

☎: -. (0761)- 2702274, 2702282

# M.P. POWER TRANSMISSION CO. LTD.



## SECTION-I

**TENDER SPECIFICATION NO.**  
SE/ EHT/ CONSTN / CIR / JBP / PS / CIVIL / 079 /2018

TENDER FOR

**Name of Work:- Water proofing work in Staff quarters of Testing Colony at  
Nayagaon, Jabalpur**

**“Tender Submitted with Conditions(s) will be summarily rejected”**

Tender issued to M/s/Shri.

On payment of Rs. :\_ 1120/- (Rs. 1000/-+ GST Rs. 120/-) only vide \_only vide

Demand Draft /B.C.  
No. and date : \_\_\_\_\_

Name of Bank :\_\_

Due date of opening :\_\_ Issuing Authority \_\_\_\_\_

**Office of the  
SUPERINTENDING ENGINEER(EHT-C)**

MP Power Transmission Co.Ltd.Jabalpur

Address: Semi Permanent Block No.4, Near Tarang Auditorium, Rampur, Jabalpur 482008

e-mail:-seehtcjb@gmail.com

**NOTE:- Tender specification No., Name of work, Tender cost and amount  
of earnest money with other details shall be noted by the bidders himself.**

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## IMPORTANT NOTES

1. Tenders submitted with conditions(s) will be summarily rejected.
2. The bidders not registered in the centralized Registration System of PWD, Govt. of MP, shall have to furnish three separate envelopes, one each for (i) Earnest Money, (ii) Qualifying criteria and financial documents, and (iii) Price bid i.e. tender document Section-I & Section-II. The bidders registered with Centralised Registration System of PWD, Govt. of MP shall furnish two envelope one each for (i) Earnest Money and (ii) Price bid i.e. tender document Section-I & Section-II. On evaluation of financial and experience & technical requirements, the price bids shall be opened on stipulated date to be notified separately. In case, all the bidders are Registered in Centralised Registration System, the price bid shall be opened on date mentioned in the notice inviting tenders.
3. The tenderer shall have to clearly superscribe on the envelope containing the tender document that "No condition has been quoted in the tender", failing which the tender will not be opened.
4. The rates shall be percentage below/above/at par the SOR (for building works) of PWD Govt. of Madhya Pradesh, in force from 1.8.2014 with amendments up to date of opening of tenders/base rates, indicated in the bill of quantity in case the tenders are invited in Form "A" i.e. percentage rate tenders.
5. In case the tenders are invited in Form "A" i.e. percentage rate tenders', base rates for all non -USR items have been indicated in bill of quantities. No separate rate should be quoted for Non- SOR/SOR items. Only one rate common for all SOR items and all Non - SOR items must be quoted. In case different rates are quoted for SOR & Non-SOR items, the tender will be summarily rejected. Wherever given, the item rate shall be quoted by the bidder against each item in the item rate part of Bill of quantity.
6. Any item not included in the Bill of quantities however, available in SOR for building works PWD Govt. of M.P. in force from 1.8.2014 with amendments, may be got executed (if circumstances So arise) at the approved contract rates.
7. The arrangement of water for use in construction work or for consumptive use of labourer or for any other purpose shall be sole responsibility of the contractor. No liability rests with the MPPTCL to provide water for construction or for other purpose to the contractor. However, if available in adequate quantity, the water can be provided to the contractor @Rs. 50/-per 1000 Litre which can be discontinued at any time without any notice and without any obligation on the part of MPPTCL.
8. The provisions of the third ordinance 1996 for the building and other construction workers (Regulation & Employment and condition of service) along with provisions of the building and other construction workers welfare CESS Rules 1998, shall also be applicable and binding on contractor.
9. While deciding award of contract against this tender, apart from the prices quoted and compliance to terms and conditions of the tender specifications, purchaser will also take into account such factors as performance against earlier contracts in terms of quality of work done and adherence to prescribed time schedules. Offers of such contractors who have poor track record of performance in earlier contracts are liable to be rejected.
10. Under no circumstances, the tender once submitted shall be returned to the contractor. Also no separate offer of condition/discount from the contractor would be entertained.
11. The bidder should carefully read the specifications available in SOR (building works) of PWD, Govt. of MP (effective from 1.8.2014 with amendments) for different items covered in the instant scope of work before quoting the tender rates as all works shall be executed as per those specification and guidelines enumerated in SOR. Stipulations wherever found which are inconsistent or contrary shall not be applicable. Also wherever indicated, SOR of PWD Govt. of MP (building works) w.e.f.1.8.2014 with its amendments shall be applicable. The mention of another SOR/USR wherever found stands superseded.
12. For applicability of any item of SOR (1.8.2014) or regarding specification of any item in execution of work, the decision of C.E.(EHT-C), MPPTCL, Jabalpur shall be final, conclusive & binding on all concerned.
13. The SE (EHT-C) wherever found in tender document may be read as SE (EHT-Constn.) as the case may be, Similarly the Engineer-in-charge will be concerned EE (EHT:Constn.) Dn.
14. All disputes arising out of this contract agreement/purchase order etc., shall be determined by a competent court at Jabalpur only.
15. The taxes as per applicable provision/rules of GST shall be paid.

**Signature of Tenderer**

**MADHYA PRADESH POWER TRANSMISSION COMPANY LIMITED**  
**DETAILED NOTICE INVITING TENDERS**

1. Sealed percentage/item rate tenders are invited from experienced registered Civil Engineering Contractors of MP State Electricity Board/MP Power Transmission Co. Ltd./other successor companies of MPSEB, Govt. / Public undertakings / Reputed Limited Companies who have successfully executed similar works, for the work as per Notice Inviting Tenders.

(a) Probable value of the contract	RS.	AS PER TENDER NOTICE
(b) Earnest Money to be deposited with the tender	RS.	-do-
(c) Time allowed for completion from The date of issue of work order		-do-
(d) Cost of tender documents	RS.	-do-

2. Tenders must be submitted in sealed covers, addressed to Executive Director (EHT:C)/ Chief Engineer (EHT:C),MP Power Transmission Co. Ltd., Jabalpur /Superintending Engineer(EHT:C)/Addl. Superintending Engineer (EHT:C)/ Executive Engineer (EHT:C), MP Power Transmission Co. Ltd., .....with the name of the work, the due date of the tender and name of the tenderer clearly super scribed on the cover.

Unless delivered personally, tender should be submitted by post Acknowledgement Due. If forwarded by post the sealed envelope containing the tender and marked as specified above, shall be enclosed in another envelope properly addressed and shall be forwarded so as to reach not later than 15.00 hours on the date fixed for the return of the tenders. In either of the above cases, the earnest money shall be furnished in a separate sealed envelope, duly super scribing on it the name of work, due date of opening of the tender and the manner in which it is furnished and the name of the tenderer..

3. Tenders should be on the prescribed form obtainable from the office of the Executive Director (EHT:C)/Chief Engineer(EHT:C)/Superintending Engineer(EHT:C)/Addl. Superintending Engineer(EHT:C)/ Executive Engineer(EHT:C),MP Power Transmission Co. Ltd., ..... on payment AS PER TENDER NOTICE towards the cost of tender form. Under no circumstances the amount paid for the tender form will be refunded. Tenders not submitted on departmental form will not be considered.
4. Tenders duly completed will be received by the Executive Director(EHT:C)/Chief Engineer (EHT:C)/Superintending Engineer(EHT:C)/ Addl. Superintending Engineer(EHT:C)/Executive Engineer(EHT:C) up to 15.00 hours on due date AS PER TENDER NOTICE and will be opened on the same day at 15.15 hours in the presence of such tenderers or their representatives as may choose to be present at the time.
5. (a) Tender forms and conditions of contract and other necessary documents will be issued to approved contractors AS PER TENDER NOTICE during office hours on working days.  
 (b) The drawings for the works and other documents such as specifications, schedule of quantities of various classes of work to be done and the conditions of contract etc. pertaining to the work can be seen by the tenderers and any other information required be obtained from the office of the Executive Director (EHT:C) / Chief Engineer (EHT:C), MP Power Transmission Co. Ltd., Jabalpur /Superintending Engineer(EHT:C)/Addl. Superintending Engineer (EHT:C)/ Executive Engineer (EHT:C), MP Power Transmission Co. Ltd., during office hours on working days.

**No** tender forms will be issued nor any information given on the date fixed for the return of the tenders.

- 6. Not more than one tender shall be submitted by one contractor or one firm of contractors.**

**Signature of Tenderer**

7. Tenderers are required to deposit the Earnest Money specified in clause-1 above in any of the following forms only. CASH / TDR / FDR & Cheques will not be accepted.

(i) Pay orders, Demand Drafts, Bankers Cheque or Bank Guarantee.

The above deposit shall be drawn in favour of R.A.O. MPPTCL, Jabalpur /R.A.O., MPPTCL.

(ii) No interest shall be allowed on the Earnest Money deposit. Earnest Money shall be furnished in a separate sealed envelope, duly super scribing on it the name of work, due date of opening of tender and the manner in which it is furnished.

The Earnest Money will be refunded to the unsuccessful tenderers within a reasonable time. The Earnest Money deposited by the successful tenderer shall be retained towards the Security Deposit for the due fulfillment of the contract, but shall be forfeited if the contractor fails to execute the agreement or start the work within such time as may be determined by the Executive Director (EHT:C)/Chief Engineer(EHT:C)/Superintending Engineer(EHT:C)/ Addl. Superintending Engineer(EHT:C)/Executive Engineer (EHT:C), after intimation of the acceptance of his tender. This forfeiture shall be without any prejudice to the right of the Company to recover further damage, if any, from the tenderer. However, following are exempted from payment of Earnest Money.

(i) S.S.I.Units of M.P./Ancillary Units of M.P.S.E.B. /MPPTCL/other successor companies of MPSEB for the items these units are registered.

(ii) "Fully owned State Government Unit"(will qualify for this exemption only if 100% shares are hold by the State Govt. concerned for which documentary evidence must be available)/ and Central Govt. manufacturing units.

(iii) S.S.I. Units registered with N.S.I.C.

Further, the rate of Earnest Money and mode of deposit shall be as follows:

(i) The Earnest Money Deposit in respect of the tender for procurement/work contracts shall be @2% of the value of contract.

(ii) For the work valuing less than One Crore, the Earnest Money shall be submitted in the form of DD /Bankers cheque / Pay orders payable in favour of RAO MPPTCL .....or through a bank guarantee of schedule bank, pledged in favour of MPPTCL and valid for minimum one year. Earnest money in any other form will not be acceptable and may liable to reject the tender. The earnest money for the work valuing more than one crore, must be deposited in the form of Bank Guarantee only.

(iii) The Bank Guarantee should be furnished as per the proforma at page No. 38 of Section "1" of Tender Document. In case the Bank Guarantee is not found as par the prescribed proforma, it will not be accepted and the bid shall be disqualified.

8 Within 10 days of intimation being given to him of the acceptance of the tender, the successful tenderer shall make a further deposit in the same form as mentioned in clause 7 above with the Regional Accounts Officer, MPPTCL..... as will with the Earnest Money deposited with the tender, amount to 2 percent or such higher percentage, as may be determined by the ..... Engineer (EHT:C), of the value of the contract and execute an agreement on the prescribed form duly stamped for the due and proper fulfillment of the contract. The cost of stamp paper including cost of revenue stamps shall be borne by the contractor. The contractor shall also permit the Company at the time of making any payment to him for work done under the contract, to deduct such amount from each of the bill for work done until such time that such deduction together with the security deposit already furnished, if any, amount to such percentage of the value of the accepted tender or the value to which the contract may be subsequently estimated to whichever is higher. This amount will be retained as the security for the due and proper fulfillment of the contract.

**Signature of Tenderer**

9. Failure by the successful tenderer to furnish the prescribed security deposit or to execute the agreement within the period specified in clause 8 above, after his tender has been accepted or to start the work within such time as is determined by the Engineer-in-charge after notification of the acceptance of the tender shall entail forfeiture of the earnest money and cancellation of the contract without prejudice to the right of the Company to recover further damages, if any, from the tenderer.

10 Tenderers must return the form of tender with the specification and the Bill of Quantities and rates and any other schedule duly signed at the place specified. All pages of the tender documents , conditions of contract, specification etc. shall bear the full signature of the contractor at the foot of every page on the right hand corner. Any tender not bearing signatures on all the documents accompanying the tender is liable to be rejected.

NOTE- The transfer of tender forms purchased by one tenderer to another is not permissible.

11. Tenderer which do not fulfill all or any of the above condition or are incomplete in any respect are liable to be rejected.

12. (a) Before submitting the tender, tenderer shall be deemed to have full knowledge of all relevant documents and to have satisfied himself by actual inspection of the site and locality of work, that all condition liable to be encountered during the execution of the works are taken into account and that the rate he enters in the tender forms are adequate and are inclusive to accord with the provision of general/special condition of contract for the completion of the work to the satisfaction of the Engineer-in-Charge.

(b) The submission of a tender by the tenderer implies that he has read and accepted the instructions, the conditions of contract etc. and has made himself aware of the scope and specifications of the work to be done and of the conditions and rates at which stores will be issued to him as specified in Schedule-B and local conditions and other factors bearing on the execution of the work.

(C) The Company will not, after acceptance of contract rate, pay any extra charges for any reason whatsoever, in case the contractor is found later to have misjudged any site condition(s).

The contractor must arrange for materials and include all such costs in the rate quoted by him for finished work.

13. (a) The rates shall be percentage below/above/at par with the base rates/SOR for building Works PWD, Govt. of MP, in force from 1.8.2014 with amendments upto the date of opening of tenders. Base rate for all the Non-SOR item have been indicated in bill of quantities. No separate rate should be quoted for Non-SOR/SOR items. Only one rate common for all SOR items and all Non-SOR items must be quoted. No separate payment of lead and lift of materials shall be made.

(b) Bill of Quantities is attached with the tender. The rate shall be quoted in FORM-B against each item separately in FIGURES and WORDS. Rate quoted in WORDS will be final.

14. The tender documents shall be written legibly and free from erasure, over writings or conversions of Figures. Any corrections, where unavoidable, shall be made by crossing out, initialing, dating and **rewriting**.

**15. The contract or any part thereof shall not be sublet without the written permission of the Company/or its authorized representative.**

**Signature of Tenderer**

16. The contractor will be bound to follow the MP Model Rules relating to its water supply and sanitation in labour camps (Vide Annexure 'A').

17. The contractor shall pay not less than the minimum wages to labours engaged by him on the work.

18. The Engineer-in-charge reserves the right to take up departmental work or to award any work contract in the vicinity without prejudice to the terms of this contract.

19. It shall not be obligatory for the Company or its officers to accept the lowest tender. The authority for the acceptance of the tender will rest with the Company which neither binds itself to accept the lowest or any other tender nor does it undertake to assign any reasons for declining to consider any particular tender or tenders.

20. Canvassing or support in any form for the acceptance of a tender is strictly prohibited. A list showing the names of the persons who are working with the contractor and are near relatives to any gazette officer in the MPPTCL should also appended with the tender.

21. The tenderers shall furnish full details of their previous experience with details of works completed by them so far and work in hand at present with them in the prescribed form included in the tender(vide Annexure-'C') without which tenders will not be considered.

22. Tender shall remain open for acceptance subject to the provisions of clause 19 above for a period of three months from the date on which they are due for submission in accordance with clause-4 above or any other extended date for their receipt or any other extended period consented upon by the tenderer and during this period no tenderer shall be allowed to withdraw his tender. Any such withdrawal during the said period will entail forfeiture of Earnest Money deposited with the tender.

23. Further information, if any, required, can be had from the..... Engineer (EHT:C)  
M.P. Power Transmission Co. Ltd.,.....but it must be clearly understood that the tender must be received in order by the due date and time and according to the instructions.

24. The tenderer should submit along with the tender, the certificate issued by the Income Tax Officer in original or an authorized copy thereof, or if, he has no taxable income, a sworn affidavit duly countersigned by the Income Tax Officer to that effect (Annexure 'B').

25. All royalties be paid by the contractors as also all tolls, duties, local and other levies including Sales Tax, Insurance and Workman's Compensation Act. etc.

26. THIS NOTICE OF TENDER SHALL form part of the contract and any breach of the terms of this notice shall be breach of the contract.

**Signature of Tenderer**  
**Dated**  
**Address**

**MP POWER TRANS. CO. LTD**

**Address.....**

**Signature of Tenderer**

## **MADHYA PRADESH POWER TRANSMISSION COMPANY LIMITED INSTRUCTIONS TO TENDERERS**

### **1. Definitions**

#### **COMPANY**

The company shall mean the Madhya Pradesh Power Transmission Company Limited (MPPTCL) incorporated as wholly owned Govt. of MP Undertaking and as limited company under the Companies Act 1956, with head quarter at Block No.2, Shakti Bhavan, Rampur, Jabalpur and shall include its successors and assigns.

#### **ENGINEER-IN-CHARGE**

It shall mean the Engineer of the Company who is appointed by the Company as Engineer-in-charge for the purpose of this contract.

#### **SITE**

The term shall mean the whole of the area earmarked by the Company for execution of the work as indicated in the Plan No ..... attached to the tender,(If any).

#### **WORKS**

The expression "Works" or 'work' shall unless there be something, either in the subject or contract, repugnant to such contract, be construed to mean work undertaken to be executed by the contractor whether temporary or permanent and whether original, substituted or additional.

### **2. Specifications and drawings**

Copies of specifications, designs, drawings and other documents required in connection with the works, signed for purpose of identifications by Superintending Engineer (EHT-C)/ Addl. Superintending Engineer(EHT-C)/Executive Engineer (EHT-C) shall also be kept open for inspection by the tenderer at the office of the Superintending Engineer (EHT-C), M.P. Power Transmission Co. Ltd. , / Addl. Superintending Engineer(EHT-C) / Executive Engineer (EHT-C),MP Power Transmission Co. Ltd., during office hours

### **3. Printed Forms**

No tender will be considered, which is not submitted on the prescribed form obtained from the office of the Executive Director (EHT-C)/ Chief Engineer(EHT-C),M.P. Power Transmission Co. Ltd., Jabalpur / Superintending Engineer.(EHT-C)/Addl. Superintending Engineer (EHT-C)/Executive Engineer (EHT-C),MPPTCL, on payment. This amount will not be refunded under any circumstances. Tenderer must return the form of tender with the specifications, the bill of quantities and rates and other schedules intact and duly signed. Any tender not so signed will be rejected. The transfer of tender form purchased by one tenderer to another is not permissible.

### **4. Final date for receipt of tender**

All tenders must be forwarded to the Executive Director (EHT-C)/ Chief Engineer (EHT-C)/ Superintending Engineer (EHT-C)/ Addl. Superintending Engineer (EHT-C)/Executive Engineer (EHT-C), MPPTCL in a sealed envelope with the name of work, due date of tender and the name of contractor super scribed on the cover, so as to reach him not later than 15.00 hours on the date specified in the tender notice.

**Signature of Tenderer**



## 5. Rules for firm

If the tender is submitted by any proprietary concern, it shall be signed by the proprietor only. In case of a Registered Company, the seal of the company shall be affixed over the signatures of one or more Directors as may be provided in the Articles of Association along with a true copy of the Memorandum of Association and Articles of Association. In case of any Partnership, true copy of Deed of Partnership shall be furnished along with the tender and the tender shall be signed by all the partners unless otherwise authorized by the deed of partnership in which case, necessary Power of Attorney shall be furnished.

Full name and address of the signatory shall be mentioned in all cases.

**NOTE - The above shall also apply to para 8 herein.**

**6.** Any person who submits a tender shall fill up the usual printed form stating at what rate he is willing to undertake the work. Tenders, which propose any alteration in the work specified in the said form of invitation to Tender or in the time allowed for carrying out the work or which contains any other condition of any sort will be liable for rejection. Tenderer offering a percentage deduction from or increase on the estimated amount, and those not submitted in proper form or in due time, will be rejected.

## 7. Mode of Security Deposit

The bidder shall have to furnish security deposit on acceptance of tender, within the time specified in the letter of intent as given below:-

- A. **For work upto Rs. 10 lac** : 10% of cost of work to be deposited as security deposit in the form of cash or in form of the demand draft in favour of Regional Accounts Officer, MPPTCL, 2% of the amount of initial security deposit shall be submitted at the time of agreement and balance 8% shall be deducted from running bills.

Alternatively

Security deposit may also be submitted in the form of Bank guarantee/Banker's Cheque/Demand Draft of the amount equal to 10% of cost of work within 28 days of contract Agreement, if the bidder so desires.

- B. **For work above Rs. 10 lacs** : 10% of cost of work to be deposited in the form of Bank Guarantee/Banker's Cheque/demand draft at the time of contract agreement.

## 8. Execution of agreement

The tenderer, whose tender is accepted shall be required to present himself or his duly authorized representative in person at the office of Executive Director (EHT:C )/ Chief Engineer (EHT:C )/Superintending Engineer.( EHT:C )/ Addl. Superintending Engineer (EHT:C )/Executive Engineer(EHT:C ), after notice that the contract has been awarded to him, to execute on the proper form duly stamped for due and proper fulfillment of the contract. The cost of the stamp paper and revenue stamp shall be borne by the contractor. Not less than two copies of the contract documents shall be signed by the contractor or his authorized representative. One copy of the agreement will be given to the contractor.

**Signature of Tenderer**

## **9. Forfeiture in case of failure**

Failure to furnish the security deposit or to execute the required agreement within the time specified shall constitute a breach of the agreement attached by the acceptance of the tenderer in which case the earnest money accompanying the tender shall be forfeited by the Company as liquidated damages for such default.

## **10. Refund of Security Deposit**

The security deposit shall be refunded soon after the termination of the guarantee/maintenance period and of the contractor fulfilling all the conditions of the contract to the satisfaction of the Engineering-charge and on making application thereof.

## **11. Receipt**

The receipt of a clerk for any money paid by the tenderer will not be considered as any acknowledgement of payment to the Regional/Senior Accounts Officer and the tenderer shall be responsible for seeing that he procures a receipt signed by the Regional/Senior Accounts Officer or any other person duly authorized by him.

## **12. Offer to be Open for 3 months for acceptance**

The fact of the submission to the MP Power Transmission Company Limited of tender shall be deemed to constitute an agreement between the tenderer and the Company where by such tender shall remain open for acceptance by the Company subject to its right for a period of three months from the date and time on which tenders are opened during which period the tenderer shall agree not to withdraw his offer nor to impair or derogate their effects. If the tenderer be notified within the aforesaid period that his tender is accepted, he shall be bound by the acceptance thereof by the Company. Any such withdrawal during the said period will entail forfeiture of the earnest money deposited with tender.

## **13. Opening of tenders**

The Executive Director (EHT-C)/ Chief Engineer (EHT-C) /Superintending Engineer (EHT-C)/Addl. Superintending Engineer (EHT-C)/Executive Engineer (EHT-C) or his duly authorized assistant will open tenders at 15.15 hours on the date fixed for the return of tenders in the presence of such tenderers or their accredited representatives as may be present at the time.

## **14. Prohibition of separate communication**

No separate communication bearing on the tender shall be addressed by the tenderer to the Executive Director (EHT-C)/ Chief Engineer (EHT-C) / Superintending Engineer (EHT-C) or any other person, but **explanatory** or qualifying remarks which the tenderer may desire to make must be recorded on page ..... hereof.

### **1. Contract documents to be studied by the tenderer**

The tenderer shall examine closely the specifications and carefully study the drawings and all documents, which form part of the contract to be entered into by the successful tenderer, before submitting his tender. Unit rates shall be for finished work. Plans and specifications and other documents connected with the contract can be seen on the specified date or on any working day between working hours in the issuing office.

A copy of the set of contract documents can also be had on payment. No information will, however, be given on the date fixed for the opening of the tenders.

### **2. Bill of Quantities**

A Bill of Quantities is included in the tender documents to give an idea of the nature and quantum of work to be executed. It shall, however, be understood that this is liable to alterations by omissions, deductions or additions at the discretion of the Company during the course of the Contract. Consequently, the quantities of individual items of work may vary or certain items may not **be** required to be executed at all. The rates quoted shall remain firm so long as the overall value of the contract does not vary beyond  $\pm 25\%$  of the contract value. In case of variations beyond  $\pm 25\%$  of the contract value, the rates shall be mutually negotiated for execution of balance value of work.

**Signature of Tenderer**

**17. Care in submission of tender**

Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the work that all conditions liable to be encountered during the execution of the work are taken into account and that rates he enters in the tender form are adequate and all inclusive to accord with the provision of the general & special conditions of contract for the completion of the works to the satisfaction of the Engineer-in-charge.

**18. Omissions and Discrepancies**

Should a tenderer find discrepancies in or omissions from the drawings or any of the tender forms or should he be in doubt as to their meaning, he should at once notify the authority inviting tenders, who may send written clarification to all tenderers. Every Endeavour has been made to avoid any error which can materially affect the basis of the tender, but if any error is subsequently discovered, the tenderer shall make no subsequent claim on account thereof.

**19. Visit to site etc**

The submission of a tender by a tenderer implies that he has read and accepted these instructions, the conditions of the contract etc. and has made himself aware of the scope and specifications of the work to be done and of the conditions, and rates at which stores, tools and plants etc. will be issued to him and local conditions, and availability of materials of required quality and quantity and other factors bearing on the execution of the work. The Company will not after acceptance of contract, pay extra charge for any reason whatsoever in case the contractor is found later on to have misjudged the actual conditions at site of work or the availability of materials etc. for work.

**20. Transport of materials**

The contractor must arrange for all transport of materials and include all such cost in the rates quoted by him for finished work. The Contractor shall make his own arrangement for the supply of wagons, if required by him, for the transport of his material at his own expenses.

**21. Royalties and other taxes**

All taxes and royalties as on the date of opening of tender, would be deemed to have been included in the quoted price. Any statutory increases in the rates of excise duty, royalties, taxes & other levies after the award of this contract shall be reimbursable to the contractor on production of documentary proof of payment of the same to the concerning authorities.

**22. Subletting of contract**

The contract in full or any part thereof shall not be assigned or sublet without the written permission of the Company (Or its nominee). In case such a permission is granted, however, it shall *be* borne in mind that the Company shall under no circumstance recognize the sub-contractors and the responsibility of executing the work according to the specifications and within the stipulated time shall entirely rest with the principal contractor.

**23. Memorandum of work and list of materials**

The memorandum of work to be tendered for and the schedule of materials to be supplied by the Company and their issue rates are filled in and completed in the office of the.....Engineer (EHT-C)/Executive Engineer (EHT-C) before the tender form is issued. If a form be issued to any intending tenderer without having been so filled in and completed he shall request the office to have this done before he completes and delivers his tender.

**24. Receipts for payment made to contractors**

Receipts for payment made on account of work when executed must be signed by the Contractor or by some person legally authorized to give effectual receipts for the contractors.

**25. Protection of public and workmen**

It shall be the sole responsibility of the Contractor to protect the public and his employees and workmen against accident from any cause and he shall indemnify the Company from any claims for damages or injury to a person or property resulting from such accident.

**Signature of Tenderer**

## **26. Employment of qualified Engineers and Engineering Subordinates**

The contractor will have to engage engineers and engineering supervisory staff commensurate with the technical nature and quantum to work. In the event the Engineer-in-charge finds that Engineering and Supervisory Staff employed at any stage is not adequate and that the contractor has not taken due action to employ the required staff inspite of notice given to him in writing by the Engineer-in-charge, the later shall have power to recover from any payments due to the contractor by any way of penalty a sum equal to the estimated salary of the staff so less employed.

In case of any dispute regarding the scale of engineering staff to be so employed, the decision of the Executive Director (EHT:C )/ Chief Engineer (EHT:C ) under whose jurisdiction the work are in progress shall be final and binding on the contractor.

NOTE: This clause will not be insisted upon, if the works involved is less than Rs.25,000/.

## **27. Where tenderers are not worked with the Board or its successor companies**

Tenderers who have not already worked themselves as contractors in MPPTCL., shall, if required, furnish satisfactory evidence to the effect that they have been regularly engaged in the construction of similar works as they propose to execute and that they are fully prepared with the necessary capital, machinery and materials to begin the work promptly and to conduct it as required by the specifications for the particular work tendered for in the event of their tender being accepted.

28. No tender for works of value more than Rs. 50,000/- will be considered unless accompanied by a certified true copy of the income tax clearance Certificate in favour of the tenderer by competent authority. Tenders not accompanied by the Income Tax Clearance Certificate are liable to be rejected.

## **29 . Acceptance of Tender**

The acceptance or rejection of any tender is left entirely to the discretion of the authority empowered to deal with the matter and no explanation can be demanded for the cause of rejection of his tender by any tenderer.

## **30 . Right of Company to deal with tender**

The Company reserves the right of not to invite open or limited tenders, and when tenders are invited, to accept a tender in whole or in part or reject any tender or all tenders without assigning any reasons for any such action.

## **31 . Specification to be followed**

The work will be carried out strictly in accordance with Indian Standard Code of Practice. The aforesaid specification should, however, be read in conjunction with the specification annexed to the tender and in the event of any conflict or contradiction between the provisions of such specifications, the specifications annexed to the tender shall prevail. In case there is no provision in Indian Standard Code of practice, the work shall *be* carried out in accordance with such code or practice as may be decided by the Engineer-in-charge. In the absence of any specification in any of the above codes, the specification as decided by the Superintending Engineer (EHT-C) shall be applicable.

## **32 . Instructions to form part of contract**

These INSTRUCTIONS TO TENDERERS shall form part of the contract and any breach thereof shall be deemed to be breach of the Contract.

## **33 . Additional Security Deposit**

In case of contractor not registered with the company in the appropriate class, they shall be required to make an additional deposit at the time of award of the work as security which, along with the earnest money deposit, shall be treated as initial security deposit, which varies depending on the value of each work. This additional deposit shall be determined by the CE (EHT-C) in accordance with prevailing Company rules. The percentage of deductions from the running bills will be adjusted so that the total security shall be limited to TEN/FIVE percent of the value of the Contract.

**Signature of Tenderer**

**FORM - A  
TENDER FOR WORKS**

I / We hereby tender for the execution for the M.P. Power Transmission Company Ltd. of the work specified in the schedule percent..... above/ below / at par SOR of PWD (Building works) Govt. of M.P. in force from 1.8.2014 with its amendments and base rates as indicated in the bill of quantity entered in the schedule mentioned in clause 13 of Notice inviting Tender and in accordance and in all respect with the specifications designs, drawings and instructions in writing referred to above clause here of and in clause of the annexed conditions and with such materials, as are provided for by, and in all other respects in accordance with such condition so far applicable.

**MEMORANDUM**

- |    |  |   |
|----|--|---|
| a) | General Description  | AS PER TENDER NOTICE.   |
| b) | Estimated cost   | AS PER TENDER NOTICE.   |
| c) | Earnest Money  | AS PER TENDER NOTICE.   |
| d) | Security Deposit (Including Earnest Money)                           | AS PER CLAUSE 7 OF THE<br>CHAPTER-INSTRUCTION<br>TO THE TENDERERS |
| e) | Percentage if any, to be deducted from bills.                        |   |
| f) | Time allowed for the work from date of<br>Written order to Commence. | AS PER NOTICE   |

**Give particulars and numbers**

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed hereto so far as applicable or in default thereof to forfeit and pay to the MP Power Transmission Co. Ltd., or its successors and assigns in office, the sums of money mentioned in the said conditions. The sum of Rs .....herewith forwarded as per Clause 7, as earnest money the full value of which is to be absolutely forfeited by the said Company or its successors and assigns in office without prejudice to any other right or remedies of the said Company or its successors and assigns in office. Should I/We fail to commence the work specified in the above memorandum (a) should I/We not deposit the full amount of security deposit specified in the above memorandum in accordance with Clause 1 of the said conditions of contract otherwise the said sum shall be retained by the Company as on account of such security deposit as aforesaid, or (b) the full value of which shall be retained by the Company on account of the security deposit specified in Clause-1 of the said condition of contract.

- a) Number of-----Nos./Nil.  
b) Number of Enclosures, if any----- Nos./Nil.

Date : .....  
Day of 20

**Signature of Tenderer**

## FORM - B

### TENDER FOR WORKS

I/We hereby tender for the execution for the MP Power Transmission Co. Ltd. of the works specified in the underwritten memorandum within the time specified in such memorandum at the rates specified there in and in accordance in all respect with specifications, designs, drawings and instructions in writing and in clause 11 of the annexed in accordance with such conditions so far as applicable.

#### MEMORANDUM

- |  |   |
|--|---|
| (a) General Description  | As per Tender Notice                        |
| (b) Estimated Cost(Probable Amount of contract)                                    | As per Tender Notice                        |
| (c) Earnest Money  | As per Tender Notice                        |
| (d) Security Deposit(including Earnest Money)                                      | As per clause 7 of instruction to tenderers |
| (e) Percentage, if any, to be deducted from bills.                                 | As per clause 7 of instruction to tenderers |
| (f) Time allowed for the work from the date of written order to Commence the work. | As per Tender Notice                        |

Item	Quantity	Description	Unit	UNIT In Figure	RATE In Words	Amount
	—	As per	Bill	Of	Quantities.	—

#### (SEE SCHEDULE ATTACHED)

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed hereto or in default thereof to forfeit and pay to the MP Power Transmission Co. Ltd., the sum of money mentioned in the said conditions.

The sum of Rupees ..... only as .....herewith forwarded in the form of..... as earnest money, the full value of which shall be retained by the MP Power Transmission Co. Ltd., on account of security deposit specified in Clause 1 of the said General Condition of Contract.

Dated the .....day of .....20

Witness

Address

Occupation :

**Signature of the Tenderer**

(To be signed before submission of the tender)

The above tender is hereby accepted by me

On behalf of the MP Power Transmission Co. Ltd.,

Dated the .....day of .....20

**Signature of Tenderer**

## GENERAL CONDITIONS OF CONTRACT

### Clause-1 Security Deposit

The person/persons whose tender may be accepted hereinafter called the contractor(which expression shall, unless excluded by or repugnant to the context, includes his heirs, executors, administrators, representatives and assigns) shall permit the Company at the time of making any payment to him, for work done under the contract, to deduct such amount by way of security deposit as stipulated in Clause 7 of instructions to the tenderers, unless the said sum of security to be taken is fully covered. In the event of such a deduction not being made by the Company wholly or partly at the time of making the payment, the Board/Company shall be free to make such deduction at any time from any amount due and payable to the contractor under this contract. Such deduction shall be held by the Company as Security Deposit. All compensation or other sums of money payable by the Contractor to the Company under the terms of this contract may be deducted from or paid by the sale of the sufficient part of his security deposit or from the interest arising there from or from any sums which may be due or may become due to the contractor by the Company on any account whatsoever and in the event of his security deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or Government Securities endorsed as aforesaid, any sum or sums which may have been deducted from or raised by sale of his security deposit or any part thereof. The security deposit referred to when paid in cash may at the cost of the depositor, be converted into interest bearing securities provided that the depositor has expressly desired this in writing.

**Note :** Any sum deposited by the contractor or amount of deductions made under Clause 1 always may, if the contractor so desires, be converted into one of the recognized forms of interest bearing securities to be approved by the Officer sanctioning the contract. Provided the amount to be converted is not below Rs.1000/-(One Thousand) and the period of contract warrants such conversion.

Such Securities should be endorsed to the ED(EHT-C)/CE(EHT:C)/SE/Addl. SE/EE(EHT:C), .....MP Power Transmission Co. Ltd ,in favour of Sr. A.O. /R.A.O., MPPTCL ..... Incidental charge as decided by the Company for such conversion shall be borne by the contractor.

### Clause-2 Compensation for delay

- a. **For works upto 10 lacs :** If the contractor fails to complete the works or any part of works in the contract within the time therein specified or any extension of such time granted hereunder then and in any such event the Company will deduct compensation at the rate of one percent (1%) per week or part thereof on value of unexecuted portion of work but shall not in any case exceed 10 (Ten) percent of the contract value.
- b. **For works above 10 lacs :** If the contractor fails to complete the works or any part of works in the contract within the time therein specified or any extension of such time granted hereunder then and in any such event the Company will deduct compensation at the rate of half percent ( $\frac{1}{2}$  %) per week or part thereof on value of unexecuted portion of work but shall not in any case exceed 10 (Ten) percent of the contract value.

#### **(b) Interim progress of work**

To ensure good progress during the execution of the work the contractor shall be bound in all cases in which the time allowed for any work exceeds one month to complete one fourth of the work before one fourth of the time allowed under the contract has elapsed, one half of the work before one half of such time has elapsed and three fourth of the work, before three fourth of such time has elapsed. In the event of the contractor failing to comply with this condition, he shall be liable to pay such compensation as may be decided by the SE (EHT-C)/Engineer-in-charge whose decision in writing shall be final.

Provided always that the entire amount of compensation to be paid under the provision of the aforesaid Claus a 2 shall not exceed ten percent of the estimated cost of the work or the work as shown in the tender whichever is higher.

**Signature of Tenderer**

**Clause3**

In any case in which the contractor commits breach of any terms of the contract or abandons the work wholly or partly for any reasons or dies or fails to carry out any work which he is bound to carry out under the terms of this contract, the Company or the Engineer-in-charge on behalf of the MP Power Transmission Co. Ltd., shall have power to adopt any of the following courses without prejudice to any other right that may accrue to the Company under this contract.

(a) To rescind the contract (of which rescission notice in writing to the contractor under the hand of the Engineer-in-charge shall be conclusive evidence) in which case the security deposit of the contractor shall stand forfeited, and be absolutely at the disposal of Company without prejudice to the right of the Company to recover any further amount by way of damages.

(b) To employ labour paid by the Company and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certificate of the Engineer-in-charge shall be final and conclusive against the contractor) together with their departmental charges as may be fixed by the Company from time to time and crediting him either with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract or the cost of the labour and the price of the materials as certified by the Engineer-in-charge whichever is less (the certificate of the Engineer-in-charge as to the value of the work done shall be final and conclusive against the contractor).

(c) To measure up the work of the contractor and to take such part thereof as remains unexecuted out of his hands, and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (of the amount which in excess, the certificate in writing of the Engineer-in-charge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by Board/Company under the contract or otherwise or from his security deposit or the proceeds of sale of a sufficient part thereof.

If the Engineer-in-charge adopts any of the above courses, the contractor shall in no case whatsoever, have any claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagement or made any advances on account of, or with a view, to the execution of the work or the performance of the contract. In case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work, therefore, actually performed under this contract, unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

**Clause-4 Contractor remains liable to pay compensation if no action taken under Clause-3**

In any case in which any of the powers conferred upon the Engineer-in-charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non exercise thereof shall not constitute a waiver of any of conditions thereof and such power shall notwithstanding be exercisable in the event of any future case of defaults by the Contractor and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Engineer-in-charge putting in force either of the power (a) or (c) vested in him under the preceding clause he may, if he so desires take possession of all or any tools, plant, materials and stores in or upon the work or in site thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in case of these not being applicable, at current market rates to be certified by the Engineer-in-charge whose certificate thereof shall be final otherwise the Engineer-in-charge may by notice in writing to the Contractor or his clerk or work foreman or the authorized agent require him to remove such tools, plant, materials or stores

**Signature of Tenderer**



from the premises (within a time to be specified in such notice) and in the event of the contractor failing to comply with any such requisition, the Engineer-in-charge may remove them at the contractor's expenses or sale them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of the Engineer-in-charge as to the expense of any such act shall be final and conclusive against the contractor.

#### **Clause5 Extension of time**

If the contractor shall desire an extension of time for completion of the work on the grounds of his having been unavoidably hindered in its execution or on any other ground, he shall apply in writing to the Engineer-in-charge within 30 days of hindrance on account of which he desires such extension as aforesaid and the Engineer-in-charge may in his discretion (which is final) grants such extension for a period not exceeding one month. Grant of further extension of two months shall be subject to the sanction of the Superintending Engineer. Any extension beyond this period shall be subject to the sanction by the competent authority of the Company. Strike by the Contractor's labours, and lock out by the contractor shall not be considered to be unavoidable hindrance for the work.

#### **Clause6 Final Certificate**

On completion of the work, the contractor shall be furnished with a certificate by the Engineer-in-charge of such completion but no such certificate shall be given, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed scaffolding, surplus materials and rubbish and cleaned off the dirt from all wood works, doors, windows, walls, floors or other parts of any building, in open, or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof not until the work shall have been measured by the Engineer-in-charge whose measurement shall be binding and conclusive against the contractor. If the contractor fails to comply with the requirements of this clause as to removal of scaffolding, surplus materials, rubbish and cleaning off dirt on or before the date fixed for the completion of the work, the Engineer-in-charge may at the expense of the contractor, remove such scaffolding, surplus material, rubbish and dispose off the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred together with departmental charges as may be fixed by the Company from time to time and shall have no claim in respect of any scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

#### **Clause7 Payment on Intermediate Certificate to be regarded as advances**

No payment shall ordinarily be made for works estimated to cost less than rupees one thousand until after the whole of the work shall have been completed and certificate of completion given, but if intermediate payment during the course of the execution of works is considered desirable in the *interest* of work, the contractor may be paid at the discretion of Engineer-in-charge. The payment of RA bills shall be made "Within 30days" only on receipt of Invoice complete in all respect, by concerned E.E. (EHT:C) Division, approved and passed by the Engineer-in-charge whose certificate of such approval and passing of sum so payable shall be final and conclusive against the contractor. The Company shall not be liable for any interest due to delay in payment of bills to contractor. But all such intermediate payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall neither preclude the requiring of bad, unsound and imperfect or unskillful work to be removed and taken away and reconstructed or re-erected or be considered as admission of the due performance of the contract, or any part thereof in any respect, or the occurring of any claim or as an expression of satisfaction with the quality work or as determination of the quantity of the work or its rate nor shall it conclude, determine or effect in any way the powers of the Engineer-in-charge under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or effect the contract. The final bill shall be submitted by the contractor within one month of the date fixed for completion of the work otherwise the Engineer-in-charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on the contractor.

##### **7.(ii) Payment Terms:**

- A: **For works upto 10 lacs** : 100% payment shall be made for the value of work done on receipt of invoice supported by the certificate of Engineer-in-charge of having done such works. The same shall be paid within 30 days from the date submission of valid complete in all respect.
- B: For works above 10 lacs** :
- (i) 90% payment shall be made for the value of work done on receipt of invoices supported by the certificate of Engineer-in-charge of having done such works. The same shall be paid within 30 days from the date of submission of valid claim complete in all respect.
  - (ii) The balance 10% (retention money) shall be released upon submission of No Defect/Shortage Liability on successful completion of work.

**Signature of Tenderer**

**Clause-8 Submission of bill**

For the work executed during the previous month, a bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge and the Engineer-in-charge shall take necessary action to have the same verified. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer-in-charge may prepare a bill from the measurements so taken which shall be binding the contractor in all respects.

**Clause-9 Bill to be on printed forms**

Whenever the contractor shall submit, the bills, he shall do so on the prescribed forms to be had on application from the office of the Engineer-in-charge and the charges shall always be entered at the rates specified in the tender or in the case of any extra work, ordered in pursuance of these conditions and not mentioned or provided for in the tender, at the rates hereinafter provided for such work.

**Clause-10. Stores supplied by the Company**

If the specifications or estimate of work provides for the use of any special description of materials to be supplied from the Engineer-in-charge's stores, or if it is required that the contractor shall use certain store to be provided by the Engineer-in-charge, the contractor may be supplied with such materials and stores as required from time to time to be used by him for the purpose of the contract only or for any other purpose incidental to the contract, provided, however, that such purpose and the quantity is approved in writing by the Engineer-in-charge. The value of the full quantity of materials so supplied at the rates specified in the said schedule is liable to be set off or deducted from any sums then due or thereafter becomes due to the contract or under the contract or otherwise from the security deposit or the proceeds of sale thereof if the same is held in Government Securities, the same or a sufficient portion thereof being in this case sold for the purpose.

The contractor is advised in his interest to draw the minimum quantity of materials required to be utilized on the work to be carried out. Recovery towards the gross quantity of materials issued up to date of preparation of any running bill shall be effected from the said bill irrespective of the fact whether the entire quantity has been actually utilized on the work measured up to said running bill or not. If recovery towards any materials so issued remains unadjusted beyond a period of two months after the date of issue of the same, interest at the rate of 1% or the specified rate per month or part thereof shall be recoverable from the contractor.

All materials supplied to the contractor shall be used for the work only and shall not on any account be removed from the site of the work, and shall at all times be open to inspection by the Engineer-in-charge. If at any time, it is noticed that any material issued by the department is found missing or misused by the contractor, recovery for such material not found or misused shall be made from the contractor at the book value including incidental charges or the current market rate, whichever is higher, plus 50 percent.

All material issued by the department rendered surplus or left unused in its original shape and size and in perfectly good condition shall be returned to the Company's stores, if the Engineer-in-charge so desires, the decision of the Engineer-in-charge as to whether the material is in perfectly good condition or not shall be final and binding on the contractor. The contractor shall have no claim for compensation on account of any such material so supplied to him as aforesaid remaining unused by him or for any wastage in or damage to any such materials.

**Clause-11. Materials and workmanship**

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawing and instruction in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access at such office or on the site of the work for the purpose of inspection during office hours and the contractor shall, if he so requires, be entitled to his.

**Signature of Tenderer**

own expense to make or cause to be made copies of the specification and of all such design, drawings and instructions as aforesaid

**Clause-12 Alteration in specification and designs**

The Company shall have power to make any alteration in ,omissions from, additions to or substitutions for the original specifications, drawing, designs and instructions, that may appear to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-charge and such alterations, omissions, additions or substitution shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work and at the same rates as are specified in the tender for the main work. The time for the completion of the work shall be extended in proportion that the altered, additional or substituted work bears to the original contract work, and the certificate of the Engineer-in-charge shall be conclusive as to such proportion. And if the altered, additional or substituted work includes any class of work for which no rate is specified in this contract such class of work shall under no circumstances be commenced by the contractor or without an order in writing by the Engineer-in-charge and the rate for such work shall be derived before commencing the work in the following manner in that order of preference:-

(a) Wherever possible the rates shall be derived from one or more of the existing items in the Unified Schedule of Rates applicable.

(b) Otherwise, the rate will be derived on the basis of a joint record of materials and labour employed on a representative sample piece of work signed by the Engineer-in-charge on behalf of the Company and the contractor or his authorized representative. In this case, an addition of 15% will *be* made to actual cost of labour and materials to cover the profit, overheads, supervision and all other contingent expenses of the contractor. In the event of any dispute regarding the fixation of such rate, the decision of the Company shall be final.

**Clause-13 No claim for any payment or compensation for alteration in or restriction of work**

If at any time after the execution of the contact agreement, the Engineer-in-charge shall, for any reasons whatsoever, requires the whole or any part of the work as specified in the tender to be stopped for any period or shall not require the whole or part of the work to be carried out at all he shall give notice in writing of the fact to the contractor who shall there upon suspend or stop the work totally or partially as the case may be. In any such case the contractor shall have no claim for any payment or compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not so derive in consequence of the full amount of the work not having been carried out or on account of any loss that he may be put to on account of materials purchased or agreed to be purchased or for unemployment of labour recruited by him. He shall not also have any claim for compensation by reasons of any alterations having been made in the original specifications, drawings, designs and instructions which may involve any curtailment of the work as originally contemplated, where, however, materials have already been purchased by the contractor before receipt by him of the said notice, the contractor may be paid for such materials at the market rates or at the actual purchase price of the said material whichever is less, provided they are not in excess of requirements and are of approved quality.

**Clause-14 Time limit for claim of the contractors**

Under no circumstances whatsoever shall the contractor be entitled to make any claim from the Company on any account whatsoever unless the contractor shall have submitted a claim in writing to the Engineer-in-charge within one month of the cause of such claim occurring. In the event of the contractor not lodging any claim as aforesaid, he will be deemed to have abandoned such a claim.

**Signature of Tenderer**

**Clause-15 Action and compensation payable in case of bad work**

If at any time, before the security deposit is refunded to the contractor, it shall appear to the Engineer-in-charge or his subordinate in charge of the works that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of inferior quality or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for, or are otherwise not in accordance with the contract, it shall be lawful for the Engineer-in-charge to intimate this fact in writing to the contractor and then notwithstanding the fact the work materials or articles complained of may have been passed, certified and paid for, the contractor shall be bound forthwith to rectify or remove and reconstruct the work so specified in whole or in part as the case may require or, if so required, shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own risk and cost and in the case of any such failure, the Engineer-in-charge may rectify or remove and re-execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor. In the event of his failure to do so within a period to be specified by the Engineer-in-charge in the written intimation aforesaid, the contractor shall be liable to pay to the Company the cost of such rectification, replacement and modification estimated by the Engineer-in-charge together with such departmental charges as may be fixed by the Company from time to time, provided, however, should the Engineer-in-charge decide any such inferior work or materials as described above may be accepted or made use of, it shall be within his discretion **to accept the same at such** reduced rates as he may fix there for.

Nothing in this clause shall be deemed to deprive the Company or affect any right under the contract which may otherwise have and failure to take any action under this clause shall not be considered as acceptance of such plants, materials or work.

The Engineer-in-charge may by any certificate make any correction or modification in any previous certificate which has been issued by him and payment shall be regulated and adjusted accordingly.

**Clasue-16 Contractor liable for damages done and for imperfection till the expiry of the maintenance period**

The maintenance period for the work shall be Five years after the date of satisfactory completion of work after which a certificate of completion shall be given by Engineer-in-charge. The Contractor shall maintain the works in such a manner that, at expiry of the period of maintenance, they shall be in a good and perfect order and good condition (fair wear and tear excepted) as that in which they were at the commencement of the period of maintenance. The contractor shall at his own expense, repair, replace/rectify and make good to the satisfaction of the Engineer-in-charge all defects, imperfection, shrinkages or other faults arising from faulty design of the contractor or due to the use of materials or workmanship not in accordance with the contract or from neglect or failure on the part of the contractor to comply with the provisions of the contract.

If the contractor or his labour or servants shall break, deface, injure or destroy any part of the building in which they may be working or any building, road, curbs, water pipes, cable, drains, electric or telephone post or wires, trees, grass land or cultivated ground within and/or around the premises on which the work or any part of it is being executed, or if any damage shall happen to the work while in progress from any cause whatever or any imperfections become apparent in it within the maintenance period specified above, the contractor shall make the same good at his own expense or, in default, the Engineer-in-charge may cause the same to be made good by other workmen and deduct the expense together with such departmental charges as may be fixed by the Company from time to time (of which the certificate of the Engineer-in-charge shall be final) from any sum that may be then or at any time thereafter may become due to the contractor or from his security deposits, or the proceeds of sale thereof or of a sufficient portion thereof.

The security deposit of the contractor shall not be refunded before the expiry of the maintenance period or the settlement and payment of the final bill whichever is later.

The contractor hereby also covenants that it shall be his responsibility to see that buildings or any water retaining structure constructed under this contract does not leak during the period of one full

**Signature of Tenderer**

rainy season or one full year respectively after the completion and if any defects are pointed out to him by the Engineer-in-charge during the said period, the same shall be rectified by him at his own expense, or in default, the Engineer-in-charge may get them rectified and deduct the expenses thereof together with such departmental charges as may be fixed by the Company from any sum that may then be due or may become due to contractor or from the security deposit of the contract. If any amount become due on their account after the refund of security deposit and there are no other dues to the contractor from which it can be recovered, the same may be recovered from the contractor as arrears of land revenue.

**Clause-17 Notice to be given before work is covered up**

The contractor shall give not less than five days notice in writing to the Engineer-in charge or his sub-ordinate — in-charge of the work before covering up, otherwise placing beyond the reach of measurement, any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurements. The contractor shall not cover up or place beyond the reach of measurements, any work without the consent in writing of the Engineer-in charge or his sub-ordinate in-charge of the work, and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given and consent obtained, the same shall be uncovered at the contractor's expense or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

**Clause-18 Contractor to supply plant, ladders, scaffoldings etc**

The contractor shall supply at his own cost materials(except such materials, if any, as may in accordance with the contract be supplied from the Engineer-in-charge's stores), plants, tools, tackles appliances, implements, derricks and guys, ladders, cordage, tackle, scaffoldings, pumps, mechanically operated concrete mixers and temporary work requisite for the proper execution of the work whether original, altered, substituted in the specification or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled or require together with carriage thereof to and from the work.

The department will not assist in procuring of the tools, plants, equipments etc. from any source whatsoever. Such items of plant and machinery as are available with the Company may be made available at the discretion of the Company but the contractor will have to execute a separate agreement for the hire of plant and machinery. The contractor shall also supply, if so required by the Engineer-in-charge in writing, without charge, requisite numbers of persons with the means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of work or materials, failing which, the same may be provided by the Engineer-in charge at the expenses of the contractor and the expenses may be deducted from any money due to the contractor under the contract, or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof. The contractor shall also provide at his own cost all necessary fencing and lights required to protect the public from accident and shall be bound to bear expenses of defence of every suit, action or proceedings of law that may be brought by any person against the Company or its officers for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any person, or which may with the consent of the contractor be paid to compromise any claim by any such person.

**Clause- 19 Works to be open to inspection**

All works under or in course of execution or executed in pursuance of the contract, shall be at all time be open to inspection and supervision of the Engineer-in charge and his sub-ordinates, and the contractor shall at all times during the usual working hours and all other times at which notice of the intention of the Engineer-in charge or his sub-ordinate to visit the works shall have been given to the contractor, either, himself be present to receive orders and instructions, or make a responsible agent duly accredited in writing be present for the purpose. Order given to the contractor's agent shall be considered to have the same force as if they have given to the contractor himself.

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**Clause-20 Compensation under Section-12, Sub-section (1) or the Workmen's Compensation Act 1923**

In every case in which by virtue of the provision of Section-12, Sub-section (1) of the Workmen's Compensation Act-1923, the Company is obliged to pay compensation to workmen employed by the contractor in execution of the works, the Company will recover from the contractor, the amount of the compensation so paid without prejudice to the right of the Company under Section-12, Sub-Section (2) of the said Act. The Company shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Company to the contractor whether under this contract or otherwise. Company shall not be bound to contest any claim made against it under section 12, Sub-section(1) of the said Act, except on the written request of the contractor and upon his having given to the Company full security for all costs for which the Company might become liable in consequence of contesting such claim.

**Clause - 21 Minimum Wages**

The contractor shall pay not less than minimum wages to the labours engaged by him on the work.

**Explanation**

- (a) Minimum wages means wage whether for time or piece of work notified from time to time and where such wages have not been so notified, the wages prescribed by the Public Works Departments, State or Labour Department for the District or place in which the work is done.
- (b) The contractor shall notwithstanding the provision of contract to the contrary cause to be paid minimum wages to labourers indirectly engaged on the work including any labour engaged by his sub-contractors in connection with the said works as if labourers had been employed by him.
- (c) In respect of all labour directly or indirectly employed in the work for the performance or his part of this contract by the contractor shall either comply or cause to be complied with the Central Provinces and Berar PWD Contractors Labour Registration contained in Appendix-150 of M.P.P.W.D. Manual (Vol.11), Contractor should register his establishment under Contract Labour (Regulation and Abolition) Act 1970 with upto date amendments with Labour Department of M.P. Government and produce copy of same to Engineer-in-charge.
- (d) The Engineer-in-charge shall have the right to deduct from money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker/ workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payments of wages on deduction made from his or their wages which are not justified by their terms of the contract or non-observance of the regulation.
- (e) The contractor shall be primarily liable for all payment to be made under and for the observance of the regulation aforesaid without prejudice to his right to claim indemnity from his subcontractors.
- (f) The regulation aforesaid shall be deemed to be a part of the contract and any breach thereof shall be deemed to be breach of the contract. The contractor shall disburse the wages to his workers within the time limit prescribed under the provisions of Payment of Wages Act-1936, or any other similar law in force as amended up to date.

**Clause -22**

- (a) The contractor shall, at his own expense, provide or arrange for the provision of foot wear for labour doing cement mixing work which the contractor has undertaken to execute under this contract to the satisfaction of Engineer-in-charge and on his failure to do so the Company shall provide the same to such labourers and recover the cost from the bill due to the contractor.
- (b) Whenever demanded by the Engineer-in-charge the contractor shall submit a true statement showing (1) number of labours employed by him on the work (2) their working hours (3) the wages paid to them and (4) the accidents that occurred during the period of which information is required, stating the circumstances under which they occurred and the extent of damage and injury caused by their failure to supply such information or supplying materially incorrect

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statement may amount to breach of contract. The decision of Engineer-in-charge shall be final in determining whether a breach has taken place.

**(C)** In respect of all labourers directly or indirectly employed in the works for the performance of the contractors part of this agreement, the contractor shall comply with or cause to be complied with all the rules framed by the Government from time to time for the protection of health and sanitary arrangement for workers employed by the Public Works Department and its contractors.

**Clause 23**

The contract shall not be assigned/sublet without the written approval of the Company.

And if contractor shall assign or sublet his contract or attempt to do so or become insolvent or commence any insolvency proceeding or make any composition with his creditors or attempts to do so or if any bribe, gratuity, gift, loan, perquisite, reward or advantage, pecuniary or otherwise, shall either directly or indirectly, be given, promised, or offered by the contractor or any of his servants or agents to any public officer or person in the employment of the Company in any way relating to his office or employment of if any such officer or person shall become in any way directly or indirectly interested in the contract, the Company may there upon by notice in writing rescind the contract and the security deposit of the contractor shall thereupon stand forfeited and be absolutely at the disposal of Company and the same consequence shall ensure as if the contract has been rescinded under Clause-3 hereof and in addition the contractor shall not be entitled to recover or paid for any work there to fore actually performed under the contract.

**Clause – 24 Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss**

All sums payable by way of compensation under any of these condition shall be considered as reasonable compensation to be applied to the Board/Company without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

**Clause .25 Changes in the constitution of the firm**

In the case of a tender by partners, any change in the Constitution of the Firm shall be forth with notified by the Contractor to the Engineer-in-charge for his information.

**Clause – 26 Works to be under the direction of Engineer-in-Charge/Superintending Engineer**

All works to be executed under the contract shall be executed under the direction and subject to the ,approval in all respects of the Engineer-in-charge/Superintending Engineer of the Division/Circle who shall be entitled to direct at what point or point and in what manner they are to be commenced and from time o time carried on.

**Clause .27 Settlement of disputes and arbitration**

All questions relating to the meaning of the specifications, designs, drawings and instructions issued under this contract or as to the quality of workmanship or materials used on the work or as to any other questions, claim, right, matters or things whatsoever in any way arising out of or relating to the contract design, drawings, specifications, estimates, instructions, order or the conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the execution of the work or after the completion or abandonment thereof shall be referred to the Superintending Engineer(EHT-C) in writing for his decision within a period of 30 days of such occurrence. Thereupon the Superintending Engineer (EHT-C) shall give his written instruction and/or decision within a period of 30 days of such request.

Upon receipt of written instructions or decision, the contractor shall promptly proceed without delay to comply such instructions or decision. If the SE (EHT-C) fails to give his instructions or decision in writing within a period of 30 days after being requested or if the contractor is aggrieved against the decision of the SE (EHT-C), the contractor may within 30 days thereafter appeal to the Addl. Chief Engineer (EHT-C) who shall afford an opportunity to the Contractor to be heard and to offer evidence in

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support of his appeal. If the contractor is not satisfied with the decision of the Addl. CE (EHT-C), he may within 30 days thereafter, appeal to the E.D. (EHT-C)/C.E.( EHT-C) for his decision on the dispute. In case there is no Addl. C .E.( EHT-C) or CE(EHT-C) supervising the works, the appeal should be made directly to E.D(EHT-C)/C.E. (EHT-C), who on receipt of the representation from the contractor, may appoint an officer who is not concerned with the works, to decide the dispute within 30 days. In case the contractor who is aggrieved by the decision of E.D. (EHT-C.)/C. E.(EHT-C.), he may refer the matter to E.D(EHT-C.)/C.E(EHT-C.) within a period of 30 days from the date of the said decision, so that, the Company may appoint a committee to decide the dispute. "All disputes arising out of this contract agreement/purchase order etc. shall be determined by a competent Court at Jabalpur only".

**Clause - 28 Claims for items not entered in the Bill of Quantities**

Items are shown in the Bill of Quantities purely for the purpose of indicating the type of work to be carried out and no claim shall be entertained for any item or the work executed being not mentioned in the aforesaid Bill of Quantities.

**Clause - 29 Claim for compensation for delay in starting the work**

No compensation shall be allowed for any delay caused in the starting of the work on account of handing over of the site, or in the case of clearance of works, on account of any delay in according sanction to estimate.

**Clause - 30 Recovery of any dues from contractor**

It shall be lawful for the Company to deduct from the money payable to the contractor under this contract, the amount due from the contractors in respect of any other contract which has been entered into or may be entered into by the contractor with the Company.

**Clause – 31 Royalties and other Taxes**

The contractor shall be responsible for the payment directly to the authorities concerned of all import duties, tools, sales tax, octopi duties, quarry fees, ground rent at quarry, royalties, local and other taxes, etc. on all materials and articles he May use. In case the contractor fails to pay such charges and/ or the authorities Concerned desire that Company shall recover and pay the same, the Company shall recover the same from any dues payable to the contractor along with such departmental charges as may be fixed by the Company from time to time. The contractor will not be entitled to any refund or claim on this account.

"The royalty charges for minor mineral either supplied to Company or used on Company's work by contractor will be paid by the contractor to the Collector as per Government rules and Final Bill will be admitted for payment only after certificate to the effect that all the Royalty charges have been paid shall be submitted by the contractor."

The payment of Service Tax shall be governed as per prevailing law and rules notified by the Govt. of India and circulars issued by MPPTCL in this regard from time to time.

**Clause - 32 Penalty for breach of contract**

On the breach of any terms or condition of this contract by the contractor, the Company shall be entitled to forfeit the security deposit or the balance there of that may at the time be remaining and to realize and retain the same as damages and compensation for the said breach but without prejudice to the right of the Company to recover any further sum as damages from any sum due or which become due to the contractor by Company or otherwise how so ever.

**Clause – 33 Inventory of the contractors materials**

At the time of the commencement of the works or any time thereafter, whenever the contractor brings any material or equipment to the site for use, he shall submit a list Of all such materials/equipment to the Engineer-in-charge. After the completion of works or at any time during the tenure of the contract, such material belonging to the contractor can be removed from the site only with the written permission of the Engineer-in-charge or his authorized representative.

**Clause - 34**

The breach of any terms or any of these General conditions of contract shall be deemed as breach of this contract.

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## SCHEDULE-B SUPPLY OF CEMENT AND STEEL

The contractor will have to procure cement and steel required for the work. All the charge towards testing of such material as and when required shall be borne by the contractor.

**NOTE:-**

- (a) The above materials will be issued from the Board's /Company's store at site . In case there are more than one store at the site , the issue will be made from the store nearest to the site of work where the materials intended to be issued for the work under contractor is stored at the time of issue.
- (b) The materials will have to be transported to site of work by the contractor at their own cost . No handling or transportation charges shall be paid on this account .
- (c) If material in the opinion of the Engineer-in-charge remains un-utilised for a period beyond one month, the contractor may have to pay interest charges as 1% of of the departmental stores issues rate of the material for the period in question per month on the value of the material stores.
- (d) Steel shall be issued in random size and length or in coils as available with the Board/ Company.
- (e) The materials issued from departmental store under this schedule shall be fully accounted for as required under Clause-14 of special conditions of contract. In accounting for the store materials issued to the contractor, allowance as indicated below against each item will be made to cover all wastages and losses that may be incurred in the process of the handling , conversion and also for use in enabling works incidental to the main work.

I. **Cement**

**2(two) percent allowance will be made to cover wastage etc.**

II. **Structural Steel**

**5% allowances will be made for wastage for accounting purpose , invisible wastage at 1% only shall be permissible.**

III. **M.S. Reinforcement / Tor Steel**

**3(Three) percent allowances will be made for wastage . However all scrap shall be properly accounted for and no scrap or cut pieces shall be removed from site or other-wise disposed off without prior inspect and permission in writing by The Engineer-in -charge.**

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All off cuts, cut-pieces and scrap are deemed to be included within the above limits of allowances. While the ownership of these materials remains with the department, the contractor will be responsible for its safe custody from the date of issue till it is accounted by adjustment through the R/A Bills/ Final Bill or returned to the stores.

The Engineer-in charge shall make a theoretical assessment of all department materials issued as per constants given in the specifications and drawings on the basis of final bill of quantities. Any variation between the theoretical assessment and actual consumption shall be treated as un-accounted by the contractor excepting for allowance given above. If the actual consumption (other than cement) after deduction for wastage in conversion is found to be less than the theoretical assessment, measurements for items of work incorporation such materials will be restricted to quantities relating to actual consumption. In the case of cement, however this stipulation will be applicable only if the minus variation is beyond two percent. Recoveries for less consumption of cement beyond two percent will be made at the departmental store issue rates plus 75%. In case of loss/damage or non return of the materials left unused, the rates at which they will be recovered, will be the departmental store issue rates or average market rate for the period under question whichever is higher plus 50%.

The contractor shall submit to the Engineer-in-charge his monthly demand of materials in pursuance of clause-3 of "Special Conditions of Contract". If at any time it is desired that the contractor shall give his quarterly demand of materials he shall do so at least 4 weeks in advance of the date of receipt of advice and at occasion of weekly demands, at least 7 days of the date of advice.

M.S. bars will be issued for the purpose of reinforcement and for windows bars only.

HYSD steel/MS bars supplied under this schedule shall be considered as tested steel for all purposes.

Cement will not be issued for manufacture of cement tiles or terrazzo tiles.

**(A) If the materials to be arranged by the contractor:-**

**The cement and MS reinforcement steel** (Plain or HYSD) required for execution of work, will have to be procured by the executing **agency at his own cost** from the authorized stockiest /dealer of cement/steel manufactures only.

The cement /steel procured shall **be transported to site by** the contractor including all handling at his own cost. Before the cement/steel **brought at site, the contractor has to** make proper arrangement for storage and security of the **materials at his own cost.**

Immediately on procuring the cement/steel, the contractor should produce the necessary voucher to verify the quality & quantity of cement/steel brought at site.

No secured advance will be paid to the contractor for the procurement of cement.

Before the execution of work with cement/steel procured by the contractor, the cement/steel should be got tested from Government Institution/Labs before the same is put to use in work.

If the Engineer-in-charge or his authorized representative is not satisfied with the quality of cement/ steel at any time during the inspection of the work, he has right to get the samples of cement/steel tested at the nearest Government Engineering College/other Govt. Laboratories. The charges of such testing will be borne by the contractor.

The Engineer-in-charge, shall make a theoretical assessment of cement as per constants given in the specifications, drawings on the basis of final bill of quantities. The measurement of all the steel shall be by linear method multiplied by standard unit weight as per ISS.

The cement procured by the contractor must be consumed by the contractor within two months from the date of materials brought at site.

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## **SPECIAL CONDITIONS OF CONTRACT**

### **1. General**

These special conditions of contract supplement the instructions to Tenderers and the General Conditions of Contract and shall be considered as part of the contract documents. Where the provisions of these Special conditions are at variance with the General Conditions of contract, these conditions shall prevail. The work will be carried out strictly in accordance with the Indian Standard Codes of practice. The aforesaid specifications should however, be read in conjunction with the specifications annexed to the tender and in the event of any contradiction between the provision of such specifications, the specifications annexed to the tender shall prevail. In case there is no provision in Indian Standard Codes of practice, the work shall be carried out in accordance with such codes of practice as may be decided by the Engineer-in-charge. In the absence of any specifications in any of the above codes, the specifications as decided by the S.E. (EHT-C) shall be applicable. The specifications are not intended to cover the minutest detail and the work shall be executed according to the spirit of specifications and the best prevailing engineering practice.

### **2. Drawings and specifications**

The drawings show the work to be done, as definitely and in such detail as is possible at the present stage of development of the design. The attached drawings will **be** supplemented or superseded by such additional and detailed drawings, as may be necessary or desired as the work proceeds. Such additional general and detailed drawings will show dimensions and details necessary or desired as the work proceeds. Such additional general and detailed drawings will show dimensions and details necessary for construction purposes more completely than are shown on the attached drawings for all features of the work. The contractor shall be required to perform the work on these features and in accordance with the additional general and detailed drawings mentioned above at the applicable unit prices tendered in the Schedule for such work of similar nature, as determined by the Engineer-in-charge.

The contractor shall check all drawings carefully and advise the Engineer-in-charge, of any error or omissions discovered. The contractor shall not take advantage of errors or omissions in these drawings.

The drawings and specification are to be considered as complimentary to each other and should anything appear in one that the other does not have, no advantage shall be taken of such omission. Should any discrepancies, however, appear or should any misunderstanding arise as to the meaning and interpretation of said specifications or drawings or as to the dimension or the quality of materials or the proper execution of the work or as to the measurement or quality and valuation of the works **executed** under this contract as extra there upon the same shall be brought to the notice of the Engineer-in-charge before the work is carried out and clarifications in writing is obtained from the Engineer-in-charge.

Figured dimensions and drawings shall supersede measurements by scale and drawing to a large scale shall take precedence over those on a small scale. Special directions incorporated on the drawings shall be complied with strictly.

One copy of drawings and contract documents shall be kept at all times at the site of the work by the contractor.

### **3. Data to be furnished by the Contractor**

The contractor shall submit the following to the Engineer-in-charge.

- (a) Proposed construction programmes and time schedule showing sequence of operations within two weeks of receipt of notice to proceed with the work in pursuance of the conditions of contract.
- (b) Approximate monthly requirements of cement and M.S./ HYSD reinforcement bars for the entire construction period within 4 weeks of the date of receipt of the notice to proceed with the work in pursuance of the conditions of contract.

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(c) Programmes of requirements of materials, if any, to be supplied by the department with respect to the time schedule, within 6 weeks of date of receipt of notice to proceed with the work in pursuance of the condition of contract.

(d) Layout plan of diversion and care of river, materials storage, plant and machinery required for the construction of the work within 4 weeks of the date of notice to proceed with the work.

The Engineer-in-charge shall scrutinise the above and his decision in writing shall be final and binding on the contractor.

#### **4. Construction programme**

In order to fulfill the condition for which the development has been designed, the contractor & Engineer-in-charge shall, prior to the commencement of work and within 30 days after date of receipt of notice to proceed with the work by the contractor, arrange a definite construction program or schedule covering the order in which the work is to be carried out so as to ensure the under-lying conditions on which the design is based and shall be maintained in their entirety and without any interference with the expeditious and economical carrying out of the contractors projected scheme of procedure. The several sections of the work shall be carried out in such order as to permit the completion of the whole work within the stipulated time and as closely as possible in conformity with the agreed upon construction schedule. The construction programmes shall be in such form and in such detail as to properly shows the sequences of operations and the period of time required for completion of the work under each operation. However the Engineer-in-charge shall have the power to alter the construction programme due to exigencies of work. In case of any disagreement between contractor and the Engineer-in-charge regarding such construction programmes, the programs as decided by the Superintending Engineer (EHT-C) shall be final and binding on the contractor.

#### **5. Time is the essence of the Contract**

Wherever the progress is not according to construction program approved by the Engineer-in-charge, a penalty for short progress will be imposed at the same rate as provided in clause 2 of General Conditions of contract.

The contractor shall at all times, during the continuance of the work, execute it with such forces and equipment as in the judgment of the Engineer-in-charge are necessary to complete it within the specified period of time. The capacity of the contractor's construction plant, sequence and methods of operation and the force employed shall at all times during the continuance of the contract be subject to the approval of the Engineer-in-charge and shall be such as to ensure completion of the work within the specified period of time.

#### **6. Power to vary or omit works**

No alterations, amendments, omission, suspensions or variations of the work(herein-after referred to as variations) under the contract other than as shown in the approved contract drawings and the specifications, shall be made by the contractor except as directed in writing by the Engineer-in-charge but the Engineer-in-charge shall have full powers and subject to special conditions herein from time to time during the execution of contract by notice in writing to instruct to make such variation without prejudice to the contract, and the contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the specifications. If any suggested variation would in the opinion of the contractor, if carried out, prevent him from fulfilling any of this obligation or guarantee under the contract, he shall notify the Engineer-in-charge in writing and the Engineer-in-charge shall decide forthwith whether or not the same shall be carried out. if the Engineer-in-charge confirms his instructions, the contractors obligations and guarantee shall be modified to such an extent as may be justified. The difference of cost, if any on account of by any such variations, shall be added to or deducted frohi the Contract price as the case may require. The amount of such difference, if any, shall be ascertained and determined in accordance with the rates specified in the schedule of prices so far as the same may be applicable and where the rates are not contained in the said schedule or are not applicable, they shall be settled by the Engineer-in-charge as stipulated in clause 13 of General conditions of contract.

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In any case in which the contractor has received instructions from the Engineer-in-charge as to carrying out the work which either then or later will in the opinion of the contractor involve a claim for additional payments, the contractor shall within 30 days of the receipt of the aforesaid instructions advise the Engineer-in-charge to that effect in writing.

#### **7. Housing accommodation and water supply**

The contractor shall make his own arrangement for the housing of his staff and labour and also for the supply of water for construction **and** domestic use.

The contractor shall also have to provide for sufficient latrines for the use of his works people, male and female, to keep the same clean and disinfected at all times during the period of work and to remove the same and disinfect the ground and make good all damage on the completion of the work. In regard to hutted accommodation for his workmen latrines etc. the contractor should comply with the local regulations and the MP Model Rules relating to lay-out, water supply and sanitation in labour camps(Annexure-A). To enable the contractor to erect a colony for housing labour and his staff and for storing materials the contractor will be allowed the use of such portion of land at site as considered sufficient for that purpose by the Engineer-in-charge free of rent. The contractor shall keep the said premises clean and in good condition and shall vacate the same immediately after the expiry of the maintenance period. If due to exigencies of work, the contractor is directed by the Engineer-in-charge to vacate the said portion of land and occupy another piece of land the contractor shall immediately vacate the land in his possession as aforesaid and shall not be entitled to claim any amount from the Company on that account. It shall also be ensured by the contractor that when the site is vacated, the land shall be returned to the Company in the same conditions as it was handed over to him.

#### **8. Electrical Energy**

The electrical energy for bonafide use in construction work, shall be assigned by the contractor at his cost. No. liability lies on the part of MPPTCL to provide electrical connection to the contractor.

#### **9. Working hours**

The hours of work for the labour employed by the contractor shall conform to the hours fixed by the administration. The daily and weekly hours of work and over time will be regulated in accordance with the provision of the Minimum Wages Act.1948 or any other similar law in force as amended up to date.

#### **10. Execution of works**

The work shall be carried out to the entire satisfaction of Engineer-in-charge. The contractor shall be responsible for the correctness of the position, alignment of the works and dimensions of the works according to the drawing notwithstanding that he may have been assisted by the representatives of Engineer-in-charge in setting out the same.

#### **11. Setting out Work**

The contractor shall at his own expense provide all pegs, nails, strings and such other materials necessary for setting out and shall at all time provide for skilled work in accordance with the drawings and specifications to correct lines and levels. The contractor shall be responsible for setting out the work and get it approved before the work is actually commenced. The contractor shall not be entitled for any separate payment on this account.

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## 12. Use of companies Railway siding

The Contractor may be allowed with prior permission of the Engineer-in-charge, the use of companies' private siding, if any for placement of wagons carrying his materials. The contractor shall pay the siding and haulage charges and other specified charges as fixed by the companies for the use of the siding.

## 13. Changes in Design

The Company reserves the right to make any changes in the designs and plans of the work and the contractor shall be bound to carry them out. No claim or compensation would be allowed on this account.

## 14. Departmental supply of materials

The contractor shall have to obtain the material specified under Schedule B of the General Conditions of Contract from the Board's Stores only unless otherwise specifically permitted by the Board to procure the same from elsewhere. The cost of such materials issued from the board's stores will be recovered from the contractor's bills at the rates specified in the said schedule.

The materials will be issued from the departmental stores as mentioned in Schedule B and the contractor will have to make his own arrangement for transport of the materials from the stores to the work at his own cost. Materials to be supplied by the department will be supplied in standard sizes, lengths and quantities or as available unless specifically mentioned otherwise and cost recovered from the contractor for the quantities issued.

The contractor shall further at all the times satisfy the Engineer-in-charge on demand and by the production of records of books or submission of return and proforma as directed, that the materials supplied are being used for the purpose for which they are supplied and the Contractor shall at all time keep the records up to date to enable the Engineer-in-charge to apply such checks as he may desire to impose. The contractor shall not without the written permission of the Engineer-in-charge utilize or dispose off the materials for any purpose other than that intended in the contract.

Cement, reinforcement steel and structural steel will be supplied to the contractor if so specified in Schedule B at the rates specified in the said schedule at the departmental stores at the location specified under Schedule B, The contractor shall make his own arrangement for the storage of cement at the work site. Handling and storage facilities shall be so arranged that no cement shall be kept in storage for more than 120 days. If any cement is kept as long as 120 days, it will be tested before use at the cost of contractor and if found defective in any way it shall be condemned from being used and cost at penal rate (department store issue rate or average market rate or whichever is higher plus 50%) will be recovered from the contractor, steel, if supplied by the department, shall be transported to the site at contractor's own cost. The contractor shall make his own arrangement for keeping steel at site.

In respect of a item of work which involves use of cement, the base rate shall be corresponding USR rate minus the cost of cement based on theoretical consumption as indicated in USR (OR in the tender document, whichever not indicated in USR) at the rate Rs.215/-per bage. The item shall be paid from this base rate plus/minus the accepted percentage.

The contractor will be responsible for the safe custody of all departmental material issued to the satisfaction of the Engineer-in-charge and will be required to tender proper account of all allocation and disposal of these materials showing when they were issued on the works. The contractor shall return in sound condition all such materials when are not used in work. In case he is unable to account for the full amount of the materials issued to him, recoveries will be effected from him at average issue rates or average market rates whichever are higher plus 50 percent (average issue rates or average market rates means the weighted average of the issue rate or market rate for the issued made from time to time during the period of the contract). The contractor will be deemed to be unable to account for the materials if the

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Materials are not used in works or not returned to department in good condition to the satisfaction of the Engineer-in-charge.

The Board/Company will not be responsible for any delay in supply of departmentally supplied material such as structural steel section, M.S. reinforcement bars and cement as mentioned in Schedule –B. The delay due to late supply will, however be given due consideration in granting extension of time for the completion of the work, if found necessary. No compensation or claim or damages for idle time will be entertainable on this score.

If the contractor request the Engineer-in-charge for issue of such materials as are available in the stores of Engineer-in-charge, the contractor may be supplied these materials from the stores provided these are required for direct use in this work. The contractor shall pay for such materials and stores issued to him at the book value or the current market value (inclusive of incidentals in both cases) whichever is higher plus 24% supervision charges on the cost of the materials. Other materials which may be available in the stores, may issued on hire charges shall be recovered at 2% per month of the book value inclusive of incidental charges and supervision charge @24% and the contractor shall be responsible to return the materials in the original condition in which they were issued.

All materials required for the work other than those that are specifically mentioned in the said Schedule B shall be supplied by the contractor at his own cost. Recommendations to authorities wherever required may be made by the departments but the responsibility for the supply of the materials shall be of the contractor and no excuse on this account for delay in the work shall be accepted.

All unused materials, either supplied directly by the Board/Company or obtained by recommendation of the Board/Company which in the opinion of Engineer-in-charge are likely to be useful to the Board/Company shall be returned in good condition at the original cost paid for if so decided by the Board/ Company.

### **15. Materials brought on the site**

All materials, tools and tackles brought to and delivered upon the site for the purpose of the work by the contractor shall, from time to time of their being so brought, be deemed to be in the possession of the Company as if attached to the land on which they are brought and may be used for the purpose of the works but for that purpose only and shall not on any account be removed or taken away by the Contractor or any other person without the express permission in writing of the Engineer-in-charge but the contractor shall nevertheless be solely responsible for any loss or destruction thereof or damage thereto. The Company shall have a lien on such materials tools and tackles for any sum or sums which may at any time prior to the completion of the works be due or owing to Company by the contractor under, in respect of or by reason of the contract and shall be at liberty to sale and dispose off on giving notice to the contractor any of such materials, tools and tackles remaining after the completion of the works in such manner as he shall think fit, and to apply proceeds in or towards the satisfaction of such sums or sum so due or owing as aforesaid but subject to such lien and power of sale and disposal.

### **16. Rejected materials**

It shall be absolutely essential on the part of the contractor to have on the site of work only such of the materials as have been duly passed by Engineer-in-charge. Such of the materials which have been rejected shall on no account be allowed to remain on site and if they are not removed even in spite of a written order to remove the rejected materials out of site within a specified period as directed by the Engineer-in-charge, the latter shall have the full right either to remove the rejected materials or to destroy them and recover the cost thereof together with such departmental charges as may be fixed by the Company from time to time.

**Signature of Tenderer**

### **17. Contractor's Representative and workmen**

The contractor shall at his expense employ at least one competent representative, whose name or names shall have previously been communicated in writing to the Engineer-in-charge by the contractor and approved by the Engineer-in-charge to supervise the construction of the work. The said representative or if more, then one of such representatives shall be present on the site during working hours, and written order or instruction which the Engineer-in-charge or his duly authorised representative may give to the said representative of the contractor, shall be deemed to have been given to the contractor.

The Engineer-in-charge shall be at liberty to object to any representative or person employed by the contractor in the execution of or otherwise about the works who shall misconduct himself or be incompetent or negligent and the contractor shall remove the person so objected, to upon receipt from the Engineer-in-charge of notice in writing, requiring him to do so and shall provide in his place a competent substitute.

The contractor shall not contravene any of the provision of Factories Act 1948 (with upto date amendments) as amended from time to time.

The contractor shall remove from the work any person found working who does not satisfy this condition and no responsibility shall be accepted by the Company for any delay caused in the completion of the work by such removal. The Company shall also not be liable for any contravention of the laws in force by the contractor who shall solely responsible for the same.

### **18. Contractor's liability for loss, damage, accident, etc.**

The contractor shall indemnify and save the Company against all actions, suits, claims, demands, costs or expenses arising in connection with injury suffered prior to the date when the work shall have been taken over by person employed by the contractor or by his sub contractor on the works whether under the General law or under the Workmen's Compensation Act 1923 or any other statutory law' in force dealing with the question of the liability of the employers and shall so take steps properly to ensure against any claims there under.

, On the occurrence Wan accident which results in the death of any of the workmen employed by the Contractor or ,Which is so serious as to be likely to result in death of any Such workman, the contractor shall within 24 hours of happening of such accident intimate in writing to the concerned Engineer-in-charge of the Company the fact of such accident. The contractor shall indemnify the Company against all losses or damages sustained by the Company resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or fines, if any, payable by the Company as a consequence of the Company's failure to give notice under the Workmen's Compensation Act, or otherwise to conform to the provision of the said Act, in regard to such accident.

In the event of any claim being made, or action brought against the Company and arising out of the matter referred to and in respect of which to contract is liable under this clause the contractor shall be immediately notified thereof, and he shall, with the assistance, if he so requires, of the Company but at the sole expense of the contractor conduct all negotiations for the settlement of the same or any litigation that may arise, there from. In such case, the Company shall at the expense of the contractor, afford all available assistance for any such purpose.

In the event of an accident in respect of which compensation may become payable under Workmen's Compensation Act VII of 1923 (with upto date amendments) as amended from time to time whether by the contractor or by the Company as principal employer, it shall be lawful for the Engineer-in-charge to retain out of moneys due and payable to the contractor such sum or sum of moneys as may in the opinion of the Engineer-in-charge be sufficient to meet such liability. The opinion of the Engineer-in-charge shall be final in regard to all matters arising under this clause.

**Signature of Tenderer**



The amount of all costs, damages or expenses or other sums which under this or any other contract shall be payable by the contractor to the Company may be deducted by the Company from any money due or becoming due by it to the contractor under the same or any other contract, without prejudice to the Company's right to recover the same by ordinary process of law.

### **19. Damage to works**

The work whether fully completed or incomplete, all the materials, machinery, tools, plant temporary buildings and other things connected there with shall remain at the risk and in the sole charge of the contractor until the completed work has been delivered to the Engineer-in-charge and till completion certificate has been obtained from the Engineer-in-charge. Until such delivery of the completed work, the contractor shall at his own cost take all precaution necessary to keep all the aforesaid works, materials, machinery, plants, temporary buildings and other things connected therewith free from any loss or damage and in the event of the same or any part there of being lost or damage he shall forthwith reinstate and make good such loss or damage at his own cost.

### **20. Use of excavated materials**

The contractor shall not sale consume or otherwise, dispose off or remove from site of work, sand, stone, clay, ballast, earth, rock, boulders or any other materials which may be obtained from excavations made for the purpose of this contract. All such materials shall be the property of the Company and shall be disposed off in the manner and place shown in drawings or as directed by the Engineer-in-charge. The contractor may with the permission in writing of and shall when directed by the Engineer-in-charge use any of the same for the purpose of the work, at such rates as may be fixed there for by the Company. Royalty or other charges or duties as may be levied on such materials by the authorities shall be paid by the contractor and in the event of the same being paid by the Company, it will be recovered from the contractor at such rates as may be fixed there for by the Company.

### **21. Use of work pending completion**

The Company shall be at liberty at any time to put to beneficial use of the whole or any part of the work, it may desire to use pending completion and taking over the same. The decision of the Engineer-in-charge shall be final and binding on both the parties as to whether the items are minor or important and if the Engineer-in-charge certifies that the items to be completed are important notwithstanding anything contained in this contract the taking over certificate shall not be issued. Such possession or use shall not be deemed as an acceptance of any contract.

### **22. Removal of temporary work, plant and surplus materials**

Prior to final acceptance of the completed work, but accepting as otherwise expressly directed or permitted in writing, the contractor shall, at his own expense remove from site and dispose off all the temporary structure including, building, pole work, crib work, all plant and surplus material and all rubbish and debris for which he is responsible to the satisfaction of the Engineer-in-charge.

### **23. Inspection of tests**

The contractor shall furnish promptly without additional charge all facilities labour and materials necessary for the safe and convenient inspection and test that may be required by the Engineer-in-charge. All inspection and tests by the department shall be performed in such manner as not to unnecessarily delay the work. The contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time of inspection.

**Signature of Tenderer**

#### **24. Examination and tests on completion**

On the completion of the work and not later than the expiry of the maintenance period thereafter, the Engineer-in-charge shall make such examination and test of the work as may seem to him to be possible, necessary or desirable and the contractor shall furnish free of cost any materials and labour which may be necessary there for, and shall facilitate in every way all operations required by the Engineering-charge in making examination and tests.

#### **25. Laws and Regulations**

All work shall be executed in accordance with the laws in India relating to the work and rule and regulation there under and any statutory modifications thereof wherever they are applicable unless otherwise agreed to in writing by the Engineer-in-charge.

The contractor shall be bound by the provisions of all the legislation whether Central or State as in force and operative in Madhya Pradesh for the time being in the same way and to the same extent as the Company and, if on the default on the part of the contractor or his agent of any of the provisions of any such law, the Company is required to incur any expenditure and liabilities arising there from, the Company may deduct and recover the same out of any sums due to the contractor in respect of this contract. The decision of the Company that any sums has become payable there under and the amount which has become payable shall be final and binding on the contractor. "The Provisions of the Third Ordinance-1996" for the building and other construction workers (Regulation and Employment and Condition of Service) shall also be applicable and binding on contractor.

#### **26. Fencing and Lighting**

The contractor shall be responsible for the proper fencing, guarding, lighting and watching of all works comprised in the contract and for the proper provision of temporary roadways, guards and fences as far as same may be rendered necessary by reason by the work the accommodation and protection of the workers, passengers or other traffic and of the owners and occupiers of adjacent property and of the public.

#### **27. Patents, Rights etc.**

The contractor shall fully indemnify the Company against all actions, suits, claims, demand, cost, charges and expenses arising from or incurred by reason of any infringement or alleged infringement of any letters, patents, designs, trade marks or name/copy right or other protected right in respect of any machine, plant, work, materials, things or system or method of using, fixing, working of arrangements used or fixed or supplied by the contractor but his indemnity shall not extend or apply to any action suit, claim, demand, cost charges or expenses arising from or incurred by reasons of the use of the works or any part thereof otherwise then in the manner for the purpose contemplated by the contract. All royalties and other similar payments which may have to be paid for the use of any such machine, plant, work, materials, thing, system or method as aforesaid (whether payable in one sum or by method of installments or otherwise) shall be deemed to have been covered by the contract price and payable by the contractor.

In the event of any demand or claim being made or action or suit brought against the Company in respect of any such matter or matters as aforesaid, the contractor shall be duly notified thereof and he shall conduct all negotiations for the settlement of such claim or demand and such action or suit shall also be **conducted by him subject**, if any, so far as the Company shall think proper to the supervision and control of the Company through the officer duly authorized in this behalf.

**Signature of Tenderer**

## 28. Scaffolding, working platforms and stairways

The Contractor shall provide suitable scaffolds, working platforms stairways and gangways and shall comply with the following regulations in connection therewith.

- (a) Suitable scaffolds shall be provided for all work that cannot be safely done from a ladder or by other means.
- (b) A scaffold shall not be constructed, taken down or substantially altered except.
  - (i) Under the supervision of a competent and responsible person and,
  - (ii) As far as possible by competent workers possessing adequate experience in this kind of work.
- (c) All scaffolds and appliances connected therewith and all ladders shall:
  - (i) be of sound materials.
  - (ii) be of adequate strength having regard to the load and strain to which they will be subjected and
  - (iii) be maintained in proper condition.
- (d) Scaffolds shall be so constructed that no part thereof can get displaced in consequence of normal use.
- (e) Scaffolds shall not be overloaded and as far as practicable the load shall be evenly distributed.
- (f) Before installing lifting gear on scaffoldings special precaution shall be taken to ensure the strength and stability of the scaffolds and the same shall be periodically inspected by a competent person.
- (g) Before allowing a scaffold to be used by his workmen, the contractor shall, whether the scaffolds have been erected by his workman or not, take steps to ensure that it complies fully with the regulation herein specified.
- (h) Working platforms, gangways and stairways shall;
  - (i) be so constructed that no part thereof can sag unduly or unequally.
  - (ii) be so constructed and maintained, having regard to the prevailing conditions as to reduce as far as practicable risks of persons falling, tipping or slipping and,
  - (iii) be kept free from any unnecessary obstructions.
- (i) In the case of working platforms, gangways, working places and stairways at a height exceeding 16 ft. (4.8m).
  - (i) Every working platform and every gangway shall be closely boarded unless otherwise adequate measures are taken to ensure safety.
  - (ii) Every working platform and gangways shall have adequate width and
  - (iii) Every working platform, gangways, working place and stairways shall be suitably fenced.
- (j) Every opening in the floor of a building or in a working platform shall, except for the time and to the extent required to allow the access of persons or the transport or shifting of materials, be provided with suitable means to prevent the fall of persons or materials.

**Signature of Tenderer**

- (k) When persons are employed on a roof where there is danger of falling from a height exceeding 4.8m suitable precautions shall be taken to prevent the falling of persons or materials.
- (l) Suitable precautions shall be taken to prevent persons being struck by articles, which might fall from the scaffold or other working places.

The contractor shall comply with the following regulations as regards the hoisting appliances to be used by him:-

- (a) Hoisting machine and tackle including their attachments, anchorages and supports shall;
  - (i) be of good mechanical construction, sound materials and adequate strength and free from latent defects and,
  - (ii) be kept in good hoisting working order.
- (b) Every rope used in hoisting or lowering materials as a means of suspension shall be of suitable quality and adequate strength and free from latent defects.
- (c) Hoisting machine and tackle shall be examined and adequately tested after erection on the site and before use and be re-examined in positions at intervals to be prescribed by the Engineer-in-charge.
- (d) Every chain, ring, hook shackle, swivel and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.
- (e) Every crane driver or hoisting appliance operator shall be properly qualified.
- (f) No person who is below the age of 25 years shall be in control of any hoisting machine, including any scaffolding or give signals to the operator.

### **29. Death, Bankruptcy, Breach of contract**

If the contractor dies or becomes insolvent or bankrupt or has a receiving order made against him or compound with or make any proposal for carrying on his business under inspection or for the benefit of his creditors or commit an act of insolvency or bankruptcy or being a corporation pass a resolution or be ordered to be wound up or have a receiver of its business appointed, or commit any breach of contract, the Company shall be entitled forth with by notice in writing to the contractor or his assigns or legal representatives to determine the contract and the Company may in that event complete the contract in such time and manner and by such persons as the Company shall think fit at the risk, cost and liability of the contractor.

### **30. Rights of other contractors and persons**

If during the progress of the work covered by this contract, it is necessary for other contractors or persons to do work in or about the site of work, the contractor shall afford such facilities as the Engineer-in-charge may require.

### **31. Insurance**

a. The contractor shall, at all times during the tenure of this contract at his own expense insure and keep insured in the name of the Company with any of the nationalized General Insurance Companies all the work in progress, plants, equipments, stores, instruments, implements, tools and all other materials whatsoever against loss, destruction or damage by fire, flood or any other cause whatsoever including war, revolution, Civil communal riot and all liabilities under the workmen's compensation Act, in respect of death or body injury payable to any worker and damage to property of the third persons.

**Signature of Tenderer**

b. During the continuance of this contract, the contractor shall pay all premium and sums of money necessary for keeping this insurance policy on foot and deliver to the Company the receipt of such payment within seven days after the same shall have become due.

In the event of the contractor refusing or neglecting to effect insurance as aforesaid of keeping the same on foot by making payment as aforesaid or to deliver receipt to the Company, it shall be lawful for the Company to effect the insurance as aforesaid and to pay the premium thereon and deduct the cost of such insurance or the amount of premium so paid from time to time from any sums payable to the contractor under this contract.

c. Provided further that if the contractor or the Company has not effected such insurance, the liability for any loss occurring due to the cause mentioned in Clause "a" above shall be that of the contractor and it shall be lawful for the Company to deduct by way of penalty the whole cost if insurance including the amount of premium that would have been paid from time to time from any sums payable to the contractor under this contract, has such an insurance been effected.

### **32. Implementation of Employees Provident Fund and Miscellaneous Provision Act 1952**

The provisions on Employees Provident Funds and Miscellaneous Provisions Act, 1952 (with up to date amendments) are applicable in respect of work charged and NMR employees. The following instructions are to be followed for statutory compliance and proper implementation of the EPF Act,

a. The definition of the work Employee includes any person employed directly by the establishment on work charged/NMR or by or through the contractors including daily rated or piece rated employees.

b. Every employee shall have to be enrolled for the Membership of Employees Provident Fund from the date of his joining i.e. deductions towards EPF are to be effected from the 1st day of employment.

c. The contractor shall be responsible for deduction towards EPF contribution from workers.

d. The contractor shall be responsible for payment of wages to each worker employed by him as a contract labour in accordance with the provisions of the law.

e. A representative duly authorized by the principal employer shall be present at the time of disbursement of wages by the contractor and certify the amount paid as wages.

f. The contractor shall ensure the disbursement of wages in the presence of authorized representative of the principal employer.

g. In respect of employees employed by or through a contractor shall recover the contribution payable by such employees and shall pay to the Principal Employer the amount of Member's Contribution so deducted together with an equal amount of contribution and also administrative charges as specified in the E.P.F. Act.

h. In case the contractor fails to make payment of wages or remittance of E.P.F. Contribution in accordance with the provisions of the law, the Principal employer shall be liable to make payment of full wages or the unpaid balance due, as the case may be, to the contract labour employed by the contractor or to the R.P.F. Commissioner authorities and recover the amount so paid from the contractor either by deduction from any amount payable to contractor under any contract or as debt payable by the contractor.

**33.** In case of tenders where the completion time is exclusive of rainy season, the rainy season shall be counted from 16th June to 15th October.

**34.** The breach of any terms or any of these special conditions of contract shall be deemed as breach of the contract.

**Signature of Tenderer**

## MODEL RULES RELATING TO WATER SUPPLY AND SANITATION IN LABOUR CAMPS

**NOTE** - The model rules are intended primarily for labour camps which should be adhered to. Standards in permanent or semi permanent labour camps should not obviously be lower than those for temporary camps. Any other conditions as may be imposed by the State Government or the local authorities in this respect shall be complied with by the contractor.

1. Location:- The camp should be located in elevated and well drained ground in the locality.

2. Layout:- Labour huts to be constructed for one family of 5 persons each. The layout to be shown in the prescribed sketch shall be approved by the Engineer in-charge.

3. Hutting:- The huts to be build of local materials and each hut should provide at least 20 Sqm of living space.

4. Sanitary Facilities:- There shall be provided latrines and urinal at least 15m, away from the nearest quarter, separately for men and women and specifically so two families per seat. No separate urinals are required as privies can also be used for this purpose.

Drinking Water: - Adequate arrangements shall be made for the supply of drinking water. If practicable, filtered and chlorinated supply shall be arranged.

When supply is from an intermittent source, a covered storage tank shall be provided with capacity of one gallon per person per day. Where the supply is from a well, it shall conform to the sanitary standards laid down in the report of the Rural Sanitation Committee. The well should be at least 30m away from any latrine or other source of pollution. If possible a hand pump should be installed for drawing the water from the well. The well should be effectively disinfected once every month and quality of water should be tested at the Public Health Institution between every two disinfections.

6. The rules aforesaid shall be deemed to be a part of the contract and any breach thereof shall be deemed to be breach of contract.

**Signature of Tenderer**

## FORM OF CERTIFICATE OF INCOME TAX

**(To be submitted by contractor tendering for works costing Rs.50,000/-or more)**

- ① Name and style (of the company, firm, HUF or individual in which the applicant is assessed to income tax and address for purpose of assessment)
- (ii) The income tax Circle/Ward/District in which the applicant is assessed to income tax
- (iii) The following particulars concerning the last income tax assessment made:-
- (a) Reference No. (For GIR) of the assessment
- (b) Assessment year and accounting year
- (c) Amount of total income assessed
- (d) Amount of tax assessed I.P.S.T.E.P.T.B.P.T.**
- (e) Amount of tax paid I.T.S.T.E.P.T.B.P.T.
- (f) Balance, being tax not yet paid and reasons for such arrears
- (g) Whether any attachment or certificate proceeding pending in respect of the arrears.
- (h) Whether the Company or firm, HUF on which the assessment was made has been or is being liquidated, wound up, dissolved, partitioned or being declared insolvent, as the case may be.
- (i) The position about latter assessment, namely whether returns submitted under section 22 (1) or (2) of the income tax Act and whether tax under section 18-A of the Act and the amount of tax so paid or in arrears.
- (iv) In case there has been no income tax assessment at all in past, whether returns submitted under section 21 (1) or (2) and **18-A (3) and** if so, the amount of income tax return or tax paid and the income tax circle/ward/district concerned..
- (v) The name and address of branch (S)

"Verified the particulars set out above and found correct, subject to the following remarks."

Signature of I.T.O.  
Circle/Ward/District

## PARTICULARS OF THE CONTRACTORS

1. Name & address of the contractor
2. Particulars of registration and class In which registered
3. Reference may be made to:-

1/  
2/  
3/

4. Previous Experience in MPSEB or its successor companies, or Govt. / Public under taking / Reputed Limited Co.

S.No	Name of work Executed	Department	Value of Work
(i)			
(ii)			
(iii)			
(iv)			
(v)			
(vi)			
(vii)			
(viii)			

5. Details of Works held by the Tenderer at the time of submitting this Tender

S.No	Name of Work Held	Department	Agreed Period of Contract From to	Probable Period of completion.	Cost of balance probable to be done and date of completion.
(i)					
(ii)					
(iii)					
(iv)					
(v)					
(vi)					
(vii)					
(viii)					

6. A brief description of large works previously executed with details of Organization, machinery and **experience of those who handled the job on the side of contractor.**

7. **Any other information the contractor may desire to give.**

**Note - The copies of testimonials may be attached but will not be returned.**

**Signature of Tenderer**



## PREAMBLE TO PROBABLE ITEMS OF WORK

1. The various items listed at Bill of quantities must be read with the specifications and the tenderer will be deemed to have examined the general condition, drawings, specification and form of tender and contract for himself and to have visited the site and to have acquainted himself with the detailed description of the work to be done and the way in which it is to be carried out as also nature of roads and carts, tracks available for access to site etc.
2. All works described in the enclosed bill of quantities shall be executed in accordance with the drawing and specification for the work and as ordered by the Engineer-in-charge.
3. The items included in the probable items of works are only for the purpose of giving a detailed idea of the type of work to be executed under the contract and are given for the convenience of forming a common basis for the tenders. These items of the works shall therefore not be considered as the only items of work to be carried out it being the intention of the contract (except where otherwise specifically stated) that all work mentioned therein shall be carried out by the contractor, or completion of the work, the Engineer-in-charge or his authorized representative shall measure and pay for the various items at the accepted rates. The payment shall be according to the net measurement only as measured on the site (Not withstanding any trade, custom to the contrary) as more fully set forth in the relevant clause of General Conditions and the Specifications. Any special methods of measurement used are stated hereafter. All other items are measured net in accordance with the drawings, and the allowance has been made for wastage or overlaps or rejected materials.
4. The rates quoted by the contractor shall include supplying all materials and labour necessary for completing the work in the best and most workman like manner and for maintaining the same in accordance with the provision of specification and conditions of contract, for the erection and removal, on completion, of all the necessary scaffolding, for providing all water required for the work including payment of all charges for the same, for all fencing required to enclose the site of work, to prevent trespassing and all other purpose required by the Engineer-in-charge for all mats, cloths etc. to exclude dirt and dust and for all other purposes required by the Engineer-in-charge for carting away all debris and rubbish, for removing paints, stains for cleaning floor, doors, windows etc. for leaving the premises in clean, satisfactory state of completion and for working in conjunction with and attending on all other contractors employed on the building.
5. All materials, articles and workmanship shall be best of their respective kinds for the class of work described in the contract specification and the materials should be obtained from source approved by the Engineer-in-charge.
6. The rates to be quoted by the tenderers are to be the full inclusive of value of the work described under the several items including all costs and expenses which may be required for the construction of the work described, together with all general risks, liabilities and obligations set forth or implied in the documents on which the tender is to be based.
7. When materials are supplied by the Company, the place of supply will usually be specified and no extra payment will be made for conveyance, leads, lift, loading, unloading or stacking unless such is expressly stated in the tender notice.  
If the place of supply is not so specified, the tenderer should obtain the information before tendering, otherwise absence of information in regard to place of supply will not entitle the contractor to extra payment.  
The rates will be deemed to include all T&P required for the purpose and all materials except those expressly mentioned in the schedule B, if to be supplied free of cost by the department.
8. General directions and descriptions of work and materials given in the specifications are not necessarily repeated in the probable items of works. Reference is to be made to the specification for this information.
9. The contractor shall work amicably and co-operate with the building, electrical and such other contractors working in the area and shall carry out his work without any disturbance to them.
10. The contractor shall also provide for necessary qualified technical staff, operators, labour, materials, scaffolding, shoring, tools and plant of every kind, quality and description whatsoever necessary for the speedy and efficient execution of the work.

**Signature of Tenderer**

**Bank Guarantee in Lieu of Earnest Money in Cash**

(To be executed on non judicial stamp paper  
worth Rs. 250/- with Re. 1/- Revenue Stamp)

Bank Guarantee No.-----

Dated: .....

THIS DEED OF GUARANTEE is made this..... day 20.....

by the (Bank) ..... Address).....

acting through its Manager Shri ..... (herein-after called the surety which expression shall, where the context so admits, include its permitted assigns) in favour of the M.P. Power Transmission Company Ltd., Jabalpur being the Company constituted under the Companies Act, 1956, head quarter at Block No.2, Shakti Bhawan, Rampur, Jabalpur (here-in-after-called the Creditor which expression shall include its permitted assigns).

WHEREAS, by a tender notice dated.....(Tender Specification No. CEC/Trans/.....) the creditor has issued Tenders for ..... and M/s./Shri .....being a company registered under the Companies Act, 1956 having its registered office at ..... Permanent address be given in case of individual), (here-in-after called the Debtor) have submitted the tender dtd ..... in accordance with the instructions to tenderers attached to the notice and agreed to furnish a bank guarantee in lieu of earnest money in cash in accordance with instructions thereof for the purpose specified in the said instructions.

**Signature of Surety**

**NOW THEREFORE THIS DEED WITNESSETH AS FOLLOWS:**

1. The surety hereby guarantees to the Creditor, the due performance and observance by the Debtor of the terms & conditions of tendering of the said Specification No.....This guarantee shall remain operative for..... years from .....and shall expire on ..... unless its operation is further extended by executing a supplementary deed for that purpose and the surety hereby agrees to extend the period of this guarantee as may be necessary for the discharge of the Debtor's obligation here under.
  
2. The surety shall not during the terms of this guarantee or any extension, thereof revoke the same in any manner what so ever.
  
3. The surety hereby agrees unequivocally and unconditionally to pay within 48 hours on demand made by the Creditor in that behalf and discharge the liabilities of the debtor under the said terms and conditions of the tendering of the said Specification No.....in case of any act, commission, negligence, default or breach whatsoever on the part of the Debtor and pay such sum, as may be payable by the Debtor to the Creditor under the said specification No.....to the extent of the surety's Guarantee viz. Rs. ....  
(Rs. .... ) only.
  
4. The decision of the Creditor that any sum has become payable by the Debtor under the said specification No..... shall be final and binding on the surety.

**Signature of Surety**

- 5. The surety shall bear stamp duty in respect of this instrument.
- 6. This DEED shall be deemed to have been entered into at Jabalpur and all disputes and claims, if any, out of or in respect of this contract are to be settled at Jabalpur or be triable only in any competent Court situated at Jabalpur.
- 7. Our liability under this guarantee is restricted to Rs. ....  
 (in words Rupees .....)  
 and shall remain inforce until.....unless a demand to enforce a claim is made under this guarantee by the M.P. Power Transmission Co. Ltd. to the Bank within six months from that date i.e. up to ....., the bank shall be relieved and discharged from all liabilities there under.

IN WITNESS WHEREOF

The surety has executed this deed in the presence of :

1. ....

.....

2. ....

.....

(On behalf of Surety)

Dated: .....

Signature of Surety

## Annexure

DATE : ...../...../.....

### BANK CERTIFICATE

This is to certify that M/s ..... having its registered office at ..... (full address) and Branch office at ..... (Full address) who have submitted their Bid to Madhya Pradesh Power Transmission Company Ltd. Jabalpur against their tender specification vide reference number Tender No. .... ( ..... ) and Tender No. .... (.....) is our customer for the past ..... years.

Their Financial transactions with our Bank have been satisfactory. They enjoy the following FUND BASED limits us against which the extend of utilization as on date is also indicated below:-

S. No.	Type of facility	Sanctioned limit as on date	Utilization as on date
1	Cash Credit		
2	Overdraft		
3	Working Capital Loan		
	Total:		

This is to certify that such loans, which has been sanctioned for the purpose other than working capital has not been considered above.

This letter is issued at the request of M/s .....

Name of Bank .....

Name of Authorized Signatory .....

Designation .....

Phone/Mob. No. ....

Address : .....

Seal of Bank .....



**BILL OF QUANTITY**

**NAME OF WORK : Waterproofing work in staff quarters of Testing colony at Nayagaon, Jabalpur**

**Tender Specification No. SE/EHT/constn/Cir/PS/civil/JBP/ 79 /2018**

SL NO	PARTICULARS OF ITEM	SOR No.	UNIT	Qty	90% of SOR rate	Amount
<b>PART-A SOR Items</b>						
1	Providing and fixing on wall face Unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. (i) Single socketed pipes--110 mm diameter (minimum wall thickness 2.2mm)	12.32.2	RM	140		
<b>PART-B Item Rate Item</b>						
1	Removirng and cleaning the surface such as dust, dirt and all loose particles from the surface of the roof/construction jionts, by scraping and sand blasting method. Then providing and applying midified polymer mortor, to make the surface good, free from local depression /undulations and to the level of the rain water pipes. Thereafter provind & laying a coat of solvent based bitumen primer @3 to 5 Square meter per litre, over the cleaned existing surface and laying 3 mm thick APP(Atactic Poly Propylene) membrance such as Torch Shield or Super Thermolay or equivalent , over the primed surface and same shall be fixed firmed with the help of gas burner i/c 100mm overlapping at the joints in all directions if required (No extra payment shall be made for over lapping ) , The joints shall be trated properly by heating and trawling to make the surface water tight. The tratment shall be provided on the existing rounding on vertical walls upto the required height i/c the lap end of the treatment shall be properly sealed as per the instructions/ directions of the Engineer-incharge.	Item rate	sqm	3807		
2	Painting with aluminium paint of approved brand and manufacturer to give an even shade two or more coats over APP membrance as per direction of Engineer-incharge	Item rate	sqm	3807		

**Note (i)** Item includes the cost of all materials , labours, T&P, Transportation etc. at site

(ii) **Guarantee period :-** The guarantee period shall be five(05) years from the completion date . If any leakage / Seepage observed at treated surface , it shall be attended by firm / contracotr at his own cost.

☎: -. (0761)- 2702274, 2702282

# M.P. POWER TRANSMISSION CO. LTD.



## SECTION-II TECHNICAL SPECIFICATION FOR GENERAL CIVIL WORKS

**TENDER SPECIFICATION NO.**  
SE/ EHT/ CONSTN / CIR / JBP / PS / CIVIL / 79 /2018

TENDER FOR

**Name of Work:- Water proofing work in Staff quarters of Testing Colony at  
Nayagaon, Jabalpur**

**“Tender Submitted with Conditions(s) will be summarily rejected”**

Tender issued to M/s/Shri. \_\_\_\_\_

On payment of Rs. : 1120/- (Rs. 1000/-+ GST Rs. 120/-) only vide  
Demand Draft /B.C.  
No. and date : \_\_\_\_\_

Name of Bank : \_\_\_\_\_

Due date of opening : \_\_\_\_\_

Issuing Authority-

SE(EHT-C) CIR  
MPPTCL  
JABALPUR

**Office of the  
SUPERINTENDING ENGINEER(EHT-C)**

MP Power Transmission Co.Ltd.Jabalpur

Address: Semi Permanent Block No.4, Near Tarang Auditorium, Rampur, Jabalpur 482008

e-mail:-seehtcjb@gmail.com

**NOTE:- Tender specification No., Name of work, Tender cost and amount  
of earnest money with other details shall be noted by the bidders himself**



# TECHNICAL SPECIFICATIONS

## 1. General

The item wise detailed Specifications are intended for the general description of items covered in the bill of quantities. The specifications are not however, intended to cover the minute's details and the work shall be executed according to the spirit of the specifications and the best prevailing PWD practice. Except where otherwise specified or authorized by the Engineer-in-charge in writing all work shall conform to the relevant clause of the latest editions or specifications in force in Maharashtra PWD namely Standard Specifications for Buildings and Communication department (with correction slip up to date). All materials shall conform to the relevant latest edition of Indian Standard Specifications issued by the Bureau of Indian Standards for building works, Code of Practice for plain and Reinforced concrete for General Building Construction (IS:456) are to be complied with. Where these specifications are at variance with the specifications laid down in the books stated above, the former will be applicable. As regards matters not covered by any of above specifications, the decision of the Engineer-in-charge shall be treated as final and shall be binding upon the contractor. The contractor is expected to get clarified any doubts about the specification etc., before tendering by discussions with the Superintending Engineer (EHT-C).

## 2. Clearing site and layout

Before the work is commenced, the area described and shown on plan shall be cleared by the contractor at his own cost of all obstructions, loose stones, materials, vegetation such as grass, shrubs, bushes and stumps of trees, roots etc., as directed. Bushes above 0.9m in height shall be considered as trees and shall not be cut down or be removed without instructions from the Engineer-in-charge. The product of the clearing shall be stacked in such places and in such manner as may be ordered by the Engineer-in-charge and the ground left in a perfectly clean condition. The useless materials obtained by the clearing should be removed from the area and disposed off as directed by the Engineer-in-charge. All holes or hollows whether originally existing or produced by digging up roots shall be carefully filled up with earth well rammed and leveled off as directed.

On completion of the works, the site around the building structures shall be cleared by the contractor at his own expense to the satisfaction of the Engineer-in-charge.

The layout of the buildings or structures shall then be done by the contractor at his own cost. The contractor shall be responsible for accuracy of the layout.

Rates quoted will be inclusive of all work made in this clause.

## 3. Protection of bench marks

It shall be the responsibility of the contractor to maintain and protect at his own cost the bench marks and plinth of all the buildings and structures given by the Engineer-in-charge, from the commencement of work till its completion and in case of damage caused to bench marks and other reference points, the contractor will have to make good all such damages to the satisfaction of Engineer-in-charge at no extra cost to the Company.

## 4. Final finish

The contractor will be responsible for soundness of construction as well as for a good final finish and every effort must therefore be made by the contractor to have entire work completed to a high standard of workmanship.

## 5. Earth work in excavation

(a) The excavations for several parts of the work shall be carried out to widths, lengths and depths as indicated in the drawings or as may be finalized during execution of the work or to such other dimensions as may be directed in writing by the Engineer-in-charge. The excavations shall be carried out

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to the levels required and bottom and sides dressed. Wherever directed by the Engineer-in-charge, a bottom layer of 150mm thickness shall be left undisturbed and subsequently removed only when concrete for permanent work is about to be put in.

(b) In respect of excavations wrongly carried out by the contractor to greater depths than ordered in writing, it is specified that the contractor shall have to make good these additional depths by depositing cement concrete 1:5:8 at his own cost.

(c) The contractor will be responsible to remove any slipped earth etc., and to provide all shoring that may be required and no extra amount will be payable to him on his account.

(d) The excavated materials shall be back filled wherever required, watered and thoroughly consolidated. The contractor shall have to make good all settlements of filling that may occur at the end of the maintenance period.

(e) All unused excavated soil shall be removed from the spots as directed and stacked in good size regular stacks upto 2m in height or spread in low area so as to bring the same to the required levels as per directions of the Engineer-in-charge. Black cotton soil, moorum, soft rock and soil shall be stacked separately and not mixed with each other.

(f) If different rates are payable for excavation in soft soil, hard soil, ordinary rock, hard rock etc., no work shall be done until the Engineer-in-charge has classified the particular portion of the soil in categories mentioned as above.

The rate for excavation shall include for shoring, strutting, Carriage of soils to leads and lifts as decided, banking and filling in layers, dressing both excavated and filled up areas.

## 5.1 Classification of soil

As regards the classification of soil, the Indian Standard Code of practice for methods of measurement of building works 1.5.1200 (latest edition) shall be followed. An extract from the above is reproduced below.

Excavation shall be classified under the following heads and measured separately for each class:-

(a) Ordinary soil comprising any of the following:-

- (i) Vegetation, organic soil, turf, sand, gravel, loam, clay, peat, soft shale or loose moorum.
- (ii) Any of soil in (a) (i) Mixture.
- (iii) Mud concrete below ground level and
- (iv) Generally any material which yields to an ordinary application of pick and shovel or phawra, rake or other ordinary digging implement and not affording resistance to digging greater than the hardest of any soil mentioned in (a) (i) to (a) (iii)

(b) Hard soil comprising any of the following:-

- (i) Black cotton soil, stiff heavy clay, hard shale or compact moorum requiring tools and/or pick and grafting shovel, closely applied.
- (ii) Shingle and river or nallah bed boulders.
- (iii) Soling or roads, paths etc. and hard core.
- (iv) Macadam surface of any description (Water bound, grouted tar make etc.)
- (v) Lime concrete, stone masonry in lime mortar and rock work in lime or cement mortar below ground level.
- (vi) Soft conglomerate, where the stones can be detached from the matrix with picks and shovels.

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- (vii) Generally any material which requires close application of picks or scarifiers to loosen and not offering resistance to digging greater than the hardest of any soil mentioned in (b)(i) to b(vi) above.
- (c) Ordinary rock comprising any of the following:-
- (i) Lime stone, sand, laterite, hard conglomerate or the soft or disintegrated rock which can be quarried or split with crowbars or wedges,
  - (ii) Unreinforced Portland cement concrete which can be broken up with the crowbars or picks and stone masonry in cement mortar below ground level.
- (d) Hard rock (requiring blasting) comprising any of the following:-
- (i) Any rock or Portland cement concrete for the excavation of which the use of mechanical plant or blasting is required.
  - (ii) Reinforced cement concrete (reinforcement through but not separated from the concrete) below ground level. Hard rock requiring blasting but prohibited for any reason and excavation has to be carried out by chiseling or any other agreed method.

## 6 . Filling in foundations and basement

Materials used for filling in or around the foundations shall, be to the approval of the Engineer-in charge, from the excavated soil to the extent possible and any material other than excavated soil for refilling shall be from a source approved by the Engineer-in-charge. Where the excavation consists of black cotton soil, the trench shall be refilled with sand or moorum as decided and ordered by the Engineer in-charge. The space around the foundation in trenches shall be cleared off all debris, brick or stone pieces etc. and filled with earth in layers not exceeding 15 Cm. in thickness, each layer being watered and thoroughly rammed. No filling shall be executed until the concrete footings, foundations etc have been inspected and approved by the Engineer-in-charge. While refilling with excavated soil no payment for lead will be made to the contractor in case the lead is already included in the item of excavation.

The plinth shall 40 Similarly filled with earth in 15 Cm.layer being watered and consolidated. When the filling reaches the finished level, the whole shall be flooded with water in order to avoid any settlement in a later stage.

The depth of filling shall be taken as the consolidated depth (and not the depth of loose earth). The contractor shall be responsible for making good all settlements of filling that may occur up to the end of the period of maintenance and make good all the damages done to the flooring etc. No extra payment will be made on this account.

## 7 . Cement concrete (Plain and Reinforced)

### 7.1 General

- (i) Types of cement concrete required for work in various situations, unless otherwise shown in drawing or unless otherwise specified in particular specifications or on bill of quantities shall be as follows-
- |     |  |        |
|-----|--|--------|
| (a) | Filling concrete below column footings, raft, plinth beam, P.C.C.  | 1:4:8. |
| (b) | Foundation Sub- base floors.   | 1:4:8. |
| (c) | Bed block sills, copings, lintels, roof, floors and all structural reinforced floors and all Structural reinforced concrete including pre cast work. | M-20   |
| (d) | Concrete in machine foundations and special situations.  | M-20   |

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(ii) Generally cement concrete (plain or reinforced) shall conform to the requirements of Indian Code of practice for plain and reinforced concrete for general building construction as issued by the Indian Standards Bureau in all respects specially strength, quality and proportion materials, workmanship, mixing, testing, form work, placing, fixing reinforcement etc. except in case of variance from these specifications where the later shall prevail.

(iii) The proportion of cement and aggregates for the various concrete mixes will generally as laid down in the special instruction or as per strength of concrete desired. The Engineer-in-charge reserves the right to direct the relative proportions of fine and coarse aggregate varied in order to obtain the densest mix possible with the aggregate for in the work. However the consumption of cement shall not be less than the quantity given in the Appendix A.

## **7.2 Cement**

Only cement as is supplied by the Board/Company from Boards/Company's stores shall be used unless otherwise specifically mentioned in Schedule-B for the work. Before accepting the issue of cement the contractor shall satisfy himself about the quality and point out any unsuitable quality to the Engineer in-charge after whose approval, the unsuitable cement may not be issued to him. On receipt of cement the contractor shall arrange for proper storage. If at the time of mixing the cement, it is found that the cement is unsuitable for the work in hand, the contractor shall remove the same within 24 hours from site on written orders of Engineer-in-charge failing which, it shall be removed departmentally at the contractor's expense.

## **7.3 Aggregate**

The coarse aggregate shall be of approved stone and shall be of maximum size as specified in the items of the bill of quantities. The size of sieves being selected such that the next size is double the preceding one. The sieves generally used are No.150-300-600 Microns 1.18-2.36-4.75-10mm — 12.50-16, 20-40mm.

20mm grade aggregate and for 40mm grade aggregate the actual grading should be as per instructions of the Engineer-in-charge. The aggregate (fine or coarse) from sources approved by the Engineer-in-charge in writing shall only be used IS: 383 (latest edition) should be followed.

## **7.4 Mixing concrete**

(i) The arrangement made for handling, gauging, transporting and mixing the concrete mix (also and adding the cement and water shall be to the approval of the Engineer-in-charge

(ii) The amount of coarse aggregate and sand in each batch shall be so arranged that one more full bags of cement are used per batch. Except in exceptional circumstances, a bag of cement shall not be divided.

(iii) Concrete shall be mixed as near as possible to the place of deposit in mechanically operated mixers of a type and capacity to the satisfaction of the Engineer-in-charge with mechanical control of water, and deposited as soon as possible after mixing. No concrete that has been mixed for over 20 minutes shall be used in the work. Mixing shall be done for at least 3 minutes after all the three materials including water are passed into the drum and before any portion of the batch is discharged. The method of mixing used shall be such as to produce a dense homogeneous concrete without excess of water. For small batches, hand-mixing may be done if permitted by the Engineer-in-charge. The mixing drum shall be washed out and cleaned on completion of work each day or on every stoppage of work if the stoppage is more than 20 minutes.

(iv) Only sufficient water shall be used in the mix as required to obtain thorough compaction and a satisfactory surface with means of consolidation available. In floor and roof slabs, particular care must be taken to keep the water content to an absolute minimum and to account must be taken to a wet mix which will tend to bring fines of laitance to the surface. Water for each batch shall be measured in a self-measuring tank fitted to the concrete mixer.

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The limits of proportions of water to cement should be determined during the preliminary tests and the mixing of concrete finally selected for the work shall be to the entire satisfaction of the Engineer in-charge. In suitable cases, the slump test may be used to estimate the consistency but the criterion of consistency of the concrete shall be such that the slump when tested in accordance with standard method shall be maintained wherever possible at 64mm. But the Engineer-in-charge may where exceptional conditions demand it permit a greater slump up to a maximum limit of 114mm.

## **7.5 Placing and compaction of concrete**

- (i) Before placing concrete the exposed faces of sub grade, form. work and reinforcements are to be thoroughly washed with water and wetted with thick cement slurry immediately before the concrete is placed. Placing of concrete shall not be commenced until the Engineer-in charge or his representative has inspected the shuttering, reinforcements, etc. against which the concrete is to be placed.
- (ii) Concrete must be placed in its final position as quickly as possible after mixing, before initial set has taken place.
- (iii) The concrete shall be placed in regular layers as approved by the Engineer-in-charge.
- (iv) The concrete shall be well tamped and pinned so that it is thoroughly worked into all corners and around all reinforcements and thoroughly consolidated by hand compaction or mechanical vibration as specified until the concrete assumes a jelly like constituent with water just appearing on the surface, care being taken during the foregoing operation not to disturb any shuttering, reinforcements, foundation bolts, pipe sleeves or bolt hole, pocket positions or disturb any fixtures embedded.
- (v) The method of handling concrete from mixer to the work shall be such that there is no risk of segregation of ingredients.
- (vi) The operation of deposition of concrete shall be continue so far as practicable until the section authorized by the Engineer-in-charge has been completed to the height or dimension shown or required.
- (vii) Concrete shall not be deposited for a height greater than 900 mm.
- (viii) During the placement of concrete, the top surface shall not be allowed to go dry. Where the surface of any concrete has become dry or set and further concrete is to be deposited thereon, the surface should be picked, wire brushed, watered and thoroughly grouted with a rich mortar before depositing new concrete.
- (ix) All concrete (plain or reinforced) directed to be compacted by mechanical vibration shall be compacted thoroughly by approved mechanical internal type vibrators. The vibrators may be electrically or pneumatically driven, but must have a frequency not less than 300 cycles per minutes and be of the internal type. All vibration shall be carried out under the direction of specialists or to a plan approved by the Engineer-in-charge. Care must be taken to avoid segregation due to excessive vibration. Homogeneous concrete should result from vibrating and the concrete should be free from interstices or pockets or combs.
- (x) Pointing and patching shall not be done unless the surface has been inspected by the Engineer-in-charge and the same have been specifically approved in writing as satisfactory and that the roughness or honey comb does not extend more than 10 mm inside the surface. In no case shall honey combed concrete be permitted, and if the Engineer-in-charge thinks that work has been badly or carelessly carried out affecting the design calculation or working stresses for the respective mixes, the same will be dismantled and reconstructed by the contractor at his own cost.

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## 7.6 Construction joint :

All construction or expansion joints in concrete shall be formed only at positions agreed by the Engineer-in-charge and shall be formed against well strutted shuttering to give plane faces with ample rebates. All such joints shall have continuous, square bonds and grooves to produce a water tight key and the exposed faces of joints are to be monolithic with main mass of concrete. The Contractor shall take all necessary steps by means of providing timber edgings and make an exact horizontal straight finish to out side edges of any lift to concrete. There shall be no vertical construction joints. The responsibility for making all the construction joints water tight shall rest with the contractor.

## 7.7 Curing of concrete

Concrete shall be protected from rapid drying and during the first ten days of hardening, the shuttering and the exposed faces of the concrete shall be kept constantly wet by the spraying of water or other means, to the approval and satisfaction of the Engineer-in-charge. The contractor shall make all arrangements for curing the concrete to the entire satisfaction of the Engineer-in-charge.

All curing must be done by covering the surface with hessian cloth or empty cement bags to the concrete surface and keeping it wet by spray of water intermittently. For horizontal surfaces pooling by 7.5 Cm high earth or mortar bunds should be resorted to. Walls will be wrapped with hessian as soon as practicable after concreting is completed and the hessian shall be kept saturated by means of a continuous pumped flow of water from perforated piping or other methods as approved. All must be done for at least 14 days.

## 7.8 Protection of work

No concrete shall be deposited in inclement weather particularly heavy rains or hot weather. Concrete shall be prevented from rapid drying or sludging.

The contractor shall deal with all water encountered during concrete operation so as to prevent it from damaging the surface or exerting pressures against the concrete, until at least 40 hours have elapsed after deposition. All ground water shall be drained before any concrete is deposited and under no circumstances shall concrete be placed in or through water.

## 7.9 Water proofing

Water proofing compound shall be used wherever specified or directed by the Engineer-in-charge. The contractor shall suggest the make of the water proofing compound he intends to use and also submit the pamphlet giving the maker's specifications and directions for the water proofing compound.

The contractor's attentions is however drawn to the requirements that the works shall be water tight and as such all precautions shall be taken to ensure a thorough and a close punning of the concrete.

On completion of curing, the structure when necessary is to be filled with water. The water is to be maintained at this level for a period of 7 days after which it may be emptied. Any part which shows signs of leakage are to be marked during the test and are to be traced to the inside face of the structure after emptying and sealed with Bitumen or other suitable approved material to the satisfaction of the Engineer-in-charge. The structure is then to be refilled with water which is to be maintained at this level for another 7 days and retested and retreated as above, if necessary, in case of leakages and the process repeated till the water level is maintained without any signs of leakage. The cost of all the above operations shall be deemed to be included in the rate for concrete work.

## 7.10 Test for crushing strength

The contractor shall be held responsible for ensuring that the crushing strength of concrete as placed shall not be less than the minimum specified strength for a particular mixes as per the Indian Standard Code of Practice.

Samples of concrete, when deposited, shall be taken at random from the portion deposited before start of initial set and test cubes there from shall be made in standard 152mm cubes. Should the crushing strength prove to be below the figures specified, the contractor shall make such change in

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preparation or in the method of mixing, laying concrete to the required strength without increase in price. In case the work is already executed such work shall be rejected and it shall then be redone by the contractor at his own expense.

### **7.11 Form work**

Form work shall consist of pre-fabricated timber or steel and or shall be used for all faces of concrete which need support. Details of form work shall be submitted to the Engineer-in-charge for approval before work is commenced. The shuttering shall be erected true to shape. The shuttering should be reasonably water tight and sufficiently strong and well braced to retain its shape and shall not be liable to distortion when the wet concrete is deposited, it shall given true lines to the edges and faces of concrete when shuttering is removed. The form work should be so prepared that the required surface finish is obtained.

The sheeting boards used for form work for vibrated concrete shall be placed and laid perfectly true with tongued and grooved joints to prevent the percolation of liquid from the concrete.

All timber surfaces which will come into contact with cement concrete shall be truly planed and painted with oil of approved quality.

The shuttering is to be designed, fabricated and erected in such a way as to permit lifts of not more than 1.5m in height unless otherwise specified by the Engineer-in-charge. The contractor shall be entirely responsible for the strength, design and fabrication of the form work. The striking of the form work should be done after obtaining written approval of the Engineer-in-charge in the manner suggested by him.

All shuttering or moulds with supporting false work, struts and staging etc. shall be of suitable quality either metal or of timber and of such substantial strength with ample strutting etc. as will ensure that the shuttering moulds remain rigid without any springing or distortion throughout the placing, ramming, compacting by vibration and setting of the concrete, and the design of the shuttering moulds shall be such as will get struck and removed for reuse without injury to the concrete.

All to the Engineer-in-charge's approval, no shuttering or mould fixing or supports etc. will be allowed to be incorporated in the finished concrete. In case the Engineer-in-charge directs to use some steel supports which may get embedded in concrete, the same shall be provided without any extra cost.

All joints, shuttering or moulds shall be in either horizontal or vertical planes and shall be free from shaving, dust dirt, mud or other debris all to the Engineer-in-charge's approval. Prior to concreting and after concreting, the exposed surfaces of the shuttering or mould shall be cleaned of all adhering concrete before depositing fresh concrete.

### **7.12 Rejection of concrete work**

The contractor on written permission of the Engineer-in-charge shall remove and reconstruct at his own cost any portion of work, which in the opinion of Engineer-in-charge gives evidence before or after removal of forms that the concrete was of inferior quality at the time of deposition or was partially segregated or was not sufficiently or was excessively vibrated or some reinforcement bars had been omitted, incorrectly placed, displaced, or which gives evidence of any fault, or injury from any cause whatsoever which in the opinion of Engineer-in-charge may prejudicially affect the strength or durability of construction.

Samples of concrete When being deposited shall be taken from time to time and standard test cubes after curing for the required period will be got tested for crushing strength in a standard approved laboratory by the Engineer-in-charge but at the Contractor's expenses. If the crushing strength prove to be below the strength specified in the Indian Standard Code of Practice, the contractor shall replace or rebuild the structure concerned at his own cost.

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### 7.13 Striking of form works

The contractor shall be responsible for any injury to the concrete work and for any damage caused by or arising from the removal or striking of forms and supports and any advice, permission or approval given by the Engineer-in-charge or any person whether their employee or not, related to the removal of form and supports shall not relieve the contractor of his responsibility defined below.

- (i) No shuttering shall be removed before the concrete has sufficiently set to withstand safely the stress to which the structure may then be subjected. The shuttering shall be removed carefully without causing any shock or vibration to the concrete.
- (ii) 48 hours in the case of vertical shuttering to mass concrete and stand heads. 4 days in the case of vertical faces of reinforced concrete walls, piers and beams.
- (iii) 10 days in the case of supports of reinforced concrete floor slabs, provided temporary props are fixed before decentering and maintained in position for a further period of 10 days. Where it is not desired to fix temporary props, the striking time must be at least 14 days.
- (iv) In no case, however, the striking of shuttering should be done without the approval of the Engineer-in-charge.
- (v) The timing given for striking of shuttering is provisional only. The contractor will be responsible for any injury to the concrete work whether reinforced or not and for any damage caused by or arising from, the removal and striking of shuttering and supports.
- (vi) The contractor shall be held responsible for and make good at his own cost all injury and damages arising from premature removal of the shuttering. A small portion of the shuttering shall first be exposed to ensure that the concrete has set sufficiently hard before the whole area of shuttering is removed.

No load shall be put or any weight, suspended from slabs for one month after casting. Temporary props, if considered necessary, shall be left in for the support of the underside of slabs, beams, etc. as long as is reasonably practicable after striking the shuttering. No shuttering or temporary props shall be removed without obtaining permission from the Engineer-in-charge.

### 8. Reinforcement

The bars for reinforcement shall be bent cold, correctly and accurately to the size and shape shown on detailed drawing or as directed by Engineer-in-charge.

As far as possible, bars of proper lengths shall be used but where this can not be done and overlapping has to be resorted to, a lap of 40 times diameters of bars shall be given with proper hooks at the ends and the two bars shall be bound with annealed steel or GI wire 16 to 18 SWG and twisted tight along with overlap as per standard practice. The overlap jointing shall be staggered.

All reinforcement shall be free from loose mill scale, rust, oil, grease, dirt, paint and other deleterious matter before placing the concrete. The bars crossing one another shall be bound at every intersection with annealed steel wire not thinner than 16 SWG and twisted tight to make the skeleton or the net work rigid so that the reinforcement is not displaced during deposition of concrete, Precast spacer blocks of 1:2 cement mortar about 40mm wide and necessary thickness shall be used to keep reinforcement bars on the forms and in proper position.

The mesh work shall be temporarily supported so as to retain its correct position in moulds during the process of depositing and consolidating concrete. The ends of all such wires shall be turned into body of concrete and not allowed to project towards the surface of concrete. The concrete distance blocks shall be used as directed between reinforcement and at bottom and sides of forms so as to ensure correct cover to the bars. Greatest care shall be taken to prevent displacement or bending of members before concrete pouring is started. In case where bars project they should be adequately protected against displacement or bending of members before concrete pouring is started. During concreting a competent steel placer shall be used to adjust to correct position of reinforcements that may get displaced.

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No concreting shall be started unless the Engineer-in-charge or his representative has checked the reinforcements and has recorded the Measurements in the measurement book.

Reinforcement shall be measured according to the weight of steel actually used, no allowances being made wastage. The rate shall be for Steel fixed in place and shall include all necessary binding and also all necessary Wiring to keep the Steel in position.

## 9 . Rubble Masonry

The stone used in Masonry shall be of approved quality and obtained from quarries approved in Writing by the Engineer-in-charge.

All the joints should be of even thickness so as to permit and even pointing (Struck, sunk or raised as the Case may be) required to be done. Hammer dressing or chisel dressing to the edge to make the joints uniform and even, shall be included in the rates and no extra rates will be paid for this. All the corners of walls shall be truly vertical The face Work shall be washed and cleaned on completion. Exposed faces of walls not intended to be plastered or pointed with: different type of mix of mortar or otherwise covered shall be unfinished with any of the type of pointing specified below as the work proceeds;

- (a) External faces unless otherwise specified with a neat struck joint or keyed joints.
- (b) Internal faces with a neat flush joint.

Faces intended to be Plastered or pointed with different mix of mortar raised or struck type pointing etc. shall have joint raked out to at least 10 mm depth and properly cleaned and wetted to receive the finish specified.

Pointing shall be done with cement mortar 1:4, or as directed by the Engineer-in-charge.

## 10 . Damp Proof course

The damp proof course shall be laid in cement concrete 1:2:4 with 20mm metal for 40 mm thick

proof course. The damp proof course shall be laid to the full width of the plinth masonry. The edges shall be straight, even and truly vertical. The superstructure masonry work shall not be commenced on the freshly laid damp proof course, unless the later has been flooded with water for at least 48 hours. A coat of bitumen mixed with sand or as specified in the bill of quantities should be given over the D.P.C. Using 10(ten) Kg. of bitumen for 10 sqm. of D.P.C.

## 11 . Brickwork

- (a) The whole of the brick work is to be built in English bond unless otherwise directed. No four brick course shall rise more than 25mm above the thickness of four brick course when laid dry. No bricks bats shall be used except where required as closures.
- (b) The bricks shall be thoroughly soaked in water before inclusion in work to reduce initial suction rate of water. The brick work must be kept continuously wet during the setting of mortar, after initial setting of mortar.
- (c) The bricks shall be thoroughly bedded on cement mortar in the first instance and vertical joint to be filled properly with cement mortar during each layer. The work will be done in the proper manner in the first instance only and no grouting shall be resorted to.
- (d) The brickwork must be laid true to line and level with horizontal courses and vertical courses etc.

Unless otherwise specified in the bill of quantities, brick work shall be built in cement mortar (1:6). The matrix immediately over the lintels in exterior wall only shall be in cement mortar 1:3. All half brickwork shall be built in cement Mortar 1:4. Where specified or directed by the Engineer-in-charge, 2 Nos. 6mm dia steel reinforcement bars may be provided to half brick walls.

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String courses, cornices and moulding shall not generally be provided unless as shown on the drawings or as directed by the Engineer-in-charge. The architectural features and treatment if required as per the drawings as may be finalized before actual execution of work shall have to be incorporated during construction and such items whether in large or small quantities and any shape and size, shall have to be provided by the contractor at the rates in relevant items of the bill of quantities. The contractor shall not be eligible to claim any extra on this account.

Brickwork will be measured as the net quantity as shown on the drawings or as specified and no allowance shall be made for cutting and wastage or increase of width due to highest thickness of joints. The thickness shall therefore, be measured as under irrespective of actual thickness of the brick;

1/2	brick thick	10 Cms
1	-do-	20 Cms
1 1/2	-do-	30 Cms
2	-do-	40 Cms and so on.

**NOTE:** - If the British size bricks are used, measurements will be restricted to Metric size bricks for payment.

## 1 2 . Plastering

The work shall be carried out as per the following specification: -

- (a) Joints of brick work and masonry shall be raked out 10 mm deep to form key for the cement plaster and concrete surfaces shall be thoroughly picked and roughened for the same purpose. The rates for plastering shall be inclusive of preparing the surface as above.
- (b) The surface shall be thoroughly wetted as directed before the plastering coat is laid.
- (c) The patches of plaster 15x15 Cm should be put 3m apart to correct plane and to the specified thickness.
- (d) Sand screened through 5mm sieve and is liable to retention of 25% (maximum of 3mm mesh sieve) shall only be used. The sand shall be thoroughly graded and free from silt, loam, vegetable and calcareous matter. The sand from sources approved by Engineer-in charge in writing shall only be used.
- (e) Cement and sand be mixed in proportion as specified then water shall be added to form an easily workable paste. In no case shall mortar which has been allowed to stand for more than half an hour after mixing be used.
- (f) The plaster shall then be laid in single coat to the line connecting 15 x 15Cm patch laid before hand and the surface shall be finished smooth with wooden floats.
- (g) In the case of internal wall, the piaster shall be left off in a straight line 23 Cm above the level. This portion together with portion of the floor near the wall should be plastered, the junction being curved to a radius of 40mm. For measurement, all openings shall be deducted for each plaster face and return and soffits shall be added. Measurements for lintel bottom jambs and sills shall be added.
- (h) All plaster shall be to the specified thickness only. For any increases in plaster thickness due to irregularities in work face, contractor will not be entitled for any extra payment.
- (i) Proper precaution shall be taken to see that the work is cured for at least 14 days.
- (j) The contractor shall take every precaution right from the commencement of plaster work to prevent any crazing as that may appear on the surface of the plaster and shall be responsible to make good any portion of the work which in the opinion of the Engineer-in-charge requires removal and redoing. All internal surface which are specified or directed to be plastered in two coats, shall be plastered as under.

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(i) The base coat shall be of cement mortar of proportion and thickness as specified in the bill of quantities and shall be applied to masonry and concrete surfaces in which all bricks joints have been thoroughly rough ended to form a key for the rendering. The surface of the masonry work and concrete shall be thoroughly wetted before the application of the rendering.

(ii) The surface of the first coat rendering shall be roughly scratched to a minimum depth of 3mm thus forming a key for the lime punning. Lime punning shall not be carried out until after the base coat has thoroughly set.

### **1 3 . Lime Punning or Lime Neeru Finish**

The lime punning shall consist of :-

- (a) 3 Part of Lime (ground pure)
- (b) 1 Part of approved shell lime.

The materials are to be properly tempered with water and screened through linen cloth. The materials shall then be allowed to be settled in a pit so that extra water is absorbed. Care being taken to cover the pit with gunny bags or other suitable materials when the material is of sufficient consistency so as to be able to be applied with trowels. The punning shall be laid in not more than 3 mm thick and rubbed to obtain a uniform finish. The surface shall then be cured excessively by continuous watering to avoid cracks being developed during setting.

Very fine sand may be added in punning in suitable proportions if so approved at site by the Engineer-in-charge.

### **1 4 . Precast Concrete work**

The work shall be carried out as per relevant item for cement concrete. All precast work be done on level platforms and cured by immersing in the tanks for 21 days. The pre cast articles shall be carefully handled so as not to develop cracks or get damaged. All the exposed faces of precast slab etc. shall be rendered with a finishing coat of neat cement floated smooth and cured. The casting shall be of shape as ordered by the Engineer-in-charge without any extra charge.

Precast RCC sills, coping and lintels 1.5m span and under may be cast in situ or precast to sizes and shapes with necessary weathering, chamfered, angles and covering etc. as shown in the drawings. Jallies shall be of approved pattern and cast in pieces of exact dimensions as required.

Unless otherwise specified, all precast articles shall be set in cement mortar 1:3 and the joint finished neatly to match with the precast work.

The rate for precast work shall be inclusive of fixing it in position.

### **1 5 . Wood work Wrought and put up in Roof Door/Windows Frames**

The timber used for wood work shall be first class Madhya Pradesh teak or sal or bija as specified. The timber shall be of good quality, well seasoned, free from decay and dead knots etc. The seasoning of timber shall be judged from the moisture content for various purposes. All the timber is to be approved by the Engineer-in-charge, and any timber rejected by him shall be removed at once from site of work. The rates for wrought timber include cartage to and delivery at the site of the work, the fair rendering off all surfaces, chamfering of angle etc.

The rate for timber wrought framed and fixed includes all sawing, planning jointing, framing, labour and materials for raising and fixing and also the nail, spikes, screws etc. necessary for the framing and fixing.

All work shall be paid for net measurements, no allowance being made for wastage, but the length of each piece shall be taken overall so as to include projections for tongues or scrafts. In case of planned surface, an allowance shall be made for planning up to 2mm on each face.

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In case of roof trusses, a full sized truss shall first be lined out on the ground on a level platform. From this full size diagram, templates of tenons, mortices and srafts etc. shall be made for use in the manufacture of trusses. All timber coming into contact or embedded in masonry or concrete shall be well painted with two coats of boiled coal tar or solignum as specified, the cost of which is deemed to be included in the rates quoted. This shall not be paid for separately.

## **1 6 . Joinery**

All the joinery work involved in doors and windows frames shall be wrought and finished according to the detailed drawings made available during execution of the work and direction given at that time and strictly as per the corresponding items in the bill of quantities or in accordance with the instructions of the Engineer-in-charge in the absence of minor details in the drawings or descriptions. The allowance of 1.5mm only shall be allowed in wrought thickness for planning on both faces except in the case of panels for panelled joinery which shall be of the thickness shown in the drawings. Salwood shall not be permissible in joinery work. Work is to be framed as soon as possible after receipt of the detailed information and should then be stored so that air can circulate freely around it. No work shall be glued or wedged up to unit required for use. All external work is to be put together in lead paint and finished. Framings are to be properly measured as described. All doors and framing up to 5 Cm thick in hardwood to doors are to be single tenoned and tongued and all lock rails to doors are to be double tenoned, Any joinery work which may split, fracture, shrink, part in joints or show flaw or other defects or unsoundness or bad workmanship shall be removed and replaced with new materials.

The use of nails in joinery is prohibited.

For panel, joinery up to 225mm width shall be of one piece, panels exceeding 225mm width may be in two pieces with a central tongued and grooved joint.

## **1 7 . Doors and Windows**

### **17.1 General**

(i) Work shall be carried out in accordance with standard drawings or such modification there of as are issued from time to time. The directions of the Engineer-in-charge shall be final in this matter. Doors and windows will be provided with single or double flap shutters as specified.

(ii) Sills may be omitted, if so ordered in writing by the Engineer-in-charge.

The lower ends of the vertical frames shall be buried in the floor to the extent of 40mm when the sills are omitted. In other cases, the sill itself shall be buried in the floor to the same extent.

The height in case of doors without sills shall be measured from the top of the floor to the top of the frame. When however wooden sills are provided, the height shall be measured from the bottom of sill to the top of the frame.

The sizes of doors and windows given in the drawings shall be overall size including the frames. The section of the frames shall be as shown on the drawings. Unless otherwise specified, heavy iron fittings shall be used samples should be got approved from the Engineer-in-charge. The rates for the doors or windows or ventilators shall include the cost of the frame fixing in wall, iron hold fasts, hinges, stoppers, all fixtures and fastenings and French polishing or painting as specified. Where fixtures fastening and shutters are supplied free of cost to the contractor, the rate shall be exclusive of the cost thereof, but inclusive of fixing.

### **17.2 Flush Doors**

When flush doors are specified to be used as shutters for doors, they shall be of Sitapur or other equivalent quality as per the samples approved by the Engineer-in-charge. The flush door shall be of minimum thickness of 40mm or as specified and have the required finish such as varnishing, beading etc. All fittings like hinges, handles, locks etc. should be of heavy type and of approved quality. The flush doors

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should be well sand papered and then neatly painted with 3 coats of approved paint including the finishing coat. Flush doors with teak faced veneered, should be finished with a coat of transparent Luxol or Duro glazed paint so as not to cover the veneer.

### 17.3 Fly proof doors

Where fly proof gauge shutters have to be provided in the same frames in addition to the usual shutters, the thickness of the frames shall be increased by the specified thickness of the fly proof Shutters.

The wire gauge shall be bent at right angles in the rebate of styles and sills turned back and fixed with beading. The wire gauge shall be of 12 meshes per linear inch made of 24 imperial S.W,G.wire. The Helical spring hinges of approved make shall be provided for fly proof shutters.

### 17.4 Factory made panelled door shutters

The construction of factory made panelled door shutter shall conform to 16,1003 (Part-I) (latest revision).

#### (i) Stiles and Rails:

Shutters shall be made of kiln seasoned and chemically press-Lire treated second class hardwood stiles and rails. Width of stiles and top rails shall be 100mm whereas the width of lock and bottom rails shall be 200mm. Thickness of stiles and rails shall be as-follows:

- (a) For Interior doors - 30mm
- (b) For exterior doors - 40mm.

#### (ii) Panel Inserts:

Panels shall be boiling water proof(BWP)grade phenol formaldehyde synthetic resin bonded Plywood both Side, commercial veneered, conforming to IS 3097 (latest revision). Thickness of panels Shaft be as follows:-

- (a) For interior (i.e. for 30 mm stiles/rails) - 9mm
- (b) For exterior doors (i.e. for 40mm stiles/rails) - 12mm

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### 17.5 Windows with iron bar

All windows specified with iron bars shall be provided with 113111M diameter round iron bars or as detailed in the drawing. The bars shall be passed through a central rail Of flat iron 5 x 19 mm Or through transem bar as detailed in the drawing and fixed vertically or horizontally as directed into the frame with their ends properly riveted. Iron bars shall be paid for separately as per the weight of steel actually used, no allowance being made for wastage and shall be inclusive of fitting in position, punching or drilling holes in flat iron or central rails and riveting the ends.

### 17.6 Steel sashes

The steel sashes shall be fixed in position in brick work with necessary lugs and fittings provided. The fixing shall be done in accordance with the supplier's instruction. The rate shall be inclusive of glazing with cement mastic and putty of approved quality etc. The sashes only will be supplied to the contractor free of cost at the Company's site stores, if so provided for in the bill of quantities.

### 18 . Lintels

All lintels shall be of reinforced cement concrete 1:2:4 constructed in situ or precast and fitted and placed in position. The bearing at each end of the supporting walls shall not be less than 15 Cm.

Lintels when precast shall be marked clearly to indicate the position of the reinforcement.

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## 19 . Window Sill

Windows shall be provided with precast cement concrete or cast in situ cement concrete slabs as directed to approved thickness or as shown in the drawing. The front face of the sill will project 30 to 50 mm beyond the face of the wall and shall be throated. The sill will be chamfered on the exposed edge.

## 20 . Flooring

Unless otherwise specified, the flooring shall consist of 40mm thick cement concrete 1:2:4(with 20mm graded metal) as wearing surface, laid over a layer of thick cement concrete 1:4:8 or lime concrete.

The bed on which the floor paving is to be laid should be properly prepared. The sub-grade shall be cleaned of all dirt and other foreign matter. The slope desired in the floors shall be provided in the Sub-grade. The ground should be well consolidated before and after laying the Sub-grade so that no settlement whatsoever takes place at a later stage.

The bed of concrete should be thoroughly rammed. The sub grade shall be thoroughly wetted with water before laying the floor. Paving shall be laid on panels of uniform size in squares or rectangles not exceeding 2.5 Sqm. in area but no side shall be longer than 2m. The work shall be carried out in alternate panels in the first instance so that the two panels have one corner point common. At least 4 days shall elapse before commencing the concreting of intermediate bays. The top surface should be finished to a smooth and hard surface using extra cement.

While being placed, the concrete shall be vigorously sliced and spaded with suitable tools to prevent formation of voids or honey comb pockets. The concrete shall be brought to specified levels by means of a heavy straight edge, resting on the side from and drawn with a swing motion, in combination with a series of lifts and drops alternating with small lateral shifts. While concreting the remaining alternate bays, care shall be taken to ensure that the edge of previously laid bays are not broken by careless or hard tamping. Immediately after laying the concrete, surface shall be inspected for high or low spots and any needed correction made up by adding or removing concrete.

The surface shall then be finished as ordered and cured.

The junctions of floors and walls, floor and dado or skirting shall be rounded off as directed without any extra payment.

Any inequalities in the bed of the floor shall have to be made good by the Contractor at his own cost by providing the concrete required, to provide a truly plane surface. Payment will be made only for thickness specified.

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## 21 . Polished Coloured Concrete Floors

The surface of ordinary cement concrete floor when ordered to be coloured shall be finished with a thin topping consisting of one part of Portland cement to two parts of sand coloured with the addition of approved mineral pigment of required colour thoroughly mixed with cement when dry. The quantity of pigment shall be such so as to produce the required shade but in no case it will exceed one third part of cement. The coloured top layer shall be laid immediately after laying the concrete.

Cutting and polishing may be done by hand or machine. In hand cutting and polishing, the first cut shall be made with coarse carborundum stone (60 grade) or approved hard stone, coarse sand and plenty of water after the coloured surfacing layer has been drowned for not less than 36 hours. After the first cut the surface shall be thoroughly washed to remove all grinding mud and covered with a grout of cement and colouring matter, in original proportions, in order to fill the pin holes that appear after cuttings.

The final cut or polish shall be carried out after an interval of 10 days with polishing stones or carborundum stone of FF (fines) grade.

After the final cut, oxalic acid shall be dusted over the surface (3.2 Kg. per 100 Sqm) sprinkled with water and rubbed hard with numdah blocks. The following day, the floor shall be wiped with a moist rag and

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dried with a soft cloth. A hot mixture of turpentine and bees wax (4:1 weight) shall then be applied to the surface and rubbed with clean cotton waste. The rubbing must be continued until the floor ceases to be sticky.

In cutting and polishing by machine, the procedure is the same except that special rapid butting grit blocks fixed in the machine replace the hard polishing stones in the hand process.

## **2 2 . Mosaic Tile Flooring**

The pattern and tint of the tiles shall be approved by the Engineer-in-charge. The tiles shall be true in shape and free from cracks. The tiles shall be carefully set perfectly true in Surkhi Lime Mortar (3:1) with a mixture of cement at the rate of 1.2 bags per 10 Sqm. The joints shall be uniform and as thin as possible. They shall run in straight lines. The tiles floor shall be well polished by hand or machine.

## **2 3 . Stone Slab Flooring**

Stone slabs for flooring, paving trends and risers or steps etc. shall be of selected quality hard, sound, dense and homogeneous in texture, free from cracks, decay, weathering and flaws. They shall be of the finish and colour as approved by the Engineer-in-charge. The intent is to use local stone, Kotah Stone, Jaisalmer Marble and Dhoulpur stone individually and or in combination.

For polished stone flooring, the slabs shall have top (exposed) face machine polished before being brought to site. Edges of stone shall be fine chisel dressed on all sides to a minimum depth of 15mm and table rubbed to a smooth finish so that straight edge laid along the side of the stone shall be fully in contact with it. The edges of stone slab for stair treads, risers and steps shall be machine cut of full depth. The slabs shall conform to the sizes called for in the drawings. All angles and edges of the slabs be true square and free from chippings and the surface shall be true and plane. The thickness of the stone slab shall be 20mm to 25mm for flooring work. For stair treads, the thickness of stone slab shall be 25 mm thick uniformly. The stone slab for steps shall be 40mm thick uniformly. Before starting the work, Contractor shall get samples of slabs approved by the Engineer-in-charge.

## **2 4 . Ceramic Tile Flooring**

Flooring to toilets and other areas where called for shall be of nonslip ceramic tiles of Kajaria, Orient, Nitco, Johnson, Somani or other equivalent make as approved by the Engineer-in-charge. The tiles shall be of approved colour, size and shape and shall be laid to the pattern approved by the Engineer-in-charge.

The tiles shall be of uniform colour, true to size and shape and free from cracks, twists, uneven edges, crazing and other defects. The tiles shall be laid over a bed of 20mm thick cement mortar 1:4(1Cement:4 coarse sand) and levelled to a true surface. The surface of the bedding mortar shall be left rough to provide bond for the tiles. A floating coat of thick cement slurry shall be laid over the screed to proper levels and the non slip ceramic tiles set over the same firmly to correct line and levels. The joints shall be filled and finished neat with cement paste pigmented to the shade of the tile. The joints shall be finished neat as directed and shall be straight, regular and uniform. On completion the surface shall be washed with water, rubbed with fine saw dust and left clean. The finished floor surface shall be true to required levels.

## **2 5 . Weathering and Water Proofing Course**

Weathering course over all RCC roof slabs shall be as follows:-

Lime concrete terracing to roofs shall consist of lime concrete of average thickness 75mm laid all over the RCC roof slabs and shall be composed of:

- (i) 1 Part approved lime.
- (ii) 1 Part approved Surkhi.
- (III) 3 1/2 Part brick Koba.

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(iii)

and appropriate quantities of methi and molasses as solution and lime water added. The terracing is to be placed, rammed and trimmed and beaten for a minimum period of seven (7) full working days during which it shall be kept wet and thereafter kept wet for a period of not less than 28 days. During beating, the surface shall be periodically and liberally sprinkled with a mixture of 3Kg. of bail fruit and 100 liters of water. The mortar which has been brought to the Surface by beating shall be smoothed and Worked, to et fine finish with steel trowels. No plastering shall be done. The whole work shall be completed in the approved manner for first class work to the satisfaction of the Engineer-in-charge.

A curve of 10 Cm. radiuses shall be formed at the junctions of the lime concrete terracing with the walls at a minimum height of 5 Cm above the surface of the terracing.

The top edge of the lime concrete shall be protected by brick concrete over sailing course. The over sailing course shall be weathered with cement filled and properly throated below so that water dropping there from shall drop clear of the cover to the area of the roof terracing.

A layer of water proof paper or asphalt shall be laid over the lime concrete terracing over which shall be laid the finishing layer of 40mm thick cement concrete of 1:2:4 mix with 12mm graded aggregate divided in panels of 1 x 1 m and joint filled with asphalt. The rates shall include laying and supplying of necessary Materials.

## 26 . Painting

All wood, iron work, steel work described as to be painted shall be given one coat of approved primer and two coats of the best quality ready mixed oil paint of approved make. The brand of paint and manufacturer shall be approved by the Engineer-in-charge, if the paint is not Supplied by the Department. Mixing of paints by Contractor at site is not permitted.

Generally iron and steel work etc. would have received its primary shop coat before being delivered to the site.

Generally all surfaces must be thoroughly cleaned before application of the paint and care must be taken to ensure this. No paint work shall be carried out in condition of dust.

When more than one coat is specified, each coat may vary slightly in shade and shall be passed by the Engineer-in-charge before the outer most coat is applied.

Each coat must be thoroughly dry before application of the next additional coat. All surfaces shall be adequately prepared before application of each coat, the surface shall be rubbed down with an abrasive material appropriate to the Surface under treatment.

Brushes of best quality, suitable size and approved manufacturer shall be used for the work.

Brushes shall be thoroughly cleaned before being used for a different type or class of materials. The use of cloth dipped in paints in lieu of the brushes is prohibited.

Particular care shall be taken to get at places such as difficult joints, tops and bottoms of door and window § leaves etc. are not left out in painting.

Primer with a Mixture of 3 parts of raw linseed oil and one part of boiled linseed oil per 10 Sqm. of superficial surface.

Alternatively, if ordered, apply a coat of approved primer as per maker's instructions.

Apply one more coat of under coating followed by a finishing coat, high gloss or matt finish as ordered.

First class workmanship is required in all paint work, which must be carried out to the approval and satisfaction of the Engineer-in-charge.

No painting on exterior or other exposed part of the work shall be carried out during inclement weather and surface shall be thoroughly dry before painting is proceeded with at all stages or processes of the work.

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**(a) Wood Work:-** All wood work must be dry and free from any foreign materials incidental to building operations. All loose knots shall be removed from and holes filled with well fitted new sound timber set in red or white lead paint and securely pinned. All projecting knots shall be gauged well below the surface.

The surface shall be sand papered smooth along the line of the grains and dusted clean. All knots shall receive two thin coats of knotting well brushed in. Teak to be painted in a light shade shall be given one coat of knotting to prevent the teak holes from bleeding and staining the paint.

The surface shall then be given a coat of priming and allowed to dry. Unless otherwise directed, the priming coat shall be applied before the wood work is fixed in position. All holes, cracks, crevices etc. shall be stopped carefully to a true level surface with putty.

**NOTE:** Stopping with putty will be done after the application of the priming coat.

The surface thus prepared and primed shall be treated with one or more coats of under coating followed by one coat of finishing paint as specified.

**(b) Plaster, Concrete, Brick, Stone and Asbestos Cement sheets.**

The surface to be painted should be allowed to dry for at least three months, preferably longer if possible, Dryness of surface is essential to guard against trapped moisture brushing out through the paint and running it.

Preparation of new unpainted surface shall be carried out as under:

Clean the surface of all loose of foreign materials incidental to building operations, scrap off lime wash coating if any, sand paper lightly and dust with a cloth. Stop nail holes, etc. and repair defect, if any, with new material similar in composition to that of the main surface.

Neutralize any free alkali in the surface by treating with a dilute solution of Hydrochloric or sulphuric acid 1 part of acid to 50 parts of water and wash down with clean water. Allow the surface to dry.

## 27 . Varnishing

Clean the surface of all foreign matter, rub down with fine sand paper, dust off, stop holes, cornices, etc. with putty and thin clean glue applied hot. When dry, rub down smooth with sand paper.

Stain to the required tint, if ordered.

Apply one coat of undercoating of finishing varnish, allow it to harden and flat down lightly with fine sand paper.

Apply second coat of under coating, if ordered and flat down.

The finishing varnish shall be applied just as it comes from the cane taking care to brush it out evenly and avoiding laying it not too thickly, lay off in long clean weeps of the brush without going over the work too often, trim edges to prevent runs and blobs, use clean and well worn brushes. The work should be free from loose hair and brush marks.

## 28 . Interior Finishing

The interior of the rooms shall be finished off with white or colour wash of approved shade or with oil bound washable distemper or plastic emulsion paint of approved shade and manufacturer as specified. The surface, required to be treated with plastic emulsion paint or oil bound washable distemper, shall be thoroughly dried and cleaned and given one coat of size, thereafter, two coats of plastic emulsion paint or oil bound washable distemper of brand and shade approved by the Engineer-in-charge. Such emulsion paint or distemper shall be mixed and work carried out in accordance with the manufacturer's specifications and as per instructions of the Engineer-in-charge. The work shall be finished to first class workmanship and to the entire satisfaction of Engineer-in-charge. Surface to be finished with plastic emulsion paint or oil bound distemper or cement based paint like snowcem, must not be white washed.

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**2 9 . White Washing**

The surfaces described to be white washed shall be thoroughly dried and cleaned and given one coat of size thereafter two coats of lime wash.

The white wash shall be prepared in accordance with the best practice and shall consist of ground lime shell whiting and gum mixed with water in proportions. The coat shall be applied in alternate directions and the work completed shall be uniform and free from brush marks and other blemishes etc.

**3 0 . Colour Washing**

Generally the specification for colour washing is the same as for white washing, but pigment of approved tint should be added to the mixture.

**3 1 . French Polishing**

French polish shall be composed of shellac dissolved in methylated spirit of required consistency. Wood surfaces which are described or specified to be French polished shall first be cleaned, rubbed down smooth with sand paper, dusted off and stopped and treated with linseed oil which shall be thoroughly wiped off.

The polish shall then be applied to the surface with beading covered by a clean linen rag well wetted with, polish rubbed hard on the wood, uniformly and completely covering the surface with the polish. The surface, after drying, is then to be rubbed smooth with fine glass paper and the above process repeated alternately.

The surface shall be finished to high gloss and to be approved by the Engineer-in-charge.

**3 2 . Glazing**

All glass shall be of good quality, free from spots, bubbles, smoke wanes, air holes and other defects. In cutting glass, proper allowance shall be made for expansion, unless ordered otherwise (e.g. to be fixed with wood beads), the glass shall be well beaded in oil putty, sprung firmly back puttied, and finished to neat chamfer, rebate whether in new or old work shall be painted one coat before glazing or moistened with raw linseed oil, if the joinery is not to be boiled.

Each pane of glass shall be square, jointing is not allowed. Broken or damaged glass shall be replaced. No glazing be considered complete until all satins have been removed from the surface of glass.

Sheet glass shall be plain, clear and weigh not less than the weights per sq mt. specified. For door and windows shutters, 20 to 24 oz. size sheet glass shall be used.

Plain glass be transparent, translucent or wired as ordered. The transparent type shall have polished surface, the vision obtained being clear and undistorted.

A tolerance of 0.55 to 0.80 mm shall be admissible on the nominal thickness of polished plate.

For glazing in metal sashes, putty be Gold size putty (1 1/2) pints of Gold size per 100 lbs. or linseed oil putty or patent mastic as ordered.

The rate for putty glazing to wood sashes etc. shall include painting rebates, springing beading with back and front puttying etc. with oil putty or as specified, fixing beads and include panel pins.

The rates for glazing in metal sashes shall include painting rebates, Gold size putty or pattern glazing mastic and for fixing the glazing pins (supplied with the sashes) or in the case of metal sashes with loose beads (wood or metal) for taking of beads, beading glass and refixing beads with set screws provided.

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### 3 3 . Rain Water Pipe

All rain water pipes, gutters, offsets, shoes, bends, tees and rain water bends etc. shall be of either cast iron (in accordance with relevant I.S. Specifications) or Asbestos Cement (Everest Brand or its equivalent conforming to relevant IS Specifications) as specified by the Engineer-in-charge.

All the brackets for rain water pipes are to be soft metal strictly corresponding with the shape of the gutter. The screw on the faces should be used wherever possible.

Suitable clips shall be used for pipes without ears and these shall be either plain or ornamental as the moulding of the pipes may require.

Rain water pipe shall be of sufficient capacity for their duty. and shall be of heavy type. The contractor shall be required to submit samples and get the approval of the Engineer-in-charge.

The rate shall include for providing and fixing. T.W. gutkas, fixing flat iron clamps bent to suitable shape etc. filling the joints with cement mortar 1:3 curving etc. complete including all works incidental thereto.

### 3 4 . Roofing with Mangalore Tiles

The tiles shall be 1st class well burnt, and of standard size, hard and uniform in texture, sound throughout and free from blisters etc. and shall weigh not less than 2.5Kg. when dry. The tiles shall not absorb More than 15% of its own weight when immersed in water for 24 hours. The tiles shall be commercial or equivalent Make. The gauge of tiles shall be 310mm center to center of battens.

Roof ridge and hip tiles shall be Mangalore pattern (first quality) as per sample approved by the Engineer-in-charge. The last two rows of tiles at eaves shall be tied by GI Wire to the wooden battens. Ridge and hip tiles shall be bedded in lime Mortar (1:3) & pointed with the same mortar coloured to match the tiles.

### 3 5 . A.C. Sheet Roofing

Asbestos sheets shall be Trafford or Big-six size. Everest quality manufactured by M/s.Asbestos Cement Limited Bombay or other equivalent approved manufacturer and conforming to relevant I.S. Specifications.

A.C. ridge shall be 2 piece suitably separated adjustable ridges manufactured by M/s.Asbestos Cement Limited, Bombay or equivalent approved manufacturer and conforming to relevant I.S. Specifications.

The roofing work with asbestos sheets shall be done in accordance with the manufactures instructions with 8mm diameter galvanised hook or crack bolts to purlins and with coach screw to wall paints. The selection and the cutting of the sheets shall be done as per the instruction of the Engineer-In-charge to reduce wastage to a minimum. The bitumen washer and cup washers used shall be obtained from the manufactures of the A.C. sheets and shall not be of ordinary commercial quality.

Cement mortar (1:4) fillets or benching 75mm x 75mm shall be provided where the lower roof abate against the wall and where vent pipes emerge through the roof wall as shown on the drawings.

When required 30mm x 6mm flat iron wind ties shall be fixed at the end laps and eaves end of the sheets. The fixing shall be done with the same hooks which secure the sheets and the purlins. The measurement shall be taken for the finished work, the laps between sheets shall not be measured. The lap of the sheet under the ridge pieces shall also not be measured for the purpose of payment.

### 3 6 . Asbestos Sheet Ceiling

The asbestos sheets shall be of approved manufacture. The A.C. sheets shall not be less than 3/16" (5mm) thick.

The sheeting shall be laid truly parallel or perpendicular to the wall and shall be fixed to the battens with 44mm iron screw. All ceiling shall be neat and clean. The sheets shall not be forced up against one another.

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The joints in the ceiling shall be covered by teak wood beading 25mm x 12mm thick fixed to the ceiling joints with 55mm screws on the under side of the sheeting's.

The overlap of the beading be equal on each of the two adjoining sheets. The beading shall be mitred at junctions. The spacing of screws shall not exceed 150mm.

### **3 7 . Valley Gutters**

Valley gutters of 13 to 22 gauge plain galvanized iron sheet bent to shape as shown on the drawings shall be provided. They should have 225mm long welded overlaps, welding shall be bronze welding with silicon bronze rods silvered copper flux.

### **3 8 . Hand Railing**

Hand railing shall be of teak wood or GI pipe or as specified in the drawing and shall be manufactured strictly as per specifications and drawings issued.

### **3 9 . Fencing with R.C.C. Post**

All posts and struts shall be of standard design. The posts shall be RCC 1:2:4 (with 6mm metal) reinforced with 6mm diameter MS bars, as per standard drawings and neatly finished, the spacing of posts shall be 2.0m centre to centre or near about to suit the dimension of the area to be fenced. Even 10th and corner posts shall be strutted on both sides. GI barbed wire or woven wire as specified of approved quality shall be fixed to posts by 16 SWG wire.

### **4 0 . Fire place And Chimneys**

The fire places and chimneys in kitchen shall be as per dimensions shown on standard drawings. They shall be built in brick work in cement mortar 1:6 and inside being plastered smooth with work in cement mortar 1:3 and sharp corners inside rounded off as they are built. The chimney shaft finally by capped with 65 mm thick RCC slab projecting on all sides beyond the outside faces of chimney shaft by 225mm. The sides of the shaft shall be provided with suitable number of opening just under the capping slab for proper escape of smoke.

Where so specified, A.C.flue pipes with cowls shall be provided instead of chimney shaft as directed by the Engineer-in-charge.

### **4 1 . Pointing to masonry**

Where indicated on drawings, exposed faces shall be pointed in cement mortar 1:4 to the type specified. Surfaces to be pointed shall be prepared and wetted thoroughly before pointing is done.

Pointed faces shall be kept wet for at least 5 days for lime pointing and 10 days for cement pointing. Some of common types of pointing are given below.

#### **41.1 Flush pointing**

- (a) Shall be flush with the face of the wall and to the width of the joint neatly cut on both edges.
- (b) Struck pointing or weather struck pointing the tip, the top of horizontal joints shall be mostly pressed back about 3mm with the pointing tool so that the joint is sloping from top to bottom and shall be pressed back to form a semi-circular or V groove of the same width as the horizontal joint.
- (c) Keyed pointing shall be carried out by first finishing the joints as for flush pointing and the ruling off the horizontal and vertical joints with a round edged tool to form narrow semi circular grooves in proper alignment.

External pointing shall be taken to at least 150mm below the ground level.

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#### 4 2 . **Heavy Duty Floors**

Heavy duty floors for workshops, power station etc, shall consist of cement concrete (1:2:4) laid to thickness as specified over a sub-grade of 1:4:8 cement concrete of specified thickness as directed by the Engineer-in-charge. The floor shall have a screeded finish to prevent skidding. The surfaces of the floor should be hardened by the addition of concrete floor hardeners like I ronite, Hardonate, etc. Where floor hardening is specified it shall be done using floor hardener or an approved manufacturer, laid in accordance with manufacture's instructions/specifications. The tenderer shall specify in the tender documents some of the floor hardeners proposed to be used.

#### 4 3 . **Rolling Shutters**

##### **(a) For openings not exceeding 12 Square meters:-**

The shutter shall be made out of 20 gauge cold rolled mild steel or galvanized iron laths, having 75mm width and deeper convex corrugations to stand heavy pressures. The two edges of the laths shall be accurately fixed 'to form a very strong hinge throughout their lengths. The bottom of the shutter shall be attached with heavy Section flanged type pressed steel rail by spot welding on either end of the rail locking bolts made from heavy section. Flat shall be provided in such a way that operated from inside and outside. Handles shall be 6hromium plated. The shaft the shutter shall be of heavier gauge steel tube on which the counter balancing spring (good strong quality) shall be fitted. Each spring shall be secured to mild steel pulleys. The side top brackets taking the whole assembly shall be of pressed steel, and unbreakable having holes on the flanges for fixing at site. The side guides in which shutters slide shall be made of strong steel section having deep grooves and pressed from thick M.S.Plates. Top covers shall be of 18/20 gauge sheets shaped to, suit top brackets. The shutters shall be so secured to the pulleys as the shaft that when erected at side; the, convex laths are seen from outside.

##### **(b) For openings exceeding 12 Square Meters:-**

The rolling shutters shall have the same specifications as detailed above excepting that the shutters shall be made out of 18 gauge laths. The operation of the shutter shall be by means of mechanical gearing with gat iron wheels and worms of gunmetal. The end of the shutter shall be fitted with a chain puffin f6r4hairts operation.

The rolling Shutters shall be painted with two coats of anticorrosive red-oxide before despatch from the manufacturer's workshop. The make of the rolling shutters shall be specified by the tenderer and shall be subject to the approval of the Engineer-in-charge.

The rolling shutters shall be erected and fixed in position as per instruction of the manufacturers and the rates quoted shall be inclusive of fixing with all fixing accessories, anchor bolts, grouting etc. complete in all respect.

#### 4 4 . **Labour only for fixing bolts including nuts, and washers complete**

The scope of work under this item covers taking delivery of the bolts including nuts, washers etc. complete from the site office/department's representative, arranging suitable weighing arrangements of the nuts and bolts including washers if required, by the Engineer-in-charge, their transportation up to the site of respective structure foundations, fixing of the same in proper alignment and level as per drawing/ requirements, suitably including keeping it in proper position as per requirement during concreting etc. complete as per direction of Engineer-in-charge. Scope of work under this item also covers taking delivery of template from the site office, its transportation up to respective foundation, its fixing/alignment in proper position by making suitable arrangement, its removal after concreting and return it to site store/ shifting to other foundation after cleaning and straightening etc. in good condition. The payment of this item restricted to weight of nut bolts and washer only and no extra payment whatsoever under this item shall be paid.

**45.** In case of any ambiguity in regard to specifications or method of execution of any item of work, the procedure laid down in USR relevant I.S. specifications or specifications indicated in a particular item shall hold good.

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**CEMENT CONSTANTS**

S. NO.	ITEM	UNIT	MATERIALS	QUANTITY OF MATERIALS
1	2	3	4	5
1	Cement Lime Mortar 1:1:6	Cum	Cement Lime Sand	0.16 Cum 0.16 Cum 1.00 Cum
2	Cement Lime Mortar 1:2:9	Cum	Cement Lime Sand	0.11 Cum 0.22 Cum 1.00 Cum
3	Cement Lime Mortar 1:3:12	Cum	Cement Lime Sand	0.08 Cum 0.25 Cum 1.00 Cum
4	Cement Mortar 1:2	Cum	Cement Sand	0.50 Cum 1.00 Cum
5	Cement Mortar 1:3	Cum	Cement Sand	0.33 Cum 1.00 Cum
6	Cement Mortar 1:4	Cum	Cement Sand	0.25 Cum 1.00 Cum
7	Cement Mortar 1:5	Cum	Cement Sand	0.20 Cum 1.00 Cum
8	Cement Mortar 1:6	Cum	Cement Sand	0.16 Cum 1.00 Cum
9	Cement Mortar 1:8	Cum	Cement Sand	0.12 Cum 1.00 Cum
10	a) Plum Cement Concrete 1:2:4 with 25% Plums	Cum	Plum Metal Cement Sand	0.21 Cum 0.64 Cum 0.16 Cum 0.32 um
	b) Plum Cement Concrete 1:2:4 with 25% Plums	Cum	Plum Metal Cement Sand	0.22 Cum 0.68 Cum 0.11 Cum 44.1 um
	c) Plum Cement Concrete 1:2:4 with 25% plums	Cum	Plum Metal Cement Sand	0.23 Cum 0.69 Cum 0.09 Cum 0.35 Cum
11	Cement Concrete 1:1:2	Cum	Metal Cement Sand	0.77 Cum 0.40 Cum 0.38 Cum
12	Cement Concrete 1:1:5:3	Cum	Metal Cement Sand	0.82 Cum 0.283 Cum 0.41 Cum
13	Cement Concrete 1:2:4	Cum	Metal Cement Sand	0.85 Cum 0.22 Cum 0.43 Cum

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14	Cement Concrete 1:3:6	Cum	Metal Cement Sand	0.90 Cum 0.154 Cum 0.45 Cum
15	Cement Concrete 1:4:8	Cum	Metal Cement Sand	0.92 Cum 0.12 Cum 0.46 Cum
16	Cement Concrete 1:5:8	Cum	Metal Cement Sand	0.85 Cum 0.11 Cum 0.53 Cum
17	Cement Concrete 1:5:10	Cum	Metal Cement Sand	0.94 Cum 0.09 Cum 0.47 Cum
18	Cement Concrete 1:6:12	Cum	Metal Cement Sand	0.94 Cum 0.08 Cum 0.47 Cum
19	Brick Bat Filling	Cum	Brick Bat	1.00 Cum
20	Metal Filling	Cum	Metal	1.00 Cum
21	Plain Ashlar Masonry / Ashlar rough tooled masonry/Ashlar rock. (Quarried) faced masonry.	Cum	Masonry Stone Mortar	Cum 0.12 Cum
22	Squared rubble masonry (first sort) / squared rubble masonry (Second sort) /Hammer dressed coursed rubble masonry / Face Stone masonry.	Cum	Rubble Masonry Stone ( Bond Stone) Mortar	0.84 Cum 0.16 Cum 0.35 Cum
23	Uncoursed or Random Rubble masonry	Cum	Rubble Masonry Stone Mortar	0.84 Cum 0.16 Cum 0.42 Cum
24	Fixing fine dressed cut stone lintels in mortar	Cum	Cut Stone Mortar	Cum 0.12 Cum
25	Fixing fine dressed cut stone Copings, Cornices , string courses and plinth coursed in mortar	Cum	Cut Stone Mortar	Cum 0.12 Cum
26	Stone brick masonry with solid stone masonry block precast in CC 1:4:8	Cum	Precast Blocks Mortar	0.90 Cum 0.12 Cum
27	Sun-dried brick masonry	Cum	Bricks Mortar	Cum 0.25 Cum
28	Burnt brick masonry	Cum	Bricks Mortar	1.0 Cum 0.21 Cum
29	Honey comb brick masonry	Cum	Bricks Mortar	0.72 Cum 0.05 Cum

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NO.	ITEM	UNIT	MATERIALS	QUANTITY OF MATERIALS
1	2	3	4	5
30	Flag stone flooring over 20mm thick bedding of CM 1:6 including pointing in	Sqm	Flag Stone CM 1: 6 CM 1: 3	1.10 Sqm 0.0224 Cum 0.0026 Cum
31	Grouted stone pitching	Cum	Pitching tone Mortar	1.0Cum 0.20 Cum
32	Dry stone pitching	Cum	Pitching Stone	1.00 Cum
33	Dry boulder pitching.	Cum	Boulder	1.0 Cum
34	75 mm thick improved terrace flooring in cement concrete with neat cement floating coat.	Sqm	C.C.Cement (for finishing and slurry)	0.075 Cum 0.003 Cum
35.	40mm thick improved terrace flooring in cement concrete with neat cement	Sqm	C.C. Cement (for finishing and slurry)	0.04 Cum 0.003 Cum
36.	15mm thick lime plaster on brick masonry with neeru finish.	Sqm	Lime Mortar White wash lime	0.025 Cum 0.003 Cum
37.	20mm thick lime plaster on brick masonry with Neeru finish.	Sqm	L.M. White wash Lime	0.025 Cum 0.003 Cum
38.	Cement plaster on stone work :- a. 20 mm thick b. 25mm thick.	Sqm Sqm	C.M. C.M.	0.025 Cum 0.028 Cum
39.	6 mm thick cement plaster to ceiling.	Sqm	C.M.	0.0072 Cum
40.	Cement Plaster on brick work:- a. 10 mm thick b. 15 mm thick. c. 20 mm thick.	Sqm Sqm Sqm	C.M. C.M. C.M.	0.012 Cum 0.018 Cum. 0.022 Cum
41.	Rough cast cement plaster:- a. 15 mm thick b. 20 mm thick	Sqm - do-	C.M. C.M.	0.02 Cum 0.022 Cum
42.	Cement for floating coat of neat cement over plaster.	Sqm	Cement	2.2 Kg.
43.	Pointing on brick work:- a. Flush pointing. b. Ruled pointing. c. Raised and cut	Sqm - do- -do-	Mortar Mortar Mortar	0.003 Cum 0.003 Cum 0.0046 Cum
44.	Cement pointing to flag stone flooring.	Sqm	C.M.	0.0026 Cum
45.	Cement wash with portland cement slurry.	Sqm	Cement	0.107 Kg.
46.	Ordinary Portland Cement	Cum	Portland Cement	28.80 Bags.

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