Name of work : **Estimate No. 718 /Bld./12-13,**
Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

Contractor No. of Correction Executive Engineer

Name of work : **Estimate No. 718 /Bld./12-13,**
Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

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Note :- The Contractor is Advised to Verify the Documents mentioned in the above index & signature in the index in token of such Verification.

Signature of Contractor

Executive Engineer
P. W. (Electrical) Division,
Amravati.

Issued on Dated. ……. To. Shri /M/s ……..…… on

With reference to his there application Dated …… Cost Rs …..…… ……

Received vide Money Receipt No. …… …….. Dated. …….

Divisional Accounts Officer
P. W. (Electrical) Division,
Amravati.

Contractor No. of Correction Executive Engineer

GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT

Request for Proposal/Notice inviting e-tender No. _____/2012-13

Name of work : **Estimate No. 718 /Bld./12-13,**
Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

Tender cost	**:**	**Rs. 6933956 /-**
Earnest Money	**:**	**Rs. 69400 /-**
Performance Guarantee	**:**	**Rs. …….**
Payment Guarantee	**:**	**Rs …….**
Time(Period of completion)	**:**	**90 Days**

Certified that N.I.T. contains Pages 1 to 114

Sub-Divisional Engineer
Electrical Sub-Dn.
P.W.D. Buldhana.

Executive Engineer
Amravati Electrical Division
P.W. Dept. Amravati.

TENDER PROGRAMME

Name of work : **Estimate No. 718 /Bld./12-13,**
Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

Amount put to tender	**Rs 6933956 /-**
Earnest Money @ 1 percent subject to minimum of Rs.	**Rs. 69400 /-**
Total Security Deposit @ 4%	Rs. **277358** /- (50 % at the time of Agreement and 50 % from R.A. Bills)
Time stipulated for completion -	Three (03) Calendar Months

Term Deposit Receipt of Schedule Bank / Nationalized Bank should be attached with the tender at the time of submission.

Contractor No. of Correction Executive Engineer

-: TENDER SCHEDULE :-

Period of Downloading of Bid Document	:- From	17 .01.2013 Time 10.00 Hours 11.02.2013 Time 17.30 Hours
Prebid Conference date,time and venue	:- On	04.02.2013 @ 15.00 Hours In the office of the Chief Engineer, (Electrical) Public Works Department 3rd Floor , Bandhakam Bhavan, Marzaban Road, Fort, Mumbai 400 001. Web site : www.mahapwd.com, E-mail:- ceemum@mahapwd.com Fax :- 022-22016900. on dated 04.02.2013 at 15.00Hrs.
Last date and time for receipt of queries For pre-bid conference online	:-	Upto 04.02.2013 Time 14.00 Hours
Last date and time for online Bid Preparation and hash submission (technical and Financial Bid)	:-	11.02.2013 Time 17.30 Hours
Bid closing Date & Time	:-	12.02.2013 Time 10.00 to 14.00 Hours
Date and Time for Online Bid data Decryption and re-encryption (Technical and Financial)	:-	From 12.02.2013 Time 14.01 Hours To 16.02.2013 Time 18.00 Hours
Receipt of (bid security) EMD& tender Document fees (In original one day Before opening of technical bid's Date and Time)	:-	18.02.2013 Time 15.00 Hours
Place ,Date and Time of opening Of Technical bids	:-	Office of the Superintending Engineer, Amravati Region Electrical Circle Amravati. Date 20 .02.2013 Time 11.00 Hours
Place ,Date and Time of opening Of Financial bids	:-	Office of the Superintending Engineer ,Electrical Circle Amravati Date 20 .02.2013 Time 15.00 Hours

TO BE FILLED BY THE CONTRACTOR.

I/We have quoted my/our offer in percentage rate in words as well as in figures specifying **Below/ At Par. /Above** I/We further undertake to enter into Contract in regular 'B-1' form in Public Works Department.

Name and signature of Contractor/Power of Attorney Holder

With complete address

Contractor No. of Correction Executive Engineer

GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT
AMRAVATI ELECTRICAL DIVISON, AMRAVATI
DETAILED TENDER NOTICE TO CONTRACTOR
E - Tender

Name of work : **Estimate No. 718 /Bld./12-13, Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.**

Online percentage rate tenders in "B-1" form are invited by the **Executive Engineer, P.W. (Electrical) Division, Amravati** for the following work from Contractors registered in appropriate class of the Public Works (Electrical) Department of Maharashtra State. The name of work, estimated cost, earnest money, security deposit, time limit for completion etc. are as under.

Sr. No	Name of work	Amount put to tender	Earnest money 1 % subject to minimum Rs. --------	Security Deposit 4%(2% at the time of acceptance of tender & 2% from current bills)	Stipulate Period for completion	Class of Contractor.	Remarks
1	2	3	4	5	6	7	8
1	**Estimate No. 718 /Bld./12-13 Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cablw under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana**	**Rs. 6933956 /-**	**Rs. 69400/-**	**Rs. 277358/-** 1) At the time of acceptance **Rs. 138679/-** 2) **Rs. 138679/-** From 1st Running bill	**Three** Calendar Months	**"A" Class**	"A" Class Registration with PWD (Elect.) Govt. of Maharashtra. Details of magnitude of work Rs **5200467 /-** Carried out by the contractor during last three years i.e. 2009-2010, 2010-2011, 2011-2012 out of which single similar type of work(Erection of HT LT OH Line & Transformer) must be completed worth Rs. **2080187** /- (30 % of Tender cost) Along with work completion certificate & performance certificate, from the office not below the rank of Executive Engineer

Tender form, conditions of contract, specifications and contract drawings can be downloaded from the e-Tendering portal of Public Works Department, Government of Maharashtra i.e. **http:// pwd.maharashtra.etenders.in** after entering the details of payment of **Rs 5000 /-** in the form of DD/Pay Order of scheduled or Nationalised Bank in favour of **Executive Engineer, P.W. (Electrical) Division, Amravati,** information regarding the work can be obtained from the above office.

Contractor No. of Correction Executive Engineer

The Tender Fee in the form of DD / Pay Order, drawn in the name of **Executive Engineer, P.W. (Electrical) Division, Amravati/** Attested EMD Exemption certificate, Affidavit should be submitted by Registered Post/Courier service /Hand Delivery in sealed covers addressed to the **Superintending Engineer, Amravati Region Electrical Circle, Amravati** with the name of the work written at the top of the envelope will be received in the office of the **Superintending Engineer, Amravati Region Electrical Circle, Amravati** as per the Tender Schedule**.** Bids will be opened as per the Tender Schedule, in the presence of such intending Tenderers or his/ their authorized representatives who may be present at that time.

TENDERING PROCEDURE: -

1.1 A. Blank Tender Forms.

Tender Forms can be downloaded from the e-Tendering Portal of Public Works Department, Government of Maharashtra i.e. http://pwd.maharashtra.e-tenders.in after entering the details of payment towards Tender Fees as per the Tender Schedule / Tender Notice.

Pre-Tender Conference :

1.2.1 Pre tender conference open to all prospective tenders who have downloaded the tender document,before the date of Pre-Tender conference will be held in the office of the **Chief Engineer, (Electrical) Public Works Department 3rd Floor , Bandhakam Bhavan, Marzaban Road, Fort, Mumbai 400 001. Web site : www.mahapwd.com, E-mail:- ceemum@mahapwd.com Fax :- 022-22016900.** on dated **04.02.2013 at 15.00** Hours. wherein prospective tenderers will have an apportunity to obtain clarification regarding the work and the Tender condition.

1.2.2 The tenderers attending the Pre-Tender conference are free to ask for any additional information or clarification either in writing or orally and the reply to the same will be given by the **Chief Engineer,** in writing and this clarification referred to as common set of conditions, shall form part of tender documents and which will also be common and applicable to all tenders.

1.2.3 The tender submitted by the tenderer shall be based on clarification, additional facility issued (if any) by the Department, and this tender shall be unconditional. Conditional tenders will be summarily REJECTED.

1.2.4 All tenderers are cautioned that the tenders containing any deviation, from the contractual terms and conditions, specifications or other requirements, and conditional tenders will be rejected as non- responsive.

1.2.5 Tenderer should have valid class II/III digital signature certificates (DSC) obtain from any certifying authorities. In case of requirements of DSC, interested Bidders should go to http://maharashtra.etenders.in/mah/DigitalCerti.asp and follo the procedure mentioned in the document," procedure for application of Digital Certificate"

1.2.6 The Tenderers have to make a payment of Rs **1038** /- online as service charges for the use of electronics tendering during on line Bid Data Decryption and Re-encryption stage of the Tender

1.2.7 For any assistance on the use of Electronic Tendering System, the Users may call the below numbers:

Landline No. 020 25315555

Landline No. 022 26611117 (Ext. 25, 26), 022 26603142.

Mobile No. 9167969601 / 04, **9167246750**

1.2.8 Tenderers should install the Mandatory Components available on the Home Page of http://maharashtra.etenders.in under the section '**Mandatory Components**' and make the necessary Browser Settings provided under section '**Internet Explorer Settings**'

1.2.9 Guidelines to Bidders on the operations of Electronic Tendering System of Public Works Department is available at E-Tendering portal of P.W.Department i.e. **https://pwd.maharashtra.etenders.in.**The tenderer shall obtain clarification/help from assistance mentioned in para 1.2.7 .No greavances/claims will be entertained on failure of submission of online bid.

A. Pre-requisites to participate in the Tenders processed by PWD:

1. Enrolment and Empanelment of Contractors on Electronic Tendering System:

The Contractors interested in participating in the Tenders of Public Works Department –processed using the Electronic Tendering System shall be required to enrol on the Electronic Tendering System to obtain User ID.

After submission of application for enrolment on the System, the application information shall be verified by the Authorized Representative of the Service Provider. If the information is found to be complete, the enrolment submitted by the Vendor shall be approved.

For participating in Limited and Restricted tenders the registered vendors have to apply for empanelment on the sub-portal of PWD in an appropriate class of registration. The empanelment will have to be approved by the respective officer from the PWD. Only empanelled vendors will be allowed to participate in such tenders.

The Contractors may obtain the necessary information on the process of enrolment and empanelment either from Helpdesk Support Team or may visit the information published under the link Enrol under the section E-Tendering Toolkit for Bidders on the Home Page of the Electronic Tendering System.

2. Obtaining a Digital Certificate:

The Bid Data that is prepared online is required to be encrypted and the hash value of the Bid Data is required to be signed electronically using a Digital Certificate (Class – II or Class – III). This is required to maintain the security of the Bid Data and also to establish the identity of the Contractor transacting on the System.

The Digital Certificates are issued by an approved Certifying Authority authorized by the Controller of Certifying Authorities of Government of India through their Authorized Representatives upon receipt of documents required to obtain a Digital Certificate.

Bid data / information for a particular Tender may be submitted only using the Digital Certificate which is used to encrypt the data / information and sign the hash value during the Bid Preparation and Hash Submission stage. In case during the process of preparing and submitting a Bid for a particular Tender, the Contractor loses his/her Digital Signature Certificate (i.e. due to virus attack, hardware problem, operating system problem); he / she may not be able to submit the Bid online. Hence, the Users are advised to store his / her Digital Certificate securely and if possible, keep a backup at safe place under adequate security to be used in case of need.

In case of online tendering, if the Digital Certificate issued to an Authorised User of a Partnership Firm is used for signing and submitting a bid, it will be considered equivalent to a no objection certificate / power of attorney to that User to submit the bid on behalf of the Partnership Firm. The Partnership Firm has to authorize a specific individual via an authorization certificate signed by a partner of the firm (and in case the applicant is a partner, another partner in the same form is required to authorise) to use the digital certificate as per Indian Information Technology Act, 2000.

Unless the Digital Certificate is revoked, it will be assumed to represent adequate authority of the Authority User to bid on behalf of the Firm for the Tenders

processed on the Electronic Tender Management System of Government of Maharashtra as per Indian Information Technology Act, 2000. The Digital Signature of this Authorized User will be binding on the Firm. It shall be the responsibility of Partners of the Firm to inform the Certifying Authority or Sub Certifying Authority, if the Authorized User changes, and apply for a fresh Digital Signature Certificate. The procedure for application of a Digital Signature Certificate will remain the same for the new Authorised User.

The same procedure holds true for the Authorized Users in a Private / Public Limited Company. In this case, the Authorisation Certificate will have to be signed by the Director of the Company or the Reporting Authority of the Applicant.

For information on the process of application for obtaining Digital Certificate, the Contractors may visit the section Digital Certificate on the Home Page of the Electronic Tendering System.

3. Recommended Hardware and Internet Connectivity:

To operate on the Electronic Tendering System, the Contractors are recommended to use Computer System with at least 1 GB of RAM and broadband connectivity with minimum 512 kbps bandwidth.

4. Set up of Computer System for executing the operations on the Electronic Tendering System:

To operate on the Electronic Tendering System of Government of Maharashtra, the Computer System of the Contractors is required be set up. The Contractors are required to install Utilities available under the section Mandatory Installation Components on the Home Page of the System.

The Utilities are available for download freely from the above mentioned section. The Contractors are requested to refer to the E-Tendering Toolkit for Bidders available online on the Home Page to understand the process of setting up the System, or alternatively, contact the Helpdesk Support Team on information / guidance on the process of setting up the System.

5. Payment for Service Provider Fees:

In addition to the Tender Document Fees payable to PWD, the Contractors will have to pay Service Providers Fees of Rs. 1,038/- through online payments gateway service available on Electronic Tendering System. For the list of options for making online payments, the Contractors are advised to visit the link E-Payment Options under the section E-Tendering Toolkit for Bidders on the Home Page of the Electronic Tendering System

B. Steps to be followed by Contractors to participate in the e-Tenders processed by PWD

1. Preparation of online Briefcase:

All Contractors enrolled on the Electronic Tendering System of Government of Maharashtra are provided with dedicated briefcase facility to store documents / files in digital format. The Contractors can use the online briefcase to store their scanned copies of frequently used documents / files to be submitted as a part of their bid response. The Contractors are advised to store the relevant documents in the briefcase before starting the Bid Preparation and Hash Submission stage.

In case, the Contractors have multiple documents under the same type (e.g. multiple Work Completion Certificates) as mentioned above, the Contractors advised to either create a single .pdf file of all the documents of same type or compress the documents in a single compressed file in .zip or .rar formats and upload the same.

It is mandatory to upload the documents using the briefcase facility. Therefore, the Contractors are advised to keep the documents ready in the briefcase to ensure timely bid preparation.

Note: Uploading of documents in the briefcase does not mean that the documents are available to PWD at the time of Tender Opening stage unless the documents are

specifically attached to the bid during the online Bid Preparation and Hash Submission stage as well as during Decryption and Re-encryption stage.

2. Online viewing of Detailed Notice Inviting Tenders:

The Contractors can view the Detailed Tender Notice along with the Time Schedule (Key Dates) for all the Live Tenders released by PWD on the home page of PWD e-Tendering Portal on http://pwd.maharashtra.etenders.in under the section Recent Online Tender.

3. Download of Tender Documents:

The Pre-qualification / Main Bidding Documents are available for free downloading. However to participate in the online tender, the bidder must purchase the bidding documents online by filling up details of Demand Draft towards the cost of Tender Form Fee

4. Online Bid Preparation and Submission of Bid Hash (Seal) of Bids:

Submission of Bids will be preceded by online bid preparation and submission of the digitally signed Bid Hashes (Seals) within the Tender Time Schedule (Key Dates) published in the Detailed Notice Inviting Tender. The Bid Data is to be prepared in the templates provided by the Tendering Authority of PWD. The templates may be either form based, extensible tables and / or uploadable documents. In the form based type of templates and extensible table type of templates, the Contractors are required to enter the data and encrypt the data using the Digital Certificate.

In the uploadable document type of templates, the Contractors are required to select the relevant document / compressed file (containing multiple documents) already uploaded in the briefcase.

Notes:

a. The Contractors upload a single document or a compressed file containing multiple documents against each unloadable option.

b. The Hashes are the thumbprint of electronic data and are based on one – way algorithm. The Hashes establish the unique identity of Bid Data.

c. The bid hash values are digitally signed using valid Class – II or Class – III Digital Certificate issued any Certifying Authority. The Contractors are required to obtain Digital Certificate in advance.

d. After the hash value of bid data is generated, the Contractors cannot make any change / addition in its bid data. The bidder may modify bids before the deadline for Bid Preparation and Hash Submission as per Time Schedule mentioned in the Tender documents.

e. This stage will be applicable during both, Pre-bid / Pre-qualification and Financial Bidding Processes.

5. Close for Bidding (Generation of Super Hash Values):

After the expiry of the cut – off time of Bid Preparation and Hash Submission stage to be completed by the Contractors has lapsed, the Tender will be closed by the Tender Authority.

The Tender Authority from PWD shall generate and digitally sign the Super Hash values (Seals).

6. Decryption and Re-encryption of Bids (submitting the Bids online):

After the time for generation of Super Hash values by the Tender Authority from PWD has lapsed, the Contractors have to make the online payment of Rs. 1,038/- towards the fees of the Service Provider.

After making online payment towards Fees of Service Provider, the Contractors are required to decrypt their bid data using their Digital Certificate and immediately re-encrypt their bid data using the Public Key of the Tendering Authority. The Public Key of the Tendering Authority is attached to the Tender during the Close for Bidding stage.

Note: The details of the Processing Fees shall be verified and matched during the Technical Opening stage.

At this time, the Contractors are also required to upload the files for which they generated the Hash values during the Bid Preparation and Hash Submission stage.

The Bid Data and Documents of only those Contractors who have submitted their Bid Hashes (Seals) within the stipulated time (as per the Tender Time Schedule), will be available for decryption and re-encryption and to upload the relevant documents from Briefcase. A Contractor who has not submitted his Bid Preparation and Hash Submission stage within the stipulated time will not be allowed to decrypt / re-encrypt the Bid data / submit documents during the stage of Decryption and Re-encryption of Bids (submitting the Bids online).

7. Shortlisting of Contractors for Financial Bidding Process:

The Tendering Authority will first open the Technical Bid documents of all Contractors and after scrutinizing these documents will shortlist the Contractors who are eligible for Financial Bidding Process. The shortlisted Contractors will be intimated by email.

8. Opening of the Financial Bids:

The Contractors may remain present in the Office of the Tender Opening Authority at the time of opening of Financial Bids. However, the results of the Financial Bids of all Contractors shall be available on the PWD e-Tendering Portal immediately after the completion of opening process.

9. Tender Schedule (Key Dates):

The Contractors are strictly advised to follow the Dates and Times allocated to each stage under the column "Contractor Stage" as indicated in the Time Schedule in the Detailed Tender Notice for the Tender. All the online activities are time tracked and the Electronic Tendering System enforces time-locks that ensure that no activity or transaction can take place outside the Start and End Dates and Time of the stage as defined in the Tender Schedule.

At the sole discretion of the Tender Authority, the time schedule of the Tender stages may be extended

1) INSTRUCTION TO THE TENDERER

ENVELOPE NO. 1 (DOCUMENTS)

Sr. no.	Brief detailed of document required	Whether enclosed or not	
	The first envelope clearly marked as envelope No.-1 shall contain the following documents.	**Yes**	**No**
1	Forwarding letter clearly indicating the documents attached therein with index page denoting the documents attached and their page number.		
2	Term Deposit Receipt / Fixed Deposit Receipt for a period of one year from the date of submission of tender, of any Scheduled Bank or Nationalized Bank **duly endorsed in the name of Executive Engineer, Public Works (Electrical) Division, Amravati** for the amount of Earnest Money		
3	Tenderers who are exempted from payment of Earnest Money should attach copy of certificate from Government of Maharashtra, Public Works (Electrical) Department regarding its exemption.		
4	Copy of Valid Certificate as Registered Contractor in 'A' class with the Govt. Of Maharashtra, Public Works (Electrical) Department as applicable		
5	Copy of Valid Electrical Contractor License.		
6	Copy of acknowledgement of latest Income Tax Return filed.		
7	Copy of Permanent Account Number alloted by Income Tax Department.		
8	Copy of Valid Maharashtra Value Added Tax Registration Certificate.		
9	Copy of up to date Professional Tax Clearance Certificate.		
10	Copy of Enrolment / Registration Certificate under Professional Tax.		
11	Copy of Partnership Deed in case of Partnership Firm, Memorandum / Article of Association in case of Company & Power of Attorney.		
12	Details of work tendered for & in hand. (Information to be given in Statement I)		
13	The magnitude of works done by the Contractor during last three years, in Government Sector, as per Statement II shall be Rs**. 5200467 /-** out of which the magnitude of one single similar type of work done by the Contractor shall be of Rs **2080187** /- (Work Completion Certificate & Performance Certificate from the Officer not below the rank of Executive Engineer shall be Submitted) .(Information to be given in Statement II)		
14	Statement showing average Annual Turnover for the last three years of magnitude of Rs **5200467 /-** Certificate from the head of the office concerned. (information to be given in statement II- A)		
15	List of Tools and Plant and Machinery available with the Tenderer which will be used for this work. (Information to be given in statement III)		
16	Details of Technical persons on the roll of Tenderer .(Information to be given in statement IV) (Recent copy of muster should be attached in support)		
17	Latest Original Solvency Certificate from Scheduled Bank / Nationalized Bank valid for 12 months, from the date of submission of tender, certifying the financial stability of the tenderer not less than Rs **1386791**/-(20% of Tender amount) (As per proforma attached).(Only for un-registered Contractor)		
18	Audited balance sheet with certificate of C.A. showing average annual turnover of Minimum Rs. **5200467** /- in last three years.		
19	A Copy of affidavit shall be submitted in original.		

Important Note:

1.1) The Envelope No.2 will be opened only after confirmation of the above documents (Sr. No 1 to 18) in Envelope no.1.

1.2) All Photostat copies submitted in connection with the tender, should be attested by Gazetted Officer.

1.3) Similar type of works: The similar type of work as stated in Sr.No.13 above shall cover Erection of H.T. L.T. O.H. Line, D.T.C. & Cable Switchgears, etc.

1.4) Tenderers who are exempted from payment of earnest money should attach an attested copy of a certificate from Govt. of Maharashtra regarding its exemption

STATEMENT-I

[To be included in Envelope No. 1]

DETAILS OF /INFORMATION OF WORKS IN HAND AND WORKS TENDERED FOR
[1] Works in Hand

NAME OF TENDERER :-

Rs. In Lacks.

Sr. No	Name of Work	Financial Year	Agreement No.	Tender Amount	Date of Commen-cement	Stipulated date of completion	Value of work already work done	Value of total Balance work	Probable date of Completion	Amount of balance part of work to be done during prescribed for completion of this work at price level of Year ----------	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Note :- This is only standard form Details are to be furnished in this format in the form of type written statements which shall be enclosed in envelop No. 1. If information is not submitted, main bid document will not be opened.

Contractor No. of Correction Executive Engineer

STATEMENT-II

[To be included in Envelope No. 1]

DETAILS OF WORKS OF SIMILAR TYPE & MAGNITUDE CARRIED OUT BY THE TENDERER IN LAST 3 YEARS.

Sr. No	Name of Work	Name and address of the organisation for whom the work was done	Place and Country	Agrt. No. and Date.	Financial Year	Date of Commen -cement	Tendered Cost	Total cost of work done at price level of that years.	Date of Completion	Principle features in brief	Cost of work done at price level of Year ---------
1	2	3	4	5	6	7	8	9	10	11	12

Note :- This is only standard form Details are to be furnished in this format in the form of type written statements which shall be enclosed in envelop No. 1. If information is not submitted, main bid document will not be opened.

Sign of Contractor.

Contractor No. of Correction Executive Engineer

STATEMENT-II (A)

[To be included in Envelope No. 1]

NAME OF TENDERER :-

Rs. In Lacks.

Sr. No.	Name of Work	Amount put to tender/tendered cost	Agreement No.	Date of Commencement of Work	Amount of Work done during each of last three years			Total amount of work still remaining to be executed	Remark
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

Note :- Outward no and of certificate issuing authority.

Executive Engineer/Deputy Engineer/Divisional Accounts Office.

Sign of Contractor.

Contractor No. of Correction Executive Engineer

STATEMENT-III

DETAILS OF PLANT AND MACHINERY IMMEDIATELY AVAILABLE WITH TENDERER FOR THE USE ON THE WORK

Sr. No.	Name of Equipment	No of Units	Kind & make	Capacity, age and condition	Present Location	Remarks
1	2	3	4	5	6	7

Contractor No. of Correction Executive Engineer

STATEMENT-IV

INFORMATION OF TECHNICAL PERSONES AVAILABLE WITH THE CONTRACTOR WITH ORGANISATIN CHART

Sr. No.	Name of Work	Qualification	Whether working in the field or in office	Experience of execution of similar works	Period for which the person is working with the Tenderer	Remarks
1	2	3	4	5	6	7

Note :- Requirement at site : (to be filled as per work requirement)

Sign of Contractor.

Contractor No. of Correction Executive Engineer

1.5 ENVELOPE No. 2 TENDER (FINANCIAL BID)

The second envelope "Envelope No. 2" shall contain only the main tender including the Common Set of Conditions / Deviation issued by the Department after the pre-tender Conference. A tender submitted without this would be considered as invalid.

The Tenderer should quote his offer **online only** in terms of percentage of estimated rates at the appropriate place to be submitted only in Envelope No. 2. He should not quote his offer any where directly or indirectly in Envelope No. 1. The contractor shall quote for the work as per details given in the main tender and also based on the detailed set of conditions issued / Additional stipulations made by the Department as informed to him online on **https://maharashtra.etenders.in** from Chief Engineer, Public Works Region, Amravati after Pre-Tender Conference. His tender shall be unconditional.

1.6 SUBMISSION OF TENDER: -

Refer to Section '**Guidelines to Bidders on the operations of Electronic Tendering System of Public Works Department**' for details.

1.7 OPENING OF TENDERS:

On the date, specified in the **Tender Schedule**, following procedure will be adopted for opening of the Tender.

(A) ENVELOPE No. 1 :- (Documents)

First of all Envelope No. 1 of the tender will be opened **online** to verify its contents as per requirements. If the various documents contained in this envelope do not meet the requirements of the Department, a note will be recorded accordingly by the tender opening authority and the said tenderers Envelope No. 2 will not be considered for further action and the same will be rejected.

The decision of the tender opening authority in this regard will be final and binding on the contractors.

(B) ENVELOPE No. 2: (Financial Bid)

a)This envelope shall be opened online immediately after opening of Envelope No. 1, only if contents of Envelope No. 1 are found to be acceptable to the Department. The tendered rates in Schedule 'B' or percentage **above/below** the estimated rates shall then be read out in the presence of bidders who remain present at the time of opening of Envelope No. 2.(Commercial Bid)

1.8 EARNEST MONEY :

Earnest money in the form of cheque or cash will not be accepted. Earnest money will be accepted in the form of certificate of exemption from payment of Earnest Money, or Term Deposit receipts valid for a period of one year (separately for each work) from the last date of submission of tender forms, issued by scheduled Bank and endorsed in the name of the **Executive Engineer, P.W. (Electrical) Division,**

Amravati. The earnest money will be refunded in due course in case of tenderers whose tenders are not accepted. In case of successful tenderer the Earnest money will be refunded after recovering initial security deposit and completion of contract documents by the Tenderer. The amount of

Earnest Money will be forfeited to Government in case the successful contractor does not pay the amount of initial security deposit within specified time limit. Earnest Money Exemption Certificate shall not be accepted in lieu of Earnest Money indicated elsewhere in the N.I.T. except in case of those bidders who have obtained Earnest Money exemption certificate after payment of ***Rs. One Lakhs*** to their Registration authorities after issuance of Government Resolution CAT-1096/CR -172/Bldg-2 Dated 20/4/98.

1.9 SECURITY DEPOSIT:

The successful tenderer shall have to pay half the security deposit in approved security form (preferably in the form of National Saving Certificate) or in cash or in the form of Bank Guarantee (in the form as prescribed by Government) from any Schedule Bank having branches in Maharashtra and balance Security Deposit will be recoverable through the bills at the percentage as shown in item(s) of the Memorandum in printed B-1 form or as may be decided by the Executive Engineer during course of execution of the work looking to the position and circumstances that may prevail, whose orders will be final and binding on the contractor.

The security deposit for the due performance of the contract shall be as detailed in the Tender Documents elsewhere, Fifty percent of the security deposit will have to be deposited within time limit as prescribed in clause-1 of B-1 form agreement and the remaining fifty percent will be recovered from the Running Bills at the rate of 4%. Amount of total security deposit to be paid shall be 4 % of the cost of work. This is a compulsory deduction.

1.9. A. ADDITIONAL SECURITY DEPOSIT:-

If the offer of the successful tenderer is 10% or more than 10% below the amount put to tender, then the successful tenderer whose tender is accepted will have to deposit additional security deposit amount equivalent to 5% of contract price toward performance of work. This additional security deposit shall be deposited in cash /FDR of schedule Bank having branches in Maharashtra duly pledged in the name of Executive Engineer at the time of acceptance of tender.. This additional security deposit towards performance shall be valid for full period of completion of work including defect liability period. Failing which such tender shall be deemed to be withdrawn and their earnest money shall be forfeited to the Govt. The additional security deposit shall be refunded within 30 days from the date of issue satisfactory completion of defect liability period.

1.10 ISSUE OF FORMS:

Information regarding contract as well as blank tender forms can be downloaded from the **eTendering** website upon providing the details of the payment of cost as detailed in the N.I.T.

1.11 TIME LIMIT:

The work is to be completed within time limit as specified in the N.I.T. which shall be reckoned from the date of written order for commencing the work and shall be inclusive of monsoon period.

1.12 TENDER RATE:

No alteration in the form of tender and the schedule of tender and no additions in the scope of special stipulations will be permitted. Rates quoted for the tender shall be taken as applicable for all leads and lifts.

1.13 TENDER UNITS:

The tenderers should particularly note the units mentioned in the Schedule "B" on which the rates are based. No change in the units shall be allowed. In the case of difference between the rates written in figures and in words, the correct rate will be the one, which is lower of the two.

1.14 CORRECTION:

No corrections shall be made in the tender documents. Any corrections that are to be made shall be made by crossing the incorrect portion and writing the correct portions above with the initials of tenderer.

1.15 TENDER'S ACCEPTANCE :

Acceptance of tender will rest with the **Chief Engineer, (Electrical) P. W. Department, Mumbai** who reserves the right to reject any or all tenders without assigning any reason therefore. The tenderer whose tender is accepted will have to enter in to a regular B-1 agreement within 10 days of being notified to do so. In case of failure on the part of Tenderer to sign the agreement within the stipulated time, the earnest money paid by him shall stand forfeited to the Government and the offer of the tenderer shall be considered as withdrawn by him.

1.16 CONDITIONAL TENDER :

The tenders who do not fulfill the condition of the notification and the general rules and directions for the guidance of contractor in the agreement form or are incomplete in any respect are likely to be rejected without assigning any reason therefore.

1.17(a) The Tenderers shall be presumed to have carefully examined the drawings, conditions and specifications of the work and have fully acquainted themselves with all details of the site, the conditions of rock and its joints, pattern, river, weather characteristics, labour conditions and in general with all the necessary information and data pertaining to the work, prior to tendering for the work.

1.17(b) The data whatsoever supplied by the Department along with the tender documents are meant to serve only as guide for the tenderers while tendering and the Department accepts no responsibility whatsoever either for the accuracy of data or for their comprehensiveness.

1.17(c) The quarries for extraction of metal, murum etc. provided in the sanctioned estimate are as per survey conducted by the Department. The Contractor should however examine these quarries and see whether full quantity of materials required for execution of the work strictly as per specification are available in these source before quoting the rates. In case the materials are not available due to reasons whatsoever, the contractor will have to bring the materials from any other source with no extra cost to Government. The rates quoted, should therefore be for all leads and lifts from wherever the materials are brought at site of work and inclusive of royalty to be paid to the Revenue Department by the Contractor.

1.18 POWER OF ATTORNEY:

If the tenderers are a firm or company, they should in their forwarding letter mention the names of all the partners together with the name of the person who holds the power of Attorney, authorizing him to conduct all transactions on behalf of the body, along with the tender.

1.19 The tenderer may, in the forwarding letter, mention any points are may wish to make clear but the right is reserved to reject the same or the whole of the tender if the same becomes conditional tender thereby.

1.20 The contractor or the firms tendering for the work shall inform the Department if they appoint their authorized Agent on the work.

1.21 No foreign exchange will be released by the Department for the purchase of plants and machinery for the work by the Contractor.

1.22 Any dues arising out of contract will be recovered from the contractor as arrears of Land Revenue, if not paid amicably. Moreover, recovery of Government dues from the Contractors will be affected from the payment due to the Contractor from any other Government works under execution with them.

1.23 All pages of tender documents, conditions, specifications, correction slips etc. shall be initialled by the tenderer. The tender should bear full signature of the tenderer, or his authorized power of Attorney holder in case of a firm.

1.24 The Income Tax at 2.30 % including surcharge or percentage in force from time to time or at the rate as intimated by the competent Income Tax authority shall be deducted from bill amount whether measured bill, advance payment or secured advance.

1.25 The successful tenderer will be required to produce, to the satisfaction of the specified concerned authority a valid concurrent license issued in his favour under the provisions of the Contract Labour (Regulation and Abolition) Act 1970 for starting the work. On failure to do so, the acceptance of the tender shall be liable to be withdrawn and also liable for forfeiture of the earnest money.

1.26 VALIDITY PERIOD :

The offer shall remain open for acceptance for minimum period of 90 days from the Date of opening of Envelope No. 2 (Financial Bid) and thereafter until it is withdrawn by the contractor by notice in writing duly addressed to the authority opening the tender and sent by Registered Post Acknowledgment due. (Ref. to memorandum **on Page 31** of B-1 Form Chapter)

FORM B-1

PERCENTAGE RATE e-TENDER AND CONTRACT OF WORK.

PUBLIC WORKS (ELECTRICAL) DEPARTMENT
AMRAVATI REGIONAL ELECTRICAL CIRCLE AMRAVATI
AMRAVATI ELECTRICAL DIVISION, P.W.D. AMRAVATI

Name of work : **Estimate No. 718 /Bld./12-13,**
Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS.

1) All work proposed to be executed by contract shall be notified in a form of invitation to tender pasted on a board hung up in the office of the Executive Engineer and signed by the Executive Engineer.
This form will state the work to be carried out as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of security deposit to be deposited by the successful tenderer and the percentage. If any, to be deducted from bills. It will also state whether a refund of quarry fees, royalties and ground rents will be granted. Copies of the specifications, designs and drawings and estimated rates, scheduled rates and any other documents required in connection with the work which will be signed by Executive Engineer for the purpose of identification shall also be open for inspection by contractors at the office of the Executive Engineer during office hours.
Where the works are proposed to be executed according to the specifications recommended by a contractor and approved by a competent authority on behalf of the Governor of Maharashtra, such specifications, with designs and drawings shall form part of the accepted tender.

2) In the event of the tender being submitted by a firm. It must be signed separately by each partner thereof, and in the event of the absence of any partner it shall be signed on his behalf by a person holding a power of attorney authorizing him to do so.

2(A) i) The Contractor shall pay along with the Tender the sum of Rs. **69400 /-** as and by way of earnest money. The contractor may pay the said amount by forwarding along with the tender a Term Deposit Receipt for a period of one year issued by a Scheduled/Nationalized bank and duly endorsed in the Name of Executive Engineer. The said amount of earnest money shall not carry any interest whatsoever.

ii) In the event of his/her tender being accepted, subject to the provision of sub clause (iii) below, the said amount of earnest money shall be appropriated

towards the amount of security deposit payable by him/her under condition of Contract.

iii) If after submitting the tender, the contractor withdraws his/her offer or modifies the same or if after the acceptance of his/her Tender, the Contractor fails or neglects to furnish the balance of security deposit, without prejudice to any other rights and powers of the Government hereunder, or in law Government shall be entitled to forfeit the full amount of the earnest money deposited by him/her.

iv) In the event of his/her Tender not being accepted, the amount or earnest money deposited by the contractor shall, unless it is prior there to forfeited under the provisions of sub-clause (iii) above, be refunded to him/her on his/her passing receipt there for.(Amended vide GR. B&C Departments No. CAT-1272/ 44277-Q dated 3.3.1973.

3) Receipt for payments made on account of any work, when executed by a firm should also be signed by all the partners, except where the contractors are described in their tender as a firm, in which case the receipts shall be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.

4) Any person who submits a tender shall fill up the usual printed form including the column total according of estimated quantities stating at what % above or below the rates specified in schedule B (Memorandum showing items of works to be carried out) he/she is willing to undertake the work. Only one rate of such percentage on all the estimated rates shall be named. Tenderers 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 contain any other conditions of any sort, will be liable to rejection. No Printed Form of Tender shall include a Tender for more than one work, but if contractor who wish to tender for two or more works shall submit a separate tender for each. Tender shall have the name and the number of work to which they refer written outside the envelope.

5) The **Superintending Engineer Amaravati Region Electrical Circle, Amravati** will open tenders in the presence of any intending contractors who have submitted tenders or his representative who may be present at the time and will enter the amount of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, the contractor shall thereupon, for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule-1. In the event of a tender being rejected, the competent Officer shall authorize the Bank concerned to refund the amount of earnest money deposited by the contractor making the tender, on his giving a receipt for the return of the money.

6) The Officer competent to dispose of the tenders shall have the right of rejecting any or all of the tenders.

7) No receipt for any payment alleged to have been made by a contractor in regard to any matter relating to this tender or the contract shall be valid and binding on Government unless it is signed by the Executive Engineer.

8) The memorandum of the work to be tendered for and the schedule of materials to be supplied by the Public Works Department and their rates shall be filled in and completed by the office of the Executive Engineer before the tender form is issued. If a form issued to an intending tenderer has not been so filled in and completed, he

shall request the said office to have done this before the completes and delivers his/her tender.

9) All work shall be measured net by standard measure and according to the rules and customs of the Public Works Department without reference to any local custom.

10) Under no circumstances shall any contractor be entitled to claim enhanced rates for any items in this contract.

11) Every registered contractor shall produce along with his tender certificate of registration as approved contractor in the appropriate class and renewal of such registration with date of expiry.

12) All correction and additions or pasted slips should be initiated.

13) The measurement of work will be taken according to the usual method in the Public Works Department and no proposal to adopt alternative methods will be accepted. The Executive Engineer's decision as to what is "the usual method in use in Public Works Department" will be final.

14) The tendering Contractor shall furnish a declaration along with the tender showing all works for which he has already entered into contract, and the value of the work that remains to be executed in each case on the date of submitting the tender in the form specified for the same.

15) Every tenderer shall submit along with the tender information regarding the Income Tax circle, or ward of the district in which he is assessed to Income-Tax, the reference to number of the assessment and the assessment year and a valid income Tax clearance certificate.

16) In view of the difficult position regarding the availability of foreign exchange, no foreign exchange would be released by the Department for the purchase of plant and machinery required for the execution of the work contracted for.(GBC/PWD /CFM/ 1058-62517 dated 26-09-59.)

17) The contractor will have to construct shed for storing controlled and valuable materials issued to him under Schedule "A" of the agreement at work site, having double locking arrangement. The materials will be taken for use in the presence of the Departmental person. No materials will be allowed to be removed from the site of work.

18) The contractor shall also give a list of machinery in their possession and which they propose to use on the work in **Statement –III.**

19) Deleted.

20) Successful tenderer will have to produce to the satisfaction of the accepting authority a valid and current licence issued in this favour under provision of Contract Labour (Regulation and Abolition) Act, 1970 before starting work failing

which acceptance of the tender will be liable for withdrawal and earnest money will be forfeited to Government.

21) The contractor shall comply with the provisions of the apprentice Act 1961 and the rules and orders issued there under from time to time. If he fails to do so his failure will be a breach of the contract and the Superintending Engineer, may in his discretion cancel the contract. The Contractor shall also be liable, for any Pecuniary liability arising on account of any violation by him of the provisions of the Act.

22) The successful tenderer will have to furnish performance guarantee on the stamp paper of Rs.100/- for the 5% of the tendered amount in the prescribed proforma enclosed as and when required by the Engineer-in-charge. The cost of the stamp paper shall be borne by the Contractor.

TENDER FOR THE WORKS.

I/We hereby tender for the execution, for the Governor of Maharashtra (here in before and here in after referred to as "Government") of the work specified in the under written memorandum within the time specified in such memorandum at in figure _____% (In Word_____ _____ _____ Percent **Below/Above/ At Par** the estimated rates entered in Schedule 'B' (Memorandum showing items of work to be carried out) and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule 1 here of and in Clause 13 of the annexed conditions of contract and agree that when materials for the work are provided by the Government, such materials and the rates to be paid for them shall has as provided in Schedule 'A' hereto.

Contractors Signature and Seal Of Contractor

MEMORANDUM

1)

a) If several sub-works are included they should be detailed in a separate : **General Description** :

Estimate No. 718 /Bld./12-13, Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using under- ground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

b) Tender Cost. : **Rs. 6933956 /-**

c) The amount of earnest money to be shall be in accordance with the provisions of paras 207. of the M.P.W. Manual. : **Earnest Money** Rs **69400 /-** deposited

d) This deposits shall be in accordance with paras 214 (i)(B) of the M.P.W. Manual :

Security Deposit 4% in the form of FDR for 18 months. **Rs 277358 /-**

Or

i) 2% on contract amount shall be payble before the issue of work order Rs. **138679-00 /-**

ii) 2% To be deducted from first running bill. Rs. **138679-00 /-**

Total Rs. **277358 -00 /-**

==========

e) This percentage where no security deposit is taken will vary from 5% to 10% according to the requirement of the case. Where security deposit is taken as note to Clause 1 of conditions of contract work done : Percentage, if any, to be deducted from bills so as to make up the total amount required as Security deposit by time, half the work as measured by the cost, is done, (**4 %**) **Four** percent.

f) Give schedule where necessary showing dates by which the various items are to be completed. : f) Time allowed for the work from date of written order to commence **90 days**

Contractor No. of Correction Executive Engineer

2) I/We hereby agree that this offer shall remain open for acceptance for a minimum period of 90 days from the day fixed for opening the same and thereafter until it is withdrawn by me/us/ by notice in writing duly addressed to the authority opening the tenders and sent by registered post A.D. or otherwise delivered at the office of such authority. or Term Deposit receipt, for period of the year issued by a scheduled/Nationalised bank and duly endorsed in the name of **Executive Engineer, Amravati Electrical Dn.P.W.D, Amravati** a sum of Rs. **69400 /-** only representing the earnest money is herewith forwarded. The amount of earnest money shall not bear interest and shall be liable to be forfeited to the Government should I/We fail to (1) abide by the stipulation to keep the offer open for the period mentioned above or (2) sign and complete the contract documents required by the Engineer and furnish the security deposit as specified in item (d) of memorandum contained in paragraph 1 above within the time limit laid down in clause 1 of the annexed conditions of the contract. The amount of earnest money may be adjusted towards the security deposit or refunded to me/us if so desired by me/us in writing unless the same or any part thereof has been forfeited as aforesaid.

3) I/We have secured exemption from payment of earnest money after executing the necessary bond in favour of the Government a true copy of which is enclosed herewith, should any occasion for forfeiture of earnest money for this work arise due to failure on my/our part to (1) abide by the stipulation to keep the offer open for the period mentioned above - or (**2**) sign and complete the contract documents and furnish the security deposit as specified in item (d) of the memorandum contained in paragraph 1 above within the time limit laid down in clause (1) of the annexed conditions of the contract, the amount payable by me/us may, at the option of the Engineer, be recovered out of the amount deposited in lump sum for securing exemption in so far as the same may extend in terms of the said bond and in the event of the deficiency out of any other money which are due or payable to me/us by the Government under any other contract or transaction of any nature whatsoever or otherwise.

4) Should this tender be accepted I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of contract annexed hereto so far as applicable and in default thereof to forfeit and pay to Government the sum of money mentioned in the said conditions.

T. D. R .No. _____ dated _____ from the Scheduled/Nationalized Bank at _____ in respect of the sum of Rs. **69400 /- (in words Sixty Nine Thousand Four Hundred Only)** is here with forwarded representing the earnest money (a) the full value of which is to be

absolutely forfeited to Government, should I/We do not deposit the full amount of Security Deposit specified in the above memorandum, in accordance with Clause (1) of the said conditions of the contract, otherwise the said sum of Rs. **69400 /-** shall be refunded.

Contractor **+ Signature of Contractor**

(Address) **before submission of Tender.**

Dated the day of 20
(Witness)

+ Signature of Witness
to Contractors Signature.

(Address)
(Occupation)

Signature of the Officers
by whom accepted.

The above tender is hereby accepted by me on behalf of Governor of Maharashtra.

Chief Engineer (Electrical)
P. W. Department,
Amravati.

Dated the day of 20

CONDITIONS OF CONTRACT

Security Deposits

Clause 1 :-The person/persons whose tender may be accepted (herein after called the contractor, which expression shall unless excluded by or repugnant to the context include his, heirs, executors, administrators, contractor and assigns) shall (A) within 10 days (which may be extended by the Superintending Engineer concerned, upto 15 days if the Superintending Engineer thinks fit to do so) of the receipt by him of the notification of the acceptance of his tender deposit with the Executive Engineer in cash or Govt. securities endorsed to the Executive Engineer (if deposited for more than 12 months) of sum sufficient which will made up the full security deposit specified in the tender or (B) (Permit Government at the time of making any payment to him for work done under the contract to deduct such sum as will amount to four percent of all moneys so payable such deduction to be held by Government by way of security deposit) provided always that in the event of the contractor depositing a lump sum by way of security deposit as contemplated at (A) above, then and in such case, if the sum so deposited shall not amount to Four percent, of the total estimated cost of the work, it shall be lawful for Government at the time of making any payment to the contractor for work done under the contract to make up the full amount of two percent by deducting a sufficient sum from every such payment as last aforesaid until the full amount of the security deposit is made up. All compensation or other sum of money payable by the contractor to Government under the terms of his Contract may be deducted from or paid by the sale of 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 by Government to the Contractor under any other contract or transaction of any nature on any account whatsoever, and in the event of his security deposit being reduced by reason of any such deduction 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 deposits or any part thereof. The Security Deposit referred to when paid in cash may, at the cost of depositor, be converted into interest bearing securities provided that the depositor has expressly desired this in writing.

If the amount of the Security Deposit to be paid in lump sum within the period specified at (A) above is not paid, the Tender/Contract already accepted shall be considered as cancelled and legal step will be taken against the contractor for recovery of the amounts. The amount of the Security Deposit lodged by a

contractor shall be refunded along with the Payment of the final bill, if the date up to which the contractor has agreed to maintain the work in good order is over. If such date is not over, only **50%** amount of security deposit shall be refunded along with the payment of the final bill. The amount of security deposit retained by the Government shall be released after expiry of period up to which the contractor has agreed to maintain the work in good order is over. In the event of the contractor failing or neglecting to complete rectification work within the period up to which the contractor has agreed to maintain in the work in good order, then, subject to provisions of clauses 17 and 20 hereof the amount of Security Deposit retained by Government shall be adjusted towards the excess cost incurred by the department on rectification work This will be the same percentage as that in the at (e).

Compensation for delay

Clause 2 :- The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the date on which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with, all due deligence (time being deemed to be the essence of the contract) on the part of the Contractor and the contractor shall pay as compensation as amount equal to 1% or such smaller amount as the Superintending Engineer (whose decision in writing shall be final) may decide, of the amount of the estimated cost of the whole work as shown by the tender for every day that work remains uncommenced, or unfinished, after the proper dates. And further to ensure good progress during the execution of the works, the contractor shall be bound in all cases, in which the time allowed for any work exceeds one months to complete.

1/4	of work in	1/4th	of the time
1/2	of work in	1/2th	of the time
3/4	of work in	3/4th	of the time

Full work will be completed in full time ie. in **_3__ Months** of the time including monsoon period.

Note :- The quantity of work to be done within a particular time to be specified above shall be fixed by the officer competent to accept the contracts after taking into consideration the circumstances of each case and inserted in the blank space kept for the purpose and abide by the programme of detailed progress laid down by the Executive Engineer.

The following proportion will usually be found suitable :-

In the event of the contractor failing to comply with these conditions he shall be liable to pay as compensation an amount equal to one percent, or such smaller amounts as the Superintending Engineer (whose decision in writing shall be final) may decide of the said estimated cost of the whole work for every day that the due quantity of work remains incomplete. Provided always that the total amount of compensation to be paid under provision of this clause shall not exceed 10 percent of the estimated cost of the work shown in the tender. Superintending Engineer, should be the final authority in this respect irrespective of the fact the tender is accepted by the Chief Engineer/Superintending Engineer/Executive Engineer.

Action when whole of Security Deposit is forfeited

Clause 3 :- In any case in which under any clause or clauses of this contract the contractor shall have rendered himself liable to pay compensation amounting to the whole of his Security Deposit (whether paid in one sum or deducted by installments) or in the case of abandonment of the work owing to serious illness or death of the contractor or any other cause, the Executive Engineer on behalf of the Governor of Maharashtra, shall have power to adopt any of the following courses as he may deem best suited to the interests of Government.

a) To rescind the contract (for which rescission notice in writing to the contractor under the hand of the Executive Engineer shall be conclusive evidence) and in that case the security deposit of the Contractor shall stand forfeited and be absolutely at the disposal of Government.

b) To carry out the work or any part of the work departmentally debiting the contractor which the cost of the work, expenditure incurred on tools and plant, and charges on additional supervisory staff including the cost of work charged establishment employed for getting the unexecuted part of the work completed and crediting him with the value of the work done departmentally 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 the contract. The certificate of the Executive Engineer as to the cost of the work and other allied expenses so incurred and as to the value of the work so done departmentally shall be final and conclusive against the contractor.

c) To order that the work of the contractor be measured up and to take such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete, in which case all expenses incurred on advertisement for fixing a new contracting agency, additional supervisory staff including the cost of work charged establishment and cost of the work executed by the new contract agency will be debited to contractor and the value of the work done or executed through the new contractor shall be credited to the contractor in all respects and in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Executive Engineer as to the cost of the work and other expenses incurred as aforesaid for or in getting the unexecuted work done by the new contractor and as to value of the work so done shall be final and conclusive against to contractor.

In case the contract shall be rescinded under clause (a) above, the contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed by him under this contract unless and until the Executive Engineer shall have certified in writing the performance of the such work and the amount payable to him in respect there of and he shall only be entitled to be paid the amount so certified. In the event of either of the courses referred to in clause (b) or (c) being adopted and the cost of the work executed departmentally or through a new contractor and other allied expenses exceeding the value of such work credited to the contractor, the amount of excess value shall be deducted from any money due to the contractor by the Govt. under the contract or otherwise. Howsoever or from his security deposit or the sale proceeds thereof provided howsoever, that the contractor shall have no claim against Government even if certified value of the work done departmentally or through a new contractor exceeds the certified cost of such work and allied expenses provided always that whichever of the three courses mentioned in clause (a), (b) or (c) is adopted by the Executive Engineer the contractor shall have no 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 advance on account of or with a view to the execution of the work or the performance of contract.

Action when the progress of any particular portion of the work is unsatisfactory.

Clause 4 :- If the progress of any particular portion of the work is unsatisfactory the Executive Engineer shall not with standing the general progress of the work is satisfactory in accordance with clause 2, be entitled to take action under clause 3(b) after giving the contractor 10 days notice in writing and the contractor will have no claim for compensation for any loss sustained by him owing to such action.

Contractor remains liable to pay compensation if action not taken under clause 3 & 4

Power to take possession of or require removal of or sell contractor's plant.

Clause 5 :- In any case in which any of the powers conferred upon the Executive Engineer by Clause 3 and 4 hereof shall have become exercisable and the same shall not have been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall not withstanding be exercisable in any future case of default by the contractor for which by under any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Executive Engineer taking action under sub-clause (a) or (c) of clause (3) he may, if he so desires, take possession of all or any tools plant, materials and stores in or upon the works or the 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 contract rates not being applicable at current market rates, to be certified by the Executive Engineer whose certificate there of shall be final. In the alternative the Executive Engineer may after giving notice in writing to the contractor or to his clerk of the works, foreman or other authorized agent require him to remove such tools, plant, materials or stores from the premises within a time to be specified in such notice and in the event of contractor failing to comply with any such requisition the Executive Engineer may remove them at the contractor's expenses or sale them by auction or private sale, on account of the contractor at his risk in all respects, and the certificate of the Executive Engineer as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale be final and conclusive against the contractor.

Extension of time

Clause 6 :- If the Contractor shall desire an extension of the time for completion of the work on the ground of his having been unavoidably hindered in it's execution or on any other ground, he shall apply in writing to the Executive Engineer before the expiration of the period stipulated in the tender or before the expiration of 30 days from the date to which he was hindered as aforesaid or on which the cause for asking extension occurred, whichever is earlier and the Executive Engineer or in the opinion of the Superintending Engineer or Chief Engineer as the case may be, if in his opinion there were reasonable ground for granting an extension, grant such extension as he thinks necessary or proper. The decision of the Executive Engineer/Superintending Engineer or Chief Engineer in this matter shall be final.

Clause 6-A :- In the case of delay in handing over the land required for the work due to unforeseen cause, the contractor shall not be entitled for any compensation whatsoever from the Government on the ground that the machinery or the labour was idle for certain period. Contractor may, however apply for extension of time limit which may be granted on the merit of the case.

Final Certificate

Clause 7 :- On completion of the work the contractor shall be furnished with a certificate by the Executive Engineer (Hereinafter called 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 have been executed all scaffolding surplus materials and rubbish and shall have cleaned of the dirt from all wood work, doors, windows, walls, floors or other parts of any building, in or upon which the work has been executed, or of which he may have had possession for the purpose of executing the work or until the work shall have been measured by the Engineer-in-charge or where the measurements have been taken by his subordinates until they have received the approval of the Engineer-in-charge or where the measurements have been taken by his subordinates until they have received the approval of the Engineer-In-Charge, the said measurements being binding and conclusive against the contractor. If the contractor shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus material and rubbish, and cleaning off dirt on or before the date fixed for the premises on which the work shall have been executed, all scaffolding, surplus materials and rubbish and shall have cleaned off, the dirt from all wood work, doors, windows, walls, floors or

other parts of any building in or upon which the work has been executed or of which he may have had possession for the purpose of executing the work or until the work shall have been measured by the Engineer in charge or where the measurements have been taken by his Subordinates until they have received approval of the Engineer In Charge, the said measurements being binding and conclusive against the Contractor. If the Contractor shall fail to comply with the requirements of this Clause as to the removal of scaffolding, surplus materials & rubbish & cleaning of 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 materials and rubbish, and dispose of 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 but shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Payments on intermediate Certificate to be regarding as advances.

Clause 8 :- No payment shall be made for any work estimated to cost less than Rs. One thousand, till after the whole of the said work shall have been completed and a certificate of completion given. But in the case of the works estimated to cost more than Rs. One thousand, the contractor shall on submitting a monthly bill there for, be entitled to receive payment proportionate to the part of the work then approved and passed by the Engineer-in-charge, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. All such intermediate payment shall be regarded as payments by way of advance against the final payments only and not as payments for work actually done & completed. and shall not preclude the Engineer-in-charge from requiring any bad unsound, imperfect or unskillful work to be removed and taken away and reconstructed, or re-erected, nor shall any such payment be considered as an admission of the due performance of the contract or any part thereof, in any respect or the accruing of any claim, nor shall it conclude, determine or affect in any other way the powers of the Engineer-in-charge as to final settlement and adjustment of the accounts or otherwise, or in any other way vary or affect the contract. The final bill shall be submitted by the contractor within one month of the date fixed for the completion of the work otherwise the Engineer-in-charge's certificate of the measurement and of the total amount payable for the work shall be final and binding on all parties.

Payments at reduced rates on account of items of work not accepted as completed to be at the discretion of the Engineer-in-charge.

Clause 9:- The rates for several items of work estimated rates to cost more than Rs. One Thousand agreed to within, shall be valid only when the item concerned is accepted as having been completed fully in accordance with the sanctioned specifications. In case where the items of work are not accepted as so completed the Engineer-in-charge may make payment on account of such items at such reduced rates as he may consider reasonable in preparation of final or on account bills.

Bill to be submitted monthly.

Clause 10 :- A bill shall be submitted by be contractor each month on or before the date fixed by the Engineer-in-charge for all work executed in the previous month, and the Engineer-in-charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified and the claim so far as if is admissible shall be adjusted, if possible, within 10 days from the presentation of the bill, if the contractor does not submit the bill within time fixed as aforesaid, the Engineer-in-charge may depute a subordinate to measure up the said work in the presence of the contractor or his duly authorised agent whose counter signature to the measurement list shall be sufficient warrant, and the Engineer-in-charge may prepare a bill from such list which shall be binding on the contractor in all respects.

Bill to be on printed form.

Clause 11 :- The Contractor shall submit all bills on the printed forms to be had on application at the office of the Engineer-in -charge. The charges to be made in the bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these condition and not mentioned or provided for in the tender, at the rate hereinafter provided for such work.

Store supplied by Government.

Clause 12 :- If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the P.W.D. store or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-charge, (such material and stores, and the prices to be charged therefore as here-in-after mentioned being so-far-as practicable for the convenience of the contractor but not so as in any way to control the meaning or effect of this contract specified in the schedule or memorandum hereto annexed) the contractor shall be supplied with such materials and stores as may be required from time to time to be used by him for the purposes of the contract only, and the value of the full quantity of materials and stores so supplied shall be set off or deducted from any sums then due, or thereafter to become due to

the contractor under the contract or otherwise from the security deposit, or the proceeds of sale thereof, if the security deposit is held in Government securities, the same or a sufficient portion thereof shall in that case be sold for the purpose. All materials supplied to the contractor shall remain the absolute property of Government and shall on no account be removed from the site of the work and shall at all times be open to inspection by the Engineer-In-Charge. Any such materials unused and is in perfectly in good condition at the time of completion or determination of the contract shall be returned to the Public Works Departments stores, if the Engineer-In-Charge so requires by notice in writing given under his hand, but the contractor shall not be entitles to return any such, materials except with consent of the Engineer In Charge and he shall have no claim for compensation on account of any such materials supplied to him as aforesaid but remaining unused by him or for any wastage in or damage to any such material.

Clause 12(A) :- All stores of controlled material such as cement, steel, Bitumen, etc. supplied to the contractor by Government should be kept by the contractor under lock and key and will be accessible for inspection by the Executive Engineer or his authorised agent at all the times.

Work to be executed in accordance with specifications, drawings, orders etc.

Clause 13 :- The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and every other respect in strict accordance with specifications**.** The contractor shall also confirm exactly fully and faithfully to the designs, and drawings and instructions 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 for the purpose of inspection at such office or at the site of work during office hours. The contractor will be entitled to receive three sets of contract drawings and working drawings as well as one certified copy of the accepted tender along with the work order free of cost. Further copies of the contract drawings and working drawings if required by him, shall be supplied at the rate of Rs.1000/- per set of contract drawing and Rs. 500/- per working drawing except where otherwise specified.

Alterations in specifications & designs not to invalidate contract.

Clause 14 :- The Engineer-in-charge shall have power to make any alteration in or additions to or additions to, the original specification, drawings, designs and instructions that may appear to him 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 in this connections which may be given to him in writing signed by the Engineer -in-charge and such alterations shall not invalidate the contract, and any additional work which the contractor may be directed to do in the manner above specified as a part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to the main work and at the same rates as per specified in the tender for the main work. And if the additional or altered work, includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out at the rates entered in schedule of rates of the division or at the rate mutually agreed upon rates between the Engineer-in-charge and the contractor which ever are lower. If the additional or altered work for which no rate is entered in the scheduled of rates of the Division, is ordered to be carried out before the rates are agreed upon, then the contractor shall within 7 days of the date of receipt by him of order to carry out work inform the Engineer-in-charge of the rates which if is his intension to charge for such class of work, and if the Engineer-in-charge does not agreed to this rate he shall by notice in writing be at liberty to cancelled his ordered to carry out such class of work and arrange to carry it out in such manner as he may consider advisable, provided always that if the contractor shall commence work or incur any expenditure in regard thereto before the rate shall have been determined as lastly herein before mentioned then in such case he shall only be entitled to be paid in respect of the work carried out or expenditure incurred in by him prior to the date of the determination of the rate as aforesaid according to such rates as shall be fixed by the Engineer-in-charge. In the event of a dispute the decision of the Superintending Engineer of the Circle will be final.

Rate for works not entered in the estimate on schedule of rate of the district.

Where however, the work is to be executed according to the designs, drawings, and specifications recommended by the contractor and accepted by the competent authority the alterations above referred to shall be within the scope of such designs, drawings, and specifications to the tender.

Extension of time in consequence of additions or alterations.

The time limit for the completion of work for which no rate is specified in contract shall be carried out at the rate entered in schedule of rates of schedule works. The time limit for completion for work shall be extended in the proportion that the increase in its cost occasioned by alterations or additions bears to the cost of the original contract work, and the certificate of the Engineer-in-charge as to such proportion shall be conclusive.

No claim to any payment or compensation for alteration in or restriction of work.

Clause 15 :- (1) If at any time after the execution of the contract documents, the Engineer In Charge shall for any reason whatsoever (other than default on the part of the contractor for which Government is entitled to rescind the contract) desire that the whole or any part of the work specified in the tender should be suspended for any period or that the whole or part of the work should not be carried out at all he shall give to the contractor a notice in writing of such desire and upon the receipt of such notice the contractor shall forthwith suspend or stop the work holly or in part as required, after having due regard to the appropriate state at which the work should be stopped or suspended so as not to cause any damage or injury to the work already done or endanger the safety thereof injury to the work already done or endanger the safety thereof provided that the decision of the Engineer as to the stage at which the work or any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the contractor. The contractor shall have no claim to any payment or compensation whatsoever by reason of or in pursuance of any notice as aforesaid on account of any suspension, stoppage or curtailment except to the extent specified here-in-after.

(2) Where the total suspension of the work ordered as aforesaid continued for a continuous period exceeding 90 days, the contractor shall be at liberty to withdraw from the contractual obligations under the contract so far as it pertains to the unexecuted part of the work by giving a 10 days prior notice in writing to the Engineer, within 30 days of the expiry or expiry of the said period of 90 days, of such intention and requiring the Engineer to record the final measurements of the work already done and to pay the final bill. Upon given such notice, the contractor shall be deemed to have been discharged from his obligation to complete the remaining unexecuted work under his contract on receipt of such notice the Engineer shall proceed to complete the measurement and make such payment as may be finally due to the contractor within a period of 90 days from the receipt of such notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provision of this clause.

(3) Where the Engineer requires the contractor to suspend the work for a period in excess of 30 days at any time or 60 days in the aggregate, the contractor shall be entitled to apply to the Engineer within 30 day of the resumption of the work after such suspension for payment of compensation to the extent of pecuniary loss

suffered by him in respect of working machinery remained idle on the site or on account of his having, have to pay the salary or wages of labour engaged by him during the said period of suspension. Provided always that the contractor shall not be entitled to any claim in respect of any such working machinery, salary or wages for the first 30 days whether consecutive or in the aggregate of such suspension or in respect of any suspension whatsoever occasioned by unsatisfactory work or any other default on his part. The decision of the Engineer in this regard shall be final and conclusive against the contractor.

(4) In the event of

i) Any total stoppage of work on notice from the Engineer under sub-clause (1) in that behalf.

ii) Withdrawal by the contractor from the contractual obligation to complete the remaining unexecuted work under sub-clause (2) on account of continued suspension of work for a period exceeding 90 days. **OR**

iii) Curtailment in the quantity of an item or items originally tendered on account of any alteration, omission or substitutions in the specifications, drawings, designs or instructions under clause 14 where such curtailment exceeds 25% in quantity and the value of the quantity curtailed beyond 25% at the rates for the items specified in the tender is more than **Rs. Five thousand/-**

It shall be open to the contractor within 90 days from the service of (i) the notice of stoppage of work or (ii) the notice of withdrawal from the contractual obligation under the contract on account of the continued suspension of the work or (iii) notice under clause 14 resulting in such curtailment to produce to the Engineer Satisfactory documentary evidence that he had purchased or agreed to purchase material for use in the contracted work, before receipt by him of the notice of stoppage, suspension or curtailment and require the government to take over on payment such material at the rates determined by the Engineer. Provided however such rates shall in no case exceed the rates at which the same were acquired by the contractor. The Government shall thereafter take over the material so offered, provided the quantities offered are not in excess of the requirement of the unexecuted work as specified in the accepted tender and are of quality and specification approved by the Engineer.

No claim to compensation on account of loss due delay in supply of material by Government.

Clause 15-A :- The Contractor shall not be entitled to claim any compensation from Government for the loss suffered by him on account of delay by Government in the supply of materials entered in Schedule A where such delay is caused by

i) difficulties relating to supply of railway wagons
ii) Force majaure.
iii) Act of God
iv) Act of enemies of the States or any other reasonable cause beyond the control of Government.

In the case of such delay in the supply of such materials, Government shall grant such extension of time for completion of the works, as shall appear to the Executive Engineer to be reasonable in accordance with circumstances of the case. The decision of Executive Engineer as to the extension of time shall be accepted as final by the Contractor.

Time Limit for unforeseen claims.

Clause 16 :- Under no circumstances whatsoever shall the contractor be entitled to any compensation from Government on any account unless the contractor shall have submitted claim in writing to the Engineer-in-charge within one month of the cause of such claim occurring.

Action and compensation payable in case of bad work.

Clause 17 :- If any time before the Security Deposit or any part thereof is refunded to the contractor it shall appear to the Engineer-in-charge or his subordinate in-charge of the work, that any work has been executed with unsound, imperfect or unskillful 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 not withstanding the fact that work, materials or articles complained of may have been inadvertently 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 provided other proper and suitable materials or articles at his own charge and cost and in the event of his failing 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 compensation at the rate of 1% on the amount of the estimate for every day not exceeding 10 days, during which the failure so continues 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 contractors should the Engineer-in-charge consider that 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 therefor.

Work to be open to inspection. Contractor or responsible agent to be present.

Clause 18 :- All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the 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 at all other times at which reasonable notice of the intention of the Engineer-in-charge and his subordinates to visit the works shall have been given to the contractor, either himself be present to receive order and instructions or have a responsible agent duly accrredited in writing, present for the purpose. Orders given to the contractor's duly authorised agent shall be considered to have the same force and effect as if they had been given to the contractor himself.

Notice to be given before the work is covered up.

Clause 19 :- The Contractor shall give not less than 5 days notice in writing to the Engineer-in-charge or his subordinates in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof taken before the same is so covered up or placed beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge or his subordinate 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 or consent obtained, the same shall be uncovered at the contractor's expense and in default thereof no payment or allowance shall be made for such work or for the materials with which the same was executed.

Contractor liable for damage done and for imperfection

Clause 20 :- If during the period of **18 months** from the date of completion as certified by the Engineer-in charge pursuant to the **clause 7** of the contract or **12 months** after commissioning of the work which ever is earlier in the opinion of the Executive Engineer, the said work is defective in any manner whatsoever, the contractor shall forthwith on receipt of notice in that behalf from the Executive Engineer, duly commence execution and completely carry out at his cost in every respect all the work that may be necessary for rectifying and setting right the defects specified therein including dismantling and reconstruction of unsafe portions strictly in accordance with and in the manner prescribed and under the supervision of the Executive Engineer. In the event of the contractor failing or neglecting to commence execution of

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the said rectification work within the period prescribed there for in the said notice and/or to complete the same as aforesaid as required by the said notice, the Executive Engineer may get the same executed and carried out departmentally or by any other agency at the risk on account and at the cost of the contractor. The contractor shall forthwith on demand pay to the government the amount of such costs, charges and expenses sustained or incurred by the government of which the certificate of the Executive Engineer shall be final and binding on the contractor. Such costs, charges and expenses shall be deemed to be arrears of land revenue and in the event of contractor failing or neglecting to pay the same on demand as aforesaid without prejudice to any other rights and remedies of the government, the same on demand as aforesaid without prejudice to any other rights and remedies of the government, the same may be recovered from the contractor as arrears of land revenue. The government shall also be entitled to deduct the same from any amount which may then be payable or which may thereafter becomes payable by government to the contractor either in respect of the said work or any other work whatsoever, or from the amount of the security deposit retained by government.

Contractor to supply plant ladders, scaffolding etc. and is liable for damages arising from non-provision of lights, fencing etc.

Clause 21 :- The contractor shall supply at his own cost all materials (except such special materials if any in accordance with the contract as may be supplied from the Public Works Department Divisional Stores) plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and any temporary works which may be required for the proper execution of the work, whether in the original, altered or substituted from, whether included in the specification or other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-charge as to any matter on which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage there for, to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out work, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the 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 provide all necessary fencing and lights required to protect the Public from accident and shall also be bound to bear the expenses of defence of every suit, action or other legal proceedings at law that may be brought by any person for injury sustained owing to the neglect of the above precautions, and pay any damages and cost which may be awarded in any such suit, actions or proceedings to any such person or which may with the consent of the contractor be paid in compromising any claim by any such person.

List of machinary in contractor's possession and which they propose to use on the work should be submitted along with the tender.

Clause 21-A :- The contractor shall provide suitable scaffolds and working platforms, gangways and stairways and shall comply with the following regulations in connection therewith.

a) Suitable scaffolds shall be provided for workman for all work that can not 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 for as possible by competent workers possessing adequate experience in this kind of work.

c) All scaffolds and appliance connected therewith and all leaders shall

i) be of sound material

ii) be of adequate strength having regard to the loads and strains to which they will be subjected, and

iii) be maintained in proper condition

d) Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use

e) Scaffolds shall not be overloaded and so far as practicable the load shall be evenly distributed.

f) Before installing lifting gear on scaffolds special precaution shall be taken to ensure the strength and stability of the scaffolds.

g) Scaffolds shall be periodically inspected by a competent person

h) Before allowing a scaffold to be used by his workmen the contractor shall check whether the scaffold has been erected by his workmen or not take steps to ensure that it complies fully with the regulations herein specified.

i) 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 tripping or slipping, and

iii) be kept free from any unnecessary obstructions.

j) In the case of working platforms, gangways, working places and stairways at a height exceeding 3 meters. (to be specified).

i) every working platform and every gangways shall have to be closely boarded unless other adequate measures are taken to ensure safety.

ii) every working platform and gangways, shall have adequate width and,

iii) every working platform, gangways, working places, stairway shall be suitably fenced

k) Every opening in the floor of the building or in working platform shall except for the time and to the extent required to allow the access or persons or the transport or shifting of materials be provided with suitable means to prevent the fall of persons or materials.

l) When persons are employed on a roof where there is danger of falling from a height exceeding 3 meters suitable precaution (to be prescribed) shall be taken to prevent the fall of persons or materials.

m) Suitable precautions shall be taken to prevent persons being struck by articles which might fall from scaffolds or other working place.

n) Safe means of access shall be provided to all working platforms and other working places.

o) The contractor(s) will have to make payments to the labourers as per minimum wages act.

Clause 21 B :- The contractor shall comply with the following regulations as regards the hoisting appliances to be used by him.

(a) Hoisting machines and tackle, including their attachment, anchorages and supports shall

(i) be of good mechanical construction, sound material and adequate strength and free from patent defect and

(ii) be kept in good repair and in good working order

(b) Every rope used in hoisting or lowering material or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.

(c) Hoisting machines and tackle shall be examined and adequately tested after erection on the site and use before and be re- examined in position at intervals to be prescribed by the government.

(d) Every chain, ring hook shackle, swivel and pully block used in hoisting or lowering of materials or as a means of suspension shall be periodically examined.

(e) Every crane driver or hoisting appliances operator shall be properly qualified.

(f) No person who is below the age of 21 years shall be in control of any hoisting machine, including any scaffolds, winch or give signals to the operator.

(g) In the case of every hoisting machine and of every chain, ring, hook, shackle, swivel and pulley block used on hoisting or lowering or as a means of suspension the safe working load shall be ascertained by adequate means.

(h) Every hoisting machine and all gear referred to in the preceding regulation shall be plainly marked with the safe working load.

i) In the case of hoisting machine having a variable safe working load, each safe working load and the condition under which it is applicable shall be clearly indicated.

j) No part of any hoisting machine or of any gear referred to in regulation of above shall be loaded beyond the safe working load except for the purpose of testing.

k) Motors, gearing transmissions, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safe guards.

l) Hoisting appliances shall be provided with such means as will reduce to a minimum risk of the accidental descent of the load.

m) Adequate precautions shall be taken to reduce to a minimum the risk of any part of a suspended load becoming accidentally displace.

Measure for prevention of fire.

Clause 22 :- The contractor shall not set fire to any standing jungle, tree, brush wood or grass without a written permission from the Executive Engineer. When such permission is given and also in all cases when destroying cut or dug up trees, brush wood, grass etc. by fire, the contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property. The contractor shall make his own arrangements for drinking water for the labour employed by him.

Liability of contractors for any damage done in or outside work area.

Clause 23 :- Compensation for all damage done intentionally or unintentionally by contractor's labour whether in or beyond the limits of Govt. property including any damage caused by the spreading of fire mentioned in clause 22 shall be estimated by the Engineer-in-charge or such other officer as he may appoint and the estimates of the Engineer-in-charge subject to the decision of the Superintending Engineer on appeal shall be final and the contractor shall be bound to pay the amount of the assessed compensation on demand failing which the same will be recovered from the contractor as damages in the manner prescribed in clause 1 or deducted by the Engineer -in-charge from any sums that may be due to or become due from government to the contractor under this contract or otherwise.

The Contractor shall bear the expenses of defending any action or other legal proceedings that may be brought by any person for injury sustained by him owing to neglect of precautions to prevent the spread of fire and he shall also pay any damages and cost that may be awarded by court in consequence.

Employment of female labour.

Clause 24 :- The employment of female labourers on works in the neighborhood of soldiers barracks should be avoided as far as possible.

Work on Sunday.

Clause 25 :- No work shall be done on a Sunday without the sanction in writing of the Engineer-in-charge.

Work not to be sublet.

Clause 26 :- The contract shall not be assigned or sublet without the written approval of the Engineer-in-charge. And if the contractor shall assign or sublet his contract, or attempt so to do, or become insolvent or commence any proceedings to get himself adjudicated and insolvent or make any composition with his creditors, or attempt so to do the Engineer- in- charge may be notice in writing, regarding the contract. Also or if 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 Government in any way relating to his office or employment or in any way relating to his office or employment or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-charge may thereupon by notice in writing rescind the contract. In the event of a contract being rescinded, the Security Deposit of the contractor shall there upon stand forfeited and be absolutely at the disposal of the Government and same consequences shall ensure as if the contract had been rescinded under clause 3 hereof and in addition the contractor shall not be entitled to recover or be paid for any work therefore actually performed under the contract.

Contractor may be rescinded and Security Deposit forfeited for subleting if without approval or for bribing a Public Officer or if Contractor becomes insolvent.

Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss.

Clause 27 :- All sums payable by a contractor by way of compensation under any of these conditions shall be considered as a reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained and whether any damage has or has not been sustained.

Changes in the constitution of the firm to be notified.

Clause 28 :- In the case of a tender by partners any change in the constitution of a firm shall be forthwith notified by the contractor to the Engineer-in-charge for his information.

Directions & control of Superintending Engineer

Clause 29 :- All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Superintending Engineer of the Circle for the time being, who shall be entitled to direct at what point or points and in what manner they are to be commenced and from time to time carried out.

Work to be under direction and control of Superintending Engineer.

Clause 30 :- (1) Except where otherwise specified in the contract and subject to the powers delegated to him by Government under the code rules then in force, the decision of the Superintending Engineer of the Circle for the time being shall be final, conclusive and binding on all parties to the contract upon all questions relating to the meaning of the specifications, designs, drawings and instruction herein before mentioned and as to the quality of the workmanship or material used on the work, or as to any other question, claim, right, matter or things whatsoever, in any way arising out of, or relating to the contract designs, drawing, specifications, estimates, instructions, orders or these conditions, or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof.

2) The contractor may within thirty days of receipt by him of any order passed by the Superintending Engineer of the Circle as aforesaid appeal against it to the Chief Engineer concerned with the contract, work or project provided that

a) The accepted value of the contract exceeds Rs. 10.00 lakhs (Rupees Ten Lakh)

b) Amount of claim is not less than Rs. 1.00 Lakh (Rupees One lakh)

c) If the contractor is not satisfied with the order passed by the Chief Engineer as aforesaid the contractor may within thirty days of receipt by him of any such order, appeal against it to the concerned Secretary, Public Works Department who, if convinced that prima-facie the contractors claim rejected by the Superintending Engineer/Chief Engineer is not frivolous and that there is some substance in the claim of the contractor as would merit a detailed examination and decision by the Standing Committee, shall put up to the Standing Committee at Government level for suitable decision. (vide Public Works Circular No. CAT/1086/CR-110/Bldg-2, Dated 07/05/1986.

Store of European or American manufacture to be obtained from the Govt.

Clause 31 :- The contractor shall obtain from the P.W.D. stores all stores and articles of European or American manufacture which may be required for the work, or any part thereof or in making up an articles required therefor or in connection therewith unless he has obtained permission in writing from the Engineer-in-charge to obtain such stores and articles elsewhere. The value of such stores and articles as may be supplied to the contractor by Engineer-in-charge will be debited to the contractor in his account at the rates shown in the Schedule in form "A" attached to contract, and if they are not entered in the said Schedule, they shall be debited to him at cost price which for the propose of this contract shall include the cost of carriage and all other expenses whatsoever, which may have to be incurred in obtaining delivery of the same as the stores aforesaid.

Lumpsums in estimates.

Clause 32 :- When the estimate on which a tender is made includes lump sumps in respect of parts of the work, the Clause 32. When the estimate on which tender is made includes lumpsums in respect of parts of the work, the contractor shall be entitled to payment in respect of items of work involved or the part of the work in question at the same rates as are payable under this contract for each items, or if the part of the work in question is not in the opinion of the Engineer-in-charge capable of measurement the Engineer-in-charge may at his discretion pay the lump sum amount entered in the estimate, and the certificate in writing of the Engineer-in-charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of this clause.

Action where no specifications.

Clause 33 :-In the case of any class of work for which there is no such specification as in mentioned in Rule-1 such work shall be carried out in accordance with the Divisional Specifications, and in the event of there being no Divisional Specifications, then in such case the work shall be carried out in all respects in accordance with the divisional specifications, and in the event of there being no divisional specifications, then in such case the work shall be carried out in all respect in accordance with all instructions and requirements of the Engineer-in-charge.

Definition of work.

Clause 34 :-The expression 'works' or 'work' where used in these condition shall, unless there be something in the subject or context repugnant to such construction be construed to mean the work or the works contracted to be executed under or in virtue of the contract, whether temporary or permanent and whether original, altered, substituted or additional.

Clause 35 :- The percentage referred to in the tender shall be deducted from/added to the gross amount of the bill before deducting the value of any stock issued.

Contractor's percentage whether applied to net or gross amount of bill.

Clause 36 :- All quarry fees, royalties, and ground rent for stacking materials if any, should be paid by the contractor who will however be entitled to a refund of such of the charges as are permissible under the rules or obtaining a certificate from the Engineer-In-Charge that the materials were required for use on Government work.

Refund of Quarry fees & royalties.

Clause 37 :- The contractor shall be responsible for and shall pay compensation to his workmen payable under the Workmen's Compensation Act. 1923 (VIII of 1923), (hereinafter called the said Act) for injuries caused to the workmen's. If such Compensation is payable and or paid by Government as principal under the subsection (1) of section 12 of the said Act on behalf of the contractor, this shall be recoverable by Government from the contractor under sub section (2) of the said section. Such compensation shall be recovered in the manner laid down in clause I above.

Compensation under Workmen's Compensation Act.

Clause 37-A :- The contractor shall be responsible for and shall pay expenses of providing Medical aid to any workmen who may suffer a bodily injury as a result of an accident. If such expenses are incurred by Government the same shall be recoverable from the contractor forthwith and be deducted without prejudice to any other remedy of Government from any amount due or that may become due to the contractor.

Clause 37-B :- The contractor shall provide all necessary personal safety equipment and first-aid apparatus available for the use of the persons employed on the site and shall maintain the same in condition suitable for immediate use at any time and shall comply with the following regulation in connection therewith -

a) The worker shall be required to use the equipment so provided by the contractor and the contractor shall take adequate steps to ensure proper use of the equipment by those concerned.

b) When work is carried on in proximity to any place where there is no risk of drawing, all necessary equipments shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.

c) Adequate provision shall be made for prompt first-aid treatment for all injuries likely to be sustained during the course of the work.

Clause 37-C :- The contractor shall duly comply with the provision of 'The Apprentices Act. 1961 (III of 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so he shall be subject to all the liabilities and penalties provided by the said Act and said Rules'.

Claim for quantity of works entered in the tender or estimate.

Clause 38 :- (1) Quantities in respect of the several items shown in the tender are approximate and no revision in the tendered rates shall be permitted in respect of any of the items so long as, subject to any special provision contained in the specification prescribing a different percentage of permissible variation in the quantity of the items does not exceed the tender quantity by more than 25% and so long as the value of the excess quantity beyond this limit, at the rate of the items specified in the tender, is not more than Rs.5,000/-.

2) The contractor shall if ordered in writing by the Engineer-In-Charge, so to do also carry out any quantities in excess of the limit mentioned in Sub-Clause (1) here of on the same conditions as and in accordance with the specifications in the tender and at the rates (i)derived from the rates entered in the current schedule of rates and in the absence of such rates (ii) at the rate prevailing in market, the said rates being increased or decreased as the case may be, by the percentage which the total tendered amount bears to the estimate cost of the work as put to tender, based upon the Schedule of rates applicable to the year in which the tenders were invited (for the purpose of operation of this clause, this cost shall be taken to be **Rs. 6933956 /-**

3) Claim arising out of reduction in the tendered quantity of any item beyond 25 percent will be governed by the provisions of clause 15 only when the amount of such reduction beyond 25% at the rate of the item specified in the tender is more than **Rs. 5,000.00.**

4) The clause is not applicable to extra items.

Employment of famine or other labour etc.

Clause 39 :- The contractor shall employ any famine, convict or other labour of a particular kind of class if ordered in writing to do so by the Engineer-in-charge.

Claim for compensation for delay in starting work.

Clause 40 :- No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition land or in the case of the clearance of work on account of any delay in according sanction to estimates.

Claim for compensation for delay in the execution of work.

Clause 41 :- No compensation shall be allowed for any delay in execution of the work on account of water standing in borrow pits or compartments. The rates are inclusive for hard or cracked soil excavation in mud, subsoil water or water standing in borrow pits and no claim for an extra rate shall be entertained, unless otherwise expressly specified.

Entering upon or commencing and portion of work.

Clause 42 :- The Contractor shall not enter upon or commence any portion of work except with the written authority and instructions of the Engineer-in-charge or of his subordinate incharge of the work. Failing such authority the contractor shall have no claim to ask for measurements of or payment for work.

Minimum age of persons employed the employment of donkey and/or other animals and the payment of fair wages.

Clause 43 :- (i) No contractor shall employ any person who is under the age of **18** years.

(ii) No contractor shall employ donkeys or other animals with breeching of string or thin rope. The breeching must be at lease 3 inches wide and should be of tape (Newar).

(iii) No animal suffering from sores; lameness or emaciation or which is immature shall be employed on the work.

(iv) The Engineer in charge or his agent is authorised to remove from the work any person or animal found working which does not satisfy these conditions and no responsibility shall be accepted by the Government for any delay caused in the completion at the work by such removal.

(v) The contractor shall pay fair and reasonable wages to the workmen employed by him in the contract undertaken by him. In the event of any dispute arising between the contractor and his workmen on the grounds that the wages paid are not fair and reasonable, the dispute shall be referred without delay to the Executive Engineer who shall decide the same. The decision of the Executive Engineer, shall be conclusive and binding on the contractor, but such decision shall not in any way affect the condition in the contract regarding the payment to be made by the Government at the sanctioned tender rates

(vi) The contractor shall provide drinking water facilities to the workers. Similar amenities shall be provided to the workers engaged on large work in urban areas

(vii) The Contractor should take precautions against accidents which take place on account of labour using loose garments while working near machinary.

Method of Payment.

Clause 44 :- Payment to contractors shall be made by cheques drawn on any treasury within the Division convenient to them. Provided the amount exceed Rs. 10/- Amount not exceeding Rs.10/- will be paid in cash.

Acceptance of conditions compulsory before tendering for the work.

Clause 45 :- Any contractor who does not accept these conditions shall not be allowed to tender for works

Employment of scarcity labour.

Clause 46 :- If Government declare a state of scarcity or famine to exist in any village situated within 10 miles of work, the contractor shall employ upon such parts of the work as suitable for unskilled labour any person certified to him by the Executive Engineer or by any person to whom Executive Engineer may have delegated this duty in writing to be in need of relief and shall be bound to pay to such persons wages not below minimum which any dispute Government may have fixed in this behalf. Any dispute which may arise in connection with the implementation of this clause shall be decided by the Executive Engineer whose decision shall be final and binding on the contractor.

Clause 47 :- The price quoted by the contractor shall not in any case exceed the control price, if any, fixed by Government or reasonable price which is permissible for him to charge as private purchaser for the same class and description of goods under the provisions of Hoarding and profiteering Prevention Ordinance, 1984 as amended from time to time. If the price quoted exceeds the controlled price of the price permissible under Hoarding and Profiteering prevention Ordinance, the contractor will specifically mention this fact in his tender along with reasons for quoting such higher price. The purchaser at his discretion will in such case exercises the right of revising the price at any stage so as to confirm

with the controlled price on the permissible under the Hoarding and Profiteering Prevention Ordinance. This discretion will be exercised without prejudice to any other action that may be taken against the contractor.

Clause 47-A: The tendered rates shall be inclusive of all taxes, rates and cases and shall also be inclusive of all tax leviable in respect of works contract in provision of the Maharashtra Sales Tax /VAT on transfer of property in goods involved in the execution of works contract **Act, 1985 (Maharashtra Act No. XIX of 1985) Maharashtra Act XIX of 1985, clause regarding turnover tax vide PWD Circular No. CAT 1086/CR-330/Bldg-2 dated 10.06.87.**

Clause 48 :- The rates to be quoted by the contractor must be inclusive of sales tax. No extra payment on this account will be made to the contractor.

Clause 49 :- In case of materials that may remain surplus with the contractor from those issued for the work contracted from the date of ascertaining of the materials being surplus be taken as the date of sale for the purpose of sales tax and the sale tax will be recovered on such sale.

Clause 49-A :- Deleted

Clause 50 :- The contractor shall employ the unskilled labour to be employed by him on the said work only from locally available labours and shall give preference to those persons enrolled under Maharashtra Government Employment and Self Employment Departments Scheme. Provided, however that if the required number of unskilled labours are not available locally, the contractor shall in the first instance employ such number of persons as is available and thereafter may with prior permission in writing of the Executive Engineer-in-charge of the said work, obtain the rest of the requirement of unskilled labour from outside the above scheme.

Clause 51 :- The contractors are bound to pay to the labourers wages according to the Minimum Wages Act, 1948 applicable to the Zone in Accordance with the order issued in Government PWD/Circular No. MWA/1063, dated 7-12-1968.

Clause 52 :- All amounts whatsoever which the contractor is liable to pay to the Government in connection with the execution of the work including the amount payable in respect of

(1) Material and or stores supplied/issued hereunder by the Government to the contractor.

(2) Hire charges in respect of heavy plant, machinery and equipment given on hire by the Government to the Contractor, for execution by him of the work and/or on which the advance have been given by the Government to the contractor shall be deemed to be arrears of the land revenue and the Government may without prejudice to any other rights and remedies of the Government recover the same from the contractor as arrears of land revenue.

Clause 53 :- The contractor shall duly comply with all the provisions of the Contract Labour (Regulation and Abolition) Act 1970, (37 of 1970 and the Maharashtra Contract Labour (Regulation and Abolition) Rules, 1971 as amended from time to time and all other relevant statutes and statutory provisions concerning payment of wages particularly to workmen employed by the contractor and working on the site of the work. In particular, the contractor shall pay wages to each worker employed by him on the site of the work at the rates prescribed under the Maharashtra contract Labour (Regulation and Abolition) Rules 1971. If the contractor fails or neglects to pay wages at the said rates or make short payment and the Government makes such payment of wages in full or part thereof less paid by the contractor, as the case may be the amount so paid by the Government to such workers shall be deemed to be arrears of land revenue and the government shall be entitled to recover the same as such from the contractor or deduct the same from the amount payable by the Government to the contractor hereunder or from any other amounts payable to him by the Government. (Minimum wages act as per Government Circular CAT/1284/(120)/Building Dt. 14/8/1985).

Clause 53-A :- Deleted

PRICE VARIATION CLAUSE

Clause 54 :- If during the operative period of the contract as defined in condition (i) below, there shall be any variation in the Consumer Price Index (New Series) for Industrial Workers for Nagpur centre as per the Labour Gazette published by the Commissioner of Labour, Government of Maharashtra and/or in the wholesale Price Index for all commodities, prepared by the office of Economic Adviser, Ministry of Industry, Government of India or in the price of petrol/oil and lubricants, and major construction materials like bitumen, cement, steel, various types of metal pipes etc., then subject to the other conditions mentioned below, price adjustment on account of

(1) Labour Component.

(2) Material Component.

(3) Petrol, Oil, and Lubricants Component.

(4) HYSD & Mild Steel Component.

(5) Cement Component.

Calculated as per the formula hereinafter appearing, shall be made. Apart from these, no other adjustments shall be made to the contract price for any reasons whatsoever. Component percentage as given below are as of the total cost of work put to tender. Total of Labour, Material & POL components shall be 100 and other components shall be as per actuals.

1.	Labour Component	-	K1	**20.00 %**
2.	Material Component	-	K2	**76.00 %**
3.	P.O.L. Component	-	K3	**4.00 %**
				100.00 %
4.	HYSD & mild steel component		-	Actual
5.	Cement component		-	Actual

Note :- If Cement, Steel Bitumen, C.I.& D.I. Pipes are supplied on Schedule "A", then respective component shall not be considered. Also if particular component is not relevant same shall be deleted.

1. Formula for Labour Component :

$$V1 = 0.85\ P \times \left[\frac{K1}{100} \times \frac{L1 - Lo}{Lo} \right]$$

Where,

V1 = Amount of price variation in Rupees to be Allowed for Labour component.

P = Cost of work done during the quarter under consideration

Minus

The cost of Cement, HYSD and Mild Steel, bitumen, C.I. & D.I. Pipes calculated at the basic star rates as applicable for the tender, consumed during the quarter under consideration. These Star Rates shall be as under

1. Cement Rs. _____ / Per Metric Tonne
2. HYSD and Mild Steel Rs. _____ / Per Metric Tonne

K1 = Percentage of labour component as indicated above.

Lo = Basic consumer price index for **Nagpur** Centre shall be average consumer price index for the quarter preceding the month in which the last date prescribed for receipt of tender falls.

L1 = Average Consumer Price Index for **Nagpur** Centre for the quarter under consideration.

2. Formula for Materials Component :

$$V2 = 0.85\ P \times \left[\frac{K2}{100} \times \frac{M1 - Mo}{Mo} \right]$$

Where,

V2 = Amount of price variation in Rupees to be allowed for Materials component.

P = Same as worked out for labour component.

K2 = Percentage of material component as indicated above.

Mo = Basic wholesale price index shall be average wholesale price index for the quarter peceding the month in which the last date prescribed for receipt of tender falls.

M1 = Average wholesale price index during the quarter under consideration.

3. Formula for Petrol, Oil and Lubricant Component :

$$V3 = 0.85\ P \times \left[\frac{K3}{100} \times \frac{P1 - Po}{Po} \right]$$

Where,

V3 = Amount of price variation in Rupees to be allowed for POL component.

P = Same as work out for labour component.

K3 = Percentage of Petrol, Oil and Lubricant Component.

Po = Average price of H.S.D. at **Mumbai** during the quarter preceding the month in which the last date prescribed for receipt of tender, falls.

P1 = Average price of H.S.D. at **Mumbai** during the quarter under consideration.

THE FOLLOWING CONDITIONS SHALL PREVAIL :

i) The operative period of the Contract shall mean the period commencing from the date of work order issued to the Contractor and ending on the date on which the time allowed for the completion of the works specified in the Contract for work expires, taking into consideration the extension of time, if any, for completion of the work granted by the Engineer-In-Charge under the relevant clause of the Conditions of Contract in cases other than those where such extension is necessitated on account of default of the Contractor. The decision of the Engineer-In-Charge as regards the operative period of the Contract shall be final and binding on the Contractor. Where any compensation for liquidated damages is levied on the Contractor on account of delay in completion or inadequate progress under the relevant Contract provisions, the price adjustment amount for the balance work from the date of levy of such compensation shall be worked out by pegging the indices L1, M1, P1, Sl1 and Cl1 to the levels corresponding to the date from which such compensation is levied.

ii) This price variation clause shall be applicable to all contracts in B-1, forms but shall not apply for piece works. The price variation shall be determined during each quarter as per formula given above in this clause.

iii) The Price Variation under this Clause shall not be payable for the extra items required to be executed during the completion of the work and also on the excess quantities of items payable under the provisions of Clause 38 of the contract form B-1respectively. Since the rates payable for extra items or the extra quantities under Clause 38 are to be fixed as per current DSR or as mutually agreed to yearly revision till completion of such work. In other words, when the completion/execution of extra items as well as extra quantities under Clause 38 of the contract form B-1 extends beyond the operative date of the D.S.R. then rates payable for the same beyond the date shall be revised with reference to the current D.S.R. prevalent at that time on year to year basis or revised in accordance with mutual agreement thereon, as provided for in the Contract, whichever is less.

iv) This clause is operative both ways, i.e. if the price variation as calculated above is on the plus side, payment on account of the price variation shall be allowed to the contractor and if it is on the negative side, the Government shall be entitled to recover the same from the Contractor and the amount shall be deductible from any amounts due and payable under the contract.

v) To the extent that full compensation for any rise or fall in costs to the Contractor is not entirely covered by the provision of this or other clauses in the contract, the unit rate and prices included in the contract shall be deemed to include amounts to cover the contingency of such other actual rise or fall in costs.

Clause 55 :- Conditions for malaria eradication.

A) The anti-malaria and other health measures shall be as directed by the Joint Director (Malaria and Filaria) of Health Services, Pune.

B) Contractor shall see that, Mosquitogenic conditions are not created so as to keep vector population for minimum level.

C) Contractor shall carry out anti malaria measures in the area as per guidelines prescribed under National Malaria Eradication Programme and as directed by the Joint Director (M & F) of health Services, Pune.

D) In case of a default in carrying out prescribed anti malaria measures resulting in increase in malaria incidence contractor shall be liable to pay to Government the amounts spent by Govt. on anti malaria measures to control the situation in addition on fine.

E) **Relations with Public Authorities :-**

The contractor shall make sufficient arrangements for draining away the sludge water as well as water coming from the bathing and washing places and shall dispose off this water in such a way as not to cause any nuisance. He shall also keep the premise clean by employing sufficient number of sweepers. The contractor shall comply with all rules, regulations, bylaws and directions given from time to time by any local or public authority in connection with this work and shall pay fees or charges which are leviable on him without any extra cost of Government. (Vide Govt. Circular No. CST-1086/CR-243/Ka-Bldg-2/Mantralaya Mumbai 400032 dt. 11.8.87)

Clause 56 :- The contractor shall comply with all the provisions of the Apprentices Act. 1961 and the Rules and Orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provision of the Act (vide Govt. Circular No. CST - 1086/CR-243 Ka-Building-2/Mantralaya, Bombay-400 032, dated 11 Sept. 1987).

Clause 57 :- The tendered rates are inclusive of all taxes, rates, and cesses and shall also inclusive of all taxes leviable in respect of contract under the provision of Rule 58 Maharashtra Value added Tax Act 2005, for the purpose of levy of Tax".

Clause 58 :- In case of materials which become surplus with the contractors from those issued for the work contracted for the date of ascertainment of the materials as being surplus will be taken as the date of sale for the purpose of sales tax and sales tax will be recovered on such sale.

Clause 59 :- Quality Assurance and Maintenance Manual:-

ANNEXURE "A" : (Annexure to the PWD, Circular No. CAT-1091/CR-60-Bldg-2 Dt. 14th October 1991, regarding incorporating additional condition for Quality Assurance and Maintenance Manual).

To ensure the specified quality of work which will also include necessary survey temporary works etc. the contractor shall prepare a quality assurance plan and get, the same provided from the Engineer-In-Charge within one month from the date of work order. For this contractor shall submit an organization chart of his technical personnel to be deployed on the work alongwith their qualification, job descriptions defining the functions of reporting supervising inspecting and approving. The contractor shall also submit a list of tools equipment and the machinery and instrumentation which he proposes to use for the construction and for testing in the field and/or in the Laboratory and monitoring. The contractor shall modify/ supplement the organisation chart and the list of machinery/ equipment etc. as per the direction of the Superintending Engineer and shall deploy the persons and equipment on the fields as per the approved chart and the list respectively. The Contractor shall submit written method statements dealing his exact proposal of execution of the work in accordance with the specification. He will have to get these approved from the Engineer-In-Charge. The quality of the work shall be properly documented through certificate, records, checks list, and Log Book of results etc. such records shall be complied from the beginning of the work and be continuously updated the supplementary and this will be the responsibility of the contractor. The forms should be got approved from the Executive Engineer-In-Charge.

2) Where the work is to be done on lump-sum basis on contractors designs. The contractor shall also submit a maintenance manual giving procedure. For maintenance, with the periodicity of maintenance works including inspection tools of the equipments to be used means of accessibility for all parts of the structure. He shall also include in the manual, the specification for maintenance works that would be appropriate for his design the technique of construction. This manual shall be submitted within the contract period.

Clause 60 :- Contractor shall take out necessary Insurance Policy/Policies (viz. Contractors All Risks)

All Risks Insurance Policy etc. as decided by the Directorate of Insurance) so as to provide adequate insurance cover for execution of the awarded contract work for total contract value and complete contract period compulsorily from the, "Directorate of insurance, Maharashtra State, Mumbai" only. Its postal address for correspondence is "264, MHADA, First Floor, Opp. Kalanagar, Bandra (E) Mumbai-400 051". (Telephone Nos. 265904403/26590690 and Fax Nos. 26592461/26590403. similarly all workmens' appointed to complete the contract work are required to insure under workmen's compensation insurance Policy. Insurance Policy/Policies taken out from any other Company will not be accepted. If any Contractor has effected insurance with any insurance Company, the same will not be accepted and the amount of premium calculated by the Government Insurance Fund will be recovered directly from amount payable to the Contractor for the executed contract work and paid to the Directorate of insurance Fund Maharashtra State, Mumbai. The Director of insurance reserves the right to distribute the risks of insurance amount to the other insurers.

Cluse 61 :- शासन, उद्यो ा उर्जा व ाम ाार विभा ा पत्र ् मां बीसीए/(इमारत)/२००२/प्र.् .१०८/ ाम ाार ७- अ/मंत्रालय, मुंबई, दिनां ०३/०७/२०१० व शासन सार्वजनि बांध ाम विभा ा मंत्रालय, मुंबई जाव ् . सं ि ा/१०/०९ पत्र ् . २७७ /ईमारती-२/दिनां १७/०८/२०१० अन्वये ईमारत व इतर बांध ाम ाम ाार ल्या ा उप र अधिनियम १९९६ मधील तरतुदीच्या अनुषं ाने १ टक ा उप र ाज ी व शास ीय बांध ामाच्या ए ु ा मुल्यानुसार (जमीनीचे मुल्य व ाळुन) तसेच संबंधीत आस्थापनेने ाम ाारांना ि ंवा त्यांच्या नातल ांना ाम ाारांसाठी नु सान भरपाई अधिनीयम १९२३ मधील तरतुदीनुसार ो ात्याही प्र ारची भरपाई दिलेली असेल ती रक म व ाळुन उर्वरीत बांध ाम मुल्यावर १ टक ा उप र वसुल र यात येईल.

// D E C L A R A T I O N //

Name of Work : _____
_____

I/We hereby declare that I/We have made myself/ourselves thoroughly conversant with the local conditions regarding all materials such as Electrical Materials & stones murum, sand etc. and labour on which I have based my/our rates for this work. The specifications and lead for this work have been carefully studied and understood by me/us before submitting the tender. I/We undertake to use only the best materials approved by the Executive Engineer-in-charge of the work or his duly authorised representative before starting the work and to abide by his decision.

I hereby undertake to pay the laborers engaged on the work as per Minimum Wages Act. 1948 applicable to the Zone concerned.

Contractor's Signature.

SOLVENCY CERTIFICATE

This is to certify that to the best of our knowledge and information

M/s. Shri _____ a

customer of our "Bank is respectable and can be treated as good for any engagement

up to limit of Rs._____(In words)_____

_____)

This certificate is issued without any guarantee or responsibility on the Bank or any of its Officer"

BRANCH MANAGER.

(Seal of Bank)

PERFORMANCE GUARANTEE

In consideration of the **GOVERNOR OF MAHARASHTRA** exercising the executive power of the Government of the state of Maharashtra (hereinafter referred to as the Government) having agreed to purchase from---------- a company\ society\ partnership\ firm carrying on business of ---------- Act\ Shri---------- ---------- Sole proprietor---------- ----------and having its\their registered office at---------- ----------(hereinafter referred to as the contractor\s).
(please give the particulars of the instrument to be purchased) for----------(hereafter referred to as the said instruments) on the terms and conditions contained in the tender submitted by the contractor\s under his\its\their letter No.----------dated the--- ----------day of----------20__ and accepted by the---------- Government by its letter No.----------dated the----------20__ addressed to the contractor\s (hereinafter referred to as "the said Agreement") providing , inter-alia , that the contractor's shall furnish to the Government a Bank Guarantee from any scheduled Bank in India in the sum of Rs……..(Rupees performance by the contractor/s of the terms and condition of the said Agreement. The contractor/s hereby furnishes to the Government a Bank Guarantee from a scheduled Bank in India in the like amount in the manner hereinafter constrained.

1. We the undersigned ……..incorporated under the act and having one of our local offices at ……. do hereby guarantee to Government .

   a) Due performance and observance by the contractor/s of all the terms and conditions of the said agreement to be observed and performed by the contractor's including the covenant by the contractor/s to dully carry out and make good and defect in the said instruments which may be found during the warranty period on account of faulty materials or parts used in the said instrument/s or defective workmanship and/or any deviation from the approved design or any other cause whatsoever.

   b) Due and satisfactory performance of the said instruments including maintenance and repairs thereof during the warranty period of 1 **(One) year** from the date of completion.

   c) Due and punctual payment by the contractor to the Government of all sums of money, losses, damages, costs, charges, penalties and expenses that may become due or payable to the Government by or from the Contractor's by reason of or in consequence of any breach non-performance conditions of the said Agreement.

2) And we do hereby agree and undertake that we shall pay to the Government forthwith on demand an amount not exceeding Rs._____ (Rupees _____) only or such lesser sum as may be demanded by the Government from us as and by way of indemnity on account or any loss.

d) We shall not be discharged or released from the liability under this Guarantee by reason of

   i) Any change in the constitution of the Bank or of the Contractors.
   ii) Any arrangement made between the Government and the Contractor's with or without our consent,
   iii) Any forbearance or indulgence shown to the Contractor.
   iv) Any variation in the terms, covenants or conditions contained in the said Agreement,

v) Any time given to the Contractor's or

vi) Any other conditions or circumstances under which, in law, a surety would be discharged.

e) Our liability hereunder shall be joint and several with that of the Contractor as if we were the principal debtors in respect of the amount so ascertained as aforesaid and

f) We shall not revoke this guarantee during its currency except with the previous consent in writing of the Government. Provided Always the not withstanding anything herein before contained, our liability under this Guarantee shall be limited to the said sum of Rs._____ (Rupees _____) only and shall remain in force until the ---------- day of ---------- 200__ or damage caused to or suffered by the Government by reason of any breach, non-performance or default by the Contractor's of the terms covenants and conditions contained in the said Agreement including the aforesaid covenant for satisfactory performance of the said instruments. Repairing and making good any part of the said instruments' which is found to be defective during the warranty period and/or of the due and punctual payment by the contractor's to the Government of all sums of money losses, damages costs, charges and expenses that may become due and payable by the Contractor's to the Government under the said Agreement AND WE HEREBY FURTHER agree that…

a) The _____ demand_____ made by_____ the for and on behalf of the Government shall not dispute our liability as to the amount or raise any objections on the ground that the contractors has/have not committed any breach or default of the said terms and convenants and conditions of the said Agreement or any other ground whatsoever.

b) This guarantee shall be valied for the entire period during which the said Agreement is in operation including the warranty period specified for the said instruments.

c) The guarantees shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till_____ for and on behalf of the Government certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the Contractors and accordingly discharges the guarantee.

AND

Unless a demand or claim under this Guarantee is made on us in writing on/or before the _____ day of _____20__ we shall be discharged from all liability under this Guarantee thereafter.

IN WITNESS WHERE OF THE COMMON SEAL OF _____

has been hereinto affixed this _____ day of _____. The common seal of _____ Bank was pursuant to the resolution of its Board of Directors passed at its meeting duly convened presence of

_____

_____

Being respectively _____

the Bank who in token thereof have hereto set their respective hands in the presence of 1) _____ 2) _____

ADDITIONAL SPECIFICATION / CONDITION

1) Arrangement for the curing of C,C, foundation muffing, brick masonry work etc. shall be done by clean and soft water at site by the contractor at his own cost.

2) While executing the E.I. work, The agency shall provide Generator for Electrical Drill machine at his own cost.

3) The Agency shall follow the ISI specification, Relevant standards, IER 1956 during the execution of work.

4) The agency shall obtain the permission of local Authority (N.O.C.) for digging the road if necessary.

5) If during the execution of work, shut down form M.S.E.D.C.L.. side is necessary. In that case it is solely responsibility of agency to take necessary shut down with permission of local MSEDCL authority.

6) The agency will have to use necessary T&P while execution of work at his own cost.

7) After completion of work, the Agency shall have to carry necessary IR test and earth test with calibrated meggar & earth tester and the test report of same shall be submitted.

8) The agency shall have to arrange the approval & inspection of E.I. from Electrical Inspector and accordingly N.O.C. shall be obtained however the necessary inspection fee will be borned by Department. Also necessary testing charges of M.S.E.D.C.L. shall be paid by the agency.

9) The work insurance and insurance of worker Labour insurance shall be done by agency under the insurance act of his own cost.

10) The complete responsibility of safety of worker during the execution of work is solely of agency. The agency will have to follow all the safety rules during the execution of work. If any accident occurred during the execution of work, the responsibility of compensation will be of agency. In any case, this Department will not be responsible for any compensation.

11) Any fees/charges/taxes or penalties towards payment of Government/Semi-Government /Local /Private bodies arising during the execution of the work is to be borne by the agency. No compensation or refunds will be paid for this.

12) Necessary approval for the material procurement shall be obtained by the contractor from the authority before starting the work.

13) The actual layout drawing shall be got approved by the contractor from the concern Electrical Inspector before starting the work.

14) The permission for charging the installation shall be obtained by the contractor from the concern Electrical Inspector after completion of the work.

Contractor No. of Correction Executive Engineer

15) The dismantled materials i.e. brackets clamps$_5$ insulators, stay sets, A.B. switch Lightning Arrestors, G.I. Wire & ACSR conductors RSJ poles shall be handed over tc the concerned MSEDCL Engineer and copy of receipt of handing over shall be submitted.

16) The tenderer must have the experience of such type (i.e. Erection of LT/HT, O/H line and transformer D.P.'s) of work and he must carried out a single work amounting to 30% of i.e. Rs. **2080187** /- or above of the estimated cost Rs. **6933956** /- i.e. of the said work.

17) The High Pot test of 11 KV cable shall be arrange by the agency at site after laying the cable in presence of the concerned Engineer of the Department. The cost will be borned by the agency.

GENERAL CONDITIONS OF CONTRACT

1) Authority of the Engineer-in-charge.

So far as it is legally or physically impossible, the contractor shall execute, complete and maintain the works in strict accordance with the contract under the directions and to the entire satisfaction of the Engineer-In-Charge and shall comply with and adhere strictly to the Engineer-In-Charge's instructions, and directions on any matter (whether mentioned in the contract or not pertaining to this works)

The Engineer-In-Charge shall decide all questions which may arise as to quality and acceptability of materials furnished and work executed, manner of execution, rate of progress of the works, interpretation of the plans and specifications and acceptability of fulfillment of the contractor on the part of the contractor. He shall determine the amount and quality of the work performed and materials furnished and his decision and measurements shall be final. In all such matters and in any technical questions which may arise touching the contract, his decision shall be binding on the contractor. The Engineer-in-charge shall have the power to enforce such decision and orders if the contractor fails to carry them out promptly. If the contractor fails to execute the work ordered by the Engineer-in-charge may give notice to the contractor specifying a reasonable period therein and on the expiry of the period proceed to execute such work as may be deemed necessary and recover the cost thereof from the contractor.

1.1) **Authorities of the** Engmeer-in-charge's **Representative:**

The duties of the representative of the Engineer-in-charge are to watch and supervise the work and to test and examine and materials to be used for workmanship employed in connection with the works.

1.2) The Engineer-in-charge may form time to time, in writing, delegate to his representative any of the powers and authorities vested in the Engineer-in-charge and shall furnish to the contractor a copy of all such delegations of powers and authorities. Any written instruction of approval given by the representative of the Engineer-on-charge to the contractor within the terms of such delegations (but not otherwise) shall bind, the contractor and the department as through, it had been given by the Engineer-in-charge, provided always as follows :

a) Failure of the representative of the Engineer-in-charge to disapprove any work or materials shall not prejudice the power of the Engineer-in-charge thereafter to disapprove such work or materials and to order to pulling down, removal or breaking up thereof.

b) If the contractor is dissatisfied with any decision of the representative of the Engineer-in-charge, he shall be entitled to refer the matter to the Engineer-in-charge, who shall there upon confirm, reverse or vary such decision.

2) Other conditions for submission of Tender.

2.1) The Contractor shall be deemed to have carefully examined the work and site conditions including labour, the general and the special conditions, the specifications, schedules and drawings and shall be deemed to have visited the site of the work and to have fully informed himself regarding the lead conditions including tide and water level, wind and current velocity and sub-soil conditions and carried out his own investigation to arrive at the rates quoted in the tender. In this regard he will be given necessary information to the best of knowledge of department but without any guarantee about it.

2.2) It is presumed that the contractor has carefully gone through the works specifications, P.W.D. Handbook M.O.S.T. specifications and the schedule of rates of the division and studied the site conditions before arriving at the rates quoted by him.

3) Treasure trove :

In the event of discovery by the contractor or his employees during the progress of the works of the any treasure, fossils, minerals or any other articles of value or interest, the contractor shall give immediate intimation there of to the Engineer and along with make over to the Engineer this representative such treasure or things which shall be the property of Government.

3.A) Layout of work :

Layout of the work will be done by the Contractor in consultation with the Executive Engineer, of the Department or his representative. Some permanent marks should however be established to indicate the demarcation of the structure or any component there of made to this permanent marks in measurement books and drawing, signed by the contractor and the departmental officer. Responsibility regarding layout will be joint.

4) Agent and work order book:

4.1) The contractor shall himself engage an authorised all time agent on the work capable of managing and guiding the work and understanding the specifications and contract condition. A qualified and experienced Engineer be provided by the contractor as his agent for technical matters in case the Engineer-in-charge consider this as essential for the work and so directs the contractor. Agent will take orders as will be given by the Executive Engineer or his representative and shall be responsible for carrying them out. The agent and/or site Engineer shall not be changed without prior intimation to the Executive Engineer and his representative on the work site. The Engineer-in-charge have the unquestionable right to ask for changes in the quality and strength of

Contractors supervisory staff and to order removal from work of any of such staff. The contractor shall comply with such order and effect replacements of the satisfaction of the Engineer-in-charge.

4.2 A work order book shall be maintained on site and it shall be the property Government and the contractor shall promptly acknowledge the order given therein by the Engineer or his authorized representative or his superior officer, and comply with them. The compliance shall be reported by contractor to the Engineer-in-charge in good tune so that it can checked. The blank work order book, with machine numbered pages in quadruplicate with perforated sheets for three copies to be detached, will be provided by the department for this purpose. Whenever any instruction are written in the work order book the contractor will be supplied with the first carbon copy.

5) Initial measurement for record:

Where for proper measurement of the work it is necessary to have an initial set of levels or other measurement taken the same as recorded in the authorised field book or M.B. of Government by the Engineer or his authorised representative will be signed by the contractor who will be entitled to have a true copy of same made at his cost. Any failure on the part of the contractor to get such level etc. recorded before starting the work will tender him liable to accept the decision of the Engineer as to the basis of taking measurements. Likewise the contractor will not cover any work which will render its subsequent measurement difficult or impossible without first getting the same jointly measured by himself and the authorised representatives of the Engineer. The record of such measurements on the Government side will be signed by the contractor and he will be entitled to have a true copy of the same made at his cost.

6) Custody of work:

All work and materials before being finally taken over by Government will be the entire liability of the contractor for guarding, maintaining and making good any damages of an}' magnitude. It is however, to be understood that before taking over such work. Government will not put it to regular use as distinct from casual or incidental use, except as specially mentioned elsewhere in this contract or as mutually agreed to.

7) Co-ordinations:

When several agencies for different sub works of the project are to work simultaneously on the project site, the contractor shall render full co-ordination for achieving proper co-ordination between different contractors to ensure timely completion or the whole project smoothly. The scheduled dates for completion specified in each contract shall, therefore, be strictly adhered to- Each contractor may make his independent arrangements for water, power, access, housing etc. but if they so desire he will be at liberty to come to mutual agreement with other contracting agencies in this behalf and make joint agreement with the approval of the Engineer-in-charge. The contractor shall not take or cause to be taken any steps or action that may cause disruption, discontent, discontent or disturbance to work, labour or other arrangements etc. of other contractors in the project localities. Any action by the Contractors which the Engineer-in-charge in his unquestioned discretion., may consider infringement of the above would be considered as a breach of the contract conditions and shall be dealt with as such.

In case of any dispute or disagreement between the various contractors, the Engineer-in-charge decisions regarding the coordination, co-operation and facilities to be provided by any of the contractor shall be final and binding on the contractor concerned & such a decision or decisions shall not vitiate contract nor absolve the contractor of his obligations under the contract, nor form the grounds for any claim or compensation.

8) Patented Devices, Materials and Process :

Whenever the contractor desires to use any designed device, material or process covered by letter of patent copy right, the right for such use shall be secured by suitable legal arrangement and agreement with patent owners and the copy of their agreement shall be filed with Engineer-in-charge.

9) Relation with Public Authorities :-

The contractor shall comply with all rules, regulations, by law and directions, given from time-to-time by any local or public authority or body in connection with this work and shall himself pay fees or charges which are leviable on him with out any extra cost to Government.

10) Indemnity:

The contractor shall indemnify the Government against all action, suits, claims and demands brought or made against in respect it in respect of anything done or committed to done by the contractor in execution of or in connection with the work of this contract any against any loss or damage to the Government hi consequences of anything done or committed to be done in the execution of the work of this contract. The Government may, at its discretion and entirely at the cost of contractor, defend such suit either jointly with the contractor or singly, in case the letter chooses not to defend the case.

11) Stacking, Storage and guarding of materials:

11.1) The stacking and storage of materials at site shall be in such a manner as to prevent determination or instmsion of foreign matter and to ensure the preservation of their quality, properties and fitness for the work. Suitable precautions shall be taken by the taken by the contractor to protect against atmospheric actions, fire and other hazard. The materials likely to be carried away by wind shall be stored in suitable stores or with suitable barricades and where there is likelihood of subsidence of soil, heavy materials shall be stored on paved platforms. Suitable separating barricades and enclosures as directed shall be provided to separate materials brought by contractor and obtained from different sources of supply.

11.2) The contractor shall at his own expenses, engage watchmen for guarding the materials and plant and machinery and the work during day and night against any pilferage or damage and also for prohibiting trespassers.

11.3) No materials brought to the site shall be removed from the site without the prior approval of the Engineer-in-charge.

12) Inspection of work.

12.1) The contractor shall inform the Engineer-in-charge in writing when any portion of the work is ready for inspection giving him sufficient notice to enable him to inspect the same without affection the further progress of the work.

12.2) The contractor shall provide at his cost necessary ladders and such arrangements as are considered safe by the Engineer-in-charge for proper inspection of all parts of the work.

12.3) The contractor shall extend his full co-operation and make all necessary arrangemments when needed for carrying out inspection of the work or any part of the work by the local representatives, M.L.A's, M.Ps and officers and dignitaries/delegates of various Government departments, local bodies, private sectors etc. No compensation shall be paid to the contractor on this account.

13) Precaution to be taken by contractor:

13.1) The work shall be carried out by the contractor. without causing damage to the existing Government property and/or private property. If any such damage are caused, the contractor shall pay for restoration of (the properly to the original conditions, and any other consequent damages.)

13.2) hi the event of an occurrence of an accident, involving serious injured or death of any person, at site of work or quarry or at any place in connection with the work the same shall be reported in writing within twenty four hours of the occurrence to the Engineer-in-charge and the commissioner of Workmen's compensation.

14) Clearance of site on completion of works:

The contractor after completion of work shall clean the site of all debris and remove all unused materials other than those supplied by the department and all plant and machinery, equipments, tools etc., belonging to him within one month form the date of completion of the work, or otherwise the same will be removed by the department at his cost or disposed off as per departmental procedure. Incase the material is disposed off *by* disposed off by department, the sale proceeds will be credited to the 'contractor's account after deducting the cost of sale incurred. However, no claim of contractor regarding the price of amount credited will be entertained afterwards.

15) Removal of Constructional plant with prior permission:

All constructional plant, provided by the contractor shall when brought on the site be deemed to be exclusively intended for the construction and the contractor shall not remove the same or any part thereof (Save of the purpose of moving it from one part of the site to another) without the consent in writing of the Engineer-in-charge who shall record the reasons for withholding the consent.

16) Restrictions because of local traffic:

As there is Local traffic by the side of construction, the contractor will have to take proper precautions such as proper barricading, fencing, lighting, information and cautionary boards for safe and smooth flow of traffic, and keeping the concerned authorities informed about the work in progress.

17) Completion Certificate:

17.1) The work shall not be considered to have been completed in accordance with the terms of the contract until the Engineer-in-charge shall have certified in writing to that effect. No approval of material or workmanship or approval of part of work during the progress of execution shall bind the Engineer-in-charge or in any way prevent him from even rejecting the work which is claimed to be completed and to suspend the issue of his certificate of completion until such alteration and modification or reconstruction have been effected at the cost of the contractor as shall enable him to certify that the work has been completed to his satisfaction.

17.2) After the work is completed the contractor shall give notice of such-completion to the Engineer-in-charge and within 30 days of receipt of such a notice the Engineer-in-charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a certificate indicating the date of completion. However, if there are any defects which in the opinion of the Engineer-in-charge are rectifiable he shall inform the contractor the defects noticed. The contractor after rectification of such defects shall then inform then inform the Engineer-in-charge and Engineer-in charge on his part shall inspect the work and issue the necessary completion certificate within 30 days if the defects are rectified to his satisfaction, and if not, he shall inform the contractor indicating defects yet to be rectified. The time cycle as above, shall continue.

17.3) In case defects noticed by the Engineer-in-charge which in his opinion are not rectifiable but otherwise work is acceptable at reduced payment, work shall be treated as completed. In such cases completion certificate shall be issued by the Engineer-in-charge within 30 days indicating the un-rectifiable defects for which specified reduction in payment is being made by him.

17.4) The issue of completion certificate shall not be linked up with the site clearance completion of work.

17.5) Should the part of construction is put to use any stage prior to date of issue of completion certificate, the maintenance period of that part of the work shall be reckoned from the date of actual use of the facility.

18) Ancillary Works :

The contractor shall submit to Engineer-in-charge in writing the details of all ancillary works including layout and specifications to be followed for its construction. Ancillary work shall not be taken up in hand unless approved by Engineer-in-charge. The Engineer-in-charge reserves the right to suggest modifications or make complete chages in the layout and specifications proposed by the contractor at any stage to ensure the safety on the work site, The contractor shall carry out all such modification to the ancillary works at his own expenses as ordered by Engineer-in-charge.

19) Temporary Quarter :-

The contractor shall at his own expense make his own arrangement for housing his staff with all necessary amenities. General layout plan for such structures shall be got approved from the Engineer-in-charge. It will be the responsibility of the contractor to get his layout plan of temporary structure approved from the local competent authorities.

20) Safety measures and Amenities :

Safety Measures

The contractor shall take all necessary precautions for the safety of the workers and preserving their health while working on such jobs as required special protection and precaution where ever required. The contractor shall also comply with the directions issued by the Engineer-in-charge in this behalf from time to time at all times.

The following are some of the requirement (The list is not exhaustive)

i) Providing protective footwear to workers in situations like mixing and placing of mortar or concrete, in quarries and place where the work is to be done under too much wet conditions as also for, movements over surfaces infested with oyster growth.

ii) Providing protective hardware to working in quarries etc. to protect them against accidental fall of materials from above.

iii) Providing handrails at the edge of the floating platforms, barges walkways, ladder etc.

iv) Providing workmen with safety belts, ropes etc. when working on any masts cranes, cribs, hoists, dredgers etc.

v) Taking necessary steps towards training the workers concerned on the use of machinery before they are allowed to handle ii independently and taking all necessary precautions in and around the areas where machines, hoists and similar units are working. M/herever required, the persons handling the machinery shall have requisite licenses, certificate etc.

vi) **Preventing** over loading and over crowding of floating and **land** based machinery and equipment.

vii) Providing life belts to all men working at such situations from where they may accidentally fall into water or on the ground, . Equipping the ooats with adequate numbers of life buoys etc.

viii) Avoiding bare live wires etc. as would cause electrocutions.

ix) Making platforms, stagings and temporary structures sufficiently strong and not causing the workmen and supervisory staff to work under risks.

x) Providing sufficient first-aid trained staff and equipment to be available quickly at the worksite to render immediate first-aid treatment in case of accident due to suffocation, drowning and other injuries.

xi) Taking the all necessary precautions wherever **divers** are engaged on work.

xii) Providing full length gum boots, leather hand gloves, leather jackets with fireproof aprons to cover the chest and back reaching upto knees plain goggles for the eyes to the labour working with hot asphalt handling, vibrators in cement concrete and also where use of any or all these items is, essential in the interest of health and well-being of the labourers in the opinion of the Engineer-in-charge.

21) Medical and Sanitary Arrangements to be provided for labour employed in the construction by the Contractor :

a) The Contractor shall provide and adequate supply of potable water for the use of labourers on works and in camps.

b) The Contractors shall construct trenches or semi permanent latrines for the use of labourers. Separate latrine shall be provided for men and women.

c) The Contractor shall build sufficient number of huts on suitable plot of land for use of the labourers according to the following specifications.

(1) Huts of Bamboos and Grass may be constructed.

(2) There should be no over crowding. The floor space at the rate of 3sqnr(30 Sq.ft.) per head shall be provided. Care should be taken to see that the huts are kept clean and in good order.

(3) The contractor must find his own land. If he wants Government land he should apply for it. Assessment for it, if demanded will be payable by contractor. However the department does not bind itself for making available the required land.

(4) A good site not liable to submergence shall be selected. High ground remote from jungle but well provided with trees, shall be chosen wherever it is available. The

neighborhood of tank, jungles, grass or weeds should be particularly avoided. Camps should not be established close to large cutting of earth work.

(5) The lines of huts shall have open space of at least 10 meters between rows. When a good natural site can not be procured particular attention should be given to the drainage,

d) The contractor shall construct sufficient number of bathing places; sufficient number of washing places should also be provided for the purpose of washing cloths.

e) The contractor shall make sufficient arrangements for draining away the surface and sullage water as well as water from the bathing and washing places and shall dispose off this waste water in such a way as not to cause any nuisance.

f) The contractor shall engage a medical officer with a traveling dispensary for a camp containing 500 or more persons if there is no Govt. or other private dispensary situated within 8 kilometers from the camp, hi case of an emergency, the contractor shall arrange at his cost free transport for quick medical help to his sick workers.

g) The contractor shall provide the necessary staff for affecting the satisfactory conservancy and cleanliness of the camp to the satisfaction of the Engineer-in-charge. At least one sweeper per 200 persons should be engaged.

h) The Assistant Director of Public Health shall be consulted before opening a labour camp and his instructions on matters such as water supply. Sanitary convenience, the camp site, accommodation and food supply shall be followed by the contractor.

i) In addition to above all provisions of the relevant labour act pertaining to basic amenities to be provided to the labourer shall be applicable which will be arranged by the contractor.

j) The contractor shall make arrangement for anti-malaria measure to be provides for labour employed on the work. The anti-malaria measures shall be as directed by Assistant Director of Public Health Officer.

22) The contractor except as provided in special conditions which follow, shall, if necessary construct at his cost, temporary roads and maintain these in proper conditions till completion of the work, at his own cost.

23) The contractor except as provided in special conditions which follow shall have to at his own expenses make all preliminary arrangements for labour, water, electricity, and materials etc.. immediately after getting the work order. The Government may render necessary assistance in vhis regard by way of letters of recommendation, if so requested

by the contractor. No claim for any extra payment or application for extension of time on the grounds of any difficulty in connection with the above matters will be entertained.

24) Working methods and progress schedules :

24.1) The Contractor shall submit within the time stipulated by the Engineer in writing the details of actual methods that would be adopted by the contractor for the execution, of any items as required by Engineer at each of the location, supported by necessary detailed drawing and sketches Including those of the plant and machinery that would be used their locations arrangement for conveying and handling materials etc. and obtain prior approval of the Engineer-in-charge who reserves the right to suggest modifications or make corrections in the method proposed by the contractor whether accepted previously or not at any stage of the work, to obtain the desired accuracy, quality, safety and progress of work which shall be binding on the contractor. No claim on account of such change in method of execution will be entertained by Government so long as specification of the item remain unaltered.

24.2) The Contractor shall furnish within one month of the order to start the work programme of work in quadruplicate indicating the date of actual start, the monthly progress expected to be achieved and the anticipated completion date of each major item of work to be done by him, also indicating date of procurement of materials and setting up of plants and machinery. The programme is to be such as to bre practicable of achievement towards the completion of the whole work in the time limit and of the particular items, if any on the due dates specified in the contract. Planning and programme of works shall be done by the mutual discussion between the **Executive Engineer P.W.(Electrical)Dn. Amravati** and contractor's representative in charge of work. The progress of work shall be reviewed every six months and revised programme shall be drawn up, if necessary, No revised programme shall be operative without the approval of Engineer-in-charge in writing. The Engineer is further empowered to ask for more detailed schedule or schedules say weekly, for any item or items in case of urgency of work as will be directed by him and the contractor shall supply the same and when asked for. Acceptance of the programme or the revised programme, by the Engineer-in-charge shall not relieve the contractor of his responsibility to complete the whole of the work by the prescribed time or the extended time if any.

24.3) The Contractor shall famish sufficient plant, equipment and labour as may be necessary to maintain the progress schedule. The working and shift hours restricted to one shift a day for operations to be done under the Government supervision shall be such as may be approved by the Engineer-in-charge. They shall not be varied without prior approval of the Engineer. Night work which requiring supervision shall not be permitted except when specifically allowed by Engineer-in-charge if requested by contractor. The contractor shall provide necessary lighting arrangement etc. for night work as directed by Engineer without extra cost of Government.

24.4) The contractor shall submit report on progress of work in forms and statement etc. as periodical intervals in Ihe form of progress charts, forms, statements and/or reports as

may be approved by the Engineer. Forms for sending reports about progress will be supplied by the Executive Engineer.

24.5) The contractor shall maintain proforma, chart, details regarding machinery equipment, labour, material, periodical returns thereof in proforma to be approved from the Engineer-in-charge.

25) Payment:

The contractor must understand clearly that the rates quoted are for completed work and include all cost due to labour, all leads and lifts involved and if further necessitated scaffolding plants, supervision., service works, power etc. and to include all to cover the cost of night and round the clock work as and when required and no claim for additional payment beyond the prices or rates quoted will be entertained and the tenderers will not be entitled subsequently to make any claim on the ground of any representation or on any promise by any person (whether tender in the employment of any Public Works Deptt. or not) or on the ground of any failure on his part to obtain all necessary information for the purpose of making his tender and fixing the several prices and rates therein relieve Mm from any risks or liabilities arising out of or consequence upon the submission of the tender.

26) Claims of extra work

26.1) Claims for extra work shall be registered within 30 days of occurrence of the event. However, bills for these claims along with supporting data details may be submitted subsequently.

26.2) Bills for extra work or for any claim shall be paid separately apart from the interim bills for the main work. The payment of bills for the main work shall not be withheld for want of decision on the extra/claims not covered in the schedule of items for extra work.

27) Bill and Payments:

27.1) Two running payments in a month are permitted. First of the bill shall be submitted by the contractor by the !0th day of the month and Second bill, if necessary, shall be submitted by the contractor by the 25th day of the month. The R.A.bill will be submitted to the **Executive Engineer P.W.(Electrical) Division Amravati.**

27.2) The format of running bill on which the bills are to be submitted by the contractor shall be supplied to the contractor by the Department Printed copies of the bills forms as per this format shall be arranged by the contractor at his cost. The bills in five copies shall be submitted to the concerned Engineer's representative in the standard proforma only.

27.3) The final bill shall be submitted by the contractor within one month of the date of issue of completion certificate. The final bill shall be paid within six months of initial submission.

27.4) Recovery of secured advances shall be effected through bills proportionately as per consumption of materials in the work billed for.

27.5) The contractor can have true copy of the bills paid to him after paying charges for photo copying the same.

27.6) Controlled concrete:

Acceptance criteria shall be as per IS: 456 - 2000.

27.7) Ordinary concrete :

Acceptance criteria shall be as per IS: 456 — 2000.

28) Assistance in procuring priorities, permits etc.:

28.1) The Engineer-in-charge on written request by the contractor, will if in his opinion the request is reasonable and in the interest of work and its progress, assist the contractor in securing the police protection and the priorities for deliveries, transport, permits, for controlled materials permits for quarries and other similar permits including labour licence etc. Where such are needed. All cost in this behalf shall be borne by the contractor. The department will not, however, be responsible for the non-availability of such facilities or delays in the behalf and no claims on account of such failure or delays shall be allowed by the department.

28.2) The contractor will have to make his own arrangement for machinery required for the work. However, if such machinery is conveniently available with the department it may be spared on hire as per department's rules in force if requested by the contractor in writing. For such arrangement a separate agreement in the prescribed form will have to be signed by the contractor. Such an agreement shall be independent of this contract and the supply or non-supply of machinery shall not form a ground for any claim or extension of time limit for this work.

List of Approved Material

1)	Armoured Cable (L.T.& H.T)	- Polycab, Gloster, CCI, Paragon, /Havells (above all makes with ISI mark only)
2)	G.I. Pipe	- Zenith, Surya, Prakash
3)	D.W.C.Pipe	- Telerex, Electrex, REX
4)	T.P.N.	- Kalki, CPL, KEW, Stanley
5)	Wire	Finolex, Polycab, Anchor, Cona, R.R. Cable, Havells, Standard,
6)	MCCB	H.P.L., Havells, L & T, Legrand, Siemens, Standard,
7)	R.S.J. Pole	Tata, Jindal
8)	G.O.D.	Kiran, Ruma, Isolaters, Adco
9)	D. O.	Kiran, Ruma, Isolaters, Adco
10)	Lightning Arrestor	Crompton, Elpro, Lanco.

Note :-

1) All the above material to be used on the work shall posses the valid I.S. License or valid approval from the **Chief Engineer, (Elect.) P.W.D. Mumbai.**

2) Makes other than specified in note (1) mentioned above will have to be got approved from the **Superintending Engineer, Amravati Region Electrical Circle, Amravati**, before its use on the work.

3) Samples of material during the execution of work will be collected and sent to testing if the testing results of material found unsatisfactory in that case the agency will have to replace the material free of cost.

TECHNICAL SPECIFICATIONS **0.186**

Estimate No. : Estimate No. 718 /Bld./12-13

Name of work : Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using under-ground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

Sr. No.	CSR Item No.	Specification
	1-4-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
	1-4-3	The work shall be carried out as per wording of the item and as directed by Engineer in-charge
	1-4-7	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
	5-5-3	5.5 Moulded Case Circuit Breaker (MCCB)

Scope

Specification No (SW-SWR/MCCB)

Providing & erecting 3 Pole/4 Pole MCCB of specified rating and with specified short circuit rupturing capacity in KA, complete erecting in provided enclosure & connected with provided leads on incoming and out going side, complete. General Specifications for MCCB's MCCB's should comply with IS 13947.part -2, IEC (6094) and IEC 60947-3 & IEC 60947 part 2. The MCCB shall be suitable for universal mounting i.e. the load/line shall be interchangeable with shrouded incoming contacts.

The MCCB shall be suitable for minimum operating voltage of 415V. The thermal setting shall be adjustable from 64 % to 100% of is normal current The magnetic setting shall be adjustable from 3.5 to 10 In (normal current). Trip reset should be available Manual / Automatic. Isolator switches for electronic circuits to open the MCCB automatically. The MCCB*s must house transparent label holder to ensure circuit identification.

The MCCB's must have fully insulated safety shutters. Overload Zone adjustable from 0.4 to 1 in with line (For 630 amp & above MCCB) Short circuit Zone adjustable from 1.5 to 10 In with time.

Material:

3 pole or 4 Pole MCCB Moulded case circuit breaker. Fixed version front Terminals with current rating & breaking

capacity as below:

i. 63 A to 125 A - 15 KA
ii 160 A to 250 A - 35 KA
iii 300/400 A - 35 KA
iv. 630 A - 70 KA

Method of Construction:

3 pole /4 pole MCCB shall be erected in provided enclosure & connected with provided leads/strip on incoming & out going site complete

Mode of Measurement: Executed quantity shall be counted on number basis, (i.e. each)

5	5-10-10	The work shall be carried out as per wording of the item and as directed by Engineer n-charge.
6	5-10-24	The work shall be carried out as per wording of the item and as directed by Engineer in-charge. .
7	5-10-27	The work shall be carried out as per wording of the item and as directed by Engineer in-charge. .
8	6-1-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge. .
9	6-1-11	The work shall be carried out as per wording of the item and as directed by Engineer in-charge. .
10	6-1-16	The work shall be carried out as per wording of the item and as directed by Engineer in-charge. .
11	6-1-19	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
12	6-1-20	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
13	7-1 -21	Attached Separately
14	7-l-29	Attached Separately
15	7-3-12	Attached Separately
16	7-5-1$	7.4 & 7.5 Cable Joints & End Termination Kits (LT/HT Cables) (JT/LT/HT)

Contractor No. of Correction Executive Engineer

Sr. No. CSR Item No. Specification

Specification No (CB-JT/LT/HT)

1. Scope:

Providing straight through cable jointing kit of approved make and jointing cable as per the manufacturer's instructions and duly marking name of jointer and date.

2. Material:

Joint kit: Kit manufactured by reputed manufacturer with PVC moulds made in two parts, with epoxy compound, earth continuity lead of appropriate cross section having lugs at both ends, aluminum ferrules of the size of the cable, cross shaped epoxy spacer, MS clips for holding the moulds, adhesive for pasting the moulds.

3. Method of Construction:

S.l Straight through joint Kit: LTVHT Cables

Before providing joint to the cable, the cable ends of the equivalent length of the joint moulds, shall be prepared by removing the outer PVC insulation along with the steel armouring. The ferrule shall then be inserted over the bare core of the cable, and shall be crimped with hydraulic / mechanical type heavy duty crimping tool. The crimped portion shall be wrapped first with the PVC insulation tape and then with the insulation tape used for wrapping HT conductor. The above method shall be carried out for all the cores strictly following the colour code. The leads of the both the cables now shall be placed into the mould by using the epoxy spacer$_s$ for having sufficient gap in-between the leads. The earth continuity lead shall be clamped to the both ends of the cable. After covering the cable leads with the PVC moulds, the edges shall be clipped after applying the adhesive on the inside face of the moulds. The pasting of moulds shall be rigid and as far as possible leak proof, so that the epoxy compound shall not spill out. Now the duly stirred epoxy compound shall be poured and fill till the compound rises through the risers provided on the moulds.

After completing the above procedure," the joint shall be allowed to dry out for at least 8 to 10 hours (for epoxy compound to get hardened) depending upon the size of cable. Before connecting to supply, the dry and hardened joint shall be tested for its insulation level with 1000 *VI* 5000 V Meggar.

The cable should be fixed or laid in such manner that there should not be pressure on end of moulds or on jointing position of cables. (Refer drawing No. CB-JT-1)

3.2 Outdoor/Indoor end termination Kit: LT/HT Cables

Before providing end termination Id! to the cable, the cable end of the equivalent length of the moulds, shall be prepared by removing the outer PVC insulation along with the steel armouring. The ferrule shall then be inserted over the bare core of the cable, and shall be crimped with hydraulic / mechanical type heavy duty crimping tool. The crimping shall be done in such a manner that there shall be no air gap. Then the crimped portion shall be wrapped first with the PVC insulation tape and then with the insulation tape used for wrapping HT conductor. The above method shall be carried out for all the cores strictly following the colour code. The leads of the cable now shall be placed into the mould by using the epoxy spacer, for having sufficient gap in-between the leads. The earth continuity lead shall be clamped to intends of the cable. After covering the cable leads with the PVC moulds, the edges shall be clipped after applying the adhesive on the inside face of the moulds. The pasting of moulds shall be rigid and as far as possible leak proof, so that the epoxy compound shall not

Sr. No.	CSR Item No.	Specification

spill out Now the duly stirred epoxy compound shall be poured and fill till the compound rises through the risers provided on the moulds. (Refer drawing No. CB-JT-2)

After completing the above procedure, the joint shall be allowed to dry out for at least 8 to 10 hours (for epoxy compound to get hardened) depending upon the size of cable. Before connecting to supply, the dry and hardened joint shall be tested for its insulation level with 1000 *VI* 5000 V Meggar.

4 Mode of Measurement:

Executed quantity will be measured on number basis, (i.e. each).

7-6-5 The work shall be carried out as per wording of the item and as directed by Engineer in-charge.

7-6-4 4.1.1 Erection of Pipe on wall:

The required length of pipe shall be machine cut, without any sharp edges, burrs, etc. The pipe duly enclosing the specified material, shall be erected on wall in plum, and fixed with required size of MS clamps on wall with plugs, gitties, etc. When the pipe is to be fixed to walls it shall be fixed with standard bracket, clips or holder by keeping the pipe about i2mm clear of the wall. The pipe shall be fixed to the wall horizontally and vertically and parallel to one another, when more than one pipe is to be laid, unless unavoidable. The supporting clips, etc. for the pipe shall be spaced at about two meters or so as necessary. Holes cut during construction shall not be left out; they shall be filled and finished after passing of the pipe through it.

4.1.2 Erection- of Pipe on pole:

The required length of pipe shall be machine cut, without any sharp edges, burrs, etc. The pipe duly enclosing the specified material, shall be erected on pole in plum, and fixed with required size of MS clamps with MS nuts & bolts of required size and strength. When the pipe is to be used as cable enclosure and is to be terminated on street light pote (s), the pipe at the trench level should be placed at least 30 cm above the cable evel for avoiding damage to the insulation of cable.

5-5-1 5.5 Moulded Case Circuit Breaker (MCCB)(MCCB)

Scope:

Specification No (SW-SWR/MCCB)

Providing & erecting 3 Pole/4 Pole MCCB of specified rating and with specified short circuit rupturing capacity in KA, complete erecting in provided enclosure & connected with provided leads on incoming and out going side, complete.

Genera! Specifications for MCCB's

MCCB's should comply with IS 13947 part -2,1EC (6094) and IEC 60947-3 & IEC 60947 part 2.

The MCCB shall be suitable for universal mounting i.e. the load/line shall be interchangeable with shrouded incoming

contacts.

The MCCB shall be suitable for minimum operating voltage of 415V.

The thermal setting shall be adjustable from 64 % to 100% of its normal current.

The magnetic setting shall be adjustable from 3.5 to 10 In (normal current).

Trip reset should be available Manual / Automatic.

Isolator switches for electronic circuits to open the MCCB automatically.

The MCCB's must house transparent label holder to ensure circuit identification.

The MCCB's must have fully insulated safety shutters.

Overload Zone adjustable from 0.4 to I in with line (For 630 amp & above MCCB)

Short circuit Zone adjustable from 1.5 to 10 In with time.

Material:

3 pole or 4 Pole MCCB Moulded case circuit breaker. Fixed version front Terminals with current rating & breaking capacity as below:

i. 63 A to 125 A - 15 KA

ii 160 A to 250 A - 35 KA

Hi 300/400 A - 35 KA

iv.630A - 70 KA

Sr. No.	CSR Item No.	Specification
		Method of Construction: 3 pole /4 pole MCCB shall be erected in provided enclosure & connected with provided leads/strip on incoming & out going site complete Mode of Measurement: Executed qjantity shall be counted on number basis, (i.e. each)
20	8-1-10	Attached Separately
21	8-1-11	Attached Separately
22	8-4-1	Attached Separately
23	8-4-2	Attached Separately'
24	8-4-11	Attached Separately
25	8-4-12	B)D Vee Cross Arma D(OH-PL/VCA) G Scope: D Specification No D(OH-PL/VCAl)a D Supplying Vee cross arm, suitable for 11 kV and necessary ancillary materials Dcompfete Oerection on provided pole with necessary painting as per specification and as per D instructions from the site engineer, D Material: D Cross arm: Channel Iron cross arm Q Hardware: G.I. nut bolts D FIat: MS flat 80 x 10 mm thick O Clamp; Two clamps made from MS flat of size 80 x 10 mm. QPaint: Red oxide. Silver paint. D Method of construction: Fabricating the Vee cross arm for erecting Insulators with channel 75 x 40 mm with D4.4 mm thick web and 7.3 mm thick flange, length of 45 mm for base of insulator, D vertical member of suitable length to maintain the clearance of 1220 mm, will angle of 60 degrees to horizontal and M.S. flat of 80 x 10 mm at centre of cross arm fixed to the pole by means of two ^ clamps of 80 x 10 mm. M.S. flat with 15mm. dia bolts and nuts duly painted with one coat of red oxide paint and two coa of aluminium Dpaint. Cross arm shall be fabricated as per drawing no. OH-PL/BKT-l (Fig.l) Cietailed specifications of material of the items included in CSR are given in Table No 8.4/2. Mode of Measurement: Executed quantity will be measured on number basis (i.e. Deach)
26	**8-4-14**	B)D Vee Cross Arm (OH-PL/VCA) DScope: D Specification No D(OH-PL/VCA1)0 DSupplying Vee cross arm, suitable for 11 kV and necessary ancillary materials Incomplete Defection on provided pole with necessary painting as per specification and as per Destructions from the site engineer. D Material: G Cross arm: Channel Iron cross arm O Hardware: G.I. nut bolts D FIat: MS flat 80 x 10 mm thick G CIamp: Two clamps made from MS flat of size 80 x 10 mm. U Paint: Red oxide. Silver paint. D Method of construction: G Fabricating the Vee cross arm for .erecting Insulators with channel 75 x 40 mm with D4.4 mm thick web and 7.3 mm thick flange, length of 45 mm for base of insulator, Dvertical member of suitable length to maintain the clearance of 1220 mm, will angle of 60 Ddegrees to horizontal and M.S. flat of 80 x JO mm at centre of cross arm fixed to the pole by means of two ^ clamps of 80 x 10 mm. M.S. flat with 15mm. dia bolts and nuts duly painted with one coat of red oxide paint and two coa of aluminium paint. Cross arm D shall be fabricated as per drawing no. OH-PL/BKT-l (Fig. 1) CID etailed specifications of material of the items included in CSR are given in Table No 8.4/2. Mode of Measurement: Executed quantity will be measured on number basis (i.e. each)

Sr. No.	CSR Item No.	Specification

27 8-4-15 B)Q Vee Cross Arma (OH-PlTVCA)

Scope:

SpeciiicationNo D(OH-PL/VCA1)D

Supplying Vee cross arm, suitable or 11 k.V and necessary ancillary materials D complete erection on provided pole with necessary painting as per specification and as per Destructions from the site engineer.

D Material:

H Cross arm: Channel Iron cross arm

Q Hardware: G.I. nut bolts

Q FIat: MS flat 80 x 10 mm thick

D CIamp: Two clamps made from MS flat of size 80 x 10 mm.

H Paint: Red oxide. Silver paint.

G Method of construction:

D Fabricating the Vee cross arm for erecting Insulators with channel 75 x 40 mm with Q4.4 mm thick web and 7.3 mm thick

flange, length of 45 mm for base of insulator, G vertical member of suitable length to maintain the clearance of 1220 mm, witl

angle of 60 Ddegrees to horizontal and M.S. fiat of 80 x 10 mm at centre of cross arm fixed to Dthe pole Qby means of two clamps of 80 x 10 mm. M.S. fiat with 15mm. dia bolts Dand nuts Dduly painted with one coat of red oxide paint and two coa of aluminium Dpainl. Cross arm Dshall be fabricated as per drawing no. OH-PL/BK.T-I (Fig.l)

U Detailed specifications of material of the items included in CSR are given in Table No 8.4/2.

D Mode of Measurement: Executed quantity will be measured on number basis (i.e. each)

28 8-5-2 8.5 Conductors DD(CON)

A) All Aluminium Conductors (AAC)D D(OH-CON/AAC)

- Scope:
- Specification No D{OH-CON/AAC)
- Supply and erection of All Aluminium Conductors for overhead line.
- Material:
- Conductor: All aluminium stranded conductor *(As* per table 8.5/1)

Binding wire: 12 SWG aluminium binding wire

Clamps: PG clamps as per requirement

Method of construction:

At first the conductor is removed from bundle/drum straighten without knots, bends, etc. Stringing of conductor shall be done with draw vice. Conductor shall not be twisted while stringing. Shackle insulators be used if the line deviates by 30 degrees or more, at terminal pole and at junction/ cut pole. Parallel double groove clamp having two nut bolts designated to carry full line current shall be used for making Jumper connections.

On straight line the conductor shall be bounded on top groove of insulator and at angular position binding shall b done in side groove. Binding wire of 12 SWG shall be of the same metal as that of conductor.

Mode of Measurement:

For measurement purpose, sum of the total conductor including jumper connections shall be considered, (i.e. per km)

29 8-5-5 8.5 Conductor (CON)

A)AI1 Aluminum Conductors (AAC)OD(OH-CON/AAC)

Scope:

Specification No D(OH-CON/AAC)

Supply and erection of A1l Aluminum Conductors for overhead line.

Material:

Conductor: All aluminum stranded conductor (As per table 8.5/1)

(Binding wire: 12 SWG aluminum binding wire

Sr. No.	CSR Item No.	Specification

Clamps: PG clamps as per requirement

Method of construction:

At first the conductor is removed from bundle/drum straighten without knots, bends, etc.

Stringing of conductor shall be done with draw vice. Conductor shall not be twisted while stringing. Shackle insulators be used if the line deviates by 30 degrees or more, at terminal pole and at junction/ cut pole. Parallel double groove clamp having two nut bolts designated to carry full line current shall be used for making Jumper connections.

On straight line the conductor shall be bounded on top groove of insulator and at angular position binding shall b done in side groove. Binding wire of 12 SWG shall be of the samemeta as that of conductor.

Mode of Measurement:

For measurement purpose, sum of the total conductor including jumper connections Dshall be considered, (i.e. per km)

30 8-5-10 Attached Separately

31 8-5-12 The work shall be carried out as per wording of the item and as directed by Engineer in-charge.

32 8-6-3 Shall be carried out as per wording the item and as directed by Engineer in-charge.

33 5-5-2 5.5 Moulded Case Circuit Breaker (MCCB)
(MCCB)

Scope:

Specification No (SW-SWR/MCCS)

Providing & erecting 3 Pole/4 Pole MCCB of specified rating and with specified short circuit rupturing capacity in KA, complete erecting in provided enclosure & connected with provided leads on incoming and out going side, complete. General Specifications for MCCB's

MCCB's should comply with IS 1 3947 part -2, IEC (6094) and !EC 60947-3 & IEC 60947 part 2.

The MCCB shall be suitable for universal mounting i.e. the load/line shall be interchangeable with shrouded incoming contacts.

The MCCB shall be suitable for minimum operating voltage of 4I5V. The thermal setting shall be adjustible from 64 %to 100% of its normal current. The magnetic setting shall be adjustable from 3.3 to 10 In (normal current). Trip reset should be available Manual / Automatic. Isolator switches for electronic circuits to open the MCCB automatically. The MCCB's must house transparent label holder to ensure circuit identification. The MCCB's must have fully insulated safety shutters.

Overload Zone adjustable from 0.4 to 1 in with line (For 630 amp & above MCCB)

Short circuit Zone adjustable from 1.5 to 10 In with time.

Material:

3 pole or 4 Pole MCCB Moulded case circuit breaker. Fixed version front Terminals with current rating & breaking capacity as below:

i. 63 A to 125 A - !5KA
ii 160 A to 250 A - 35 KA
iii 300/400 A - 35 KA
iv. 630 A - 70 KA

Sr. No.	CSR Item No.	Specification

Method of Construction:

3 pole /4 pole MCCB shall be erected in provided enclosure & connected with provided leads/strip on incoming & out going site complete

Mode of Measurement: Executed quantity shall be counted on number basis, (i.e. each)

34 8-6-6 8.6 Insulators (INS)

A) Porcelain Disc Type Insulator 11/22/33 kVDO(OH-!NS/DI)

Scope:

Specifcation No (OH-INS/DI)

Supplying porcelain disc type insulator, suitable for 11/22/33KV and necessary Qancillary materials and complete erection provided cross arm / bracket and connected to the over-head line as per instructions from the site engineer

Material:

Insulator: Distribution class Disc type insulator made from porcelain, suitable for specified voltage level, having 1SI mark with necessary hardware. Hardware; Nuts, washers, etc.

Binding wire: Bare Copper wire or conductor. C-lamps: MS clamps.

Method of construction:

Distribution class porcelain disc type insulator, suitable for specified voltage level, erected on provided cross arm or brad with clamps, ancillary materials, and connected to she over-head line. Connection shall be made with bare copper wire of specified gauge.

Mode of Measurement: Executed quantity will be measured on number basis (i.e. Deach)

8-6-9 B)Pin Type Insulator 11/22/33 kV(OH-INS/PN)

Scope:

Specification No{OH-INS/PN)

Supplying porcelain Pin type insulator, suitable for 11/22/33KV and necessary ancillary materials and complete erection . provided cross arm / bracket and connected to the over-head line as per instructions from the site engineer

Material:

lnsulator: Distribution class Pin type insulator made from porcelain, suitable for specified voltage level, having ISI mark,

with necessary hardware. '

Hard ware: Nuts, washers, etc.

Binding wire: Bare Copper wire or conductor.

Iamps: MS clamps.

Method of construction;

Distribution class porcelain pin type insulator suitable for specified voltage level, a erected on provided cross arm or brack with clamps, ancillary materials, and connected to the over-head line. Connection shall be made with bare copper wire of specified gauge.

Mode of Measurement: Executed quantity will be measured on number basis (i.e. each)

Sr. No.	CSR Item No.	Specification

8-6-15 D) Thyrite type Lightening Arrester 11/22 kV (OH-INS/LA)

Scope:

Specification No (OH-INS/LA)

Supplying porcelain Thyrite type lightening arrester, suitable for specified voltage level and necessary ancillary materials and complete erection on provided cross arm / bracket and connected to the over-head line as per instructions from the engineer.

Material:

Arrestor: Distribution class Thyrite type lightening arrestor made from porcelain, suitable for specified voltage level, havi

ISI mark.

Hard ware: Nuts, washers, etc.

Binding wire: Bare Copper wire or conductor.

Clamps: MS clamps.

Method of construction:

Distribution class porcelain Thyrite type lightening arrestor, suitable for specified voltage level, erected on provided cross

arm or bracket with clamps, ancillary materials, and connected to the over-head line. Connection shall be made with bare

copper wire of specified gauge.

Mode of Measurement: Executed quantity will be measured on number basis (i.e. Deach)

37	8-7-1	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
38	8-7-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
39	8-7-8	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
40	8-7-13	The work shall be carried out as per warding of the item and is directed by Engineer in-charge.
42	8-7-15	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
43	8-7-18	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
J4	8-8-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
45	8-8-4	The work shall' be carried out as per wording of the item and as directed by Engineer in-charge.
46	8-8-3	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
48	9-l-l	Attached Separatey

9-1-5 B) Low Impedance Earthing (Pipe in pipe technology)D(EA-EPP)

Scope;

Specification No D(EA-EPP)

Supplying -and erecting approved type earthing system with Pipe in pipe technology with necessary ancillary materials and complete erection as per instructions from the site engineer

Material:

GI Pipe: As per specification no. (CW-PLB/GP) mentioned chapter 17.5;

1. 50 mm diax 3 meter long (In plare of traditional GI pipe Earthing), for LV /MV applications.

2.n 80 mm x 3 meter Song (In place of traditional copper plate Earthing), for HV/EHV applications.

Earthing Conductor: G.I strip/GI earth wire of size as per specifications given in Table No 9.1/1.

GI Pipe: As per specification no. (CW-PLB/GP) mentioned chapter 17.5 for watering and as enclosure for Earth wire, as per

specifications given in Table No 9.1*I*\.

Hardware: Screw/ nut bolts with required washer of dimensions, Rawl plug/clip/ 'U Nails and material as per

specifications given in Table No 9.*III*.

Filling material: Coal /Charcoal/ salt as per specifications given in Table No 9.1/1.

as per specifications given in Table No *9, 1/1*.

Lugs: As per specification no. (CB-LG/AL, CB-LG/CU) mentioned in chapter 7.9 & 7.10 for Copper/ Aluminium lugs and

as per specifications given in Table No 9.1/1.

Sr. No.	CSR Item No.	Specification
		Method of construction: Earthing Pipe in pipe technology with ancillary materials shall be done by digging an 8" / 10" dia hand bore 10.5' deep sufficient to install the electrode in normal soil conditions. The space between the soil and the electrode is filled up with electrolyte material mixed with the dug out mother soil, along with water and tightly packed up to the base of the terminal. In rocky areas and under hard soil and sandy soil conditions the method of installation will be as specified by manufacturer. Installation shall include drilling, welding, reverting, brazing and nut bolting pipe when ever required in an approved manner with required material such as nut bolts and washer etc. .and with necessary brick masonry work as per the specification. (As per IS 3043 amended up to-date). As far as possible continuous GI strip shall be used but when ever jointing of strip is un avoidable, the jointing over lap portion must not be less than 21/2 times the width of the strip either welded/ brazed/soldered by all sides or overlap of 6 inch with two nut bolts/ riveting of adequate size with required washer and covered by anti corrosive paint as per approved jointing practice in the industry and as per directives from site engineer in-charge. **Testing:** The value of each earth electrode shall be measured by earth tester and record to be Q submitted. (Also refer drawing No.2) Mode of Measurement: Executed quantity will be measured on number basis i.e. Each
49	9-2-1	Attached Separately
50	9-2-5	The work shall be carried out as per wording of tiie item and as directed by Engineer in-charge.
51	10-1-21	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
52	10-2-1	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
53	10-2-5	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
54	10-2-21	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
55	10-3-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
56	10-3-3	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
57	16-1-4	Attached Separately
58	16-3-2	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
59	16-3-3	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.
60	16-3-5	The work shall be carried out as per wording of the item and as directed by Engineer in-charge.

The work Shall be carried out as per wording of the item and as directed by Engineer in-charge

Executive Engineer
Amravati Electrical Division,
P.W. Deptt. Amravati.

Contractor No. of Correction Executive Engineer

7.1, 7.2, a 7.3 Armoured Cables (HT & LT)

1. **General**

Ail material shall conform to relevant standard as per BIS and shall carry ISI particular category of material for which ISI mark is not available m market, It included in approved list.

Work shall be carried out as per the method of construction specified by BIS. if there is no reference for particular method of construction in IS, such work shall be carried out as per the approved method of construction specified in chapter 15 of P.W. Dept. Handbook.

Material and Work not qualifying to any provision mentioned above shail be to the satisfaction of the Engineer in Charge.

2. **Cables: (Armoured)**

The following list records those Indian Standards in force, which are acceptable as good practice, and accepted standards.

SP 30: 1984	:	National Electrical Code • .
SP 7 (Group 4): 2005	:	National Building Code
IS 1255; 1983		Code of practice of Installation & Maintenance of armoured cables up to 33 kV.
IS 3961: Part 2: 1967	:	Recommended current ratings of PVC cables.
IS 1554: Part 1; 1983	:	PVC insulated (Heavy duty) Electric Cables; Part 1 for working voltages up to and including 1100 Volts.
IS 1554: Part 2: 1988	:	PVC Insulated (Heavy duty) Electric Cables; Part 1 for working voltages up to and including 3.ri kV to 11 kV,
IS 10810: Part 63; 1993	:	Method for Test of cables, Part 63 Smoke density of electric cables under fire condition.

3. **Scope; (Armoured cables)**

Specification No, (CB-LT/AL, CB-LT/CU, CB-HT)

Providing armoured cable of specified voltage level, size & specified conducting material Aluminum / Copper) as per Table no, 7/3 including required material, hardware's for erection and erecting on wall, ceiling, RCC slab or drawing the same through pole, pipe, laying in provided conduit, trench, ducts, trays as per approved method of construction including glands, lugs, etc.

4.- **Material:**

Cables:

Cables shall be PVC for LT/MP and XLPE for HT as per Table no. 7/3 and of required construction, colour, shal[1] carry ISI mark, IS No, manufacturer's name, size, duly embossed / screen printed at every metre and having the total count of progressive length in meter at each mark.

Earth wire: Galvanized Iron (G !) wire of appropriate gauge as per Table No 7/1. *Glands:* As per specification (C'B-GL) *Lugs:* As per specification (CB-CL/AL, CB-CL/CU)

Saddles: Saddles fabricated, from G! sheet of required gauge and size depending on dia of cable either galvanized or painted with superior quality ename black paint with necessary shearing mechanical strength, semi circular shaped with extended piece having suitable holes for fixing. ' G*I Strip:* 22 q x 25 mm width G I Strip.

Clamps: MS CFamps fabricated of required length and shape, having the size of 3/6 mm • thick mild steel "having 25/50 mm width (as per size of cable), rounded ends with wooden / resin cast-grip for holding the cable.

Identification tags: For identifying root, connection position Gl strip with identification. mark / name embossed / painted'with arrangement to tie should be fix on cable or arrangement of ferrules to be done. *Hardware:* Sheet Metal *(tfo)* screws of required sizes, plugs / wooden gutties, etc.

4. Method of Construction;

Gene raj:

a) irrespective of method of construction the cable ends shall be terminated with appropriate size & type of glands with lugs duly crimped, as directed by Site engineer.

b) Wherever the cable has to be bent, the turning radius shall be as mentioned in Table No 7/2. Grouping of cables shall be done with adequate distance between cables as mentioned in IS so as to minimize de-iating. Cables shall be tagged/ferruled with identification name / mark at the point from where distribution starts and at ends. Baro earth wire of appropriate size ^s per Table- r-o. 7/1 shall run along with the .cable. Earth wire running with the cable shall be terminated at the earth terminal nearest to. cable termination.

5.1 Erection of Cable on Surface:

Erection shall be done as per the routes and layout finalized, in perfect level and in plumb. Before fixing the cable shail be straightened as far as possible for good aesthetics look, continuous bare Gl earth wire of required gauge as per Table No 7/1 shail be run. Cable with G I wire shall be fixed by saddles firmly clipped on cable and shail be fixed to wall, with minimum 50 x 8 mm SM screws with plugs/wooden gutties, etc. {Distance between two supports / saddles shall be maximum 450 mm). Wooden gutties shall be used wherever required (Especially for stone wall}. The entries made in wall, floor slab, etc for laying trie. cable shall be made good by filling and finishing with plastering the same.

5.2 Erection of Cable on Trusses:

Cable along with bare Gl earth wire, while erecting on trusses, shall be firmly clamped by wrapping Gi strip of 22_g, 25 mm width of required length fixed to truss with nuts and bolts.

5.3 Erection of Cable on Pole:

Cable along with bare GI earth wire, while erecting on pole, shail be firmly clipped by suitable wooden / epoxy resin cast grips, clamped with 25 x 3 mm or50x6 mm MS strip of required length and fixed to pole with nuts and bolts.

5.4 Laying of Cable In provided Trench/Pole:

While laying Cable along with bare G! earth wire, utmost care shall be taken to prevent damage to the insulation of the cable and to the open end. Cable shall be brought out from trench vertically straight (minimum 1,0 metre above G L). Care shall be taken to inspect the trench so that depth of cable shall not be less than as shown in Table No 7/4. Suitable size of cable loops shail be provided near termination point at adequate depth.

5.5 Erecting cable in constructed Trenft / duct:

Erection of cable/s in constructed trench / duct, shall be as per guide lines of IS 1255.

5.6 Erection of cable/3 on trays:

Cable/s shall be tied with PVC tags on Gl trays. At bending point care shall be taken so that sharp edges of sheet will not damage insulation of cable.

5.7 Mode of Vieasurement: Executed quantity shall be measured on the basis of running metre per run of cable.

6. Dismantling

Cable laid underground, or fixed on any surface shall be dismantled carefully without damaging complete with all its accessories, making coil and stored as directed. The surface of the dismantled cable shall be made clear by removing of unwanted material, cement mortar, etc. When cable is dismantled from trench refill back the trench and making the surface proper.

7. Mod.e of Measurement: Executed quantity shall be measured on the basis of running metre per run of cable.

Table No 7/1

Size of Bare GI Earth wire to be. used with LT Cables upto 1.1 kV

S. No.	Size of cable	Size of bare Gl Earth wire to be used with cable
1	2.5 Sqmm to 50 Sqmm of all cores.	12SWG
2	70 Sqmm to 95 Sqmm of all cores.	10SWG
3	120 Sqmm and above of all cores.	8 SWG

B) Rolled Steel Joist (RSJ) Poles (OH-PL/RSJ)

Scope: **. Specification No (OH-PL/RSJ**

Supply and erection of Roiled Steel Joist (Girder) pole as per IS 2713, including in provided foundation as per method of construction.

Material :

Pole: Rolled Steel Joist (Girder) As per Table No 3.1/2 ***Base plate:*** MS Base plate of 30x30x0.6 cms.
Hardware: Nut and bolts for fixing earth wire
Paint: **Bituminous** paint, **Aluminium paint, Red** oxide paint.

Method of Construction :

Before erection of pole base plate of size 30x30x0.6 cm shall be full length welded, at the bottom of pole, a suitable hole of required diameter and at specified height shall be drilled for earth side. The pole shall be then painted by 2 coats of red oxide paint as primer for full length and then by one coat of bituminous paint before erection for min,1/6 length which is to be buried in ground & after erection remaining portion-to be-painted by two coats of aluminium paint. The pole shall be erected in provided pit with cement concrete foundation and muffing in perfect plumb. {As per drawing)

Mode of Measurement :
Executed quantity will be measured on number basis, (i.e. each)

Table No. 3.1/2

Weight of various sizes of RSJ Poles with 8.5 meter length

RSJ POLE	Size	Weight per Meter
Rolled steel Joist	1 50x80 /150x75mm	14.9 Kg/meter
Rolled steel Joist	200x1 00 mm	25,4 Kg/meter
Rolled steel Joist	175x90 mm	19.3 Kg/meter
Rolled steer Joist	100x11 6 mm	23.0 Kg/meter
Rolled steel Joist	125x75 mm	12.42 Kg/meter
Rolled steel Joist	152x1 52 mm	37.0 Kg/meter

Rail Poles (OH-PL/RLP
Scope;
Specification No (OH-PL/RLP)

Supply and erection of Rail. Poie including painting in provided foundation **as per** method of construction.

Material

Pole: Rail Poie 29.76 Kg/ metre, as per IS 2713 (Part II)
Base *plate:* MS Base plate of 30x30x0.6 cms.
Hardware: Nut and bolts for fixing earth wire
Paint: Bituminous paint, Aluminium paint. Red oxide paint.

Before erection of pole, base plate of size 30x30x0,6 cm shall be full length welded or fixed with 4 set screws at the bottom of pole, a suitable hole of required diameter and at 'specified height shall be drilied for earth stud. The pole shall be then painted by 2 coats of Ted oxide paint as primer for full length and then by one coat of bituminous paint before erection for 1/6 length which is to be buried in ground & after, erection remaining portion is to be painted by two coats of aluminium paint The pole shall be erected in provided pit with cement concrete foundation and muffing in perfect plumb.

Mode of Measurement :
Executed quantity will be measured on number basis, (i.e. each)

8.4 Brackets (BKT) Pole

Bracket (Cross arnti) (OH-PUBKT)

Specification No (OH-PUBKT)
Scope:
Supply and erection of MS Pole Bracket for erection of L T insulators on provided pole.

Material:

Pole Bracket: MS pole bracket fabricated as per specifications in Table 8.4/1. Thickness and size of channel is to checked from the steel table.

Table No 8.4/1
Details of Pole Brackets

Item No	Material of bracket	Length	No of insulator	No of insulator	Guarding Extension piece	Remark
8-4-1	Angle iron 50x50x6 mm	550 mm	2	2		For LT guarding for vertical formation
8-4-2	Angle iron 50x50x6 mm	750mm	2	2		For LT guarding for horizontal formation
8-4-3	ISMC Channel 7fix40x 4.7mm		4	4		For LT 3 phase 4 wire vertical formation
8-4-4	ISMC Channel 75x40x 4.7mm		5	5		For LT 3 phase 5 wire vertical formation
8-4-5	!SMC Channel 75x40x 4.7mm	550 mm	2	2		
8-4-6	ISMC Channel 75x40x 4.7mm	1100 mm	4	4		
8-4-7	ISMC Channel 75x40x 4.7mm	550 mm	2	2	300mm of same channel	
8-4-8	ISMC Channel 75x40x 4.7mm	1100 mm	4	4	300mm of same channel	

D' type Clamps: MS Flat of 50x6mrn, 15 mm MS nut bolts
Paint: Silver paint, Red oxide paint

Method of construction:

The cross arm shall be made up of size of channel mentioned in above table. The length shall be as stated above table. The cross arm shall be complete with pole clamp of size 50X6 mm MS flat and holes required for pin / shackle insulator. For MS pole bracket with guarding extension, a extension piece of same size of length 300 mm shall be welded to bracket as per drawing attached herewith. The cross arm and pole clamp shall be painted with one coat of red oxide and two coat/silxer enamel paint any other colour aint (as per the instructions of engineer in-charge). Cross arm shall be fabricated as per drawing no.

Mode of Measurement: Executed quantity will be measured on number basis, (i.e. Each)

B) Aluminium Conductor. Steel Reinforced (ACSR) (OH-CGN/ACSR)

Scope:

Specification No (OH-CGN/ACSR)

Supply and erection of aluminium conductor steel reinforced for overhead line.

Material:

Conductor: All aluminium conductor steel reinforced (As per table 8.5/1)

Binding wire: 12 SWG aluminium binding wire

C/amps: PG clamps as per requirement

Method of construction:

At. first the conductor is removed from bundle/drum straighten without knots, -bends, etc. Stringing of conductor shal; be done with draw vice. Conductor shall not be twisted while stringing. Disc insulators shall be used if. the line deviates by 30 degrees or more, terminal pole and tri-pole or four pole structure at terminal pole and at junction/ cut pole.

Parallel double groove clarrp having two nut bolts designated to carry full line current shall be used for making Jumper wire connections. Universal .parallel double groove clamp having two nut bolts shall be used for Tap Off point.

On straight line the conductor shall be bounded on top groove of insulator and at angular position, binding shall be done in side groove. Binding wire of 12 SWG shall be of the same metal as that o1' conductor.

Mode of Measurement

For measurement purpose, sum of the total conductor including jumper connections shall be considered, (i.e. per km)'

Table No. 8.5/1

Conductor Specifications As Per I.'S. 398/1961

Code Name of Conductor	Resistance at 20° ohm /km.	Approx, Current Carrying Capacity in Amperes.		Number of Strands / Diameter of each	Overall] Diameter of Conductor in	Weight of I Conductor i (kg/km)
		At 40° C	At 45° C			
AH Aluminium. Conductor						
Rose	1,361	116	108	7/1 .96	5.88	58
Gnat	1.071	133	123	7/2.21	6.63	73
Irish	0.850	150	138	7/2.48	7.44	92
Pansy	0.677	178	165	7/2.78	8.34	116
Ant	0.544, -	. 204	189	7/3.10 '	9.30 .	144
ACSR Conductor						
Squirrel	1.374	115	107	6+ 1/2.11	6.33	85
Weasel	0.911	150	139	6+ 1/2.59	7.77	128
Ferret 4.G4	o.6?g	181	618	6+ 1/3.0	9.00	171
Mink 0.06	0.456	234	217	6+ 3.66	10.98	255
Raccoon	0.365	270	250	6+ 1/4.09	12.27	318
Dog 0.1	1.137	520	482	30+ 7/3.0	21.00	976

Table No 8.5/2

Minimum Clearance between Conductors
(13:4237-1967)

S. No.	Voltage level (kV)	Clearance in mm	
		Between Phases	Between Phase & Earth
7.	11	460	305
8.	22	610	460
9.	33	915	610
10.	110	1675	1000
11.	230	3350	1675
12.	,400	4000	3500

Chapter 9

9.1 Plate / Pipe type Earthing

A) Plate type Earthing (With or Without C\ Cover, Funnel, etc) (EA-EP)

Scope Specification No (EA-EP)

Supplying and erecting. galvanised cast iron /copper earth plate type / G.I. pipe type earthing with / without C.I. cover as per instructions from the site engineer.

Material:

Earth *Plate:* Galvanised cast iron / Copper earth plate or GI pipe as per specifications given in Table No 9.1/1 .

Cl Cover: As per specifications given in Table No 9.1/1 .

Earthing Conductor; Copper/G.I strip/ Annealed bare copper wire/G.I. earth wire of size as per specifications given in Table No 9.1/1 .

GI Pipe; As per specification (CW-PLB/GP) mentioned chapter no. 17.5 for watering, and as enclosure for Earth wire, refer specifications given in Table No 9.1/1 , *Hardware:* Screw./ nut bolts with required washer of dimensions, Raw! plug / clip/ 'IT nails and material as per specifications given in Table No 9. 1/1. *Fining material;* Coa) /Charcoal/ salt as per specifications given in Table No 9.1/1 . as per specifications given in Table No 9.1/1.

Lugs: As per specification (CB-LG/AL, CB4.G/CU) mentioned chapter 7.9 & 7.10 Copper/ Aluminium lugs as per specifications given in Table No 9.1 /1 .

Method of construction:

Pit is to be dug of required dimension and depth for the earthing at site, and laying of Galvanised cast iron / Copper earth plate or G.I. pipe shall be as per Table No 9,1/1. The earth connection to equipment switch gear ant) earthing electrode shall be connected as shown in the diagram and as per IS 3043 amender up to-date. The connections shall be made either by strip or double run of earth wire with drilling, welding, riveting, brazing and nut bolting to plate or pipe, where ever required in an approved manner. As far as possible Continuous strip shall be used, but where ever jointing of strip is unavoidable; the overlap portion must not be less than $2^{1/2}$ times the width of the strip either welded/ brazed/soldered by all sides or 6 inches overlap with two nut bolts/ riveting of adequate size with required washer and covered by anti-corrosive paint as per approved jointing practice in the industry and as per directives from site engineer in charge.

Pit shall then be filled with screened soil with alternate layer of coal and salt, and if, necessary brick masonry work (Where ever applicable) shall be done as specified in IS: 3043, with laying wires in PVC/ G.I. pipe and watering arrangement as per drawing no EA-1 and covered with C.I. Cover (Where ever applicable).

Where ever requires or as specified by Site Engineer, a Test link shall be provided for lacilitating the testing of resistance of earth electrode.

Testing:

The value of each earth electrode shall be measured by earth tester in presence of site Engineer and record to be s

Mode of Measurement : Executed quantity will be measured on number basis (i.e. each)

Table No 9.1/1
Detailed Specifications of various types of Earthiirg

Type of earthing		Galvanised cast iron earth plate type without C.l cover	Copper earth plate type with C.I cover	Galvanised cast iron earth plate type with C.I cover	Pipe type earthing with out C.I cover
S.No.	**Particulars**				
1)	Depth from top of plate Up to Ground level	1.5 m Galvanised	1.5m	1.5m Galvanised '	
2)	Size & type of material for pipe / Plate type earthing.	Cast iron earth plate size 60x60x0.6 cms	Copper earth plate size 60x60x3.15 cms	cast iron earth plate size 60x60x0.6 cms	'B' grade G.I. pip^ -40mm, dia. 2.5 mtr. Long or 20 mm dia. G.I. Rod
3)	Salt/charcoal	30 Kg. charcoal and salt each	30 Kg. charcoal and salt each	40 Kg. charcoal and salt each	NA-
4)	Type of Wire	Double G.I. wire 8 SWG	Double G.!. 8 SWG	Double G.i. 6 SWG	double G.i. 8 SWG
5}	Wire enclosure	12mm. dia. G. I. pipe 2 mtr. Long	12mm. dia. G. I. pipe 2 mtr. Long	12mm. dia. G. I. pipe 2.5 mtr. Long	NA
6)	Nut bolts	12 mm dia. Cadmium/ GI	12 mm dia. Cadmium / Gl	12 mm dia. Cadmium / Gl	NA
7)	Washers	Gl	Gl	Gl	NA
8)	Watering pipe	19mm. dia. G.I. pipe	19mm. dia. G.I. pipe	19mm. dia. G.I. pipe	NA
9J	Lugs	Yes	Yes	Yes	Yes
10)	funnel	No	yes	yes	NA
11)	Brick Masonry	No	yes	yes	NA

E) **Flood Light fitting suitable for HPMV/HPSV/MH Lamps (GFL)**

Scope:

Specification No (FG-ODF/GFL)

Supplying & erecting Flood Light fitting suitable for specified wattage of HPSV/HPMV/MH lamps, with all accessories, erected with provided bracket on wall/street light pole or at any place as directed by Site engineer with necessary materials.

Material:

Fitting:

Luminaries comprising of a die cast aluminium housing with store enamel finish. A fiat toughened heat resistance glass is firmly fixed with a synthetic rubber gasket to the housing by stainless steel toggles. Control gear comprises of provided copper wound ballast, power factor improvement capacitor, and electronic ignitor & with mains connector. Luminaire shall be mounted on a MS cradle for rotating in horizontal & vertical planes for facilitating positioning of the luminaire to effectively illuminate the target area. Brightened & anodized aluminium reflector for high optical efficiency. Cable entry shall be through suitable cable glands/ nipple provided for cable entry.

(Refer drawing no.ODF-2 (Fig.4)

Ballast: As per (FG-FG/AS5) specified in chapter 2.4

Ignitor*: As* per (FG-FG/AS6) specified in chapter 2.4

Condenser: As per (FG-FG/AS7) specified in chapter 2.4

Terminal connector: As per (FG-FG/AS10) specified in chapter 2.4.

Method of Construction:

The complete fitting with all the above accessories shall be erected with provided bracket, on wall/street light pole or at any place as directed by Site engineer, duly connected and giving necessary testing.

Mode of Measurement:

Executed quantity shall be counted on number basis, (i.e. each)

Chapter 17 **Civil Work (CW)**

17.1 Excavation (EXN)

A) Cable Trench (CTR)

1. General

This part of specification deals with the preparation of trenches in soft soil, hard murum, BT road, and laying of cables inside the trench, etc as per IS: 1255,

2. **Scope:**

Specification No (CW-EXN/CTR)

Excavating in all types of soil strata and making trench for laying cable/cables, providing sand bed for laying the cable, covering cable with specified material as per requirement, and finishing the same by making the surface proper with crown on top of the trench. •

The following list shows Indian Standards, which are acceptable as good practice, and accepted standards.

SP 30: 1984	:	National Electrical Code
SP 7 (Group 4); 2005	:	National Building Code
IS 1255: 1967	:	Code of practice of Installation & Maintenance of armoured cables up to 33 kV.

3. **Material:**

Bricks: Solid Clay bricks of minimum size 225x110x62.5 mm (L x B x H), burnt in the kiln, of good quality.
Sand: Screened sand of good quality.

4. **Method of Construction:**

Trench in Soft soil / Hard Murum / Tar road" Single run of cable
Before excavating the soil for preparing trench, route of cable laying shall be got finalized from the site in-charge. Trench of minimum 300 mm width shall be excavated up to . minimum depth below the ground surface as per Table No 17.1/1 Bottom of the trench should be carefully levelled and freed from stones. Cable duly straightened shall be laid flat and embedded in the 200 mm layer of screened sand at the bottom of the trench. Bricks shall be laid all over the run of cable as specified below:

Lengthwise for cable up to and including 10 Sqmm of all cores. Width

wise for cable above 10 Sqmm of all cores.

Remaining portion of the trench shall be back filled with the excavated material after removing stones and sharp / hard material, and making the surface proper. Crown of 150 mm shall be provided over the trench. The remaining excavated materiaf shall be removed from site and dumped in scrap yard of Local authorities or at suitable place.

Trench in Soft soil / Hard Murum / Tar road: Two or more cables run of cable
Before excavating the :5oii for preparing trench, route of cable laying shall be got finalized from the site in-charge. Trench of minimum required width more than 300mm. shall be excavated up to minimum depth as per Table No 5, below the ground "Surface. Bottom of the trench should be carefully levelled and freed from stones. Cables duly straightened shall be laid flat and embedded in the 200 mm layer of screened sand. The inter-axial distance between two cables shall be between 230 and 400 mm. at the bottom of the . trench. Bricks shall be laid ail over the run of cable as specified below:

Lengthwise for cable up to and including 10 Sqmm of all cores. Width

wise for cable above 10 Sqmm of all cores.

Remaining-.portion of the trench shall be back filled with the excavated material after removing stones and sharp / hard material, and making the surface proper. Crown of 150

mm shall be provided over the trench. The remaining excavated material shall be removed from site .and dumped in scrap yard of Local authorities or at suitable place.

Trench in Soft soil/Hard Murum/Tar road with half round Hume pipe:

(For *cables* ***of size 25 Sqmm. and above shall*** *be covered mln. 150* ***mm. dia of RCC Hume pipe)***

Before excavating the soil for preparing trench, route of cable laying shall be got finalized from the site in-charge. Trench of minimum required width more than 300mm. shall' be excavated up to minimum depth as per Table No 5, below the ground surface. Bottom of the trench should be carefully levelled and freed from stones. Cables duly straightened shall be laid flat and embedded in the 200 mm layer of screened sand. The inter-axia?^ distance between two cables shall be between 230 and 400 mm. at the bottom of the trench, inverted 150mm. dia. Half round RCC Hume pipe shall be laid above full length of cable. For more than one-cable higher size or more number of Hume pipes are to be provided.

Remaining portion of the trench shall be back filled with the excavated material after removing stones and sharp / hard material, and making the surface proper. Crown of 150 mm shall be provided over the trench, The remaining excavated material shall be removed from site and dumped in scrap yard of Local authorities or at suitable place.

As per 3.1 above, in place of bricks, the cable of size 25 sq.mm and above shall be covered with 150 mm dia, half round Hume pipe.

4.4 **Mode of Measurement:**

Executed quantity shall be measured on the basis of running meter per run of cable.

S.No	Voltage level of cables	Minimum depth from top of the cable
1	Up to 1.1 kV	750 mm
2	3,3 kV to 1 1 kV	900 mm
3	22kVto33kV	1050mm
4	At road crossing	1000 mm
5	At railway crossing {from Bottom of sleepers to Top of pipe)	1000 mm

SCHEDULE "A"

Schedule showing (Approximately) the materials to be supplied from the Public Works Department stores for the work contracted and preliminary and ancillary works and the rates at which they are charged for Construction of Est. No.

Sr. No.	Name of Materials	Approximate quantity to be supplied	Unit	Rate at which the materials will be charged to contractor		Place of Delivery
				Rate in Figures	In words	
1	2	3	4	5	6	7
	Nil	Nil	Nil	Nil	Nil	

Notes:

1. The persons or the firm submitting the tender should see that the rates in the above schedule are filled up by the Executive Engineer-in-charge on the issue of form prior to the submitting of tender
2. The rates mentioned in the. Schedule A are inclusive of all taxes and storage charges
3. Cement can be reckoned for the purpose of issue or 20 bags per tones irrespective actual weight. Loss arising out of shortage of weight in each begs shall govern by the provisions and conditions 20.1 (i) of special conditions of contract the rates quoted should correspond to this method of reckoning.
4. No claims for extra payment on account of delay in supply of these materials will be entertained.
5. The quantities mentioned in the above schedule are approximate and may vary as per the actual requirement as ascertained by the Engineer-in-charge.
6. The charges for loading un-loading conveyance etc. for the materials shown above form the place of delivery to the work site shall be borned by the contractor and deemed to be included whole quoting for the tender. All the materials shall be made available for delivery on working days during the office.

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7. All the materials mentioned in the schedule' A' required for the work should ,be taken from the department only. The materials from outer sources in lieu of materials mentioned in the 'A' shall not be allowed except under written permission from the Executive Engineer. The samples of such materials shall be tested at the Contractor's cost materials not confirming to the required sandaled shall be removed by the contractor at once from the side of work at his own cost.

8. The contractor will have to construct a shed with double locking arrangement at his own cost.

9. If the controlled materials viz. cement, steel, Electrical materials lie unused with the contractor after completion of the work and if they are not returned, the contractor shall pay for such materials at double rate at which the materials were issued to him. Recovery of S. T. and G. T. on cost of surplus materials which are not returned by the contractor will be levied.

10. Proper account of day to day consumption of materials as per schedule 'A' be maintained by the contractor or his authorized representative on site and it shall be checked by the department officer every day in the token of its correctness.

SCHEDULE -"B"

Estimate No. :- Estimate No. 718 /Bld./12-13,

Name of work :- Shifting H.T. L.T. Line & Transformer of Road RD-9- M.S.E.B. Office to N. P. School No. 5, to Gajanan Society by Using underground cable under Shegaon Vikash Arakhada Project at SHEGAON, Distt. Buldhana.

Sr. No.	Quantity	Description of Item.	Rate		Unit.	Amount.
			In Figure	In Words		
1	2	3	4	5	6	7
1	6	Providing & erecting 3 Pole MCCB upto 100A. of 25 kA SC rating,thermal and magnetic setting with provided leads on iron frame/laminated board as per specification no. SW-SWR/MCCB	5597.55	Rupees five thousand five hundred ninety-seven and paise fifty-five only	Each	33585.30
2	5	Providing & erecting 3 Pole MCCB of 200A. capacity with S.C. rating 35 kA,.thermal and magnetic setting with provided leads on iron frame/laminated board as per specification no. SW-SWR/MCCB	11970	Rupees eleven thousand nine hundred seventy and paise nil only	Each	59850.00
3	102	Supplying and erecting H.C. pattern porcelain fuse bridges with base & HC type fuse links 250 V. 16 A. approved make erected on polished wooden block.	34.65	Rupees thirty-four and paise sixty-five only	Each	3534.30
4	102	Supplying and erecting H.C. pattern porcelain fuse bridges with base & HC type fuse links 250 V. 32 A. approved make erected on polished wooden block.	82.95	Rupees eighty-two and paise ninety-five only	Each	8460.90
5	51	Supplying & erecting fuse bridges with base H.C. type fuse links 250/500 V. 63 Amps. erected on polished wooden block.	178.50	Rupees one hundred seventy-eight and paise fifty only		9103.50
6	63	Supplying & erecting fuse bridges with base H.C. type fuse links 250/500 V. 100 Amps. erected on polished wooden block.	287.70	Rupees two hundred eighty-seven and paise seventy only	Each	18125.10
7	24	Supplying & erecting fuse bridges with base H.C. type fuse links 250/500 V. 200 Amps. erected on polished wooden block.	472.50	Rupees four hundred seventy-two and paise fifty only	Each	11340.00

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8	18	Supplying & erecting approved make 500V. 63A. porcelain base neutral link complete erected in provided M.S. box.	118.65	Rupees one hundred eighteen and paise sixty-five only	Each	2135.70
9	108	Supplying & erecting approved make porcelain/epoxy bus bar support complete erected in provided M.S. box for 100 Amps.	38.85	Rupees thirty-eight and paise eighty-five only	Each	4195.80
10	54.32	CRCA sheet 1.6mm.(16 gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	1662.15	Rupees one thousand six hundred sixty-two and paise fifteen only	SQ MTR	90287.99
11	11	Supplying and erecting enamel iron G.I. sheet 1.25mm.(18 gauge) caution board of size 200 x 150 mm. as per I.S. 2551 of 1982 in Marathi and Hindi erected at position.	117.60	Rupees one hundred seventeen and paise sixty only	Each	1293.60
12	615	Supplying and erecting Iron work for panel board or other purposes complete with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority(Size of angle/flat/channel iron to be specified in estimate)	127.05	Rupees one hundred twenty-seven and paise five only	KG	78135.75
13	9	Supplying and erecting self locking arrangement with duplicate keys, made of brass duly erected, flush with surface of panel/cupboard.	186.90	Rupees one hundred eighty-six and paise ninety only	Each	1682.10
14	200.00	Supplying & erecting PVC armoured cable 2 core 10 Sq. mm. aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	151.20	Rupees one hundred fifty-one and paise twenty only	MTR	30240.00
15	260.00	Supplying & erecting PVC armoured cable 3 1/2 core 35 Sq. mm. aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	309.75	Rupees three hundred nine and paise seventy-five only	MTR	80535.00
16	891.00	Supplying & erecting PVC armoured cable 3 1/2 core 50 Sq. mm. aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	416.85	Rupees four hundred sixteen and paise eighty-five only	MTR	371413.35

17	620.00	Supplying & erecting PVC armoured cable 3 1/2 core 70 Sq. mm. aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	527.10	Rupees five hundred twenty-seven and paise ten only	MTR	326802.00
18	125.00	Supplying & erecting PVC armoured cable 3 1/2 core 95 Sq. mm. aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	633.15	Rupees six hundred thirty-three and paise fifteen only	MTR	79143.75
19	890.00	Supplying & erecting PVC armoured cable 3 1/2 core 120 Sq. mm. aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	788.55	Rupees seven hundred eighty-eight and paise fifty-five only	MTR	701809.50
20	1155.00	Supplying & erecting PVC armoured cable 1100 V. 3-1/2 core 185 Sq. mm. aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	1131.90	Rupees one thousand one hundred thirty-one and paise ninety only	MTR	1307344.50
21	470.00	Supplying & erecting 3 x 185 sq.mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification no. CB-HT	1761.90	Rupees one thousand seven hundred sixty-one and paise ninety only	MTR	828093.00
22	2.00	Providing & erecting epoxy outdoor/indoor end termination kit for LT PVC armoured cable 70 to 120 Sq.mm. cable, with necessary material as per specification no. CB-JT/LT	540.75	Rupees five hundred forty and paise seventy-five only	Each	1081.50
23	4.00	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x150 to 185 Sq. mm. with necessary material as per specification no. CB-JT/HT	8911.35	Rupees eight thousand nine hundred eleven and paise thirty-five only	Each	35645.40
24	30.00	Supplying & erecting G.I. pipe 'A' grade 75 mm. dia. erected for enclosing PVC armoured cable on wall/pole as per specification no. CW-PLB/GP, para 4.2.1 & 4.2.2 (Chapter 17.5)	380.10	Rupees three hundred eighty and paise ten only	MTR	11403.00
25	198.00	Supplying and erecting ISI mark G.I.pipe 100 mm. dia. 'B' class at position with accessories. As per specification no. CW-PLB/GP	912.45	Rupees nine hundred twelve and paise forty-five only	MTR	180665.10

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26	3650.00	Supplying & laying (including excavation) 15 cms. dia RCC Hume pipe with coupling collar of standard thickness at required depth up to 90 cms. below road / ground surface, for enclosing provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	510.30	Rupees five hundred ten and paise thirty only	MTR	1862595.00
27	40.00	Providing & laying 75 mm dia G.I. pipe 'B' grade for enclosing cable below ground/road surface, complete as per specification no. CW-PLB/GP, para 4.2.3 (Chapter 17.5)	583.80	Rupees five hundred eighty-three and paise eighty only	MTR	23352.00
28	258.00	Supplying & laying (including excavation) 15 cms. dia half round RCC Hume pipe of standard thickness at required depth up to 90 cms. below road / ground surface, for enclosing provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	307.65	Rupees three hundred seven and paise sixty-five only	MTR	79373.70
29	258.00	Supplying and laying (including excavation) 120 mm outside dia, double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface,to required depth complete.	317.10	Rupees three hundred seventeen and paise ten only	MTR	81811.80
30	55.00	Supplying and erecting Rolled steel Joist (Girder) pole 100 x 116 mm. (23 Kg/Metre) with base plate in provided foundation as per specification no. OH-PL/RSJ pole =(4*11)+(1*11)=209mtr	1450.05	Rupees one thousand four hundred fifty and paise five only	MTR	79752.75
31	255.00	Supplying and erecting Rolled steel Joist (Girder) pole 125 x 75 mm. (12.42 Kg/Metre) with base plate in provided foundation as per specification no. OH-PL/RSJ (24*8.5)+(6*8.5)	833.70	Rupees eight hundred thirty-three and paise seventy only	MTR	212593.50
32	48	Supplying and erecting M.S pole bracket fabricated from angle iron 65x65x6 mm and 550 mm long for 2 insulators complete as per specification no	355.95	Rupees three hundred fifty-five and paise ninety-five only	Each	17085.60
33	6	Supplying and erecting M.S pole bracket fabricated from angle iron 65x65x6 mm and 1100 mm long for 4 insulators complete as per specification no	532.35	Rupees five hundred thirty-two and paise thirty-five only	each	3194.10
34	9	Supplying and erecting 100 x 50 mm. with 4.7 mm thick web and 7.5 mm thick flange channel iron cross arm for 2.4 mtr. DP, complete as per specification no. OH-PL/BKT	1875.30	Rupees one thousand eight hundred seventy-five and paise thirty only	Each	16877.70

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35	1	Supplying and erecting Vee cross arm for erecting Insulators with channel length of 45mm for base of insulator & vertical member of suitable length to maintain clearance of 1200 mm horizontally between two insulators with angle of 60 degree to horizontal and the total vertical height of V cross arm as 460mm, welded with MS flat of 80x10mm at centre of cross arm & MS clamp of 80x10mm at bottom with clamps,nut bolts,washers complete as per specification no. OH-PL/VCA	1208.55	Rupees one thousand two hundred eight and paise fifty-five only	Each	1208.55
36	1	Supplying and erecting 75x40 mm with 4.4 mm thick web and 7.3 mm thick flange channel with clamp suitable for erection of 11/22 KV pin insulators complete as per specification no. OH-PL/VCA	499.80	Rupees four hundred ninety-nine and paise eighty only	Each	499.80
37	1	Supplying and erecting bracket for guarding, made from channel iron 1600 mm. in length and 75x40 mm. with 4.4 mm. thick web and 7.3 mm thick flange erected on pole complete as per specification no. OH-PL/VCA	906.15	Rupees nine hundred six and paise fifteen only	Each	906.15
38	0.01	Supplying and erecting all aluminium stranded conductors 7/2.21 mm.complete. (Gnat) (73.77 Kg per Km) as per specification no. OH-CON/AAC	22495.2	Rupees twenty-two thousand four hundred ninety-five and paise twenty only	km	224.95
39	0.04	Supplying and erecting all aluminium stranded conductors 7/3.10 mm. complete. (Ant.) (145.0 Kg per Km) as per specification no. OH-CON/AAC	43442.7	Rupees forty-three thousand four hundred forty-two and paise seventy only	km	1737.71
40	0.01	Supplying and erecting ACSR conductor of size - 6/1-4.09 mm (Raccon) complete. (318.00 Kg/Km) as per specification no. OH-CON/ACSR	80930.8	Rupees eighty thousand nine hundred thirty and paise eighty only	km	809.31
41	0.01	Supplying and erecting hard drawn G.I. wire 8 SWG complete erected for overhead line with proper size of G.I. wire for binding with jumpering etc.	10071.60	Rupees ten thousand seventy-one and paise sixty only	km	100.72
42	96	Supplying and erecting porcelain shackle type LT medium insulator 50 x 89 mm. dia. with G.I. strips, nuts and bolts, complete.	88.2	Rupees eighty-eight and paise twenty only	Each	8467.20
43	6	Supplying and erecting aluminium bobbin with G.I. strip, nuts complete.	73.5	Rupees seventy-three and paise fifty only	each	441.00
44	9	Supplying and erecting porcelain disc type insulator suitable for 11KV line, complete as per specification no. OH-INS/DI	1366.05	Rupees one thousand three hundred sixty-six and paise five only	each	12294.45

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45	3	Supplying and erecting porcelain pin type insulator suitable for 11KV line, complete as per specification no. OH-INS/PN	338.10	Rupees three hundred thirty-eight and paise ten only	each	1014.30
46	1	Supplying and erecting G.I. stay set for poles, including loop insulators at inaccessible height complete with anchor plate 300 x 300 x 6 mm., straining screws, G.I. stay wire 7/10 SWG, G.I. stay rod 20 mm x 1.8 meter length and pole clamps duly erected in provided cement concrete foundation.	1468.95	Rupees one thousand four hundred sixty-eight and paise ninety-five only	each	1468.95
47	1	Supplying and erecting G.I. stay set for poles, including loop insulators at inaccessible height complete with anchor plate 300 x 300 x 6 mm., straining screws, G.I. stay wire 7/8 SWG, G.I. stay rod 20 mm x 1.8 meter length and pole clamps duly erected in provided cement concrete foundation.	1728.30	Rupees one thousand seven hundred twenty-eight and paise thirty only	each	1728.30
48	28	Supplying and fixing M.S. base plate 30x30x0.6 cms size fixed to the pole base either by welding or by set screws 12 mm. dia fixed at position.	330.75	Rupees three hundred thirty and paise seventy-five only	each	9261.00
49	30	Dismantling the existing pole above 6 m height with brackets, clamps, insulators, stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to the ground level.	585.90	Rupees five hundred eighty-five and paise ninety only	Each	17577.00
50	1	Dismantling the existing overhead line including G.I. wires of all sizes without damaging & making the coils in suitable sizes.	841.05	Rupees eight hundred forty-one and paise five only	km	841.05
51	28	Providing and fixing earthing stud with necessary materials.	24.15	Rupees twenty-four and paise fifteen only	each	676.20
52	19	Supplying and erecting Pipe type earthing with 40mm Dia.G.I.Pipe or 20mm Dia G.I.Rod complete with all materials as per specification no. EA-EP	837.90	Rupees eight hundred thirty-seven and paise ninety only	each	15920.10
53	13	Supplying and erecting Galvanised cast iron earth plate size 60 x 60 x 0.6 cms. complete with all materials, testing & recording the results as per specification no. EA-EP	2070.60	Rupees two thousand seventy and paise sixty only	each	26917.80
54	23.7	Supplying and erecting aluminium strip of different sizes used for earthing on wall and/or any other purpose with necessary aluminium clamps fixed on wall painted with bituminous paint in an approved manner with joints required. as per specification no (EA-EP).	349.65	Rupees three hundred forty-nine and paise sixty-five only	kg	8286.71

55	2	Supplying and erecting approved make 11 kV out door type gang operated air break, triple pole switch 200 A, capacity with 3 post pin type insulator per phase, mounted in horizontal or vertical position with necessary channels on provided cross arm with adequate length of "C" class G.I. pipe for operating handle erected on extended square shaft. The operating handle provided with lock and key at suitable height from ground level with necessary clamp.	17104.50	Rupees seventeen thousand one hundred four and paise fifty only	each	34209.00
56	1	Supplying and erecting approved make, 11 kV out door type drop out fuse with insulator complete with fuse holders, fuse barrel with metal fitting, fuse element mounted on M.S. channel with working current of 15 Amps capacity complete erected on provided cross arm.	9167.55	Rupees nine thousand one hundred sixty-seven and paise fifty-five only	each	9167.55
57	24	Supplying & erecting barbed wire two ply with 12 SWG ply and 12 SWG barb with a gap between two bars of 75 mm. firmly fixed on provided angle supports with necessary materials. (6.044 meters/kg.).	85.05	Rupees eighty-five and paise five only	kg	2041.20
58	100	Dismantling existing pole mounted Distribution Transformer safely without any damages and storing it in safe place.	32.55	Rupees thirty-two and paise fifty-five only	kva	3255.00
59	2	Dismantling existing DO / AB switch set complete from D.P. structure in an approved manner.	206.85	Rupees two hundred six and paise eighty-five only	set	413.70
60	40	Making the trench in Hard murum/Tar road of suitable width and depth for laying provided L.T cable ABOVE10 sq.mm.complete. As per specification no. CW-EXN-CTR	107.63	Rupees one hundred seven and paise sixty-three only	MTR	4305.20
61	24	Providing cement concrete foundation including excavation for the poles 60 cms. x 60 cms. x 1.5 mtr. deep in 1:3:6 cement concrete (20 x 25 mm. stone metal) and 45 cm x 45 cm x 45 cm /45 cm. dia. x 45 cm. height plinth duly plastered and with necessary curing and finishing in an approved manner. (for up to 9 Mtr poles)	2113.65	Rupees two thousand one hundred thirteen and paise sixty-five only	each	50727.60

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62	4	Providing cement concrete foundation including excavation for the poles 60 cms. x 60 cms. x 1.5 mtr. deep in 1:3:6 cement concrete (20 x 25 mm. stone metal) and 45 cm x 45 cm x 45 cm /45 cm. dia. x 45 cm. height plinth duly plastered and with necessary curing and finishing in an approved manner. (for above 9 Mtr poles)	2486.40	Rupees two thousand four hundred eighty-six and paise forty only	Each	9945.60
63	9	Providing C.C. foundation including excavation for stay 60 Cm.x60Cmx 1.5 m deep in 1:3:6 cement concrete (20x25mm.stone metal) with necessary curing and finishing in an approved manner for stay/ stud.	1915.20	Rupees one thousand nine hundred fifteen and paise twenty only	each	17236.80
64	14	Supplying and erecting half clamps for pole made from 50 x 6 mm. flat for fixing cross arms by means of 15 mm. dia. bolts and nuts painted with one coat of red oxide and two coats of aluminium paint.	91.35	Rupees ninety-one and paise thirty-five only	each	1278.90
65	3	Supplying and erecting half clamps for pole made from 50 x 10 mm. flat for fixing cross arms by means of 15 mm. dia. bolts and nuts painted with one coat of red oxide and two coats of aluminium paint.	130.20	Rupees one hundred thirty and paise twenty only	Each	390.60
66	2	Supplying and erecting guarding loop using G.I. wire No. 8 SWG for L.T. over head line of horizontal formation complete erected with 20 SWG G.I. wire as binding wire and 50 mm. section on each side, complete.	37.80	Rupees thirty-seven and paise eighty only	each	75.60
67	2	Supplying and erecting guarding loops for H.T.O.H. line with 8 SWG G.I. wire to protect the H.T. over head line with binding wire of 20 SWG G.I. wire for 75 mm. section on either side.	40.95	Rupees forty and paise ninety-five only	each	81.90
68	1	Erecting 11/ 22 kV on HV side 415 V on LV side up to 500 kVA capacity hired/provided transformer on existing plinth / DP structure, making connections on HV & LV side in approved manner, carrying out necessary tests before and after charging upto full load to satisfaction.(including transportation)	10447.50	Rupees ten thousand four hundred forty-seven and paise fifty only	job	10447.50

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69	200	Supplying and erecting mains with ISI mark 2 x 2.5 Sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	36.75	Rupees thirty-six and paise seventy-five only	mtr	7350.00
70	200	Supplying and erecting mains with ISI mark 2 x 6 Sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	51.45	Rupees fifty-one and paise forty-five only	MTR	10290.00
71	3	Supplying and erecting Distribution class, 11 kV thyrite type lightening arrester, on provided cross arm as per specification no. OH-INS/LA	3271.99	Rupees three thousand two hundred seventy-one and paise ninety-nine only	each	9815.97
				Total	**Rs**	**6933955.62**
		Rs. Sixty Nine Lakhs Thirty Three Thousand Nine Hundred Fifty Six Only.			**Say Rs.**	**6933956.00**

Note.

1 I/We have Seen by PWD. Specification.

2 I/We had gone through the detail specifications included in the tender & fully conversant with the specifications laid down for concerned items along with IS Coade IE Rules 1956and NEC.

3 I / We agree to carry out the work as per detail specifications.

4 I / We hereby tender for execution of work specified in ***Schedule-B at ABOVE/BELOW/ AT PAR*** of the estimated Rates in Schedule of rates on the work to be carried.

Contractor's Signature.

Deputy Engineer
P.W.(Electrical) Sub Division,
Buldhana.

Executive Engineer
Amravati P.W.(Electrical) Division,
Amravati.

Contractor No. of Correction Executive Engineer