of the Engineer-in-Charge for inspection by the GE for disposal as given below :-

- Materials to be taken by the contractor against CREDIT.
- Material to be deposited in the MES store Yard.
- Materials to be disposed off otherwise to be thrown away. The decision of the GE in this regard shall be final and binding.

PARTICULAR SPECIFICATIONS

- 53.4 The demolition statement in respect of all demolished/dismantled items shall be prepared irrespective of their disposal. The materials to be taken away by the contractor against credit shall be booked in measurement book (IAFW-2261). The contractor shall be allowed to remove the materials from site of work only after credit is recovered from running payment and after written permission of the GE. The permission letters issued by the GE from time to time will describe the items, quantity, credit rate and the total amount to be recovered from the contractor.
- 53.5 During demolition/dismantling every precaution should be taken by the contractor to prevent damage to any of the structure and also the adjacent structure are to be left intact any damage caused to the structures shall be made good by him and at his own expense.
- 53.6 The contractor shall be responsible for the safe custody of serviceable materials until handed over to the MES representative/incorporated in the work.

54. CREDIT FOR DISMANTLED/ DEMOLISHED MATERIALS

- 54.1 The work ordered to be demolished/dismantled shall be done with due care to avoid any damage to adjoining surfaces. Any damage caused due to negligence of workman shall be made good by the contractor at his own coat.
- 54.2 Measurements of all works except hidden work shall be taken before commencement of demolition/dismantling i.e. at the time of preparation of inventories.
- 54.3 The materials obtained from demolition/dismantling shall be stacked as per direction of the Engineer-in-Charge for inspection by the GE for disposal as given below :-
(d) Materials to be taken by the contractor against CREDIT.
(e) Material to be deposited in the MES store Yard.
(f) Materials to be disposed off otherwise to be thrown away. The decision of the GE in this regard shall be final and binding.
- 54.4 The demolition statement in respect of all demolished/dismantled items shall be prepared irrespective of their disposal. The materials to be taken away by the contractor against credit shall be booked in measurement book (IAFW-2261). The contractor shall be allowed to remove the materials from site of work only after credit is recovered from running payment and after written permission of the GE. The permission letters issued by the GE from time to time will describe the items, quantity, credit rate and the total amount to be recovered from the contractor.
- 54.5 During demolition/dismantling every precaution should be taken by the contractor to prevent damage to any of the structure and also the adjacent structure are to be left intact any damage caused to the structures shall be made good by him and at his own expense.
- 54.6 The contractor shall be responsible for the safe custody of serviceable materials until handed over to the MES representative/incorporated in the work.

55. PRECAUTIONS

During demolition or dismantling, every precaution shall taken by the contractor to prevent damage to any part of structure and also to any adjacent structure which are to be left intact. Any damage caused to structure due to the carelessness and negligence of the contractor, shall made good by him at his own expense. He shall also take precaution, if necessary, to keep down dust nuisance etc. while carrying out demolition /dismantling.

PARTICULAR SPECIFICATIONS

56. **EARTHING WITH GI WIRE** :- Earthing shall be as per IE rules and regulations as shown in electrical plate No.5 and described in clauses 19.137 to 19.146 of SSR Part I and modified hereinafter. It shall be executed in presence of MES representative. The earth plate shall be galvanized mild steel of size 600x600x6.3 mm, placed vertically and surrounded with charcoal dust and salt on all sides. GI wire of 4 mm dia (7.5 M long) shall run up to bottom of earth plate. GI pipe 15 mm dia. light grade shall be provided as protection pipe for GI wire up to outer face of walls (7.5 M long) . The metallic bodies of switch gear, transformer and other equipments shall be electrically connected at two points to earth by means of GI strips as directed by EIC. The GI clamps/ clips, saddles etc. 1 metre c/c to fix the GI pipe carrying GI earth wire. The ultimate depth of earth electrode would depend on the nature of soil and contractor is required to take it to a depth where sufficient moisture exists and natural conditions are suitable for resistance as specified below. The test link (point) shall be provided in the circuit of each pit at a suitable point to be decided by EIC for carrying out resistance measuring test.

The earth resistance of whole system shall be as near as possible to zero but shall not in any case exceeds One Ohm. As far as possible, joints in GI earthing wire shall be avoided but wherever, it is absolutely necessary, prior permission of EIC shall be obtained in writing while jointing. PCC for chamber shall be 1:2:4 type B1 using 20 mm graded stone aggregate. Funnel shall be of CI/ PGI sheet 0.63 mm. Wire mesh shall be galvanized made out of 0.63 mm dia. of wire and having width of aperture 1.40 mm. The cover of pit shall be of RCC 1:2:4 type B1, 50 mm thick, duly reinforced with 6 mm dia. round bars @ 100 mm c/c both sides. Necessary slots in RCC pit cover shall be formed for providing handles etc. The cost quoted by Contractor shall be deemed to be included for all works viz excavation and earthwork, PCC foundations/ chambers, precast cover slab, reinforcement, form work, funnel, wire mesh, GI wire mesh, watering pipe, protection pipe, Earth electrode, nuts bolts washers, earthing strips etc. Complete. However, If the desired earth resistance is not found, earthing shall be redone by the contractor at no extra cost to the department.

57. **EARTHING WITH GI STRIPS**:- Earthing shall be as per IE rules and regulations as shown in electrical plate No.5 and described in clauses 19.137 to 19.146 of SSR Part I and modified hereinafter. It shall be executed in presence of MES representative. The earth plate shall be galvanized mild steel of size 600x600x6.3 mm, placed vertically and surrounded with charcoal dust and salt on all sides. GI strip of size 32x6 mm (7.5 M long) shall run up to bottom of earth plate. GI pipe 40 mm dia. light grade shall be provided as protection pipe for GI strip up to outer face of walls (7.5 M long) . The metallic bodies of switch gear, transformer and other equipments shall be electrically connected at two points to earth by means of GI strips as directed by EIC. The GI clamps/ clips, saddles etc. 1 metre c/c to fix the GI pipe carrying GI earth strips. The ultimate depth of earth electrode would depend on the nature of soil and contractor is required to take it to a depth where sufficient moisture exists and natural conditions are suitable for resistance as specified below. The test link (point) shall be provided in the circuit of each pit at a suitable point to be decided by EIC for carrying out resistance measuring test.

58 **PRODUCTION OF PURCHASE VOUCHERS.** The contractor shall be required to purchase the articles required to be incorporated in the work directly from the manufacturer to ensure their genuineness. He shall submit the original purchase vouchers to the Engineer-in-Charge for his defacement before claiming his payment. However, where the manufacturer do not have the system of sale policy of sales directly by them and deal their sales through dealers network only, the contractor may purchase the materials / articles from the authorised dealers of the company, who are required to shown the cash memo/bills all the taxes, etc makes and numbers as required two copies of CTC of the same shall be made by the Engineer-in-Charge for reference and record. The said original purchase vouchers shall be released to the contractor after defacing the same with respect to this contract.

PARTICULAR SPECIFICATIONS (CONTD...)

The earth resistance of whole system shall be as near as possible to zero but shall not in any case exceeds One Ohm. As far as possible, joints in GI earthing strips shall be avoided but wherever, it is absolutely necessary, prior permission of EIC shall be obtained in writing while jointing. Strips shall be properly cleaned .Straight joints shall have an overlap of 50 mm. All joints in GI strips shall be riveted with 6 mm dia. galvanized mild steel rivets, in two rows (with 2 No rivets in each row) and then soldered / welded on all the four side and to full length of joint. PCC for chamber shall be 1:2:4 type B1 using 20 mm graded stone aggregate. Funnel shall be of CI/ PGI sheet 0.63 mm. Wire mesh shall be galvanized made out of 0.63 mm dia. of wire and having width of aperture 1.40 mm. The cover of pit shall be of RCC 1:2:4 type B1, 50 mm thick, duly reinforced with 6 mm dia. round bars @ 100 mm c/c both sides. Necessary slots in RCC pit cover shall be formed for providing handles etc. The cost quoted by Contractor shall be deem to be included for all works viz excavation and earthwork, PCC foundations/ chambers, precast cover slab, reinforcement, form work, funnel, wire mesh, GI wire mesh, watering pipe, protection pipe, Earth electrode, nuts bolts washers, earthing strips etc. Complete. However, If the desired earth resistance is not found, earthing shall be redone by the contractor at no extra cost to the department.

59. Cable Path Indicator:-Cable path indicator mentioning CA No., size of cables etc. as directed by EIC shall be provided at 50 metres intervals. The cost of these shall also be deemed to be included in the unit rates of cables laid in trenches. No extra payment shall be allowed for the same.Danger Boards:- These shall be conforming to IS-2551. These shall be made out of 1.60 mm thick mild steel plate, vitreous enameled white. The size and design of boards shall be as given in IS-2551. These shall be fixed on HT OCBs, transformers, ring main tee off, switch fuse units and LT OCBs etc. as decided by EIC. Only one danger board shall be fixed to each equipment and each electric pole. The cost of the danger boards shall be deemed to be included in the units rates of respective items, unless specific item for danger boards does not exist in Schedule "A".

Signature of Contractor
Dated.....

AGE (Contracts)
For Accepting Officer

PART- I
CIVIL CONSTRUCTION PRODUCTS

Srl No	Product Category	Product	Name of Firm/Brand
1.	Floor and Wall Tiles	Ceramic & Vitrified Tiles	1. Kajaria 2. Johnson 3. Somany Ceramics Ltd (Brand - Somany) 4. ORIENT BELL LTD (BRAND-ORIENTBELL) 5. Vitero 6. Aparna Enterprises 6. Hindware
		Cement Concrete interlocking paver Blocks, Chequered Tiles, Bollards/Kerb Stone	1. Jain Tiles Industries Haldwani (Brand - JTI) 2. Ferrocon Dehradun 3. Sagar Tiles Saharanpur (Brand - Sagar) 4. Mehtab Tiles 5. Gayatri Tiles
		Wooden flooring	1. Greenpanel Industries Ltd 2. HIL Ltd 3. Action Tesa 4. Armstrong
2.	Paint	Exterior Paint	1. Asian Paints Ltd 2. Berger Paints India Ltd 3. Kansai Nerolac Paints Ltd
		Interior Paint	1. Asian Paints Ltd 2. Berger Paints India Ltd 3. Kansai Nerolac Paints Ltd
		Enamel/Oil Paint	1. Asian Paints Ltd (Apolite Premium Gloss) 2. Berger Paints India Ltd (Luxol Hi-Gloss) 3. Kansai Nerolac Paints Ltd (Synthetic Hi-Gloss Enamel)
		Cement Based Paints	1. Super Snowcem 2. Duracem Plus 3. Acro Paints Ltd
		High Build textured & Wall finishes	1. Asian Paints Ltd 2. Berger Paints India Ltd 3. Kansai Nerolac Paints Ltd
3.	Factory Made Doors/Windows (Doors, Windows, Ventilators & Frames)	UPVC shutters for doors, windows, ventilators & Frames	1. Fenesta 2. Koemmerling 3. Aluplast 4. Aparna Enterprises 5. Rajshri Plastiwood
		PVC shutters for doors, windows, ventilators & Frames	1. Yamuna Interiors Pvt Ltd (Brand - Black Cobra) Yamuna Nagar 2. Kumar Arch Tech Pvt Ltd (Brand - Ecocell) 3. GIZA 4. Rajshree Plastiwood
		WPC door, window & frames	1. GIZA 2. Ecocell 3. Yamuna Interiors Pvt Ltd (Brand - Black Cobra) Yamuna Nagar 4. Rajshree Plastiwood
		Pre-painted steel windows, ventilators & door frames	1. Tata Pravesh 2. NCL Buildtek Limited 3. Elixir Met Form Pvt Ltd
		Wooden flush door/panel/ gauge shutters for door & window	1. Century Plyboard (India) Ltd. (Brand - Century Doors) 2. Greenply Industries Ltd. 3. Greenpanel Industries Ltd 4. Anoop industries

	Steel windows, Ventilators, Door frames, Shutters, Z Section steel windows. (Fabricators)	1. Trisul Industries Meerut 2. Chandni Industries Gaziabad 3. Ashwani & Sons
--	--	--

		Aluminium shutters, frames for doors, windows & ventilators (Fabricators)	<ol style="list-style-type: none"> 1. Hindalco 2. Jindal 3. Fenesta 4. AIS 5. NALCO 6. Profine India (Alupure) 7. Trisul Industries Meerut 8. Chandni Industries Gaziabad 9. Deco Grill 10. M/s Ishwar Industries
4.	Ply/ veneers, laminates/ false ceilings/ particle boards/ wooden boards sheet/ wooden floor etc	UPVC/ PVC False Ceiling	<ol style="list-style-type: none"> 1. Polyline Extrusions Pvt Ltd 2. Accura Polytech Pvt Ltd 3. Kumar Arch Tech Pvt Ltd (Brand – Ecocellm, 4. Rajshri Plastiwood.
		Metal false ceiling	<ol style="list-style-type: none"> 1. P R Ceiling Products 2. Manraj Ceiling Products Pvt Ltd (Brand - Royal Kraft) 3. Armstrong
		Gypsum Board False Ceiling/ Gypsum Plaster	<ol style="list-style-type: none"> 1. Everest Industries Ltd 2. P R Ceiling Products Ltd 3. Gyproc 4. Armstrong
		Non-Asbestos Fibre Cement Board (Confirming to IS: 14862/ 2000) False Ceiling	<ol style="list-style-type: none"> 1. Everest Industries Ltd 2. Shera 3. Kalsi
		Glass Reinforced Gypsum (GRG) False Ceiling	<ol style="list-style-type: none"> 1. Gyproc 2. Armstrong 3. USG Boral
5	Wall Panelling/ Partitions/ Ply Board/ MDF & HDF Boards	Plain Particle Board/ Particle board ceiling, Pre-laminated Particle Board	<ol style="list-style-type: none"> 1. HIL Ltd 2. Greenpanel Industries Ltd 3. Century Ply 4. Greenply 5. Kitply 6. Action Tesa 7. Anchor
		Aluminium Composite Panels (ACP)	<ol style="list-style-type: none"> 1. Aludecor 2. Alstrong 3. Alucobond 4. Alstone 5. Viva 6. Ashoka Foam Multiplast Ltd (Brand - Alutuff ACP & Alutuff AHPL) 7. Virgo Laminates Ltd 8. Alutech Industries New Delhi
		Laminates/ Veneers	<ol style="list-style-type: none"> 1. Merino Laminates 2. Royale Touche Laminates 3. Greenlam Laminates 4. Century Laminates 5. Kitply 6. Sunmica 7. Formica 8. Greenpanel Industries Ltd 9. Virgo Laminates Ltd

Srl No	Product Category	Product	Name of Firm/Brand
		Plywood for general purpose	1. Century Plywood 2. Kitply 3. Archid Ply 4. National Plywood 5. Anchor
6	Sanitary fittings/ fixtures	CP Bath fittings & accessories	1. Grohe 2. Kohler 3. Jaquar & Co Pvt Ltd (Brand - Jaquar) 4. CERA Sanitaryware Ltd 5. Kajaria Bathware Pvt Ltd 6. Somany, 7. Prayag Polymer 7. Hindware/QUEO
7.	Ceiling and wall paneling	Reinforced Fibre cement Board False Ceiling incl Members	1. ArmStrong 2. Gyproc (Saint Gobin) 3. Everest
		Plaint/Pre-liminated Particle Board Incl MDF/HDF Board	1. Century Plywood 2. Kitply 3. Action Tesa
		Veneered Particle Board/Block	1. Century Plywood 2. Anchor 3. Kitply
8	Water Supply Plumbing Drains and sanitary fittings	CI (Cast Iron) Pipes & Fittings	1. Neco 2. Kesoram 3. Electro Steel 4. Kejriwal
		RCC Pipe, Drain Pipes	1. Everest 2. Himalaya 3. Indian Hume Pipes
		Gun Metal Globe/Gate Valve/Angle Valve/Sluice Valve	1. Leader 2. Zoloto 3. Kirloskar 4. Jainko
		CI/Brass Ball Cocks (Float Valves)	1. Leader 2. Prayag 3. Zoloto
		Low Level Flushing Cistern (PVC) ISI Marked	1. Cera 2. Hindware 3. Parryware 4. Kajaria 5. Johnson 6. Kohler 7. Prayag 8. M/s Anup Industries
9.	GI/CGI Sheet	1. JSW 2. Tata 3. Sail	
10.	Sheet Glass/Looking Mirror	1. Saint Gobin 2. Asahi 3. Atul	
11.	Putty	1. Gold Mohar 2. Birla White 3. Shalimar, 4. Asian Paint, 5. J . K White.	
12	APP Membrane	1. CIPY Polyurethane 2. IWL India Ltd 3. STP Ltd Mumbai	
13.	Aluminum fitting/Hardware	1. M/s Elite Enterprises 2. M/s Classic (New Delhi) 3. M/s Ajanta Steel Pvt Ltd	

14	Cement		
	All Grades	ACC	Auth : E-in-C's Br letter No. A/90154/452/E2 Des-3 dated 02 Aug 2021.
		Ultra Tech	
		The India Cement	
		Dalmia Infra Pro	
		Century Cement	
		Saurashtra	
		Ramco	
		Mangalam	
		Birla	
		Orient	
		Nuvoco	
		Shree	
		JK	
		JK Laxmi	
		Jaypee	
		Ambuja	
	OPC 43	Sartaj	
		Parasakti Cement	
		Chettinad Cement	
		JSW OPC 43	
		Sagar	
		Maha Cement	
		Wonder Cement	
	OPC 53	JSW OPC 53	
		Sagar	
		Sanghi	
		Wonder Cement	
	PPC	Sartaj	
		Parasakti Cement	
		Chettinad Cement	
		Sagar	
		Sanghi	
		Maha Cement	
		Wonder Cement	
	PSC (Portland Slag Cement)	JSW PSC	
		Sagar	
		Maha Cement	

15	STEEL				
TMT Bars	TMT Bars all grades/ sizes	RINL		Auth: E-in-C's Br letter No. 83044/ Steel/769/E2 Des-3 dt 02 Aug 21.	
		TATA			
		SAIL			
	TMT Bars grade Fe 500 & Fe 500D	Balaji Shakti			
		Shyam			
		Simhadri TMT			
		Jindal Panther			
		SRMB			
		Goel TMT	(8-32 mm)		
		GK TMT	(8-36 mm)		
		Super Shakti			
		Gallant TMX	(8-32 mm)		
		Rashmi TMT	(8-25 mm)		
		SEL (Fe 500D only)	(8-32 mm)		
		Elegant TMT			
		Nakoda TMT	(8-32 mm)		
		Neo steel	(8-40 mm Fe 500D only)		
	Kamachi	(8-40 mm)			
	ET TMT	(8-36 mm)		Auth: E-in-C's Br letter No. 83044/ Steel/818/E2 Des-3 dt 06 Oct 21.	
	TMT Bars grade Fe 550 & Fe 550D	Jindal Panther	(8-40 mm)	Auth: E-in-C's Br letter No. 83044/ Steel/769/E2 Des-3 dt 02 Aug 21.	
		SRMB	(8-32 mm)		
		Super Shakti	(8-32 mm Fe 550)		
		Rashmi TMT	(8-25 mm Fe 550D only)		
		Elegant TMT (Fe			
		Neo steel	(8-40 mm Fe 550D only)		
	Kamachi	(8-40 mm)			
	TMT Bars grade CRS	Shyam			
Gallant TMX		(8-32 mm)			
Neo steel		(8-40 mm)			
ET TMT		(8-36 mm)		Auth: E-in-C's Br letter No. 83044/ Steel/818/E2 Des-3 dt 06 Oct 21.	
TMT Bars grade HSCRM	Simhadri TMT		Auth: E-in-C's Br letter No. 83044/ Steel/769/E2 Des-3 dt 02 Aug 21.		
	Kamachi	(8-40 mm)			
Structural Steel (Angle, Beam, Column, Channel, Plate etc)	RINL				
	TATA				
	SAIL				
	Jindal				

PART II E/M RELATED PRODUCTS

Srl No	Product Category	Product	Name of Firm/Brand
1.	Wire Cable	PVC insulated 1100V grade ISI marked FRLS internal wiring cables with copper conductor	1.Havells 2. Polycab 3.Anchor
		LT cable UG (XLPE/PVC) Heavy duty armoured unarmoured upto 1100V Aluminum & Copper conductor solid/stranded as per IS 1554 PtI & 7098/1988Pt I	1. Havells 2. Poly cab 3.Glost er 4. Gemscab Industries Ltd
2.	Water Heaters (Geysers)	Water Heaters (Gysers)	1. Havells (Adonia series) 2. Bajaj 3. Jaquar & Co Pvt Ltd, 4. Prayag, 5. Orient
		PVC Conduit	1. AKG Plastics Pvt Ltd 2. Bhagwati Plastic & Agriculture Industries 3.Finolex, 4. Supreme, 5. Polycab
		PVC Casing & Capping	1. AKG Plastics Pvt Ltd 2.Finolex, 3. Supreme, 4polycab
4	Change Over Switch/Switch Fuse	Change Over Switch/Switch Fuse	1. Indo Asian 2. HPL 3. Crystal Electric Co Pvt Ltd, 4. L&T
5	LT Switchgears	MCBs & MCB DBs	1. Indo Asian 2. HPL 3. Crystal Electric Co Pvt Ltd, 4. Havells, 5. L&T. 6. Orient Electric Ltd.
		MCCB	1. Havells 2. Indo Asian, 3. HPL. 4. Orient Electric Ltd.
7	All types of LT Panels, Feeder pillars & LT Control Panels	LT Panels, Feeder Pillars & LT Control Panels (CPRI Approved)	1. Shalabh (India) Industries Roorkee 2. Inda Asian 3. Power Systems & Control Jalandhar 4. REW Constructions Pvt Ltd
8	Voltage Stabilisers	Voltage Stablisers upto 5 KVA	1. Chime Electronics Delhi (BrandSinetrac) 2. Vintek Electronics New Delhi (Brand - Volina) 3. Vintec Electronic Laboratory New Delhi
		Voltage Stabilisers above 5 KVA	1. ITE Gurgaon 2. Chime Electronics Delhi (BrandSinetrac) 3. Vintek Electronics New Delhi (Brand - Volina) 4. Vintec Electronic Laboratory New Delhi
9	Air Insulated Trunk Bus Bars/ Bus Ducts/ Bus Bar Trunking Systems	HT & LT Bus ducts	1. Nitya Electrocontrols Pvt Ltd 2. United Engg Services Kanpur 3. Sparsh Engg Corpn Lucknow
10.	UG HT XLPE, PVC Insulated aluminium Conductor for 33KV/22KV/11K V System		1. Cable Corp of India(CCI) 2. Universal Cable(UCL) 3. GEMSCAB 4. RPG 5. GLOSTER 6. POLYCAB 7. FINOLEX 8. HAVELLS 9. KEI
11.	Jointing kits for LT Cables		1. M Seal 2. Raychem 3. Denson
12.	Measuring Instruments / Energy meter		1. L & T 2. AE 3. SIMENS
13.	Cable Junction Box		1. Nathani Plastic Moulding works. 2. Supreme Industries. 3. National Junction Box, Gujrat 4. Sintex Industries Ltd.
14.	DG Set Engine		1. Kirloskar, 2. Cummine, 3.Greeves Cotton 4. Caterpillar,
15	Alternator		1.Kirloskar, 2. Stenford, 3.Crompton, 4. Jyoti

16	Transformer's	Transformer's 11/0.433 KV upto 500 KVA Copper bound	1. Crompton, 2. Schneider, 3. Indian Transformer & Electricals Pvt Ltd (Gurgaon)
		Transformer Step down 11/0.433 KV above 500 KVA Copper wound	1. Crompton, 2. Schneider, 3. Indian Transformer & Electricals Pvt Ltd (Gurgaon)
	Transformers Stepdown upto 33/11KV upto, 10 MNA & 33/0.433 KV Copper wound	Schnider Crompton Greeves ABB, Seimens	1. Crompton 2. Schnider 3. ITC (Gurgaon)
17	Central AC Plant and all types of air Condi timers Central AC Plant	Chiller for Control AC plant	1. Voltas 2. Carrier 3. Blue Star
		Cooling Oil/AHU	1. Voltas 2. Blue Star 3. Zeco 4. ACCEL, 5. Carrier
		Cooling Tower	1. Paharpur, 2. Mihir, 3. Delta, 4. Advance
		Expansion Valves/Then mostate/Humidistat	1. Danfoss, 2. Sporlon, 3. Indfoss, 4. Honey well
	Package Type AC	Compressor/Condenser/Cooling Coil	1. Blue Star, 2. Hitachi, 3. Daikin, 4. Voltas
Window/Split ACs	Window/Split ACs	1. General, 2. Mitsubishi ' Electric 3. Hitachi, 4. Daikin, 5. Voltas, 6. Carrier	
18	HT Circuit Breakers	VCB/SF6 Circuit Breakers/HT Switchgear Panel up to 36 KV	1. Schneider, 2. Crompton, 3. ABB, 4. Semens, 5. Indian Transformers & Electricals Pvt Ltd (Brand ITC Gurgaon)
		HT Ringmain units (RMU) upto 36 KV	1. Schneider 2. Crompton 3. ABB 4. Seimens
19.	Automatic power factor Correction panels	APFC Panel (Fabricators)	1. Indo Asian, 2. Shalabh (India) Industries Roorkee 3. Power System & Control Jalandhar 4. REW Construction Pvt Ltd.
		Power factor improvement capacitor	1. L & T MD X L Ultra, 2. Schneider, 3. Seimens 4. ABB, 5. Neptune, 6. Havells
		APFC	1. L & T 2. Schneider, 3. Ducati

PART -I
B/R RELATED PRODUCTS

Srl No	Product Category	Product	Name of Firm/Brand
1	Internal Water Supply	PTMT bath fittings & accessories	1. Shakti Enterprises New Delhi (Brand - SYMET) 2. Sak Plast Pvt Ltd (Brand - Sanituf) 3. Jain Enterprises New Delhi 4. Prabhat Sanitaryware Pvt Ltd.
		Stop Valves/Gate Valves/ Bib Taps (Brass)	1. Prayag Polymers Pvt Ltd 2. Dhawan Sanitary Udyog New Delhi (Brand - Prima) 3. KS Engg Works Gaziabad
		WHB/WC/Urina	1. Jaquar & Co Pvt Ltd (Brand - Jaquar) 2. CERA Sanitaryware Ltd 3. Kajaria Bathware Pvt Ltd, 4. Somany
		Metropole & Concealed Flushing Cistern	1. Jaquar 2. Grohe 3. Kohler
		Seat Cover for EWC	1. Jaquar 2. Grohe 3. Kohler
		PVC Flushing Cistern low level	1. Kajaria Bathware Pvt Ltd 2. CERA Sanitaryware Ltd 3. Parryware, 4. Prayag Polymers.
		Stainless Steel Sinks	1. Johnson 2. Nirali 3. Hindware 4. Neelkanth 5. Prayag 6. Parryware
2	Pipes	CPVC Pipes & fittings	1. Astral Ltd (BrandCPVC Pro) 2. Ashirvad 3. Supreme 4. RC Plasto Tanks & Pipes Pvt Ltd 5. HIL Ltd. 6. Prayag Polymers, 7. SFMC
		UPVC Pipes & fittings	1. Astral Ltd (BrandAqua Safe & Aquarius) 2. Ashirvad 3. Supreme 4. HIL Ltd, 5. RC Plasto Tanks & Pipes Pvt Ltd 6. Prayag, 7. SFMC
		HDPE Pipe/ MDPE Pipe/ PVC Pipe	1. Astral Ltd (BrandHDPE Pro) 2. Finolex 3. RC Plasto Tanks & Pipes Pvt Ltd, 4. Prayag
		PPR Pipes & fittings	1. Prince 2. Finolex 3. Supreme, 4. SFMC
		ERW MS Pipe	1. Surya Roshni Ltd 2. Tata 3. Jindal
3	Drainage pipes	Centrifugally cast (Spun) iron S/S soil, waste, ventilating & rain water pipes, fittings & accessories confirming to IS : 3989/2009	1. Jaiswal Neco Industries Ltd (Brand - NECO) 2. Raj Pattern Makers & Founders Pvt Ltd 3. Singhal Iron Foundry Pvt Ltd (Brand - SKF)
		Hubless centrifugally cast (Spun) iron Pipes, fittings & accessories confirming to IS : 15905/2011	1. Jaiswal Neco Industries Ltd (Brand - NECO) 2. Raj Pattern Makers & Founders Pvt Ltd 3. Singhal Iron Foundry Pvt Ltd (Brand - SKF)

		SWR pipes as per IS-13592 for pipes & IS14735 for fittings	1. Astral Ltd (BrandDrain Master) 2. Supreme 3. HIL Ltd
		PVC UG drainage pipe as per IS : 16098 Part-1	1. Astral Ltd (BrandFoam core) 2. Prince 3. Finolex
		DWC UG drainage pipes as per IS : 16098 Part2	1. Astral Ltd (BrandD-rex) 2. Prince 3. Finolex
4	External Water Supply	DI Pipe & fittings	1. Tata 2. Electrosteel 3. Jindal Saw Ltd
		GI Pipes	1. Tata 2. Jindal Hisar 3. Surya Roshani Ltd
5	Rotational three layer molded polythlene water storage tank		1. Sintex (Titus) 2. Prayag Polymers Pvt Ltd. 3. Rotex 4. J S Polyplast
6	Water proofing Compound		1. Sika 2. Nitco 3. STP

PART-II
E/M PRODUCTS

Srl No	Product Category	Product	Name of Firm/Brand
1	Switch, Socket, Fan Regulator, Lamp holder, Ceiling rose, Bell push, Call Bell	Modular Switch/ Socket/Fan regulator/ Bell push & mounting accessories	1. Legrand 2. Schneider 3. Zencelo 4. Anchor Electrical Pvt Ltd 5. Havells India Ltd (Brand - Crabtree)
		Non modular Switch/ Socket/ Fan regulator/ Lamp holder/ Ceiling rose/ Bell push/ Call bell (Polycarbonate body only)	1. SSK 2. Anchor Penta PC 3. Havells India Ltd (Brand - Havells Reo)
2	Fans	Ceiling fans ISI marked & not less than 4 BEE Star rating	1. Crompton 2. Orient 3. Khaitan 4. Usha 5. Havells 6. Bajaj
		BLDC Ceiling fan	1. Atomberg 2. Havells 3. Bajaj 4. Crompton 5. Orient 6. Khaitan
		Air Circulator I Wall mounted fan/ Cabin fan/ Fresh air fan	1. Usha 2. Havells 3. Bajaj 4. Crompton 5. Orient 6. Khaitan
		Exhaust fans	1. Crompton 2. Orient 3. Khaitan 4. Usha 5. Havells 6. Bajaj
3	Lights and light fittings	LED light fittings for indoor/outdoor use	1. Crompton 2. Signify Innovations India Ltd (Brand - Philips & Ecolink) 3. Orient 4. Bajaj 5. Havells 6. Halonix
		Solar based LED street light fittings	1. Philips 2. Bajaj 3. Crompton 4. Havells 5. Halonix
4	Voltage Stabilizer Servo Type	Servo Voltage Stabilisers as per BIS 9815	1. Indian Transformers & Electricals Pvt Ltd (Brand - ITE Gurgaon) 2. Chime Electronics Delhi (Brand Sinetrac) 3. Vintek Electronics New Delhi (Brand - Volina)
5.	Steel Tubular Poles		1. National Tubing Co 2. BCW Kanpur 3. Twinkle Industries PVT Ltd 4. Bharat Spot Udyog.
6.	GI Octagonal Street light pole		1. Bajaj 2. Havells 3. Philips

Note:- All the materials given above shall be ISI marked. If not available/manufactured shall be conforming to IS or as per sample approved by the Engineer-in-Charge and GE Gaya.

APPENDIX 'A'

I/We hereby understand and accept that if I/We withdraw or modify my/our bids during the period of validity, or if I/We are awarded the contracts and on being called upon to submit the performance Security/Security Deposit, fail to submit the Performance Security/ Security Deposit before the deadline defined in the request for bid documents/Notice Inviting Tender, I/We shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit for a period of 6 (six) months, from the date I/We are declared disqualified from exemption from submission of Earnest Money Deposit/Security Deposit, for all tenders issued by MES during this period.

(Signature of Contractor)