



Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI

TENDER DOCUMENTS

FOR THE WORK OF

**CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO- 1/1
(PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI**

Estimated Amount : ₹. 5,98,45,547.00

Earnest Money : ₹. 3,00,000.00

Prepared By

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Cost of blank Tender Rs.3540/-

Member Secretary

Maharashtra Pollution Control Board, Mumbai

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DISCLAIMER

1. Detailed Time Table for the various activities to be performed in e-tendering process by the Tenderer for quoting their offer is given in this Tender Document under "Tender Schedule". Contractor should carefully note down the cut-off dates for the carrying out each e-tendering process / activity.
2. Every effort is being made to keep the Website upto date and running smoothly 24 x 7 by the Government and the Service Provider. However, Government takes no responsibility, and will not be liable for, the website being temporarily unavailable due to any technical issue at any point of time.
3. In that event MPCB will not be liable or responsible for any damages or expenses arising from any difficulty, error, imperfection or inaccuracy with this Website. It includes all associated services, or due to such unavailability of the Website or any part thereof or any contents or any associated services.
4. Tenderers must follow the time table of e-tendering process and get their activities of e-tendering processes done **well in advance** so as to avoid any inconvenience due to unforeseen technical problem if any.
5. MPCB will not be responsible for any incomplete activity of e-tendering process of the tenderer due to technical error/ failure of website and it cannot be challenged by way of appeal, arbitration and in the Court of Law. **Contractors must get done all the e-tendering activities well in advance.**

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MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI

E-TENDER NOTICE NO. _____ of 2018-19 ONLINE TENDER No. _____

Online "Item Wise Tenders" (e-tender) for the following work are invited by the Maharashtra Pollution Control Board, Mumbai E-mail: ee@mpcb.gov.in Website : <http://mpcb.gov.in> Phone - 022-24010706 On Government of Maharashtra Electronic Tender Management System <https://maharashtra.etenders.in>

The details can be viewed and downloaded online directly from the Government of Maharashtra e-tendering portal <https://maharashtra.etenders.in> as per online tender schedule.

Sr No	Name of Work	Estimated Cost in Rupees	Time limit in Calendar Months	Earnest Money	Cost of Blank Tender	Class of Contractor
1.	CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO-1/1 (PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI	Rs. 5,98,45,547/-	15 (Fifteen) Calendar Months	Rs.3,00,000/-	Rs. 3,540/- (Incl GST)	Class II & Above (PWD)

For more details on the tender and bidding process you may please visit the above mentioned portal.

Document tender fees and EMD shall be paid from contractor's bank account through online mode RTGS/NEFT/DD/FDR only. The said amount of earnest money shall not carry any interest whatsoever. **EMD exemption certificate will not be accepted. vide GR No. CAT/06/2014/LTN 242/Bldg.2, dt. 24/2/2016**

NOTE :

1. All eligible/interested contractors are mandated to get enrolled on e-Tendering portal (<https://maharashtra.etenders.in>)
2. To process the tenders online, to encrypt their bid and to sign the bid hashes, bidders are required to obtain digital certificate. For details bidders be contact Help Desk.
3. Contractors can contact **Help Desk** for any clarification of their doubts regarding the process of Electronic Tendering System. Help Desk at through Email ID support.gom@nextenders.com or Phone No. 020-25315555

Member Secretary,
Maharashtra Pollution Control Board,
Mumbai

Contractor

Consultant

Member Secretary

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TENDER NOTICE

The Maharashtra Pollution Control Board, Mumbai invites sealed Item rate E-Tenders in two bid systems (Technical & Financial bid) for Construction of regional office building at Plot No. 1/1 (Part) Amravati, Dist. Amravati for M.P.C.B. Amravati from Contractor registered with PWD, CPWD or in equivalent Government bodies of Class II & above or equivalent ,experienced Agency /Firm in two envelope system. The details are as under in two envelope system. The details are as under

S. No.	Particulars	Estimated cost of the work	Earnest money deposit (in Rs)	Time limit for completion	Cost of tender document (including all taxes)
1	Construction of regional office building at Plot No. 1/1 (Part) Amravati, Dist. Amravati	Rs. 59845547/-	Rs. 300000/-	15 months	Rs. 3540/- (Incl. GST)

Schedule for E-Tendering Activity

Sr. No.	Activity	Performed By	Start		Expiry	
			Date	Time	Date	Time
1	Release of Tender	Department	08/03/2019	11:00	08/03/2019	17:00
2	Tender Download	Bidders	08/03/2019	17:01	23/03/2019	17:00
3	Bid Preparation		08/03/2019	17:01	23/03/2019	17:00
4	Superhash Generation & Bid Lock	Department	25/03/2019	11:01	25/03/2019	17:00
5	Control Transfer of Bid	Bidder	25/03/2019	17:01	26/03/2019	17:00
6	Envelope 1 Opening	Department	27/03/2019	14:00	27/03/2019	17:00
7	Envelope 2 Opening		02/04/2019	14:00	02/04/2019	17:00

Pre-Bid conference will be schedule on 16/03/2019 at 14:30 MPC Board, Head Quarter, Sion, Mumbai-22. The tender document is uploaded/ released on Government of Maharashtra, (GOM) e-tendering website <https://maharashtra.etenders.in>. Tender document of Government of Maharashtra on e-Tendering website of Government of Maharashtra, <https://allgom.maharashtra.etenders.in> by making payment through Online Payment Modes i.e. Net Banking, Debit Card and Credit Card

**The Member Secretary,
The Maharashtra Pollution Control Board,
Mumbai.**

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**COPIES OF
PUBLISHED
TENDER NOTICE
ON**

- **WEB SITE**
- **NIT**
- **NEWS PAPERS**

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NAME OF WORK: CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO- 1/1 (PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI

- 1) Name of Contractor. :
- 2) Date of receipt of Tender. :
- 3) No. & Date of Work Order :
- 4) Amount put to Tender : **₹. 5,98,45,547.00**
- 5) Rate Quoted. :
- 6) Amount of Contract. :
- 7) Date of Commencement. :
- 8) Time stipulated for completion of work. : **Fifteen (15) Calendar months (Including monsoon)**
- 9) Date of completion as per Agreement :
- 10) Actual date of completion. :
- 11) Reference to sanction of extension of time :
 - 1) _____
 - 2) _____
 - 3) _____

Certified that this original agreement contains

Pages 1 to _____

Fly leaves _____ Nos.

Drawings _____ Nos.

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DETAILS OF WORK

NAME OF WORK: CONSTRUCTION OF REGIONAL OFFICE BUILDING
AT PLOT NO- 1/1 (PART) AT AMRAVATI
DIST.AMRAVATI FOR M. P. C. B AMRAVATI

Estimated cost put to tender : ₹. 5,98,45,547.00.
Earnest money : ₹. 3,00,000/- (₹. Three Lakh
Only)

The EMD applicable amount shall be paid via online mode only.

Total Security Deposit 2 % (Two Percent)

1)	Initial Security Deposit (1%)	₹. 5,99,000.00
2)	Further Security Deposit to be deducted from bills (1%)	<u>₹. 5,99,000.00</u>
	Total Security Deposit (2%)	₹. 11,98,000.00

TO BE FILLED BY THE CONTRACTOR

I/WE have quoted my/our offer in "Itemwise Rate" in words as well as in figures.

I/WE further undertake to enter into contract In Regular Form with **Member Secretary, Maharashtra Pollution Control Board, Mumbai.**

Name & Signature of Contractor /
Power of Attorney holder
with complete address.

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NAME OF WORK: **CONSTRUCTION OF REGIONAL OFFICE BUILDING
AT PLOT NO- 1/1 (PART) AT AMRAVATI
DIST.AMRAVATI FOR M. P. C. B AMRAVATI**

Estimated cost put to tender : ₹. 5,98,45,547.00.
Earnest money : ₹. 3,00,000/-
Completion time : 15 (Fifteen) Months

TENDER SCHEDULE

Cost of Tender Form : Rs. 3,540/- (Incl GST)
Period for Purchasing tender Forms : **As Per Online Tender Schedule**

Last date and time for bid submission : **As Per Online Tender Schedule**

Date and time for Opening of Tender) : **As Per Online Tender Schedule**

:

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MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI**DETAILED TENDER NOTICE**

1. Item wise tenders for the following work are invited from **Contractor Registered with PWD, CPWD or equivalent government bodies in appropriate class** by the Member Secretary, Maharashtra Pollution Control Board, Mumbai. The Name of Work, Estimated Cost, Earnest Money, Security Deposit, Time limit for Completion etc. are as under

Sr No.	Name of Work	Estimated Cost in Rupees	Earnest Money	Security Deposit	Time limit in Calendar Months
	CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO- 1/1 (PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI	₹.5,98,45,547/-	₹. 3,00,000/-	₹.11,98,000/-	15 (Fifteen) Calendar Months

- 1.1 The tender document is uploaded / released on Government of Maharashtra,(GOM) e-tendering website <https://maharashtra.etenders.in>. Tender document and supporting documents may be purchased and downloaded from following link of Organizations of Government of Maharashtra on e-Tendering website of Government of Maharashtra, <https://allgom.maharashtra.etenders.in> by making payment through Online Payment Modes i.e. Net Banking, Debit Card and Credit Card
- 1.2 The tender form, conditions of contract, specifications & contract drawings can be downloaded online using payment gateway. The EMD applicable amount shall be paid via online mode only. Bids will be opened as per tender schedule, in the presence of such intending tenderers or his/their authorized representatives who may be present at time.

Contractor**Consultant****Member Secretary**

- 1.3** 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.
- 1.4** The tender notice shall form a part of contract agreement.
The tenders are invited on the departmental designs only
- 1.5** The tenderer if firm or company shall in their forwarding letter mention names of all the partners of the firm or company (as the case may be) and the name of the partner who holds the power of attorney in any, authorizing him to conduct transaction on behalf of the firm or company.
- 1.6** The right is reserved to revise or amend the contract documents prior to the date notified for the receipt of the tenders or extended date. Such deviations, amendments or extensions, if any, shall be communicated in the form of corrigendum by letter or / and by notice in News paper as may be considered suitable
- 1.7** The tenderer shall enter his "Item rates" in words and figures. In case there is difference between amount written in figures and words, the lower offer will be taken as final.
- 1.8** No pages should be removed from, added in or replaced in the tender documents.

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- 1.9** Right is reserved to reject any or all tenders without assigning any reasons thereof.
- 1.10** Tenders which do not fulfill any or all conditions or are incomplete in any respect are liable for summary rejection.
- 1.11** The tenderer may, in forwarding letter, mention any points he may wish to make clear but right is reserved to reject the same in the whole of the tenders if the same become conditional tender thereby.

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GENERAL

- a) **Time Limit**: The work is to be completed within time limit as specified in the Notice inviting tender which shall be reckoned from the date of written order of commencing the work and shall be inclusive of monsoon period.
- b) **Tender Rate** : No alteration in the form of tender and the schedule of tender and no additions in the scope or special stipulation will be permitted. Rates quoted for the tender shall be taken as applicable to all leads and lifts.
- c) **Tender Units** : The tenderers should particularly note the unit 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 rates written in figures and words , the correct rate will be the one, which is lower of the two.
- d) The Income Tax @ 2% 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.

2.0 EARNEST MONEY :

- 2.1** Earnest money of **Rs.3,00,000/- in words (Rs. Three Lakh only)** shall be be paid via online using NEFT/RTGS/DD/FDR or payment gateway mode The said amount of earnest money shall not carry any interest whatsoever. EMD exemption certificate will not be accepted. vide GR No. CAT/06/2014/LTN 242/Bldg.2, dt. 24/2/2016
- 2.2** Tender of those who do not deposit earnest money in one of the above acceptable forms shall be summarily rejected. Earnest money in any other form of cash or cheque will not be accepted.
- 2.3** The amount of earnest money will be refunded to the unsuccessful tenderer on deciding about the acceptance or otherwise of the tender or on expiry of the validity period whichever is earlier.

In case of the successful tenderer, it will be refunded on his paying the initial security deposit and completing the tender documents or will be transferred towards a part of security deposit to be paid after awarding of the work. If successful tenderer does not pay the security deposit in the prescribed time limit and complete the agreement bond, his earnest money deposit will be forfeited to the Board.

- 2.4** Earnest money of the un-successful tenderers will be refunded on their application only after an intimation of rejection of their tender is sent to them or on the expiry of the validity period whichever is earlier.

3.0 TENDERING PROCEDURE: -

3.1 Blank Tender Forms.

Tender Forms can be **downloaded** from the e-tendering Portal of MPCB , Government of Maharashtra i.e. <http://maharashtra.etenders.in/allgom> after paying tender fees via online mode as per the Tender Schedule.

3.2 Pre-Tender Conference

3.2.1 Contractors may raise any queries Online (Please refer online tender notice). Pre-tender conference is open to all prospective tenderers who have downloaded tender form before the date of Pre-tender Conference. Wherein prospective Tenderers will have an opportunity to obtain clarifications regarding the work and the Tender Conditions. The prospective tenderers may also post their queries only using post query option for the tender.

3.2.2 The prospective tenderers are free to ask for any additional information or clarification concerning the work in writing only, and the reply to the same shall be uploaded on the portal <http://maharashtra.etenders.in> and this clarification referred to as Common Set of Conditions/Deviations (C.S.D.), shall form part of tender documents and which will also be common and applicable to all tenderers. The point/points if any raised in writing and/or verbally/ online by the contractor in pretender conference and not finding place in C.S.D. issued after the pre- bid conference, is/are deemed rejected. In such case the provision in NIT shall prevail. No individual correspondence will be made thereafter with the contractor in this regard.

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

3.2.4 All tenderers are cautioned that tenders containing any deviation from the contractual terms and conditions, specifications or other requirements and conditional tenders will be treated as non responsive. The tenderer should clearly mention in forwarding letter that his offer (in envelope No. 1& 2) does not contain any conditions, deviations from terms and conditions stipulated in the tender.

3.2.5 Tenderers should have valid Class II / III Digital Signature Certificate (DSC) obtained from any Certifying Authorities. In case of requirement of DSC, interested Bidders should go to <http://maharashtra.etenders.in/mah/DigitalCerti.asp> and follow the

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procedure mentioned in the document 'Procedure for application of Digital Certificate'.

3.2.6 The Tenderers have to make a payment of Rs .1092/- online as service charges for the use of Electronic Tendering during Online Bid Data Decryption and Re-encryption stage of the Tender.

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

Landline **No. - 020-30187500**

3.2.8 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**'

3.3 Guidelines to Bidders on the operations of Electronic Tendering System of MPCB. <http://maharashtra.etenders.in>

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

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

The Contractors interested in participating in the Tenders of MPCB processed using the Electronic Tendering System shall be required to enroll 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 MPCB in an appropriate class of registration. The empanelment will have to be approved by the respective officer from the MPCB. Only empanelled vendors will be allowed to participate in such tenders.

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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 *MPCB, Government of Maharashtra*, the Contractors will have to pay Service Providers Fees of **Rs.1,092/-** 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 MPCB

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 MPCB 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 MPCB on the home page of MPCB e-Tendering Portal on <http://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 **via online mode by filing the cost of tender form fee.**

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

Bid preparation will start with the stage of EMD Payment which bidder has to pay online using any one online pay mode as RTGS , NEFT or payment gateway .

For EMD payment, If bidder use NEFT or RTGS then system will generate a challan (in two copies). with unique challan No specific to the tender. Bidder will use this challan in his bank to make NEFT/RTGS Payment via net banking facility provided by bidder's bank.

Bidder will have to validate the EMD payment as a last stage of bid preparation. If the payment is not realised with bank, in that case system will not be able to validate the payment and will not allow the bidder to complete his Bid Preparation stage resulting in nonparticipation in the aforesaid e-tender.

Note:

*** Realisation of NEFT/RTGS payment normally takes 2 to 24 hours, so it is advised to make sure that NEFT/RTGS payment activity should be completed well before time.**

*** NEFT/RTGS option will be depend on the amount of EMD.**

*** Help File regarding use of e-payment gateway can be downloaded from e-tendering portal.**

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 MPCB. 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 unloading 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 MPCB 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 MPCB has lapsed, the Contractors have to make the online payment of **Rs. 1,092/-** 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. Short listing 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 MPCB 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

C) TERMS AND CONDITIONS FOR ONLINE-PAYMENTS

The Terms and Conditions contained herein shall apply to any person (“User”) using the services of MPCB Maharashtra, hereinafter referred to as “Merchant”, for making Tender fee and Earnest Money Deposit (EMD) payments through an online Payment Gateway Service (“Service”) offered by ICICI Bank Ltd. in association with E Tendering Service provider and Payment Gateway Service provider through MPCB Maharashtra website i.e. <http://maharashtra.etenders.in>. Each User is therefore deemed to have read and accepted these Terms and Conditions.

Privacy Policy

The Merchant respects and protects the privacy of the individuals that access the information and use the services provided through them. Individually identifiable information about the User is not willfully disclosed to any third party without first receiving the User's permission, as covered in this Privacy Policy.

This Privacy Policy describes Merchant's treatment of personally identifiable information that Merchant collects when the User is on the Merchant's website. The Merchant does not collect any unique information about the User (such as User's name, email address, age, gender etc.) except when you specifically and knowingly provide such information on the Website. Like any business interested in offering the highest quality of service to clients, Merchant may, from time to time, send email to the User and other communication to tell the User about the various services,

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features, functionality and content offered by Merchant's website or seek voluntary information from the user.

Please be aware, however, that Merchant will release specific personal information about the User if required to do so in the following circumstances:

- a) in order to comply with any valid legal process such as a search warrant, statute, or court order, or available at time of opening the tender
- b) if any of User's actions on our website violate the Terms of Service or any of our guidelines for specific services, or
- c) to protect or defend Merchant's legal rights or property, the Merchant's site, or the Users of the site or;
- d) to investigate, prevent, or take action regarding illegal activities, suspected fraud, situations involving potential threats to the security, integrity of Merchant's website/offerings.

General Terms and Conditions For E-Payment

1. Once a User has accepted these Terms and Conditions, he/ she may register on Merchant's website and avail the Services.
2. Merchant's rights, obligations, undertakings shall be subject to the laws in force in India, as well as any directives/ procedures of Government of India, and nothing contained in these Terms and Conditions shall be in derogation of Merchant's right to comply with any law enforcement agencies request or requirements relating to any User's use of the website or information provided to or gathered by Merchant with respect to such use. Each User accepts and agrees that the provision of details of his/ her use of the Website to regulators or police or to any other third party in order to resolve disputes or complaints which relate to the Website shall be at the absolute discretion of Merchant.

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Consultant

Member Secretary

3. If any part of these Terms and Conditions are determined to be invalid or unenforceable pursuant to applicable law including, but not limited to, the warranty disclaimers and liability limitations set forth herein, then the invalid or unenforceable provision will be deemed superseded by a valid, enforceable provision that most closely matches the intent of the original provision and the remainder of these Terms and Conditions shall continue in effect.
4. These Terms and Conditions constitute the entire agreement between the User and Merchant. These Terms and Conditions supersede all prior or contemporaneous communications and proposals, whether electronic, oral, or written, between the User and Merchant. A printed version of these Terms and Conditions and of any notice given in electronic form shall be admissible in judicial or administrative proceedings based upon or relating to these Terms and Conditions to the same extent and subject to the same conditions as other business documents and records originally generated and maintained in printed form.
5. The entries in the books of Merchant and/or the Payment Gateway Service Providers kept in the ordinary course of business of Merchant and/or the Payment Gateway Service Providers with regard to transactions covered under these Terms and Conditions and matters therein appearing shall be binding on the User and shall be conclusive proof of the genuineness and accuracy of the transaction.
6. **Refund For Charge Back Transaction:** In the event there is any claim for/ of charge back by the User for any reason whatsoever, such User shall immediately approach Merchant with his/ her claim details and claim refund from Merchant alone. Such refund (if any) shall be effected only by Merchant via payment gateway or by means of a demand draft or such other means as Merchant deems appropriate. No claims for refund/ charge back shall be made by any User to the Payment Gateway Service Provider(s) and in the event such claim is made it shall not be entertained.

7. In these Terms and Conditions, the term “**Charge Back**” shall mean, approved and settled credit card or net banking purchase transaction(s) which are at any time refused, debited or charged back to merchant account (and shall also include similar debits to Payment Gateway Service Provider's accounts, if any) by the acquiring bank or credit card company for any reason whatsoever, together with the bank fees, penalties and other charges incidental thereto.
8. Refund for fraudulent/duplicate transaction(s): The User shall directly contact Merchant for any fraudulent transaction(s) on account of misuse of Card/ Bank details by a fraudulent individual/party and such issues shall be suitably addressed by Merchant alone in line with their policies and rules.
9. Server Slow Down/Session Timeout: In case the Website or Payment Gateway Service Provider's webpage, that is linked to the Website, is experiencing any server related issues like 'slow down' or 'failure' or 'session timeout', the User shall, before initiating the second payment,, check whether his/her Bank Account has been debited or not and accordingly resort to one of the following options:
 - i. In case the Bank Account appears to be debited, ensure that he/ she does not make the payment twice and immediately thereafter contact Merchant via e-mail or any other mode of contact as provided by Merchant to confirm payment.
 - ii. In case the Bank Account is not debited, the User may initiate a fresh transaction to make payment.

However, the User agrees that under no circumstances the Payment Gateway Service Provider shall be held responsible for such fraudulent/duplicate transactions and hence no claims should be raised to Payment Gateway Service Provider No communication received by the Payment Gateway Service Provider(s) in this regard shall be entertained by the Payment Gateway Service Provider.

Limitation of Liability

1. Merchant has made this Service available to the User as a matter of convenience. Merchant expressly disclaims any claim or liability arising out of the provision of this Service. The User agrees and acknowledges that he/ she shall be solely responsible for his/ her conduct and that Merchant reserves the right to terminate the rights to use of the Service immediately without giving any prior notice thereof.
2. Merchant and/or the Payment Gateway Service Providers shall not be liable for any inaccuracy, error or delay in, or omission of (a) any data, information or message, or (b) the transmission or delivery of any such data, information or message; or (c) any loss or damage arising from or occasioned by any such inaccuracy, error, delay or omission, non-performance or interruption in any such data, information or message. Under no circumstances shall the Merchant and/or the Payment Gateway Service Providers, its employees, directors, and its third party agents involved in processing, delivering or managing the Services, be liable for any direct, indirect, incidental, special or consequential damages, or any damages whatsoever, including punitive or exemplary arising out of or in any way connected with the provision of or any inadequacy or deficiency in the provision of the Services or resulting from unauthorized access or alteration of transmissions of data or arising from suspension or termination of the Services.
3. The Merchant and the Payment Gateway Service Provider(s) assume no liability whatsoever for any monetary or other damage suffered by the User on account of:
 - (i) the delay, failure, interruption, or corruption of any data or other information transmitted in connection with use of the Payment Gateway or Services in connection thereto; and/ or
 - (ii) any interruption or errors in the operation of the Payment Gateway.
4. The User shall indemnify and hold harmless the Payment Gateway Service Provider(s) and Merchant and their respective officers, directors, agents, and employees, from any claim or demand, or actions arising out of or in connection with the utilization of the Services.

The User agrees that Merchant or any of its employees will not be held liable by the User for any loss or damages arising from your use of, or reliance upon the information contained on the Website, or any failure to comply with these Terms and Conditions where such failure is due to circumstance beyond Merchant's reasonable control.

Miscellaneous Conditions:

1. Any waiver of any rights available to Merchant under these Terms and Conditions shall not mean that those rights are automatically waived.
2. The User agrees, understands and confirms that his/ her personal data including without limitation details relating to debit card/ credit card transmitted over the Internet may be susceptible to misuse, hacking, theft and/ or fraud and that Merchant or the Payment Gateway Service Provider(s) have no control over such matters.
3. Although all reasonable care has been taken towards guarding against unauthorized use of any information transmitted by the User, Merchant does not represent or guarantee that the use of the Services provided by/ through it will not result in theft and/or unauthorized use of data over the Internet.
4. The Merchant, the Payment Gateway Service Provider(s) and its affiliates and associates shall not be liable, at any time, for any failure of performance, error, omission, interruption, deletion, defect, delay in operation or transmission, computer virus, communications line failure, theft or destruction or unauthorized access to, alteration of, or use of information contained on the Website.
5. The User may be required to create his/ her own User ID and Password in order to register and/ or use the Services provided by Merchant on the Website. By accepting these Terms and Conditions the User agrees that his/ her User ID and Password are very important pieces of information and it shall be the User's own responsibility to keep them secure and confidential. In furtherance hereof, the User agrees to;

- i. Choose a new password, whenever required for security reasons.
- ii. Keep his/ her User ID & Password strictly confidential.
- iii. Be responsible for any transactions made by User under such User ID and Password.

The User is hereby informed that Merchant will never ask the User for the User's password in an unsolicited phone call or in an unsolicited email. The User is hereby required to sign out of his/ her Merchant account on the Website and close the web browser window when the transaction(s) have been completed. This is to ensure that others cannot access the User's personal information and correspondence when the User happens to share a computer with someone else or is using a computer in a public place like a library or Internet café.

Debit/Credit Card, Bank Account Details

1. The User agrees that the debit/credit card details provided by him/ her for use of the aforesaid Service(s) must be correct and accurate and that the User shall not use a debit/ credit card, that is not lawfully owned by him/ her or the use of which is not authorized by the lawful owner thereof. The User further agrees and undertakes to provide correct and valid debit/credit card details.
2. The User may make his/ her payment(Tender Fee/Earnest Money deposit) to Merchant by using a debit/credit card or through online banking account. The User warrants, agrees and confirms that when he/ she initiates a payment transaction and/or issues an online payment instruction and provides his/ her card / bank details:
 - i. The User is fully and lawfully entitled to use such credit / debit card, bank account for such transactions;
 - ii. The User is responsible to ensure that the card/ bank account details provided by him/ her are accurate;
 - iii. The User is authorizing debit of the nominated card/ bank account for the payment of Tender Fee and Earnest Money Deposit
 - iv. The User is responsible to ensure sufficient credit is available on the

nominated card/ bank account at the time of making the payment to permit the payment of the dues payable or the bill(s) selected by the User inclusive of the applicable Fee.

Personal Information

3. The User agrees that, to the extent required or permitted by law, Merchant and/ or the Payment Gateway Service Provider(s) may also collect, use and disclose personal information in connection with security related or law enforcement investigations or in the course of cooperating with authorities or complying with legal requirements.
4. The User agrees that any communication sent by the User vide e-mail, shall imply release of information therein/ therewith to Merchant. The User agrees to be contacted via e-mail on such mails initiated by him/ her.
5. In addition to the information already in the possession of Merchant and/ or the Payment Gateway Service Provider(s), Merchant may have collected similar information from the User in the past. By entering the Website the User consents to the terms of Merchant's information privacy policy and to our continued use of previously collected information. By submitting the User's personal information to us, the User will be treated as having given his/her permission for the processing of the User's personal data as set out herein.
6. The User acknowledges and agrees that his/ her information will be managed in accordance with the laws for the time in force.

Payment Gateway Disclaimer

The Service is provided in order to facilitate payment of Tender Fees/Earnest Money Deposit online. The Merchant or the Payment Gateway Service Provider(s) do not make any representation of any kind, express or implied, as to the operation of the Payment Gateway other than what is specified in the Website for this purpose. By accepting/ agreeing to these Terms and Conditions, the User expressly agrees that his/ her use of the aforesaid online payment service is entirely at own risk and responsibility of the User.

3.6 ENVELOPE NO. 1: (DOCUMENTS)

The first Envelope clearly marked as “**Envelope No.1**” shall contain the following documents:

3.6.1 Scanned Copy of Forwarding letter

3.6.2 Earnest money of the value of **Rs.3,00,000/-** shall be paid via online using NEFT/RTGS or payment gateway mode only.

- (i) EMD exemption Certificate will not be accepted.
- (ii) After Tender opening, the EMD of the unsuccessful bidder will be returned to account provided by the bidder during the bid preparation as given in challan under Beneficiary Account Number.

3.6.3 Scanned Copy of Certificate in Original as a registered **CONTRACTOR REGISTERED WITH PWD, CPWD OR EQUIVALENT GOVERNMENT BODIES IN APPROPRIATE CLASS** (A Valid Registration / Incorporation shall be attached).

3.6.4 Scanned Copy of details of Income Tax Circle or ward of the district in which the tenderer is assessed to Income Tax, Tenderer’s PAN No. and complete postal address with Pin Code and telephone Numbers. **Copy of original Income Tax Return for the immediate previous financial year.**

3.6.5 Scanned Copy of valid Registration Certificate under **Goods and Services Tax Act** issued by Competent Authority.

3.6.6 Scanned Copy of Valid Professional Tax Registration Certificate in the form of PTR and PTE Under Section(1) Section (5) of Maharashtra State Tax of Profession , Trade, Callings, Employment Act.1975 Rule 3(2) for employees including Technical personal from the Professional Tax office of the Concerned District of Maharashtra

3.6.7 Scanned Copy of the List of Modern Machinery immediately available with the tenderer for use on this work and the machinery proposed to be utilized on this work which is not immediately available and manner in which it is proposed to be procured (In the proforma of Form No. 2 & 2-A)

3.6.8 LIST OF MACHINERY TO BE USED ON THE WORK

(1) Owned Machinery

Following key & critical equipment must be owned and available by the contractor at the time of tendering;

Sr. No.	Equipment type and characteristics	Minimum Number Required
1	Concrete Mixer With Weigh Batcher	Two Nos. (Owned)
2	Concrete Needle Vibrator (Diesel Type/ Elec. Type)	Two Nos. (Owned)
3	Sand Screening (Sieving) washing machine	One No. (Owned)
4	Compression Testing Machine	One No. (Owned)
5	Steel Centering	1000 Sqm. (Owned)
6	Water Tanker 5000 lit. capacity	One No. (Owned)

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3.6.9 Scanned Copy of Details of work done during last **five** years with the value of work unfinished. (Information to be given in Form No. VI)

3.6.10 Scanned Copy of Details of work of similar type carried out by the contractor. (In Form No. III)

3.6.11 Scanned Copy of Copy of details of the work in hand and works tendered for **(In the proforma of Form No. I)**

3.6.12 Scanned Copy of Details of works carried out in the Interior, Backward and Hilly Area during the preceding 5 years (in Form No. IV) (if applicable)

3.6.13 Scanned Copy of Details of technical personnel on the rolls of the tenderer. (In the proforma of Form No. V)

3.6.14 Scanned Copy of original Registered Partnership Deed, Memorandum of Articles of Association, if the tenderer is a Partnership Firm , Joint Stock Company and Power of Attorney and Firm Registration Certificate if any.

3.6.15 Scanned Copy of Affidavit in respect of genuineness of documents contained in the Envelope No. 1 in the prescribed proforma provided with Tender Set. **(Annexure-III on Page No.40)**

3.6.16 The tenderer will be qualified only if their available bid capacity is more than the total estimated value of works for which he has offered his bid. The available bid capacity will be calculated as under :

$$\text{Assessed available bid Capacity} = (A \times N \times 2) - B$$

A = **Maximum** value of civil engineering work executed in any one year during the last three years (**updated 2018-19 price level**) taking into account the completed as well as work in progress .

N = Number of years prescribed for completion of the work for which bid are invited

B = Value of existing commitments at price level of **2018-19** and on going works to be completed to be completed during next **Fifteen (15)** months (period of completion of work for which the bid is invited)

Note : The Statement showing the value of existing commitments and on going works as well as the stipulated period of completion remaining for each of the work listed should be counter signed by the officer not below the rank of Executive Engineer/ Divisional Accounts officer

3.6.17 To qualify for the award of the contract each tenderer in his name should have

- a) Achieved **maximum** financial turnover during last **five years** in all classes (civil, water supply, sanitary, Electrical, IT, fire fighting , HVAC work) of value not less than **Rs.359.00 lakh** in any one year. In support of this scanned copy of Annual report certified by the chartered Accountant should be produced.

- b) Satisfactory completed (from start to finish) during last **five** years as a prime contractor of at least **one similar work (civil, water supply, sanitary, Electrical, IT, fire fighting , HVAC work)** value not less than **₹. 180.00 lakhs** in not more than one contract **of 2018-19 price level**. Financial turnover and cost of completed works of previous years shall be given weightage of 10% per year based on Rupee value to bring them to 2018-19 price level. (In Form No. VII)
- c) Executed in any one year (during last three years) the following minimum quantities of work **(In Form No. VIII)** (Approximately 30% of tendered quantity)

1	ANTI TERMITE TREATMENT	490.000	Sqm
2	R. C. C. M-25 FOR FOUNDATION , COLUMNS , BEAMS , SLABS , CHAJJS ETC.	286.000	Cum
3	TMT STEEL REINFORCEMENT	32.500	MT
4	BB /AUTOCLAVED AREACLAVED BRICK MASONARY WORK	200.000	Cum
5	12 MM / 20MM THICK PLASTER / 6MM PLASTER	1300.000	Sqm
6	SAND FACED PLASTER (EXTERNAL)	750.000	Sqm
8	_____	_____	
9	_____	_____	
10	_____	_____	

(Note : Quantity certificate should be signed by not below the rank of Executive Engineer. Scanned copy of Certificate should be attached.)

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3.7 ENVELOPE NO. 2: TENDER (Financial Bid):

The second online 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 duly in terms of "Item wise Rate" of estimated rates at the appropriate place of tender documents 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 MPCB in Addendum uploaded on Board's website after Pre-Tender Conference. His tender shall be unconditional.

3.8 SUBMISSION OF TENDER:

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

3.9 **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 tenderer's **Envelope No.2 (Financial Bid)** will not be considered for further action, but the same will be recorded.

The Decision of the tender Opening Authority in this regard will be final and binding on the contractor.

B) ENVELOPE NO.2: (Financial Bid)

The envelope 2, shall not be opened till the completion of evaluation of technical bids. The envelope 2, of only technically qualified Bidders as mentioned above will be opened. This envelope shall be opened online as per the date and time given in detailed tender schedule (if possible), through e-Tendering procedure only.

4.0 **EARNEST MONEY**

- (a) Earnest money shall be paid via online using NEFT/RTGS or payment gateway mode. After Tender opening, the EMD of the unsuccessful bidder will be returned to account provided by the bidder during the bid preparation as given in challan under Beneficiary Account Number.
- (b) The amount will be refunded to the unsuccessful tenderers on deciding about the acceptance or otherwise of the tender. In case of successful tenderer, it will be refunded on his paying initial Security Deposit and completing the tender documents.

5.0 **SECURITY DEPOSIT**

The successful tenderer shall have to pay 50% initial security deposit in shape of National Saving Certificate or Fixed Deposit Receipt or Bank Guarantee payable at Aurangabad pledged in favour of **Maharashtra Pollution Control Board, Mumbai** or Bank Guarantees from a Nationalised /Scheduled Banks payable at Mumbai in the enclosed form and complete the contract documents failing which his earnest money will be forfeited to board. The balance 50% security deposit will be recovered from the R.A. bill at 1 % of the bill amount. Amount of total Security Deposit to be paid shall be 2 % of the cost of accepted tender or estimated cost put to tender whichever is higher.

Initial Security Deposit may be in Bank Guarantee Form in format of tender document for full period of completion of work and it should be extendable upto expiry of valid extension if any as directed by Engineer-in charge.

All compensation or other sums payable by the Contractor under the terms of this contract or any other contract or on any account may be deducted from his Security Deposit or from any sums which may be due to him or may become due to him by Government on any account and in the event of the security being reduced by reason of any such above noted deductions, the Contractor shall within 10 days of receipt of notice of demand from the Engineer-in-charge make good the deficit.

There shall be no liability on the Department to pay any interest on the Security Deposited by or recovered from the Contractor.

The Security Deposit shall be refunded after completion of defect liability period prescribed for this contract in accordance with the provisions in Clause 1 and 20 of the contract.

6. _____ CONDITION FOR PAYMENT OF ADDITIONAL PERFORMANCE SECURITY DEPOSIT IF THE OFFER IS RECEIVED LOWER MORE THAN 1% BELOW (As per G R. 26.11.2018)

In case lowest successful bidder's offer found more than 1.00% below the estimated cost put to tender, in that case, the tenderer shall have to pay Additional Performance Security deposit drawn in favour of the concerned **Member Secretary, Maharashtra Pollution Control Board, Mumbai** (in form of Demand Draft only) within 8 (eight) days (in no case limit of 8 days will be increased) from the date of opening of Financial bid i.e 2nd envelope as specified below;

- a. There is no need to pay additional performance security deposit, if the tenderers offer is upto 1% (one percent) below the estimated cost put to tender.
- b. If Tenderer's offer is upto 10% below the estimated cost put to tender, then the Additional performance security deposit shall be 1% of the estimated cost put to tender
- c. If the tenderers offer is upto 15% percent below the estimated cost put to tender, tenderer shall have to submit 1% plus the percentage by which tender offer is more than 10% below of the amount put to tender.
(e.g if tenderer offered 14% below, he have to submit (14%-10%) + 1% i.e total 5% of the estimated cost put to tender or minimum Rs. 1000/- whichever is higher.
- d. If the tenderer offer is more than 15% below the estimated cost put to tender, the tenderer have to submit additional performance security deposit as specified below ;

	For Offer upto 10% below the estimated cost put to tender	1 %
	For Offer upto 15% below the estimated cost put to tender (15% - 10% = 5%)	5 %
	More than 15% tenderer have to submit (e.g if tenderer offered 19% below, he has to submit (19%-15% = 4% x 2 = 8%))	8 %
	Total (1% + 5% + 8%)	14 %

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- e. If the calculated amount of additional Performance Security deposit is less than Rs 1000/- then the performance security deposit shall be Rs, 1000/- minimum of the estimated cost put to tender
- f. Amount of Additional Performance Security Should be rounded upto two decimal only
- g. All above Demand Draft shall be either of Government Bank or Scheduled Bank drawn in favour of Concerned **Member Secretary, Maharashtra Pollution Control Board, Mumbai** only. In respect of Demand Draft it's duly mentioning the MICR and IFSC code of said bank shall be mentioned specifically on the said Demand Draft
- h. Successful Tenderer's Additional Performance Security will be refunded immediately upon the Certificate of satisfactorily completion of works issued by Member Secretary, Maharashtra Pollution Control Board, Mumbai. In all other cases additional Performance Security shall be forfeited to board
- i. In case of lowest successful bidder whose offer found more than 1% below fails or neglects to deposit the Additional performance Security within 8 (eight) specified days, then his EMD shall be forfeited to board and 2nd lowest tenderer will become lowest and will be negotiated for award of work
- j. The said amount of Additional Performance Security shall not carry any interest whatsoever

Return of Additional Security

The additional performance security shall be returned immediately upon satisfactory completion of work; the certificate of which shall be issued by the EE before releasing the additional security.

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7.0 DOWLOADING OF TENDER DOCUMENT

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

8.0 The tenders who do not fulfil 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.

9.0 (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.

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

10.0 The quarries for extraction of metal, murum etc. provided in the sanctioned estimate are as per survey conducted by the Engineer In Charge. 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 Board. 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.

11.0 POWER OF ATTORNEY:

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

12.0 The contractor or the firms tendering for the work shall inform the MPCB if they appoint their authorized agent on the work.

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

14.0 Any dues arising out of contract will be recovered from the contractor as arrears of land revenue if not paid amicable, moreover, recovery of MPCB dues from the contractors will be affected from the payment due to the contractor from any other MPCB works under execution with them.

15.0 All pages of tender documents, specifications corrections slips etc. shall be initialed by the tenderer. The tenderer should bear full signature of the tenderer or his authorized power of attorney holder in the case of firm.

16.0 The Income Tax at 2.00 % 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.

17.0 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.

18.0 The tenderer shall submit the list of apprentices engaged by the Contractor under Apprentice Act.

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19.0 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.

20.0 After completion of the e-tendering process, the successful bidder will have to submit the hard copy of downloaded tender document and drawings duly signed on each page by the contractor or his authorised signatory. The tender should bear full signature of the tenderer, or his authorized power of attorney holder in case of Firm.

22.0 Joint Venture Is not allowed

23.0 The Goods and Services Tax @ 2 % of the contract amount will be recovered from the bill of the registered contractors who are registered under Act. (1% CGST + 1 % SGST)

24.0 Contractor shall submit a certificate to the effect that “All the payments to the labour /staff are made in bank accounts of staff linked to Unique Identification Number (AADHAR CARD).” The certificate shall be submitted by the contractor within 60 days from the commencement of contract. If the time period of contract is less than 60 days then such certificates shall be submitted within 15 days from the date of commencement of contract.

25.0 Condition Regarding GST:

As per government of maharashtra P.W Department english circular No. Sankirna -2017/C.R.121 (Part-ii) / building-2 dt-19/09/2017 & dt. 23.10.2017 GST shall be payable on the accepted contract value at prevailing rates seperately. Contractor shall quote his offer excluding GST.

26.0 Clause - 38 : Claims for Quantities Entered in the tenders

Excess quantity of any work shall be executed by prior permission of competent authority. The Quantities Shall be payable at accepted tender rates only

27.0 No negotiations will be held for rates, terms and conditions therefore, bidders have to quote their comparative rates.

28.0 OTHER CONDITIONS :

- 1) The contractor shall submit the “**Hard Copy**” of the tender documents within 72 hours from the date of bid lock (In case of www.maharashtra.etenders.in). The hard copy shall invariably contain all the documents which are submitted online.
The Hard Copy Shall be submitted to any of the below mentioned office ;
 - a. Member Secretary, Maharashtra Pollution Control Board, Mumbai
Kalpataru Point, Third floor, Opp. Cine planet Cinema, Sion Circle, Sion(E),
Mumbai -400022
- 2) The contractor shall submit only those documents which are required /asked in the tender documents. Uploading of unnecessary attachments with the tender should be avoided.
- 3) This hard copy shall be referred/opened only in case of any problem / discrepancy in online tender opening process.
- 4) The contractor shall submit valid proof of deduction and payment of Profession Tax of “technical persons employed by the contractor”

ANNEXURE - III

AFFIDAVIT (ON RS.500/- STAMP PAPER)

Iage..... address
..... (Authorized signatory to sign the contract), hereby
submit, vide this affidavit in truth, that I am the owner of the contracting firm
..... / authorized signatory and I am submitting the documents
in envelope no.1 for the purpose of scrutiny of the contract. I hereby agree to the
conditions mentioned below:-

1. I am liable for action under Indian Penal Code for submission of any false / fraudulent paper/information submitted in envelope no.1.
2. I am liable for action under Indian Penal Code if during contract period and defect liability period, any false information, false bill of purchases supporting proof of purchase, proof of testing submitted by my staff, subletting company or by myself, I will be liable for action under Indian Penal Code.
3. I am liable for action under Indian Penal Code if any paper are found false / fraudulent during contract period and even after the completion of contract (finalization of final bill).

(Signature of Contractor)

(Seal of Company)

Contractor

Consultant

Member Secretary

FORM - 1

STATEMENT OF LIST OF WORKS IN HAND AND WORKS TENDERED FOR AS ON LAST DATE OF SUBMISSION OF THIS TENDER

NAME OF CONTRACTOR:.....

(i) WORKS IN HAND

Sr. No.	Name of work	Agreement No.	Tendered Amount.	Date of commencement.	Stipulated date of completion.	Value of work already done.	Value of Balance work to be executed during next Fifteen months	Probable date of completion.	Remarks
1	2	3	4	5	6	7	8	9	10
SAMPLE FORM									

(ii) WORKS TENDERED FOR

Sr. No.	Name of work	Name and Address of Client.	Tendered Amount.	Time limit	Probable date when decision is expected	Other relevant details, if any.
1	2	3	4	5	6	7
SAMPLE FORM						

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly singed. The documentary proof of work in hand and work tender for shall also be submitted with this statement duly attested by Gazetted officer

Signature of Contractor

Contractor

Consultant

Member Secretary

FORM - II
STATEMENT SHOWING THE DETAILS OF OWNED PLANTS AND MACHINERY IMMEDIATELY AVAILABLE WITH TENDERER FOR THIS WORK

NAME OF CONTRACTOR:

Sr. No.	Name of equipment	No. of Units	Kind and make	Capacity	Age and condition.	Present Location.	Remarks.
1	2	3	4	5	6	7	8
<p style="font-size: 24px; margin: 0;">SAMPLE FORM</p>							

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly signed.
The documentary proof of **Own** Plant & machinery shall be submitted with this statement duly attested by Gazetted officer

Contractor

Consultant

Member Secretary

FORM – III**STATEMENT SHOWING THE DETAILS OF WORKS OF SIMILAR TYPE 30% MAGNITUDE CARRIED OUT BY THE CONTRACTOR DURING LAST YEARS (2013-14,2014-15, 2015-16 ,2016-17,2017-18)****NAME OF CONTRACTOR:**

Sr. No.	Name of work	Name and address of the organization for whom the work was done.	Place and country	Agreement No. and Date.	Date of commencement	Tendered cost.	Total Cost of work done.	Actual date of completion	Remarks (Principal features in brief.)
1	2	3	4	5	6	7	8	9	10
SAMPLE FORM									

Signature of Contractor

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly signed. The Documentary proof of Similar type and magnitude shall be submitted with this statement.

Contractor**Consultant****Member Secretary**

FORM- V**STATEMENT SHOWING DETAILS OF TECHNICAL PERSONNEL AVAILABLE WITH CONTRACTOR WHICH CAN
BE SPARED EXCLUSIVELY FOR THIS WORK****NAME OF CONTRACTOR :**

Sr. No.	Name of Person	Designation	Qualification.	Whether working in field or in office.	Professional Experience of execution of similar works.	Period for which the person is working with the tenderer.	Remarks.
1	2	3	4	5	6	7	8
SAMPLE FORM							

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly signed. The Documentary proof of technical person shall be attached with this statement.

Signature of Contractor.**Contractor****Consultant****Member Secretary**

FORM - VI
STATEMENT SHOWING WORK DONE IN ALL CLASSES OF CIVIL ENGINEERING CONSTRUCTION WORKS
DURING LAST THREE YEARS.

NAME OF CONTRACTOR :

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 in next Fifteen months	Remarks.
					2013-14	2014-15	2015-16	2016-17	2017-18		
1	2	3	4	5						9	10
SAMPLE FORM											
		Grand total									

Outward No. and date of**Certificate issuing authority.**

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly signed. The Documentary proof of work done shall be attached with this statement.

Contractor**Consultant****Member Secretary**

(48)

FORM - VII

Maximum value of Civil Engineer works in any one year during last 3 years.

Name of Tenderer :

Sr No	Name of Work	Tender Cost	Civil Work Executed During					Remarks
			2013-14	2014-15	2015-16	2016-17	2017-18	
								In support of the details entered in this statement ,the tenderer shall attach the attested copies of the works done certificates signed by the authority not below the rank of Executive Engineer.
		Total						
		Multiplying factor for updating	1.61	1.46	1.33	1.21	1.10	
		Grand Total						

(1) Tenderer shall work out this Bid capacity on basis of highest amount "A" i.e. the total cost of work done in any one year out of the last five years and the amount "B" i.e. the total cost of works in hand as per Statement No. 1 and shall work out the Bid Capacity as below.

Bid Capacity = (A*N*2)-B

Contractor

Consultant

Member Secretary

FORM- VIII
STATEMENT SHOWING QUANTITIES OF WORK EXECUTED DURING LAST FIVE YEARS
(2013-14,2014-15,2015-16,2016-17 & 2017-18)

NAME OF CONTRACTOR

Sr. No.	Name of Work.	Year.	Agreement No.	Quantity of work performed.					Remark
				5	6	7	8	9	
1	2	3	4	5	6	7	8	9	
		2013-14							
		2014-15							
		2015-16							
		2016-17							
		2017-18							

Note : This is only a standard form. Details are to be furnished in this format in the form of type written statements which shall be enclosed in Envelope No.1 duly signed. The Documentary proof of quantities of work executed shall be attached with this statement.

Contractor

Consultant

Member Secretary

GUARANTEE BOND FOR SECURITY DEPOSIT (REVISED)**(On Stamp Paper Worth Rupees 100/-)**

In consideration of the Governor of Maharashtra (here in after referred to as "Maharashtra Pollution Control Board") having agreed to exempt _____ (herein after referred to as "The Contractor") from depositing with the MPCB in cash the Sum of ₹. _____ (Rupees _____ Only) being the amount of Security Deposit payable by the contractor to the MPCB under the terms and conditions of the "Agreement dated the _____ day of _____ and made between the MPCB of the one part and the contractor of the other part (hereinafter referred to as "the said Agreement") for _____ as security for the observance and performance by the contractor of the terms and conditions of the said Agreement, on the Contractor furnishing to the MPCB a Guarantee in the prescribed form of a Scheduled Bank in India being in fact these presents in the like Sum of ₹. _____ (Rupees _____ Only) We _____ BANK/LIMITED registered in India under _____ Act and having one of our Local Head Office at _____ do hereby.

1) GUARANTEE TO THE BANK :-

- a) Due performance and observance by the contractor of the terms covenants and conditions on the part of the contractor contained in the said Agreement, and
 - b) due and punctual payment by the Contractor to the MPCB of all sums of money, losses, damages, costs, charges, penalties and expenses payable to the MPCB by the contractor under or in respect of the said Agreement.
- 2) Undertake to pay to the MPCB on demand and without demur and notwithstanding any dispute raised by the Contractor(s) in any suit or proceeding filed in any Court or Tribunal relating thereto the said Sum of ₹. _____ (Rupees _____ only) or such less sum as may be demanded by the MPCB from us our liability herein under being absolute and unequivocal and agree that.
- 3) a) the guarantee herein contained shall remain in full force and effect during the subsistence of the said agreement and that

Contractor**Consultant****Member Secretary**

the same will continue to be enforceable till all the dues of the MPCB under or by virtue of the said Agreement have been duly paid and its claims satisfied or discharged and till the MPCB certifies that the terms and conditions of the said Agreement have been fully properly carried out by the contractor.

b) We shall not be discharge or released from the liability under this Guarantee by reasons of

- i) any change in the constitution of the MPCB or the Contractor or
- ii) any agreement entered into between the MPCB and the contractor 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 or
- vi) any other conditions or circumstances under which in law, a surety would be discharged :

c) Our liability here under shall be joint and several with that of the contractor as if we were the Principal debtors in respect of the said Sum of ₹. _____ (Rupees _____ Only) And

d) We shall not revoke this guarantee during its currency except with the previous consent in writing of the MPCB. This Guarantee Shall be valid upto_____.

IN WITNESS WHEREOF the common Seal of _____ day of _____ 2016. The Common seal of _____ was pursuant to the resolution of the Board of Directors of the Company dated the _____ day of _____ herein affixed in the presence of who, in token thereof, have hereto set their respective hand in the presence of

1) _____

2) _____

Contractor

Consultant

Member Secretary

**NAME OF WORK : CONSTRUCTION OF REGIONAL OFFICE BUILDING AT
PLOT NO- 1/1 (PART) AT AMRAVATI DIST.AMRAVATI
FOR M. P. C. B AMRAVATI**

DECLARATION OF THE CONTRACTOR

I / We hereby declare that I / We have made myself / ourselves thoroughly conversant with the local conditions regarding all materials (such as stone, murum, and sand etc.) and labour of which I/We have based my / our rates for this work. The specifications, conditions and lead of materials to be used on this work have been carefully studied and understood by me / us before submitting this tender. I / We undertake to use only the best materials approved by the **Member Secretary, Maharashtra Pollution Control Board, Mumbai** in charge of the work or his duly authorized representative, before starting the work and to abide by his decision.

I hereby undertake to pay the labourers engaged on the work as per Minimum Wages, Act 1948 applicable to the zone concerned.

TO BE FILLED BY THE CONTRACTOR

I/WE have quoted my/our offer in "Item wise" in words as well as in figures.

I/WE further undertake to enter into contract in regular form with **Member Secretary, Maharashtra Pollution Control Board, Mumbai**

**Name & Signature of Contractor / Power of Attorney holder with complete
address**

Contractor

Consultant

Member Secretary

GENERAL DESCRIPTION AND SCOPE OF WORK

1. The Work Consist of “**CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO- 1/1 (PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI ”**

SCOPE OF WORK

MPCB Maharashtra wish to construct the administrative building as per plan attached in tender. The scope of work covers construction of administrative building, Interior works of laboratory, Electrical work, Fire fighting, HVAC, sanitary and plumbing work. The scope also covers construction of compound wall, landscape, diversion of gutters and approaches from road. The board reserves the rights to change scope at any stage of work.

Contractor

Consultant

Member Secretary

MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI

**NAME OF WORK : CONSTRUCTION OF REGIONAL OFFICE BUILDING
AT PLOT NO- 1/1 (PART) AT AMRAVATI
DIST.AMRAVATI FOR M. P. C. B AMRAVATI**

**GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF
CONTRACTORS**

1. All works proposed to be executed by contract shall be notified in a form of invitation to tender Online E-Tendering System also pasted on a board hung up in the office of the Member Secretary, Maharashtra Pollution Control Board, Mumbai, and signed by the Member Secretary, Maharashtra Pollution Control Board, Mumbai

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 as per e-tendering schedule, also the amount of earnest money to be deposited with the tender, and the amount of the 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 a quarry fees, royalties, and ground rents will be granted. Copies of the specifications, designs and drawings estimated rates, scheduled rates and any other documents required in connection with the work shall be signed by the Member Secretary, Maharashtra Pollution Control Board, Mumbai, for the purpose of identification and shall also be open for inspection by contractors at the office of the Member Secretary, Maharashtra Pollution Control Board, Mumbai, during office hours.

Contractor

Consultant

Member Secretary

In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof, or 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. (i) The contractor shall pay as per e-tendering schedule the sum of **Rs.3,00,000/- (Rs. Three Lakh only)** as and by way of earnest money. Earnest money shall be paid via online mode using NEFT/RTGS or payment gateway mode.
- (ii) In the event of his tender being accepted, subject to the provisions of sub-clause(iii) below, the said amount of earnest money shall be appropriated towards the amount of security deposit payable by him under conditions of General conditions of contract.
- (iii) If, after submitting the tender, the contractor withdraws his offer, or modifies the same, or if after the acceptance of his 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.
- (iv) In the event of his tender not being accepted, the amount of earnest money deposited by the contractor, shall unless it is prior thereto forfeited under the provisions of sub-clause (iii) above, be refunded to him on his passing receipt thereof.

Contractor

Consultant

Member Secretary

3. Receipts for payments made on account of any work, when executed by a firm, shall also be signed by all the partners except where the contractors are described in their tender as 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 E-tender shall fill up the usual printed form stating at what the rates specified item in Bill of Quantities (Memorandum showing items of work to be carried out) he is willing to undertake the work. Only one rate shall be named. Tenders which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which 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 **Member Secretary, Maharashtra Pollution Control Board, Mumbai** shall open tenders as per **e-tendering schedule** and intimated the results through e-mail . In the event of a tender being accepted, the contractor shall, for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule 1.
In the event of tender being rejected, the department / board shall refund the amount of earnest money deposited by the contractor online
6. The officer competent to dispose off the tender shall have the right of rejecting all or any of the tenders without assigning any reason.
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 MPCB unless it is signed by the Member Secretary, Maharashtra Pollution Control Board, Mumbai

Contractor

Consultant

Member Secretary

8. The memorandum of work to be tendered for and the schedule of materials to be supplied by the **Maharashtra Pollution Control Board** and their rates shall be filled in and completed by the office of the Member Secretary, Maharashtra Pollution Control Board, Mumbai, 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 this done before he completes and delivers this tender.
9. All work shall be measured net by standard measure and according to the rules and customs adopted by the Public Works Department and 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 should produce along with his tender certificate of Registration as approved contractor in the appropriate class and renewal of such registration with date of expiry. (Copies to be attested by a Gazetted Officer)
12. All corrections and additions or pasted slips should be initialed.
13. The measurements of work will be taken according to the usual methods in use in the Public Works Department and no proposals to adopt alternative methods will be accepted. The Member Secretary, Maharashtra Pollution Control Board, Mumbai's decision as to what is "the method in use in the Public Works Department" will be final.

Contractor

Consultant

Member Secretary

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. (with certificate from the head of the office concerned).
15. Every tenderer shall furnish 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 the number of the assessment year.
16. No foreign Exchange would be released by the MPCB for the purchase of plant and Machinery required for the Execution of the Work Contracted for.
17. The contractor will have to construct shed for storing controlled and valuable materials brought by him at work site at contractors cost. The material will be taken for use in the presence of the MPCB person. No material will be allowed to be removed from the site of work.
18. Successful tenderer will have to produce to the satisfaction of the accepting authority a valid and current license issued in his favour under the 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 MPCB.
19. The contractor shall comply with the provision 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 breach of contract and the Member Secretary, Maharashtra Pollution Control Board, Mumbai, 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

Contractor

Consultant

Member Secretary

TENDER FOR WORKS

I/We hereby tender for the execution, for the Government of Maharashtra (herein before and hereinafter referred to as “**Government**”) of the work specified in the under written memorandum within the time specified in such memorandum at that rate quoted by me at appropriate place provided online in financial bid “Item Wise Rate entered in **BOQ** (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 - I hereof 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 be as provided in hereto.

** In figures as well
as in words*

Contractor

Consultant

Member Secretary

MEMORANDUM

1. (a) General Description:

(a) If several sub works are included they should detailed in a separate list.

CONSTRUCTION OF REGIONAL OFFICE BUILDING AT PLOT NO- 1/1 (PART) AT AMRAVATI DIST.AMRAVATI FOR M. P. C. B AMRAVATI

(b) Estimated cost. ₹. 5,98,45,547.00

(c) Earnest Money ₹. 3,00,000.00

(d) Security Deposit.

i) Initial (not less than the amount of earnest money. ₹. 5,99,000.00

ii) To be deducted from current bills. ₹. 5,99,000.00

Total ₹.11,98,000.00

(e) Percentage if any to be deducted from bills so as to make up the total amount required as security deposit by the time, the half the work, as measured by the costs is done (2 %) **Two 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.

(15) Fifteen Calendar Months (including monsoon)

Contractor

Consultant

Member Secretary

2. I/We agree that this offer shall remain open for acceptance for a minimum period of **90 days (Ninety Days)** from the date fixed for opening the “same” means envelope No.2 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. The sum of **₹. 3,00,000.00 (₹. Three Lakh 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 MPCB should I/We fail to :
- (i) abide by the stipulation to keep the offer open for the period mentioned above or
 - (ii) Sign and complete the contract documents as required by the Engineer and furnish the security deposit as specified in item (d) of the memorandum contained in paragraph (i) above within the limit laid down in clause (I) of annexed General conditions of 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.

Contractor

Consultant

Member Secretary

3. I/We have secured exemption from payment of earnest money after executing the necessary bond in favour of the MPCB and the copy which is (exemption certificate with bond) enclosed herewith, and on occasions for forfeiture of earnest money for this work arise due to the reason/cause (i) abide by the stipulations to keep the offer open for a period mentioned above or (ii) sign and complete the contract documents and furnish the security deposit as specified in item (d) of the Memorandum contained in Paragraph (i) above within the time limit laid down in clause (I) of the annexed General conditions of contract the amount payable by me / us at the discretion of the Engineer, be recovered out of the amount deposited in compliance for the exemption in so far as the same may extend in terms of the said bond and also in the event of the deficiency out of any other money which is due to be paid to me/us by the MPCB under any other contract or transaction of 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 there of to forfeit and pay to MPCB the sums of money mentioned in the said conditions.

Contractor

Consultant

Member Secretary

Amount to be specified in words and figures.

Strike out (a) if no cash security deposit is to be taken..

The Earnest Money Deposit of ₹.3,00,000/- is herewith forwarded presenting the earnest money (a) the full value of which is to be absolutely forfeited to MPCB should I/We not deposit the full amount of security deposit in the above memorandum, in accordance with clause 1(A) of the said conditions, otherwise the said sum of ₹.3,00,000/- Shall be refunded.

Contractor

Signature of contractor before submission of tender

Address :

.....

Dated the day of 2019

Witness :

Signature of Witness to Contractor's Signature.

Address :

.....

Occupation :

The above tender is here by accepted by me for and on behalf of the Governor of Maharashtra

Signature of the Officer by whom accepted.

**Member Secretary
Maharashtra Pollution Control Board
Mumbai**

Dated : day of 2019

Contractor

Consultant

Member Secretary

ADDITIONAL GENERAL CONDITIONS AND SPECIFICATIONS

Note : These are to apply as additional specification and conditions unless otherwise already provided for contradictorily elsewhere in this contract.

1. CONTRACTOR TO STUDY SITE CONDITIONS

The contractor shall be deemed to have carefully examined the work and site conditions including labour, the general and the special conditions, specifications, schedules and drawings and shall be deemed to have visited the site of work and to have fully informed himself regarding the local conditions and carried out his own investigation to arrive at the rates quoted in the tender system. In this regard, he will be given necessary information to the best of the knowledge of MPCB but without any guarantee about it. If he shall have any doubt as to the meaning of any portions of these general conditions or the special conditions, or the scope of work or of the specifications and drawings or any other matter concerning the contract, he shall in good time, before submitting his tender, set forth the particulars thereof and submit them to the **Member Secretary, Maharashtra Pollution Control Board, Mumbai** in writing order, that such doubts may be clarified authoritatively before tendering. Once a tender is submitted by the tendering system, the matter will be decided according to tender conditions in the absence of such authentic pre-clarification.

2.A COMPETENCY OF TENDER

The Work will be awarded only to those contractors who are considered to be substantially responsive bidders, capable of performing the class of work to be completed. Before passing the final award any or all bidders may have to show that he has the necessary experience, facilities, ability and financial resourced to execute the work in satisfactory manner and also within the stipulated time.

2(B). The Bidder / Contractor Shall be liable solely for action under Indian Penal code (IPC) for Submission of any false / fraudulent paper/information submitted in envelop No.1 of bid Document. The contractor shall also be liable solely for action under IPC for submission of any false information, false bill of purchases supporting proof of purchase proof of testing submitted by his staff, subletting company or by himself during and after contract period-till final bill. The undertaking for this effect shall be submitted in Annexure-III enclosed herewith.

Contractor

Consultant

Member Secretary

2. INDEMNITY:

The contractor shall indemnify the Government against all actions, suits, claims and demands brought or made against it in respect of anything done or committed to be done by the contractor in execution of or in connection with the work of this contract and against any loss or damage to the Government in consequence of any action or suit being brought against the Contractor for anything done or committed to be done in the execution of the works of this contract.

3. DEFINITIONS:

Unless Excluded by or repugnant to the context.

- (a) The expression "Government" as used in the tender documents shall mean the **MPCB** of the Government of Maharashtra.
- (b) The expression "**Engineer**" or "**Engineer-in-charge**" as used in the tender papers shall mean the **Engineer in Charge / Consultant / Architect** in charge of the work.
- (e) The expression "**Contractor**" used in the tender papers shall mean the successful tenderer i.e. the tenderer whose tender has been accepted, and who has been authorized to proceed with the work.
- (f) The expression "**Contract**" as used in tender papers shall mean the deed of contract together with or its original accompaniment and those later incorporated in it by mutual consent between MPCB and contractor.
- (h) "**Drawing**" shall mean the drawings referred to in the specifications and any modifications of such drawings approved in writing by Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.

- (i) **"Engineer's representative"** shall mean an assistant of the Engineer notified in writing to the contractor by the Engineer.
- (j) **"Provisional items"** shall mean items for which approximate quantities have been included in the tender documents.
- (k) The **"Site"** shall mean the lands and/or other places, on, under in or through which the work is to be executed under the contract including any other lands or places which may be allotted by Government or used for the purpose of contract.
- (l) The **"work"** shall mean the works to be executed in accordance with the contract or part(s) thereof as the case may be and shall include all extra, additional, altered or substituted works as required for performance of the contract.
- (m) The **"Contract sum"** shall mean the sum for which the tender is accepted.
- (n) The **"Accepting Authority"** shall mean the officer competent to accept the tender.
- (o) The **"Day"** shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in any day in that day.
- (p) **"Temporary works"** shall mean all temporary works of every kind required in or about the execution, completion, or maintenance of the works.

Heading and marginal notes, if any, to the general conditions shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof of the contract.

Wherever there is mention of **"Schedule of Rates"** or **"DSR"** shall mean as "The Schedule of the rates of the P.W.D in the jurisdiction of which the work lies."

4. ERRORS, OMISSIONS AND DISCREPANCIES:

- a. In case of errors omissions and /or disagreement between written and scaled dimensions on the drawing or between drawings and specifications etc. the following order of preference shall apply.
- (i) Between actual scaled and written dimensions or descriptions on a drawing the latter shall be adopted.
 - (ii) Between the written or shown description of dimensions in the drawings and the corresponding one in the specifications, the latter shall apply.
 - (iii) Between the quantities shown in schedule of quantities and those arrived at from the drawings, the latter shall be preferred
 - (iv) Between the written description of the items in the schedule of quantities and the detailed description in the specifications of the same items, the latter shall be adopted.
- b. In case of discrepancy between rate quoted in figures and words, the lowest of the two will be considered for acceptance of the tender.
- c. In all cases of omissions and /or doubts or discrepancies in the dimensions or descriptions of any item or specification, reference shall be made to the **Member Secretary, Maharashtra Pollution Control Board, Mumbai.** whose elucidation, elaboration or decision shall be considered as authentic. The contractor shall be held responsible for any errors that may occur in the work through lack of such reference and precaution.
- d. The special provision in detailed specifications and wording of any item shall gain precedence over corresponding contradictory provisions (if any) in the standard specification of Public Works Departments Hand Book where reference to such specifications is given without reproducing the details in contract.

5. METHODOLOGY OF CONSTRUCTION AND CONSTRUCTION EQUIPMENTS:

(A) METHODOLOGY OF CONSTRUCTION :

5.1 Construction Machinery / Equipments:

5.1.1 The methodology and equipments to be used on the project shall be furnished by the Contractor to the Engineer-In-Charge well in advance of commencement of work and approval of the Engineer-In-Charge obtained prior to its adoption and use.

5.1.2 The Contractor shall give, a trial run of the equipment for establishing its capability to achieve the laid down specifications and tolerance to the satisfaction of the Engineer-in-Charge before commencement of work, if so desired by the Engineer- In-Charge.

5.1.3 All equipments provided shall be of proven efficiency and shall be operated and maintained at all times in the manner acceptable to the Engineer-In-Charge.

5.1.4 No equipment or personnel shall be removed from the site without permission of the Engineer-In-Charge .

5.2 The contractor shall furnish at least 15 days in advance, his program of commencement of items of work, the details of actual methods that would be adopted by the contractor for the execution of various items of work such as well sinking, cast-in-situ superstructure for bridge work, Earth work, W.B.M., black toping items for road works supported by necessary detailed drawing and sketches including those of the plant and machinery that would be used, their locations arrangements for conveying and handling materials etc. and obtain prior approval of the Engineer in charge well in advance of starting of such items of work. The Engineer in charge reserves the right to suggest modifications or make complete change in the method proposed by the contractor, whether accepted previously or not at any stage of the work, to obtain the desired accuracy, quality and progress of the work which shall be binding on the contractor, and 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.The

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sole responsibility for safety and adequacy of the methods adopted by the contractor, will however rest on the contractor irrespective of any approval given by the Engineer.

- 5.3 Abrasion Testing Machine for Tiles of standard make confirming to IS – 1237 & 1706 with suitable thickness measuring device to measure wear of the tile. It shall be suitable for operation on 415 v/50 Hz, 3 phase AC supply.

6. WORKING METHODS:

Contractor shall submit, within times stipulated time by the Engineer, in writing the details of actual methods that would be adopted by the contractor for the execution of any item as required by Engineer, at each of the locations, supported by necessary detailed drawings 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 well in advance of starting of such item of work The Engineer-in-charge reserves the right to suggest modifications or make complete changes in the method proposed by the contractor, whether accepted previously or not, at any stage of the work. to obtain the desired accuracy, quantity and progress of the work which shall be binding on the contractor, and no claim on account of such change in method of execution will be entertained by Government so long as specifications of the item remain unaltered.

~~6.1 PROGRESSIVE METHODOLOGY.~~

~~The work methodology as described above shall then be followed for next 200mts and thus progressively for entire length of road.~~

7. PROGRESS SCHEDULE:

- 7.1 The contractor shall furnish within the period stipulated in writing by the Engineer-in-charge, of the order to start the work, a progress schedule 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 dates of procurement and setting up of materials, plant and machinery. The schedule is to be such as is practicable of achievement towards the completion of the whole work in the time limit, the particular items, if any, on the due dates specified in the contract and shall have the approval of the Engineer-in-charge.No revised

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schedule shall be operative without such acceptance in writing. The Engineer is further empowered to ask for more detailed schedule or schedules say week by week for any item, in case of urgency of work as will be directed by him and the contractor shall supply the same as and when asked for.

7.2 The Contractor shall furnish sufficient plant, equipment and labour as may be necessary to maintain the progress of schedule. The working and shift hour's 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 the prior approval of the Engineer. Night work which requires supervision shall not be permitted except when specifically allowed by Engineer each time, if requested by the Contractor. The Contractor shall provide necessary lighting arrangements etc. For night work as directed by Engineers without extra cost.

7.3 Further, the contractor shall submit the progress report of work in prescribed forms and charts etc. At periodical intervals, as may be specified by the Engineer-incharge. Schedule shall be in form of progress charts, forms, progress statement and/or reports as may be approved by the Engineer.

7.4 The contractor shall maintain proforma, charts, details regarding machinery, equipment, labour, materials, personnel etc. As may be specified by the Engineer and submit periodical returns thereof as may be specified by the Engineer-in-charge.

7.5 PRIORITIES OF WORKS TO BE EXECUTED:

Priorities for items to be executed shall be determined periodically keeping in view of the final time limit allowed for the work and all the time schedule fixed for intermediate stages of work.

7.6 Revised Programme of Work in case of slippage:

In case of slippage from the approved work programme at any stage, the contractor shall furnish revised programme to make up slippage within the stipulated time schedule and obtain the approval of the Engineer-in-charge to the revised programme.

7.7 Action in case disproportionate progress:

In case of extremely poor progress of the work or any item at any stages of work which in the opinion of the Engineer-In-Charge cannot be made good by the Contractor considering his available resources, the Engineer-In-Charge will get it accelerated to make up the lost time through any other agency, and recover the additional cost incurred, If any, in getting the work done from the Contractor after informing him about the action envisaged by him.

8. TREASURE-TROVE:

In the event of discovery by the contractor or his employees, during the progress of the work of any treasure, fossils, minerals or any other articles of value or interest, the contractor shall give immediate intimation thereof to the Engineer and forthwith hand over to the Engineer such treasure or things which shall be the property of Government.

9. AGENT AND WORK ORDER BOOK:

The contractor shall himself manage the work or engage an authorized all time agent on the work capable of managing and guiding the work and understanding the specifications and contract conditions. A qualified and experienced Engineer shall be provided by the contractor as his agent for technical matters in case the Engineer-in- charge considers this as essential for the work and so directs the contractor. He will take orders as will be given by the Engineer In Charge, or his representative and shall be responsible for carrying them out. This agent shall not be changed without prior intimation of the Engineer In Charge and his representative on the work site. The contractor shall supply to the Engineer the details of all supervisory and other staff employed by the contractor and notify changes when made, and satisfy the Engineer regarding the quantity and

sufficiency of the staff thus employed. The Engineer in charge has the unquestionable right to ask for changes in the quality and strength of contractor's supervisory staff and to order removal from work of any of such staff. The contractor shall comply with such orders and effect replacements to the satisfaction of the Engineer in charge.

A work order book shall be maintained on site and it shall be the property of Government and the contractor shall promptly sign orders given therein by Engineer In Charge, or his representative and his superior officers, and comply with them.

The compliance shall be reported by the contractor to the Engineer in good time so that it can be checked. The blank work order book with machine numbered pages will be provided by the MPCB free of charge for this purpose. The contractor will be allowed to copy out instructions therein from time to time.

10. SETTING OUT:-

Setting out:

The Engineer-in-charge shall furnish the Contractor with only the four corners of the work site and a level bench mark and the Contractor shall set out the works and shall provide an efficient staff for the purpose and shall be solely responsible for the accuracy of such setting out.

The Contractor shall provide, fix and be responsible for the maintenance of all stacks, templates, level marks, profiles and other similar things and shall take all necessary precautions to prevent their removal or disturbance and shall be responsible for the consequence of such removal or disturbance should the same take place and for their efficient and timely reinstatement. The Contractor shall also be responsible for the maintenance of all existing survey marks, boundary marks, distance marks and centre line marks, either existing or supplied and fixed by the Contractor. The work shall be set out to the satisfaction of the Engineer-in-charge.

The approval thereof or joining with the Contractor by the Engineer-in-charge in setting out the work, shall not relieve the Contractor of any of his responsibilities.

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Before beginning of the work, the Contractor shall at his own cost provide all necessary reference and level posts, pegs, bamboos, flags, ranging rods, strings and other material for proper lay out of the work in accordance with the scheme for bearing marks acceptable to the Engineer-in-charge. The centre, longitudinal or face lines and cross lines shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the centre to enable the theodolite to be set over it. No work shall be started until all these points are checked and approved by the Engineer-in charge n writing but such approval shall not relieve the Contractor of any of his responsibilities. The Contractor shall also provide all labour, material and other facilities, as necessary, for the proper checking of layout and inspection of the points of works under construction.

Pillars bearing geodetic marks located at the sites of units of works under construction should be protected and fenced by the Contractor.

On completion of works, the Contractor must submit the geodetic documents according to which the work was carried out.

10.2 RESPONSIBILITIES FOR LEVEL AND ALIGNMENT :

The contractor shall be entirely and exclusively responsible for the horizontal and vertical alignment, the levels and corrections of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectification shall be carried out by the contractor, at his own cost, when instructions are issued to that effect by the Engineer-in-charge.

10.3 LEVELLING INSTRUMENTS:

If measurement of items of the works are based on volumetric measurements calculated from levels taken before and after construction of items, a large number of leveling staves, tapes etc. will have to be kept available by the contractor at the site of work for this purpose. Lack of such leveling staves, tapes etc in required numbers may cause delay in measurements and the work. The contractor will have therefore to keep sufficient number of these instruments readily available at site and in good working conditions.

10.4 To carry out activities mentioned above 10.1, 10.2 & 10.3

Contractor shall make all necessary arrangements to carry out all necessary detail surveys required as per the Specifications / Tender Conditions, during currency of work / project, and deliver desired outputs in printed / soft as instructed by engineer in charge at different stages of works as instructed by the engineer in-charge during the currency of the project, that is from start to finish of the work/project. To carry out such surveys and deliver desired outputs in printed form / soft copy as instructed by engineer in charge as mentioned above.

The Contractor shall appoint a survey agency with the approval of the engineer in charge, for that, Contractor shall submit list of three survey agencies to engineer in charge , along with the payment of his security deposit (as required under the clause one contract) . The engineer in charge on receipt of such list will select one survey agency out of three and communicate it, along with the work order to contractor. Contractor should appoint survey agency as selected by the engineer incharge. The survey agency shall not be changed without permission of the engineer in charge. The survey agency and / or contractor shall have

- 1) Latest survey instruments and/or equipments viz. total station, auto levels, plotter etc.
- 2) Auto CAD, non-auto CAD base software to deliver desired outputs based on survey carried out using (1) above, in printed/soft copy as instructed by engineer in charge.
- 3) Necessary trained manpower to work on and deliver as (1) and (2) above.

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For appointing survey agency, to carry out such surveys and deliver desired outputs in printed/soft as instructed by engineer in charge as mentioned above the Contractor shall not be paid separately. His offer shall be inclusive of all.

11 AUTHORITIES OF THE ENGINEER IN CHARGE'S REPRESENTATIVE:

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

The Engineer-in-charge may from 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 instructions or approval given by the representative of the Engineer-in-charge to the contractor within the terms of such delegations (but not otherwise) shall bind the contractor and the MPCB as though it had been given by the Engineer-in-charge, provided always as follows.

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 putting down, removal or breaking up thereof.

12) INITIAL MEASUREMENTS FOR RECORD

Where for proper measurement of the work, it is necessary to have an initial set of levels or other measurements taken, the same as recorded in the authorized field book or measurement book of Government by the Engineer or his authorized representative will be signed by the contractor who will be entitled to have a true copy of the same made at his cost. Any failure on the part of the contractor to get such levels etc. Recorded before starting the work, will render him liable to accept the decision of the Engineer as to the basis of taking measurements.

Like-wise the contractor will not cover any work which will render its subsequent measurements difficult or impossible without first getting the same jointly measured by himself; and the authorized representative of the Engineer In Charge. 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.

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13 HANDING OVER OF WORK:-

All the work and materials before finally taken over by Government will be the entire liability of the Contractor for guarding, maintaining and making good any damages of any magnitude interim payments made for such work will not alter this position. The handing over by the Contractor and taking over by the Engineer In Charge or his authorized representative will be always in writing, copies of which will go to the Engineer In Charge or his authorized representative and the contractor. It is, however understood that before taking over such work, Government will not put it into regular use as distance from casual or incidental one, except as specially mentioned elsewhere in this contract, or as mutually agreed to.

14. ASSISTANCE IN PROCURING PRIORITIES, PERMITS ETC. :-

The Engineer, on a 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 priorities for deliveries, transport permits for controlled materials etc., where such are needed. The Government, will not, however be responsible for the non-availability of such facilities or delay in this behalf and no claims on account of such failures or delays shall be allowed by the Government. The Contractor shall have to make his own arrangement for machinery required for the work. Such machinery conveniently available with the MPCB may be spared as the rules in force on recovery of necessary Security Deposit and rent with Agreement in the prescribed Signature of Contractor form. Such an Agreement shall be independent of this contract and the supply of machinery shall not form a ground for any claim or extension of time limit for this work.

16 CO-ORDINATION

When several agencies for different sub-works of the project are to work simultaneously on the project site, there must be full co-ordination and co-operation between different contractors to ensure timely completion of 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, housing etc. if they so desire, on the other hand the contractors are at liberty to come to mutual agreement in this behalf and make joint arrangement with the approval of the Engineer. No single contractor shall take or cause to be taken any steps or action that may cause disruption, discontent or disturbance to work, labour or arrangements etc. of other contractors in the project localities. Any action by any contractor which the Engineer in his unquestioned discretion may consider as infringement of the above code would be considered as a breach of the contract conditions and shall be dealt with accordingly.

In case of any dispute or disagreement between the contractors, the Engineer's decision regarding the co-ordination, co-operation and facilities to be provided by any of the contractors shall be final and binding on the contractors concerned and such a decision or decisions shall not vitiate any contract nor absolve the contractor(s) of his/their obligations under the contract nor form the grounds for any claim or compensation.

17. PATENTED DEVICE

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

18. PAYMENT

The contractor must understand clearly that the rates quoted are for completed work and include all cost due to labour, scaffolding, plant, machinery, supervision, power, royalties, taxes etc. and should also include all expenses to cover the cost of height work as and when required and no claim for additional payment beyond the prices or rates quoted will be entertained. The mode of measurement has been indicated in the specifications. If there is any ambiguity or doubt in this respect, the decision of Engineer In Charge will be final.

No of Bills : 5 Running Account Bills Each of 1 Crore and One Final Bill

19. SUPERVISION AND INSPECTION OF WORKS AND QUALITY CONTROL:-

19.1 SUPERVISION :-

The Contractor shall either himself supervise the execution of the works or shall appoint the competent agent approved by the Engineer-in-charge, to act on his behalf. If in the opinion of the Engineer-in-charge, the Contractor has himself no sufficient knowledge and experience of receiving instructions or cannot give his full attention to the works, the Contractor shall at his own expenses employ as his accredited agent & qualified Engineer approved by the Engineer-in-charge. Orders given to the Contractor's agent shall be considered to have the force as if these had been given to the Contractor himself. If the Contractor fails to appoint a suitable agent as directed by the Engineer-in-charge, the Engineer-incharge shall have full power to suspend the execution of the work until such date a suitable agent is appointed and the Contractor shall be responsible for the delay so caused to the works and the Contractor shall not be entitled for

19.2 INSPECTION:-

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 affecting the further progress of the work. 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. Approval of materials or workmanship or approval of part of the work during the progress of execution shall not bind the Engineer-in-charge or in any way affect him even to

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reject the work which is alleged to be completed and to suspend the issue of his certificate of completion until such alteration and modifications 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.

The Contractor shall provide at his cost necessary ladders and such arrangements as to provide necessary facilities and assistance for proper inspection of all parts of the work at his own cost.

19.3 TEMPORARY QUARTERS:

i) The contractor shall at his own expense maintain sufficient experienced supervisory staff etc. Required for the work and shall make his own arrangement, provide housing for them with all necessary arrangements, including fire preventive measures etc. as directed by the Engineer-in- charge.

ii) The contractor shall provide, furnish, maintain and remove on completion of the work, a suitable office on the work-site for the use of Engineer In Charge's representative. The covered area for office exclusive of varandha should not be less than 24 Square Metre and height 3.0 meter It have Brick masonry walls and asbestos or corrugated iron roof, paved floor should be 18" above ground level. He should provide a basket type latrine, urinals and keep them clean, daily. The contractor shall have provide Laboratory (with ref. books & I.S. codes) at site of size 6.0 m x 6.0m minimum and height 3.0 meter at work site. The office and Laboratory structures shall be semi-permanent type. This will be supposed to be included in his rates.

19.4 SAFETY MEASURES AND AMENITIES:

While executing the work, necessary precautions regarding safety of labour, supervisory staff, public and traffic users shall be taken by the agency according to rules and regulations specified by the Government of India /Government of Maharashtra and as directed by District Court, Jalna

1) The contractor shall take all necessary precautions for the safety of the workers and preserving their health while working in such job as require special protection and precautions. The following are some of the requirements listed, though no

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exhaustive. The contractor shall also comply with the directions issued by the Engineer in this behalf from time to time and at all times.

2) Labour License : It shall be obligatory on the part of the contractor to obtain the necessary labour License from the labour department within fortnight of issue of work order.

3) Providing protective foot-wear to workers, in situations like mixing and placing of mortar of concrete in quarries and places where the work is done under too much of wet condition as also for movements over surfaces infected with Dyster growth etc.

4) Providing protective headwear to workers, working in quarries etc. to protect them against accidental fall of materials from above.

5) Taking such normal precautions like providing hand rails at the edges of the floating platform or barges, not allowing nails or metal parts or useless timber to spread around etc.

6) Supporting workmen with proper belts, ropes etc. when working on any masters, cranes grabs, hoist, dredgers etc.

7) Taking necessary steps towards training the workers concerned in the use of machinery before, they are allowed to handle it independently and taking all necessary precautions in and around the areas where machines, hoists and similar units are working.

8) Providing adequate number of boats (of at all required for playing water) to prevent overload and over-crowding.

9) Providing life belts to all men working in such situation from where they may accidentally fall into the water, equipping the boats with adequate number of life belts etc.

10) Avoiding bare live wires etc. As would electrocute workers.

11) Making all platforms, staging and temporary structures sufficiently strong so as not to cause inconvenience and risk to the workmen and supervisory staff.

12) Providing sufficient first aid trained staff and equipment to be available quickly at the work site to render immediate first aid treatment in case of accidents due to suffocations, dropping and other injuries.

13) Take all necessary precautions with regard to use of divers.

14) Providing full length gum boots, leather hand gloves with fire proof pron to cover the chest and back reaching upto knees and protective goggles or the eyes to the labourers working with hot asphalt handling vibrator in cement concrete and also where use of any or all these items is beneficial in the interest of health and well being of the labours in the opinion of the Engineer.

20. EXPLOSIVES :-

The Contractor shall at his own expense construct and maintain proper magazines, if such required for the storage of explosives for use in connection with the works, and such magazine, being situated constructed and maintained in accordance with the Government Rules applicable in that behalf. The contractor shall at his own expenses obtain such Licenses as may be necessary for storage of explosives are approved by the Engineer, the Government shall not be incurring any responsibility whatever in connection with storage and use of explosives on the size or any accident or occurrence whatsoever in connection therewith, all operations in or for which explosives are deployed being at the risk of the contractor and upon his sole responsibility and the contractor here by gives to Government an absolute indemnity in respect thereof.

21. DAMAGE BY FLOODS OR ACCIDENTS :-

The contractor shall take all precautions against damage by floods or like or from accident etc. No compensation will be allowed to the Contractor on this account or for correcting and repairing any such damage to the work during construction. The contractor shall be liable to make good at his cost any plant or materials belonging to the Government, lost or damaged by floods or from any other cause which is in his charge.

22. RELATION WITH PUBLIC AUTHORITIES :-

The contractor shall comply with all rules, regulation, bye-laws and direction given from time also by any local public authority in connection with this work and shall himself pay fees or charges which are leviable on him without any extra to the Department.

23. POLICE PROTECTION:

For the Special Protection of camp and the contractor's works, the MPCB will help the contractor as far as possible to arrange for such protection with the concerned authorities if so required by the Contractor in writing. The full cost of such protection shall be borne by the contractor.

24 MEDICAL AND SANITARY ARRANGEMENTS TO BE PROVIDED FOR LABOUR EMPLOYED ON THE CONSTRUCTION BY THE CONTRACTOR

- a) The contractor shall provide an adequate supply of potable water for use of labourers on work and in Camps.

- b) The contractor shall construct trench or semi permanent latrines for the use of the Labourers. Separate latrines shall be provided for men and women.

- c) The contractor shall build sufficient number of huts on a suitable plot of land for use of the Labourers according to the following specifications :-

1. Huts of Bamboos and Grass may be constructed.

A good site not liable to submergence shall be selected on high ground remote from jungle but well provided with trees, shall be chosen where it is available. The neighborhood of tank, jungle, grass or woods should be particularly avoided. Camps should not be established close to large cuttings of earth work. The lines of huts shall have open spaces of at least ten meters between rows. When a good natural site cannot be procured, particular attention should be given to the drainage. There should be no overcrowding. Floor space at the rate of 30 Sq.ft. Per head shall be provided. Care should be taken to see that the huts are kept clean and in good order.

The Contractor must find his own land and if he wants Government land, he should apply for it and pay assessment for it, if made available by Government.

The contractor shall construct a sufficient number of bathing places. Washing places should also be provided for the purpose of washing clothes. The Contractor shall make sufficient arrangements for draining away the surface and sewage water as well as water from the bathing and washing places and shall dispose off this waste water in such way as not to cause any nuisance.

The contractor shall engage a Medical officer with a traveling dispensary for a Camp containing- 500 or more persons if there is no Government or other private dispensary situated within 8 kilometers from the Camp. In case of emergency the contractor shall arrange at his cost for transport for quick medical help to his sick worker.

The Contractor shall provide the necessary staff for effecting a satisfactory drainage system and cleanliness of the camp to the satisfaction of the Engineer. At least one sweeper per 200 persons should be engaged. The Assistant Director of Public Health shall be consulted before opening a labour camp and his instruction on matters such as water supply sanitary conveniences, the camp site accommodation and food supply shall be followed by the Contractor.

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2 . The contractor shall make arrangement for all anti-malaria measures to be provided for the labour employed on the work. The anti-malaria measure shall be provided as directed by the Assistant Director of Public Health.

25. QUARRIES :-

25.1 The quarrying operations shall be carried out by the Contractor with proper equipment such as compressors. Jack-hammers, drill bits, explosives etc. and sufficient number of workmen shall be employed so as to get the required out turn.

25.2 The Contractor shall carry out the works in the quarries in conformity with all the rules and regulations already laid down or may be laid down from time to time by Government. Any cost incurred by Government due to noncompliance of any rules or regulations or due to damages by the contractor shall be the responsibility of the Contractor. The Engineer- in-charge or his representative shall be given full facilities by the Contractor for inspection at all times of the working of the quarry, records maintained, the stocks of the explosives and detonators etc. so as to enable him to check that the working records and storage are all in accordance with the relevant rule. The Engineerin- charge or his representative shall at any time be allowed to inspect the works, buildings, and equipment at the quarters.

25.3 The Contractor shall maintain at its own cost, the book registers etc. required to be maintained under the relevant rules and regulations and as directed by the Engineer-in-charge. These books shall be open for inspection at all times by the Engineer-in-charge or his representative and the Contractor shall furnish the copies or extracts of books or register as and when required.

25.4 All quarrying operations shall be carried out by the Contractor in organized and expeditious manner systematically and with proper planning. The Contractor shall engage licensed blaster and adopt electric blasting and/or any other approved method which would ensure complete safety to all the men engaged in the quarry and its surroundings. The Contractor shall himself provide suitable magazines and arrange to pre and store explosive etc. as required under the rules at his own cost. The designs and the location of the magazine shall be got approved in advance from the Chief Inspector of Explosives and the rules and regulations in this

connection as laid down by the Chief Inspector of Explosives from' time to time shall be strictly adhered to by the Contractor. It is generally experienced that it takes time to obtain the necessary license for blasting & license for storage of material from the concerned authorities. The contractor must therefore take timely advance action for procuring all such licenses so that the work progress may not be hampered.

25.5 The approaches to the quarrying place from the existing public roads shall have to be arranged by the Contractor at his own cost, and the approach shall be maintained by the contractor at his own cost till the work is over.

25.6 The quarrying operations shall be carried out by the Contractor to the entire satisfaction of the Engineer-in-charge and the development of the quarry shall be made efficiently so as to avoid wastage of stones. Only such stones as are of the required quality shall be used on the work. Any stone such is in the opinion of the Engineer-in-charge, not in accordance with the specifications or of required quality will be rejected at any time, at the quarry or at the site of work. The rejected stones shall not be used on the work and such rejected materials shall be removed to the place shown at the Contractor's cost.

25.7 Since all stones quarried from Government quarry (if made available) by the contractor including the excavated over burden are the property of the Govt. no stones or earth shall be supplied by the Contractor to any other agencies or works are allowed to be taken away for any other works. All such surplus quarried materials not required for work under this contract shall be the property of the Govt. And shall be handed over by the Contractor to Government free of cost at quarry site duly heaped at the spots indicated by the Engineer-in charge. The contractor will be entitled to the refund of royalty if any, paid by him for such quantity handed over to Govt. for which necessary certificate will be issued by Engineer In Charge as per usual procedure, if however, the Government does not required such surplus material the contractor may be allowed to dispose off or such surplus material elsewhere with prior written permission of Engineer-in-charge. Leaving off a quarry face or opening of a new quarry face shall be done only on the approval of the Engineer-in-charge.

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25.8 Quarrying permission will have to be directly obtained by the Contractor, from the Collector of the District concerned for which purpose the MPCB will render necessary assistance. All quarry fees, royalty charges, octroi duties, ground rent for staking material etc. and charges shall be paid directly to Revenue MPCB by the contractor as per rules in force. If it is not paid by contractor the same will be recovered from his bills.

25.9 The contractor will be permitted to erect at his own risk and cost at the quarry site if suitable vacant space of Government area is available for the purpose, his own structures for stores, offices etc. At places approved by the Engineer- in-charge. On completion of the work the contractor shall remove all the structures erected by him and restore the site to its original condition.

25.10 The Contractor shall not use any Sand in the quarry either for cultivation or for any other purpose except that required for breaking or stacking or transporting stones.

26 TRAFFIC REGULATION / ARRANGEMENT FOR TRAFFIC DURING CONSTRUCTION

Action for arrangement for traffic during construction will be taken by the Contractor as envisaged in the contract documents and spelt out in clause 112of MORTH Specification for Road and Bridge Work (2001)

26.1 Unless separately provided for in the contract, the Contractor shall have to make all necessary arrangements for regulating traffic, day to night during the period of construction to the entire satisfaction of the Engineer. This includes the construction and maintenance of diversions if necessary. The contractor shall have to provide necessary caution board, barricades, flags, light and watchmen etc. So as to comply with the latest Motor Vehicles rules and Regulation and for Traffic Safety and he shall be responsible for all claims from accidents which may arise due to his negligence whether in regulating the traffic or in stacking material on the roads, or due to any other reasons.

26.2 It is to be clearly understood that whatever work carried out by the Contractor for construction of diversion road including earthwork, W.B.M. bituminous surface dressing. R.C.C pipe drains etc. Will be paid for only once. If due to flow of traffic, due to floods or due to any other cause, this diversion road and/or the R.C.C drain gets damaged it shall be repaired and maintained by the Contractor in good condition till completion of the whole work at his own expenses.

27. PROCUREMENT OF MATERIALS:-

27.1 Where suitable and approved P.W. Department's quarries exist, the Contractor or piece worker will be allowed if otherwise there is no objection to obtain the materials to the extent required for the work from the quarry. He will be however, liable to pay compensation. If any damage is caused to the quarry either deliberately or through negligence or for wastage of materials by himself or his staff or labour.

27.2 Where no suitable Government quarries exist or when the quantity of the material required cannot be obtained from a P.W. Department quarry the Contractor or pieceworker shall make his own arrangements to obtain the material from existing or a new quarry in Government waste land, private land or land belonging to other States or Talukas, etc. After opening the quarry but before starting collection the quarry shall be got approved by the Engineer-in-charge or his representatives. The Contractor or piece worker shall pay all royalty charges compensation etc. No claims or responsibility on account of any of obstructions caused to execution of the work by difficulties arising out of private owners of land will be entertained.

27.3 The rates in the tender include all incidental charges such as opening of a new quarry, opening out a new portion in an existing quarry, removing top soil and the unsuitable material, dewatering a quarry, cost of blasting powder and fuse, lift, lead, repairs to existing cart tracks, making new cart tracks, control charges, Central/State Government or Municipal taxes, Local Boards, Cess, etc.

27.4 The rates in the tender are for the delivery of the approved material on road side properly stacked at the places specified by the Engineer-in-charge and are inclusive of conveyance charges in respect of the leads and lifts. No claims on account of changes in lead will be entertained.

27.5 No material shall be removed from the land within the road boundary or from the land touching it without the written permission of the Engineer-in-charge of his authorised agent. If any materials is un-authorised obtained from such places the Contractor or piece worker shall have to make good the damages and pay such compensation, in addition as may be decided by the Engineer In Charge and will have to stop further collection.

27.6 Any material that falls on any P.W.D. Road from the cart etc. during conveyance shall be immediately picked up and removed by the Contractor or piece worker, failing which it will be got removed Departmentally at his cost. No heap shall be left prior to checking even temporarily on the road surface or in any way so as to cause any obstruction or danger to the traffic. The Contractor or the piece worker shall be liable to pay for any claims of compensation etc. arising out of any accident, etc. Any such materials causing obstruction or danger etc. will be got removed Departmentally at his cost and no claims for any loss or damage to the material, thus removed, will be entertained. The Contractor shall also be responsible for the damage or accident etc. arising out of any material that falls on the road or track, not in charge of the MPCB and shall attend to any complaint which may be received otherwise authorised by Engineer in writing. Collection and spreading shall not be carried out at the same time in one and the same mile or in to adjoin in Km. except with the return permission of the Engineer In Charge.

27.7 Unless otherwise directed, the materials shall be collected in the following orders availability of space :-

- 1) Rubble (if included in tender)
- 2) Metal
- 3) Soft murum
- 4) Hard murum

Shall be stacked on the side opposite for petty repairs and shall be stacked on the side opposite to metal for new layer. Where metal for two layers has to be stacked as in the case of new roads, the metal for each layer shall be stacked on the opposite sides of the road.

27.8 All road material shall be examined and measured before it is spread. The labour for measurements (and check measurements where ever carried out) shall be supplied by the contractor or place worker. Immediately after the measurements are recorded the stacks shall be marked by the contractor or piece worker by who wash or otherwise as may be directed by the Engineer In Charge to prevent from any authorised tampering with the stacks. If the contractor or piece worker fails to attend the measurements after receiving the notice from Sub-divisional officer or his subordinate stating date and time of the intention to measure work, shall be measured nevertheless and no complaint in this respect will be entertained later on. If the contractor or piece worker fails to supply sufficient labour for the materials required at the time of measurements or check measurements, after due notice has been given to him, the expenses incurred on account of employing MPCB labour or material etc. shall be charged against his account.

27.9 No deduction will made for voids.

27.10 The materials shall not be Stacked in place where it is liable to be damaged or lost due to traffic passing Over it, to be washed away by rain or floods, to be buried under the landslides etc. or slip down an embankment or hill side etc. No claims for any loss due to these and similar causes will be entertained.

27.11 Before stacking, the materials shall be free from all earth, rubbish vegetable matter and other extraneous substance and in the case of metal, screened to gauge, if so directed when ready. It shall be stacked entirely clear of the road way, on ground which has been cleaned of vegetation and leveled. On high banks, ghat roads etc. where it may not be practicable to stack it entirely clear of the roadway it may be stacked with the permission of the Engineer-in-charge on terms in such a way as to cause minimum danger and obstruction to the traffic or as may be directed by him.

27.12 The size of the stacks for materials other than rubble shall be 3.00m x 1 .50m x 0.80m or such other size as may be directed by the Engineer- in-charge and all but one stack in 200 M. shall be of the same uniform size and shall be uniformly distributed over whole lengths. One stack (at the end) in each 200 M may be of length different from the rest in order to adjust total quantity to be required but its width and height will be the same as those of the rest.

27.13 The Sub Divisional Officer shall supply the Contractor with statement showing furlong wise quantities that will be required and the order in which the collection is to be done. No materials in excess of requirements in that furlong shall be stacked. Any excess quantity shall be removed at the expenses of the Contractor or piece worker to where it is required before the material in thatfurlong is finally measured.

27.14 In slacking materials the deposition shall commence at the end of the KM fastest from the quarry and be carried continuously to the other end (unless otherwise directed by the Engineer In Charge). Stacking in one 200 M shall be completed before it is started in another, unless directed otherwise, in writing by the Engineer In Charge. Measurements of the materials stacked in a furlong will not be recorded until the full quantity required has been stacked.

27.15 All the materials such as asphalt, cement, steel etc. shall be procured by the contractor from approved Government Institutions or as directed by Engineer in charge only. The materials shall be brought at the site of work well in advance by the contractor. The contractor shall be responsible for all transportation and storage of the materials at the site and shall bear all the related costs. The Engineer shall be entitled at any time to inspect or reasonable assistance.(or such inspection as may be required)

27.16 After receiving bitumen, the authorized challan / gate pass should be obtained from the refinery mentioning the quantity of bitumen, rate of bitumen, date of delivery etc. And it should be handed over to the MPCB for each consignment.

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Similarly the invoice of cement etc. shall be given to the authorised representative of the Engineer in -charge immediately on procurement of the materials.

27.17 The day to day record of the receipt / utility balance of material should be kept by the contractor in the form of register for each material like asphalt, cement, steel at plant site / site of work / store and the same will be checked by the Engineer-in-charge or authorised Engineer at anytime. This register shall be signed daily by the contractor or his representative and representative of Engineer-in-charge. The contractor shall submit periodically as well as on completion of work an account of all materials used by him on the work to the Engineer-in-charge.

27.18 While transportation of bouzer, transport pass should be obtained from those corporation / municipality through whose limits the bouzer is passed and should be handed over to the authorised representative of the department.

27.19 The procurement of cement / steel etc. should be from authorized manufacturing company / institutions and vouchers regarding purchase thereof shall be submitted to the Engineer-in-charge. The material from any other source other than the approved institutions shall not be allowed unless written permission from the Engineer In Charge is taken. In such cases certificate for test, quality shall be produced by the contractor and samples of materials shall be tested from any Government laboratory by the contractor at his cost and the test results be supplied to the department. The materials not conforming to the required standard shall be removed at once from the Site of work by the contractor at his own cost. All the materials such as asphalt, cement etc. required for use In the work shall be confirmed from the concerned 1000 of M.O.R.T.H. specifications. These materials shall be used on work by the contractor only after the tests thereof are found satisfactory. The responsibility of carrying out tests to the frequencies specified for each material shall rest with the Contractor. The R.C.C. pipes required for the work shall be procured from the Maharashtra Small Scale Industrial Development Corporation only. The payment towards the item of providing and fixing NP2 / NP3 / NP4 Pipes will be released only after the contractor submits the bills of MSSIDC to authenticate that the pipes have been purchased from the MSSIDC. No payment

toward the item of providing and laying of pipe will be released in absence of the submission of requisite documents.

27.20 Any consignment or part of consignment of cement which is dilapidated in any way shall not be used in the works and shall be removed from the site by the contractor without charge to the employer.

27.21 Cement shall be transported and handed and stored on the site such a manner as to avoid deterioration, contamination. Each consignment shall be stored separately so that it may be readily identified and inspected. Cement shall be used in the sequence in which it's delivered at site.

27.22 The contractor shall prepare and maintain proper records on the site in respect of deliver, handling, storage and use of cement and these records shall be made available for inspection by the Engineer at all times.

27.23 The contractor shall construct at his own cost shed / sheds as per directions of the Engineer-in-charge for storing the material and providing double locking arrangements. (one lock of MPCB and other of the Contractor) Materials shall be taken out from stores only in presence of authorised representative of the Engineer-in-charge. The store shed constructed on site shall be removed on completion of work. The contractor shall take all necessary steps to guard the materials brought by him.

27.24 Cement to be used in the works shall be any of the following types with the prior approval of the Engineer. Ordinary Portland cement conforming to IS 8 112 (latest edition) Ordinary / Portland cement conforming to IS 12269 (latest edition)

27.25 TMT FE-500 grade conforming to I.S. 1786 shall be used for reinforcement.

27.26 Bulk bitumen of IS grade VG-30 grade shall be used.

27.27 Asphalt VG-30 grade confirming to IS 8887 of 1995 shall be used for tack coat.

27.28 The contractor shall make his own arrangement for the self custody of the materials brought by him on the site of work.

27.29 The charges for conveying of the material from the place of the purchase by the contractor to the site of work and the actual spot of work shall be entirely borne by the contractor, No claim on this account shall be entertained.

27.30 Register showing dispatch of bituminous load from the plant, vehicle No., time of dispatch, temperature at the time of dispatch etc. shall be kept in prescribed form at hot mix plant site. Similarly register showing the time, temperature of the mix at the site shall be kept the authorised representative of the contractor shall fill both these registers. These shall be signed by the Contractor everyday in token of acceptance The maintenance of these registers does not absolve the contractor of his contractual obligation towards quality of the work.

27.31 The contractor should ensure that all safety precautions are observed by the labours while handling the materials and precautions. For their labour at the cost of the contractor and the contractor will bear all the expenses compensation etc. If any incident occur to the labour etc. no claim in this regard what-so-ever shall be entertained and the decision of the MPCB will be final and conclusive.

27.32 In case the materials become surplus owing to the change in the design of the work after the materials are brought by the contractor, no claim in this regard will be entertained and the contractor will be required to take away such materials from the site.

27.33 The contractor should arrange for weighment of the bouzer if desired by the Engineer in charge. The weighment shall be done in the presence of representative of the MPCB at the cost of the contractor.

27.34 The weight of the steel bars used on the work will be calculated on the basis of standard weight per unit length vide IS. 1732. No wastage of steel will be considered at all. Cut pieces of the steel irrespective of the length will be the

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property of the contractor and no claim whatsoever in this regard shall be entertained. The consignment of the steel brought by the contractor having weight less than the standard weight per unit length of the bar as mentioned above will not be accepted. For this purpose random sample will be tested by the Engineer In Charge and the decision of the Engineer In Charge shall be binding on the contractor, if the steel received is over weight (more than standard weight per running meter length) no extra payment will be made and no claim in this regard whatsoever shall be entertained

27.35 No claims on account of cement or steel rods used for ancillary works on Site of- work shall be entertained.

27.36 All the materials to be brought on site shall be brought only on working days and in presence of an authorized representative of the Engineer-in -charge.

27.37 All the materials such as cement, mild steel, H.Y.S.D. Bars, TMT Bars etc. required for execution of work shall be brought by the contractor at his own cost.

27.38 The contractor shall maintain the record of these materials (cement, steel etc.) in the prescribed proforma and registers as directed by Engineer-incharge. The sample of prescribed proforma is attached at the end. These registers shall be signed by both the contractors and representative of the Engineer-in- charge. These registers shall be made available for inspection, verification for the MPCB as and when required. These registers shall be in the custody of MPCB and shall be maintained by the Department.

27.39 The material required only for this work shall be kept in the go-down at site. No material shall be shifted outside of the go-down site except for the work for which this agreement is entered without prior approval of the Engineer-incharge.

27.40 The materials i.e. cement, steel etc. brought on the work site shall be accompanied with necessary company/manufacturing firm's test certificates. In addition these materials shall be tested as per frequency prescribed by the MPCB and the cost of such testing shall be borne by the contractor. If the test results are

satisfactory, then and then only the material shall be allowed to be used on the work. If the test results are not as per standards prescribed, these materials shall be immediately removed from the work site at the contractor's cost. In case of cement, if so requested by the contractor in writing, material shall be allowed to be used before receipt, of test results but this will be entirely at the risk and cost of the contractor.

27.41 The contractor shall produce sufficient documentary evidence i.e. bill for the purchase of materials brought on the work site at once if so required by the department.

27.42 All these materials i.e. cement, steel etc. shall be protected from any damages rains etc. by the contractors at his own cost.

27.43 The contractor will have to erect temporary shed of approved specifications for storing of above materials at work site at contractor's cost having double locking arrangements (By double lock it/s meant that go-down shall always be locked by two locks, one lock being owned and operated by contractor and other by Engineer-in charge or his authorised representative) and the door shall be open able only after both locks are opened.

27.44 If required, the weighment of cement bags I steel etc. brought by the contractor shall be carried out at his own cost.

27.45 The contractor shall not use cement and other material for the item to be executed outside the scope of this contract except for such ancillary small items as are connected and absolutely necessary for this work as may be decided by the Engineer-in-charge.

27.46 The Government shall not be responsible for the loss in cement and steel during transit to work site. The cement brought by the contractor at the work site store shall mean 50 Kilogram equivalent to 0.0347 cubic meter per bag by weight. The rate quoted should correspond to this method of reckoning. In case of ordinary

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I Controlled concrete, if cements found short, the shortage I shortages wilt be made good by the contractor at his cost.

27.47 Special Condition for B.T. work : In respect of Black Top Work, 15% (Fifteen Percent) payment of Black Top in a particular Km. shall be retained till completion of side berms / C.D. Works, 5th Km. stone, Km.stone, 200meter stone etc. in that km. After completion of other items satisfactorily, the withheld payment will be released finally.

27.48 For Grade –I /Grade-II / Grade –III / WBM and for BUSG work metal shall be supplied at site only after screening it on “mechanical vibratory screening unit”. The special “mechanical vibratory screening unit” arrangement shall consist of main input hopper to receive raw metal, conveyor belt to transport it to the “mechanical vibratory screening unit”. The “mechanical vibratory screening unit” shall have required number of trays, sieves/decks as directed by the Engineering in charge. The output of “mechanical vibratory screening unit” shall be conveyed to “storage Unit” where metal of different sizes, shall be stored separately. Metal so supplied shall undergo all the tests as per the specifications. As a input to the main input hopper, contractor may use hand broken metal or output of primary crusher / cone crusher of size or equivalent to not less than 24“x18” The metal so supplied from the “mechanical Vibratory screening unit” at site shall not exempt the contractor from carrying out tests as specified in the specifications.

28. MISCELLANEOUS:-

28.1 Rate shall be inclusive of General Tax and other taxes etc **but excluding GST.**

28.2 For providing electric wiring or water lines etc. recesses shall be provided if necessary, through walls, slabs, beams etc. and later on refilled up with bricks or stone chipping, cement mortar without any extra cost.

28.3 In case it becomes necessary for the due fulfillment of contract for the Contractor to occupy land outside the Dept. Limits, the Contractor will have to make

his own arrangements with the land owners and to pay such rents if any are payable as mutually agreed between them.

The MPCB will afford the Contractor all the reasonable assistance to enable him to obtain Govt. Land for Such purpose on usual terms and conditions as per rules of Government.

28.4 The special provision in detailed specifications or wording of any item shall gain precedence over corresponding contradictory provision (if any) in the standard specifications or P.W.D. Hand book where reference to such specifications is given without reproducing the details in contract.

28.5 Suitable separating Barricades and enclosures shall be provided to separate material brought by contractor and material issued by Government to contractor under Schedule "A" Same applies for the material obtained from different sources of supply.

28.6 It is presumed that the Contractor has gone carefully through the Standard Specifications of P.W.D. Hand Books and the Schedule of Rate of the Division and studied the site condition before arriving at rates quoted by him. Decision of the Engineer-in-charge shall .be final as regards interpretation of specifications.

28.7 The stocking a storage of construction material at site shall be in such a manner as to prevent deterioration or intrusion of foreign matter and to ensure the preservation of their quality, properties and fitness of the work. Suitable precautions shall be taken by the Contractor to protect, the material against atmospheric actions, fire and other hazards. The materials likely to be carried away by wind shall be stored in suitable stores or with suitable barricades and where there is likely hood of subsidence of soil, such heavy materials shall be stored on approved platform.

28.8 For Road and Bridge works, the contractor shall in addition to the specifications cited here, comply with requirements of relevant I.R.C. Code of Practice.

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28.9 The Contractor shall be responsible for making good the damages done to the existing property during construction by his men.

28.10 If it is found necessary from safety point of view to test any part of the structure, the test shall be carried out by the Contractor with the help of the MPCB at his own cost.

28.11 The contractor shall provide, maintain, furnish and remove on completion, temporary shed for office on work site for the use of Engineer In Charge's representative.

28.12 Defective work is liable to be rejected at any stage. The contractor, on no account can refuse to rectify the defects merely on reasons that further work has been carried out No extra payment shall be made for rectification.

28.13 General directions or detailed description of work, materials and items coverage of rates given in the specification are not necessarily repeated in the Bill of Quantities. Reference is however, drawn to the appropriate section clause(s) of the General Specifications in accordance with which the work is to be carried out.

28.14 In the absence of specific directions to the contractor, the rates and prices inserted in the items are to be considered as the full inclusive rates and prices for the finished work described there under and are to cover all labour materials, wastage, temporary work, plant, overhead charges and profits, as well as the general liabilities, obligations and risks arising out of the General conditions of contract.

28.15 All measurements will made in accordance with the methods indicated in the specification, and specification read in conjunction with the General Conditions of Contract.

28.16 The details shown on drawings and all other information pertaining to the work shall be treated and provisional only and are liable to variation as found necessary while preparing working drawing which will be supplied by the Government during execution. The contractor shall not, on account of such variation be entitled to any increase over the ones quoted in the tender which are on quantity basis.

28.17 The recoveries if any from contractor will be effected as arrears of land revenue through the Collector of the District.

28.18 Protection of underground telephone cable and aerial telephone wires and poles, transmission towers, electrical cables, and water supplying lines. It will therefore be the responsibility of the contractor to protect then carefully all such cases should be brought to the notice of the Engineer-in-charge by the contractor and also the concerned department, any damage what so ever done to these cables and pipe lines by the contractor shall be made good by him at his cost.

28.19 Public Utilities:

Action in respect of public utilities will be taken by the Contractor as envisaged in Clause 110 of Ministry's Specifications for Road and Bridge work (5th Revision, 2013).

29. PAYMENTS AND MEASUREMENTS:-

29.1 PAYMENT:

The contractor must understand clearly that the rates quoted are for completed work and include all costs due to labour, scaffolding, plant, machinery, supervision, power, Royalties, octroi, taxes etc. And should also include all expenses to cover the cost of night work if and when required and no claim for additional payment beyond the prices or rates quoted will be entertained. The mode of measurements has been indicated in the specification and in the schedule of payments, if there is any ambiguity or doubt in this respect the decision of Engineer In Charge will be final.

29.2 Two payments in a month will be granted by the Engineer-in-charge for construction of Bridge, if the progress is satisfactory, and shall be made as per, accepted payment schedule.

29.3 Ground levels will be taken by the usual method and by Departmental staff in presence of contractor's representative. Required labour etc. for this shall be supplied by the contractor, in case of slushy portion, the ground levels shall be taken by erecting the leveling staff on wooden plank (0.5 x 0.5metre, 2.5 cm. thick) without claiming extra for cost of plank or by any other mutually agreed method.

30. PRELIMINARY ARRANGEMENTS: -

30.1 The Contractor if necessary construct temporary roads and maintain these in proper condition till the completion of the work at his own cost. If necessary, he shall also, at his own expenses make necessary arrangements for acquisition of land required by him in connection with the execution of the work.

30.2 The contractor shall have to makes at his own cost all preliminary arrangements for labour, water electricity and materials etc. immediately after getting the work order. No claim for any extra payment or application for extension of time on the grounds of difficulty in connection with the above matter, will be entertained,

30.3 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 of damages and also for prohibiting trespassers or damage to them.

30.4 The contractor shall have to make his own arrangement for water required for any purpose on the work.

31. INSPECTION :-

31.1 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 inspection to inspect the same without affecting the further progress of the work. 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 materials or workmanship or approval of part of the work during the progress of execution shall bind the Engineer-in-charge or in any way affect him even to reject the work which is alleged to be completed and to suspend the issue of his certificate of completion until such alterations and modifications 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.

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31.2 The contractor shall provide at his cost necessary ladders and such arrangements as to provide necessary facilities and assistance for proper inspection of all parts of the work at his own cost.

31.3 The contractor after completion of work shall have to clean the site, of all debris and remove all unused materials other than those supplied by the MPCB and all plant and machinery, equipment, tools etc. belonging to him within one month from the date of completion of the work, or otherwise the same shall be removed by the MPCB at his cost and the contractor shall not be entitled for payment of any compensation for the same.

32. ACCIDENT :-

In the event of an accident involving serious injuries or damages to human life or death of any of his employees and or labourers or tress passers, the same will be reported within 24 hours of the occurrence to the Engineer In Charge and the Commissioner of workmen's compensation.

33. PLANT:-

All constructional plant, provided by the contractor shall when brought on to the site be deemed to be exclusively intended for the construction of this work and the contractor shall not remove the same or any part thereof (Say for the purpose of moving it from one part of the site to another or the repairs etc.) without the consent in writing of the Engineer-in-charge which shall not be unreasonably with-held. The concreting shall be done by the ready mix batch type concrete mixer diesel or electrically operated with a minimum size of 200 litres with automatic water measuring system and integral weigher (Hydraulic or pneumatic type one). This RMC Plant may be of portable type.

34. EXCEPTED RISKS :-

34.1 The contractor shall be under no liability whatsoever by way indemnity or otherwise for or in respect of destruction of-or damage to the works (save work condemned under the provisions of specifications and conditions of this tender prior to the occurrence of any excepted risk hereinafter mentioned) or temporary works

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or to property whether of the MPCB or third parties or for or in respect of injury or loss of life which is the consequence whatever direct or indirect, were hostilities (whether were to declared or not) invasion, act of foreign enemies, rebellion, revolution, insurrection or military of usurped power. Civil war or riot, commotion or disorder otherwise than among the contractor's own employees or his piece worker and sub-agencies (hereinafter comprehensively referred to as "The said excepted risks") and the MPCB shall indemnify and save harmless the contractor against and' from the same and against and from all claims, demands proceedings, damages, costs charges and expenses, whatsoever arising there out or in connection therewith and shall compensate the contractor for any loss of or damage to property of the contractor used for intended to be used / or the purpose of the works and laying at site of work and occasioned either directly or indirectly by the said excepted risks.

34.2 If the works or temporary works or any materials (whether for the former or the later brought to site shall sustain destruction or damages by reasons of any of the said excepted risks, the contractor shall be entitled payment for any permanent works and for any materials so destroyed or damaged and shall be paid by the MPCB the cost of making good any such destruction or damages whatever to the works or temporary works and for replacing or making good such materials so far as may be necessary for the completion of the works on a prime costs basis as the Engineer-in-charge may certify to be reasonable. The contractor shall lodge his claim, in writing, supported by Engineer-in-charge immediately, but not later than 30 days of such occurrence of damage to works by excepted risk

34.3 Destruction, damage injury or loss caused by the explosion or impact whenever and wherever occurring of any mine bomb, shell, grenade or other projectile missile or ammunition or explosive or war resulting from action described in above shall be deemed to be a consequence of the. Said excepted Risk. foreign enemies, rebellion, revolution, insurrection or military of usurped power. Civil war or riot, commotion or disorder otherwise than among the contractor's own employees or his piece worker and sub-agencies (hereinafter comprehensively referred to as "The said excepted risks") and the MPCB shall indemnify and save harmless the contractor against and' from the same and against and from all claims, demands

proceedings, damages, costs charges and expenses, whatsoever arising there out or in connection therewith and shall compensate the contractor for any loss of or damage to property of the contractor used for intended to be used / or the purpose of the works and laying at site of work and occasioned either directly or indirectly by the said excepted risks.

34.2 If the works or temporary works or any materials (whether for the former or the later brought to site shall sustain destruction or damages by reasons of any of the said excepted risks, the contractor shall be entitled payment for any permanent works and for any materials so destroyed or damaged and shall be paid by the MPCB the cost of making good any such destruction or damages whatever to the works or temporary works and for replacing or making good such materials so far as may be necessary for the completion of the works on a prime costs basis as the Engineer-in-charge may certify to be reasonable. The contractor shall lodge his claim, in writing, supported by Engineer-in-charge immediately, but not later than 30 days of such occurrence of damage to works by excepted risk

34.3 Destruction, damage injury or loss caused by the explosion or impact whenever and wherever occurring of any mine bomb, shell, grenade or other projectile missile or ammunition or explosive or war resulting from action described in above shall be deemed to be a consequence of the. Said excepted Risk.

35. ADDITIONAL WORKS SPECIFICATIONS :-

35.1 The whole work shall be carried out strictly in accordance with the approved detailed drawing (unless otherwise directed) description of the items, detailed specification of the M.O.S.T. for Bridge and Road Works 5th Revision,2013 standard Specification book II nod edition (with Indian Standard specification indicated therein) of P.W. Department, Government of Maharashtra subject to the additional specification given for the relevant items and in the best workmen like manner.

35.2 While adopting the relevant number and pages for different items of the M.O.S.T. Specifications for Bridges and Road Works 5th Revision, 2013Standard Specification Book, due care has been taken to indicate correct number and page

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for the various items. However if for some reasons or other it is noticed that the specification numbers and pages quoted are not pertinent, the contractor is bound to carry out the work in accordance with the correct relevant specifications for the item or items from the standard specification Book. After taking into account the description of the items, scope and spirit of the work.

35.3 It is to be definitely and clearly understood that the specifications stipulated shall be rigidly enforced and no relaxations shall be allowed. Extra charges or claims in respect of extra works shall not be entertained unless they are clearly outside the scope of the item and its specifications to which they relate or unless such works are ordered in writing by the Engineer In Charge and claimed for in specified manner before the same is taken in hand.

36. QUALITY ASSURANCE AND MAINTENANCE:-

36.1. The contractor to ensure the specified quality of work which will also include necessary surveys, temporary works etc. The contractor shall prepare a quality assurance plan and get the same approved from the Engineer-in-charge within one month from the date of work order. The contractor shall submit an organization chart of his technical personnel to be deployed on the work along with 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 instruments 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 directions by the Engineer In Charge Engineer-In-Charge and shall deploy the personnel and equipment on the field as per the approved chart and list respectively. The contractor shall submit written method statements detailing his exact proposals of execution of the work in accordance with the specification. He will have to get those approved from the Engineer-in-charge. The quality of the work shall be properly documented through certificate, records, check-lists and logbooks of results etc. Such records shall be compiled from the beginning of the work and be continuously update and supplemented and this will be the responsibility of the contractor. The forms should be got approved from the Engineer In Charge-in-charge.

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36.2 Where the work is to be done on lump sum basis on contractor's design the contractor shall also prepare and submit a maintenance manual giving procedure for maintenance, with the periodicity of maintenance works including inspections, tools and equipment to be used, means of accessibility for all parts of the structure. The maintenance manual shall be approved by the Engineer- In-Charge. He shall also include the manual the specifications for maintenance work that would be appropriate. For his design and technique of construction This manual shall be submitted within the contract period.

37. TECHNICAL COMPLETION REPORT

The contractor shall submit Technical Completion Report along with his final bill, which shall include:

1. Detailed measurements
2. Working drawing
3. Details of material brought on site and consumed in the work, which shall also indicate standard consumption and deviation if any, with reasons.
4. Test Results of all materials used in the work with an abstract of total tests carried out and required as per frequency of tests as laid down in the relevant M.O.R.T.& H. Specifications.
5. Roughometer survey data as laid down in acceptance criteria. Design Calculations / Job-Mix Formula etc. Maintenance Manual.

38. CLAUSES IN THE CONDITION OF CONTRACT

- a) All materials and workmanship shall be of the respective type described in the contract and in accordance with the Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication, or on the site. All samples shall be supplied by the Contractor.
- b) No work is to be covered up or put out of view without the approval of the Engineer for his examination and measurements.
- c) During the progress of the works, the engineer shall have the power to order the removal from the site of any unsuitable material, substitution or proper suitable

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material and the removal and proper re-erection notwithstanding any previous test or interim payment therefore, and of any work which is in respect of materials or workmanship is not, in the opinion of the Engineer in accordance with the contract.

39. CONTRACTOR'S FACILITIES

According to the contract (see para1.3 above) , the Contractor is responsible for the quality of the entire construction work, and for this purpose he is required to have his own independent and adequate set up. To meet this requirement:-

a) The Contractor shall set up his own laboratory at locations(s) approved by the Engineer. The laboratory shall be equipped with modern and efficient equipment with sufficient standbys suitable to carry out the tests prescribed for different materials and work according to the specifications. The list of equipments to be procured and the facilities to be provided shall be got approved by the Engineer. The equipment shall be maintained in a workable condition to the satisfaction of the Engineer.

b) Sampling and testing procedures shall be in accordance with relevant standards of BIS (previously called ISI) or IRC. Frequency of testing shall be as laid down in the Ministry's Specifications for Road and Bridge Work, 4th Revision, 2001. In the absence of relevant Indian Standards, sampling and testing procedures shall be as approved by the Engineer.

c) The laboratory should be manned by a qualified Materials Engineer assisted by Materials Inspector / Technicians, and the set up should be got approved by the Engineer.

d) The Contractor should prepare printed proforma for according readings and results of each type of test, after getting the formats of the performance approved from the Engineer.

He should keep a daily record of all the tests conducted by him. Two copies of the test results should be submitted to the Engineer for his examination and approval, of which one copy will be returned to the Contractor for being kept at site of work.

e) The Material Engineer of the Contractor should keep close liaison with the Quality Control Unit of the Engineer and keep the latter informed of the sampling and testing programme so that the Engineer's representative could be present during this activity, if considered necessary.

40. DAY-TO-DAY QUALITY CONTROL OPERATIONS:

The day-to-day controls to be exercised by the Contractor and the Engineer are enumerated in the below paragraphs :-

41 IN CASE OF CEMENT CONCRETE WORKS

i) Besides manufacturer's test certificate for quality of cement, at least one set of physical and chemical tests should be conducted for each source of supply of verification. Where the quality is in doubt, or where the cement had been stored for long period or in improper condition, the Engineer shall call for testing the cement at more frequent intervals.

ii) Job mix formula worked out based on trials carried out in the Contractor's laboratory should be got approved by the Engineer.

iii) The mineral aggregates should be tested for their properties. Water to be used for mixing should be tested for chemical impurities.

iv) Checking for stability and sturdiness of formwork.

v) Ensuring that the crucial equipment like mixers and vibrators are in working order before start of work.

vi) Control on water cement ratio.

vii) Control on workability and time elapsed between mixing and placing of concrete.

viii) Control on compaction and finishing.

ix) Tests on cube samples at 7 to 28 days.

x) Check on provisions for adequate curing.

xi) In case of masonry work, control should be exercised on the quality of the material (e.g. stone, brick, sand, cement, etc.) as also on mortar proportions.

xii) For RCC work, quality of steel in each batch may be approved on the basis of test certificate. The reinforcement layout should be checked for conformity with approved drawings and bar bending schedules. All laps should be checked for conformity with the specification. The reinforcement should be free of oil and loose rust scale and should be properly tied with binding wire. The size and spacing of the bars as also the cover should be checked for correctness.

42. Defect Liability / Maintenance

If during the period of **120 (One Hundred Twenty) Months** from the date of completion as certified by the Engineer-in-charge, the said work is defective in any manner whatsoever, the contractor shall forthwith on receipt of notice in that behalf from the **Engineer In Charge / Architect / MPCB Office**, 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 portion strictly in accordance with and in the manner prescribed and under the supervision of the Engineer In Charge / Architect / MPCB Office. In the event of the contractor failing or neglecting to commence execution of the said rectification work within the period prescribed thereof in the said notice and / or to complete the same as aforesaid as required by the said notice, the Engineer In Charge / Architect / MPCB Office, get the same executed and carried out 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 MPCB the amount of such costs, charges and expenses sustained or incurred by the Government of which the certificate of the Engineer In Charge / Architect / MPCB Office, shall be final and binding on the contractor. The MPCB shall be entitled to deduct the same from any amount which may then be payable or which may thereafter become

payable by the MPCB to the contractor either in respect of the said work or any other work whatsoever or from the amount of security deposit retained by MPCB .

43. Liquidated Damages

Time is essence of the Contract. In case the said work is not completed within the stipulated period as mentioned above penalty towards liquidated damages shall be levied at the rate of 0.5 % (Half percent) per month or part thereof with a ceiling limit of 5% of the Contract Value.

The Contractor shall pay liquidated damages to the MPCB as mentioned above for each day that the Completion Date is later than the Intended Completion Date. The MPCB may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

The MPCB may, without prejudice to any other method of recovery deduct the amount of such damages from any monies due or to become due to the contractor. The payment or deduction of such damages shall not relieve the contractor from his obligation to complete the works on form any other of his obligations and liabilities under the contract.

If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking - Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking- Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

44. Price Escalation

In any case no price escalations shall be allowed towards difference in material rate etc.

45. CONDITIONS RELATING TO INSURANCE OF CONTRACT WORK.

The Contractor shall take out Insurance Policy / Policies (viz . Contractor's All Risks Insurance Policy, Erection All Risks Insurance Policy etc. as directed by the Directorate of Insurance) so as to vide 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, Opposite Kalanagar, Bandra (East), Mumbai 400 051. " (Telephone No. 022 –26590403 / 26590690 and Fax No. is 022-26592461 /26590403). Similarly all workmen's 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 not taken out the Insurance Policy from the Directorate of Insurance, Maharashtra State Mumbai or have effected insurance with any Insurance Company, the same will not be accepted and one percent (1%) of the tender amount or such amount of premium calculated by the Government Insurance Fund will be recovered directly from the 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 among the other insurers.

53. Building and Other Construction Workers Welfare Cess

As per Government of Maharashtra, Industry, Energy & Labour Deptt. G.R. No. BLA 2009/Pra.Kra.108/Kamgar-7A, dt. 17/6/2010& Public Works Department Circular No. BDG-2010/Pra.kra.277/Building-2, dated 28/09/2010, Building and Other Construction Workers Welfare Cess at one percent or at the rates amended from time to time as intimated by the competent authority under Building and Other

Constructions Worker Welfare Act 1996 will be deducted from the Bill amount, whether measured Bill, advance payment or Secured Advance.

46. Sub Contract

The bidder shall note that in any case or at any stage of work, he shall not be allowed to assign / sublet / sub contract any or all portion of the work to any other agency / contractor / firm.

47 ARBITRATOR

All dispute and difference of any kind whatever arising out of or in connection with the Contractor the carrying out of the work (whether during the progress of the works or after their completion and whether before or after the determination. Abandonment or breach of the Contract) shall be referred to and settled by the Architect who shall state his decision in writing. Such decision may be in the form of a Final Certificate or otherwise, The decision of the Architect with respect of any of the excepted matters shall be final and without appeal. But if either the Owner or the Contractor be dissatisfied with the decision of the Architect on any matter, question or dispute of any kind (except any of the excepted matters) or as to the withholding by the Architect of any certificate to which the Contractor may claim to be entitled then and in any such case either party (the Owner or the Contractor) may within 28 days after receiving notice of such decision give a written notice to the other party through the Architect requiring that such matters in dispute be Arbitrated upon. Such written notice shall specify the matters which are in dispute or difference of which such written notice has been given and no other shall be and is hereby referred to the Arbitration and final decision of a single Arbitrator being a Fellow of the Indian Institute or Architects to be agreed upon and appointed by both the parties or in case of disagreement as to the appointment of a single Arbitrator to the Arbitration of tow Arbitrators both being Fellows of the Indian Institute of Architects one to be appointed by each party, which Arbitrators shall before taking upon themselves the burden of reference appoint an Umpire.

The Arbitrator, the Arbitrators or the Umpire as the case may be shall have power to open up review and revise any certificate, opinion, decision, requisition or notice save in regard to the excepted matter referred to in clause 55 and to determine all

matters in dispute which shall be submitted to him or them and of which notice shall have been given as aforesaid.

Upon every or any such reference the cost of and incidental to the reference and Award respectively shall be in the direction of the Arbitrator or Arbitrators or the Umpire as the case may be who may determine the amount thereof or direct the same to be taxed as between Attorneys and Client or as between party and party and shall direct by whom and to whom and in what manner the same shall be borne and paid. This submission shall be deemed to be a submission to Arbitration within the meaning of the Indian Arbitration Act 1899 or any modification thereof for the time being in force. The Award of the Arbitrator or Arbitrators or the Umpire as the case may be shall be final binding on the parties. Such reference except as to the withholding by the Architect of any Certificates under clause 49 to which the Contractor claims to be entitled shall not be opened or entered upon until after the completion or alleged completion of the works or until after the practical cessation of the works arising from any cause unless with the written consent of the Owner and the Contractor. Provided always that the Owner shall not withhold the payment of an Interim Certificate nor the Contractor except with the consent in writing of the Architect in any way delay the carrying out of the works by reason of any such matters, question or dispute being referred to Arbitration but shall proceed with the work with all due diligence and shall, until the decision of the Arbitrator or Arbitrators or the Umpire as the case may be, given abide by the decision of the Architect and no Award of the Arbitrator or the Arbitrators or the Umpire as the case may be shall relieve the Contractor of his obligations to adhere strictly to the Architects instructions with regard to the actual carrying out of the works. The Owner and the Contractor hereby also agree that Arbitration under this clause shall be a condition precedent to any right of action under the Contract.

48 SUSPENSION OF WORKS:

The contractor shall on the written order of the Engineer suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the works so far as is necessary in the opinion of the Engineer. The extra cost (if any) incurred by the contractor in giving effect to the Engineer's instructions under this sub clause shall be borne and paid by the owner, provided it is justified and accepted by the owner, unless such suspension is

- a) Otherwise provided for in the contract
or
- b) Necessary for the proper execution of the works or by reasons of weather conditions or by some default on the part of the contractor
or
- c) Necessary for the safety of the works or any part thereof.

Provided that the contractor shall not be entitled to recover any such extra cost unless he gives notice in writing of his intention to claim to the Engineer within one month of Engineer's order. The Engineer shall settle and determine the extra payment to be made to the contractor in respect of such claim as the Engineer shall consider fair and reasonable.

All work shall be measured net by standard measure and according to rules and custom and usual method in use in the MPCB /PWD and no proposals to adopt alternative method will be accepted. The Architect's decision as to what is the usual method in use in MPCB shall be final

49. Billing Method:

The contractor has to raise his R.A. bill periodically & there will be 5 R.A Bills of Rs. 1 Crore each and one Final Bill of Remaining Amount . The Contractor may submit his total 3 running bills and one final bill as the work progresses. He shall submit his final bill only on completion of work. The Contractor shall submit his running bills in duplicate to the Architect for his Scrutiny. With every running bill, the following documents shall be enclosed.

Measurement and abstract sheets duly certified by Architect / Owner's representative at site.

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A set of photographs showing the stage of work at the time.

Material test certificates and reports.

QA Check lists duly signed by Architect/ Owner's representative at site.

Rate analysis of extra items, if any, along with of supporting documents.

Covering letter giving noteworthy points, which will help the Architect in checking the bill.

The Contractor shall note that in absence of any of the above documents the Architect may refuse to process the bill and the Contractor will be wholly responsible for the delay in getting the payment.

Period of Honoring Interim Certificate : The Architect shall check and certify the running bills within 15 (fifteen) working days and the final bill within 1 month working days from the date of receipt of such bills and forward the same to the Owner for payment.

50 MOBILIZATION ADVANCE

No mobilization advance will be given.

51. MATERIALS, WORKMANSHIP AND TESTS :

All materials and workmanship shall be of the respective kinds described in the contract and in accordance with the Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication or on the site or at all or any of such places. The contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any materials used and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer.

52 . CONTRACTOR TO SUPPLY SAMPLES:

The contractor shall carry out tests of materials or finished work as the Engineer in writing may require and shall supply free of cost samples necessary for this purpose. Unless an item rate is provided in the schedule of items for such tests, the cost incurred in this respect shall be borne by the contractor.

Owner's access to the works:

The owner, the Engineer and any person authorized by them shall at all times have access to the works and to the site and to the site and to all workshops and places where work is being prepared or where materials, manufactured articles and machinery are being obtained for the works and the contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

Examination of the works:

No work shall be covered up or put out of view without the approval of the Engineer and the contractor shall afford full opportunity for the Engineer or his authorized representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The contractor shall give due notice to the Engineer whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer shall without unreasonable delay unless he considers it unnecessary and advises the contractor accordingly attend for the purpose or examining such work or of examining such foundations. The contractor shall uncover any part or parts of the works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirements of this sub clause and are found to be executed in accordance with the contract the expenses of uncovering, making openings in or through, reinstating and making good the same shall be borne the owner but in any other case all such expenses shall be borne by the contractor and shall recoverable from him by the owner or may be deducted by the owner from any money due or which may become due to the contractor.

53 WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS ETC.

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 in every other respect in strict accordance with specifications. The contractor shall also conform exactly, fully and faithfully to the designs drawing and instructions in writing relating to the work signed by the Authority 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 on the site of the 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. 300/- per set of contract drawings and Rs. 150/- per working drawings except where other wise specified. If work is found to deviate from the specifications or conditions mentioned in the tender, The OWNER/ARCHITECT can rescind the contractor, without giving any any explanation to the contractor on the short notice of 7(Seven days) to the contractor.

54. ACTION & COMPENSATION PAYABLE IN CASE OF BAD WORKS

If any time before the security deposit or any part thereof is refunded or anypart thereof is refunded to the contractor it shall appear to the Authority 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 contract it shall be lawful for the Authority to intimate this fact in writing to the contractor and then notwithstanding the fact that the 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 of if so required, shall remove the materials or articles so specified and provide 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 Authority in the

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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 Authority may rectify or remove, and re-execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor should the Authority 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 therefore. If the quality of work is found unsatisfactory the Authority has full right to rescind the contractor on a short notice, without giving any much explanation.(max a single warning will be given) His decision will be final and abiding to the contractor.

55. ACTION WHERE NO SPECIFICATION

In the case of any class of work for which there is no such specifications work shall be carried out in accordance with the PWD DSR specifications and in the event of there being no PWD specification then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Authority in charge or Architect.

56 TERMINATION OF CONTRACT DUE TO DEATH:-

If the Contractor is an individual or proprietary concern and the individual or the proprietor dies or if the contractor is a partnership concern and one of the partners dies then unless the accepting authority is satisfied that the legal representatives of the individual contractor or of the proprietor of the proprietary concern and in the case of partnership, the surviving partners are capable of carrying out and completing the Contract the accepting authority shall be entitled to cancel the contract as to its incomplete part without the owner being in any way liable to payment of any compensation to the estate of the deceased contractor and/or to the surviving partners of the Contractor's firm on account of the cancellation of the Contract. The decision of the Accepting authority that the legal representative of the deceased contractor or the surviving partners of the contractor firm cannot carry out and complete the contract, shall be final and binding on the parties. In the event of

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such cancellation, the owner shall not hold the estate of the deceased contractor and/or surviving partners of the contractors firm liable in damages for not completing the contract.

57. CANCELLATION OF CONTRACT IN FULL OR IN PART:-

If the contractor:-

At any time makes default in proceeding with the works with due diligence and continuous to do so after a notice in writing of 7 days from the Owner; or

Commits default in complying with any of the terms and conditions of the Contract and does not remedy if or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Owner.

Fails to complete the works or items of work with individual dates of completion, on or before the date (s) of completion, and does not complete them within the period specified in a notice given in writing in that behalf by the Owner; or

Shall offer or give or agree to give any person in owner's service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having does or forborne to do any act in relation to the obtaining or execution of this or any other contract for the owner;

Shall enter into a contract with the owner in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to the accepting authority/Owner; or

Shall obtain a contract with the owner as a result of wrong tendering or other non-bonfide methods of competitive tendering; or

Being an individual, or if a firm, any partner thereof, shall at a time to be adjudged insolvent or have a receiving order of order for administration of his estate made against him or shall take any proceedings for liquidation/composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under and Insolvency Act for the time being in force for the acquisition of this estate or if a trust deed be executed by him for the benefit of his creditor; or

Being a company shall pass a resolution or the court shall make an order for the liquidation of its affairs, or a receiver or Manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court on debenture holders to appoint receiver or Manager; or

Shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days ; or

Assigns, transfers, sub lets (engagement of labour on a piece work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or attempts to assign, transfer or sublet the entire works or any portion thereof without the prior written approval of the Accepting Authority. Accepting authority may, without prejudice to any other right to remedy which shall have accrued or shall accrue thereafter to the owner by written notice, cancel the contract as a whole or only such items of work in default from the contract.

- a. The Accepting Authority shall on such cancellation have powers to:-
- b. Take possession of the Site and any materials, constructional, plant, implements, stores, etc. thereon; and/or
- c. Carry out the incomplete work by any means AT THE RISK AND COST OF THE CONTRACTOR.
- d. On cancellation of the Contract in full or in part the Owner shall determine what amount, if any is recoverable from the Contractor for completion of the works or part of the works or in case the works or part of the work is not completed, the loss or damage suffered by the owner.
- e. In determining the amount, credit shall be given to the Contractor for the value of the work executed by him up to the time of cancellation, the value of Contractor's material taken over and incorporated in the work, and use of tackle and machinery belonging to the Contractor.
- f. Any excess expenditure incurred or to be incurred by the owner in completing the works or part of the works or the excess aforesaid after allowing such credit shall be recovered from any moneys due to the contractor on any account and if such moneys are not sufficient, the contractor shall be called upon in writing to pay the same within 30 days.

- g. If the Contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Owner shall have the right to sell any or all of the Contractors temporary buildings etc., and apply the proceeds of sale thereof outstanding from the contractor it shall be recovered in accordance with the provisions of the contract.
- h. Any sums in excess of the amounts due to the owner and unsold materials, constructional plant, etc., shall be returned to the contractor, provided always that if cost or anticipated cost of completion by the owner of the works or part of the works is less than the amount which the contractor would have been paid had he completed the works or part of the works, such benefit shall not accrue to the Contractor.

LABOUR

The Contractor shall employ no child labour under 18 years of age on the work. If female labour is engaged the Contractor shall make necessary provision for safeguarding small children and keeping them clear of the site of operations. No laborer shall reside within the compound except authorized guards.

The contractor has to make his own arrangements of water and electricity for the purpose of construction.

Electrical power and water cannot be made available at site. The Contractor will have to make his own arrangements for electrical power and water at site or has to pay extra to owner for the units consumed. He will also have to make arrangements for lighting during night. The Contractor will have to arrange for procurement and maintenance of diesel generating sets, distribution board, switch fuse units, cabling, wiring, light fittings etc. as may be required

LIST OF APPROVED MAKE OF MATERIAL

Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
1	Cement	
	a) Ordinary Portland cement (O.P.C.) (For R.C.C work)	Ultra Tech / ACC / Birla Plus / / Ambuja / Birla Gold / Vasavdatta bharti/ jsw / dalmia / chhettinad / Emmami / Vicat / Orient/ Jk lakmi / Lafarge
2	b) Portland pozzolana cement / slag cement (PPC)/ PSC (For plaster / masonry / flooring	Birla A-1 / ACC King / Ultra Tech / Vasavdatta / Manikgarth / Birla Gold / Coromondal/ bharti / jsw / dalmia / chhettinad
3	Steel (structural)	TATA / Arcelor
a	Steel	Tiscon / Vizac / Jindal / Sail / TATA/ ESSAR / Arcelor Mittal
b	Corrossion Resistance Steel (CRS)	Tiscon / Vizac / Jindal / Sail / TATA/ ESSAR / Arcelor Mittal
4	Ready mix concrete (RMC)	Godrej /ACC / Ultra Tech / Lafarge
5	Polycarbonate Sheet 6mm thick	Lexan
6	Artificial sand	Artificial sand prepared through vertical shaft impactor machine shall be used
7	Natural sand	Use river sand having silt content not more than 8%
8	Aggregate 10 mm & 20 mm	As using of ready mix concrete
9	Clay Burnt Bricks	N/A
10	AAC blocks	Siporex/ Ultra Tech, Magicrete/ Concrete cover block/ Ecolite/ Delite/ Aerocon/ Adhesive to AAC block/ Tile

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Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
11	Adesive to AAC Block / tile	k-2 Joy chemicals, Gobian weber, ultratech, flybond, blockol by Ambuja cement, NSA Gold, NSA Silver, saint gobain, blockbond.
12	Concrete Cover block	Disha / Astra
13	Mechanical splice	Splicetek,
14	Waterproof solid core flush door	Anchor / Century / Green Ply/ BIZ
15	FRP doors	House of door / Perma finish / Syntax / Everest / Fibroplast
16	Lamination sheets' (1.50 mm thick)	Royal touch / Green Lam / Merino / Century / Forica / Sundeck/ Signature
17	Door Fixtures & Fastenings i Main internal door a) Stainless steel	Shalimar/ Vinus (NVII)/Union
18	Cold & Hot water mixer	Jaquar / Johnson / Ess-Ess/ Parryware/ Roca/ Hindustan/ kohler/ Toto/ Duravit/ kajaria/ kerovit/ Cera/ kajaria- kenvit, jal, Prayag, Hindware Sanitory and Americal standard, Plumbing fixture & Cera, kohier, Toto fittings.
19	Con. Stop cock	
20	Bib cock	
21	Two way Bib cock	
22	Long neck Bib cock(Kitchen)	
23	Pillar cock for WHB	
24	Angle cock for Geyser WHB & wall hung unit etc	
25	Flush valve open etc.	
26	Waste coupling	
27	Bottle trap of WHB	
28	Hand Shower (Health faucet)	

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Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
29	Towel rod (600 mm long)	
30	Towel ring	
31	S.S. Hook	
32	Health Faucet	
33	Shower Rose	
34	Mirror supported on stud	
35	PVC Water Tank	Syntex /
36	Aluminium Section 18 guage heavy	Jindal / Hindalco / Superfine.
37	Vitrified tiles (600mm x 600mm)	Kajaria / Johnson / Nitco / RAK/Asian /Orient /Bell / Symphony
38	Vitrified Anti-skid tiles (600mm x 600mm)	Kajaria / Johnson / Nitco / RAK/Asian/Orient/Bell/ Symphony
39	Vitrified dado (300mm x600 mm)	Kajaria / Johnson / Nitco / RAK/Asian/Orient/Bell/ Symphony
40	Kota (600mm x 600mm)	Mirror Polish Gray colour - 20mm to 25mm thick
41	Granite (15 to 20 mm thk.)	Black - 15 to 20 mm thick
42	Primer (External & Internal)	Asian / Nerolac / Berger / Dulux/ Snowcem
43	Oil bound Distemper to internal walls	Asian / Nerolac / Berger / Dulux/ Snowcem
44	Synthetic Enamel Paint to M.S.grill	Asian / Nerolac / Berger / Dulux/ Snowcem
45	Polymer based external paint	Apex from Asian Paints / Excel from Nerolac Paints / Shalimar/ Berger/ Pearl excel from Godavari

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Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
46	CPVC Pipe	Finolex / Supreme/Jain/Astral / Ashirwad /Ajay / Kitec / Kerovit by Kajaria
47	U.P.V.C. Pipes	Finolex/ Supreme /Jain/ Astral / AKG / Ashirwad / Ajay/ kitech/ kerovite by kajaria
48	G.I. Pipes	TATA / Jindal
49	Stoneware Pipes	Finolex / Supreme/Jain/Astral
50	Concrete Pipes	Finolex / Supreme/Jain/Astral
51	Pump	Kirloskar / Cummin / CRI /Tillu / Compton grooves
52	Water resistant white cement based wall care putty	J K White/ Birla White/ Ultra Tech / Wall plast
53	Gypsum Plaster	India Gypsum / Conmix / Buildon / Magicrete
54	Texture plaster	Ultra Tech / Asian / Nerolac/ Berger/ Rinova / Godavari
55	Wash Hand Basin (Wall Mounted)	Hindware / Cera / Jaquar/Parryware / Johnson
56	Wall Mounted W.C Unit	Hindware / Cera / Jaquar / Parryware / Johnson
57	Full Stall Urinal	Hindware / Cera / Jaquar / Parryware / Johnson
58	Glass	Modi / Hindustan / SaintGobain
59	Paver Blocks	Gubbi / Shirke / Disha / Concreteshow
60	APP/ SBS membrane water proofing	Tikidan / APEX / IWL/ SIKA /SUDHARSHAN/ SUNANDA
61	Restroom Cubicle system for Toilets of Amenity block	Merino
62	Urinal partitions for Amenity block	Merino

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Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
63	Expansion Joint treatment - a) Vertical b) Horizontal	Sanfield make a) SNPG-600 b) SNPG-600 / kanta flex / kanta / maruti techno / MYX schomburg
64	Membrane Water Proffing	Tikidan / APEX / IWL / STP Ltd. / Asian
65	Lift	SCHINDLER / OTIS / THYSSENKRUPP / MISTUBISHI
66	Water Treatment Plant	ION Exchange
67	Window	Fenesta / kommerling / Wintech

LIST OF INTERIOR MATERIAL:

Sr. No.	Description	Few Name of company and / or Equivalent as approved by client
A	CARPENTRY WORKS	
1	Timber Wood	Supplier to be approved by PMC/ PMC/Client
2	Commercial Plywood / Marine Plywood - ISI make	KIT Ply, Green, National, Anchor, Century, duroply, Virgo ply.
3	Flexy Plywood	KIT Ply, Green, National, Anchor, Century
4	Plain/Laminated Particle Board	Green, Ecoboard, Novapan, Decoboard
5	Plain/Laminated Medium Density Fiber Board	Nuwood, Duratuff, Green
6	Block Board	KIT Ply, Green, National, Anchor, Century
7	Flush Door	KIT Ply, Green, National, Anchor, Century, Kutti Swastik.
8	Plaster board	India Gypsum, Boral
9	Metal Ceiling Tiles & Grid	Techno Ceiling Products, Hunter Douglas
1	Soft Board	Jolly Board
1	Calcium Silicate Board	Ramco, Aerolite
1	Veneer 4 mm	Timex, Euro, Greenlam,
2		Century, Jalaram

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1 3	Laminates 1mm	National, Royal Touch, Formica, Greenlam, Merino, Century mica, Newmica
1	Decorative Laminate sheet	Sibu, Bloom
1	Wooden Fire Doors	Shakti, Aadhunik
B	HARDWARES	
1	Drawer channels	
a)	Local Make	Earl Bihari, Windor, Enox, Ozone
b)	Imported Make	Geze, Hafele, Hettich, Dorma
2	Screws	Nettlefold, GWK

Sr. No.	Description	Few Name of company and / or Equivalent as approved by client
3	Fittings & Locks- Handles, Tower Bolts , Hinges, etc.	
a)	Local Make	Earl Bihari, Enox, Neki, Magnum
b)	Imported Make	Geze, Hafele, Hettich, Dorma
4	Hardware for Glass doors and partitions	
a	Floor Spring for doors	Geze, Hafele, Hettich, Dorma
b	Patch fittings	Geze, Hafele, Hettich, Dorma
c	Floor Lock	Geze, Hafele, Hettich, Dorma
d	Top Pivot	Geze, Hafele, Hettich, Dorma
e	Pull handle	Geze, Hafele, Hettich, Dorma
5	Hardware for Flush Doors	
a	Ball bearing butt Hinges	Geze, Hafele, Hettich, Dorma
b	Dead lock	Geze, Hafele, Hettich, Dorma
c	Pull handle	Geze, Hafele, Hettich, Dorma
d	Concealed Door closer	Geze, Hafele, Hettich, Dorma
e	Door Stopper	Geze, Hafele, Hettich, Dorma
6	Anchor Fastener	Fischer, Hilti

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7	Adhesive	Fevicol SH, Vamicol, Araldite of Ciba Geigy
8	Wood Preservative	Woodguard, Termiseal
C	WALL FINISHES	
1	Internal Paint	Dulux, Asian Paints
2	External Paint	Snowcem, Nitcocem, Asian Paints Apex Ultima
3	Polyurethane Paint	Thorax coating U K
4	Fire Retardant Paint	Shalimar Paints, Noble Paints
5	Textured Paint	Spectrum, Terraco, Renova
6	Wallpapers	Marshall, M B International, Arte, Ego
D	MISCELLANEOUS	
1	Wall Acoustical material	Armstrong, Anutone,
S	Description	Few Name of company and /
		Techno Ceiling Products
2	Insulation material Glass	TWIGA, Phenol herm,
3	Antistatic Vinyl flooring	Armstrong, Wonder floor,
4	Artificial Leather	Pride, National
5	Float Glass/Back painted	Saint Gobain, Form 5,
6	Modular demountable Glass	Methis, JEB
7	Mirror	Modi, Asahi, Saint Gobain
8	Writing Board	White Mark, AlkoSign,
9	Lockers & Storage	Godrej, Kompress, Steelage
1	Hand Dryer	Ascon, Kimberly Clarke,
1	Fabric protection	Scotchguard Birla 3M,
1	Frosted Film	Garware, 3M
1	Wooden Flooring	Pergo, Tarkett, Armstrong,
1	SS Railing	Neki, Ozone, Enox
1	Aluminium Sections	Jindal, Indal, Hindalco
1	Slotted angel racks	MEK, Godrej, Vishwakarma
1	Rubber gasket	Neoprene, EPDM
1	Synthetic Resin	DuPont Corian
1	Auto glow Signage	Prolite, Cross Fire, Martin
2	Signage	Neki, 3M
2	HDL Toilet Cubicles	Merino, SPCMG
2	HDL Lockers	Merino, T Line
2	Aluminium Skirting	Windor, Doyle Asia,
2	Vinyl Graphics Films	Supplier Approved by
2	Metal Fire Doors	MPP, Matrix, Shakti Mate
2	Roller Blinds	VISTA, Wall track, Hunter

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Notes:

1. The names of companies / manufacturer are given for guidance. The materials shall be used after obtaining approval from Client. Approved samples shall be preserved in sample room at site of work to ensure the quality / make for actual execution at site of work, No deviation from approved sample is allowed unless approved by Client.
2. No extension of time shall be granted because of delay in getting approval from Client.
3. The PMC/Client reserves right to ask for invoices and other details, if found necessary.
4. PMC/Client reserves the right to reject material if the same is not approved or substandard material used by Contractor at any stage (i.e. even during Defect Liability Period).
5. All Hardware fittings, etc. to be in Stainless Steel only and shall be minimum 2 hours fire rated doors as per drawings.
6. The contractor shall provide test certificates from the approved laboratories.
7. All the material shall be of first quality and ISI marked.

10. All requisite certificate shall be enclosed along with contractor's bill.

List of Recommended makes of Electrical work

Sr. No.	Name of material	Few Name of company and / or Equivalent as approved by client
1	2	3
1	Fluorescent tube	Philips / Wipro / GE/polycab/HPL /Crompton / Luker/Surga/Kent/Jaguar/RR Electric/Halonix/Havells/
2	CFL Lamps	Philips / Wipro / GE/polycab/HPL/Crompton / Luker/Kent/Jaques/RR Electric/Halonix/Havells
3	Ceiling Fans	Cromptons / Orient / Havells /polycab/Panasonic/ Usha/Kent/RR Electric
4	Exhaust Fans	Cromptons / Havells / Orient/polycab/Panasonic/ Usha/ RR Electrical/Kent
5	Modular Switches	Anchor / Havells / RR Electrical/Vinay/ Cromptons/wipro/polycab/legrand/HPL/Precision/Panasonic/ABB/ L&T / Honeywell/Kent/Havells-CRABTREE
6	MCB's - 10 KA.	Legrand / Siemens/Wipro/L&T/C&S/ polycab/Hager/HPL/ Anchor/Indo-Asian / Bentec / Honeywell/kent/Havells

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7	ELCB/RCCB - 10.0KA.	Legrand / Wipro/Siemens/L&T/ C&S/polycab /HPL/Panasonic/Indo-Asian/ Bentec / Honeywell/RR Electrical/ Kent
8	HRC Switch Fuse Units	L&T / GE / C&S/HPL/Indo-Asian/Honey well/ Kent/ Havells
9	CFL Holder	Anchor / Havells / Bajaj/ wipro/ polycab/ HPL/ Panasonic/ Precision/Wipro/ABB/L & T
10	Wires: 1100V/660V Grade FRLS	Finolex/ Polycab / Anchor / L&T/ KEI/HPL/RR cable/ Epsilon/Rotoplast/Kent
11	PVC Conduits and Accessories	Precision / Pressfit / polycab/Anchor/AKG
12	Distribution Boards	Legrand / Siemens /L&T/C&S/polycab/ wipro / HPL / Panasonic/ Hager / Bentec/ Honeywell
13	Load break switch	Legrand / Siemens /L&T/HPL/Hager /Havells
14	RG6 Outlets	Philips / Legrand/polycab/HPL/Panasonic
15	RG6/11 Coaxial Cable	Finolex / Polycab/Epsilon/Panasonic /RR cable/kent/Havells
16	CAT 6 Cable	Finolex / L&T/ Dlink / polycab/HPL/Panasonic/ RR cable/kent/Havells
17	CAT 6 I/O Socket	Dlink / Lucent / Molex.
18	Cables Glands and Lugs	Finolex/polycab
19	LED Streetlight Fittings	Wipro / Philips /
20	LED Flood Light	Wipro / Philips / Havells /C&S/Polycab/ Panasonic/HPL/Wipro/Crompton/ Jaguar/Kent/Surya/ RR Electric/ Halonix/ Indiabulls
21	LED Pathway Light	Wipro / Philips / Havells / C&S/polycab /Panasonic/HPL/Wipro/Crompton/ Jaguar/Kent/Surya/ RR Electric/ Halonix/ Indiabulls
22	CFL Gate Light	Wipro / Philips / Havells/Panasonic/Polycab/Crompton
23	XLPE Cables and Accessories	Polycab / Havell's / Finolex/ KEI /Anchor/HPL/RR cable/Rotoplast/kent
24	Telephone Wires	Finolex / Anchor / Polycab/Epsilon/HPL/RR cable/Anchor
25	Aluminum Raceways	Jindal / Bentec./Honeywell
26	Industrial Sockets	Legrand / L&T/HPL
27	Changeover Switch	L&T/ HPL / Havells / C&S/Siemens/Wipro

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28	Capacitors	L&T / BENTEC/ Havells
29	Lightning Arrestor	Siemens / Crompton.
30	BUSBAR	L&T/HPL/BENTEC
31	Main LT Panel / APFC Panel	Siemens/ L&T /Indian Electrical /Indo-Asian/HPL/ AKG/ SAMCON/ Havells
32	L.T. Feeder Pillar	Siemens/ L&T /Indian Electrical / AKG/ SAMCON
33	Metering Cubicle	Siemens/ L&T /Indian Electrical
34	11KV isolator and D.O. fuse.	Topaz / Siemens
35	Distribution Transformer	Crompton, ABB,L&T, Siemens, MSEDC/ Approved
36	Diesel Generator Set	Kirloskar /Cummins / Cromptons/Sterling Wilson/Powerica/ Graves Cotton
37	Lift	Schindler / OTIS / Thyssenkrupp/Kone
38	Water Pumps	Kirloskar / Crompton /Grundfos/ Havells
39	Solar Water Heating Systems	Tata Solar / Jain Solar / Surya/polycab/bosch/Hawells/Panasonic/Warae
40	Video Door phone	Zicom /Legrand/Panasonic/Hikvision
41	VDP/Panic Switch/ Intercom 3in 1 system	Legrand/Panasonic/Digital Dreams
42	Audio System	Bose/Senneheiser

LIST OF APPROVED MATERIAL FOR FIRE FIGHTING AND ALARM SYSTE

APPROVED MAKES FOR FIRE FIGHTING AND ALARM SYSTEM		
Sr. No.	Item Description	Few Name of company and / or Equivalent as approved by client
1	Main & Jockey Fire Pumps	Kirloskar/Armstrong/Xylem/ Wilo(Mather+Platt)
2	Electric Lt Motors	ABB /WEG/ Siemens/ Kirloskar/Crompton/ Havells
3	Standby Diesel Engine Driven Pumps	Kirloskar/Mather & Platt/Armstrong/Patterson/Pentair/Clarke
4	GI Pipes	Jindal / Tata Steel /Maharashtra Seamless
5	Fire Brigade Connections	Newage /HD Fire/Shah Bhogilal
6	Di Body Gate Valves	Viking/Victaulic/Tyco/Fivalco/Kirloskar/Hd Fire
7	Pressure Gauges	Waree, Wika, Ashcroft, Baumer/Dwyer

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8	Water Flow Meters	Gerand / Siemens/Krohne Marshall / Dwyer/Any UI Listed/Any Fm Approved Pumps
9	Fire Hose Boxes	Newage/Venus
10	Check Valves/ Nrv	Kirloskar/Audco/Tyco/C &R
11	Y Type/Pot /Bucket Strainers	Appollo Valves/Alfa Valves/Bombay Chemical Equipment Co.
12	Branch Pipes	Newage/Shah Bhogilal
13	CI Body Gate Valves	Viking/Victaulic/Tyco/Fivalco/Kirloskar/Hd Fire /Audco
14	Globe Valves	Viking/Victaulic/Tyco/Fivalco/Kirloskar/Hd Fire /Audco/Leader
15	Ball Valves	Claval/Tyco/Fivalco/Kirloskar/Hd Fire /Audco/Leader
16	Hose Reels	Newage/Minimax/Jyoti Fire
17	Alarm Valves	Hd Fire/ Tyco/Viking/Reliable
18	Sprinkler Gong	Hd Fire/ Tyco/Viking/Reliable
19	Flow Switches	System Sensor/Indfoss/Danfoss/Potter/Dwyer
20	Fire, Smoke Detectors, Manual Call Point, Monitor & Control Modules	Honeywell / Symplex /Notifier USA (Present System At Actrec)
21	Sprinkler Heads	Tyco / Reliable/Viking/HD Fire
22	Pressure & Level Transmitter	Honeywell/Siemens/Emerson/Yokogawa
23	Pressure Switches	System Sensor/Indfoss/Danfoss/Potter/Dwyer
24	Electrical & Control Cables	Polycab/Cci/RR Cables/Metaplast/Associated
25	Auto Transfer Switch	Siemens/L&T/Schneider/Asco/Emerson/ Havells
26	MCCB & MCB	Siemens/L&T/Schneider/Asco/Emerson/ Havells
27	Fire Pumps Mcc Electrical Panel	Elecmec/ Siemens/L&T/Indcon
28	Push Button Switches	Siemens/L&T/Schneider/Connectwell/Technik
29	Cable Terminations	Connectwell/Wago/Elmex
30	Voltmeter, Ammeter	Kaycee/Rishabh/Meco/Me
31	Load Manager	Siemens/L&T/Schneider/Asco/Emerson/Selec/Conzerve
32	GI Perforated Cable Trays	Elcon/Aditya Steel/Indal/Sai Cable Trays
33	Copper Earthing Electrodes	Spa Infrastructure/Isg Global/Galaxy
34	Fire Extinguishers	Safex/ Kanex/ Bharati Fire/ Minimax/ Intime

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35	Chain Pulley System Motorized	Hercules/Crane /Titan Make Or Eqvt.
36	Led Light & Electrical Fittings	Philips/Bajaj/Crompton/Anchor/ Havells/ Indiabills
37	Indicating Lamps On Mcc Panel	Teknic Or Eqvt.
38	Dc Relay	Oen/Pla
39	Current Transformers	Automatic Electric/Me
40	Light Fittings	Philips/Bajaj/Crompton/Anchor/ Havells
41	Electric Fittings	Anchor/Roma/Havells/Hager/Schneider/ Havells
42	Cable Glands	Baliga/ Flameproof Equipment/ Fcg/ Ex Protecta
43	Pressure Relief Valve On Network	Frenger Lesser/Tyco/ Claval
44	Pressure Relief Valve In Pump House	Tyco/ Claval

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6. The contractor shall provide test certificates from the approved laboratories.
7. All the material shall be of first quality and ISI marked.
10. All requisite certificate shall be enclose along with contractor's bill.

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SCOPE OF ELECTRICAL / FIRE FIGHTING WORK

1.1 BRIEF SCOPE OF ELECTRICAL / FIRE FIGHTING WORK:

- 1.1.1 All electrical / Fire Fighting work shall be done through Licensed Electrical / Fire Contractor having appropriate class of registration. including preparing documents for submission to Electricity Supply Company and for obtaining necessary Electric Load. Also shifting of the existing LT/HT line in the premises, if any, before the starting of the civil work, Inspection and approval on Completion from Electricity supply company /PWD and obtaining completion certificate from Electricity supply company. Installing and commissioning of the energy meters.
- 1.1.2 The MOU shall be signed between Civil Contractor and Electrical / Fire Sub Contractor before start of electrification work. Copies of MOU shall be submitted to client/PMC.Appointment of Licence holder Electrical/ Fire sub-Contractor shall be got approved from client.
- 1.1.3 Supplying, Erecting, Testing and Commissioning various items as per drawings and specifications, conditions and detailed scope of the works, categorized under Electrical portion and also carrying out allied works so as to complete work in all respect and put it into desired beneficial use
- 1.1.4 The electrical works includes all internal and external electrifications in all respect. The internal electrification works include point wiring, erection of mains, erection of sandwich busbars,wires/cables, plugs, sockets, ceiling roses, holders, distribution switches, ceiling fans, light fittings, all types of tube lights and lamps, etc. The internal electrification works shall be carried out taking into consideration safety aspects and aesthetics of the interiors of the buildings,

1.2 GENERAL CONDITIONS:

1.2.1 Statutory Provisions

Statutory provisions from following Acts, Rules, and Regulations relate to Electrical portion of works. Execution of work shall comply with related provisions from Act, Rules, and Regulations respective to the work. Observance of same will be binding and will be sole responsibility of the Contractor.

- ☒ Electricity Act 2003 Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010 as amended up to date
- ☒ Central Electricity Authority (Technical Standards for Construction of Electric Plants and Electric Lines) Regulations 2010 as amended up to date
- ☒ Central Electricity Authority (Safety requirements for construction, operation and maintenance of electric plants and electric lines) Regulations 2011 as amended up to date
- ☒ Energy Conservation Act
- ☒ Energy Conservation Building Code (ECBC).
- ☒ ECBC Rules
- ☒ Maharashtra Fire Prevention and Life Safety Measures Act 2006
- ☒ Maharashtra Fire Prevention and Life Safety Measures Rules 2009
- ☒ The Maharashtra Lifts Act, 1939
- ☒ Bombay Lift Rules 1958

1.2.2 **Standards / Norms**

Execution and Maintenance related matters shall follow related provisions from following Standards, Norms, Approved Method of Construction and Specifications. (latest amended version shall be adopted)

- ☒ Bureau of Indian Standards (BIS)
- ☒ International Electro-Technical Commission (IEC),
- ☒ National Electrical Code (NEC 2011),

- ☒ National Building Code (NBC 2016)

- ☒ ISHRAE / ASHRAE (.)

- ☒ Maharashtra Pollution Control Board (MPCB)

1.4 **EXECUTION:**

1.4.1 Work must be executed by an agency having license in respective category.

1.4.2 Prior to commencement of work, a bar chart shall be prepared showing all activities in detail. Each activity shall be correlated with the activity from civil work wherever its progress is dependent on such civil work activity e.g. concealing of pipes in ceiling depend on slab casting, concealing of pipes in wall (drops) depend on brickwork.

1.4.3 Attention is called towards Section 126 and 135 of Electricity Act 2003. It will be sole responsibility of contractor to get electrical supply for construction purpose.

1.4.4 Work shall be executed as per the drawings provided by PMC / CLIENT.

Contractor shall submit actual working / shop drawings to PMC / CLIENT before commencing the work. Prior approval will be necessary. In case of any discrepancy in design with respect to Statutory Provisions, Standards, Norms same shall be brought to notice at the time of pre-bid meeting so that there shall

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not be any extra item. In case matter crops up during execution it shall be communicated well in advance and got resolved so that there shall not any delay in targeted completion date.

- 1.4.5 Contractor shall prepare mockup if so desired by PMC / CLIENT.
- 1.4.6 Observing and Complying Safety norms during execution shall have high priority. Worker on site shall be provided with Personal Protective Equipment (PPE). Use of PPE during work shall be strictly observed.
- 1.4.7 Material shall be from the approved list only. Manufacturer's Data Sheets shall be submitted and got approved from PMC / CLIENT before procurement. Non-ISI material shall not be used.
- 1.4.8 Work must be compliant with related Standards, Norms, Method of Construction, Guidelines and PWD Specifications in respect of various CSR items. Contractor and his supervisory staff must be well conversant with the said provisions.
- 1.4.9 Portion of work going to be hidden shall be got checked from PMC / CLIENT prior to concealing. Wherever required, photographs, video clip shall be submitted. Record drawings of such work must be prepared and got countersigned from PMC / CLIENT.
- 1.4.10 The computer Lan Networking shall be done keeping proper 30 cm distance between the power and data cables. The Data & Voice cables shall not run in the power conduit in any condition. The certification for the same shall be provided from PMC. Additional length for the Data, Voice, Power & Visual (TV) cables at the prescribed location can vary due to furniture placement. All these factors are to be incorporated in the work
- 1.4.11. The switch boards in any condition shall not come out of the wall or should not be very deep in the wall. The earth resistance readings shall be within the prescribed limits. Continuous 2 runs of earthing shall run up to the top floor from

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the earthing pit, all the Dbs. & Panels shall be connected to the earthing strips/wire as specified.

1.4.13 The panel shall be prepared considering all the safety norms. The load is divided as per the SLD, the panel is to be manufactured according to the SLD only. All the wires and cables are to be connected by lugs and glands as per the sizes required at the point of termination to any equipment.

1.4.14 All the street light poles are to be erected in plum. All the LT cable laid underground are to be covered by the half round cement pipe for overall length. The additional run of the cable should be properly kept so that there is no damage caused.

1.4.15 The danger boards, rubber matting, fire extinguishers are to be provided at the substations, floor power Ducts, pump room.

1.4.17 The work of internal and external electrical work shall be completed by contractor strictly according to drawings, the details as required will be furnished during the execution of work if any.(Without prior approval of the Client no extra item shall be entertained to the contractor).

1.5 COMPLETION AND HANDING OVER:

1.5.1 After physical completion, all required inspections, trials, tests shall be jointly done by Contractor and PMC / CLIENT.

1.5.2 Wherever necessary, Completion Certificate / NOC from respective statutory authority shall be taken. The documents of Test Results, Completion Certificates, NOCs shall be submitted

1.5.3 Contractor shall provide Documentation related to Guarantees, Warranties, Manuals, Trouble Shooting Charts, Training to maintenance staff.

1.5.4 Contractor shall also provide Record / As-Built Drawings and Inventory. The Contractor shall hand over fully functional electrical installation.

1.6 WORK SPECIFICATIONS:

1.6.1 The whole work shall be carried out in accordance with the approved detailed drawings (unless otherwise directed by the Client), description of the items in Schedule-C and the detailed specifications in the Standard Specification Book of the Public Work Department,(Electrical) Government of Maharashtra.

1.6.2 Detailed specifications given in the Schedule-C are the specifications for items to be executed.

1.6.5 Height and location of switch boards shall be as per standard norms and may be ascertained before erection. All switchboard accessories shall be modular type.

1.6.6 For each circuit there shall be separate neutral from DB. Size of neutral shall be as per the IEC standards. Limit of wattage and number of points must be observed in respect of each circuit. Each circuit shall be marked on DB as well as switch board.

1.6.7 All DBs shall be in accessible position. Use of RCCB is mandatory.

1.6.8 Electrical panel shall have at least 1m clear space in front of it. GA drawings of Electrical panels shall be got approved prior to fabrication.

1.6.9 All wiring to be connected to emergency / standby supply shall be distinct.

UPS / Invertors batteries shall be installed in segregated and well ventilated area / space.

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- 1.6.10 Earthing must follow IS 3043. Number of earth pits will depend on earth resistance to be kept within limit of 1 ohm. Distance between two earth pits shall not be less than 3m. Size of earth wire shall not be less than 1.5mm^2 copper. Adequate watering arrangement shall be provided for pits. Each electrode shall have test terminal in accessible position
- 1.6.11 There shall be proper alignment of lighting poles. Depending on strata additional concrete / improved grade shall be used for foundations. Each pole shall be earthed and each circuit shall be provided with RCCB. LED Lighting fixture must be earthed. Underground cabling shall be as per IS1255 and mechanically protected.

1.8 MATERIALS AND SAMPLES:

- 1.8.1 The samples of each class of material shall be tested got approved from the PMC/Client prior to its actual use. The material shall be got tested from designated Laboratory, as directed by PMC/Client and the Contractor shall bear all prescribed charges for the same. The Client/ PMC is empowered to reject or approve materials based on test report and his decision shall be final and binding on the Contractor and no disputes in this regard shall be entertained. PMC shall certified such appeared material and kept in sample room. No bill shall be forwarded without test report and certified.
- 1.8.3 All samples shall be supplied by the Contractor(s) at his own cost.
- 1.8.5 The cost of carrying out any test shall be borne by the Contractor(s) as and when required so as to ascertain quality of work executed/ to be executed.
- 1.8.6 All Electrical wires, cables, fixtures, switch sockets, conduits, etc. shall be tested as per relevant IS standard.

DRAWINGS :

CONTRACT DRAWINGS :

The Contract drawings provided for tendering purpose with the tender documents shall be used as a reference only. Contractor should Visualize the nature or type of work contemplated and to ensure that the rates and prices quoted by him in the bill of quantities take due considerations of the complexities of work involved during actual execution/consideration as experienced in the field.

The tendered rates/prices for the work shall be deemed to include the cost of preparation, supply and delivery of all necessary drawings, contractor is required to provide in accordance with the contract.

DOCUMENTATION:

If so ordered by the Engineer-in charge, the contractor will prepared drawings of the work at constructed and will supply original and three copies to the Engineer who will verify and certify these drawings.

Final and constructed drawings shall then be prepared by the contractor and applied in triplicate along with a micro-film of the same to the Engineer for record and reference purpose at the contractors cost.

ITEMWISE
TECHNICAL
SPECIFICATIONS

**NAME OF WORK: - PROPOSED CONSTRUCTION OF REGIONAL OFFICE BUILDING
FOR MPCB AT AMRAVATI, DIST. AMRAVATI**

Item No. 29 :- Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscosity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under: Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane. 3 mm thick

Materials

The bitumen primer shall conform to the requirements laid down in IS 3384.

APP Modified Membrane: It is a polymeric water proofing membrane manufactured to high standards. It is five layered APP modified polymeric membrane with centre core as 20 micron HMHDPE/100 micron HMHDPE High Molecular High Density Polyethylene Film, is the heart of the membrane and protects against water and moisture. The centre core is sandwiched on both sides by high quality polymeric mix with properties of high softening point, high heat resistance and cold resistively to make it ideal for all water proofing treatment. The polymeric mix is protected on both sides with 20 micron HMHDPE film. The membrane is available in variable thickness and weights. Usual width is 1.0 m. Important physical and chemical parameter of the membrane shall be as given in Table 22.1 for guidance.

TABLE 22.1

Centre Core Film Thickness Weight

20 micron HMHPDE 20 micron HMHPDE 1.5 mm 2.25 kg/ sqm.

100 micron HMHPDE 20 micron HMHPDE 2.00 mm 3.00 kg./ sqm.

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Where proprietary brands Atactic Polypropylene modified polymeric membrane is proposed to be used by the contractor, they shall conform in all respect to the specification in the preceding paras and manufactured by a company of repute.

Bonding Material: This shall consist of blown type bitumen conforming to IS 702 or residual bitumen 85/25 conforming to IS 73 heated to the correct working temperature of 180°C. The penetration of the bitumen shall not be more than 40 when tested in accordance with IS 1203, unless otherwise specified each coat of bonding material shall be of blown type bitumen of grade 85/25 heated to a working temperature of 180 degree C and applied @ 1.20 kg. per square metre of the surface area.

Surface Finish: Surface finish shall be with brick tiles of class designation 100 grouted with cement mortar 1:3 (1 cement : 3 fine sand) with 2% integral water proofing compound by weight of cement over a 12 mm thick layer of cement mortar 1:3 (1 cement: 3 fine sand) and finished neat, as shown in Fig. 22.11. Surface finish shall be measured and paid for separately.

22.11.1.5 Preparation of Surface: The surface to be treated shall have a minimum slope of 1 to 120. This grading shall be carried out with cement concrete or cement plaster with coarse sand, as desired, to the average thickness required and finished smooth. Such grading shall be paid for separately. Junctions between the roof and vertical faces of parapet walls, chimneys etc. shall be chased by running triangular fillets 7.5 x 7.5 cm. size, cement concrete. At the drain mouths, the fillets shall be suitably cut back and rounded off for easy application of water proofing treatment and easy flow of water. Cement concrete where shall be 1:2:4 mix (1 Cement: 2 Coarse sand: 4 Graded stone aggregate 20 mm. Nominal size). The provision of fillets shall be deemed to be covered by the item of water proofing and shall not be measured or paid for separately.

In existing roof where gola and drip course are provided at the junction of roof and vertical face of parapet wall, chimney stacks, etc. These shall be dressed suitably and finished smooth so as to ensure an easy and gradual turning of the flashing. Any dismantlement or forming and finishing smooth the junction for forming the base of the flashing shall not be measured or paid for separately and shall be deemed to form part of the preparation of the surface.

While the grading of roof surface is being done, it shall be ensured that the outlet drain pipe have been fixed and mouth at the entrance have been eased and rounded off properly for

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easy flow of water. When any pipe passes through the roof to be treated, angular fillet of shape shown in Fig. 22.11 shall be built around it for the water proofing treatment to be taken over it. These fillets shall not be measured or paid for separately. For carrying over and tucking in the water proofing felts into the parapet walls, chimneys stacks etc. a horizontal groove 6.5 cm. deep, 7.5 cm. wide section with its lower edge at not less than 15 cm. above the graded roof surface shall be left on the inner face of the same; during construction if possible. When such groove has not been left, the same shall be cut out neatly and the base at rear of the groove shall be finished smooth with cement plaster 1:4 (1cement: 4 coarse sand). Such cutting of the groove and its finishing smooth shall be part of the water proofing or paid for separately. No deduction shall be made either for not making the groove or when the latter has already been left in the masonry by the construction agency. Tucking in the water proofing felt will be required where the parapet wall exceeds 45 cm. in the height from the graded surface. Where the height is 45 cm. or less, no groove will be required as the water proofing treatment will be carried over the top of the parapet wall to its full thickness. In the case of low dividing walls of height 30 cm. or less, outlets therein shall be cut open for full height and the bottom and sides shall be rendered smooth and corners rounded and such treatment shall not be measured and paid for separately. Where expansion joints are left in the slab the provision of dwarf walls and/or RCC slabs for covering them and finishing the surface smooth shall be the responsibility of the construction agency, which had laid the roof slab and will not be included in the operation of water proofing. The graded surface of the roof and concrete fillets and the faces of walls shall be thoroughly cleaned with wire brushed and all loose scales etc. removed. The surface shall then be dusted off. Any crack in the roof shall be cut to V section, cleaned and filled up flush with cement mortar slurry 1:4 (1 cement : 4 coarse sand) or blown type petroleum bitumen of IS grade 85/25, or approved quality conforming to IS 702. Such cleaning of the surface or treating the cracks shall not be paid for separately.

Treatment: The water treatment shall be of five or seven course as specified. In seven course treatment, the first four courses shall be the same as for five course treatment. The fifth course shall be a layer of APP modified polymeric membrane. The sixth course shall be a coat of bonding material and the top most seventh course shall be of specified surface finish.

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Laying

(a) First course shall be a coat of bitumen primer @ 0.40 kg per sqmt followed by subsequent course as per treatment required.

(b) Drain outlets shall be given a four or six course treatment as specified for the roof in the description of the item in the manner specified for the flat roof surface. Water proofing treatment shall be carried into the drain pipe or outlets by at least 10 cm. The water proofing treatment laid on the roof surface shall overlap the upper edge of the water proofing treatment in the drain outlets by at least 10 cm.

(c) The APP modified polymeric membrane shall be cut to the required length, brushed clean of dusting material and laid out flat on the roof to eliminate curls and subsequent stretching. The membrane shall normally be laid in length in the direction of the slope and laying shall be commenced at the lowest level and worked up to crest. The membrane shall not be laid in single piece of very long lengths as they are likely to shrink; 6 to 8 m are suitable lengths. The roof surface shall be cleaned and dry before starting the membrane treatment. Each length of membrane shall be laid in position and rolled up for a distance of half its length. The hot bonding material shall be poured on the roof across the full width of the rolled membrane as the latter is steadily rolled out and pressed down. The pouring shall be so regulated that the correct weight of bonding material per unit area is spread uniformly over the surface. Excess bonding material that gets squeezed out at the ends shall be levelled up as laying proceeds. When the first half of the strip of felt has been bonded to the roof, the other half shall be rolled up and then unrolled on the hot bonding material in the same way. Subsequent strips shall also be laid in the same manner.

WATER PROOFING TREATMENT

Each strip shall overlap the preceding one by at least 7.5 cm. at the longitudinal edges and 10 cm. at the ends. All overlaps shall be firmly bonded with a blow lamp and levelling down unevenness. The fourth layer of bonding material in the five course treatment shall be carried out in a similar manner after the flashing has been completed.

1. In a seven course treatment the fifth layers of membrane shall be laid in the manner already described, taking care that laps in the membrane are staggered from those

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in the earlier layer. The sixth layer of bonding material shall be carried out after the flashing is done (See Fig. 22.23).

High Parapet Walls, Chimney Stacks etc.: Membrane shall be laid as flashing wherever junctions of vertical and horizontal surfaces occur. Longitudinal laps shall be 10 cm. The lower layer of flashing membrane in a six course treatment shall overlap the roof water proofing by not less than 20 cm. while the upper layer shall overlap the roofing felt by 10 cm. The minimum overlap of the flashing membrane in five course treatment over the roofing membrane shall be 10 cm. The flashing shall consist of the same five or seven course treatment as for the roof except that the final course shall be replaced by an application of 12 mm thick cement plaster 1:3 on the vertical and sloping faces only, of the flashing as shown in Fig 22.10. The overlap along the length of flashing shall stagger with those in the second layer of flashing membrane (in a seven course treatment and with the joints in the roof membrane). The upper edge of the finishing membrane shall be well tucked into the flashing grooves in the parapet, chimney stacks etc. to a depth of not less than 6.5 cm. Corresponding applications of bonding material shall also be made. The flashing treatment shall be firmly held in place in the grooves with wood edges at intervals and the grooves shall be filled up with cement mortar 1:4 (1 cement: 4 coarse sand) or cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) and surface finished smooth with the rest of the wall. The cement work shall be cured for 7 days. When dry, the exposed plaster joints of grooves shall be painted with bitumen and two coats of bituminous solution shall be applied on the vertical and sloping surface of flashing (see Fig. 22.11).

After the top flashing membrane layer has been fixed, the penultimate layer of bonding material shall be applied over the roofing membrane and the horizontal overlaps and vertical and sloping surfaces of the flashing at the specified rate.

Low Parapet Walls: Where parapet walls are of height 45 cm. or less, membrane flashings shall be provided in the same manner as for flashings in the case of high parapet walls except that the upper edge shall be carried upto the full height of the wall and taken right across the top of the parapet and down on the external vertical faces to a minimum distance of 5 cm. (see Fig 22.18).

Low Dividing Walls: Where low dividing walls or inverted beams are met with, the same shall be covered with a four or six layer treatment as for the main roof, the latter bearing

carried down both sides of the wall and overlapping the roofing treatment as in the case of flashing of high parapet walls (see Fig. 22.7). Drain outlets where formed in the low dividing walls, shall be given water proofing treatment of the same number of courses as specified for the flat roof surface. The bottom and sides shall be so treated that all overlaps are in the direction of flow of drainage.

Expansion Joints: Where the expansion joints are provided in the slabs, the joints and their cover slabs shall be suitably treated with water proofing. A typical sketch of an expansion joint with the RCC slabs on either side of the joint turned vertically up and dwarf walls by not less than 7.5 cm. and are provided with throatings on their underside along their length. The water proofing treatment shall be taken up the sloping junction fillets and the vertical faces of the walls to the underside of the cover slabs. The cover slabs are given the water proofing treatment like the roofs slabs, after the cross joints between adjacent cover slabs are first sealed with 15 cm width of roofing felt struck to them with bitumen. The water proofing treatment shall be carried down the sides of the cover slabs to their full thickness. Care shall be taken to see that overlaps if any in the roofing over the cover slabs stagger with the joints between cover slabs. The formation of the expansion joints and provision of the cover slabs shall be the responsibility of the construction agency. The formation of the junction fillets and the water proofing treatment of the joint and cover slabs shall be carried out by the water proofing agency. Nothing agency extra shall be paid for the sealing of the cross joints in the cover slab with 15 cm. width of bitumen strips.

Pipes: Where vertical pipe outlets are met with, 7.5 x 7.5 cm fillets of lime or cement concrete of the type and section shown in Fig. 22.7 shall be provided and flashing of four or six course treatment, same as for the roofing treatment shall be laid. The upper edge of the flashing shall be laid sloping down forward and butted against the pipe and annular depression so formed shall be filled with hot bitumen. A circular metal collar in the shape of an inverted truncated cone shall be fixed on the pipe to throw off the rain water clear of the flashing and this shall be paid for separately.

Measurement: Length and breadth shall be measured correct to a cm. The area shall be calculated in square metres correct to two places of decimal. Measurements shall be taken over the entire exposed area of roofing and flashing treatment including flashing over low parapet walls, low dividing walls and expansion joints and at pipe projections etc. Overlaps and tucking into flashing grooves shall not be measured. Vertical and sloping surfaces of

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water proofing treatment shall also be measured under the five or seven course treatment as the case may be, irrespective of the fact that the final course is replaced by bitumen primer. No deduction in measurements shall be made for either openings or recesses for chimney stacks, roof lights and the like, for areas upto 0.4 sqm nor anything shall be paid for forming such openings. For areas exceeding 0.40 sqm deduction will be made in measurements for full opening and nothing extra shall be paid for forming such openings.

Item No. 78 :- Providing and fixing in position High Pressure (HPL) Laminate Panels 6 mm thick and required size of building made out cladding for walls of approved colour and shade on structural frame work 65x65x6 mm thick aluminium frame work including fixtures of SS screws, nuts, bolts and scaffolding, ms angle cleat support to frame work etc. complete as directed by Engineer in Charge.

General: - High Pressure Laminates (HPL) for Decorative Surfaces. High Pressure Laminate or HPL, is the direct descendent of the original plastic laminate. It is considered to be one of the most durable decorative surface materials and is available with special performance properties including chemical, fire and wear resistance.

Material:- According Architecture & Construction, high-pressure laminates consists of laminates "molded and cured at pressures not lower than 1,000 psi (70 kg/cm²) and more commonly in the range of 1,200 to 2,000 psi (80 to 140 kg/cm²)."^[1]

HPL is made of resin impregnated [cellulose](#) layers, which are consolidated under heat and high pressure. The various layers are described below:

- Overlay paper, which serves to improve the abrasion, scratch and heat-resistance
- Decorative paper, which defines the design and is composed of colored or printed paper
- [Kraft paper](#), which is used as core material and control product thickness.

Standards: - The [European Standard EN438](#) is one of the standards that most decorative laminates. The specific code is EN438, entitled: Decorative high-pressure laminates (HPL) sheets based on thermosetting resins, specifications. It replaced all other national European standards.

The specific part of EN438 which applies to high-pressure laminates is Part 3. The full title to this standard is: *High-pressure decorative laminates (HPL) Sheets based on thermosetting resins (Usually called laminates) Part 3: Classification and specifications for laminates less than 2 mm thick intended for bonding to supporting substrates*. In total there are 9 parts to the EN438.^[3]

Decorative laminates are grouped into the following types according to EN 438:

Antibacterial[\[edit\]](#)

Antibacterial properties are important for decorative laminates because these laminates are used as kitchen tops and counter tops, cabinets and table tops that may be in constant contact with food materials and younger children. Antibacterial properties are there to ensure that bacterial growth is minimal.

One of the standards for Anti-Bacterial is the ISO 22196:2007,^[4] which is based on the [Japanese Industrial Standards \(JIS\)](#), code Z2801. This is one of the standards most often referred to in the industry with regards to tests on microbial activities (specifically bacteria) and in the JIS Z2801, two bacteria species are used as a standard, namely *E. Coli* and *Staphylococcus aureus*. However, some companies may have the initiative to test more than just these two bacteria and may also replace *Staphylococcus aureus* with MRSA, the methicillin-resistant version of the same bacteria.

Again, different countries may choose to specify different types of microbes for testing especially if they identified some bacteria groups which are more intimidating in their countries due to specific reasons.

Anti-fungi[\[edit\]](#)

A common anti-fungi standard is the [ASTM](#) G21-09. Not all manufacturers will take the initiatives for product R&D for anti-Fungi attributes. Manufacturers like [Maica Laminates](#) send their products for laboratory tests for certification following the ASTM G21-09 standard,^[5] while Formica (South America) partners with Microban Protection,^[6] which is a company manufacturing additives, including the anti-bacterial additives.

Fire-resistant and flame-retardant[\[edit\]](#)

There are many different standards with regards to fire-resistant and flame-retardant properties of high-pressure decorative laminates. While different countries may have different standards for the building industry to adhere to, most countries may agree on some of the more common standards being used in the industry. Very often, just like other standards applicable to the industry, the tests may be European Standards with their equivalent in the US Standards.

For example, many Commonwealth countries may be comfortable with the British Standards 476 especially Parts 6 and 7, while there will still be US Standard equivalence in the ASTM.

Others[\[edit\]](#)

The list of tests applicable to decorative laminates will never be exhaustive. As the technology improves, there will be many more tests to ensure the safety of the products upon use by the end consumer, for example perhaps the tests on transfer of surface substance to food materials if prepared on the decorative laminates as a kitchen surface. The core tests will then also branch out based on the specific requirements and standards adopted by different countries.

"Green" certificates[\[edit\]](#)

Two of the internationally acknowledged "Green" certificates for decorative laminates are MAS Certified Green and GREENGUARD. The MAS Certified Green and GREENGUARD marks are to certify that the products have low chemical emissions. Chemicals tested include VOCs, formaldehyde and other harmful particles. The tests are based on single occupancy room with outdoor ventilation following the ANSI/ASHRAE Standard 62.1-2007, *Ventilation for Acceptable Indoor Air Quality*.^{[7][8]} GREENGUARD especially, has two main consideration, GREENGUARD and GREENGUARD GOLD. The GREENGUARD n GOLD was previously known as the GREENGUARD Children and Schools Certified, signifying its relevance of very low allowable chemical emissions levels to ensure the safety of young children and school environment.

There are also many other "Green" certifications, some which are requirements by the authorities before the product can be used as building materials. These include

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the *Singapore Green Label* which is recognised by the [Global Ecolabelling Network \(GEN\)](#) and all its member countries.

Mode of Measurement:- The item shall be measured in square meter.

Item No. 81 :- Providing And Pasting Mural Art Wall Painting of approved Quality and finish in line and level, Including all fixing assecories, Scaffolding And all Labour etc. complete. Spec. No. As directed by Engineer in Charge.

General: - A mural is any piece of artwork painted or applied directly on a wall, ceiling or other permanent surface. A distinguishing characteristic of mural painting is that the architectural elements of the given space are harmoniously incorporated into the picture.

Material: - Mural covers a variety of techniques including fresco, encaustic, mosaic, stained glass and photography. The type of mural of most interest to contemporary artists is either painting on canvas, which is then attached to a wall or painting directly on the wall surface itself.

Mode of Measurement:- The item shall be measured in square meter.

Item No. 82:- Providing, supplying and fixing Vertical Vanishing Blinds with 25mm width imported fabric approved by architect with Taiwan made sliding fitting as directed by architect etc. complete. as per direction of Architect.

General: fixing Vertical Vanishing Blinds with 25mm width imported fabric

Specification: Vertical Blinds made of glass fiber fabrics in width 5 inch. Minimum overlapping of ¾" in fabric. Top aluminum anodized rail of 1.4 mm thickness 2 inch wide channel with front lamination of same fabric. Runners having stainless steel hooks with built-in shock spring and self aligning slip clutch. End control box composed of double gear system. Stainless steel spacers. Bottom weight fully plastic covered linked with plastic bead chain. Venetian Blinds made of tungsten alloy aluminum. Thickness 0.20mm. Top and bottom channels of powder coated aluminum in thickness 1.4 mm. Brass pulleys, brass

roller cord lock with side stainless steel plate. Tiller having brass and nylon with flexible powder coated steel tilting rod. Ladder

cord with 20 mm spacing and antiflutter type. The material and color shall be as per sample selected and approved by Architect & Engineer –in-Charge.

Item to include: The item rate includes material, labor, finishing, installation up to the satisfaction, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement and Payment: The item shall be measured in square meter.

Item No. 132:- Design, providing & fixing of bio tank for capacity of 32.5 KLD having total volume of bio-tanks 35000 liters as per bio-tank design having PVC matrix fixing using aluminium retainers, one time charging of bio-tanks with Anaerobic Microbial Inoculum (AMI) including material, AMI labour, transportation, consumables, lifting, shifting, fixing, pumping etc. to complete.

General:- The term bio digester is used for the shells made up of FRP/Steel for the anaerobic digestion of human fecal/ waste. Bio tank: The term bio tank is used for the tanks made up of masonry/concrete for the anaerobic digestion of human fecal/ waste.

Material:- Bio-digester technology treats human waste at the source. A collection of anaerobic bacteria that has been adapted to work at temperatures as low as -5°C and as high as 50°C act as inocula (seed material) to the bio-digesters and convert the organic human waste into water, methane, and carbon-dioxide.

Mode of Measurement and Payment: The item shall be measured in Job.

Item No. 133:- Providing, Fixing, Erecting And Testing of Effluent Treatment Plant Having Capacity Of 3 Cubic Meter Per Day As Per Detail Drawing And Design and including Mechanical part viz motor, fabrication, machineries etc, including all labours and materials, Scaffolding, all taxes, etc, Complete. Excluding All Civil Work As Directed By Architect.

General:-

Flow	5 LKD
Nature of wastewater	Lab. Effluent
Treatment technology	Chemical Treatment

Limiting Conditions:**Inlet parameters (at the Inlet of Collection Tank)**

Sr.No.	Parameter	Unit	Value Assumed
1.	pH	-	9 to 9
2.	C.O.D	Mg / lit	Approx.700 to 800
3.	B.O.D	Mg / lit	Approx.200 to 300
4.	Oil & Grease	Mg/ lit	Approx.25
5.	T.S.S.	Mg/ lit	Approx.150

Output Parameters (after Tertiary Filtration system)

Sr. No.	Parameter	Unit	Value Assumed
1.	PH	-	6.0 to 7.0
2.	C.O.D	Mg / lit	Less than. 250
3.	B.O.D	Mg / lit	Less than. 30
4.	Oil & Grease	Mg / lit	Less than. 10
5.	T.S.S.	Mg / lit	Less than. 10

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Details:-**➤ Units & Equipment in the Proposed Treatment Plant:**

Sr. No.	Name /Description of Unit/Equipment	Qty.
1	Bar Screen chamber, MOC: RCC	1 No.
2	Collection Cum Equalization Tank Capacity:5 KL, MOC: RCC	1 No.
3	Sludge Drying Bed Capacity: 1 KL, MOC : RCC	2 No.
4	Flash Mixture Tank Capacity : 0.5 KL, MOC : MS With FRP Coated	1 No.
5	Flocculation Tank Capacity : 0.5 KL, MOC : MS With FRP Coated	1 No.
6	Tube Settler Tank Capacity : 3 KL, MOC : MS With FRP Coated	1 No.
7	Filter Feed Tank Capacity:1 KL, MOC : HDPE, Make : Sintex/ Equivalent	1.No.
8	Bar Screen MOC: MS/SS Make : DES	1No.
9	Effluent Transfer Pump(1Working + 1Standby) Duty : To pump Effluent Type: Horizontal,non-clog,Monoblock MOC Of Pump : CI Drive Motor :0.5HP, Power Rating: 0.37 KW Make- WILO/Kirloskar/CNP/Shakti/Equivalent Accessories: standard base frame, Coupling	2 No.
10	Filter Feed Pump(1Working + 1Standby) Type: Horizontal,non-clog,Monoblock MOC Of Pump : CI Drive Motor 0.5 HP, Power Rating: 0.37KW Make- WILO/Kirloskar/CNP/Shakti/Equivalent Accessories: standard base frame, Coupling	2 No.
11	PH Controller Dosing System Dosing Pump Make : Edose Capacity : 6 LTR/Hr Dosing Tank Capacity ; 100 LTR	3 No.

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	MOC : HDPE	
12	Air Blower(1Working+ 1Standby) Duty : Supply Of Air Type : Twin Lobe Capacity : 30M3/Hr Flow Rate :30 M3/Hr Pressure : 0.4 Kg /cm2 Make : IR/Greenfield/Everest/Equivalent Drive Motor: 1 HP MOC : CI	1 No.
13	Pressure Sand Filter Type : Vertical Vessel MOC : FRP Fluid Handled : Secondary treated waste water Design Pressure : 5 Kg/CM2(G) Hydraulic Test Pressure : 5Kg/CM2 (G) Mode of Back Washing : Water Frequently of Back washing: Once in 24Hr. Flow: 1M3/Hr	1 No.
14	Activated Carbon Filter Type : Vertical Vessel MOC :FRP Fluid Handled : Secondary treated waste water Design Pressure : 5 Kg/CM2(G) Hydraulic Test Pressure : 5Kg/CM2 (G) Mode of Back Washing : Water Frequently of Back washing: Once in 24Hr. Flow: 1M3/Hr	1 No.
15	Interconnecting pipe works and valves within the battery limits of ETP as required MOC : PVC/UPVC/MS Make : Astral/Finolex/Equivalent	1 Lot
16	Electrical, as required Distribution board with starters, On-off switch, power/control Cables, etc. for the drive Make : L&T/Equivalent	1 No.
17	Design Engineering Erection and Commissioning and annual maintenance of 5 years	1 Job

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Item No. 140:- Providing And Pasting 3D Wall Paper of approved Quality and finish in line and level, Including all fixing asseccories, Scaffolding And all Labour etc. complete. Spec. No. As directed by Engineer in Charge.

General:- New digital [inkjet printing technologies](#) using ultraviolet (UV) cured inks are being used for custom wallpaper production. Very small runs can be made, even a single wall. Photographs or digital art are output onto blank wallpaper material. Typical installations are corporate lobbies, restaurants, athletic facilities, and home interiors. This gives a designer the ability to give a space the exact look and feel desired.

Material: - Wallpaper consists of a backing, ground coat, applied ink, and sometimes paste on the backing used to adhere the paper to the wall. Non-woven backings can be of ground wood, wood pulp, or wood pulp with synthetic material.

Installation: - It requires proper surface preparation before application. Additionally wallpaper is not suitable for all areas. For example, [bathroom](#) wallpaper may deteriorate rapidly due to excessive [steam](#). Proper preparation includes the repair of any defects in the drywall or plaster and the removal of loose material or old adhesives. For a better finish with thinner papers and poorer quality walls the wall can be cross-lined (horizontally) with lining paper first. Accurate room measurements (length, width, and height) along with number of window and door openings is essential for ordering wallpaper. Large drops, or repeats, in a pattern can be cut and hung more economically by working from alternating rolls of paper.

After pre-pasted wallpaper is moistened, or dry wallpaper is coated with wet paste, the wet surface is folded onto itself and left for a few minutes to activate the glue, which is called "booking wallpaper.

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Besides conventional installation on interior walls and ceilings, wallpapers have been deployed as decorative covering for hatboxes, bandboxes, books, shelves, and window-shades.

Mode of Measurement and Payment: The item shall be measured in square meter.

Item No. 141:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2800 mmLX 900 mmDx 750 mm Ht with side storage of size 1100 mmL x 750 mmD x 750 mm Ht D.D cabin Table with table top made in 25 mm thick Pre-Laminated Particle Board with straight edges, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, Side storage made in 18 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2800 mmL X 900 mmDx 750 mm Ht.

Specification: Table Top 2800Lx900D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, side storage with back storage of size 1200 mm L x 900 mm D x 750 mm Ht with 18mm thick pre laminated particle board with locking

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arrangement, with three number of key set for each storage as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 142:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2000 mmLX 750 mmDx 750 mm Ht with side storage of size 1050 mmL x 750 mmD x 720 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board with straight edges, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, Side storage made in 18 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder caoted, CPU trolley made in 18 gauge M.S. powder caoted, 3 drawer made in 18 mm thick Pre-Laminated Particle Board, with locking arrangment, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2000 mmL X 750 mmDx 750 mm Ht.

Specification: Table Top 2000 L x 750 D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with

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powder coating, nails, S.S. screws, side storage with back storage of size 1050 mm L x 750 mm D x 720 mm Ht with 18mm thick pre laminated particle board with locking arrangement, with three number of key set for each storage as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 143:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 1600 mm L X 750 mm D x 750 mm Ht with side storage of size 900 mm L x 400mmD x 720 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, Side storage made in 18 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2000 mmL X 750 mmDx 750 mm Ht.

Specification: Table Top 1600 L x 750 D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be clad with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC

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Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, side storage with back storage of size 900 mm L x 400 mm D x 720 mm Ht with 18mm thick pre laminated particle board with locking arrangement, with three number of key set for each storage as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 144:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 1200 mm L X 600 mm D x 750 mm Ht for Receiving, General Receiving and General Store with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, detached foot rest made in 18mm thick Pre-Laminated Particle Board, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 1200 mm L X 600 mm D x 750 mm Ht.

Specification: Table Top 1200 L x 600 D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with

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powder coating, nails, S.S. screws, with three number of key set for each storage as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 145:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2030 mm L X 600 mm D x 750 mm Ht for Reception, Parking with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, 12mm thick throughout Toughened glass fitting with S.S. glass holder on top of table, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2030 mm L X 600 mm D x 750 mm Ht.

Specification: Table Top 2030 L x 600 D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be clad with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, with three number of key set for each storage as per details drawing and as directed by Architect.

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Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 145:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2100 mm L X 900 mm D x 750 mm Ht for Instrumentation Lab (cyber) with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2100 mm L X 900 mm D x 750 mm Ht.

Specification: Table Top 2100 L x 900 D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, keyboard and CPU trolley tray made in 18 gauge M.S. powder coated, three drawer made in 18 mm thick pre laminated particle board with locking arrangement, with three number of key set for each drawer, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, with three number of key set for each storage as per details drawing and as directed by Architect.

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Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 146:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2100 mm L X 900 mm D x 750 mm Ht for Instrumentation Lab (cyber) with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 2100 mm L X 900 mm D x 750 mm Ht.

Specification: Table Top 2100mm L x 900mm D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be clad with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 147:- Providing and supplying 24 Person Seated Modular table made in Pre-Laminated Particle Board of size 12800 L x 750 D x 750 HT for Conference hall with

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table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 12800 mm L X 750 mm D x 750 mm Ht.

Specification: Table Top 12800mm L x 750mm D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 148:- Providing and supplying Modular table made in Pre-Laminated Particle Board of size 4500 mm L X 750 mm D x 750 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board, vertical support panel of 18 mm thick made in Pre-Laminated Particle Board, with aluminium partition soft board and white board, floor leveler including all hardware items, powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

General: Providing Modular table made in Pre laminated particle board of size 4500 mm L X 750 mm D x 750 mm Ht.

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Specification: Table Top 4500mm L x 750mm D to be made of 25 mm thick Pre-laminated MDF board with gable end, vertical support panel of 18 mm thick made in pre laminated particle board, detached foot rest made in 18mm thick pre laminated particle board, The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 149:- Providing and supplying Modular table made in PVC of size 1350 mm L X 900 mm D x 750 mm Ht for Lunch room as per details drawing and as directed by Architect.

General: Providing and supplying P.V.C. dining table in dining hall Table in size 1500 L x 750 D x 750 HT

Specification: The item pertains to providing and supplying dining Table of specified size and shape as per detailed specification and material mentioned in the wording of the item itself. The drawings enclosed are tentative; the detailed working drawings shall be supplied by Architect during execution keeping the overall size of table. The internal arrangement may change.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in Number

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Item No. 150:- Providing & Fixing of Open able Storage @ 2400L x 450D x 900HT:- To be made out of 18mm thick Pre-Laminated Particle Board, with Open able Pre-Laminated Particle shutter board shutters supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper, Floor leveler and 100mm skirting as per drawing. And as directed by Architect

General: Providing Modular Cupboard made in Pre-laminated particle board of size 2400mm L x 450mm D x 900mm Ht.

Specification: Modular cupboard of size 2400mm Lx450mm D x 900mm Ht to be made of 25 mm thick Pre-laminated particle board with Glazed Shutter made in 18mm thick Pre-laminated particle board with 5mm thick plane glass, drawer made in 18 mm thick Pre-laminated particle board with locking arrangement. The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, S .S. box hinges, S.S. Tower bolt locks, Telescopic sliding channels with powder coating, nails, S.S. screws, all S.S. Material should be 304 Grade as per details drawing and as directed by architect.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 151:- Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 1200mm (W) x 500mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in

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Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.

General: Providing Modular Cupboard made in Pre-laminated particle board of size 1200mm L x 500mm D x 2100mm Ht.

Specification: Modular cupboard of size 1200mm Lx500mm D x 2100mm Ht to be made of 25 mm thick Pre-laminated particle board with Glazed Shutter made in 18mm thick Pre-laminated particle board with 5mm thick plane glass, drawer made in 18 mm thick Pre-laminated particle board with locking arrangement. The top and Side Panels will be clad with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, S.S. box hinges, S.S. Tower bolt locks, Telescopic sliding channels with powder coating, nails, S.S. screws, all S.S. Material should be 304 Grade as per details drawing and as directed by architect.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 152:- Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 1800mm (W) x 500mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.

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General: Providing Modular Cupboard made in Pre-laminated particle board of size 1800mm L x 500mm D x 2100mm Ht.

Specification: Modular cupboard of size 1200mm Lx500mm D x 2100mm Ht to be made of 25 mm thick Pre-laminated particle board with Glazed Shutter made in 18mm thick Pre-laminated particle board with 5mm thick plane glass, drawer made in 18 mm thick Pre-laminated particle board with locking arrangement. The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, S .S. box hinges, S.S. Tower bolt locks, Telescopic sliding channels with powder coating, nails, S.S. screws, all S.S. Material should be 304 Grade as per details drawing and as directed by architect.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 153:- Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 2400mm (W) x 450mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.

General: Providing Modular Cupboard made in Pre-laminated particle board of size 1800mm L x 500mm D x 2100mm Ht.

Specification: Modular cupboard of size 2400mm L x 450mm D x 2100mm Ht to be made of 25 mm thick Pre-laminated particle board with Glazed Shutter made in 18mm

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thick Pre-laminated particle board with 5mm thick plane glass, drawer made in 18 mm thick Pre-laminated particle board with locking arrangement. The top and Side Panels will be cladded with post forming laminate of thickness 0.6mm and other exposed edges is concealed with 2mm PVC Lipping including all hardware items, S.S. handle, S .S. box hinges, S.S. Tower bolt locks, Telescopic sliding channels with powder coating, nails, S.S. screws, all S.S. Material should be 304 Grade as per details drawing and as directed by architect.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 154:- Providing and supplying Tea pot table S.S. vertical support and 12 mm thick Toughened glass at top 600 L x 750 D x 600 HT approved make, colour and approved by architect etc. complete.

General: Providing tea pot table with S.S. vertical support

Specification: Table Top 600mm Lx 750mm D to be made of 12 mm thick toughened glass at top with gable end, vertical support of S.S. pipe with powder coating, nails, S.S. screws as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labour, Finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 155:- Providing and fixing Pre-Laminated Particle board 18mm thick shutter supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel

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(304 Grade) and Lock arrangement with magnetic stopper etc. Complete as per design and drawing and instructions of Engineer in charge.

General: Providing Pre-Laminated Particle board 18mm thick shutter supported on S.S. Concealed L-Hinges of required sizes.

Specification: Pre-Laminated Particle board 18mm thick shutter supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper etc. Complete as per design and drawing and instructions of Engineer in charge.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in Square Meter.

Item No. 156:- Providing & supplying High Back Executive Chair with hydraulic stand of 5 legs having reclining and revolving system for RO, Conference hall in artificial leather finish approved by Architect. With 3" in seat and 2" in finished with powder coated M.S. Coated base. Approved by Architect.

General: Providing High Back Executive Chair

Specification: The item pertains to providing and supplying High Back Executive Chairs of specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only. The High Back Executive Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

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Mode of Measurement: The item shall be measured in numbers.

Item No. 157:- Providing and supplying visitor chairs 3 in 1 for waiting area having seat and back in foam with fabric cloth finish with 3" in seat and 2" in back finished with powder coated M.S. Coated base, approved by Architect.

General: Providing visitor chairs 3 in 1

Specification: The item pertains to providing and supplying visitor chairs 3 in 1 Specified size and shape as per detailed specification and material mentioned in the wording of the item itself. The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only. The computer chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 158:- Providing & fixing chair of Arrangement of High Back, Synchronized Mechanism with Multiple Locking, Adjustable Armrest, and Gas lift for Seat height adjustment, Standard 5-prong P/Nylon Base with Leatherette Upholstery as per design and drawing and instructions of Engineer in charge.

General: Providing High Back Executive Chair

Specification: The item pertains to providing and supplying High Back Executive Chairs of specified size and shape as per detailed specification and material mentioned in the

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wording of the item itself .The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only. The High Back Executive Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 159:- Providing and supplying visitor chairs 2 in 1 for waiting area having saet and back in foam with fabric cloth finish with 3“ in seat and 2” in back finished with powder coated M.S. Coated base, approved by Architect.

General: Providing visitor chairs 2 in 1

Specification: The item pertains to providing and supplying visitor chairs 2 in 1 Specified size and shape as per detailed specification and material mentioned in the wording of the item itself. The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only. The computer chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 160:- Providing & supplying Low Back Executive chairs for Conference hall cabin with hydraulic height adjustment with reclining and revolving system stand of 5 legs

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having seat and back in foam with fabric cloth finish with 3“ in seat and 2” in back finished with powder coated M.S. Coated base, approved by Architect.

General: Providing Low Back Executive Chair

Specification: The item pertains to providing and supplying Low Back Executive Type Chairs of specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only .The Low Back Executive Type Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 161:- Providing & fixing chair of Arrangement of Mid back, Normal Tilt Mechanism, Fixed Armrest, Gas lift for seat, height adjustment, Standard 5-prong P/Nylon Base with Fabric Upholstery as per design and drawing and instructions of Engineer in charge.

General: Providing Mild Back Chair

Specification: The item pertains to providing and supplying Mild Back Executive Type Chairs of specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only

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.The Low Back Executive Type Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 162:- Providing & fixing chair of Arrangement of Low Back (without Height Adjustment), Fixed Armrest Black Cantilever Base as per design and drawing and instructions of Engineer in charge.

General: Providing Low Back Chair (without Height Adjustment).

Specification: The item pertains to providing and supplying Low Back Executive Type Chairs (without Height Adjustment) of specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown. Contractor shall procure only mentioned quantity of approved sample only .The Low Back Executive Type Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 163:- Providing & supplying Computer Chair for Staff in Fabric finish (Cloth Rs. 250/meter) approved by Architect. Standing with 5 legs, revolving tilting and finished with powder coated M.S. Coated base. approved by Architect.

General: Providing Computer Chair for Staff in Fabric finish

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Specification: The item pertains to providing and supplying Computer Chairs of Specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown .Contractor shall procure only mentioned quantity of approved sample only .The computer Chairs shall be procured for GODREJ or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 164:- Providing and supplying PVC chairs in dining hall approved by Architect.

General: Providing PVC chairs

Specification: The item pertains to providing and supplying PVC Chairs of specified size and shape as per detailed specification and material mentioned in the wording of the item itself .The catalogue shall be made available or samples shall be shown. Contractor shall procure only mentioned quantity of approved sample only .The PVC Chairs shall be procured for NILKAMAL, SUPREME or equivalent make.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

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Item No. 165:- Providing and supplying 3- seated (Type-2) Visitor Sofa Set in waiting Cabin in 3 & 4 inches high density foam Pounds/Cubic fit fixed on a base of 18 mm thick gurjan hardwood based ply. As per drawing no. finished with specified leather cloth. Approved by Architect.

General: Providing 3- seater (Type-2) Executive Sofa

Specification: The item pertains to providing and supplying sofa set of specified size and shape as per detailed specification and material mentioned in the wording of the item itself. The drawings enclosed are tentative; the detailed working drawings shall be supplied by Architect during execution keeping the overall size of sofa set same. The internal arrangement may be changed. The catalogue shall be made available or samples shall be shown. Contractor shall procure only mentioned quantity of approved sample only.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 166:- Providing and supplying Modular Bed For Guest House size 2000 x 1200 x 450mm With Corner Table made in 18 mm thick Prelaminated particle board, drawer made in 18 mm thick Prelaminated particle board with locking arrangement etc. externally finished with 1.0 mm thick laminate and internally finished with 1.0 and mattress 3 & 4 inches high density foam finished with cotton cloth and including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.

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General: Providing Modular Bed for Guest House size 2000mm L x 1200mm D x 450mm Ht.

Specification: Modular Bed For Guest House size 2000mm L x 1200mm D x 450mm Ht With Corner Table made in made in 18 mm thick Pre-laminated particle board, drawer made in 18 mm thick Pre-laminated particle board with locking arrangement etc. externally finished with 1.0 mm thick laminate and internally finished with 1.0 and mattress 3 & 4 inches high density foam finished with cotton cloth and including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, all S.S. material should be of 304 grade as per details drawing and as directed by Architect.

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 167:- Mobile Compactor storage system with Mobile Unit, Static Unit, Guide Track. Guide track of size 30MM M.S. Round with necessary Bracing and base plate Each mobile Compactor is provided with a handle for mechanically assisted drive mechanism consisting of a series of sprocket and chain mechanism for smooth movement, fitted with safety guard which is to be engaged when entering the common aisle, label holders, end stoppers, The entire material supplied by us is subject to nine bath process and finally painted with high grade powder coated finish and baked in oven at 160Dgree Celcius. Color combination will be as required. The front panel cosmetic surface is given powder coated.

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General: Providing Mobile compactor of required size as per drawing provided.

Specification: Mobile Compactor storage system with Mobile Unit, Static Unit, Guide Track. Guide track of size 30MM M.S. Round with necessary Bracing and base plate Each mobile Compactor is provided with a handle for mechanically assisted drive mechanism consisting of a series of sprocket and chain mechanism for smooth movement, fitted with safety guard which is to be engaged when entering the common aisle, label holders, end stoppers, The entire material supplied by us is subject to nine bath process and finally painted with high grade powder coated finish and baked in oven at 160Dgree Celcius. Color combination will be as required. The front panel cosmetic surface is given powder coated.

Material:

- Load Bearing Sheet - 22g
- Horizontal Steel Panels - 22g
- Back Cladding / Centre Partition- - 22g
- Front Panel - 22g
- Base Trolley 'C' Lipped Channel - 12g
- Handles - Chrome plated/ Powder coated

Item to include: The item rate includes material, labor, finishing, loading and unloading charges, transportation charges to the site of work, assembling, octroi, VAT charges etc.

Mode of Measurement: The item shall be measured in numbers.

Item No. 255:- Supply, installation testing and commissioning of High definition IR IP Vandal Dome Camera with Having following features: .• Max. 2M (1920 x 1080) resolution • 2.8 ~ 12mm (4.3x) varifocal lens • 0.15Lux@F1.4 (Color), 0Lux@F1.4 (B/W :

Contractor

Consultant

Member Secretary

IR LED on) • 30fps@all resolutions (H.265) • H.265, MJPEG dual codec, Multiple streaming • Motion detection, Tampering • micro SD(128gb) memory slot, PoE • IR viewable length 20m • Built in mic/external Audio in/out • Hallway view support (Rotate 90°/270°) • LDC support (Lens Distortion Correction) • IP66, IK10

Camera

- Image Sensor 1/3" Progressive Scan CMOS
- Min. Illumination 0.01Lux @ (F1.2, AGC ON) ,0 Lux with IR 0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR
- Shutter Speed 1/3 s to 1/100,000 s
- Lens 4mm@ F2.0, Angle of view: 85° (6mm optional)
- Lens Mount M12
- Day & Night IR cut filter with auto switch
- Digital Noise Reduction 3D DNR
- Wide Dynamic Range Digital WDR Compression Standard
- Video Compression H.264/ MJPEG
- Video Bit Rate 32 Kbps – 8 Mbps
- Dual Stream Yes

Image

- Max. Resolution 1920 × 1080
- Max Frame Rate 50Hz: 25fps(1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720) 60Hz: 30fps(1920 × 1080), 30fps (1280 × 960), 30fps (1280 × 720)
- Sub Stream 50 Hz: 25 fps (320 × 240), 25 fps (352 × 288), 25 fps (640 × 480), 25fps(704 × 576) 60 Hz: 30 fps (320 × 240), 30 fps (352 × 288), 30 fps (640 × 480), 30fps(704 × 576)
- Image Settings Rotate mode, Saturation, Brightness, Contrast adjustable by client software or web browser
- Backlight compensation Yes, zone optional

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- ROI Support Network
- Network Storage NAS (Support NFS, SMB/CIFS)
- Detection Intrusion detection, Line crossing detection, Motion detection, Dynamic analysis
- Alarm Trigger Tampering alarm, Network disconnect, IP address conflict, Storage exception
- Protocols TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour
- General One-key reset, Anti-Flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filtering, Anonymous access
- Standard ONVIF, PSIA, CGI, ISAPI Interface
- Communication Interface 1 RJ45 10M/100M Ethernet interface
- On-board storage Built-in Micro SD/SDHC/SDXC card slot, up to 128 GB
- Reset Button Yes Wi-Fi Specification (Only for the products with Wi-Fi module built-in)
- Wireless Standards IEEE 802.11b, 802.11g, 802.11n
- Frequency Range 2.4 GHz ~ 2.4835 GHz
- Channel Bandwidth 20/40MHz Support
- Protocols 802.11b: CCK, QPSK, BPSK 802.11g/n: OFDM
- Security 64/128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK, WPS
- Transfer Rates 11b: 11Mbps 11g: 54Mbps 11n: up to 150Mbps
- Wireless Range 50m (depend on environment) General
- Operating Conditions -30 °C – 60 °C (-22 °F – 140 °F) Humidity 95% or less (non-condensing)
- Power Supply 12 V DC ± 10%, PoE (802.3af)
- Power Consumption MAX. 5.8W
- Material Front Cover: Plastic; Back Cover & Bracket: Metal
- Ingress Protection level IP67
- IR Range 30 meters

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- Dimensions 70×157×62 mm (2.8" × 6.1" × 2.4")
- Weight 500g (1.1 lbs)
- **Mode of Measurement:** The item shall be measured in numbers.

Item No. 256:- Supply installation testing and commissioning of 16 Ch POE Network Video Recorder with 4 SATA ports

- Up to 16CH 8M supported
- 80Mbps network camera recording
- Plug & play by 16 PoE/PoE+ ports
- Max. 4HDDs, e-SATA storage supported
- HDD removable (Easy install)
- HDMI / VGA local monitor
- 16 Channel 2 way Audio supports

The Digital Video Recorder (DVR) shall have on board Ethernet and shall be able to integrate with the Integrated Security Management Software (ISMS).

The DVR shall include, but not limited to the following:

- The DVR shall use H.264 compression technology and shall have on board Ethernet port.
- The DVR shall have embedded Linux operating system and shall function as a standalone unit. For either programming or normal operation, it shall not require the use of a computer, special monitors or any other special peripheral devices.
- Each DVR shall have internal hard disk drives with SATA interfaces. Internal HDD shall be able to support up to a maximum of 4 TB storage.
- The DVR shall have Triplex capability that allows to record, playback and view live images simultaneously.
- The DVR shall have a built-in web server and it shall be possible to do the configuration through a web browser over the IP network.

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- The DVR shall have the capability to record and playback real time video at 2 CIF resolutions.
- The DVR shall support loop through streaming of all the 16 channels video.
- The DVR shall use a battery internally to back up memory that stores the time, date and all internal programming functions.
- The DVR shall have an easy to ready on screen text and menus. It shall also allow the user to change the position of On screen display.
- The DVR shall have buttons, jog / shuttle integrated into the front panel to allow menu navigation, set up and control of unit, without the need of any external device.
- The front panel buttons shall be capable of controlling / navigating Pan / Tilt / Zoom functions of PTZ cameras connected to the unit.
- The DVR shall have the following option:
 - a. The unit shall allow the user to select different resolution for each channel.
 - b. The unit shall have the option to select either different frame rate for each channel.
 - c. The unit shall allow the option to select either Fixed or Variable bit rate for each channel. The bit rate shall range from 32 Kbps up to 2 Mbps.
- The DVR shall have the following record mode
 - a. Continuous
 - b. Manual
 - c. Motion Detection
 - d. External alarm
 - e. Motion & Alarm
 - f. Motion or Alarm
- The DVR shall allow setting up of privacy mask for each camera using an on screen menu. Each camera shall have the possibility to set at least 4 privacy mask area.
- The DVR shall have a minimum of one audio input channel for every video channel and additional audio input to provide bi-directional audio. The compressed audio bit rate shall not exceed 16Kbps.

- The video and audio signals shall be synchronized and the DVR shall have the option of having a mixed stream (Video & Audio) or a Video only stream.
- The DVR shall the following video output:
 - a. Multi-screen / Sequential – BNC Type
 - b. VGA
 - c. HDMI
- The DVR shall have one digital alarm input for each video channel and a minimum of 4 relay outputs.
- The DVR shall provide automated alarm handling. Upon receipt of an alarm, shall have the capability to change the resolution and frame as defined in the alarm recording settings.
- In addition to changing of record settings upon receipt of an alarm, the DVR shall also be capable to provide relay output operation.
- The DVR shall also have the capability to integrated with access control system controllers, intruder alarm panels and other security control equipments to receive alarm signals from those devices and perform alarm handling over IP network.
- The DVR shall support pre-alarm recording maintained in a buffer and shall append this buffer to the beginning of all recorded alarms. The DVR shall continue to record with the alarm record settings until the alarm is reset or acknowledged.
- The DVR shall provide the option of single channel as well as multi-channel playback.
- The DVR shall provide extensive search capabilities for archiving, restoring and playback operation.
- The DVR shall have the capability of archiving the recorded images from internal hard disk to an external medium.
- The DVR shall support USB HDD, USB CD R/W, USB DVD R/w.
- The DVR shall allow the option to set 'STOP RECORDING' or OVERWRITE' when the hard disk is full.
- The DVR shall support recording of all images with a digital watermark.

- The DVR shall support Infra-red Remote control to operate, configure and navigate the menus. The remote control shall also support PTZ controls.
- For remote monitoring over IP networks, the DVR shall be set to fixed or variable transmission bit rate on both video streams for each channel. Each channel shall be set with independent record mode, resolution and frame rate.
- IR based remote control shall be supplied along with Digital Video Recorder
- Remote DVR firmware upgrade shall be possible.
- Multi-zone area masking shall be possible.
- **Display function** shall have the following features: Unit Name, Device ID, Require Password, (Y/N), Screen saver, Video standard (PAL / NTSC), Enable Scaler, Brightness, Menu transparency, VGA resolution, DST Setup, Date and Time.
- **Image function** shall have the following features: Select Camera, Camera name and position, Adjustments - Brightness, Contrast, Hue, Saturation, OSD Display mode, position and OSD style setup, Privacy Mask area setup, View tampering area and response policy setup, Video signal loss and policy set up, Motion detection sensitivity, area and response setup.
- **Recording function** shall have the following features: Overwrite/Stop recording if HDD full, SATA1 disk usage, Select Camera, Recording parameters (Normal / Event) -Stream Type, Resolution, Frame Rate, Max Bit Rate, Image Quality, Bit Rate Type; Record schedule, Prerecord time, Post Record time.
- **Networking function** shall have the following features: NIC Type, DVR IP address, mask, gateway, DNS IP, Advanced settings, Multicast IP address, Remote host IP and port PPPoE setup, E-mail
- **Alarm function** shall have the following features: Alarm input type (NO/NC), Alarm response and PTZ linkage, Alarm output and schedule
- If there is no activity for a specified idle time (defined in screen saver), the screen display shall return to live view (preview) mode. It shall allow defining the screen saver time.
- Time zones for Daylight Saving Time (DST) shall be possible.

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- Following are the various handle methods that shall be defined for view tampering alarm and one or more of these options shall be enabled
 - On Screen Warning
 - Audible Warning
 - Trigger Alarm Out
 - Email Notification - Optional
- DVR shall have three DDNS protocols (Ipserver, Dyn dns & Peanut Hull) and one of the three shall be selected.
- Following are the exception types shall be available
 - Network Failure
 - IP Address Conflict
 - Illegal Access
 - NTSC / PAL Difference
 - Video Exception
 - Hard disk Full
 - Hard disk error
- The DVR shall support configuration / operation through any of the following:
 - DVR Front panel buttons
 - Remote client viewer software over the network
 - Integrated Video Management software (IVMS)
- The Digital Video recorder shall carry the following EMC approvals:
 1. EN55022
 2. EN55024
 3. EN 61000-3-2
 4. EN 61000-3-3
 5. EN 60950-1
 6. FCC Part 15 - Subpart B

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7. Underwriters Laboratories Inc. (UL)

- **Mode of Measurement:** The item shall be measured in numbers.

MAHARASHTRA POLLUTION CONTROL BOARD						
NAME OF WORK:- PROPOSED CONSTRUCTION OF REGIONAL OFFICE BUILDING FOR M. P. C. B AT AMRAVATI DIST. AMRAVATI						
BILL OF QUANTITIES						
SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
	EXCAVATION & FILLING					
1	Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area. Item spec. :BR 4B	1858.73	Sqm			
2	Excavation for foundation in earth, soil of all types, sand, gravel and soft murum , including removing the excavated material up to a distance of 50 m. beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete. (Lift upto 1.5 m.) By Mechanical Means Spec. No. Bd.A.1 Page No. 259	371.51	Cum			
3	Excavation for foundation in hard murum including removing the excavated material upto distance of 50 metres beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete. (Lift upto 1.50m) By Mechanical Means Spec. no. Bd.A.2 Page No.259	333.85	Cum			
4	Excavation for foundation in hard murum and boulders including removing the excavated material up to a distance 50 metres, beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete. (Lift upto 1.5m.) By Mechanical Means Spec.No. : Bd.A.3, Page No. 259.	731.80	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
5	Excavation for foundation in Soft rock and old cement or lime masonry foundations including removing the excavated material upto a distance of 50 metres beyond the building area and stacking as directed, including dewatering, preparing the bed for the foundation and necessary back filling with available earth /murum, ramming, watering including shoring and strutting etc. complete (lift upto 1.5m) By Mechanical Means Spec.No. : Bd.A.4, Page No. 259.	218.18	Cum			
6	Filling in plinth and floors with approved excavated material in 15cm.to 20cm. layers including watering and compacting etc. complete. Spec. No Bd.A.10 Page No. 262	522.46	Cum			
7	Filling in plinth and floors with contractors material/brought from outside and approved by Engineer incharge in layers of 15 cm to 20 cm including watering and compaction etc. complete. Spec. No. Bd.A 11, Page No. 263	177.85	Cum			
8	Providing soling using 80 mm size trap metal in 15 cm. layer including filling voids with Crushed sand/grit, ramming, watering etc. complete.. Spec. No. As Directed By Engineer In Charge.	207.72	Cum			
	ANTI - TERMITE TREATMENT					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
9	Providing preconstructional antitermite treatment as per I.S. 6313 (Part-II) by treating the bottom surface and sides of excavation at the rate of 5 litres of emulsion concentrate of 1.0 percent of chlorophyrifos per square meter of surface area covering 10 years guarantee on bond paper. Spec. No. As Directed By Engineer In Charge.	1270.94	Sqm			
10	Providing preconstructional antitermite treatment as per I.S. 6313 (Part-II) by treating the top surface of plinth filling at the rate of 5 litres of emulsion concentrate at 1.0 percent of clorophyrifos per square metre of surface area covering ten years guarantee on bond paper. Spec. No. As Directed By Engineer In Charge.	362.32	Sqm			
PLAIN CEMENT CONCRETE						
11	Providing and laying Cast in situ/Ready Mix cement concrete in M-10 of trap / granite / quartzite / gneiss metal for foundation and bedding including bailing out water, Steel centering, formwork, laying/pumping, compacting, roughening them if special finish is to be provided, finishing if required and curing complete, with fully automatic micro processor based PLC with SCADA enabled reversibleDrum Type mixer/concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc)) Spec. No. Bd. E. 1 Page No287	127.54	Cum			
12	Providing and laying 50 mm thick layer in cement mortar 1:8 below plinth beam including floating, watering, curing and leveling and ramming the bed if necessary before laying the layer etc. complete. Spec No. : As directed by Engineer in charge No.38	81.95	Sqm			
REINFORCED CEMENT CONCRETE						

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
13	Providing and laying Cast in situ/Ready Mix cement concrete M-25 of trap / granite /quartzite/ gneiss metal for R.C.C. work in foundations like raft, strip foundations, grillage and footings of R.C.C. columns and steel stanchions etc. including bailing out water, Steel centering, formwork ,cover blocks, laying/pumping, compaction and curing roughening the surface if special finish is to be provided (Excluding reinforcement and structural steel) etc. complete, with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc). Spec. No. Bd. F.3 Page No. 298 and B.7, Page No. 38	258.27	Cum			
14	Providing and laying Cast in situ/Ready Mix cement concrete M-25 of trap / granite /quartzite/ gneiss metal for R.C.C. columns as per detailed designs and drawings or as directed including steel centering, formwork, cover blocks compacting and roughening if special finish is to be provided and curing etc. complete. (Excluding reinforcement and structural steel).with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. Bd.F.5 Page No. 300 And B7, Page No 38.					
A	GROUND FLOOR	41.69	Cum			
B	FIRST FLOOR	13.50	Cum			
C	SECOND FLOOR	13.50	Cum			
D	THIRD FLOOR	18.31	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
15	Providing and laying Cast in situ / Ready Mix cement concrete in M-25 of trap/ granite/ quartzite/ gneiss metal for R.C.C. beams and lintels as per detailed designs and drawings or as directed including steel centering, formwork, cover blocks, laying/pumping, compaction and roughening the surface if special finish is to be provided and curing etc. complete. (Excluding reinforcement and structural steel).with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. Bd.F.6 Page No. 300 and B.7, Page No.38					
A	GROUND FLOOR	51.36	Cum			
B	FIRST FLOOR	49.15	Cum			
C	SECOND FLOOR	52.18	Cum			
D	THIRD FLOOR	64.67	Cum			
16	Providing and laying Cast in situ/Ready Mix cement concrete M-25 of trap/ granite / quartzite/ gneiss metal for R.C.C. slabs and landings as per detailed designs and drawings including steel centering, formwork, cover blocks, compaction, finishing the formed surfaces with cement mortar 1:3 of sufficient minimum thickness to give a smooth and even surface or roughening if special finish is to be provided and curing etc. complete.(Excluding reinforcement and structural steel).with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. Bd.F.8 Page No. 302 and B.7, Page No.38					
A	GROUND FLOOR	76.75	Cum			
B	FIRST FLOOR	45.64	Cum			
C	SECOND FLOOR	45.64	Cum			
D	THIRD FLOOR	60.38	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
17	Providing and laying Cast in situ/Ready Mixcement concrete M-25 of trap/ granite/ quartzite/ gneiss metal for R.C.C. chajja as per detailed design and drawings including steel centering, formwork, cover blocks, laying/pumping, compacting and roughening the surface if special finish is to be provided and curing complete. (Excluding reinforcement and structural steel). with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. Bd.F.9 Page No. 303 and B.7, Page No.38					
A	GROUND FLOOR	0.43	Cum			
B	FIRST FLOOR	3.24	Cum			
C	SECOND FLOOR	3.24	Cum			
D	THIRD FLOOR	3.46	Cum			
18	Providing and laying Cast in situ/Ready Mix cement concrete in M-25 of trap/ granite/ quartzite/ gneiss metal for R.C.C. pardi of required thickness including steel centering, formwork, cover blocks, laying/pumping, compacting and roughening them if special finish is to be provided and curing complete. (Excluding reinforcement and structural steel).with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc). Spec. No. Bd.F.11 Page No. 304 and B.7, Page No. 38					
A	GROUND FLOOR	89.84	Cum			
B	FIRST FLOOR	4.79	Cum			
C	SECOND FLOOR	4.79	Cum			
D	THIRD FLOOR	29.57	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
19	Providing and laying Cast in situ/Ready Mix cement concrete in M-25 of trap / quartzite /granite /gneiss metal for R.C.C. Waist slab, and steps of staircases as per detailed design and drawings or as directed including steel centering, plywood/ steel formwork, steel props, laying/pumping, compaction, finishing uneven and honeycombed surface with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface or roughening the surface if special finish is to be provided and curing etc. complete. (Excluding einforcement, including cover block).(Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc.) with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. : Bd.F. 13 Page No. 305. /I.S. 456 (2000)					
A	GROUND FLOOR	5.35	Cum			
B	FIRST FLOOR	5.35	Cum			
C	SECOND FLOOR	5.35	Cum			
D	THIRD FLOOR	5.35	Cum			
20	Providing and laying Cast in situ/Ready Mix cement concrete M-15 of trap/ granite/quartzite/gneiss metal for coping to plinth or parapet , moulded or chamfered as per drawing or as directed including steel centering, plywood/ steel formwork compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed.) With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc) Spec. No. Bd.E. 3/Page No. 288/I.S. 456 (2000)					
A	GROUND FLOOR	16.88	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
E	TERRACE FLOOR	2.07	Cum			
21	Providing expansion joints in R.C.C. framed structure (exterior column) with plain premoulded filler 25 mm thick with 75 mm wide and 1 mm thick stainless steel plate and finishing etc. complete. Spec. No. Bd.K.1.B					
A	GROUND FLOOR	13.12	Sqm			
22	Providing and laying in Situ Cement Concrete M30 With Tremix Treatment For 200 mm Thickness For Flooring with groove cutting of 4mm wide and 20mm deep with necessary refilling with bitumen etc. complete. Spec. No.As directed by Engineer in charge. .					
A	GROUND FLOOR	60.00	Sqm			
23	Providing and fixing in position TMT - FE - 500 bar reinforcement of various diameters for R.C.C. pile caps, footings, foundations, slabs, beams columns, canopies, staircase, newels, chajjas, lintels pardis, copings, fins, arches etc. as per detailed designs, drawings and schedules. including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required complete. Spec. No. Bd.F.17 Page No. 306.					
A	GROUND FLOOR	55.54	Rmt			
B	FIRST FLOOR	14.91	Rmt			
C	SECOND FLOOR	15.36	Rmt			
D	THIRD FLOOR	21.29	Rmt			
	BRICK WORK - AAC BLOCK MASONRY					
24	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in foundations and plinth of inner walls/ in plinth external walls including bailing out water manually , striking joints on unexposed faces, raking out joints on exposed faces and watering etc. Complete. Spec. No. Bd.G. 1. Page No. 313.					
A	GROUND FLOOR	15.14	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
25	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in superstructure including striking joints, raking out joints, watering and scaffolding etc. Complete Spec. No. Bd.G.5 Page No.315.					
A	GROUND FLOOR	131.45	Cum			
26	Providing and constructing masonry in Autoclaved Areaclaved (Cellular) Concrete Block of aproved manufacturer confirming to IS 2185 Part III 1984 of size (625 X 240 X 230 / 150 mm) thick in extra fine jointing mortar of fixoblock of Ultra Tech or equivalent in superstructure including,striking joints,racking out joints watering and scaffolding etc.complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	30.13	Cum			
B	FIRST FLOOR	90.51	Cum			
C	SECOND FLOOR	78.07	Cum			
D	THIRD FLOOR	80.71	Cum			
27	Providing and constructing masonry in Autoclaved Areaclaved (Celluar) Concrete Block of aproved manufacturer confirming to IS 2185 Part III 1984 of size (625 x 240 x 100 mm) in extra fine jointing mortar of fixoblock of Ultra Tech or equivalent in half brick thick wall including 2 hoop iron strips 25mm x 1.6mm at every third course,properly bend and bonded at ends scaffolding racking out joints and watering compete Spec. No. As Directed By Engineer In Charge.					
B	FIRST FLOOR	71.29	Sqm			
C	SECOND FLOOR	71.29	Sqm			
D	THIRD FLOOR	89.54	Sqm			
	WATERPROOFING					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
28	Providing cement based water proofing treatment to terraces (Indian water proofing or alike) with brick bats laid in required slope to drain the water for any span after cleaning the base surface. Applying a coat of cement slurry admixed with approved water proofing compound and laying the brick bats on bottom layer in C.M.1:5 admixed with approved water proofing compound filling up to half depth of brick bats, curing this layer for 3 days, applying cement slurry over this layer joints of brick bats with C.M.1:3 admixed with approved water proofing compound and finally top finishing with average 20 mm. thick layers of same mortar added with jute fiber at 1 Kg per bag including finishing the surface smooth with cement slurry admixed with approved water proofing compound. Marking finished surface with false squares of 300mm x 300 mm. making the junctions at the parapet rounded and tapered top for required height, with drip mould at the junction of plaster and parapet and curing and covering 10 years Guarantee against leakproofness on Court fee stamp paper of Rs. 500/- including ponding test etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	2.86	Sqm			
B	FIRST FLOOR	41.18	Sqm			
C	SECOND FLOOR	41.18	Sqm			
D	THIRD FLOOR	354.82	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
29	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3 mm thick water proofing membrane , black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/litre and viscocity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5 cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane : 22.19.1 3 mm thick					
E	TERRACE FLOOR	343.94	Sqm			
30	Providing waterproof plaster in W.C. and bath 12 mm thick for dado in cement mortar 1:3 with neat finishing , floating using waterproofing compound at the rate of 1 kg. per bag of cement of approved make and manufacturer and curing etc.(Excluding Tiles). complete. Spec. No. As directed by Engineer in charge.					
A	GROUND FLOOR	21.85	Sqm			
B	FIRST FLOOR	67.65	Sqm			
C	SECOND FLOOR	67.65	Sqm			
D	THIRD FLOOR	72.95	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
31	Providing water proof bedding for flooring of Bath and WC 25 mm thick in C.M. 1:3 including using approved water proofing compound in specified proportion as per manufacturers specifications for per bag of cement including leveling, curing and covering 10 years guarantee on court fee stamp paper of Rs.500/- including ponding test etc. complete. Spec. no. As directed by Engineer in charge.					
A	GROUND FLOOR	2.86	Sqm			
B	FIRST FLOOR	6.16	Sqm			
C	SECOND FLOOR	3.08	Sqm			
D	THIRD FLOOR	5.72	Sqm			
32	Providing and fixing 20 to 25 mm Thick Rough Shahabad Box Type Waterproofing Treatment To Vertical Outside Faces Of Reinforced Cement Concrete Walls Of Basement Or Underground Floor including filling the gap of 25 mm between rough shahabad and R.C.C. walls with cement grout mixed with water proofing liquid Algae proof or other alike with one tile lift method, brushing the joints horizontally with cement slurry mixed with water proofing liquid for width 30 to 35 mm and sloping coping over topmost tile with cement mortar 1:3, butting the bottom most with Cement concrete 1:2:4 mixed with water proofing liquid, curing, with 7 years guarantee on court fee stamp of Rs.100/with ponding test etc complete. (Excluding Cement Concrete 1:3:6 Base Concrete) Spec.No. Bd. J.2 Page No. 355					
A	GROUND FLOOR	236.55	Sqm			
	PLASTERING					
33	Providing and fixing Chicken Mesh Of 22 Gauge, With About 30 Cm. Width at the junction of R.C.C members and brick work, of approved quality including fixing mesh in position by necessary drilling in concrete / B.B.masonry and or tying by binding wire etc. complete. Spec. No. As Directed By Engineer In Charge.					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
A	GROUND FLOOR	1521.20	Rmt			
B	FIRST FLOOR	755.00	Rmt			
C	SECOND FLOOR	755.00	Rmt			
D	THIRD FLOOR	836.63	Rmt			
34	Providing Internal Cement Plaster 12mm Thick In Single Coat In Cement Mortar 1:3 Without Neeru Finish to concrete or brick surfaces, in all position including scaffolding and curing etc. complet. Spec. No. Bd.L.2 Page No.368					
A	GROUND FLOOR	817.99	Sqm			
35	Providing internal cement plaster 6 mm thick in a single coat in cement mortar 1:4 without neeru finish to concrete surface in all positions including scaffolding and curing etc. complete. Spec. No.Bd.L.1 Page No. 367					
A	GROUND FLOOR	8.00				
36	Providing and applying gypsum plaster (with Gypsum material of Gypsum India / Mega Sign or equivalent make) with finishing with gypsum material in 10 to 13 millimeter thickness to previously plastered surface / or on newly brick surface (Excluding rough cast plaster) in all position including preparing and Finishing the surface scaffolding etc.complete. Spec.No. : As Directed By Engineer In Charge.					
A	GROUND FLOOR	730.39	Sqm			
B	FIRST FLOOR	860.14	Sqm			
C	SECOND FLOOR	828.70	Sqm			
D	THIRD FLOOR	1036.82	Sqm			
37	Providing fine cement finish 1.5 mm thick over green plaster surface including scaffolding curing etc. complete. Spec. As directed by Engineer in charge.					
A	GROUND FLOOR	802.18	Sqm			
E	TERRACE FLOOR	185.28	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
38	Providing sand faced plaster externally in cement mortar using approved screened sand , in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1 kg per cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete. Spec . No. Bd. L.7 Page No.369.					
A	GROUND FLOOR	1440.37	Sqm			
B	FIRST FLOOR	143.84	Sqm			
C	SECOND FLOOR	143.84	Sqm			
D	THIRD FLOOR	291.17	Sqm			
39	Providing internal cement plaster 20mm thick in two coats in cement mortar 1:4 without neeru finish , to concrete, brick surface, in all positions including scaffolding and curing etc.complete. Item Spec: Bd.L.4 Page No.368					
A	GROUND FLOOR	120.00	Sqm			
40	Providing and applying Texture plaster with finishing with texture material of approved make in 3 to 4 millimeter thickness on previously plastered surface, including Plaster Groove 6mm thickness or Tape Grooves 35 to 45 mm thickness or as required, in all position including preparing the surface, scaffolding etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	120.00	Sqm			
B	FIRST FLOOR	100.65	Sqm			
C	SECOND FLOOR	100.65	Sqm			
D	THIRD FLOOR	100.65	Sqm			
41	Labour charges for providing groove in external plaster having width and spaced as directed by engineer incharge etc. complete.. Spec . No.As directed by Engineer in charge					
A	GROUND FLOOR	245.95	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
42	Providing Uncoursed Rubble Masonry Of Trap / Granite / Quartzite / Gneiss Stones In Cement Mortar 1:6 In Foundation And Plinth of inner walls / in plinth of external walls including bailing out water manually , striking joints on un exposed faces and watering etc.complete. Item Spec. No. Bd.H.1 Page No. 329					
A	GROUND FLOOR	6.48	Cum			
43	Providing Flush Grooved Pointing With Cement Mortar 1:3 For Stone Masonry Work including scaffolding and curing etc. complete. Item Spec. No. Bd. L.15 Page No. 372					
A	GROUND FLOOR	4.00	Sqm			
	FLOORING & DADO / SKIRTING					
44	Providing and laying in position Flooring Of Telephone Black / Amba White / Cat Bary Brown / Ruby Red / Ocean Brown Granite Stone of approved shade and size 18 mm to 20 mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete. Spec. No Bd.M. 3 B/Page No. 380					
A	GROUND FLOOR	33.00	Sqm			
B	FIRST FLOOR	33.00	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
C	SECOND FLOOR	33.00	Sqm			
D	THIRD FLOOR	33.00	Sqm			
45	Providing and laying Machine Cut Machine Polished Kota Stone Flooring 25 mm To 30 mm Thick and required width in plain/ diamond pattern on bed of 1:6 C. M. including cement float, filling joints with neat cement slurry, curing, polishing and cleaning etc. complete. Spec. No. Bd.M.3 Page No. 380					
A	GROUND FLOOR	66.99	Sqm			
B	FIRST FLOOR	51.53	Sqm			
C	SECOND FLOOR	121.45	Sqm			
D	THIRD FLOOR	73.53	Sqm			
46	Providing and laying vitrified stone effect finish tiles having size 590 to 605 mm x 590 to 605 mm of 8 to 10 mm thickness and confirming to IS. 15622-2006 (Group Bla) of approved make, shade and pattern for flooring in required position laid on a bed of 1:4 cement mortar including required position laid on a bed of 1:4 cement mortar including neat cement float, filling joints, curing and cleaning etc. complete a) Flooring Spec. No. Bd.M. 12 Page No. 385.					
A	GROUND FLOOR	8.00	Sqm			
B	FIRST FLOOR	247.75	Sqm			
C	SECOND FLOOR	176.06	Sqm			
D	THIRD FLOOR	213.80	Sqm			
47	Providing and laying vitrified stone effect finish tiles having size 590 to 605 mm x 590 to 605 mm of 8 to 10 mm thickness and confirming to IS. 15622-2006 (Group Bla) of approved make, shade and pattern for flooring in required position laid on a bed of 1:4 cement mortar including required position laid on a bed of 1:4 cement mortar including neat cement float, filling joints, curing and cleaning etc. complete. b) Skirting Spec. Bd.M. 12 Page No. 385					
A	GROUND FLOOR	1.48	Sqm			
B	FIRST FLOOR	16.43	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
C	SECOND FLOOR	15.05	Sqm			
D	THIRD FLOOR	10.18	Sqm			
48	Bamboowood 14mm thick Tile Flooring including quarter round & door reducer - Providing & fixing in position Phenol bonded Epitome Bamboowood flooring with planks of sizes 14mm thick, 1800mm length (minimum) and 130mm wide (minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building materials & Technology Promotion Council (BMTPC). The flooring shall be fixed with tongue and groove interlocking system, with 2mm underlay as sound absorbing and moisture barrier and underlayment of 4mm thick expanded poly ethylene foam sheets having density 40kg/cum, over prepared surface with necessary quarter round planks of size 1900mm x 18mm and door reducer of size 1900mm x 44mm, wherever required. The Epitome Bamboowood planks shall have minimum density of 1000 kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete Spec. No. As directed by Engineer in charge.					
C	SECOND FLOOR	69.92	Sqm			
D	THIRD FLOOR	22.00	Sqm			
49	Providing and laying Antiskid Ceramic tiles of approved quality of size 30 cm x 30 cm and conforming to IS 15622-2006 (Group-B IIA) for antiskid flooring in required position laid on a bed of 1:4 cement mortar including cement float, filling joint with cement slurry cleaning curing etc. complete. Spec. Bd. M-12 page No. 385					
A	GROUND FLOOR	2.86	Sqm			
B	FIRST FLOOR	6.16	Sqm			
C	SECOND FLOOR	6.16	Sqm			
D	THIRD FLOOR	8.80	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figurers	In Words	
50	Providing and laying ceramic tiles having size 30 cm. x 60 cm. confirming to corresponding I.S. for dado and skirting in required position with readymade adhesive mortar of approved quality onplaster of 1:2 cement mortar including joint filling with white/ colourcement slurry cleaning curing etc. complete. Spec. No. Bd.M.13 Page No. 386.					
A	GROUND FLOOR	19.01	Sqm			
B	FIRST FLOOR	141.48	Sqm			
C	SECOND FLOOR	45.84	Sqm			
D	THIRD FLOOR	57.34	Sqm			
51	Providing and laying telephone black / Amba White / Cadburybrown / Ruby red / Ocean Brown granite stone of 18 to 20 mm thick for door frame/ dado/ window boxing etc. On C.M. 1:6 including filling joints with polymer base filler nosing the sharp edges wherever necessary, curing, etc. complete. Spec. No .As directed by Engineer-In- Charge					
A	GROUND FLOOR	20.08	Sqm			
B	FIRST FLOOR	131.35	Sqm			
C	SECOND FLOOR	131.35	Sqm			
D	THIRD FLOOR	131.35	Sqm			
52	Providing and laying in position flooring of telephone black / Amba White / Cat bary brown / Ruby red / Ocean Brown granite stone of approved shade and size 18 mm to 20 mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete. Item Spec : Bd.M. 3 B/Page No. 380					
A	GROUND FLOOR	10.20	Sqm			
53	Providing and fixing black kadappa stone as shelves 25mm. thick machine polished , extending the polish upto 20 cm width on lowerside, rounding corners, laying in position jointing with bedding cement mortar 1:4 proportion curing etc etc. complete.. Item Spec. No. Bd.M.29 Page No. 391					
A	GROUND FLOOR	11.52	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
54	Providing and constructing Granite Kitchen Platform With Fixing Of Stainless Steel Sink / Polypropelyn Sink 600 mm x 450 mm size as per detailed drawing including vertical both side polished kadappah stone 25 to 30 mm thick supports with kadappah top 35 to 40 mm thick and polished granite 16 to 20 mm top with side strips of granite at front and both sides of platform raised with two vertical granite supports 15 cm height and top granite of 75 x 40 cm including cutting, opening for sink of required size in kadappah as well as granite etc. complete. (Platform top size 5.00 m x 0.60 m and height is 0.75 m) Spec. No. As Directed By Engineer In Charge.					
B	FIRST FLOOR	15.33	Sqm			
C	SECOND FLOOR	1.89	Sqm			
55	Providing Sills Of Polished Kota Stone 25 mm To 30mm Thick , On A Bed Of 1:4 Cement Mortar including cement float, filling joints with slurry, curing polishing and cleaning etc. complete.. Item Spec. No. Bd.M. 29 Page No.391.					
A	GROUND FLOOR	1.62	Sqm			
56	Providing and fixing heavy duty inter locking concrete Coloured paving blocks of 40 mm thickness of having a strength of 200 kg/Sq.cm. of approved quality and shape on a bed of crushed sand of 25 to 30 mm thick including skirting joints and cleaning etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	350.00	Sqm			
	PAINTING					
57	Providing and applying Priming Coat on Concrete / Masonry / Asbestos Cement/ Plastered Surfaces including scaffolding if necessary, preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter and sand papering as required. Spec. No. As Directed By Engineer In Charge.					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
A	GROUND FLOOR	2155.39	Sqm			
B	FIRST FLOOR	860.14	Sqm			
C	SECOND FLOOR	828.70	Sqm			
D	THIRD FLOOR	1036.82	Sqm			
58	Providing and applying Two Coats Of Wall Care Putty Of 2mm Thickness For Plastered Surface And 5 - 6mm Thickness Finished Concrete Surface To Ceiling And Walls to prepare surface even and smooth of Brands BIRLA WHITE, BERGER, BISION, J.K., make, etc complete. a) For Plastered Walls / Ceiling 2mm. Item Spec: As directed by engineer in charge.					
A	GROUND FLOOR	91.43	Sqm			
59	Providing and applying Royale Luxury Emulsion of Asian / Berger / Nerolac / Dulex Paints or equivalent make on internal wall surface as detailed below Scrapping for surface with emery paper and wipe clean for area. Applying Asian / Berger / Nerolac / Dulex Paints or equivalent wall primer with brush by adding mineral turpentine oil by 8 to 10 % or water by 15 to 20% allowing to dry for 6 to 8 hoursAfter applying Asian / Berger / Nerolac / Dulex Paints or equivalent acrylic wall putty with appropriate prpportion of water of allow to dry for period of 4 to 6 hours of activity. Scrapping with emery paper and wipe clean Applying paints Royale Luxury emulsion 1st coat with brush water content water 40 to 45% or 65 to 70% by role Applying paints Royale luxury emulsion 2nd coat with brush with water content 40 to 45 % or 65 to 70 % by roller. (With prior approval of S.E.) Spec. No. As directed by Engineer in charge.					
A	GROUND FLOOR	730.39	Sqm			
B	FIRST FLOOR	860.14	Sqm			
C	SECOND FLOOR	828.70	Sqm			
D	THIRD FLOOR	1036.82	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
60	Providing and applying Plastic Emulsion Paint Of Approved Quality, Colour And Shade To New Surface In Three Coats including scaffolding, preparing the surface. (excluding primer coat) etc. complete. (I. No. 36.14 Pg. No. 285 S.S.R. 2018-19) Item Spec: Bd.P.6 Page No.414 and Preapproval of Superintending Engineer					
A	GROUND FLOOR	91.43	Sqm			
61	Providing and applying Two Coats Of Exterior Acrylic Emulsion Paint confirming to corresponding I.S. of approved manufacture and of approved colour to the plastered surfaces including cleaning, preparing the plaster surface, applying primer coat, scaffolding if necessary, and watering the surface for two days etc complete. Spec. No. As directed by the engineer in charg.					
A	GROUND FLOOR	1564.15	Sqm			
B	FIRST FLOOR	143.84	Sqm			
C	SECOND FLOOR	143.84	Sqm			
D	THIRD FLOOR	291.17	Sqm			
62	Providing and applying Two Coats Of Synthetic Enamel Paint Of Approved Colour To New / Old Structural Steel Work And Wood Work in buildings, including scaffolding if necessary, cleaning and preparing the surface (excluding primer coat) etc. complete.. Item Spec. No. Bd.O.5 Page No.405.					
A	GROUND FLOOR	15.75	Sqm			
	DOOR WINDOWS (FRAME & SHUTTERS)					
63	Providing and fixing Frame With / Without Ventilator Of Size As Specified With Country Cut Teak Wood For Doors And Windows including chamfering, rounding, rebating, iron holdfast of size 300mm x 40mm x 5mm with oil painting, etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	0.16	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
64	Providing Antitermite Treatment To The Wooden Frames Of Doors / Windows of the existing building as per I.S. 6313 (Part-III) by drilling 6mm dia. holes at four corners on one side and four corners on other side at a downward angle of about 45 degree at the junction of wood work and masonry and injecting 150 ml. of chlorodane 5% W.C. and sealing by filling putty etc. complete covering 2 years guarantee on bond paper. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
65	Providing and fixing Fiber Glass Reinforced Polyester Door Shutter 30 mm Thick As Per IS 14856 (2000) (Reaffirmed 2006) without ventilator including chromium plated fixtures and fastening with chromium plated handles on both sides, etc complete. Spec. No. As directed by Engineer in charge.					
A	GROUND FLOOR	1.58	Sqm			
B	FIRST FLOOR	3.16	Sqm			
C	SECOND FLOOR	3.16	Sqm			
D	THIRD FLOOR	3.16	Sqm			
66	Providing and fixing Solid Core Flush Door Shutter In Single/Double Leaf 32 mm Thick Decorative Type Of Exterior Grade as per detailed drawings approved face veneers 3 mm thick on both faces or as directed, all necessary beads, mouldings and lipping, wrought iron hold fasts, chromium plated fixtures and fastenings, with brass mortise lock, chromium plated handles on both sides, and finishing with French Polish etc. complete. Spec. No. BD-T-34 Page No. 499.					
A	GROUND FLOOR	9.24	Sqm			
B	FIRST FLOOR	6.30	Sqm			
C	SECOND FLOOR	6.30	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
67	Fire Door 45mm 1HR FRL (60/60) 3 Criteria - INTEGRITY / INSULATION/ STABILITY WOODEN DOOR - Fire Door Tested in accordance to IS: 3614 Part 2. Spec. No.As directed by Engineer-in-charge					
	Providing of Tufwud make 60 min Fire rated doors system duly tested for 3 criteria - Integrity, Insulation and Stability Criteria as per the IS: 3614 Part 2 and BS: 476 part 22 at National Test House, Govt of India laborator and/or with Central Building Research Institute, Govt of India undertaking with standard heating conditions as specified in IS:3614 Part II 1992 and BS: 476 part 20 & 22 1987 to achieve the required integrity, insulation and stability (i.e. to restrict the heat radiation, temperature rise on the non fire side to the maximum of 140° C above the ambient temperature on the exposed surface of the shutter. The fire doors are tested with NCBN technology ("Non Combustible by Nature"). with prior approval of concerned Superitending Engineer.					
	a)Door Frame: Supplying 'Tufwud' brand frames for Fire resistant door shutters 1st class Malaysian Hardwood Frame densified (810 kg/cum) and pressure treated with fire retardant chemicals in vacuum impregnation vessel under 160 psi pressure as per IS:401and kiln seasoned to moisture below 15% as per IS:1141 of section 120 X 60 mm spray quoted with 2 coats of intumescent paint of minimum 200 micron, with single row of Brush- Type ASTROFLAME intumescent strip of size 10mm x 4mm affixed in the slit of the Frame for fire and smoke sealing, etc. complete					
A	GROUND FLOOR	11.40	Rmt			
B	FIRST FLOOR	11.40	Rmt			
C	SECOND FLOOR	11.40	Rmt			
D	THIRD FLOOR	22.80	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
68	b)Shutter: Providing of 65mm thick asbestos free composite - 3 criteria - fire, heat and smoke check Accoustic Door Shutter with flame guard of 120 minutes IS3614 part -II comprising of 2x9mm Calcium Silicate boards, Chemical treated internal timber with Fire retardant chemicals in pressure impregnation vessels under 160 PSI pressure as per IS:401and kiln seasoned to moisture below 15% as per IS:1141 frame work of 100x32 mm with 32mm thick infill of ceramic fiber (density 128Kgs/CMT), vermaculite mix faced with 6mm Fire retardant High Density ply, internally lipped with hardwood beading, and pasted in Hydraulic Press under 50 tonnes pressure, spray quoted with 2 coats of In tumescent paint of minimum 200 micron, and with 1 row of Brush- Type Astroflame® intumescent strip (imported) of size 10mmx4mm concealed for fire and smoke sealing in the grooves in the shutter on all edges except bottom, without any external lipping					
A	GROUND FLOOR	6.30	Sqm			
B	FIRST FLOOR	6.30	Sqm			
C	SECOND FLOOR	6.30	Sqm			
D	THIRD FLOOR	12.60	Sqm			
69	c) Vision Panel: 1 HR rated E Class clear high stress fire rated glass is pre fabricated strategically inside the shutter structure with 10 mm inside the shutter on all sides with Uglazing. An additional insulated powdercoated 'Z' channel of 16 swg MS sheet to be fixed for reinforcement of the joints. With clear fire resistant glass panes 11mm thick having minimum 120 minutes fire Description					
A	GROUND FLOOR	0.60	Sqm			
B	FIRST FLOOR	0.60	Sqm			
C	SECOND FLOOR	0.60	Sqm			
D	THIRD FLOOR	1.20	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
70	Providing and fixing in position (as per 1868 / 1982) Aluminium sliding window of three tracks with rectangular pipe 95 x 38.10 x 0.90 mm at weight 0.637 kg/Rmt. with window frame bottom track section 92 x 31.75 x 1.30 mm at weight 1.070 kg/Rmt.. Top and side track section 92 x 31.75 x 1.30 mm at weight 0.933 kg/Rmt. The shutter should be of bearing bottom 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. Inter locking section 40 x 18 x 1.10 mm at weight 0.469 kg/Rmt. and handle and top section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. As per detailed drawings and as directed by Engineer-in-charge with all necessary Aluminium sections fixtures and fastenings such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter including 5 mm thick plain glass and aluminium mosquito net shutter with stainless steel jail with all required screws and nuts etc, complete. With colour Anodising without box. Item Spec : As directed by engineer in charge					
A	GROUND FLOOR	10.20	Sqm			
B	FIRST FLOOR	48.60	Sqm			
C	SECOND FLOOR	48.60	Sqm			
D	THIRD FLOOR	48.60	Sqm			
71	Providing and fixing in position powder coated aluminium louvered windows / ventilator of various sizes with powder coating as per detailed drawing and specifications including aluminium frames 80 x 38 mm x 1.22 mm box type, 5 mm thick sheet glass louvers, of approved quality etc. complete. Spec as directed by engineer in charge.					
A	GROUND FLOOR	0.81	Sqm			
B	FIRST FLOOR	0.81	Sqm			
C	SECOND FLOOR	0.81	Sqm			
D	THIRD FLOOR	0.81	Sqm			
	IRON WORK					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
72	Providing and fixing mild steel grill work for windows, ventilators etc. 20 kg/sqm as per drawing including fixtures, necessary welding and painting with one coats of anticorrosive paint and two coats of oil painting complete. Item Spec : Bd.U.1 Page No. 537					
A	GROUND FLOOR	10.61	Sqm			
B	FIRST FLOOR	49.41	Sqm			
C	SECOND FLOOR	49.41	Sqm			
D	THIRD FLOOR	63.52	Sqm			
	IRON WORK					
73	Providing and fixing during laying in R. C. C. Slab rectangular 2 mm thick M.S. sheet fan hook box of size 180x100 mm with required depth with holes or notches as required, bottom and top sides of 1.6 mm M.S. sheet fixed with 3.5 mm dia. round headed screws together with 12 mm dia. M.S. bar bent to shape with hooked ends for fan hook and painting to exposed surface Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	22.00	Nos.			
B	FIRST FLOOR	50.00	Nos.			
C	SECOND FLOOR	50.00	Nos.			
D	THIRD FLOOR	50.00	Nos.			
74	Providing and fabricating structural steel work in rolled sections like joists, channels, angles, tees etc. as per detailed design and drawings or as directed including cutting, fabricating, hoisting, erecting, fixing in position making riveted / bolted /welded connections without connecting plates, braces etc. and including one coat of anticorrosive paint and over it two coats of oil painting of approved quality and shade etc. complete. Spec. No. Bd.C.2 Page No. 275					
A	GROUND FLOOR	1.97	Rmt			
B	FIRST FLOOR	0.56	Rmt			
C	SECOND FLOOR	1.48	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
D	THIRD FLOOR	1.48	Rmt			
75	Providing and fixing 50 mm. dia. medium class G.I.pipe gate with wicket gate of approved drawing with all fixtures and fittings in two leaves with strong hold fast embedded in c.c. block at top and bottom with locking arrangement including cutting, bending, making holes and with one coat of primer etc. complete. Spec . No.As directed by Engineer in charge					
A	GROUND FLOOR	15.75	Sqm			
76	Providing and erecting Y type barbed wire fencing with seven rows of wire with 2.45 mm dia G.I. pipe (Rezan/ concentiDeleted ire 0.75 mm dia) with hot dip and G.I. coated hooks as per drawing supported on M.S. angle 50 x 50 x 6 mm at 2.5 mtr. c/c including fixing and fastening with wire, painting M.S. angles with one coat of red lead primer and two coat of oil paint etc. complete. Spec . No.As directed by Engineer in charge					
A	GROUND FLOOR	169.50	Rmt			
	MISCELLENEOUS					
77	Providing and fixing in position Aluminium Composite Panels 4 mm thick and required size of building made out cladding for walls of approved colour and shade on structural frame work 65x65x6 mm thick aluminium frame work including fixtures of SS srews, nuts, bolts and scaffolding, ms angle cleat support to frame work etc. complete Spec. No. As directed by Engineer in Charge.					
A	GROUND FLOOR	36.00	Sqm			
B	FIRST FLOOR	178.50	Sqm			
C	SECOND FLOOR	178.50	Sqm			
D	THIRD FLOOR	178.50	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
78	Providing and fixing in position High Pressure (HPL) Laminate Panels 6 mm thick and required size of building made out cladding for walls of approved colour and shade on structural frame work 65x65x6 mm thick aluminium frame work including fixtures of SS screws, nuts, bolts and scaffolding, ms angle cleat support to frame work etc. complete Spec. No. As directed by Engineer in Charge.					
A	GROUND FLOOR	55.98	Sqm			
B	FIRST FLOOR	79.54	Sqm			
C	SECOND FLOOR	39.34	Sqm			
D	THIRD FLOOR	174.99	Sqm			
79	Providing and fixing in position structural glazing faces of building made out of colour anodized aluminium frame curtain wall of 63 mm x 57 mm x 2.20 mm thick including toughened reflective glass 5 mm thick of 900x1200 mm size. The item shall include toughened coloured reflective glass 5 mm thick water proofing silicon sealant, G.E. winsil 10/20, G.E.ultra glaze including aluminium fixtures.S3 screws and nut bolts, scaffolding , m.s.angle cleats and frame work of 65 mm x 65 mm x 6 mm and scaffolding etc. complete. Minimum 20% area of structural glazing shall be openable for openable panels. aluminum hinges, wind stays and locking arrangements and aluminum angle or tee section of required size Spec. No. as directed by Engineer in Charge					
B	FIRST FLOOR	46.21	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
80	Providing and Fixing Mat Finish Stainless Steel (of 302 grade) Railing With Top Pipe of 50 mm Dia. and vertical pipe of 38 mm dia at 0.60 m c/c or as required and horizontal pipes of 25 mm dia in three rows, all pipes of 2 mm thick including buffing,fabricating fixtures and fastening including pipe base of appropriate diameter and ball base of 75 mm dia above newel post of 75 mm diameter etc. complete (Prior approval of sample and brand by Ex.Engineer is necessary before use) Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	20.70	Rmt			
B	FIRST FLOOR	20.70	Rmt			
C	SECOND FLOOR	20.70	Rmt			
D	THIRD FLOOR	20.70	Rmt			
81	Providing And Paisting Mural Art Wall Painting of approved Quality and finish in line and level, Including all fixing asseccories, Scaffolding And all Labour etc. complete. Spec. No. As directed by Engineer in Charge.					
A	GROUND FLOOR	12.25	Sqm			
82	Providing, supplying and fixing Vertical Vanishing Blinds with 25mm width imported fabric approved by architect with Taiwan made sliding fitting as directed by architect etc. complete. Spec. No. as per direction of Architect.					
B	FIRST FLOOR	48.60	Sqm			
C	SECOND FLOOR	63.00	Sqm			
D	THIRD FLOOR	86.20	Sqm			
83	Providing and fixing European Type White Glazed Earthenware Coupled Closet Symphonic Trap With symphonic low level white glazed 10 litres cistern with black backlite seat with all necessary pipe connection etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
D	THIRD FLOOR	4.00	Nos.			
84	Providing and fixing Coloured Glazed Earthenware Wash Hand Basin Of 63 Cm x 45 Cm Size including cold water pillar tap / cold and hot water pillar tap brackets, rubber plugs and brass chain, stop tap and necessary pipe connection including P.V.C. waste pipe and trap up to the outside face of the wall.. Spec. No. Bd.V.30 Page No.565					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
85	Providing and fixing C.P. sink cock with raised J" shaped swinging casted spout of approved make including necessary sockets/ union nut etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	5.00	Nos.			
C	SECOND FLOOR	4.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
86	Providing and fixing C.P. BIB cock with wall flange of approved make including necessary sockets/ union nut etc. complete. Spec. No. As directed by Engineer in charge					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
87	Providing and fixing C.P. pillar cock long neck with aerator of approved make including necessary sockets/union nut etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	5.00	Nos.			
C	SECOND FLOOR	4.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
88	Providing and fixing C.P. Angular stop clock with wall flange of approved make continental including necessary sockets / union nut etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	5.00	Nos.			
C	SECOND FLOOR	4.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
89	Providing and Fixing half turn 25 mm dia gun metal flushing cock including all accessories etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
90	Providing and fixing C.P. 2 Way BIB cock with wall flange of approved make including necessary sockets/ union nut etc. complete Spec. no. As directed by Engineer in charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
91	Providing and fixing Chromium Plated Towel Rod 16 mm Dia And 75 Cm. In Length including all accessories complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
92	Providing and fixing 450 mm x 550 mm Size Superior Type Belgium Mirror with 16mm dia. nickel plated towel rod etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	1.00	Nos.			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
93	Providing and fixing 15 cm rigid PVC Nahani trap including PVC grating , bend, connecting piece of UPVC pipe up to the outside face of wall , making the good damaged surface and testing etc. complete (Prior approval of sample and brand by Ex. Engr. is necessary before use) Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	2.00	Nos.			
B	FIRST FLOOR	6.00	Nos.			
C	SECOND FLOOR	8.00	Nos.			
D	THIRD FLOOR	9.00	Nos.			
94	Providing and fixing 75 mm dia stabiliser pipe/ P.V.C. soil vent/waste pipe and with necessary fixtures and fitting such as bends, tees, single junctions, slotted vent, clamps etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	20.00	Rmt			
B	FIRST FLOOR	20.00	Rmt			
C	SECOND FLOOR	20.00	Rmt			
D	THIRD FLOOR	20.00	Rmt			
95	Providing and fixing 100 mm dia stabiliser pipe/ P.V.C. soil vent/waste pipe and with necessary fixtures and fitting such as bends, tees, single junctions, slotted vent, clamps etc. complete. Spec. No. As directed by Engineer in charge.					
A	GROUND FLOOR	15.00	Rmt			
96	Providing , laying and fixing ,jointing Supreme Eco- Drain 110 mm SN 8 Nu- Drain UPVC Pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees, coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec. No. As Directed By Engineer In Charge.					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
A	GROUND FLOOR	70.00	Rmt			
B	FIRST FLOOR	20.00	Rmt			
C	SECOND FLOOR	20.00	Rmt			
D	THIRD FLOOR	20.00	Rmt			
97	Providing , laying and fixing ,jointing Supreme Eco- Drain 160 mm SN 4 Nu- Drain UPVC Pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees , coupler, etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated materialetc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	90.00	Rmt			
B	FIRST FLOOR	20.00	Rmt			
C	SECOND FLOOR	20.00	Rmt			
D	THIRD FLOOR	20.00	Rmt			
98	Providing and fixing 40 mm. dia Ball cock medium type with PVC float including sockets and necessary fittings and tested as per municipal requirements etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	2.00	Nos.			
D	THIRD FLOOR	2.00	Nos.			
99	Providing and fixing 15 mm. dia Ball cock medium type with PVC float including sockets and necessary fittings and tested as per municipal requirements etc. complete. Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	2.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	2.00	Nos.			
D	THIRD FLOOR	2.00	Nos.			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
100	Providing and fixing P.V.C. Rain Water Pipes Of 160 mm Outer Diameter And Having Wall Thickness Of 2.2 To 2.7 mm Confirming To I.S. 13592-1992 including proper rainwater receiving recess with P.V.C. plug, bend, necessary fittings, such as, offsets, shoes, including fixing the pipe on wall using approved wooden cleats projecting 25mm to 40mm from face of wall a fixing with clips of approved quality and number, filing the joint using rubber gasket with solvent cement and properly resting the shoe of pipes on C.C. or masonry blocks, including necessary scaffolding and maintenance for 3 yrs for any leakages or dislocations of pipes. All the P.V.C. fittings and additional 2 piece socket clips shall be got approved from engineer in charge etc. complete. (The contractor shall give 3 yrs guarantee bond for payment) Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	30.00	Rmt			
B	FIRST FLOOR	30.00	Rmt			
C	SECOND FLOOR	30.00	Rmt			
D	THIRD FLOOR	30.00	Rmt			
101	Providing and fixing in position UPVC ultra violet stabilized 110 mm outer diameter cowl dome confirming to I.S.-4985 including making joints with solvent cement etc. complete Spec. No. As Directed By Engineer In Charge.					
A	GROUND FLOOR	10.00	Nos.			
B	FIRST FLOOR	10.00	Nos.			
C	SECOND FLOOR	10.00	Nos.			
D	THIRD FLOOR	10.00	Nos.			
102	Providing and fixing on Walls / Ceiling / Floor 15 mm Dia. CPVC Pipe with necessary fittings, remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. No. BD.V 5 page 551 and as directed by Engineer in charge					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			
103	Providing and fixing on Walls / Ceiling / Floor 20 mm Dia. CPVC Pipe with necessary fittings, remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. No. BD.V 5 page 551 and as directed by Engineer in charge					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			
104	Providing and fixing on Walls / Ceiling / Floor 25 mm Dia. CPVC Pipe with necessary fittings, remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. N o. BD.V 5 page 551 and as directed by Engineer in charge					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			
105	Providing and fixing on Walls / Ceiling / Floor 32 mm Dia. CPVC Pipe with necessary fittings, remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. No. BD.V 5 page 551 and as directed by Engineer in charge					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
D	THIRD FLOOR	10.00	Rmt			
106	Providing and fixing on Walls / Ceiling / Floor 40 mm Dia. CPVC Pipe with necessary fittings, remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. No. BD.V 5 page 551 and as directed by Engineer in charge					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			
107	Providing and fixing on Walls / Ceiling / Floor 50 mm Dia. CPVC Pipe with necessary fittings , remaking good the demolished portion etc. complete. Including removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete. Spec. No. BD.V 5 page 551 and as directed by Engineer in charge					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			
108	Providing and laying in Trenches 50 mm Dia. Medium Grade Having Embossed As ISI Mark Galvanised Iron Pipes Of 5.17 Kg / Meter necessary fitting remaking good the demolished portion with filling trenches and with primer of anticorrosive oil paint, 2 coats removing existing pipe line if necessary and conveying and stacking the same in PWD chowky or as directed etc. complete.. Spec. No. Bd.V.5 Page No. 551					
A	GROUND FLOOR	10.00	Rmt			
B	FIRST FLOOR	10.00	Rmt			
C	SECOND FLOOR	10.00	Rmt			
D	THIRD FLOOR	10.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
109	C.P.Toilet paper holder jaquar make continental (Cat. No. AQ 7751)					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
110	C.P.soap dish (polyurethane) jaquar make continental (Cat. No. AQN 7733)					
A	GROUND FLOOR	1.00	Nos.			
B	FIRST FLOOR	2.00	Nos.			
C	SECOND FLOOR	3.00	Nos.			
D	THIRD FLOOR	4.00	Nos.			
111	Providing and laying cement concrete pipe of IS 458:2003 NP-2 class of 900 mm diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete. Spec. No. CD.7 Page.No. 162					
A	GROUND FLOOR	30.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
112	RWH - Shallow Percolation Pit providing, constructing 2.0m deep shallow depth percolation pit comprising of 1.0m dia pre-cast RCC rings, 300mm thick side filling around outside of RCC rings (annular space) with 40mm size boulders including filling of percolation pit up to 0.5m depth (from bottom up) with 25-75mm clean washed gravels followed by 0.5m depth of 10-25mm of clean washed stones followed by 0.5m of washed river fine aggregate (natural sand/crushed sand VSI grade finely washed etc.) including netlon mesh between each gravel/fine aggregate (natural sand/crushed sand VSI grade finely washed etc.) media layer including covering with RCC slab, manhole frame & cover, PVC rungs etc. including arrangement for inlet & outlet pipe, excavation & backfilling as shown in the drawing. The rate shall be inclusive of all labour, material, wastage, scaffolding, transportation, taxes, including all leads, lifts at all levels. All material should be of approved make. All works complete as per the drawing, technical specification and direction of the Engineer in charge Spec. No. As directed by Engineer in charge					
A	GROUND FLOOR	1.00	Nos			
113	R.C.C.Chamber cover with frame 90cm*45cm Heavy Duty 225kg.					
A	GROUND FLOOR	1.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
114	Providing and constructing Ductile Iron circular manhole 45 cm dia. At top 90 cm at bottom up to 1.80 meter to 2.70 meter depth including excavation, laying 1:4:8 cement concrete bedding 15 cm thick burnt brick masonry with 1:1 cement mortar plaster 25 mm thick inside and outside 20 mm (1:3) ductile iron heavy type cover with ring 125 kg in weight. High strength. More life and Durability, Good Antiskid Grip, Suitable to heavy theatric loading, Light weight casting after cost benefits for Transportation Refilling etc. as per requirement. with prior approval of concerned Superintending Engineer. Spec. No. As directed by Engineer-in-charge					
A	GROUND FLOOR	3.00	Nos			
115	Providing and supplying standard length (PE Material) HDPE double wall corrugated pipe for non pressure underground drainage & sewerage with smooth internal & corrugated external surface conforming of IS 16098: Part2 2013 with spigot or plain end with necessary jointing material coupler including transportation and frieght charges, loading & unloading charges, conveyance to departmental store & stacking the same in closed shade duly protecting from direct sun rays and rains excluding GST levied gy GoI and GoM all respect etc. complete. For 170MM dia. SN8					
A	GROUND FLOOR	39.07	Rmt			
116	Providing , laying and fixing ,jointing Eco- drain 200 mm SN 4 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings such a bends, tees tees, coupler etc, jointing with rubber lubricant including necessary excavation, trench refilling with selective excavated material etc. complete. Spec. No. As Directected By Engineer Incharge					
A	GROUND FLOOR	30.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
117	Providing and laying Concrete pipes of I.S.NP. class of 300mm diameter in proper line, level and slope including necessary collars, excavation, laying, fixing with collars in cement mortar 1:1 and refilling the trench complete. Spec No. Bd.V.41, Page No. 573					
A	GROUND FLOOR	36.77	Rmt			
118	Providing and Fixing 15cm x 10cm salt glazed stoneware gully trap in cement concrete 1:4:8 outside the building including cast iron grating in the sink, connecting glazed stoneware pipe, brick masonry chamber with cast iron lid and cast iron grating for the gully trap. Spec. No. Bd.V.38 Page No.572.					
A	GROUND FLOOR	12.00	Nos			
119	Providing and constructing Brick Masonry Inspection Chamber 90cm x 45cm x 90cm including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round G.S.W.pipes, Brick Masonry, plastering from inside and with frame fixed in cement concrete with R.C.C. Cover medium duty 140 kg with frame etc complete. Spec. No. Bd.V.43 Page No.574.					
A	GROUND FLOOR	6.00	Nos			
120	Providing and constructing Brick Masonry Inspection Chamber 60cm x 45cm including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round G.S.W. pipes, Brick Masonry, plastering from inside and with frame fixed in cement concrete with R.C.C. Cover medium duty 140 kg with frame etc complete. Spec. No. Bd.V.43 Page No.574.					
A	GROUND FLOOR	2.00	Nos			
121	Providing soak pit of size 120cm x 120cm x 120cm including excavating and filling with brick-bats. Spec. No. Bd.V.46 Page No.576.					
A	GROUND FLOOR	1.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
122	Providing earth work in embankment with approved materials obtained from departmental land or other sources upto lead of 50m. including all lifts, laying in layers of 20cm. to 30cm. thickness breaking clods, dressing to the required lines, curves, grades and section, watering and compaction with Power roller to achieve not less than 97 % of standard proctor density etc. complete. Item Spec : MORTH 305 Cubic Metre 356 5					
A	GROUND FLOOR	1115.24	Cum			
123	Watering and compacting of embankment formed of materials obtained from the road cutting within a lead of 50 m, not less than 97 % of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with Power roller.. Item Spec. No. MORTH 305					
A	GROUND FLOOR	1115.24	Cum			
124	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting with vibratory roller to the required density. By Mechanical Means -Grading I (Using Screening Type B (11.2 mm) Aggregate) Spec. No. MORTH 404					
A	GROUND FLOOR	269.40	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
125	Providing and fixing Factory Made Hydraulically Pressed Mechanically Vibrated And Compacted Precast Inter Locking Cement Concrete Paving Blocks 80mm Thick In M-40 Grade of approved size and shape for City streets, small /medium market roads, low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all stratas, spreading blinding of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete. Spec. No. IRC SP-63					
A	GROUND FLOOR	898.00	Sqm			
126	Providing and laying cement concrete pipe of IS 458:2003 NP-2 class of 450mm diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete . Item Spec: CD.7 Page.No. 162					
A	GROUND FLOOR	188.00	Rmt			
127	Providing and constructing Brick Masonry inspection Chamber 90cm x 45cm including 1:4:8 C.C foundation, 1:2:4 C.C.channels/half round glazed stoneware pipe channel, salt glazed stone-ware intercepting trap with rodding pipe set in 1:4:8 cement concrete block, brick masonry plastering inside and Outside, with C.I. lead cover of 75 kg with frame fixed in cement concrete. (Spec. No. Bd.V.44 Page No.574.)					
A	GROUND FLOOR	20.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
128	Preparing Lawn (30 cm. Depth):- Excavating the ground upto required depth of 30cms. Removing & conveying unwanted stuff to a required distance as directed. Filling fresh garden soil/silt & manure in excavated area in 3:1 proportion to a height of 30cms. Mixing garden soil and manure thoroughly well, levelling, watering on previous night. Planting required variety of lawn grass as directed and maintaining till well established by watering, weeding, clipping, rolling, etc. complete.					
A	GROUND FLOOR	44.00	Sqm			
129	Planting Small & Medium Size Ornamental / Flowering Plant: Digging pit with size 0.6 x 0.6 x 0.6 m, removing & conveying unwanted stuff to a required distance as directed Filling the pit with fresh gardin soil & Farm Yard Manure upto a ht. of .060 m. in 3:1 proportion, Mixing soil & Manure throughly well, leveling, watering on previous night, Planting one to two year old healthy plant saplings as per sep. Maintaining till well established by watering, stiming, of soil and manure, replacing casulaties etc. complete.					
A	GROUND FLOOR	12.00	Nos			
130	Providing and laying the Drip Irrigation System for single, double or multi rows of approved brands like jain irrigation, finolex EPC or its equivalent for plantation below 0.3 m ground including excavation, testing and commissioning as directed, including LD mains, spaghaty pipes, non openable constant pressure dripers, PP bowl valves as required etc. complete. As Directed By Architect.					
A	GROUND FLOOR	1.00	Job			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
131	Maintenance of garden in all respect for keeping gardening in good condition such as weeding cleaning, watering, cutting gapfilling manuarng cutting (lawn, hedged, trees, flowers etc and composting, preperation of bed plantation, trees, shrubs ground covers, flowerbed, lawn etc with toilet washing and cleaning for one month. (For 36 Months)					
A	GROUND FLOOR	44.00	Sqm			
132	Design, providing & fixing of bio tank for capacity of 32.5 KLD having total volume of biotanks 35000 liters as per biotank design having PVC matrix fixing using aluminium retainers, one time charging of biotanks with Anaerobic Microbial Inoculum (AMI) including material, AMI labour, transportation, consumables, lifting, shifting, fixing, pumping etc. to complete.					
A	GROUND FLOOR	35000.00	Litr.			
133	Providing, Fixing, Erecting And Testing of Effluent Treatment Plant Having Capacity Of 3 Cubic Meter Per Day As Per Detail Drawing And Design and including Mechanical part viz motor, fabrication, machineries etc, including all labours and materials, Scaffolding, all taxes, etc, Complete. Excluding All Civil Work As Directed By Artchitect. (Including Three Year Annual Mainternance)					
A	GROUND FLOOR	1.00	Nos			
	PART-B INTERIOR WORK					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
134	Providing and Fixing of Mineral Fibre Board Acoustical Suspended Ceiling System with ultima (Bevelled Tegular) Edge Tiles of size 15mm Exposed GRID. The tiles should have Humidity Resistance (RH) of 99%, NRC 0.7, Light Reflectance 85%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Colour White, Fire Performance UK Class 0 / Class 1 (BS 476 pt - 6 &7) in module size of 600 x 600 x 20mm , suitable for Green Building application, with Recycled content of 32%. The tile shall be laid on precoated G.I.channel on XL2 Clip having a web height of 32mm with 15 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm and 600 mm Cross Tees with a web height of 32 mm and a load carrying capacity of 7.7 Kgs/M2 and minimum pull out strength of 100 Kgs.. The T Sections have a Galvanizing of 90 grams per M2 and need to be installed with Suspension system. The Tile and Grid system used together should carry a 10 year warranty. products approved as per GRIHA and BS 476 etc. complete. Spec :As directed by Engineer in charge.					
C	SECOND FLOOR	69.92	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
135	Providing and fixing in position Gypsum board false ceiling with 12.5mm thick Gypsum boards , screwed/fixed to the under structure of suspended G.I. Grid constructed and suspended from the main ceiling consisting of ceiling sections of size 25 x 50 mm maximum center to center distance of 600 milimetre perimeter channel and intermediate channels at maximum center to center distance 1200 milimetre galvanized grid should be fixed to reinforced cement concrete slab. The gypsum board should be fixed to galvanized iron grid with necessary screws. The boards should be taped and filled from underside to give smooth, seamless ceiling. The rate should include necessary additional ceiling sections and intermediate channels. Additional intermediate channels should be fixed to strap hangers for additional support to prevent strapping at every 1200 milimetre item to be completed in all respect including necessary sleeves for ducts finishing of joints cut outs, painting including labour, material, lifts etc. all complete. Spec :As directed by Engineer in charge.					
B	FIRST FLOOR	31.14	Sqm			
C	SECOND FLOOR	33.78	Sqm			
D	THIRD FLOOR	52.02	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
136	Providing and Fixing of Mineral Fibre Suspended Ceiling System with Bioguard (Bevelled Tegular) EDGE TILES WITH 15mm Exposed GRID. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance 90%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Colour White, Fire Performance UK Class 0/Class 1 (BS 476 Part 6 and 7), in module size of 600x600 x 16mm with Anti Microbial coating on the face of the tile, suitable for Green Building application, with Recycled content of 34%. The tile shall be laid on precoated G.I. channel on XL2 Clip having a web height of 32 mm 32 with 15 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner and 1200 mm Cross Tees with a web height of 32 mm and a load carrying capacity of 7.7 Kgs/M2 and pull out strength of 100Kgs. . The T Sections have a Galvanizing of 90 grams per M2 and need to be installed with Suspension system The Tile and Grid system used together should carry a 10 year warranty. products approved at GRIHA and BS 476 etc. complete. Spec :As directed by Engineer in charge.					
B	FIRST FLOOR	127.72	Sqm			
C	SECOND FLOOR	163.38	Sqm			
D	THIRD FLOOR	158.96	Sqm			
137	Providing and fixing Country cut teak wood partly veneered and partly glazed partition with 75 mm x 50 mm frame at 60 cm center and 9mm thick commercial ply on both sides, decorative veneer of 4 mm thick and plain glass 5 mm thick, including French polishing etc. complete Spec : As directed by Engineer in charge.					
B	FIRST FLOOR	98.34	Sqm			
C	SECOND FLOOR	68.13	Sqm			
D	THIRD FLOOR	215.73	Sqm			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
138	Providing and fixing in position anodised extruded aluminum partitions, partly glazed and partly laminated having frame made out of extruded tubular section of size 40 mm x 60 mm with 12 mm thick three layered flat pressed teak wood particle board bonded with BWP type exterior grade phenol formaldehyde synthetic resin conforming to IS 128231990, laminated on both sides, Novatekor equivalent and 5 mm thick selected quality plain/ float glass panels fixed with aluminum glass clips 12 mm x 12 mm and rubber cushioning beading to glass partitions as per approved drawing etc. complete Spec : As directed by Engineer in charge.					
A	GROUND FLOOR	7.35	Sqm			
B	FIRST FLOOR	24.15	Sqm			
C	SECOND FLOOR	21.00	Sqm			
D	THIRD FLOOR	26.25	Sqm			
139	Bamboowood 14mm thick wall Skirting - Providing & fixing in position Phenol bonded Epitome Bamboowood in wall skirting with planks of sizes 14mm thick, 1900mm length (minimum) and 85mm wide (minimum), in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building materials & Technology Promotion Council (BMTPC). The skirting shall be fixed SS screws & rawl plugs, over underlayment of 4mm thick expanded poly ethylene foam sheets having density 40kg/cum, over prepared surface. The Epitome Bamboowood planks shall have minimum density 1000 kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete Spec. No. as per direction of Engineer in-charge					
C	SECOND FLOOR	29.28	Sqm			
140	Providing And Paisting 3D Wall Paper of approved Quality and finish in line and level, Including all fixing asseccories, Scaffolding And all Labour etc. complete. Spec. No. As directed by Engineer in Charge.					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
B	FIRST FLOOR	11.25	Sqm			
C	SECOND FLOOR	11.25	Sqm			
D	THIRD FLOOR	11.25	Sqm			
	PART B FURNITURE WORK					
141	(TBL-1) Executive Table in L-Shape @ 2800 mmLX 900 mmDx 750 mm Ht with side storage of size 1100 mmL x 750 mmD x 750 mm Ht					
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2800 mmLX 900 mmDx 750 mm Ht with side storage of size 1100 mmL x 750 mmD x 750 mm Ht D.D cabin Table with table top made in 25 mm thick Pre-Laminated Particle Board with straight edges, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, Side storage made in 18 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder caoted, CPU trolly made in 18 gauge M.S. powder caoted, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangment, etc. including all hardware items, S.S. handle, locks, Teliscopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	1.00	Nos			
142	(TBL-2) Executive Table @ 2000 mmLX 750 mmDx 750 mm Ht with side storage of size 1050 mmL x 450 mmD x 720 mm Ht					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2000 mmLX 750 mmDx 750 mm Ht with side storage of size 1050 mmL x 750 mmD x 720 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board with straight edges, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, Side storage made in 18 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, 3 drawer made in 18 mm thick Pre-Laminated Particle Board, with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	2.00	Nos			
143	(TBL-3) Executive Table @ 1600 mmLX 750 mmDx 750 mm Ht with side storage of size 900 mmL x 400 mmD x 720 mm Ht					
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 1600 mmLX 750 mmDx 750 mm Ht with side storage of size 900 mmL x 400mmD x 720 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board , vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board , Side stroge made in 18 mm thick Pre-Laminated Particle Board , vertical support panel of 18 mm thick made in Pre-Laminated Particle Board , keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	10.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
144	(TBL- 4) Modular table made in Pre-Laminated Particle Board of size 1200 mmLX 600 mmDx 750 mm Ht for Receiving, General Receiving and General Store					
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 1200 mmLX 600 mmDx 750 mm Ht for Receiving, General Receiving and General Store with table top made in 25 mm thick Pre-Laminated Particle Board , vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board , keyboard tray made in 18 gauge M.S. powder coated, CPU trolley made in 18 gauge M.S. powder coated, detach foot rest made in 18mm thick Pre-Laminated Particle Board , etc. including all hardware items, S.S.handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	5.00	Nos			
145	(TBL- 5) Modular table made in Pre-Laminated Particle Board of size 2030 mmLX 600 mmDx 750 mm Ht					
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2030 mmLX 600 mmDx 750 mm Ht for Reception, Parking with table top made in 25 mm thick Pre-Laminated Particle Board , vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board , 12mm thick through out Toughened glass fitting with S.S. glass holder on top of table, 3 drawer made in 18 mm thick Pre-Laminated Particle Board with locking arrangement, etc. including all hardware items, S.S. handle, locks, Telescopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	2.00	Nos			
146	(TBL-6) Modular table made in Pre-Laminated Particle Board of size 2100 mmLX 900 mmDx 750 mm Ht					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 2100 mmLX 900 mmDx 750 mm Ht for Instrumentation Lab (cyber) with table top made in 25 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, keyboard tray made in 18 gauge M.S. powder caoted, CPU trolley made in 18 gauge M.S. powder caoted, etc.including all hardware items, S.S.handle, locks, Teliscopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	2.00	Nos			
147	(TBL- 7) 24 Person Seater Modular table in Pre-Laminated Particle Board of size 12800 L x 750 D x 750 HT					
	Providing and supplying 14 Person Seater Modular table made in Pre-Laminated Particle Board of size 12800 L x 750 D x 750 HT for Conference hall with table top made in 25 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, etc. including all hardware items, S.S.handle, locks, Teliscopic sliding channels with powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	1.00	Nos			
148	(TBL-11) Modular table made in Pre-Laminated Particle Board of size 4500 mmLX 750 mmDx 750 mm Ht					
	Providing and supplying Modular table made in Pre-Laminated Particle Board of size 4500 mmLX 750 mmDx 750 mm Ht with table top made in 25 mm thick Pre-Laminated Particle Board, vertical suport panel of 18 mm thick made in Pre-Laminated Particle Board, with aluminium partition soft board and white board, floor leveler including all hardware items, powder coating, nails, S.S. screws, as per details drawing and as directed by Architect.	3.00	Nos			
149	(TBL-12) Modular table made in PVC of size 1350 mmLX 900 mmDx 750 mm Ht					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
	Providing and supplying Modular table made in PVC of size 1350 mmLX 900 mmDx 750 mm Ht for Lunch room as per details drawing and as directed by Architect.	3.00	Nos			
150	(CB-2) Low Height Openable Storage @ 2400Lx450Dx900HT					
	Providing & Fixing of Openable Storage @ 2400L x 450D x 900HT:- To be made out of 18mm thick Pre-Laminated Particle Board , with Openable Pre-Laminated Particle shutter board shutters supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper, Floor leveler and 100mm skirting as per drawing. And as directed by Architect	3.00	Nos			
151	(CB-6) Multiple Compartment Lockers @ 1200Lx 500D x 2100 mm. Ht.					
	Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 1200mm(W) x 500mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.	6.00	Nos			
152	(CB-7) Multiple Compartment Lockers @ 1800Lx 500D x 2100 mm. Ht.					
	Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 1800mm(W) x 500mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.	4.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
153	(CB-8) Multiple Compartment Lockers @ 2400L x 450D x 2100 mm. Ht.					
	Providing and fixing Full Height Office Cupboard with made up of 18mm Thick Pre-Laminated Particle board verticals, 18mm Thk. Pre-Laminated Particle board shelf and Swing Door of Pre-Laminated Particle board shutters 2400mm(W) x 450mm (D) x 2100mm (H) supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper floor leveler and 100mm skirting as per drawing, etc. Complete as per design and drawing and instructions of Engineer in charge.	6.00	Nos			
154	(TBL- 9) Providing and supplying Tea poy table S.S. vertical support and 12 mm thick Toughened glass at top 600 L x 750 D x 600 HT approved make, colour and approved by architect etc. complete.	1.00	Nos			
155	Shutters of Pre-Laminated Particle board for granite racks					
	Providing and fixing Pre-Laminated Particle board 18mm thick shutter supported on S.S. Concealed L-Hinges (304 Grade), with Handles in Stainless Steel (304 Grade) and Lock arrangement with magnetic stopper etc. Complete as per design and drawing and instructions of Engineer in charge.	43.42	Sqm			
156	(CH-1)					
	Providing & supplying High Back Executive Chair with hydraulic stand of 5 legs having reclining and revolving system for RO, Confrance hall in artificial leather finish approved by Architect. with 3“ in seat and 2” in finished with powder coated M.S. Coated base. approved by Architect.	1.00	Nos			
157	(CH-2)					
	Providing and supplying visitor chairs 3 in 1 for waiting area having seat and back in foam with fabric cloth finish with 3“ in seat and 2” in back finished with powder coated M.S. Coated base, approved by Architect.	6.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
158	(CH-3)					
	Providing & fixing chair of Arrangemnt of High Back, Synchronized Mechanism with Multiple Locking, Adjustable Armrest, Gaslift for Seat height adjustment, Standard 5-prong P/Nylon Base with Leatherite Upholstery as per design and drawing and instructions of Engineer in charge.	2.00	Nos			
159	(CH-4)					
	Providing and supplying visitor chairs 2 in 1 for waiting area having saet and back in foam with fabric cloth finish with 3“ in seat and 2” in back finished with powder coated M.S. Coated base, approved by Architect.	6.00	Nos			
160	(CH-5)					
	Providing & supplying Low Back Executive chairs for Confrance hall cabin with hydraulic hight adgestment with reclining and revolving system stand of 5 legs having saet and back in foam with fabric cloth finish with 3“ in seat and 2” in back finished with powder coated M.S. Coated base, approved by Architect.	24.00	Nos			
161	(CH-6)					
	Providing & fixing chair of Arrangemnt of Mid back, Normal Tilt Mechanism , Fixed Armrest, Gaslif for seat, height adjustment, Standard 5-prong P/Nylon Base with Fabric Upholstery as per design and drawing and instructions of Engineer in charge.	12.00	Nos			
162	(CH-7)					
	Providing & fixing chair of Arrangemnt of Low Back (without Height Adjustment) ,Fixed Armrest Black Cantilever Base as per design and drawing and instructions of Engineer in charge.	20.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
163	(CH-10)					
	Providing & supplying Computer Chair for Staff in Fabric finish (Cloth Rs. 250/meter) approved by Architect. standing with 5 legs, revolving tilting and finished with powder coated M.S. Coated base. approved by Architect.	12.00	Nos			
164	(CH-12)					
	Providing and supplying PVC chairs in dining hall approved by Architect.	12.00	Nos			
165	(SF-2)					
	Providing and supplying 3- seater (Type-2) Visitor Sofa Set in waiting Cabin in 3 & 4 inches high density foam Pounds/Cubic fit fixed on a base of 18 mm thick gurjan hardwood based ply. As per drawing no. finished with specified leather cloth. Approved by Architect.	7.00	Nos			
166	Providing and supplying Modular Bed For Guest House size 2000 x 1200 x 450mm With Corner Table made in made in 18 mm thick Prelaminated particle board, drawer made in 18 mm thick Prelaminated particle board with locking arrangment etc. externally finished with 1.0 mm thick laminate and internally finished with 1.0 and mattress 3 & 4 inches high density foam finished with cotton cloth and including all hardware items, S.S.handle, locks, Teliscopic sliding channels with powder coating, nails, S.S.screws, as per details drawing and as directed by Architect.	3.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
167	<p>Mobile Compactor storage system with Mobile Unit, Static Unit, Guide Track. Guide track of size 30MM M.S. Round with necessary Bracing and base plate Each mobile Compactor is provided with a handle for mechanically assisted drive mechanism consisting of a series of sprocket and chain mechanism for smooth movement, fitted with safety guard which is to be engaged when entering the common aisle, label holders, end stoppers, The entire material supplied by us is subject to nine bath process and finally painted with high grade powder coated finish and baked in oven at 160Dgree Celcius. Color combination will be as required. The front panel cosmetic surface is given powder coated.</p> <p>Material Details</p> <ul style="list-style-type: none"> <input type="checkbox"/> Load Bearing Sheet - 22g <input type="checkbox"/> Horizontal Steel Panels - 22g <input type="checkbox"/> Back Cladding / Centre Partition- - 22g <input type="checkbox"/> Front Panel - 22g <input type="checkbox"/> Base Trolley 'C' Lipped Channel - 12g <input type="checkbox"/> Handles - Chrome plated/ Powder coated 	1.00	Nos			
	PART C INTERNAL ELECTRIFICATION, LAN, COMMUNICATION AND EPBX					
168	Supplying and erecting PVC trunking (PVC casing-ncapping) of size 20 mm with accessories on wall/ceiling as per specification No: WG-MA/CON.	125.00	Rmt			
169	Supplying and erecting PVC trunking (PVC casing-n-capping) of size 25 mm with accessories on wall/ceiling as per specification No: WG-MA/CON	710.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
170	Supplying and erecting PVC trunking (PVC casing-ncapping) of size 32 mm with accessories on wall/ceiling as per specification No: WG-MA/CON	275.00	Rmt			
171	Supplying and erecting PVC trunking (PVC casing-ncapping) of size 40 mm with accessories on wall/ceiling as per specification No: WG-MA/CON.	80.00	Rmt			
172	Supplying and erecting HMS PVC conduit 25 mm dia. with PVC accessories on wall /ceiling as per specification No:WG-MA/CON	300.00	Rmt			
173	Supplying & erecting mains with 2x1.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/BW	300.00	Rmt			
174	Supplying & erecting mains with 1x1.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/BW	300.00	Rmt			
175	Supplying & erecting mains with 2x2.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/ BW	300.00	Rmt			
176	Supplying & erecting mains with 1x2.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/BW	300.00	Rmt			
177	Supplying & erecting mains with 2x4 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/BW	200.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
178	Supplying & erecting mains with 3x6 sq.mm FRLSH copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/ BW	200.00	Rmt			
179	Supplying and erecting ISI mark modular type switch 6A / 10A duly erected on provided plate and box with wiring connections complete.	200.00	Each			
180	Supplying and erecting ISI mark modular type switch 16A duly erected on provided plate and box with wiring connections complete.	50.00	Each			
181	Supplying and erecting ISI mark modular type 3 pin 6A multi sockets with safety shutter, duly erected on provided plate and box with wiring connections complete.	50.00	Each			
182	Supplying and erecting ISI mark modular type 3 pin 6 / 16A multi socket with safety shutter, duly erected on provided plate and box with wiring connections complete.	50.00	Each			
183	Supplying and erecting ISI mark modular type telephone socket two gang with safety shutter, duly erected on provided plate and box with wiring connections complete.	36.00	Each			
184	Supplying and erecting ISI mark modular type computer jack RJ 45 with safety shutter, duly erected on provided plate and box with wiring connections complete	36.00	Each			
185	Supplying, erecting & commissioning Main Distribution Frame (MDF) Box 50x50 pairs as per specification No. WG-TW1-11-1	3.00	Each			
186	Supplying and erecting broadband splitter unit with 1 input & 2 output RJ 11 female connectors complete.	2.00	Each			
187	Supplying, installing, testing & commissioning push button telephone instrument desk top/wall mount unit as per specification complete.	32.00	Each			
188	Supplying, installing, testing & commissioning approved type Digital key telephone / IP telephone instrument as per specification complete	1.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
189	Supplying & installing expansion cabinet for extension of digital hybrid EPABX to expand system by 32 ports with programming and configuration of extensions and direct lines with required accessories complete.	1.00	Each			
190	Supplying and erecting ISI mark modular type computer jack RJ 45 with safety shutter, duly erected on provided plate and box with wiring connections complete	36.00	Each			
191	Supplying and erecting ISI mark modular type (two module) electronic step regulator for fan, duly erected on provided plate and box with wiring connections complete.	33.00	Each			
192	Supplying and erecting ISI mark modular type blanking plate ONE module, duly erected on provided plate & box.	25.00	Each			
193	Supplying and erecting PVC Surface modular switch box with double mounting plate for 3 modules duly erected.	25.00	Each			
194	Supplying and erecting PVC Surface modular switch box with double mounting plate for 2 modules duly erected	25.00	Each			
195	Supplying and erecting PVC Surface modular switch box with double mounting plate for 6 modules duly erected	25.00	Each			
196	Supplying and erecting PVC Surface modular switch box with double mounting plate for 16 / 18 module duly erected.	25.00	Each			
197	Wiring for plug on board with Switch socket , copper wiring and earthing as per specification No: WG-PW/SW	25.00	Each			
198	Point wiring for light/fan/bell concealed type in min 20 mm ISI marked HMS PVC conduit with 1.5 sq.mm. (2+1E) FR grade copper wires, modular type switch, earthing and required accessories as per specification No: WG-PW/CW	325.00	Point			
199	Point wiring in PVC trunking (casing-capping) with 1.5 sq.mm (2+1E) FR grade copper wire, flush type switch, earthing and required accessories as per specification No: WG-PW/SW	20.00	Point			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
200	Point wiring for independent plug, concealed type in min 20 mm ISI marked HMS PVC conduit with 1.5 sq.mm (2+1E) FR grade copper wires, modular type switch and socket, earthing and required accessories as per specification No WGPW/ SW	60.00	Point			
201	Supplying & erecting telephone copper cable 2 pair with 0.5 mm dia. laid in provided PVC casing capping/ conduit as per specification No. WG-TW	300.00	Rmt			
202	Supplying & installing UTP networking cat-6+ cable suitable for LAN / WAN Computer net-working as per specification no. WG-COC/NC complete.	2000.00	Rmt			
203	Supplying and erecting LED square / circular 16 to 20W down lighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	83.00	Each			
204	Supplying & erecting LED 20W tube light fitting (4 feet) with aluminium housing, heat sink, integrated HF electronic driver complete.	145.00	Each			
205	Supplying and erecting luminous / modular type call bell indicator with plastic body, heavy duty coil and indicator lamp working on 230V A.C. supply with resetting arrangement complete erected on double wooden/ sunmica board	15.00	Each			
206	Supplying and erecting ding dong / electronic musical type call bell with heavy duty coil suitable to operate on 230V A.C. supply erected on polished double wooden block/sunmica block of suitable size	10.00	Each			
207	Supplying and erecting corridor/passage light fitting (2 feet) including 9W LED lamp , comprises of extruded channel in plastic silver grey colour & with same plastic end cap on provided PVC block / wooden board	15.00	Each			
208	Supplying and erecting decorative oval bulk head edge-lit 10W LED luminaire comprising of high brightness LED Fitting on provided PVC block / wooden board.	4.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
209	Supplying and erecting fan clamp of 30 x 5 mm. M.S. flat of required length and 10 mm. M.S. bolt and nuts erected with necessary hook of 10 mm. M.S. round bar and painted.	33.00	Each			
210	Supplying and erecting fan hook of 10 mm. M.S. round bar grouted in RCC slab with making the site as original.	33.00	Each			
211	Supplying and erecting „ B” grade G.I. pipe / M.S. pipe down rod duly painted for fan complete erected with PVC three core flexible cable 1 sq. mm copper PVC wire.	25.00	Rmt			
212	Supplying and erecting fresh air cum exhaust fan of light duty 250 V A.C. 50 cycles 225mm. 1400 RPM rust proof body & blades, wire mesh, duly erected in an approved manner.	12.00	Each			
213	Supplying and erecting five star rated energy saving Ceiling fan 230 V A.C. 50 cycles 1200 mm complete erected in position as per specification no. FG-FN/CF	33.00	Each			
214	Supplying, erecting, testing and commissioning self-contained water cooler 230/250V 50 cycles nominal cooling capacity of 40 litres/hr and storage capacity 80 litres with partially stainless steel body complete. specification no. APWCR/ WC	1.00	Each			
215	Supplying and erecting ultra violet storage type water purifier (RO+UV+UF) with softener for safe drinking water consisting of UV germicidal tube of 8W capacity choke made of copper wire and two indicator lamps with output of purified water 7 to 8 litre/min with activated carbon filter and softener operating on 230 V single phase A.C. supply.	1.00	Each			
216	Supplying & erecting on line UPS pure sine wave of 5 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification no. AP-UPS 3-7-4	1.00	Each			
217	Supplying, erecting & marking SPMCB 0.5A to 5A in provided distribution board as per specification no. SW-SWR/ MCB	40.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
218	Supplying, erecting & marking SPMCB 6A to 32A, C-series (for motor/power) in provided distribution board as per specification no. SW-SWR/ MCB	40.00	Each			
219	Supplying, erecting & marking SPMCB 6A to 32A, B- series (for lighting) in provided distribution board as per specification no. SWSWR/ MCB	40.00	Each			
220	Supplying, erecting & marking DPMCB 6 A to 32 A B- series (for lighting) in provided distribution board as per specification no. SWSWR/ MCB	40.00	Each			
221	Supplying, erecting & marking TPMCB 6 A to 32A in provided distribution board as per specification no. SW-SWR/ MCB	20.00	Each			
222	Supplying, erecting & marking TPMCB 40A to 63A in provided distribution board as per specification no. SW-SWR/ MCB	12.00	Each			
223	Supplying, erecting & marking FPMCB 40A to 63A in provided distribution board as per specification no. SW-SWR/ MCB	4.00	Each			
224	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP / TP MCB of 36 poles/12 ways on iron / GI frame (vertical busbar type) as per specification no. SW-SWR/ MCBDB	6.00	Each			
225	Supplying and erecting single pole and neutral distribution board (SPNDB) surface/flush mounted with 2 poles for incoming and 10 poles for outgoing SP MCB's on iron/ GI frame as per specification no. SW-SWR/ MCBDB	4.00	Each			
226	Providing & erecting 4 Pole MCCB upto 100A, 415V, with short circuit rating 25 kA (Ics=100% of Icu),adjustable thermal (overload) setting and fixed magnetic setting with provided leads, provision for installation of shunt/ UV/ trip alarm contact and MCCB should have phase barriers both sides, in provided enclosure on iron /GI frame as per specification no. SW-SWR/MCCB	1.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
227	Supplying, fixing and commissioning 2 pole RCBO (residual current breaker with overcurrent short circuit 10 kA and earth leakage protection), with 30/100/300 mA sensitivity and having capacity of 32A/40A as per specification no SW-RCCB/RCBO	20.00	Each			
228	Supplying and erecting metal work in CRCA sheet with fabrication of boxes, panel boards, etc. including cutting, bending, drilling, welding, riveting, treated with anti-rust treatment and duly powder coated or painted with one coat of red lead paint and 2 coats of enamel paint complete	50.00	Kg			
229	Supplying and erecting bus bar chamber triple pole with neutral with four aluminium bars, 500V, 100A complete as per specification no. CP-BB	2.00	Rmt			
230	Supplying and erecting 525 V 3 phase, 50 Hz., MPP type capacitor having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours kVAr bank of metalised polypropylene condensers (MPP) with the standard capacities of 2, 3, 5, 7, 10, 12.5 and 15 kVAr units of P.F. correction for operation on 3 phase 50 Hz. with externally discharging resistances, earthing terminals and built on angle iron or channel iron frame work and provided with terminal cover box complete erected on provided iron bracket or on floor duly tested by licensee	20.00	KVAR			
231	Supplying, erecting & terminating XLPE armoured cable 2 core 2.5 sq. mm. copper conductor 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/CU	45.00	Rmt			
232	Supplying, erecting & terminating XLPE armoured cable 4 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	45.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
233	Providing earthing with galvanized iron earth plate size 60 x 60 x 0.6 cm complete with all materials, testing & recording the results as per specification no. EA-EP	20.00	Each			
234	Supplying and erecting GI strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joints required. As per specification no EA-EP.	72.00	KG			
235	Supply, Installation, Testing and commissioning of maintenance free earthing comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250 micron molecular copper bonded earthing rod of Length 3m along with 25 kg Carbon based environment friendly back fill ground enhancing compound required to fill up the excavated earth with required quantity complete. Specification no. EA-MOBI	2.00	Each			
236	Sully and Erection Projector THEATER-LIKE IMAGE QUALITY: W1050 plays over 96% Rec.709 HDTV Standard for authentic color accuracy with BenQ CinematicColor technology HIGH QUALITY PERFORMANCE: Native 1080p Full HD image quality with 2200 ANSI lumen high brightness 15000:1 contrast ratio and 6X RGBRGB color wheel Blu-ray Full HD 3D & NVIDIA 3DTV support: Supports HDMI 1.4a mandatory 3D Formats, allowing you to enjoy a wide selection of 3D contents from your Blu-ray Player, Satellite , PS4 etc., SHORT THROW: W1050 maximizes thrills in minimum space by projecting a massive 100-inch image at a mere 3 meters EASY & FLEXIBLE SETUP: Hassle Free Installation with 1.2x Zoom, Offset >100%, Vertical Keystone, 3 Adjustment Feet HOME ENTERTAINMENT MODE: With 3 dedicated picture modes, Sport Mode, Vivid TV Mode and Cinema Mode EXCLUSIVE LAUNCH OFFER: One DLP 3D Glass Worth Rs. 5,000, free for limited period, bundled inside the bo	1.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
237	Supplying, erecting, testing and commissioning amplifier 120 W for public address system suitable to operate on 230 Volts A.C. / 12 Volts D.C. supply complete as per specification no. FFPA/ AFR	1.00	Nos			
238	Supplying, erecting, testing and commissioning sound column 15 Watts complete as per specification no. FF-PA/SOC	2.00	Nos			
239	Supplying, erecting, testing and commissioning microphone complete as per specification no. FF-PA/MIC	2.00	Nos			
EXTERNAL ELECTRIFICATION						
240	Making M- 20 grade reinforced cement concrete foundation by considering the safe soil bearing capacity at site as 10 T/sq.m at 1.5 m depth including supply of steel, concrete, excavation and fixing provided nut bolts with the help of template, duly plastered as per design complete (for 6m to 8m high octagonal /conical GI pole).	11.00	Each			
241	Providing & erecting 8 m high (clear height) galvanised octagonal pole with foundation bolts having bottom of 135 mm A/F, top 70 mm A/F on provided foundation as per specification no. OHPL/ OPL	11.00	Each			
242	Providing pipe type earthing with 40mm. dia. G.I. pipe or 20 mm dia. G.I. Rod complete with all materials as per specification no. EAEP	13.00	Each			
243	Making trench of suitable width and depth in soft soil for laying provided LT cable up to and including 16 sq.mm complete as per specification no. CW-EXN-CTR	138.00	Each			
244	Supplying, erecting & terminating XLPE 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	121.00	Rmt			
245	Supplying, erecting & marking SPMCB 0.5A to 5A in provided distribution board as per specification no. SW-SWR/MCB	218.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
246	Supplying & erecting mains with 2x1.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WGMA/ BW	35.00	Rmt			
247	Supplying and erecting street light bracket for erection of single fitting on tubular welded pole with 40 mm. dia 1.0 m long —Bl grade G.I. pipe along with pole cap of 125mm dia 600 mm long duly welded as per specification no. FG-BKT/BPC	1342.00	Nos			
248	Supplying and erecting street light bracket for erection of double fitting on tubular welded pole with 40 mm. dia 1.0 m long —Bl grade G.I. pipe along with pole cap of 125mm dia 600 mm long duly welded as per specification no. FG-BKT/BPC	1718.00	Nos			
249	Supplying and erecting LED street light fitting suitable for 60W lamp, including lamp, with PF > 0.95 class IP 65 and above housing of pressure die cast aluminium alloy and heat sink extruded aluminium complete as per specification No FGODE/ FLS-2.	5254.00	Nos			
250	Making trench of suitable width and depth in soft soil for laying provided LT cable up to and including 16 sq.mm complete as per specification no. CW-EXN-CTR	100.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
251	Supplying, erecting and commissioning of diesel generating set with alternator of 50 kVA output continuous rating, 3 phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multicylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, along with standard accessories, selfexcited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	1.00	Nos			
252	Supplying and erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 0.75 KW/1 HP with discharge 1.6/2.9 Litres per second (LPS) for head of 9/22 m & 40 mm suction/ 40 mm delivery pipe on provided C.C. foundation as per specification no. WP-CGP	1.00	Each			
253	Supplying and erecting D. O. L. Starter suitable for 250V. Single phase, 50 cycles with overload element with necessary materials and connected to supply upto 3 H.P.	1.00	Each			
254	Supplying, installing, testing and commissioning of 25 kWp capacity on grid solar power pack with GI mounting structure and inter connecting wires / cables without battery bank SPV modules and solar power conditioning unit of required capacity complete, with 5 years on site performance warrantee. Specification no. ESD-RTONG	1.00	KWp			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
255	Supply, installation testing and commissioning of High defination IR IP Vandal Dome Camera with Having following features: .• Max. 2M (1920 x 1080) resolution • 2.8 ~ 12mm (4.3x) varifocal lens • 0.15Lux@F1.4 (Color), 0Lux@F1.4 (B/W : IR LED on) • 30fps@all resolutions (H.265) • H.265, MJPEG dual codec, Multiple streaming • Motion detection, Tampering • micro SD(128gb) memory slot, PoE • IR viewable length 20m • Built in mic/external Audio in/out • Hallway view support (Rotate 90°/270°) • LDC support (Lens Distortion Correction) • IP66, IK10	25.00	Nos			
256	Supply installation testing and commissioning of 16 Ch POE Network Video Recorder with 4 SATA ports <ul style="list-style-type: none"> • Up to 16CH 8M supported • 80Mbps network camera recording • Plug & play by 16 PoE/PoE+ ports • Max. 4HDDs, e-SATA storage supported • HDD removable (Easy install) • HDMI / VGA local monitor • 16 Channel 2 way Audio support 	3.00	Nos			
257	Supply and Installation of 4 TB Surveillance Sata Hard Disk Similar to Seagate Surveillance HDD 4TB ST4000VX000 6Gb s Internal Hard Drive	3.00	Nos			
258	Intel Core i7 2600 @ 3.4 GHz, 8 GB of RAM DDR3, 2000 GB SATA II hard drive for OS & software application, 4 GB dualhead video adapter, 1600 x 1200 or higher screen resolution 100/1000 Ethernet Network Interface Card, 16x DVD+/-RW Drive, HD Monitor, Keyboard & Mouse, Windows License :- 1 Nos (Should Have 4 HDMI Port Each)	1.00	Nos			
259	Supplying, fixing 32" Full HD Monitor with HDMI interface	1.00	Nos			
260	Supplying, fixing, and configuring 8 Port POE Managed Ethernet Switch	3.00	Nos			
261	Supplying, fixing, and configuring 8 Port Non POE Ethernet Switch	1.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
262	Supplying, Installing & Testing UTP Connector (RJ-45) as per specification No WG,NAS/UTPC	50.00	Each			
263	Supplying and fixing Tool-less Information Outlet (Ethernet) flush / surface type in position as per specification no WG-NAS/IO	50.00	Each			
264	Supplying and erecting PVC Surface modular switch box with double mounting plate for 1 module complete duly erected in approved manner	10.00	Each			
265	Supplying and fixing 1 meter length, UTP patch cord of Cat 6 type in position as per specification No WGCOG/ PC	25.00	Rmt			
266	Supplying and fixing 24 port Patch panel with Tool-less keystone jacks in provided U Rack complete as per specification no WG-NAS/PP	2.00	Each			
267	Supplying, installing, testing & commissioning 6U Wall Mount Rack (Dimension-DxWXH -450X550X367 mm) as per specification in approved manner	1.00	Each			
268	Supplying and Installing UTP networking Cat6 cable suitable for LAN / WAN Computer networking as per specification No. WG-COC/NC	1250.00	Rmt			
269	Supplying and Erecting I S I mark Rigid P V C conduit 20 mm dia with necessary accessories in wall/floor with chiselling appropriately as per specifications No WG-MA/CC	900.00	Rmt			
270	Supplying & installing HDMI cable low voltage grade as per specification as per specifications having 25 mtr cord length with male/female 19pin HDMI connectors as per requirements complete.	2.00	Each			
	HVAC					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
271	Supplying, erecting, testing and commissioning 14 HP, VRF / VRV air conditioning system, outdoor unit (ODU) complying type-IV OEM standards working on HFC free refrigerant R410A or other required / suitable green equivalent refrigerant, for cooling capacity delivering 100% at 47 deg. celcius and nonstop cooling even at 56 deg. celsius and coefficient of performance (COP) 3.00 to 4.00, modular type horizontal/vertical hot air discharge suitable for total piping length upto 1000 metre operation in cooling mode with inverter based VRF/VRV technology microprocessor based control compressor starter/control panel complete with scroll compressor, air cooled anti corrosive copper condenser coil of suitable shape for increasing maximum heat transfer area, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V \pm 10%, 50 Hz, 3 phase power supply, internal copper refrigerant piping, internal wiring and first charge of refrigerant, etc. all housed in powder coated weather proof cabinet on provided angle iron frame or suitable foundation connected to the system in approved manner complete.	1.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
272	Supply, installation, testing and commissioning of VRF/VRV based Hi-wall type indoor unit (IDU) of nominal cooling capacity 0.6TR - 0.8TR (229 to 358 cfm) having EER as per BEE standards and specifications with multiple speed evaporator fan with motor, copper tube aluminium fin evaporator coil, washable air filter, insulated drain tray, expansion device, cordless remote control with necessary controls, with 3-core copper flexible cord of required length and electrical terminal to receive power supply, etc. IDU shall have anti-corrosive coating suitable for coastal area. Unit shall be suitable for indoor wall mounting, having an electronic control console, provided with suitable mounting brackets with any additional refrigerant and oil charge as per the requirement during installation, connected to the system complete.	7.00	Each			
273	Supply, installation, testing and commissioning of VRF/VRV based Hi-wall type indoor unit (IDU) of nominal cooling capacity 1.0TR (358 cfm) to 1.25TR (417 cfm) having EER as per BEE standards and specifications with multiple speed evaporator fan with motor, copper tube aluminium fin evaporator coil, washable air filter, insulated drain tray, expansion device, cordless remote control with necessary controls, with 3-core copper flexible cord of required length and electrical terminal to receive power supply, etc. IDU shall have anti-corrosive coating suitable for coastal area. Unit shall be suitable for indoor wall mounting, having an electronic control console, provided with suitable mounting brackets with any additional refrigerant and oil charge as per the requirement during installation, connected to the system complete.	2.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
274	Supply, installation, testing and commissioning of VRF/VRV based ceiling suspended 4 Way cassette indor unit (IDU) compact / standard size of nominal cooling capacity 1.5TR (512 cfm) / 1.8TR (618 cfm) having EER as per BEE standards and specifications, suitable as per site requirement with swing louvers and adjustable blades from sides. Indoor Units complete with in-built drainage arrangements, fan, refrigerant liquid and refrigerant piping, cordless remote control, and fresh air port etc. IDU shall have anticorrosive coating suitable for coastal area complete in all respects, to operate on 1-phase, 230V, 50Hz, AC input supply, consisting with any additional refrigerant and oil charge as per requirement during installation and connected to the system complete.	2.00	Each			
275	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 28.6 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge (hard drawn copper pipe for liquid main line and for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system.	45.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
276	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 15.9 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge (hard drawn copper pipe for liquid main line and for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system.	45.00	Rmt			
277	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 12.7 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge (hard drawn copper pipe for liquid main line and for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system	100.00				

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
278	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 9.5 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge (hard drawn copper pipe for liquid main line and for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system.	50.00	Rmt			
279	Supplying, laying / fixing, testing and commissioning of appropriate nominal refrigerant copper pipe of 6.4 mm dia (OD) for liquid line / suction line supply and return piping of suitable gauge (hard drawn copper pipe for liquid main line and for refrigerant) along with necessary supports, hangers, clamps, vibration isolators and fittings such as bends, tees, valves, gauges, strainers with insulation of 19 mm thick elastomeric nitrile rubber along with application of multicoating suitable for use with VRV / VRF piping for protection against mechanical damages, fungal growth, flame spread, water permeance and ultra violet radiations complete with OEM standards of VRV / VRF air conditioning system.	75.00	Rmt			
280	Supplying, installing, testing and commissioning split type variable speed inverter technology room Air conditioning unit 2 TR capacity having ISEER minimum 4.50 suitable to operate on 250V, 50 cycles, A.C. supply having 1 no. of air handling unit hi-wall/ floor mounting type complete with Refrigerants R410 A /R32 and copper condenser at position. specification no. APAC/ SAC	2.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
281	Supplying and erecting fully automatic line voltage stabilizer , buck and boost type for operation on input voltage 160 to 270 V and output voltage 200 to 250 V rated for, 5 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16 A plug top suitable for Air Conditioner of 2.0 TR.	2.00	Nos			
	LIFT					
282	SITC of Electric Traction Passenger Lift with <ul style="list-style-type: none"> • Rated capacity :- 13 Passenger/884Kg • Floors :- G+1 floor (2Stops/2 Landings) • Travel :- 3 to 4.2 mtrs. • Location of Lift Machine:- MR/MRL • Rated speed :- 1.0mps VS • Doors type :- COPO/TOPO Doors with frame having clear opening of 900/1000 mm wide x 2000 mm high made from SS 304 grade sheet of 1.5mm, thick in hairline finish for car and all landing doors with SS door architraves/ frames • Lift car enclosure made from SS 304 grade sheet of 1.5mm, thick with hairline finish with frame made from MS girders, bracing of adequate size with minimum safety factor of 5, with Toe Guard Apron, with necessary false ceiling with adequate LED lights, blower/fan for ventilation & SS chequered plate flooring, handrails, mirror, emergency light etc. 	1.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
283	<ul style="list-style-type: none"> • COP with SS face plate having metallic push buttons with Braille Code & luminous indicator around button with FPI, scrolling UP/DN LED indicator & with/without attendant key switch, OWD with audio-visual alarm, VAS in Marathi, Hindi & English with intercom system with telephone instrument in Lift car, LMR & FCC/ground floor • Clear Car size of 1600mm wide x 1700mm deep x 2000mm high • LOP with SS face plate having recess/surface push button box for all landings with scrolling UP/DN LED indicator having metallic push buttons with Braille Code & luminous indicator around button with CPI, Lift car arrival & next travel direction audio-visual indication at all landings • Lift controller based on microprocessor/ PLC with VVVF Drive having closed loop control system, with IBMS compatible having necessary port, control panel duly wired with proper size & strength copper wire for power & control circuit, with provision for addition of floor /control card & allied accessories control panel having enclosure of 1.5mm CRCA sheet with powder coating with IP54 Protection class • ARD complete with necessary SMF VRLA batteries • Fireman controller having fireman switch at fire Landing, • CCTV surveillance system comprises of 2nos minimum 2.0MP FHD IP based vandal proof Dome camera in lift car & in LMR/inside lift shaft top aimed on Lift machinery & controller with NVR kept in LMR/FCC with HDR data backup for 60 days with 18" FHD TV monitor, to be kept in FCC/LMR as directed by Engineer In Charge. 					

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
284	<ul style="list-style-type: none"> • Lift Machine of Gearless PMSM of suitable kW with Traction pulley, OSG, electromagnetic brakes, entire assembly mounted on adequate size girders duly fixed on LMR floor/ shaft walls complete with main/diverter traction sheaves, suspension wire ropes/belts of adequate size & strength • Other mechanical parts such as 'T' section adequate size guide rails for car & counter weight with brackets fasteners, counter weight frame with necessary blocks, buffers with necessary support arrangement, MS pit ladder etc. erected with necessary steel work • Minor civil work for alteration if any and erection of door frames and accessories, erection buffers, erection of lift machinery, adequate size core cuts if required & scaffolding for erecting guide rails fixing of girders for mounting lift machine etc. complete as per specification no. LFT. • Lift shaft available having clear size of 19000mm wide x 2000mm deep 					
285	For Lift having 1800mm wide x 2000mm high clear entrance in 1.5mm thick SS 304 grade landing door [Four panel], this includes all necessary accessories like LOP's with UP/DN buttons-arrows indicators, extension of guide rails, shaft wiring with trunking, travelling cables, main hoisting ropes/belts, & OSG rope landing doors with all accessories etc. necessary for the normal safe functioning of lift installation complete	1	Floor			
	FIRE FIGHTING					
286	Supplying and erecting triple pole metal clad switch and fuse 415V, 32A on iron / GI frame as per specification no. SWSWR/MTP	2.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
287	Supplying, erecting & terminating XLPE armoured cable 2 core 2.5 sq. mm. copper conductor 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/CU [Siren , Pressure Switches to Fire Hydrant Control Panel - 50 Mtr]	50.00	Rmt			
288	Supplying, erecting & terminating XLPE armoured cable 3 core 2.5 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	60.00	Rmt			
289	Supplying, erecting & terminating XLPE armoured cable 3 core 4 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	30.00	Rmt			
290	Supplying & erecting PVC armoured cable 4 core 6 Sq. mm. stranded / solid copper 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/CU	30.00	Rmt			
291	Supplying, erecting & terminating XLPE armoured cable 4 core 25 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	30.00	Rmt			
292	Providing & erecting epoxy straight through joint outdoor/indoor for LT XLPE armoured cable 2.5 to 16 sq. mm. cable, with necessary material as per specification no. CB-JT/LT	8.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
293	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 25 to 50 Sq.mm. cable, with necessary material as per specification no. CB-JT/LT	8.00	Each			
294	Supplying & erecting automatic control panel for 3 Ph, 415 volt, a.c. Submersible/centrifugal pump set for 7.5 to 10 HP consisting of DOL starter having relay range 13-21 AMP,S.P.P., Combined ammeter / voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof enclosure with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase imbalance etc	2.00	Each			
295	Supplying, installing, testing and commissioning with perfect aligning, proper levelling of fire service main single stage pump, of 1400 LPM at 56 m head centrifugal type, 30 HP (22 kW), 3 phase, 415 volt, 50Hz or of suitable HP complete, as per specification no. FF-MFP/SSC	1.00	Each			
296	Supplying, installing, testing and commissioning with perfect aligning, proper levelling of booster pump of 450 LPM at 35 m head 7.5 HP (5.5 KW), 3 phase, 415 volt, 50Hz or of suitable HP with suitable stages as per specification no. FF-MFP/BP	1.00	Each			
297	Supplying and erecting G.I. pipe above ground of „C“ class ERW of size 100 mm dia with necessary fittings complete as per specification no. FF-PP	250.00	Rmt			
298	Supplying and erecting G.I. pipe above ground of „C“ class ERW of size 50 mm dia with necessary fittings complete as per specification no. FF-PP	100.00	Rmt			
299	Supplying and erecting G.I. pipe above ground of „C“ class ERW of size 25 mm dia with necessary fittings complete as per specification no. FF-PP	200.00	Rmt			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
300	Supplying, erecting, testing and commissioning of 15 mm (1/2") dia. NBCM Body chrome finished quartzoid bulb sprinkler having 68° C fixed temperature rating with deflector disc of conventional construction complete as per specification no. FF-SPR	36.00	Rmt			
301	Supplying, erecting, testing and commissioning vane type water flow detector suitable for detecting flow of water in wet sprinkler pipe of main line or branch lines of 75/80 mm dia having following features 1) Visual switch activation 2) Rugged switch assembly 3) Heavy duty aluminium pipe saddles 4) Durable metal enclosure 5) Steel U bolts for secure mounting 6) Two SPDT (Single pole double track) synchronised switches 7) serviceable without draining pipes	4.00	Each			
302	Providing coating of bitumen paint & 4mm thick wrapping for underground 100 mm ring main of fire fighting system	108.00	Rmt			
303	Supplying and erecting G.I. pipe above ground of „C“ class ERW of size 150 mm dia with necessary fittings complete as per specification no. FF-PP	30.00	Rmt			
304	Providing coating of bitumen paint & 4mm thick wrapping for underground 150 mm ring main of fire fighting system.	30.00	Rmt			
305	Supplying and erecting cast iron foot valve ball type/flap type of size 100 mm dia with strainer for negative suction complete as per specification no. FF-VL/FV	8.00	Nos			
306	Supplying and installing cast iron double flange sluice valve 150 mm dia. as per specification no. FF-VL/SV	2.00	Nos			
307	Supplying and installing double flange NRV of size 100 mm dia as per specification no. FF-VL/NRV	6.00	Nos			
308	Supplying and installing double flange NRV of size 150 mm dia as per specification no. FF-VL/NRV	2.00	Nos			
309	Supplying and installing gun metal single outlet hydrant valve fitted with necessary accessories complete as per specification no. FF-VL/HV	10.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
310	Supplying and installing gun metal Double outlet hydrant valve fitted with necessary accessories complete as per specification no. FF-VL/HV	2.00	Nos			
311	Supplying and installing wall mounting swinging Hose reel drum fitted with 19 mm dia. 30 meter high pressure polypropylene (Polyhose) long fitted with necessary accessories complete as per specification no. FF-FFA/HV	20.00	Nos			
312	Supplying fire fighting reinforced rubber lined (R.R.L.) hose pipe , 63mm dia, 15m in length, fitted with necessary accessories complete as per specification no. FF-FFA/RRL	20.00	Nos			
313	Supplying G.M. branch pipe of 63 mm Ø fitted with 20 mm Ø detachable hexagonal nozzle as per specification no. FFF A/NZ	20.00	Nos			
314	Supplying and erecting fire brigade header of 150 mm dia , for supplying water in fire tank complete as per specification no. FFFA/ FBC	2.00	Nos			
315	Supplying and erecting fire brigade header (Siamese connection) of 150 mm dia for supplying water to wet riser system complete as per specification no. FF-FFA/SMC	2.00	Nos			
316	Supplying and installing air vessel of 300 mm dia 1.5m in height M.S. tank installed inside pump house / on terrace complete as per specification no. FF-FFA/ACT	2.00	Nos			
317	Supplying and erecting 20/25mm dia gun metal air release cock , with necessary G.I. coupling to be fitted on top of air vessel or on wet riser complete as per specification no. FF-FFA/ARV	4.00	Nos			
318	Supplying and installing pressure gauge of 100 mm dia. , 0-300 PSI or 0-14 kg per cm square fitted with 12/15 mm dia. pad cock valve, and G.I. pipe, elbow etc. complete as per specification no. FFFFA/ PG	4.00	Nos			
319	Supplying and installing pressure switch with 12/15 mm dia isolation valve, G.I. nipple, elbow, etc complete as per specification no. FF-FFA/PS Similar to DANFOSS	4.00	Nos			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
320	Supplying and erecting one no. brass orifice plate having 6 mm. thickness , 140 mm outer dia and required/proper diameter of inner hole at every single outlet hydrant valve as per specification no. FF-FFA/OP	1.00	Nos			
321	Supplying and erecting one no. Brass orifice plate having 6 mm. thickness , 160 mm outer dia at every double outlet hydrant valve as per specification no. FFFF A/OP	1.00	Nos			
322	Supplying and erecting M.S./CRCA cabinet for housing single hydrant valve (size 400 x 400 x 400mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour	20.00	Nos			
323	Supplying and erecting M.S./CRCA cabinet for housing Fire Brigade / SIEMESE connections (size 1250 x 400 x 300 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8" x 6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	1.00	Nos			
324	Supplying and erecting M.S./CRCA cabinet for housing Floor Hydrant valve , hose pipe, hose reel and branch pipe (size 1000 mm. x 736 x 736 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	10.00	Nos			
325	Excavating soft Murum/Soil road by chiselling for preparing pit for poles stay or earth plates or for laying cables, pipes & clearing the site by removing debris & making the site good.	100.00	Cum			
326	Providing Cement concrete foundation for pump in 1:2:4 with required size and length of foundation bolts and nuts (cost with wooden box is included).	10.00	Cum			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figuers	In Words	
327	Supplying , Erecting, Commissioning & the cubical control panel board of dust & vermin proof of approved design comprising 16SWG CRCA sheet & MS angle iron with following fittings INCOMER SECTION As per Required MCB Starters	1.00	Nos			
328	Supplying, installing, testing and commissioning heat detector complete on box as per specification no. FF-FAS/HD	1.00	Nos			
329	Supplying, installing, testing and commissioning optical type smoke detector complete on box as per specification no. FFFAS/ SD	250.00	Nos			
330	Supplying, installing, testing and commissioning manual call point (Pill box) with break glass push button in metal enclosure complete as per specification no. FF-FAAS/MCP	20.00	Nos			
331	Supplying, installing, testing and commissioning hooters with CRCA enclosure complete as per specification no. FF-FAAS/HTR	6.00	Nos			
332	Supplying, installing, testing and commissioning remote response indicators complete as per specification no. FF-FAAS/RRI	40.00	Nos			
333	Supplying, installing, testing and commissioning FR, XLPE armoured cable 2 core 1.5 sq.mm. copper conductor complete erected on wall/ ceiling complete as per specification no. CBLT/ CU (1)	2000.00	Rmt			
334	Supplying, installing, testing and commissioning FR, XLPE armoured cable 4 core 1.5 sq.mm. copper conductor complete erected on wall/ ceiling complete as per specification no. CBLT/ CU (1)	100.00	Rmt			
335	Supplying, installing, testing and commissioning of 16 Zones Microprocessor based conventional fire alarm control panel (FACP) with standard accessories complete as per specification no. FF-FAAS / FACP Note2)	1.00	Each			

SR. NO.	DESCRIPTION	QUANTITY	UNIT	RATE	RATE	AMOUNT
				In Figures	In Words	
336	Supplying and erecting D.C.P. type fire extinguisher 6 kg capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171-1985/ IS 15683 and complete erected with necessary clamps made from 50x6 mm M.S. flat with nuts & bolts grouted in wall complete	10.00	Each			
337	Supplying & erecting Carbon Dioxide (CO2) fire extinguisher of 4.5 kg. capacity cartridge type conform to IS 2878 /15683 complete erected with necessary clamp made from 50 x 6 mm. M. S. flat with nut & bolts grouted in wall complete.	5.00	Each			
					TOTAL	