



LATUR CITY MUNICIPAL CORPORATION
DIST. LATUR, MAHARASHTRA

e- TENDER NOTICE NO. **10**/2023-24

**NAME OF WORK: - LATUR CITY UNDERGROUND SEWERAGE
SCHEME UNDER AMRUT 2.0 SCHEME
TAL. & DIST. LATUR**

UNDER AMRUT 2.0 SCHEME

TENDER DOCUMENT

THE COMMISSIONER,

LATUR CITY MUNICIPAL CORPORATION, LATUR

TQ. & DIST. LATUR - 413512

MAHARASHTRA

LATUR CITY MUNICIPAL CORPORATION

WATER SUPPLY/SEWERAGE DEPARTMENT

SAVE WATER EVERY DROPS COUNT

LATUR CITY MUNICIPAL CORPORATION
WATER SUPPLY / SEWERAGE DEPARTMENT

**NAME OF WORK: LATUR UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0 SCHEME,
TAL. & DIST. LATUR**

TENDER NOTICE No. 10/2023-24

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PRESS TENDER NOTICE

Contractor

No. of Correction

Executive Engineer

DETAILED TENDER NOTICE

LATUR CITY MUNICIPAL CORPORATION**WATER SUPPLY / SEWERAGE DEPARTMENT****DETAILED TENDER NOTICE NO. 10 OF 2023-24**

Online percentage rate basis Tender in B-1 Form in two envelopes system are invited for the following works from the contractors, registered with MJP in class 1 (civil) or registered in CIDCO/MHADA/PWD/MIDC OR ANY GOVERNMENT DEPARTMENT IN INDIA in equivalent class of MJP, by THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION, Latur on the Government of Maharashtra e-Tendering Portal: <http://mahatenders.gov.in>.

Note: *In order to participate in e-tendering process, it is mandatory for new contractors (first time users of this website) to complete the Online Registration Process for the e-Tendering website. For guidelines, kindly refer to Bidders Manual Kit documents provided on the website.*

A) **NAME OF WORK:** Latur city underground Sewerage Scheme (Under AMRUT 2.0) Tal. & Dist. Latur.

B) **ESTIMATED TENDER COST:** Rs. **250,41,17,824/-**

C) **EARNEST MONEY DEPOSIT:** Rs. **1,25,20,600/-** (0.5 % of the Cost put to tender)

D) **DOWNLOADING COST OF TENDER DOCUMENTS:** **Rs 2,50,000/- + Including GST (Non-refundable).**

E) **CLASS OF CONTRACTOR:** 1 (Civil)

1) EARNEST MONEY DEPOSIT/TENDER FEES:

Tender fee and EMD shall be paid by

1. SBI Net Banking or
2. Other Bank Internet Bank MOPS.

EMD Shall be paid by

1. SBI Net Banking or
2. Other Bank Internet Bank MOPS.

For any assistance, please contact help desk. Details are available online. The online payment procedure can be seen on:

<http://mahatenders.gov.in>. → Announcement → online payment procedure.

Online payment requires 48 hours in Bank working days for clearance and hence, payment should have been made accordingly.

The EMD will be retained in the pooling account and will be refunded to the unqualified / unsuccessful bidders after award of tender to the successful lowest bidder. The EMD of successful bidder will be ultimately refunded or will be adjusted against the security deposit after selection of the successful bidder at the time of execution of the contract. In case, THE COMMISSIONER decided to forfeit / adjust the EMD amount of the bidder, the EMD amount in such cases shall be credited to the bank account of the CORPORATION. The mandate for EMD refunds / forfeit / adjustment against security deposit shall trigger from e- tender application of NIC portal.”

NOTE - The bidder should make the payment well in advance so as to ensure that the payment reaches to Bank 4 (four) days before date and time for submission of tender.

2) A) SECURITY DEPOSIT

- 4% of the Estimated cost or Accepted Tender cost whichever is higher.
- **Initial Security Deposit.**

2% of estimated cost or accepted tender cost whichever is higher in the form of Fixed Receipt OR Bank Guarantee from Nationalized / Scheduled Bank in the name of **THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION, Latur** for initial minimum period of **27 months** (time limit) and shall be extended suitably if the work is not completed within the time limit.

- **Deductions through R.A. Bills.**

Balance 2% amount will be recovered through each running bill at 5% of the gross amount of R.A. Bill to the extent that total required security deposit is to be recovered.

ADDITIONAL SECURITY DEPOSIT (PERFORMANCE SECURITY): -

- If the tenderer has quoted the offer below than the estimated rates put to the tender, the tenderer shall have to submit Additional Security Deposit (ASD) ((Performance Security) in the form of Bank Guarantee of any Nationalized or scheduled bank in favour of THE COMMISSIONER, **LATUR CITY MUNICIPAL CORPORATION, Latur** payable at Latur.

- The tenderer shall submit the Bank Guarantee of Additional Security Deposit (ASD) within 8 days from opening of Financial Bid to the office of “The Commissioner, Latur City Municipal Corporation.
- If the first lowest (L-1) tenderer failed to submit the Additional Performance Security Deposit within eight days then his tender shall be liable for rejection and his EMD will be forfeited. In such case, if the second lowest (L-2) tenderer agree to execute the work at less than the rates of first lowest tenderer, then his tender will be accepted. The 2nd lowest tenderer will have to submit the Additional Performance Security Deposit in form of Bank Guarantee / Demand Draft.
- The Amount of the (ASD) Bank Guarantee shall be calculated by the tenderer in accordance with the following manner.
- If the tenderer has quoted below to the estimated rates, the additional security deposit (Performance Security) shall be paid additionally as mentioned below.

Rate Quoted to estimated rate	Additional Security Deposit (Performance Security)
Below 0 to 1%	1) Nil
Lower Than Below 1% to below 10%	2) 1% of Estimated cost put to tender.
Lower than Below 10% to below 15 %	3) $1\% + (\% \text{ rate quoted} - 10\%)$ For example: If 15% below is quoted the amount of performance security (Additional Security Deposit) shall be $1 + (15 - 10) = 6\%$ Performance Security of estimated cost put to tender. If the amount is less than Rs. 1000/-, then minimum to be Rs. 1000/-.
Lower than 15 % below	4) $\% \text{ as per Sr. No. 3} + (\% \text{ rate quoted} - 15\%) \times 2$ For example: If 19% below is quoted the amount of performance security (Additional Security Deposit) shall be $6 + (19 - 15) \times 2 = 6\% + 8\% = 14\%$ Performance Security of estimated cost put to tender. If the amount is less than Rs. 1000/-, then minimum to be Rs. 1000/-.

- The Bank Guarantee shall be valid up to defect liability period of the tender. It should

bear MICR and IFSC code.

- After opening the envelope no.1, if it is found that the tenderer is not qualified for opening of envelope no .2, then his Bank Guarantee shall be returned within 10 working days. Also, after opening envelope no.2, except the Bank guarantee of 1st and 2nd lowest bidders, the Bank Guarantees of other bidders shall be returned within 10 working days.
- Bank Guarantee of the 2nd lowest bidder shall be returned within 3 working days after the issue of work order to the 1st lowest bidder.
- In case it is found that documents / Bank Guarantees submitted by the tenderer are false or misleading his earnest money shall be suspended for the period of 1 year. Additionally legal action may be initiated against the tenderer.
- The work order shall be given to the concerned tenderer after the clearance of the Bank Guarantee submitted by him.

REFUND OF PERFORMANCE SECURITY

- The amount of the performance security in the form of Bank Guarantee shall be released after completion of defect liability period of the tender.
- Non-submission of additional security deposit in the form of Bank Guarantee shall be liable to summarily rejection of his tender.
- The initial Security Deposit and additional security deposit may be in the form of Fixed deposit receipt OR Bank Guarantee by a Nationalized/ Scheduled Bank in the name of “The Commissioner, Latur City Municipal Corporation, Latur” and shall be for a minimum period of 27 months (time limit) and shall be extended suitably if the work is not completed within the time limit. The tenderer shall have to furnish this security deposit with initial security deposit.

3) STAMP DUTY

The contractor shall bear the revenue stamp duty on total security deposit of the agreement and / or Additional Security Deposit (payable as per tender condition), as per the Indian Stamp Duty (1985) (latest revision) provision applicable during contract period. It is on total SD or ASD (Payable as per tender condition)

4) TIME OF COMPLETION

27 (Twenty-Seven) calendar months, Time limit is 24 Months for execution period + 3 months for trial run) including Monsoon. This will be counted from the date of issue of the work order.

5) DETAILED TENDER SCHEDULE

Sr. No.	Activities	Date & Time	
1	Tender Publishing Date	05-Jan-24	12.00 PM
2	Documents download start date	05-Jan-24	12.00 PM
3	Documents download end date	05-Feb-24	12.00 PM
4	Pre-bid Meeting date	12-Jan-24	12.00 PM
5	Bid Submission Start date	05-Jan-24	12.00 PM
6	Bid Submission closing date	05-Feb-24	12.00 PM
7	Bid Opening date (Technical Bid)	06-Feb-24	13.00 PM

6) PRE-QUALIFICATION CRITERIA

- The firm / contractor should have registered with MJP in class 1 / MIDC /CIDCO OR ANY GOVERNMENT DEPARTMENT IN INDIA in class '1' (Civil) & above (Civil) (equivalent class of MJP). The validity of registration should be at least up to the last date for submission of tender, then only pre-qualification will be considered. It is necessary to renew the registration before issue of work order. Bidder need to submit online copy of registration.
- The Firm/Contractor shall have experience successful completion and commissioning of the works listed below with any Govt. /Semi Govt./ CORPORATION or equivalent organization. The experience of each work should be under single agreement.

S.N.	Components in project	Experience required for
1.	Collection Network of Double wall corrugated HDPE / RCC pipes for Sewerage System.	
	Collection Network: a) HDPE Pipes/ Structured - Wall	The contractor should have experience in Providing, Lowering, Laying, Jointing, Hydraulic testing and commissioning satisfactorily HDPE (DWC/ Structured -Wall) pipe line minimum dia.

S.N.	Components in project	Experience required for
		150 mm in Sewerage Scheme or in Storm Water Scheme of length of minimum 73.44 kms in a single contract.
	b) RCC Pipes	The contractor should have experience in Providing, Lowering, Laying, Jointing, Hydraulic testing and Commissioning satisfactorily RCC pipe line minimum dia. 450 mm in Sewerage Scheme or in Storm Water Scheme of length of minimum 8.94 kms in a single contract.
2.	Rising Main	The contractor should have experience of Lowering, Laying, Jointing, and satisfactory hydraulic testing and commissioning in sewerage scheme satisfactorily DI pipe line work of minimum dia. 600 mm and length of minimum 1.41 Km in a single contract.
3.	Highway Crossing	The contractor should have completed successfully the similar work of push through method.
4.	Trenchless Technology by HDD Method	The contractor should have completed successfully the similar work of Trenchless technology by HDD Method of minimum dia. 800 mm dia. & Minimum Length of 560 M.
5.	Wet Well and pump House	The contractor should have completed successfully the construction of minimum one wet well and pump house under Sewerage Pumping Station.
6.	i) Sewage Treatment Plant – 53 MLD	The contractor shall have experience of Designing, Providing, Constructing, and commissioning successfully Sewerage Treatment Plant based of SBR technology of minimum 26.50 MLD Capacity in a single contract. This STP should be in operation for minimum 2 year giving satisfactory quality of effluent as mentioned in the tender / comply latest quality norms prescribed by regulatory body in India.

S.N.	Components in project	Experience required for
	ii) Tie-up agreement with a Technology provider	The technology provider should have experience of providing designing, constructing or supervising and commissioning successfully at least 2 sewage treatment plant based on SBR technology proposed by the bidder of minimum capacity 26.50 MLD. The STP should be in operation for minimum 2 years as on date of calling tender and giving satisfactory quality of effluent as mentioned in the tender.

- Experience / Performance certificates submitted should be issued by the end user duly certified by an officer not below the rank of Executive Engineer.
- After the approval of the tender, the successful bidder shall submit the following details after issuance of work order and get approved from Engineer-in-charge. The firms should clearly mention the name of firms supplying Mechanical and Electrical Equipments long with the Brand name of the products for all the units involved in the treatment process with the guarantee certificates. These products shall display authentic ISI mark wherever relevant. Before supplying the materials bidder shall take approval to the name of firm supplying equipment and brands. Such material shall be supplied only after the written approval from engineering -in-charge / Municipal Engineer/ THE COMMISSIONER.
- The bidder shall submit online, required experience certificate. The certificate of experience shall have to be issued by the officer not below the rank of Executive Engineer or Equivalent.
- In case LT Installation the certificate of experience shall have to be issued by the officer not below the rank of Executive Engineer or equivalent officer or Head of Govt./Semi. Govt. / CORPORATION or CORPORATIONS.
- For the work of Automation experience certificate issued by private organization can be considered if supported by company registration certificate, TAN, GST, PAN and contract details.
- The firm shall have valid GST registration No. / TIN No.
- The firm shall have valid PAN No.

- **Note: The Contractor should submit affidavit (on Rs. 500 stamp paper) mentioning the truth of documents uploaded by him in technical bid (prescribed format attached). This affidavit shall be upload in technical bid.)**

Geo Tagging for STP

- Site Visit is required at Proposed STP Location as work is on turnkey basis. The following procedure should be done for site visit-
- It shall be binding for all contractors to inspect the Proposed STP site before filling the tender.

The engineer-in-charge will be available during office hours at the site locations.

- During the period five working days before tender closing, Bidder Should done the site visit to carry out procedure of Geo – Tagging effectively.
- The contractor himself or his authorized representative shall carry out Geo-Tagging and shall submit authority letter to the department. The declaration / authority letter duly attested with date and time of the site visit.
- The contractor himself or his authorized representative shall satisfy the representative officers calling for the tender present at the site by giving his identity or showing authentic Identity card and shall keep the procedure confidential.
- Scanned Copy of Certificate of site visit duly signed by Municipal Engineer, Latur Municipal Corporation and the contractor Geo-Tagging with declaration / authority letter in envelop no 1.
- Without Geo-Tagging the tender will not be considered. For the work done certificate issued by private organization will not be considered for this work.

All the documents pertaining to pre-qualification criteria shall be submitted separately online in Envelop No. 1 (Technical Bid)

BID CAPACITY (Rs. In Crore)

The Bidder Shall have a bid capacity more than the value of this bid. Bidding capacity of contractor for completion of work will be decided by following formula.

BIDDING CAPACITY = 2 N A – B

Where,

A =	<p>Average of engineering works of maximum value executed by the contractor in any three years of last five years, upgraded to the present year (i.e., tender accepted year) by the formula given below</p> $\left(1 + \frac{(WPI\ Present - WPI\ Max.\ Value\ Years)}{WPI\ Max.\ Value\ Years}\right)^X$ <p>Maximum value of Engineering executed in Year</p> <p>Where,</p> <p>WPI Present: - Wholesale Price Index of the Month and Year in which tender is invited.</p> <p>WPI Max. Value Years: - Average Wholesale Price Index of the Year in which the max. value of audited turnover executed.</p>
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N = Number of years prescribed for completion of the work for which present bid is invited.

B = Value of existing commitment & ongoing works to be completed during the period completion of the work (i.e., work in hand)

ठेकेदाराने Self Declaration सादर करणे आवश्यक राहिल. (Annexure V)

Bid capacity calculation ठेकेदाराने सादर करताना

1. प्रगतीपथावरील तसेच ठेकेदाराने नुनतम देकार भरलेल्या निविदा व निविदा स्वीकृती झालेल्या तथापि कायदेशि देणे बाकी निविदा इ कामाची माहिती दर्शविणारा Annexure- A मधील सर्व विवरण पत्रामध्ये किमान कार्यकारी अभियंता पेक्षा कमी नसलेल्या पदावरील अधिकाऱ्याची स्वाक्षरी असणे आवश्यक आहे किंवा सनदी लेखापालामार्फत प्रमाणित करणे आवश्यक आहे.
या सर्व विवरण पत्रामध्ये ठेकेदाराची स्वाक्षरी अनिवार्य राहिल तसेच नगरपालिका / महानगरपालिका इ स्थानिक स्वराज्य संस्थांच्या कामाच्या बाबतीत सस्थेतील प्रशासकीय प्रमुखाची स्वाक्षरी असणे आवश्यक आहे किंवा सनदी लेखापालामार्फत प्रमाणित करणे आवश्यक आहे या सर्व विवरण पत्रामध्ये ठेकेदाराची स्वाक्षरी अनिवार्य राहिल.
2. वर्ष निहाय Turnover त्याच प्रमाणे Bid Capacity Calculations चार्टर्ड अकाउंटचे कडून तपासून घेऊन CA आणि ठेकेदाराने स्वाक्षरीसह ठेकेदाराच्या लेटर हेड वर असणे आवश्यक आहे.

3. Bid Capacity Calculations सोबत ठेकेदाराने द्यावयाच्या प्रगतीपथावरील कामे व त्याचप्रमाणे न्यूनतम देकार भरण्यात येऊन Letter of Intent प्राप्त झालेल्या कामाच्या बाबतीतील विवरण पत्राचा नमुना Annexure VIII नुसार संलग्न केला आहे.
4. ठेकेदाराने त्याच्याकडील प्रगतीपथावरील कामे व त्याच प्रमाणे न्यूनतम देकार भरण्यात आलेल्या निविदांच्या बाबतीत Letter of Intent मिळालेल्या कामाचा समावेश करावा मात्र, निविदा प्रक्रियेत भाग घेऊन, केवळ न्यूनतम देकार भरलेल्या कामांचा समावेश करण्यात येऊ नये.
5. Contractor should submit Bid Capacity calculations with works in hand also lowest Bid and letter of intent in Annexure- VIII.
6. Contractor should submit Statement of work in hand or incomplete work duly signed by not less than Executive Engineer, in case of municipal council or municipal corporation statement should be signed by Chief Officer/ commissioner respectively.
7. Contractor should submit year wise turnover and Bid capacity calculation on his/her letter head duly signed by Chartered accountant.
8. With Bid capacity calculation contractor should submit affidavit as per (Annexure-XI).
9. Contractor should submit list of works in hand and list of tenders with lowest also letter of for which he is L1 (lowest 1) and also submit list of tenders for which letter of Intent or letter of acceptance issue to him.
10. Net worth = PRE-QUALIFICATIONS CRITERIA (FINACIAL)
 1. The net worth is applicable to tenders costing more than 25 Crores.
 2. The Net Worth calculations should be certified by Chartered Accountants.
 3. The Bidders should have net worth 8 % of tender cost of continuous 3 years from the financial year in which he desires to take work.

7) COLLABORATION & JOINT VENTURE

Collaboration & Joint Venture not allowed.

8) COST OF BLANK TENDER FORM

- Rs. 2,50,000 /- per set (including GST).
- Blank Tender documents will not be sold by this office. Interested contractors have to download tender documents from the website.

- Cost of blank tender form shall not be accepted in the form of cash or cheque. The cost of the tender documents will not be refunded under any circumstances.

9) ISSUE OF BLANK TENDER FORM

The blank tender forms will have to be downloaded, from the website <http://mahatenders.gov.in> as per online schedule.

10) PRE-TENDER CONFERENCE

Pre-Tender conference is open to all prospective tenderers and will be held on date **12/01/2024 at 12.00** hours in the office of the, **THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION, Latur** wherein the prospective tenderers will have opportunity to obtain clarifications regarding the work and the tender conditions.

The prospective tenderers are free to ask for any additional information or clarification either in writing or orally and the reply to the same will be given in writing and this clarification referred to as common set of conditions, shall also be common and applicable to all tenderers. The minutes of this meeting along with the letters of tenderers will form the part and parcel of the tender documents. Bidder need to submit online signed copy of pre-bid minutes in a technical bid.

11) VALIDITY OF THE OFFER

180 days from the date opening of tender.

12) LAST DATE & TIME OF ONLINE SUBMISSION OF TENDER FORM

05/02/2024 up to 12.00 noon.

13) DATE & TIME OF ONLINE OPENING OF TENDER

06/02/2024 at 13.00 Hrs. in the office of THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION, Latur.

14) SUBMISSION OF TENDER

Bids must be accompanied with:

- i) Copy of online payment receipt of Tender documents.
- ii) Copy of online payment receipt of EMD.
- iii) Scanned copy of all documents, certificates specified in Pre-qualification Criteria in Point No.6.
- iv) Scanned copy of duly signed declaration of contractor in prescribed format filled in agency's letter head attached with the tender. **(Annexure-V, XII)**

- v) Scanned copy of minutes of Pre-bid meeting duly signed by Contractor.
- vi) Scanned copy of undertaking for guarantee, duly signed declaration of contractor in prescribed format filled in agency's letter head attached with the tender. **(Annexure-IV)**
- vii) Self-Declaration by the Bidder, that he is not Blacklisted, should be uploaded as per **(Annexure-X)**

Bid shall be treated as invalid if scanned copies as mentioned above are not submitted online along with the bid.

The guidelines, "to download the tender document and online submission of bids procedure of tender opening" can be downloaded from website "<http://mahatenders.gov.in>".

- 14.1 The two envelopes No. 1 & 2 shall be digitally sealed and signed and submitted online as per the online tender schedule.
- 14.2 The date and time for online submission of envelopes shall strictly apply in all cases. The tenderers should ensure that their tender is prepared online before the expiry of the scheduled date and time and then submitted online before the expiry of the scheduled date and time. Offers not submitted online will not be entertained.
- 14.3 If for any reason, any interested bidder fails to complete any of online stages during the complete tender cycle, department shall not be responsible and any grievance regarding that shall not be entertained.

15) OPENING OF TENDER

The tenders will be opened on the date specified in the tender notice or on the date intimated to prospective bidders, in the presence of the intending bidders or their authorized representative to whom they may choose to remain present along with the copy of the original documents submitted for Pre-Qualification. Following procedure will be adopted for opening of the tender.

Envelope No. I (Technical Bid)

First of all, Envelope No. 1 of the tenderer will be opened online through e-Tendering procedure to verify its contents as per requirements. Scanned copies of following documents shall be in Envelope No. 1.

- a) Copy of online payment receipt of Tender documents.

- b) Copy of online payment receipt of EMD.
- c) Scanned copy of all documents, certificates specified in Pre-qualification Criteria in Point No.6.
- d) Scanned copy of undertaking for guarantee duly signed declaration of contractor in prescribed format filled in agency's letter head attached with the tender. **(Annexure-IV)**
- e) Scanned copy of duly signed declaration of contractor in prescribed format filled in agency's letter head attached with the tender. **(Annexure-V, XII)**
- f) Scanned copy of minutes of Pre-bid meeting duly signed by Contractor.
- g) Scanned Copy of Certificate of site visit duly signed by Engineer-in-Charge.
- h) Scanned Copy of Certificate of site visit duly signed by Latur City Municipal Engineer, Latur City Municipal Corporation and the contractor Geo-Tagging with declaration / authority letter. **(Annexure-VII)**
- i) Self-Declaration by the Bidder, he is not Blacklisted, should be uploaded as per **(Annexure- X)**.

If the various documents contained in this Envelope do not meet the requirements as stated above, a note will be recorded accordingly by the tender opening authority and the envelope No. II of such tenderers will not be considered for further action and the same will be rejected. Also, tender will be liable for rejection if bidder mention his commercial offer anywhere in envelop No.1

The bidders which are blacklisted or prohibited in MJP/PWD/Municipal Council/ Municipal Corporation will not be considered for further tender procedure and the same will be rejected.

Envelope No. II (Commercial Bid)

- 1) This envelope shall be opened online through e-Tendering procedure after opening of envelope No. 1 only, if the contents of Envelope No. 1 are found to be acceptable to the Municipal CORPORATION. The tendered rate shall then be read out by the tender opening authority.
- 2) "If bidder's offer is above or below the estimated cost, the reasons supporting the above or below after along with necessary documents should also be uploaded during the submission of tender in Envelope No.2.
- 3) If the self-declaration of Black list is not uploaded in envelope No.1 the financial bid of same

contractor will not be opened.

16) SELECTION OF TECHNOLOGY – SBR Technology which comply the Latest or amended discharge Norm prescribed by the Regulating body.

17) SPECIAL CONDITION ON GST

The rate quoted by contractor must be inclusive of all other and relevant taxes except GST, no extra payment of this account will be made to the contractor.

- a) The bidder should quote rates excluding GST.
- b) GST should be paid on amount of bill of the work done as per prevailing guidelines, rate of GST during the period of work done as applicable.
- c) The rates quoted by contractor shall be deemed to be inclusive of labour welfare cess & other taxes (other than GST) that the contractor will have to pay for the performance of his contract. The employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.
- d) The bidder shall quote his rate considering the provisions counted under GST ACT 2017.
- e) Amount of GST 2% i.e., CGST & MGST each 1% will be deducted at source. (T.D.S.) form 01-10-2018.
- f) If contractor delay for the execution of work from his side, No extra GST will be paid even after GST rate is increased.

18) RIGHTS RESERVED

- a) Right to reject any or all tenders without assigning any reason thereof is reserved by the competent authority, whose decision will be final and legally binding on all the tenderer.
- b) Tender with stipulations for settlement of a dispute by reference to Arbitration will not be entertained.

Sd/-

THE COMMISSIONER,

LATUR CITY MUNICIPAL CORPORATION, LATUR.

GENERAL CONDITIONS OF CONTRACT

LATUR CITY MUNICIPAL CORPORATION

WATER SUPPLY/ SEWERAGE DEPARTMENT

NAME OF WORK: LATUR UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0 SCHEME,
TAL. & DIST. LATUR

GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS

1.1. In the contract, the following terms shall be interpreted as indicated.

- a) "UDD "means Urban Development Department.
- b) "AMRUT 2.0" Means Atal Mission for rejuvenation and Urban Transformation mission II.
- c) "The Contract" means the agreement entered into between the owner and the contractor as recorded in the contract form signed by the parties, includes all attachments and appendices there to and all documents incorporated by references therein. Contract is the deed of contract together with all its original accompaniments and those later incorporated in it by internal consent.
- d) "The Contract Price" means the price payable to the contractor under the contract for the full and proper performance of its contractual obligations.
- e) "The Goods" means all of the equipments, machinery and / or other materials which the contractor is required to supply to the owner under the contract.
- f) "Services" means services ancillary to the contract such as transportation and insurance and any other incidental services, such as Provision of Technical Assistance, Trial Runs, Commissioning, Training to staff and other such obligations of the contractor covered under the contract.
- g) "The Owner" means, THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION, Latur the person, for the time being holding that Office and also his successors and shall include any Engineer authorized by him.
- h) The "Contractor" means successful tenderer, that is the tenderer, who's tender has been accepted and who has been authorized to proceed with the work.
- i) "The Pradhikaran" shall mean the Maharashtra Jeevan Pradhikaran, a Pradhikaran constituted under the Pradhikaran Ordinance issued on 10.03.1997.
- j) "LCMC" means LATUR CITY MUNICIPAL CORPORATION.
- k) "M. J. P." means, Maharashtra Jeevan Pradhikaran.
- l) "The Chief Engineer, MJP " shall mean Chief Engineer, the person, for the time being holding that Office and also his successors and shall include any Engineer authorized by him.

Contractor

No. of Correction

Executive Engineer

- m) "The Superintending Engineer, Maharashtra Jeevan Pradhikaran Latur Circle, Latur" means the Engineer, so designated by the Pradhikaran or any other Engineer who is for the time being entrusted with his functions, duties and powers and so notified.
- n) PMC means Project Management Consultant appointed by the LATUR CITY MUNICIPAL CORPORATION.
- o) "Tender" means the proposal of the contractor submitted in prescribed form setting-forth the prices for the goods to be supplied and other related services to be rendered and setting forth his acceptance of the terms and obligations of the conditions of contract and specifications.
- p) "Contract Time" means period specified in the document for the entire execution of contracted works and other services to be rendered commencing from the date of notification of award including monsoon period.
- q) "Month" means calendar month.
- r) "Site" means location at which the contractor will have to execute the contracted work.
- s) "The Engineer or Engineer-in-charge" shall mean the City Engineer /Hydraulic Engineer / water supply Engineer authorized by the Municipal CORPORATION.
2. The contractor shall erect temporary sheds for storage for material supplied by CORPORATION and brought by him on site. Also, at each construction site contractor shall have separate storage space for cement and other material.
 3. All the water/waste water retaining structures shall be designed in M25 and constructed in M30.
 4. Contractor shall take trial pits and trial bores at site at his own cost to ascertain the bearing capacity of the strata and accordingly submit the designs.
 5. Contractor shall submit designs and drawings for all structures such as Pumping stations, pump House, Sewage Treatment Plant. (Hydraulic and structural) Sump, thrust blocks / anchor blocks, pumping machinery and its layout, all allied electrical and mechanical equipments as directed by Municipal Engineer/Engineer in charge/ THE COMMISSIONER. This designs and drawings shall be got checked from Government Engineering College or IIT at contractor's own cost.
 6. The contractor shall maintain the record of these materials in the prescribed proforma and registers as directed by the Municipal Engineer/Engineer in charge/THE COMMISSIONER. The sample of prescribed proforma is attached herewith. These registers shall be signed by both contractors and representative of Engineer- in-Charge. These registers shall be made available for inspection, verification for the department as and when required. These registers shall be in the custody of department and shall be maintained by the department.

7. Contractor shall take photographs and videos of all sub-works during construction and submit two copies in hard and soft along with final bill.
8. Contractor shall prepare record drawings of all sub-works as per execution in details by using Auto Cad programme; as directed by Municipal Engineer/Engineer in charge/THE COMMISSIONER. He should submit 3 Nos. C.D. (R.W) and Pen-drive along with three hard copies during the submission of final bill. Final bill will not be passed unless and until this is submitted. No extra payment will be made for submission of CDs.
9. Contractor shall maintain register for dewatering having details such as BHP of pumps, start and stop of dewatering pumps, Fuel consumed etc.
10. The material i.e., cement, steel, sand, metal, bricks, alum pipes valves etc. brought on the work site shall be accompanied with the necessary company/manufacturing firm's test certificate. In addition, these materials shall be tested as per frequency prescribed by the department 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, these materials shall be immediately removed from the work site at contractor's cost. In case of cement, if so, requested by the contractor in writing, material will be allowed to be used before receipt of test results but this will be entirely at the risk and cost of the contractor.
11. All the formwork used for construction shall be of steel or with lining of steel. Wooden shutters may be allowed at the discretion of the Municipal Engineer/Engineer in charge / THE COMMISSIONER for minor works.
12. Contractor shall have Cube Testing machine on site. Test cubes shall be tested in front of Executive Engineer/Engineer in charge/THE COMMISSIONER or his representative and a register for it shall also be maintained.
13. RCC designer appointed by the Contractor shall visit and inspect the work at various stages of construction and comply with the query of the department without any extra cost.

14. SCOPE AND MEANING OF CONTRACT

The term contract hereinafter used means and includes the notice for invitation of tender, schedule 'A' i.e., schedule for departmental supply of materials, schedule 'B' i.e., schedule of items to be executed under this contract, general conditions, schedule of obligatory requirements, general and detailed specifications all appendices, drawing and any other documents attached to the blank tender form issued to the contractor firm. These are subject to any alterations and modifications carried out and

agreed to before the contract is finally decided and accepted by THE COMMISSIONER. The term contract and firms mean the agency entering into contract with The Executive Engineer / THE COMMISSIONER.

The Latur City MC, an urban local body of Government of Maharashtra, has proposed to execute the following work under sanctioned scheme "Latur Underground Sewerage Scheme for Latur City Under Amrut 2.0, Taluka & District Latur.

This tender includes –

S.N.	Description of Sub work
1.	WORKING SURVEY
2.	COLLECTION AND CONVEYANCE SYSTEM
a.	For Zone I (200 mm - 900 mm Dia., Total Length – 146.11 Km)
b.	For Zone II (200 mm - 1000 mm Dia., Total Length – 185.65 Km)
3.	Sewage Collection Sump/Wet Well – Zone I
4.	Sewage Pump House – Zone I
5.	Sewage Collection Sump/Wet Well – Zone II
6.	Sewage Pump House – Zone II
7.	SEWAGE PUMPING MAIN - 600 mm Dia., L- 3470 M - Zone I
8.	SEWAGE PUMPING MAIN - 700 mm Dia., L- 2185 M - Zone II
9.	SEWAGE TREATMENT PLANT - 53 MLD (Zone I & II)
10.	Approach Road
11.	Staff Quarter
12.	Compound Wall
13.	Fencing Work for SPS I & II
14.	Flood Protection wall at STP
15.	TRIAL & RUN FOR 3 months

15. IMPORT LICENSE AND FOREIGN EXCHANGE:

In respect of the work on contractor's own design, the contractor shall quote for the indigenous equipment only. Foreign exchange and import license required by the contractor if any shall have to be arranged by the contractor independently. Department shall not take any responsibility in these regards. Delay in getting any materials shall not be entertained for extension of time limit of the contract.

16. ACQUITTANCE WITH WORKS AND SITE CONDITIONS:

Contractor

No. of Correction

Executive Engineer

The contractor shall be deemed to have carefully examined the scope of work, location and alignment of various components under this tender, site conditions, the general conditions, the specifications, drawing availability of material required etc. and has fully acquainted himself regarding all aspects of works, if he shall have any doubt as to the meaning of any portion of the tender papers. He shall set forth the particulars of the tender to the notice of THE COMMISSIONER, before submission of tender and get the doubts cleared. Once the tender is submitted duly filled, he shall be supposed to have accepted the conditions and specifications full and interpretation of the conditions be entirely at the discretion of the competent authority of the department.

17. OBSTRUCTIONS IN THE WORK:

All obstructions such as electric cables, telephone line, water and sewer mains, manholes, natural drainage, culverts, storm water drains etc. coming in the way shall be carefully looked after against any damages which otherwise will have to be made good by the contractor at his own cost. Any work of removing, repairing or remaking etc. will be carried out by the contractor without any extra claims for the same in contractor with the respective departments.

18. LAND FOR THE USE BY THE CONTRACTOR FOR STORING MATERIALS ETC.:

As far as possible the contractor shall be allowed to use the Municipal Land without any charge, in possession of concern MC for stacking his materials, stores, erection of temporary structures, sheds etc. with prior written permission of THE COMMISSIONER. The location of the temporary structures to be erected shall be got approved from THE COMMISSIONER and all the products obtained after cutting the same shall be stacked at suitable place as directed by Engineer in charge. All concern MC land occupied by the contractor for temporary use shall be handed over back in good conditions to the entire satisfactions of the concern MC as and when demanded by him. Any damage or alterations made in the area shall be made good by the contractor. If the departmental land is not available the contractor has to make his own arrangements of land on hire or otherwise at his own cost.

19. LABOUR CAMPS:

The contractor shall at his own expenses make all necessary provisions for land, housing grains, water supply and sanitary arrangements etc. for employees and shall pay direct to the authorized concerned all rents, taxes and other charges. The contractor shall also comply with all requirements of health department in regard to maintenance of anti-epidemic conditions.

20. WORK THROUGH OTHER AGENCY IN THE SAME AREA:

Contractor

No. of Correction

Executive Engineer

THE COMMISSIONER shall have the right to execute the works, not included in this contract, but within the premises occupied by the contractor for the purpose of this contract, through any other agency.

21. SPECIFICATIONS:

The wording of items in Schedule 'B' shall be taken as guidelines for general provisions and coverage under the item. The detailed specifications for relevant items shall be as per detailed specifications enclosed and as per P.W.D. Hand Book, Standard Specifications, Relevant and latest editions of IS Code. The other standard, wherever quoted, shall be applicable. If the standard specifications fall short for the items quoted in the Schedule of this contract, reference shall be made to the latest Indian Standard Specifications, IRC codes. If any of the items of the contract do not fall in reference quoted above, the decision and specification as directed by The Executive Engineer/ THE COMMISSIONER shall be final.

It is presumed that the Contractor has gone carefully through the standard specification (Vol. I & II, 1981 edition) and the Schedule of rate of the Division and has also studied site conditions before arriving at rates quoted by him. The special provisions and detailed specification of wording of any item shall gain precedence over the corresponding contrary provisions (if any) in the standard specification given without reproduction the details in contract. Decision of Municipal Engineer /THE COMMISSIONER shall be final in case of interpretation of specifications.

22. WATER AND ELECTRICITY

The contractor shall make his own arrangements at his own cost for water required for construction and hydraulic testing as well as for labour camp. THE COMMISSIONER, LATUR CITY MUNICIPAL CORPORATION / CORPORATION does not take any responsibility for supply of water to contractor for construction or testing purposes during the entire work. If water is supplied by CORPORATION / CORPORATION, Contractor shall take connection at his cost and provide water meter on it. Water charges shall be paid by contractor as per prevailing water rates to CORPORATION/CORPORATION regularly every month. Power supply from MSEDCL if required for construction of work as well as for labour camp will have to be arranged by the contractor at his cost. MC does not take guarantee for continuous power supply at site.

23. LINE OUT

The contractor shall himself carry out the line out of works in the presence of the representative of the CORPORATION/CORPORATION and the contractor shall be responsible for accuracy of it. He shall employ a qualified Engineer for this purpose as well as for supervision of works.

24. PROGRAMME AND PROGRESS SCHEDULE

The contractor shall furnish within 15 days from the date of work order a progress schedule indicating the date of starting, quarterly progress expected to be achieved and anticipated date of completion of each major item of the work. The schedule should be capable of achievement towards completion of whole work in the stipulated time.

- i. The Contractor shall submit his own programme as per time limit stipulated in the tender, in the form of Bar Chart which should give details of milestones of physical stages of each sub work. Simultaneously with the execution of the Contract Agreement, the Contractor shall submit to the Engineer his item wise monthly programme, which shall be nothing but detailing of the programme.
- ii. The programme shall also state the milestones of part commissioning and part completion of the sub-work included in the tender. The programme shall also provide the information as to required approvals to drawings, samples, materials, equipments and their time of submissions to the CORPORATION. The progress shall be submitted by the Contractor visa-a-vis programme every month. The works team of the Contractor shall be so motivated to know the balance work at the end of each week and the rate required in the balance period to complete the work and therefore, shall endeavor to complete the task assigned for each week timely. In case, where the updated and revised schedule is required, the same shall be submitted to THE COMMISSIONER, LCMC for approval.

If deviation exceeds 10% in scheduled programme, competent authority has right to reject the tender of successful tenderer.

In the event of contractor failing to execute the work as per scheduled programme submitted by him or in the event of unreasonable delay in the part of contractor, he shall be liable to as compensation an amount at the fixed rate to maximum amounting to 10% of the Tender Cost or decided by THE COMMISSIONER, LCMC.

25. CHECKING QUALITY OF THE WORK:

The Engineer in charge should consider it necessary to satisfy himself to the quality of work, the contractor shall at any time during continuance of the contract period produce sample of work done or if necessary, pull down a responsible part of the work enough for such inspection and testing as the Engineer in charge may direct.

The contractor shall make good the same at his cost and to the satisfaction of the Engineer in charge without extra cost.

26. CHANGES:

Any marginal and minor changes as may be found necessary by the Engineer in charge during execution shall have to be carried out by the contractor without extra cost.

27. INSURANCE OF WORKERS:

The successful tenderer should get the labour insurance done, on account of risk involved within a month from the date of work order, failing which Rs. 1% will be withheld from the R. A. bills of the work and it will not be refunded till labour insurance is done and a documentary evidence to this effect is produced by the contractor. The successful contractor tenderer should purchase insurance policy identifying THE COMMISSIONER therein.

28. ARBITRATION

In case of dispute, between a Contractor and M.C. The decision of THE COMMISSIONER shall be final & binding. In case of any further dispute, the decision of secretary UDD-2 / MS, MJP or any other person appointed by the Secretary UDD-2 / MS, MJP will be final and remain binding on both parties.

29. INTENT AND INTERPRETATION OF CONTRACT DOCUMENTS

- 29.1. The contract documents are complementary and what is called for by one is as binding as if called for by all. Any work that may be reasonably inferred from the drawings or specifications as being required to produce the intended result shall be provided by the contractor whether or not it is specifically called for, in Schedule- 'B'.

The contractor shall furnish and pay for all labour, supervision, materials, equipment, transportation, construction, equipment and machinery tools, appliances, water, fuel, power, energy, light, heat, utilities, telephone, storage, protections, safety provisions, and all other facilities like service, incidentals, approaches to site etc. any nature whatsoever necessary for the satisfactory and acceptable execution, testing and completion of the work in accordance with the contract documents, ready for use and operation by the owner. The cost of all these arrangements shall be deemed to be included in the contract offer and no separate payment shall be admissible thereof.

29.2. Interpretations

Written clarifications or interpretations necessary for the proper execution or progress of the work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Engineer and in accordance with any schedule agreed upon.

29.3. Drawings

Figured dimensions on drawings shall govern over scaled dimensions and detailed drawings shall govern over general drawings. The Contractor shall submit six sets of drawings according to the design.

29.4. Signed Drawings

Signed drawings alone shall not be deemed to be in order for work unless it is entered in the agreement or schedule or drawings under proper attestation of the Contractor and the Engineer or unless it has been sent to the contractor by the Engineer with a covering letter confirming that the drawing is an authority for work in the contract.

29.5. Technical Words

Work, materials or equipment described in words which so applied have a well-known trade or technical meaning shall be deemed to refer to such recognized meanings.

30. LANDS, CONDITION AND LAYOUT

30.1. Line out of the Work

30.2. Surveys and Measurements

The contractor shall carefully preserve all surveys as also setting out stakes, reference points, bench marks and monuments. If any stakes, points or benches be removed or destroyed by any act of the contractor or his employees, they may be reset at the contractor's expense. The contractor shall supply without charge the requisite number of persons with the means and materials necessary for the purpose of working survey, setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials.

30.3. Contractor's Verification

The Contractor will establish at the work site a substantial B.M. and connect it to a permanent B.M. available in the area with known value. The contractor will then carry out necessary surveys and leveling, covering his work, in verification of the survey data on the working drawings furnished by the Engineer and he will be responsible for establishing the correct lines and levels and verification of the lines and level furnished on the working drawings. If any error has occurred in the work due to non-observance of this clause, the contractor will be responsible for the error and bear the cost of corrective work.

30.4. Site Office

The Contractor shall construct at his cost a semi-permanent nature site office with minimum of 20 Sq.m area and shall be provided with minimum two tables, two almaries, six Nos of chairs. The office and the furniture shall be provided and maintained by the contractor throughout the contract period at his cost. The use of the site offices shall be adequate size to accommodate the inspecting Engineers of MJP/IRMA/any other inspection committee/agency appointed by the Government of India/Maharashtra/Collector/Municipal Administration to discuss and review progress of work. No extra payment will be made on this account. The site office shall be provided at all the conspicuous structures to be constructed/components to be executed.

31. SECURITY DEPOSIT AND INDEMNITY BOND

31.1. Security Deposit

The security deposit shall be returned to the contractor without any interest when the contractor ceases to be under any obligation under the contract. This shall be read with Clause No.1 and 20 of B-1 Form for Security Deposit and Defect Liability Clause respectively.

31.2. Loss or Damage Indemnity Bond

The contractor shall be responsible during the progress as well as maintenance for any liability imposed by law for any damage to the work or any part thereof or to any of the materials or other things used in performing the work or for injury to any person or persons or for any property damaged in or outside the work limit. The contractor shall indemnify and hold the owner and the Engineer harmless against any and all liability, claims, loss or injury, including costs, expenses, and attorney's fees incurred in the defense of same, arising from any allegation, whether groundless or not, of damage or injury to any person or property resulting from the performance of the work or from any material used in the work or from any condition of the work or work site, or from any cause whatsoever during the progress and maintenance of the work.

32. SUPERVISION AND SUPERINTENDENCE

32.1. SUPERVISORY STAFF:

The contractor shall have experienced technical qualified general supervisor for the work, who is capable of managing and guiding the work and also capable of understanding the instructions given to him by the Engineer in charge from time to time and shall be responsible to carry them out promptly. The contractor shall have during working hours, supervisor of sufficient training and experience to supervise the various items and operations of the work. Further, the Engineer in charge may notice, desire

contractor high ranking member to be present on any specified date, the contractor shall comply with such directions Contractor's Supervision.

The contractor shall supervise and direct the works efficiently and with his best skill and attention. He shall be solely responsible for means, methods, techniques, procedures and sequences of construction. The contractor shall coordinate all parts of the work and shall be responsible to see that the finished work complies fully with the contract documents, and such instructions and variation orders as the Engineer may issue during the progress of the works.

32.2. Agent

The Contractor shall keep on the work at all times during its progress a competent resident agent preferably a qualified and experienced Engineer, capable of managing and guiding the work and understanding the specifications and contract conditions. For this purpose, the contractor shall communicate to the Department, name, qualification and experience of such Engineer to be appointed for execution of this work. The agent appointed by the contractor shall not be replaced without ten (10) days written notice to the Engineer except under extra ordinary circumstances. The agent shall be the Contractor's representative at the site and shall have authority to act on behalf of the contractor. All communications, instructions and directions given to the agent shall be binding as if given to the Contractor by the Engineer not otherwise required to be in writing will be given or confirmed in writing upon request of the Contractor or in work order book.

33. CARE AND USE OF SITE

The Contractor shall not commence operations on land allotted for work without prior approval of the Engineer. If these lands are not adequate the Contractor may have to make his own arrangements for additional lands required for his use. The contractor shall not demolish, remove or alter any of the structures, trees or other facilities on the site without prior approval of the Engineer. All the area of Contractor's operations shall be cleared before returning them to the Engineer.

34. OVERLOADING

No part of the work or new and existing structures, scaffolding, shoring, sheeting, construction machinery and equipment, or other permanent and temporary facilities shall be loaded more than its capacity. The Contractor shall bear the cost of correcting damage caused by loading or abnormal stresses or pressures.

35. USE OF EXPLOSIVES

Contractor

No. of Correction

Executive Engineer

The Contractor shall comply with the laws, ordinances, regulations, codes, orders, other governing the transportation, storage and use of explosives, shall exercise extreme care not to endanger life or property and shall be responsible for all injury or damage resulting from the use of explosives for or on the work.

36. MANUFACTURER'S INSTRUCTIONS

The Contractor shall compare the requirements of the various manufacturer's instructions with requirements of the contract documents, shall promptly notify to the Engineer in writing of any difference between such requirements and shall not proceed with any of the works affected by such difference shall until an interpretation or clarification is issued pursuant to article. The contractor shall bear all costs for any error in the work resulting from his failure to the various requirements and notify the owner of any such difference.

37. PROTECTION

The contractor shall take all precautions and furnish and maintain protection to prevent damage, injury or loss to other persons who may be affected thereby. All the works and all materials and equipment to be incorporated therein whether in storage or on the site, under the care, custody or control of the contractor or any of his sub-contractors and other improvements and property at the site or where work is to be performed including building, tools and plants, pole lines, fences, guard rails, guide posts, culvert and works markers, sign structures, conduits, pipelines and improvements within or adjacent to streets, right-of-way, or easements, except those items required to be removed by the Contractor in the contract documents. The Contractors protection shall include all the safety precautions and other necessary forms of protection, and the notification of the owners of utilities and adjacent property.

The contractor shall protect adjoining site against structural, decorative and other damages that could be caused by the execution of works and make good at his cost any such damages that could be caused by the execution of works and make good at his cost any such damages.

38. UTILITIES AND SUB-STRUCTURES

Before commencing any excavations, the Contractor shall investigate, determine the actual locations, and protect the indicated utilities and structures, shall determine the existence, position and ownership of other utilities and sub structures in the site or before the work is performed by communication with such property owners, search of records, or otherwise and shall protect all such utilities and substructures. Contractor have to assess himself beyond drawings available with LCMC.

38.1. Restoration and Repair

Except for those improvements and facilities required to be permanently removed by the contractor, the contractor shall make satisfactory and acceptable arrangements with the appropriate owners, and shall repair, restore all improvements, structures, private and public roads, property, utilities and facilities disturbed, disconnected, or damaged as a result or consequence of his work or the operations of those for whom he is responsible or liable, including that caused by trespass of any of them, with or without his knowledge or consent, or by the transporting of workmen, material or equipment to or from the site.

39. WORKMEN

The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the works any unfit person or anyone not skilled and experienced in the assigned task. The Contractor shall in respect of labour employed by him comply with or cause to be complied with the provisions of various labour law and rules and regulations as applicable to them in regard to all matters provided therein and shall indemnify the owner in respect of all claims that may be made against the owner for non-compliance thereof by the Contractor. In the event of the contractor committing a default or breach of any provisions of labour laws and rules and regulations, the Contractor shall without prejudice to any other liability under the acts pay the owner a sum as decided by the engineer.

39.1. Work during Night or On Sundays and Holidays

Unless otherwise provided, none of the permanent works shall be carried out during night, Sunday or authorized holidays without permission in writing. However, when work is unavoidable or necessary for the safety of life, priority of works, the Contractor shall take necessary action immediately and intimate the Engineer accordingly.

39.2. Workmanship

The quality of workmanship produced by skilled knowledgeable and experienced workmen, machines and artisans shall be excellent. Particular attention shall be given to the strength appearance and finish of exposed work.

40. MATERIALS AND EQUIPMENT

All materials and equipment incorporated in the work shall be new. Materials and equipment not covered by detailed requirements in the contract documents shall be of the best commercial quality suitable for the purpose intended and approved by the owner prior to use in the work.

Contractor

No. of Correction

Executive Engineer

40.1. **Optional Materials**

Only one brand, kind or make of material or equipment shall be used for each specific purpose throughout the works, notwithstanding that similar material or equipment of two or more manufacturers or proprietary items may be specified for the same purpose

41. USE OF APPROVED SUBSTITUTIONS OR EQUALS

The contractor shall bear all extra expenses resulting from providing or using approved substitutions or equals where they affect the adjoining or related work, including the expenses of required engineering, redesigning, drafting and permits where necessary, whether the Engineer's approval is given after receipt of tenders.

42. LAWS AND REGULATIONS

43. Governing Law

The contract documents shall be governed by the laws and by-laws of India, the State of Maharashtra and the local bodies in this region.

44. Resolving the disputes:

In case of disputes, between a Contractor and M.C. the decision of THE COMMISSIONER shall be final and binding. In case of any further dispute, the decision of Secretary UDD-2/ MS, MJP or any other person appointed by the Secretary UDD-2 / MS, MJP will be final.

In case of dispute, Priority shall be as follows:

- I) Minutes of Pre-bid meeting
- II) Provisions in Schedule 'B'
- III) Detailed Item wise Specifications
- IV) Detailed Drawings.

45. BURIED AND CONCEALED WORK

The contractor shall help in recording the precise location of all piping, conduits, ducts cables and like work that is buried, embedded in concrete or masonry, or concealed in wood or metal frame walls and structures at the time such work is installed and prior to concealment. Should the contractor cover such buried or work before such recording takes place, he shall uncover the unrecorded work to the extent required by the Engineer and shall satisfactorily restore and reconstruct the removed work with no change in the contract price or the contract time.

46. SAFETY PRECAUTIONS AND EMERGENCIES

Contractor's Responsibility for Safety

The contractor shall be solely responsible notwithstanding any stipulations by owner or Engineer for initiating, maintaining and supervising all safety precautions and programmes, in connection with the work and shall comply with all laws, ordinance, code rules regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damages, injury or loss during the entire contract period including non-working hours.

On the occurrence of an accident arising out of the works which result in death or which is so serious as to be likely to result in death, the contractor shall within one hour of such accident intimate in writing to the Engineer the facts stating clearly and with sufficient details the circumstances of such accidents and subsequent action taken by him. All other accidents on the works involving injuries to the persons or property other than that of the contractor shall be promptly reported to the Engineer clearly and with sufficient details the facts of such accidents and the action taken by the contractor. In all cases, the contractor shall indemnify the Engineer against all losses or damages, resulting directly from the contractor's failure to report in the manner aforesaid.

This includes the penalties or fines, if any payable by the owner as a consequence of failure to give notice under Workmen's Compensation Act or otherwise to conform to the provisions of the said Act in regard to such accidents. In the event of an accident in respect of which compensation may become payable by the contractor, such sum of money as may, in the opinion of the Engineer, be sufficient to meet such liability will be kept in deposit. On the receipt of award from the Labour THE COMMISSIONER in regard to the quantum of compensation, the difference in the amount will be adjusted.

It is obligatory that the contractor shall take an all-Risk Insurance Policy for the works and keep it in force throughout the work period.

47. WARNINGS AND BARRICADES

The contractor shall provide and maintain barricades, guards, guard rails, temporary bridges and walkways, watchmen, headlights and danger signals illuminated from sunset to sunrise and all other necessary appliances and safeguards to protect the work, life, property, the public, excavations, equipment and materials. Barricades shall be substantial construction and shall be painted such as to increase their visibility at night. For any accident arising out of the neglect of above instructions, the contractor shall be bound to bear the expenses of defense of every suit, action or other legal

proceedings, at law, that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay all damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the contractor be paid in compromising any claim by any such person.

48. ENGINEER'S STATUS DURING CONSTRUCTION, AUTHORITY OF THE ENGINEER

The Engineer shall have the authority to enforce compliance with the contract documents. On all questions relating to quantities, the acceptability of materials, equipment, or works, the adequacy of the performance of the work and the interpretation of the drawings and specifications, the decision of the Engineer shall be final and binding and shall be precedent to any payment under the contract agreement unless otherwise provided in the contract documents. The Engineer shall have the authority to stop the work or any part thereof as may be necessary to ensure the proper execution of the work, disapprove or reject the works which is defective, to require the uncovering and inspection or testing of the works to require re-examination of the works, to issue interpretations and clarifications, to order changes or alterations in the works, and other authority as provided elsewhere in the contract documents.

The Engineer shall not be liable for the results of any ruling, interpretation or decision rendered, or request, demand, instruction, or order issued by him in good faith. The contractor shall promptly comply with requests, demands, instructions and order from the Engineer.

The whole of the works shall be under the directions of the Engineer, whose decision shall be final, conclusive and binding on all parties to the contract, on all questions relating to the construction and meaning of plans, working drawings, sections and specifications connected with the work. The Engineer shall have the power and authority from time to time and at all times make an issue such further instructions and directions as may appear to him necessary or proper for the guidance of the contractor and the good and sufficient execution of the works according to the terms of specifications and the contractor shall receive, execute, obey and be bound by the same according to the true intent and meaning thereof; fully and effectually. Engineer may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any works or any portion of works executed or partially executed, to be removed, changed or altered and if needful, may order that other works shall be substituted instead thereof and the difference of expenses occasioned by any such diminution or alteration so ordered and directed shall be deducted from or added to the amount of this contract.

49. DUTIES OF ENGINEER'S REPRESENTATIVE

Contractor

No. of Correction

Executive Engineer

The duties of the representative of the Engineer are to check, inspect and continuously supervise the work and to test any materials to be used or workmanship employed in connection with the works. He shall furnish the drawings and information to the contractor, approve the contractor's drawings subject to post-facto approval and signature of the Engineer-in-Charge, recommend and approve the interim certificates and taking over certificates after thorough checking and inspection and recommend extra work required and extension of time. Approval for or acceptance of any work or material or failure to disapprove any work or material by the representative of the Engineer shall not prejudice the power of the Engineer thereafter to disapprove such work of material and to order removal or modification thereof. If the contractor shall be dissatisfied with any decision of the representative of the Engineer, he shall be entitled to refer the matter to the Engineer, who shall thereupon confirm, reserve or vary such decision only in genuine cases. The representative of the Engineer shall be liable to inform the Engineer about the daily progress and compare it with the programme. He shall also inform the contractor immediately about the log or lead in the progress than the programme.

50. DEFECTS AND RECTIFICATION

For period specified in the Clause 20 of B.1 form for the defect liability period for the individual type of work from the date of issuance of the completion certificate in accordance with Condition "Final Inspection and Acceptance" mentioned herein after, contractor shall remain liable for any of the works or parts thereof or equipment and fittings supplied which in the opinion of the Engineer fail to comply with the requirements of the contract or are in any way unsatisfactory or defective except fair wear and tear. The process of the assembly commissioning of all sections of pipe lines, tested hydraulically in patches, will involve some additional measures such as shaft of suitable height, fixing of air valves at more number of places on the alignment and all such measures shall be done by the contractor.

To the intent that the works and each part thereof shall at or as soon practicable after the expiry of the above period be taken over by the Engineer in the condition required by the contract to the satisfaction of the Engineer, the contractor shall finish the work (if any) outstanding at the date of completion as soon as may be practicable after such date and shall execute all such work of repair, amendment, reconstruction, rectification and making good of defects imperfections, shrinkages or other faults as may during the period of maintenance or after its expiry be required of the contractor in writing by the Engineer as a result of an inspection made by or on behalf of the Engineer prior to the expiry of the period. The contractor at his own expenses shall carry out all such work if the necessity thereof shall in the opinion of the Engineer and due to the use of materials or to neglect or failure on the part of the

contractor to comply with any obligation expressed or implied on the contractor's part under the contract. If the contractor fails to do any such work as entitled to carry out such work in which the contractor should have carried out at the contractor's own cost, the Engineer shall be entitled to recover from the contractor the cost thereof or may deduct the same from the moneys that become due to the contractor. Notwithstanding the aforesaid, if the contractor remains in default, one calendar month after the Engineer has given written instructions in writing, the Security Deposit shall become payable to the CORPORATION/THE COMMISSIONER who will deduct the cost-plus overhead expenses of such works as have been necessary to rectify the contractor's default and the balance, if any, shall be disbursed. The Contractor shall submit the operation and maintenance manual for the fruitful operation of the works. The Contractor will have a liberty to visit the operating works during the defect liability period and satisfy himself about the on-going operations in case he do not visit and a defect is observed then the Engineer's opinion shall be final and binding as to the application of defect liability.

51. RIGHT TO WITHHOLD

The Engineer may refuse to approve to any payment, or because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved and paid to such extent as may be necessary in the opinion of the Engineer to protect him from loss because (a). The work is defective, (b) Third party claims have been filed or there is reasonable evidence indicating probable filing of such claims, (c) of the Contractor's failure to make payment properly to sub-contractors or for labour, materials or equipment, (d) of damage to another Contractor, or to the property of other caused by the Contractor, (e) of reasonable doubt that the work cannot be completed for the unpaid balance of the contract price, (f) of reasonable indication that the work will not be completed within the contract time, (g) of the Contractor's neglect or unsatisfactory prosecution of the work including failure to clean up. Once the provisions of law that enables or require the Engineer to withhold such payments are removed, payment will be made for amounts withheld because of them to the extent the contractor is entitled to payment.

52. FINAL INSPECTION AND ACCEPTANCE

Upon written notice from the contractor, that the entire work required by the contract documents is complete and that all submittals required by him are made, and after the Contractor has delivered the bonds, certificates of inspection, guarantees, warranties, releases and other documents, as required by the contract documents or by law, the Engineer will make a final inspection, and he will notify the Contractor in writing of any particulars in which this inspection reveals that the work is defective, and

will also notify the Contractor in writing of any deficiencies in the submittals and the document required from him. The Contractor shall promptly make such corrections as are necessary to remedy all defects or deficiencies. After the Contractor has completed any such corrections to the satisfaction of the owner, the Engineer will issue a written completion certificate of the work and file any notice and completion required by law or otherwise.

53. CONTINUING OBLIGATION OF THE CONTRACTOR

The Contractor's obligation to perform and complete the work in accordance with the contract documents is and shall be absolute. Neither the observation during construction and final inspection of the work by the Engineer, nor any payment to the Contractor under the Contract documents, nor any use or occupancy of the work or any part thereof by the Engineer, nor any act of acceptance by the defective work by the Engineer shall constitute acceptance of work not in accordance with the contract documents.

54. TAXES TO BE DEDUCTED AT SOURCE

During the course of contract period the deduction of Income Tax/Work Contract Tax or any other Central/State or local tax required to be deducted at source, will be made as per prevailing rules from the contractors bills and will be remitted to the concerned Departments. Certificate for such deductions will be issued by The Executive Engineer / THE COMMISSIONER.

55. RECORDS AND MEASUREMENTS

The Engineer shall except or otherwise stated therein, determine by measurement the value in accordance with the contract of works done in accordance therewith. All items having a financial value shall be entered in a measurement book, level book etc. as prescribed by the Engineer so that a complete record is obtained of all work performed under the contract. The Engineer OR his authorized representative shall take measurements jointly with the Contractor or his authorized representative. Before taking measurement of any work the Engineer or the person deputed by him for the purpose shall give reasonable notice to the contractor. If the contractor fails to attend or send an authorized representative for measurement after such notice or fails to countersign or record the objection within a week from the date of measurement, then in any such event measurements will be taken by the Engineer, or by the person deputed by him shall be taken to be correct measurements of the works and shall be binding on the contractor. There shall be absolutely no doubt regarding the measurements and hence the contractor shall first arrange the exact branding of the alignment length on site, and mark

distinctly. All hidden measurements shall be measured by steel tape, on the exact section as marked previously and depth by the regular staff generally at an average interval of 30 m or suitable interval decided by Engineer- in-Charge. In case of difference of opinion in the measured quantity and the payable quantity of any particular measurements, the contractor must know the departmental practices developed as per the manuals and standard specifications. Normally only excavation will not be measured. When the pipes and specials are laid in position, then only the excavation and other items will be measured. The Contractor shall, without any extra charge, provide assistance with every appliance and other things necessary for measurements, such as leveling instruments (Auto setting), tapes, staffs, camera, paints, brushes and required labour. Measurements shall be signed and dated by both the parties each day (for taking measurement) on the site on completion of measurements. The Contractor shall take up still colour photographs at intervals during the execution of works so that a history of development of the works is maintained. The dated photographs, in two copies, shall be submitted to the Engineer-in-charge every time. No extra cost will be paid for this. This generation of record shall provide the used methodology of working and highlight the quality of material and workmanship. The cost of the said work shall be borne by the Contractor. It shall be the property of the CORPORATION. and shall not be used for campaigning, advertising without permission of the CORPORATION.

56. WRITTEN NOTICE

Written notice shall be deemed to have been duly served or delivered in person to the individual or member of the firm or to an Engineer of the contractor for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice. The notice on the Fax Message/ E-Mail shall be deemed to have been duly served. The address given in the contractor's tender on which all notices, letters and other communications to the contractor shall be mailed or delivered, except that said address may be changed by the Contractor by notifying the owner in writing. This shall not preclude the service of any notice, letter or other communication upon the Contractor personally.

57. USE OF COMPLETED PORTIONS

The owner shall have the right, upon written notice to the Contractor, to take possession or occupancy of, and use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired but such taking possession or

occupancy and use shall not be deemed to waive of any requirement of the contract documents or a waiver or acceptance of any work not completed in accordance with the contract documents.

58. CLEANING UP

The contractor shall at all times during the work keep the site and premises, adjoining property and public property free from accumulations of waste materials, rubbish, and other debris resulting from the works, and at the completion of the work shall remove all waste materials, rubbish and debris from and about the site and premises as well as all tools, construction equipment and machinery and surplus materials, and shall leave the site and premises, clean, tidy and ready for occupancy by the owner. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the contract documents paved ways, parking areas and roadways disturbed by the construction shall be redone by filling the excavation, if any, by sand compacted material and bringing it to its original shape as directed and approved by the Engineer. No waste material shall be buried or disposed off on the owner's property unless so approved in writing by the Engineer-in-Charge. Before the Contractor applies for final inspection and acceptance of the work, all items of work shall be complete, ready to operate, and in a clean condition as determined by the Engineer.

59. OWNER'S RIGHT TO CLEAN UP

If the Contractor fails to satisfactorily clean up or if a dispute arises between the Contractor or in several Contractors as to their responsibility for cleaning up, the Engineer may clean up and charge the cost thereof to the Contractor for his failure, or to the several contractors as the Engineer shall determine to be just.

60. FOSSILS ETC.

All fossils, coins, articles of value of antiquity and structures or other remains or things of geological or archaeological interest discovered on the site shall be deemed to be the property of the owner and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the Engineer of such discovery and carry out at the expenses of the Engineer's order as to the disposal of the same.

61. LABOUR RULES

If demanded by Municipal Authorities, the contractor will have to produce to the satisfaction of the accepting authority a valid and current license issued in his favor under the provision of Contract Labour

(Regulation and Abolition) Act 1970, before starting the work, otherwise the Contractor shall have to face the further consequences. The contractor shall have to comply with 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 Superintending Engineer, may in his discretion, cancel the contract, the Contractor shall also be liable, for any pecuniary liability arising on account of any violation of the provisions of this act, by him. Salient features of some major labour laws/ Acts applicable to establishment engaged will be as below.

- a. Workman compensation Act 1923.
- b. Payment of Gratuity Act 1972.
- c. Employees PF and miscellaneous provisions Act 1952.
- d. Maternity Benefit Act 1951.
- e. Contract Labour (Regulations and Abolition) Act 1970.
- f. Minimum Wages Act 1948.
- g. Payment of Wages Act 1936.
- h. Equal Remuneration Act 1979.
- i. Payment of Bonus Act 1965.
- j. Industrial Disputes Act 1947.
- k. Industrial Employment (Standing orders) Act 1946.
- l. Trade Union Act 1926.
- m. Child labour act 1926.
- n. Interstate Migrant Workmen's (Regulation of Employment and Conditioned of Services) Act 1979.
- o. The Building and other construction works (Regulation of employment and conditions of Services Act 1946 and the cess Act of 1996).
- p. Factories Act 1948.

All the relevant law and act will be applicable for this work.

62. STATUTORY INCREASE IN DUTIES, TAXES ETC.

Contractor

No. of Correction

Executive Engineer

All the taxes including GST and duties levied by the Central Govt., State Govt and by Local Bodies at the prevailing rates applicable on the date of receipt of tender, considering this contractor should quote his offer. Any increase in tax rates till completion of work shall be fully borne by the Contractor and shall not be reimbursed to him on any account.

63. INSPECTION, TESTING & FEES

All material & equipment, irrespective whether specified or not, shall be tested at manufacturer's works laboratory and the Test Certificate thereof shall be furnished. The test shall be witnessed by the Engineer-in-charge as well as the third party designated by the CORPORATION.

64. MACHINERY REQUIRED

All machinery required for erection/execution purposes such as cranes, trucks, etc. shall be arranged by the Contractor. Department shall not take any responsibility for providing such machinery even on rental basis. No concreting shall be permitted unless centering and reinforcement is approved by the Engineer-in-Charge.

65. WORK ORDER BOOK

A well bound work order book shall be maintained on site and it shall be the property of CORPORATION and the Contractor/ his agent shall promptly sign orders given therein by the Engineer in charge /THE COMMISSIONER. officials or his superior officer, in token of having received them and comply them. This will be a permanent record 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 CORPORATION free of charge for this purpose. The Contractor will be allowed to copy out the instruction therein from time to time. He will not record any remarks in the order book but may take up the matter recorded therein.

66. DISCREPANCIES AND OMISSIONS

The tender drawings and specifications, shall be considered as explanatory, of each other and together shall form the technical requirements and stipulations of tender documents. Detailed drawings shall have preference over small scale drawings. Similarly, detailed specifications shall have preference over general specifications. Should any discrepancy arise as to the meaning, intent or interpretation of any specification or drawing the decision of the Engineer- in-charge shall be final and binding on the Contractor.

67. PRICE VARIATION – AUTHORITY

Contractor

No. of Correction

Executive Engineer

Price variation is not applicable to this tender.

68. NO INTEREST ON DUES

No interest shall be payable by the CORPORATION on amounts, due to contractors pending final settlement of claim. Further, no interest shall be payable by CORPORATION/CORPORATION on any amount/payment.

69. Any recovery advised by the MC shall be recovered from any bill or money retained from this contract. All the recoveries either outstanding or dues under the contract or incidental there to as determined may be, stand recoverable.

Secured Advance will be granted as per provisions made in MPW Manual and MPW Account Code.

70. Mobilization Advance will not be granted.

71. The tenderer is entitled to avail exemption from central excise tax, to all items of machinery, including instruments, apparatus and appliances, auxiliary equipment and their components/parts required for setting up a water treatment plants intended to treat water to make it fit for consumption of humans or animals. Central excise duty will also be exempted on pipes of sizes 100 mm and above required for obtaining untreated (raw) water from its source to the plant and for supplying the treated (potable drinking) water to the storage place from which it would be further supplied for consumption of humans or animals. The concession would be subject to the certification by the Collector/District Magistrate/Deputy THE COMMISSIONER of the District in which the water treatment plant is to be set-up. To avail exemption on duty the tenderer himself shall pursue the matter with different Government Departments. Any co-operation in this regard will be extended to the tenderer. The tenderer shall quote his offer taking into account above exemption which he may avail.

72. Tie - up with a Technology provider

Bidder must tie -up with a technology provider for Sequential Batch Reactor technology proposed and shall submit Technology Tie-up Agreement as a part of Bid. The technology provider should have experience of providing designing, constructing or supervising and commissioning successfully at least 2 Sewerage Treatment Plant based on SBR technology mentioned in the tender by bidder of minimum capacity 26.50 Mld. In case instead of SBR Technology the Bidder proposes to construct any other advance proven technology superior than SBR technology then he should have experience of such technology of cap. 26.50 MLD in India for any state / Central Government Organization / ULB's. The STP

should be in operation for minimum 2 years as on date of calling tender and giving satisfactory quality of effluent as mentioned in the tender. The Technology tie-up agreement shall be submitted by the successful bidder within 15 days of the acceptance of the tender. Work order will be issued only after the submission of technology tie-up agreement by successful bidder.

73. Submission of Details of firms supplying Mechanical and Electrical Equipment.

Bidder shall clearly state the name of firms supplying mechanical and electrical equipments along with the brand names of the products for all the units involved in the treatment process with the guarantee certificates. These products shall have ISI mark, wherever relevant. Before supplying the material, bidder shall take approval to the name of Firm supplying electrical equipment and brands. Such material shall be supplied only after the written approval from Engineer - in-charge / Municipal Engineer.

74. Land available with LATUR CITY MUNICIPAL CORPORATION before or during execution right of way will be made available by LATUR CITY MUNICIPAL CORPORATION & All related permissions will be obtained from various department by LCMC.

SPECIAL CONDITIONS OF CONTRACT

LATUR CITY MUNICIPAL CORPORATION

WATER SUPPLY/SEWERAGE DEPARTMENT

NAME OF WORK: LATUR UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0
SCHEME, TAL. & DIST. LATUR

SPECIAL CONDITIONS

1) Payment against Excess quantities of various items.

Before making payment of excess quantities as per rules, the concerned Municipal Engineer/ Engineer in charge of CORPORATION/THE COMMISSIONER, LCMC shall get himself satisfied regarding genuineness of the claim and he should also exercise a compulsory check of minimum 10 % of measurements for a particular item. Responsibility of informing the excess quantities as per Schedule 'B' of the tender for approval of Competent authority of CORPORATION/CORPORATION and also for correctness of claim to be submitted in future shall rest with Junior Engineer, a auditor and divisional Accountant also. While submitting the proposal for approval, concerned authorities should consider the exact position of the revised estimates, if necessary due to this excess. For executing any quantity, the excess over the quantity specified in the tender, the contractor should be authorized by the Municipal Engineer/ THE COMMISSIONER, LCMC /Engineer in charge of CORPORATION in writing.

While asking the contractor to execute such excess quantity, the concerned THE EXECUTIVE/ THE COMMISSIONER /Engineer in charge of CORPORATION should inform the Contractor in writing specifically that the payment in excess of quantities specified in the tender will be made after following concerned prescribed rules.

2) General

The quoted rate shall be total rate for the completed item of work as per the specification, and shall be inclusive of all incidental charges such as lifts, leads for materials, water for construction etc. The rates for excavation are inclusive of the edge of the excavation pit beyond foundation.

The tenderer must obtain on his own responsibility and his own expenses all the information which may be necessary for the purpose of making a tender and entering into a contract and must consider and satisfy himself with all local conditions, sites and quarries means of accesses, the nature of rock, material to be met with in all execution and all materials pertaining to work.

Contractor

No. of Correction

Executive Engineer

Specifications of item stipulated for other sub works shall be made applicable, where relevant.

3) Outline of works

The work will be on the lines of plans attached to the tender documents. The plans are however, liable to change and strata as shown there is approximate.

The item of work and their approximate quantities are given in schedule 'B' of the tender. The quantities are approximate and are liable to vary on plus or minus side.

4) Unit

The rates quoted for each item are for units mentioned in Schedule 'B' against each item.

5) Site conditions

1. It shall be presumed that the Contractor has satisfied himself as to the nature of the works, general and local conditions, particularly on those bearings on transport handling, storage of materials, availability of labour, weather conditions and has estimated the cost and quoted his rates accordingly. Municipal Engineer/ THE COMMISSIONER /Engineer in charge of CORPORATION will bear no responsibility for lack of such acquaintance with site conditions and consequences thereof.
2. Set of tender documents and conditions (up to a maximum of three sets) at the discretion of the Executive Engineer /Engineer in charge of CORPORATION / CORPORATION will be supplied to the contractor after acceptance of tender.

6) Extras, Omissions and Discrepancies.

1. In all the cases of the omissions, doubts or discrepancies in the dimension in the drawing and items of works, reference shall be made to THE COMMISSIONER/ Municipal Engineer / Engineer in charge of CORPORATION, whose elucidation and elaboration shall be considered final.

7) Supply of material by the contractor.

- 7.1. The contractor should supply all the material mentioned in Schedule "B". This shall be conforming to relevant IS & approved MJP vendors. All types of pipes, valve and specials will be accepted only after due third-party inspection and satisfactory inspection by the third-party inspection agencies appointed by the MJP/ CORPORATION. (List of third-party inspection agencies appointed is periodically circulated by the MJP central office). The charges for the same shall be borne by the contractor.

- 7.2. Other material such as cement, tor steel etc. shall be conforming to relevant ISS testing charges for cement, steel shall be borne by the contractor. Ultra Tech Cement (Ultra Tech) shall be preferably be used for water retaining structures.
- 7.3. 1. In case of item of supply of pipes, valves, specials etc., 80% amount of supplied item will be paid to the contractor on receipt of material (after satisfactory third-party inspection), 10% amount will be released after lowering, laying, jointing and remaining 10% amount will be released after satisfactory hydraulic testing.
2. 10% cost total sub work of pipeline work shall be retained till hydraulic testing is given as per IS Code of as per tender condtion.
- 7.4. The contractor shall provide, at the site of work, satisfactory storage for not less than one month's average consumption of works and shall keep the cement of storage and utilization of cement in the order of its arrival at the stores and the contractor shall maintain satisfactory records, which would at any time show the dates of receipt and proposed utilization of cement lying in the storage.
- 7.5. THE COMMISSIONER/ Municipal Engineer /Engineer in charge of CORPORATION shall at all the times have access to the stores and sites, method of storage, records and securities provided by the contractor. The contractor shall comply with instruction that will be given by THE COMMISSIONER/ Municipal Engineer /Engineer in charge of CORPORATION / CORPORATION, in this behalf.
- 7.6. The contractor shall further at all times satisfy THE COMMISSIONER/ Municipal Engineer / Engineer in charge of CORPORATION on demand any production of books, of submissions of returns in Performa as directed, other proofs, that, the cement supplied is being used for the purpose for which it is supplied and available to THE COMMISSIONER/ Municipal Engineer /Engineer in charge of CORPORATION.

8) TIME OF COMPLETION OF WORK: -

If at any stage of work, it is found that the execution of work is not as per the programme given in the Bar Chart, a fine shall be imposed on the contractor as mentioned in the agreement form.

9) APPOINTMENT OF ARBITRATOR: -

In case of any disputes raised between contractor and THE COMMISSIONER/ Municipal Engineer/Engineer in charge during the course of contract regarding work, there shall be no provision for the appointment of an Arbitrator. The decision of the Municipal Commissioner

shall be held as valid and final. If the contractor files a case in appropriate court, the action of withdrawing the work and allotting it to any other agency shall be deemed to be continued as per the practice in vogue in the larger interest of implementation of work in time and as per original time schedule.

10) STRATA:

Strata for excavation are shown approximate based on trial pits and the Contractor shall have no right to claim extra if there is variations in the strata. The contractor will also have no claim if extra excavation is required to be done due to boulders and the Contractor will have to make such extra excavation good by filling the same by C.C. 1:3:6 (M-100) or by plum concrete with 60% plum in C.C. 1:3:6 maximum.

11) CHANGE IN SITE:

No claims shall be paid on account of reasonable change in site, alignment or orientation of the proposed work, within the work site marked on plan attached to the tender as the circumstances may call for.

12) TOOLS AND PLANT:

All tools, instruments and machinery and all other materials (not included in the Material Schedule 'A') shall be acquired by the Contractor. It is, however, open to the Engineer to lend or supply to the Contractor implements, machinery or other service not covered by the tender document which he can be and may consider desirable. For such tools, instruments, machinery and service provided, the Contractor will have to sign an agreement and pay Security Deposit and rental charges as may be fixed by the Engineer.

13) EXCAVATED MATERIALS:

All excavated stuff shall be CORPORATION's property and shall be disposed off at lead and lift by the Contractor in a manner as directed by the Engineer.

14) DAMAGES TO UNDER/ABOVE GROUND UTILITY

During the course of excavation and laying of the pipe line utmost care of existing main, electrical and telephone cables and private water connections/sewage connections shall be taken. Any damage to existing main electrical and telephone cable and private water/ sewage connection, etc,

occurs during the course of execution, same shall be restored at the cost of the contractor. In case the repairs are done by owner, the cost of such repair will be recovered from the contractor.

Rates for all type of materials are inclusive of GST and all taxes levied by Central Government, State Government or local bodies.

Rates for supply of specials and valves are inclusive of excise duty (Central), GST, Third party inspection charges, storage charges, overhead charges and transportation of materials up to site and stacking. Rates mentioned in the tender are inclusive of all Central Govt, State Govt. and Local taxes, duties and cess etc.

- 15) Though the contractor is required to do refilling before hydraulic testing to avoid traffic hurdle, no payment for refilling of the trenches of pipe line shall be payable till satisfactory hydraulic testing is given. Re-excavation required if any during testing shall be done by contractor at his own cost.
- 16) The works of cross connections to existing lines are to be arranged in such a way as no major shutdowns are required to be taken and work should be completed within minimum period of time, without interrupting the major water supply in the area.
- 17) Activity in Bar chart and network diagram (CPM / PERT) shall be modified regularly in case any activity could not be done in time due to some extra ordinary reason. The same modified Bar Chart/Network diagram should be submitted for approval of Engineer-in-Charge or competent authority of CORPORATION, who will give approval after consultation with THE COMMISSIONER/ Engineer-in-Charge/PMC.
- 18) Work shall be executed in stages as mentioned Government Resolution issued by the Urban Development Department. & as per CPHEEO manual for Sewerage.

19) INCENTIVE BONUS - Deleted

~~As an encouragement to the early completion of the project an incentive bonus will be payable to the contractor. If contractor completes the work before scheduled time limit, he will be paid incentive bonus at the rate of 0.5% of the initial contract value or revised contract value whichever is less for every one month of early completion ahead of the original completion period or revised completion period whichever is less. Maximum incentive payable shall not be more than 3% of the original value or revised value whichever is less. This incentive scheme shall not apply if extension to the original completion period is required irrespective of on whose account (Owner or Contractor 's account). Period less than a month will not reckon for the incentive bonus calculations.~~

20) All the bills in R A bill format shall be submitted to the PMC by the contractor. The bills will be checked and scrutinized by PMC and will be submitted to the ULB for Recording, Passing and Payment by the ULB.

21) The bills vetted and submitted by the PMC will be normally cleared and payment will be released within a period of 15 days from the receipt of such vetted bills by the ULB or executing agency as the case may be. Such payment will be subject to availability of funds with the ULB or executing agency.

22) TRAFFIC MANAGEMENT DURING CONSTRUCTION

19.1. The work involves conductance of work on busy city streets & the roads. The Contractor shall at all time carry out work on the roads in a manner creating least interference to the flow of traffic, while being consistent with the satisfactory execution of the same. For the works involving construction works along the roads, the Contractor shall, in accordance with the directives of the Engineer, provide and maintain, during execution of the work, a passage for traffic either along a part of the existing carriageway, where work is under progress or along a temporary diversion constructed beside the road. The Contractor shall prepare complete plan of traffic arrangements during construction including phased traffic diversion plan as a whole, covering such diversions, as may be required and get same approved from Engineer-In- Charge at the start of the work. The diversion arrangements along any section particular section of the road shall be got approved from the Traffic authority before commencing the related work. The scope of work includes construction & maintenance of diversions till completion of the project, failing which Contractor will be fully responsible for inconvenience, injuries, accidents and liabilities arising out of the same.

19.2. Signs, lights, barriers and other traffic control devices shall be provided and maintained in a satisfactory condition till such time, as they are required as per directions of the Engineer, so as to ensure smooth and safe traffic on the road throughout the length, where the work is in progress. Necessary traffic management arrangement at temporary diversions by signs, lights, barriers etc. is also included in the scope

19.3. The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as may be directed by the Engineer for sake of information and protection of traffic approaching or passing through the sections of the roads, where the work is in progress. The barricades erected on either side of the carriageway / portion of the carriageway closed

to traffic, shall be of strong design to resist violation, and painted with alternate black and white stripes, red lanterns or warning lights of similar type shall be mounted on the barricades at night and kept lit throughout from Sunset to Sunrise.

- 19.4. At the points, where traffic is to deviate from its normal path (whether on temporary diversion or part width of the carriageway) the channel for traffic shall be clearly marked with the aid of pavement markings, painted drums or similar devices as per the directions of the Engineer. At night, the passage shall be delineated with lanterns of other suitable light source. One-way traffic operation shall be established whenever the traffic is to be passed over part of the carriageway inadequate for two-lane traffic. This shall be done with the help of temporary traffic signals or flagmen kept positioned on opposite sides during all hours. For regulation of traffic, the flagmen shall be equipped with red and green flags and lanterns / lights. On both sides, suitable regulatory / warning signs as approved by the Engineer shall be installed for the guidance of road users. On each approach, at least two signs shall be put up, one close to the point where transition of carriageway begins and the other 120 m away. The signs shall be of approved design and of reflector type, if so, directed by the Engineer.
- 19.5. Signs, lights, barriers and other traffic control devices, as well as the riding surface of diversions shall be maintained in a satisfactory condition till such time they are required as directed by the Engineer. The temporary travel way shall be kept free of dust by frequent applications of water, if necessary.
- 19.6. All arrangements for traffic during construction including provisions as above, including their operation, maintenance, dismantling and clearing shall be deemed to be included in the scope of items of construction works involving the works along the city roads and no separate payment shall be admissible therefore.

23) DESILTING, CLEANING

Although not included in the contract agreement the maintenance of work executed, the contractor shall carryout periodical maintenance of the work executed under the contract Viz. desalting and cleaning etc. for smooth working of the scheme. Contractor shall not claim any extra cost for this. Taking over by the Engineer or his authorized representative will always be in writing, of which copies will be given to the Engineer and his authorized representative and the Contractor. The Engineer on completion of the takeover of the works shall issue the Taking over certificate to the Contractor. The security deposit retained by the CORPORATION as per Clause 1 of B1 Form of Contract shall be released

fully subject to the provision of defect liability clause, only after Taking Over certificate is issued by the Engineer.

24) UNDER GROUND UTILITIES, STRUCTURES, SERVICES AND THEIR SHIFTING

21.1. The indication of the type and approximate quantity of existing underground utilities and sub structures has been presented in the Contract documents from the vividly known details, but the accuracy and completeness of such indications are not warranted by the CORPORATION or the Engineer and utility, structures and services not so indicated may exist. Before commencing any excavations, the Contractor shall investigate; determine the actual locations, types and details of the underground utilities and structures. He shall determine the existing condition and ownership of the utilities and sub structures in the site before the work is to be performed, by communication with such owners, by search of records, or otherwise and shall protect all such utilities and sub structures.

21.2. The items pertaining to shifting of the various utilities & services have been provided in the Schedule B (BOQ), as could be best judged by the Engineer. The Contractor shall carry out shifting of utilities and services covered under such items as per the specifications & directions of the Engineer. The quantities put to tender pertaining to items of shifting of the utilities are approximate and may vary during execution as per actual requirements. In case of excess occurring in quantities of such items, the provisions of Clause 38 of B1 Form of Contract shall apply and the payment will be regulated at rates derived from the rates entered in the current schedule of rates from MJP/PWD and in the absence of which at the prevailing rates, the said rates may be increased or decreased as the case may be by the percentage which the total tendered amount bears to the estimated cost of the work as put to tender based upon the schedule of rates applicable to the year in which the tenders were invited. If any utility or services not covered under the Schedule B are met during course of execution, the contractor shall carry out the work of shifting of such utilities & services as per direction of the Engineer. The payment for such work not covered in the tender items shall be regulated as Extra Items under the provision of Clause 14 of B1 form of Contract. However, the Contractor shall not keep such extra work in abeyance on plea of approval to the rates & shall complete it expeditiously as per the urgency of the work and as directed by the Engineer.

21.3. While carrying out work of any nature and magnitude, related to shifting of utilities & services or removing sub structures, the Contractor shall seek necessary permission from the respective owner of the utility or the other department of the CORPORATION as necessary. The Contractor

shall abide by the regulations, procedures, specifications & technical requirements in vogue or as set forth by the respective owners of the utilities and services. The Contractor shall provide the personnel of skills, qualifications and specialty, as required for proper conductance of shifting of particular type of utility in conformity with the stipulations of the owner of the utility. The CORPORATION shall provide to the Contractor, necessary documentation and liaison at various levels required in connection of shifting of utilities. The official charges if any paid by the Contractor on behalf of the CORPORATION to the owners of the utilities in connection of seeking permissions or as statutory requirement shall be reimbursed to the Contractor on his providing required supporting documents, bills, receipts etc.

21.4. In case shifting of major utilities and services is anticipated, in any stretch of work, the Engineer shall be notified by the Contractor well in advance, for his inspection & for confirming the time schedule of shifting as well as the extent and the method, in which the shifting is to be carried out.

25) QUALITY ASSURANCE

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 a fortnight, from the date of work order. For this, the Contractor shall submit an organization chart of his technical personnel to be employed on the work along with their qualifications, job descriptions, defining the functions of reporting, supervising, inspecting and approving. The Contractor shall also submit a list of equipment, plant and the machinery and instrumentation, which he proposes to deploy for the construction work and for testing in the field and / or in the laboratory and monitoring. The Contractor shall modify / supplement the organization chart and the list of machinery, equipment etc. as per the directions of the 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 proposal, elaborating the methods & Techniques he intends to adopt for execution of the work in accordance with the specifications. The proposal shall be got approved from the Engineer-in charge by incorporating the changes as suggested by him. The quality of the work shall be properly documented through certificates; records, checklists and logbooks of results etc. as per the system and formats got approved from the Engineer in Charge. Such records shall be maintained from the beginning of the work and be continuously updated and supplemented. It will be the responsibility of the Contractor to implement the quality assurance on all works under the Contract.

Contractor

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Executive Engineer

26) SITE OFFICE & FIELD LABORATORY

The Contractor shall provide site office and field laboratory of adequate area as required for facility of site work. The office shall be located at the place allotted by the CORPORATION and shall be adequately furnished as directed by the Engineer in Charge. The field laboratory shall be located adjacent to the site office. The office & the laboratory shall be provided with basic amenities like water supply, electric supply, toilet facility etc. Laboratory tables, cupboards, slotted angle storage racks, working space, washbasin, toilet facility, curing tank etc. shall be provided. The site should be equipped adequately for conducting field tests on concrete viz. cube moulds and slump measuring cone for test samples for concrete work. The Contractor shall appoint a qualified Engineer experienced in conducting the field tests and lab tests on concrete. The Contractor shall seek Engineer's approval for the appointment of the person. The contractor has to setup and establish the equipments within a month from the date of work order, failing which non-refundable penalty of Rs. 3000/- per day will be imposed on contractor for the period the Contractor remains in default. The site office building shall be maintained by the Contractor. The maintenance shall include day to day up keep of the building, surroundings, repairs to building, furniture, fittings, office equipments and periodical painting to the surfaces, wars & watch during day & night. The laboratory set up shall be maintained till physical completion of the work in all respects, while the site office shall be maintained till the period of maintenance stipulated under the contract is over & the works are handed over to the CORPORATION. The cost of constructing office cum laboratory, providing furniture and laboratory equipment and expenses incurred on the salaries of the personnel, manning the set up and maintenance & up keep of the building, furniture & equipment shall be considered as incidental to the work and no separate payment will be made for the same. After completion of aforesaid period of maintenance, the Contractor shall demolish the building structure and remove all the equipments as per directions of the Engineer.

27) TESTING OF SAMPLES

The Contractor shall at his cost, make all arrangement and shall provide for all such facilities as the Engineer-in-charge may require for collecting, preparing and forwarding required number of samples as directed in BIS for tests or for analysis at such time and to such place or places as may be directed by the Engineer and bear all charges and cost of testing including transport. Such samples shall be deposited with the Engineer in Charge, till these are sent for testing. Samples of materials shall be got tested from the tests to be done at Government Polytechnical /Government

Engineering college only and approved by the Engineer-in-charge and shall be preserved till the completion of work. All materials to be used on work, such as cement, rubble, bricks, aggregates, TMT steel, structural steel, DI and RCC pipes, bearings, expansion joints, asphalt, pumping machinery with allied equipments etc. shall be got approved in advance from the Engineer & shall pass the test and analysis required by him, as specified in the specifications of the items concerned or relevant I.S.I. specification or such requirements, tests and / or analysis as may be stipulated by the Engineer. The contractor shall, if and when required, submit at his cost, the samples of materials to be tested or analyzed and if so directed, shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and the materials finally accepted by the Engineer-in-Charge. The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of & as a result of testing of the materials. All the materials listed above shall be tested from third party approved by the Engineer in charge and the reports shall be submitted to owner.

28) Extension of time limit will be granted by THE COMMISSIONER, Municipal CORPORATION, Latur after obtaining approval/consent of competent authority of Municipal CORPORATION.

INSTRUCTIONS TO TENDERER

LATUR CITY MUNICIPAL CORPORATION**WATER SUPPLY/SEWERAGE DEPARTMENT**

NAME OF WORK: LATUR UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0
SCHEME, TAL. & DIST. LATUR

INSTRUCTIONS TO TENDERER**1. AWARD CRITERIA**

The Owner will award the contract to the successful bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily. The tender will be awarded after bid evaluation report approved by the appropriate competent authority.

2. ACCEPTANCE OF THE TENDER

- 2.1. The acceptance of the tender rests with the appropriate competent authority. The right to reject any or all the tenders without assigning any reason thereof is reserved by appropriate competent authority. The tenderer whose tender is accepted will have to enter into regular agreement in the type and form prescribed in the tender and abides by all the rules embodied therein, cost of agreement etc. should also be borne by the tenderer.
- 2.2. No corrections, additions or alterations in the tender document shall be made. No special stipulations in the tender document shall be permitted.
- 2.3. The tender shall be liable to be rejected outright if while submitting the same.
- i) The Tender is not submitted on E-tendering portal specified in the Tender Notice.
 - ii) The Tenderer proposes any conditions and alterations in the obligatory conditions of the tender.
 - iii) Any of the pages of the tender is removed/replaced or spoiled badly.
 - iv) If the offer in words and in figures is not filled in appropriate place of B.1 Form.
 - v) If the specified Earnest Money in specified form is not paid.
 - vi) Any erasures are made in the tender documents.
 - vii) The tenderer or in case of firm or company authorized person does not sign the tender documents in the place provided for the purpose, in B.1 Tender form.
- 2.4. If the tendering contractors are a firm or company, they shall in their forwarding letter should mention the names of all the partners of the firm or the company as the case may be and the

names of the partners who hold the power of attorney authorizing him to conduct transactions on behalf of the Company/Firm.

2.5. Rules and conditions of the contract are subject to amendment till the time of acceptance of tender.

2.6. The notes and conditions stipulated in this notice will form a part of the agreement.

3. SIGNING OF CONTRACT

At the same time as the Owner notifies the successful Bidder that the bid has been accepted, the Owner will send the Bidder an acceptance letter informing the Bidder, the further necessary line of action including signing of contract etc.

4. FOR SPECIAL ATTENTION OF TENDERER

The tenderer is expected to visit the site before quoting the tender and get himself acquainted with the site conditions and site requirements. The contracting firm shall study the site and general conditions in respect of approaches, labour, water supply, climate, quarries and the data included in the tender papers and get verified from the actual inspection of site etc. before submitting the tender. In case of any doubt about any item or data included in the tender or otherwise, it shall be got clarified by applying in writing to the tender inviting authority at least 3 days before the date of pre-tender conference. Once the tender is submitted, it shall be concluded with all the details required for completing the work as per tender conditions and specifications. Responsibility of Departmental staff will be nominal and limited to extending all possible help in solving local problems for obtaining permission, obtaining power supply etc.

5. LOCAL ROADS

The existing public roads that are near the site of work are shown in Drawing accompanying the Tender documents. The contractor may construct and maintains additional roads as required at his own expenses.

6. MEDICAL AND SANITARY ARRANGEMENT TO BE PROVIDED FOR LABOUR EMPLOYED IN THE CONSTRUCTION BY THE CONTRACTOR

- a) The contractor shall provide an adequate supply of pure and wholesome water for the use of labourers on works and in camps.
- b) The contractor shall construct trenches, semi-permanent latrines for the use of labourers , Separate latrine shall be provided for men and women.

- c) The contractor shall construct sufficient number of huts on a suitable plot of land for use of the labourers according to the following specifications.
- i) Hut of Bomboobs and Grass may be constructed.
 - ii) A good site not liable to submergence shall be selected on high ground remote from jungle but well provided with trees shall be chosen wherever it is available. The neighborhood of land, jungle s trees or woods should be particularly avoided. Camp should not be established close to large cutting of earth work.
 - iii) The lines of huts shall have open space of at least 10 meters between rows. When a good natural site is not available in this case. Particular attention should be given to the drainage.
 - iv) There should be no overcrowding, floor space at the rate of 3 sqm. (30 sq.ft) per head shall be provided . Care should be taken to see that the huts are kept clean and in good order.
 - v) The contractor must find his own land and if he wants Govt. land he should apply for it. Assessment for it if demanded will be payable by contractor. However, the department does not bind itself for making available the required land.
- d) The contractor shall construct a sufficient number of bathing places. Washing places should also be provided for the purpose of washing clothes.
- e) The contractor shall make sufficient arrangement for draining away the surface and sullage water as well as water from the bathing and washing places and shall dispose off this waste water in such a way as not to cause any nuisance.
- f) The contractor shall engage a medical officer with a traveling dispensary for a camp containing 500 or more persons, if there is no Govt. Or other private dispensary situated within 8 kilometers from the camp. In case of emergency the contractor shall arrange at his cost-free transport for quick medical help to his sick workers.
- g) The contractor shall provide the necessary staff for erecting the satisfactory conservancy and cleanliness of the camp to the satisfaction of the Engineer-In-Charge. At least one sweeper per 200 persons should be engaged.
- h) The Assistant Director of Public Health shall be consulted before opening a labour camp and his instructions on matters such as Water Supply, sanitary, convenience for the camp site accommodation and food supply be followed by the contractor etc.

- i) The contractor shall make arrangement for all antimalarials measures to be provided for the labours employed on the work. The anti-measures shall be as directed by Assistant Director of public health.
- j) In addition to above all provisions of the relevant labour Act pertaining to basic amenities to be provided to the labourer shall be applicable which will be arranged by the contractor.

7. MISCELLANEOUS

- 7.1. For providing electric wiring or water ling etc. Recesses shall be provided if necessary, through walls, slabs, beams, etc. and later-on refilled it without any extra cost.
- 7.2. In case it becomes necessary for the due fulfillment of contractor for the contractor to occupy land outside the department, limits the contractor will have to make his own arrangements with the land owners and pay such rents if any, which are payable as mutually/agreed between them.
- 7.3. The contractor shall duly comply with provisions of the Apprentices Act 1961 (III of 1961) and the rules and order made there under from time to time under the said rules and on this failure or neglect to do so he shall subject to all the liabilities and penalties provided by the said Act and Said Rules.
- 7.4. It is presumed that the contractor has gone carefully through the standard specification (Vol I and II 1981 edition) and the schedule of rates of the Division, and studies of site condition before arriving at rates quoted by him. The special provisions and detailed specification of wording of any item shall gain precedence over the corresponding contrary provisions (if any) in the standard specification given without reproducing the details in contract. Decision of Engineer in charge shall be final in case of interpretation of specification.
- 7.5. If the standard specifications fall short for the items quoted in the schedule of this contract, reference shall be made to the latest Indian standard specifications, I.R.C. code, if any of the item of this contract do not fill in reference quoted above the decision and specification as directed by the Engineer-In –Charge. Shall be final.
- 7.6. The stacking and storage of building materials at site shall be in such a manner as to prevent deterioration or inclusion of foreign material and to ensure the preservation of the quality. Properties and fitness of the work. Suitable precautions shall be taken by contractor to protect the materials against atmospheric action, 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 likelihood of subsidence of soil, heavy, materials shall be stored on paved platforms. Suitable separation barricades and enclosure as directed shall be provided to separate materials brought by contractor and material issued by Govt. to contractor under Schedule-A. Same applies for the materials obtained from different source of supply.

8. HANDING OVER OF WORK

All work and material before taken over by CORPORATION will be entire responsibility of the contractor for guarding, maintaining and making good, any damage 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 Municipal Engineer/Engineer in charge or THE COMMISSIONER or his authorized agent will be always in writing, copies of which will go to THE COMMISSIONER/ Municipal Engineer, signed by authorized representative of CORPORATION and the contractor. It is however understood that before taking over of such work CORPORATION will not put the system into its regular use, casual or incidental one, except as specifically mentioned elsewhere in this contract or mutually agreed to.

ACQUAINTANCE WITH SITE CONDITIONS AND WORK CONDITIONS

LATUR CITY MUNICIPAL CORPORATION

WATER SUPPLY/SEWERAGE DEPARTMENT

NAME OF WORK: LATUR UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0
SCHEME, TAL. & DIST. LATUR

Site Conditions and Work Conditions

1. The Contractor shall study the site conditions, general conditions and data included in the tender papers and get it verified from actual inspection of the site etc. before submitting the tender. In case of doubts about any items or data included in this tender or otherwise, it shall be got clarified by applying in writing to the Municipal Engineer/Engineer in charge /THE COMMISSIONER/THE COMMISSIONER, 15 days in advance before date of submission of the tender. Once the tender is submitted, it shall be considered that the Contractor has verified and made himself conversant with all the details as required for quoting the rates and completing the work as per tender conditions and specifications.
2. Contractor shall not sell or otherwise dispose off or remove except for the purpose of this contract, the rubble, stone metal, sand or other material which may be obtained from any excavation made for the purpose of the contract. All such materials shall be CORPORATION/CORPORATION's property and shall be disposed off in the manner and at place as may be directed by the Engineer-in-charge. Contractor may with the permission of the Engineer-in-charge in writing and when directed by him, use any of the materials free of cost.
3. Other unforeseen items to be done in the course of work will have to be done by the Contractor as per specifications in P.W.D. Hand book volume I and II and will be paid at mutually agreed rates, IS and standard practice in vogue. Extra charge of claims in respect of extra work shall not be allowed unless the work to which they relate are in the spirit and meaning of the specifications or unless such works are ordered in writing by the Engineer-in-charge and claimed for in the specified manner before the work is taken in hand.

MATERIALS:

Contractor

No. of Correction

Executive Engineer

4. The Contractor shall make his own arrangements for obtaining rubble, khandki, headers, metal, sand, murum etc. from CORPORATION or private quarry. Applications of the Contractor for reasonable area of Government land required for this purpose can be recommended to Revenue Authorities without any guarantee of making the land for quarry available.
All the materials involved in the construction shall be of best quality and specifications and shall be got approved from the Engineer-in-charge before use. If necessary, materials shall be got tested from the Laboratory at his cost. Samples requiring approval shall be submitted by the Contractor to the Engineer-in-charge in good time before the use of each material. The samples shall be properly marked to show the name of the materials place.
5. The Contractor shall provide all labour, skilled as well as unskilled, pages, lime, strings, site-rails (wooden as well as Steel etc.) as and when required as per approved design and make available such other materials for surveying, lining out, setting out, checking of work, taking measurements, testing of hydraulic and other structures, without any payment by the CORPORATION to him. He will also provide proper approach and access to all his works and stores without any extra cost over tendered rates for the items to be inspected.
6. Rates quoted include clearance of site (prior to commencement of work and its closure) in all respects and hold good for work under all conditions of sites, moisture, weather etc.
7. Failure to comply with any of the above instructions will result in the CORPORATION's doing the needful at the risk and cost of the contractor. These conditions are for all items and as such no extra payment shall be made for observing these conditions.
8. The contractor shall make his own arrangements for quarrying of rubble, stone, murum, sand, lime, metal etc.
9. Overburden in a quarry will have to be removed by the contractor at his own cost.
10. Unless a separate item is provided in Schedule 'B' minor dewatering of foundations in excavation and during the construction of foundation Masonry if required shall be done by the Contractor without claiming extra cost.
11. Masonry shall be kept wet for at least 15 days and concrete work shall be kept wet for at least 21 days commencing from the date of its final laying in position. In case during execution curing is found inadequate it will be carried out CORPORATION/CORPORATION's and the cost thereof shall be recovered from the contractor. The contractor shall make his own arrangements for getting water at site at his own cost.

12. The proportions of cement concrete specified in the Schedule 'B' are nominal and are only an indication of approximate proportion of cement, fine aggregate and coarse aggregate which may have to be altered suitably at site to obtain the desired strength and workability. However, quantity of cement shall not be less than the one specified below.

NOMINAL MIX:

1:1:2	(M-300)	9.00 bags/one cum of cement concrete
1:1.5:3	(M-200)	7.90 bags/one cum of cement concrete
1:2:4	(M-150)	6.30 bags/one cum of cement concrete
1:3:6	(M-100)	4.40 bags/one cum of cement concrete
1:4:8	(M-80)	3.40 bags/one cum of cement concrete

In case of major items of concrete for R.C.C. works, the Contractor shall prepare test blocks as per I.S. specifications for testing its tensile and compressive strength at his own cost. These blocks will be tested in any of the Government Test Laboratories at the cost of the Contractor. The number of test blocks, frequency etc. shall be directed by Engineer-In-Charge.

13. DAMAGE BY FLOODS OR ACCIDENT:

The Contractor shall take all precautions against damage by floods and from accidents. No compensation will be allowed to the contractor for his plant, material and work etc. Lost or damaged by floods or from other causes. The Contractor shall be liable to make good any part of material which is in charge of the Contractor and which is lost or damaged by floods or from any other cause. If the work executed is damaged, trenches filled due to any reason, Contractor shall have to make it good at his cost only.

14. SUPPLY OF RATE-ANALYSIS IN CASE OF EXTRA ITEMS

In case of the EIRL the Contractor shall supply Rate Analysis based on labour and material in case he is called upon to do so.

15. WATER REQUIRED FOR CONSTRUCTION: -

The Contractor has to make his own arrangements at his cost for water required for construction, testing, filling, structures, etc. either from local bodies or from elsewhere, by paying the charges directly and arranging tankers etc. as per necessity. No claim for extra payment on account of non-

availability of water nearby, or extra lead for bringing water shall be entertained. All required piping arrangements and pumping if required for water shall be made by the Contractor at his cost.

If Contractor fails to pay the water charges to local bodies or private parties these shall be recovered by the CORPORATION from his bills. In case CORPORATION 's water supply is available, a connection at a suitable place may be sanctioned but all further arrangements of pumping if required, piping etc. shall be done by the Contractor at his cost, and water charges in such a case, shall be paid by the Contractor at the rates as decided by the Municipal Engineer /Engineer in charge /THE COMMISSIONER/THE COMMISSIONER, which shall be final and binding on the Contractor.

Whenever Schedule 'B' provides for any dewatering item, payment shall be admissible under that item, but apart from that item no extra claims for dewatering required for executing various tender items, and for executing such items in wet condition shall be entertained as all these expenses are deemed to be included in the dewatering item.

16. LEADS AND LIFTS: -

Unless otherwise specifically mentioned in the tender item, the tendered rate for all items in tender shall cover all lifts and leads encountered for the executions of the work as directed.

17. Unless otherwise specifically provided for in the tender or a separate item is provided in Schedule 'B', all the sides of excavated trenches after the work is completed or in progress are to be filled by the Contractor to the original ground level from excavated stuff at no extra cost to the CORPORATION,

18. Unless otherwise specifically mentioned in tender items, the net dimensions of RCC or CC members actually cast are only admissible for payment under RCC or Plain CC items. No increase in dimensions due to plastering or finishing shall be admissible for payment under RCC or plain CC items.

19. No claims for any desilting of trenches, foundation etc. filled due to floods, untimely rains, or any other reasons whatsoever shall be entertained and Contractor shall have to do this desilting operation together with dewatering operations entirely at his cost.

20. Electricity supply required for construction of work/ labour camp, etc. shall be arranged by the contractor at his own cost.

FORM-B.1

Contractor

No. of correction

Executive Engineer

FORM B.1
PERCENTAGE RATE TENDER AND CONTRACT FOR WORKS

DEPARTMENT Latur City Municipal Corporation
REGION Maharashtra
NAME OF WORK Latur City Underground Sewerage Scheme, Ta. & Dist. Latur

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

1. All works proposed to be executed by contractor shall be notified in a form of invitation to tender pasted on a Board hung up in the office of the Executive Engineer/Engineer in charge/Chief Officer/Commissioner and signed by the Executive Engineer/Engineer in charge/Chief Officer/Commissioner.

This form will state the works to be carried out as well as the date of submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender and the amount of 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 quarry fees, royalties and ground rents will be granted. Copies of the specifications, designs and drawings and estimated rates, schedule rates and any other documents required in connection with the work which will be signed by the Executive Engineer/Engineer in charge/Chief Officer/Commissioner for the propose of identification shall also be open for Inspection by contractors at the office of the Executive Engineer/Engineer in charge/Chief Officer/Commissionerr during office hours.

Where the works are proposed to be executed by the contractor according to the specifications recommended and approved by a competent authority on behalf of the Maharashtra Jeevan Pradhikaran/Corporation/Council, such specification with designs drawings shall form part of the accepted tender.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof, and in the event of the absence of any partner, it shall be signed on his behalf by a person holding a power - of -

Contractor

No. of correction

Executive Engineer

attorney authorizing him to do so.

i) The contractor shall pay along with the tender the sum, of (Rs. 1,25,20,600 /-) (Rs. One Crore Twenty Five Lakh Twenty Thousand Six Hundred only) as and by way of earnest money. The EMD shall be paid by Net Banking. The said amount of earnest money shall not carry any interest whatsoever.

ii) In the event of his tender being accepted, to the provision of sub-clause (iii), below,

a) 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.

i) 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 security deposit without prejudice to any other right and powers of the Pradhikaran/Corporation/Council hereunder, or in law, Pradhikaran/Corporation/Council shall be entitled to forfeit the full amount of the earnest money deposited by him.

ii) 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 provision of sub-clause (iii) above, be refunded to him on his passing receipt therefore.

3. Receipts for payments made on account of any work, when executed by a firm should also be signed by all the partners except where the contractors are described in their tender as a firm. In which case the receipt shall be signed in the name of the firm by one of the partners or by some other person have authority to give effectual receipts of the firm.
4. Any person who submits tender shall fill up the usual printed form stating at what percentage above or below the rates specified in Schedule - B (memorandum showing items of work to be carried out) he is willing to undertake the work. Only one rate or such percentage on all the Estimated rates/ Schedule rates shall be named. Tenders which propose any alteration in the work specified in the said form of invitation of tender, or in the time allowed for carrying out the work, or which contain separate percentage over estimated rates / schedule rates for different sub work or item, or which any other conditions of any sort which are not filled with the percentage as the space provided for the purpose and not signed at proper place in the printed B-1 Tender Form will be liable to rejection. No printed form of tender shall include a tender for more than one work. But, if

contractors who wish to tender for more works, shall submit a separate tender for each work. Tenders shall have the name and the number of work to which they refer, written outside the envelopes.

5. The competent authority shall open tenders in the presence of any intending contractors who have submitted tenders or their representatives who may be present at the time, and he will enter the amount of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, the contractor shall for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule 1. In the events of a tender being rejected, the Executive Engineer/Engineer in charge /commssioner/chief officer shall arrange / authorized to refund the amount of the earnest money deposited to the tenderer, on his giving a receipt for the return of the money.
6. Competent authority is the final authority to reject all or any of the tenders.
7. No receipt for any payment alleged to have been made by a contractor in regard to any matter relating to this tender or the contract shall be valid and binding on Pradhikaran/Council/Corporation unless it is signed by the Executive Engineer.
8. The memorandum of the work to be tendered for and the schedule of materials to be supplied by the Pradhikaran/Corporation/Council (herein before and after called as ...MJP/MC) and their rates shall be filled in and completed by the office of the Executive Engineer/Engineer in charge/Chief Officer/Commissioner before the tender form is issued. If a form issued to an intending Tender has not been so filled in and completed, he shall request the said office to have this done before he completes and delivers his tender.
9. All work shall be measured net by standard measure and according to the rules and customs of the PWD/MJP and without reference to any local custom.
10. Under no circumstances shall any; contractor be entitled to claim enhanced rates for 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.

12. Corrections and additions should be initialed.
13. The measurements of work will be taken according to the usual methods in use in the PWD/MJP and no proposals to adopt alternative methods will be accepted. The Engineer's decision as to what is the usual method in use will be final.
14. A 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 work that remains to be executed in each case on the date of submitting the tender. Such certificate shall be in the proforma attached in the tender documents.
15. In view of the difficult position regarding the availability of foreign exchange no foreign exchange would be released by the corporation/council for the purchase of plant and machinery or any other purpose for the execution of the work contracted for.
16. The contractor will have to construct shed, for storing controlled and valuable material issued to him under Schedule –All of the agreement or brought him on work site, at work site having double locking arrangement. The materials will be taken for use in the presence of the department person. No. materials will be allowed to be removed from the site of works without written permission of the Engineer-in-charge.
17. The 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 Contractor Labour Regulation and Abolition Act. 1973 before starting work, failing with acceptance of the tender will be liable for withdrawal and Earnest money / Security Deposit will be forfeited to the Corporation.
18. The contractor shall comply with the provision of the Apprentices Act. 1961 and the rules and orders issued there under from time to time. The contract shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act.
19. In this tender ----- sub-works are included .As per Government resolution the work will be taken up in three phases. The work order will be issued accordingly by fixing time limit. Contractor has to complete the work within stipulated time for each phase. If he fails, action as per clause 2 will be

initiated against the contractor.

20. As per clause 6 of B-1 form, extension of time limit will be governed. If contractor fails to apply for extension of time limit as per clause 6 to keep the tender alive, MJP/Municipal Council/Municipal Corporation will grant the extension considering the progress of work and in the light of clause 2.

As per Government Resolution Price Variation Clause is not applicable to tender.

21. The tender Rates are inclusive of all taxes such as VAT, Service Tax, Cess, and General Tax etc. Contractor shall be deemed to have examined the work and site conditions including labour, the general and special conditions, specifications and drawings and shall be deemed to have visited the work site and to have fully informed himself regarding the local conditions and carried out his own investigations to arrive at rates quoted in the tender. There shall be no corrections or overwriting and if any that shall be dully initialed by Contractor himself.
22. Note: The Commercial Offer must be filled online using individual's digital certificate. (An online form will be provided for this during online bid preparation stage).

I / We hereby, tender for the execution for the.....Maharashtra Jeevan Pradhikaran/Municipal Corporation/Council (hereinbefore and hereinafter referred to as ...MJP/MC) for the work specified in the underwritten memorandum within the time specified in such memorandum at----- (-----) in figures as well as in words percent below/above the estimated rates entered in schedule 'B' memorandum showing items of work to be carried out and in accordance with all respects with the specifications, designs, drawings, and instructions in writing referred to in Rule hereof and in clause 12 of the annexed conditions of the contract and agree that what materials for the work are provided by the Pradhikaran/Corporation/Council such materials are at the rates to be paid for them shall be as provided in schedule –All here to.

Memorandum

a) General description : **Latur City Municipal Corporation, Ta. & Dist. Latur**

a) if several sub works are included they should be detailed in a separate list

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b) Estimated Cost. Rs.250,41,17,824 /-

c) Earnest Money. Rs. 1,25,20,600 /-

c) The amount of earnest money to be deposited shall be in accordance with the provision of paras 206 and 207 of the M.P.W. Manual.

d) **Security Deposit.**

Total 4% of estimated cost put to tender or accepted tender cost whichever is higher

d) This deposit shall, be in accordance with paras 213 and 214 of the M.P.W. Manual.

i) **Initial Security Deposit**

2% of estimated cost put to tender or accepted tender cost whichever is higher shall be in form of FDR from any Nationalized / Scheduled Bank or Bank Guarantee

ii) Balance 2% amount of Security deposit, will be recovered through each Running Bill at The rate of 5% of the gross amount of running bill till the required total amount of Security Deposit is recovered

e) Percentage, if any, to be deducted from bills so as to make up the total amount required as security deposit by the time, half the work as measured by the cost is done.
5% (Five) Percent

e) This percentage where no security deposit is taken, will vary from 5 % to 10 % according to the requirement of case where security deposit is taken see note to clause 1 this conditions of contractor.

f) **Additional Security Deposit.**

If the tender is proposed to be accepted at the rates quoted less than estimated cost put to tender security deposit over and above 4% in (d) at the below rate shall have to be paid by Tender.

- i) For offer upto 10% below 2% Intial + 2% through R.A.Bill.
- ii) For 10% to 15% below 4% Intial + 2% through R.A.Bill.
- iii) For offer more than 6%Intial + 2% through R.A.Bill.
15% below

Additional security is to be paid by the successful bidder initially only in addition to 2% original Security Deposit.

(Security Deposit shall be based on estimated cost put to tenderor tendered cost whichever is higher)

g)Time allowed for the work from date of written order to commence.

24 (Twenty Four) Calendar Months. (Including monsoon)

I/We agree that the offer shall remain open for acceptance for a minimum period of 120 days from the date fixed for opening for the same and thereafter until it is withdrawn by me/ us 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. Term deposit Receipt No./Demand draft No. dated and date in respect of the sum of ` 1,25,20,600/- (in wards `Rs. One Crore Twenty Five Lakh Twenty Thousand Six hundred only) is herewith forwarded. The amount of earnest money shall not bear interest and shall be liable to be forfeited to the Pradhikaran/MunicipalCouncil/Corporation should I/We fail to (i) abide by the stipulation to keep the offer open for the period mentioned above of (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 (1) above within the time limit laid down in clause (1) of the annexed General Conditions of contract, the amount of earnest money may be adjusted towards the security deposit or refunded to me/us in writing unless the same or any part thereof has been forfeited as aforesaid.

I/We have secured exemption from payment of earnest money after executing the necessary bond in favour of the Pradhikaran/MunicipalCouncil/Corporation a true copy of which

is enclosed herewith should any occasion for forfeiture of earnest money for this work arise due to failure on my/our part to abide by the stipulations to keep the offer open for the period mentioned above or to sign and complete the contract documents and furnish to security deposit as specified in item (d) of the Memorandum contained in paragraph (1) 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 option of the Engineer, be recovered out of the amount deposited in lump sum for securing exemption in so far as the same may be extend in terms of the said bond and in the event of the deficiency out of any other moneys which are due to payable to me/us by the Pradhikaran/MunicipalCouncil/Corporation under any other contract or transaction of any nature whatsoever or otherwise.

Should this tender be accepted I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of contract annexed hereto so far as applicable and in default thereof to forfeit and pay Pradhikaran/Municipal Council/Corporation the sum of money mentioned in the said conditions. Term Deposit Receipt No. Dated from The Bank..... at in respect of sum of Rs. Is herewith forwarded representing the earnest money (a) the full value which is to be absolutely forfeited to the Pradhikaran/MunicipalCouncil/Corporation should I/We not deposit in the full amount of security deposit specified in the above memorandum in Accordance with (d) of clause (i) of the tender for works shall be refunded.

Strike out (a) such security deposit is to be taken.

Contractor

Signature of the contractor
before submission of tender.

Address

date of 2024

Witness

Signature of witness to

Contractor

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contractor's signature.

The above tender is hereby accepted by me for and on behalf of the MJP/.....Municipal Corporation/Council
Dated

Commissioner, Latur City Municipal Corporation

CONDITIONS OF CONTRACT

(Modification as per the GR PWD NO. CAT-1087/ CR- 94/Bldg-2, dated 14.6.1989) \

Clause 1 : The person / person whose tender may be accepted **Security Deposit** (hereinafter called the Contractor, which expression shall unless excluded by or repugnant to the context include his heirs, executors, administrators and assigns) shall (A) within ten days (which may be extended by the Chief Engineer/Commissioner/Chief Officer concerned upto 15 days if the Commissioner/Chief Officer thinks fit to do so) of the receipt by him of the notification of the acceptance of his tender deposit with the Engineer in-charge in Cash or Government securities endorsed to the Engineer in charge (if deposited for more than 12 months) of sum sufficient which will make up the full security deposit specified in the tender or (B)

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(permit Pradhikaran/Corporation/Council at the time of making any payment to him for work done under the contract to deduct such sum as will amount to 4% of all moneys so payable; such deductions to be held by Corporation/Council by way of security deposit). Provided always that in the event of the Contractor depositing a lumpsum by way of security deposit as contemplated at (A) above, then and in such case, if the sum so deposited shall not to 4% of the total estimated cost of work or tendered cost whichever is higher, it shall be lawful for Pradhikaran/Corporation/Council at the time of making any payment to the contractor for work done under the contract to make-up the full amount of Four (4) percent by deducting a sufficient sum from every such payment as last aforesaid until the full amount to the security deposit is made up. All compensation or other sums of moneys payable the contractor to Pradhikaran/Corporation/Council under the terms of his contract may be deducted from or paid by the sale of sufficient part of his security deposit or from the interest arising there from, or from any sums which may become due by Pradhikaran/Corporation/Council to the contractor under any other contract or transaction on any account whatsoever and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall, within ten days thereafter, make good in cash or Government securities endorsed as aforesaid or Bank Guarantee issued by bank for any sum or sums which may have been deducted from or raised by sale of his security deposited or any part thereof. The Security deposit referred to, when paid in cash may, at the cost of the depositor, be converted into interest bearing securities provided that the depositor has expressly desired this in writing.

If the amount of the security deposit to be paid in a lump sum within the period specified at (A) above is not paid the tender/contract already accepted shall be considered as cancelled and legal steps taken against the Contractor for recovery of the amounts. The amount of security deposit lodged by Contractor shall be refunded along with the payment of the final bill, if the date upto, which the Contractor has agreed to maintain the work in good order, is over. If such date is not over only 90% amount of the security deposit shall be refunded along with the payment of the final bill. The amount of security deposit retained by Pradhikaran/Corporation/Council shall be released after expiry of period upto, which the Contractor has agreed to maintain the work in good order, is over. In the event of

Contractor failing or neglecting to complete rectification work within the period upto, which the Contractor has agreed to maintain the work in good order then subject to provisions of Clause 17 and 20 hereof, the amount of security deposit retained by Pradhikaran/Corporation/Council shall be adjusted towards the excess cost incurred by the Pradhikaran/Corporation/Council on rectification work.

Clause 2 : The time allowed for carrying out the work as entered in the agreement shall be strictly observed by the Contractor and shall be reckoned from the date on which the order to commence work is given to the Contractor. The work shall throughout the stipulated period of the contract be proceeded with, all due diligence (time being deemed to be essence of the contract on the part of the Contractor) and the Contractor shall pay as compensation an amount equal to one percent or such smaller amount as the Chief Engineer/Commissioner /Chief Officer(whose decision in writing shall be final) may decide of the amount of the estimated cost of the whole work as shown by the tender for everyday that the work remains uncommenced or unfinished after the proper dates. And further to ensure good progress during execution of the work, the Contractor shall be bound in all cases in which the time allowed for any work exceeds one month to complete, for complete minimum quantum of work as compared to accepted tender cost as stated below.

**Compensation
Delay**

¼ of the work in ¼ of the time.

½ of the work in ½ of the time.

¾ of the work in ¾ of the time.

Full work in 24 months including monsoon

Note: The quantity of the work to be done within a particular time to be specified above shall be fixed by an Officer competent to accept the contracts after taking into consideration the circumstances of each case .and insert in the blank space kept for the purpose

In the event of the contractor failing to comply with these conditions he shall be liable to pay as compensation an amount equal to one percent or such smaller amount as Chief Engineer/Commissioner/Chief Officer (whose decision in writing shall be final) may decide of the said

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estimated cost of the whole work for everyday that the due quantity of work remains incomplete provided always that the total amount of compensation to be paid under the provisions of this clause shall not exceed 10% of the estimated cost of the work as shown in the tender. Chief Engineer/Commissioner/Chief Officer should be the final authority in this respect, irrespective of the fact that tender is accepted by State level technical Committee. However Commissioner /Chief officer shall seek the consent of the MJP and/or approval of the State level technical committee.

Clause 3: If any clause in which under any clause of this contract the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his security deposit (whether paid in one sum or deducted by installment) or in the case of abandonment of the work owing to serious illness or death of the Contractor or any other cause, the Engineer in charge on behalf of the Pradhikaran/Corporation/Council shall have power to adopt any of the following courses, as he may deem best suited to the interest of the MJP/Corporation/Council

Action when whole of security deposit is forfeited.

- a) To rescind the contract (for which rescission notice in writing to the Contractor under the hands of Engineer in-charge shall be conclusive evidence) and in that case the security deposit of the Contractor shall stand forfeited and be absolutely at the disposal of the Pradhikaran/Corporation/Council
- b) To carry out the work or any part of the work departmentally debiting the Contractor with the cost of the work, expenditure incurred on tools, plant and charges on additional supervisory staff including the cost of work-charged establishment employed for getting unexecuted part of the work completed and crediting him with the value of the work done departmentally in all respects in the same manner and at the same rates as if it has been carried out by the Contractor under the terms of his contract. The certificate of the Engineer in-charge as to the cost and other allied expenses so incurred and as to the value of the work so done departmentally shall be final and conclusive against the Contractor.
- c) The order that work of the Contractor be measured up and take such part thereof as shall be unexecuted out of his hands and to

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give it to another contractor to complete in which case all expenses incurred on advertisement for fixing a new contracting agency, additional supervisory staff including the cost of work-charged establishment and the cost of the work executed by the new contract agency will be debited to other contractors and the value of the work done or executed through the new contractor shall be credited to the Contractor in all respects and in the same manner and at the same rates as if it had been carried out by the Contractor under the terms of his contract. The certificate of the Engineer in-charge as to all the costs of the work and other expenses incurred as aforesaid for getting the unexecuted Work done by the new contractor and as to the value of the work so done shall be final and conclusive against the Contractor.

In case the contractor shall be rescinded under clause (a) above, the contractor shall not be entitled to recover or to be paid, any sum for any work therefore actually performed by him under this contract unless and until the Executive Engineer/Engineer in charge/Chief Officer/Commissioner shall have certified in writing the performance of such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified. In the event of either the courses referred to in clause (b) or (c) being adopted and the cost of the work executed departmentally or through a new contractor and other allied expenses exceeding the value of such work credited to the contractors, the amount of excess shall be deducted from any money due to the contractor by Pradhikaran/Council/Corporation under the contract or otherwise however or from his security deposit or the sale proceeds thereof provided however that the contractor shall have to claim against MJP/Corporation/Council event if the certified value of the work done departmentally or through a new contractor exceeds the certified cost of such work and allied expenses, provided always that whichever of the three courses mentioned in clauses (a), (b) and (c) is adopted by the MJP/ Corporation/Council, the contractor shall have no claim to compensation for any loss sustained by him by reason of not having purchased or procured any materials, or entered into any engagements, or made any advance on account of or with a view to the execution of the work or the performance of the contract. The extra cost involved in the completion of the balance work carried out through the other contractor under

Amount of 3 (c) shall be recoverable from the contractor over and above the compensation levied under Clause 2 and the Security Deposit shall be apportioned against the total recoveries for this purpose also.

Clause 4 : If the progress of the any particular portion of the work is unsatisfactory, the MJP/Corporation/Council shall notwithstanding that the general progress of the work is in accordance with the condition mentioned in clause 2 be entitled to take action under clause 3(b) after giving the contractor 10 days notice in writing. The contractor will have no claim for compensation, for any loss sustained by him owing to such action.

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

Clause 5 : In any case in which any of the powers conferred upon MJP/Corporation/Council by Clause 3 and 4 hereof shall have become exercisable and the same shall not have been exercised the non exercise thereof shall not constitute waiving of any of the conditions hereof the such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor for under any clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the MJP/Corporation/Council taking action under Sub-Clause (a) or (c) of clause 3, he may, if he so desires, take possession of all or any tools and plants, materials and stores, in or upon the work or the site thereof or belonging to the contractor, or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in the case of contract rates not being applicable at current market rates to be certified by the MJP/Corporation/Council whose certificate thereof shall be final. In the alternative the MJP/Corporation/Council may after giving notice in writing to the contractor or his clerk of the work, foreman or other authorized agent require him to remove such tools, plant, materials or stores from the premises within a time to do specified in such notice, and in the event of the contractor failing to comply with any such requisition, the

Contractor liable to pay compensation if action not taken under clause 3 and 4.

MJP/Corporation/Council may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects, and the certificate of the MJP/Corporation/Council as to the expenses of any such removal and the amount of the proceeds and expense of any such shall be final and conclusive against the contractor

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

Clause 7 : On the completion of the work the contractor shall be furnished with a certificate by the MJP/Corporation/Council (hereinafter and hereinbefore called the Engineer-in-charge) of such completion but neither such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall have been executed, all scaffolding surplus materials and rubbish , tools, plants and equipments and shall have cleaned off the dirt from all woodwork, doors, windows, walls, floor or other parts of any building in or upon which the work has been executed or of which he may have had possession for the purpose of executing the work nor until the work shall have been measured by the Engineer-in-charge or where the measurements have been taken by his subordinate until they have received approval of the Engineer-in-charge the said measurements being binding and conclusive against the contractor, if the contractor shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus materials and rubbish and cleaning off the dirt on or before the date fixed for the completion of the work, the Engineer-in-charge may at the expense of the contractor, remove *Final Certificate.*

and rubbish and dispose off the same as the thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred but shall have no claim in respect of any such scaffolding tools and plants equipments or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

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

Payment on intermediate certificate to be regarded as advance.

Clause 9: The rates for several items of works estimated to cost more than ` 1000/- agreed to within, shall be valid only when the item concerned is accepted as having been completed fully in accordance with the sanctioned specification. In cases where the items of are work not accepted as so completed by the Engineer-in-charge may make payment on account of such items at such reduced rates as he may consider reasonable in the preparation of final or on account bills.

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

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

Bills to be submitted monthly

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

Bills to be on printed form.

Clause 12 : If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the store of the MJP/Corporation/Council or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-charge (such material and stores and the prices to be charged therefore as hereinafter mentioned being so far as practicable for the convenience of the contractor but not so as in any way to control the meaning or effect of this contract specified in the schedule or memorandum hereto annexed) the contractor shall be supplied with such materials and stores as may be required from time to time to be used by him for the purposes of the contract only and value of the full quantity of the materials and stores so supplied shall be set off or deducted from any sums then due, or thereafter to become due to the contractor under the contract or otherwise or from the security deposit or the proceeds of sale thereof if the security deposit is held in Government Securities, the same or a sufficient portion thereof shall in that case be sold for the purpose. All materials supplied to the contractor shall remain the absolute property of

Stores supplied by MJP

MJP/Corporation/Council and shall not be removed from the site of the work and shall at all times be open to inspection by the Engineer-in-charge. Any such materials issued at cost but remained unused and in perfectly good condition at the time of completion or termination of the contract shall be returned to the MJP/Corporation/Council, store if the Engineer-in-charge so required by a notice in writing given under his hand, but the contractor shall not be entitled to return any such material supplied to him as aforesaid but remaining unused by him or for any wastage in or, damage to any such materials. The contractor shall, however return all unused material at the time of completion, which was issued to him free of cost by the Engineer in charge and which has remained surplus with the contractor after accounting for the actual utilization of such material from the total quantity that was issued by the Engineer in charge. Cost of any material issued free of cost by the engineer and which has remained surplus with the Engineer from the contractor as mentioned in Schedule - 'A'

Clause 12 (A) : All stores of materials such as cement, steel etc. supplied to the contractor by MJP/Corporation/Council should be kept by the contractor in a separate store near the work site under lock and key and will be accessible for inspection by the MJP/Corporation/Council or his agent at all the times.

Storage of controlled material

Clause 13 : The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and every other respect in strict order accordance. The contractor shall also conform exactly fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access for the purpose of inspection at such office or on the site of the work, during office hours. The contractor will be entitled to receive one sets of contract drawing 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 requires by him shall supplied at the rate of ` 2000/- per set of contract drawings and ` 100/- per working drawing except where otherwise specified.

Works to be executed in accordance with specifications drawings.

Clause 14 : The Engineer-in-charge shall have power to make any alterations in or additions to the original specifications, drawing, design and instructions that may appear to him to be necessary or contracts, advisable during the progress of the work and the contractor shall be bound to carry out the work in accordance with any instructions in this connection which may be given to him in writing signed by the Engineer-in-charge and such alterations shall not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the Contractor on the same conditions in all respects on which he agreed to do the main work and at the same rates as are specified in the tender for the main work. And if the additional and altered work includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out at the rates entered in the Schedule of Rates of the Division with due consideration for leads and lifts involved for materials and labour or at the rates mutually agreed upon between the Engineer-in-charge and the contractor, whichever are lower. However, if the Engineer-in-charge is not empowered by MJP/Corporation/Council to approve the rates of such additional or altered work then as far as possible he shall obtain prior approval to the changes and to the rates payable for such changes from competent authority of MJP/Corporation/Council not entered in before ordering the Contractor to take up the alternation/ additional work. If the additional or altered work for which no rate is in the schedule or rates of the Division, is ordered to be carried out before the rates are agreed upon then the contractor shall within seven days of the date of receipt by him of the order to carry out the work, inform the Engineer-in-charge of the rate which it is his intention to charge for such class of work, and if the Engineer-in-charge does not agree to this rate he shall by notice in writing be at liberty to cancel his order carry out such class of work and arrange to carry out in such manner as he may consider advisable provided always that if the contractor shall commence the work or incur any expenditure in regard thereto before the rates shall have been determined as lastly hereinbefore mentioned then in such case he shall only be entitled to be paid in respect of the work or incur any expenditure in regard there to before the rates shall have been determined as lastly hereinbefore mentioned then in such case he shall only be entitled to be paid in respect of the work

Alteration specifications designs not invalidate in & to

carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-charge. In the event of a dispute the decision of the Chief Engineer will be final.

Where, however, the work is to be executed according to the designs, drawings and specifications recommended by the contractor and accepted by the competent authority the alterations above referred to shall be within the scope of such designs, drawings and specifications appended to the tender. The time limit for the completion of the work shall be extended in the proportion that the increase in its cost occasioned by alterations or additions bears to the cost of the original contract work and the certificate of the Engineer-in-charge as to such proportion shall be conclusive.

Extension of time in consequences additions or alterations

Clause 15 :

- i) If at any time after the execution of the contract documents the engineer shall for any reason what so ever (other than default on the of the contractor for which the MJP/Corporation/Council is entitled to rescind the contract) desires that the whole or any part of the work specified in the tender should be suspended for any period of that the whole or part of the work should not be carried at all, he shall give to the contractor a notice in writing of such desire and upon the receipt of such notice the contractor shall forthwith suspend or stop the work wholly or in part as required after having due regard to the appropriate stage at which the work should be stopped or suspended so as not to cause any damage or injury to the work or any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the Contractor. The Contractor shall have no claim to any payment or compensation whatsoever by reason of or in pursuance of any notice as aforesaid on account of any suspension, stoppage or curtailment except to the extent specified hereinafter.
- ii) Where the total suspension of work ordered as aforesaid continued for a continuous period exceeding 90 days the contractor shall be at liberty to withdraw from the contractual, obligations under the contract so for as it pertains to the unexecuted part of the work by giving a 10days prior notice in

No claim to any payment or compensation for alteration in or restriction of Work except specified in this clause.

writing to the Engineer within 30 days of the expiry of the said period of 90 days of such intention and requiring the Engineer to record the final measurements of the work already done and to pay final bill. Upon giving such notice the Contractor shall be deemed to have been discharged from his obligation to complete the remaining unexecuted work under his contract. On receipt of such notice the Engineer shall proceed to complete the measurement and make such payment as may be finally due to the Contractor within a period of 90 days from the receipt of such notice in respect of the work already done by the Contractor. Such payment shall not in any manner prejudice the right of the Contractor to any further compensation under the remaining provisions of this clause.

iii) Where the Engineer in-charge requires the Contractor to suspend the work for a period in excess of 30 days at any time or 60 days in the aggregate, the contractor shall be entitled to apply to the Engineer within 30 days of the resumption of work after such suspension for payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery rendered idle on the site or on the account of his having had to pay the salary or wages to labour engaged by him during the said period of suspension, provided always that the Contractor shall not be entitled to any claim in respect of any such working machinery ,salary or wages for the first 30 days whether consecutive or in the aggregate of any suspension whatsoever occasioned by unsatisfactory work or other default on his part. The decision of the Engineer- in -charge in this regard shall be final and conclusive against the Contractor.

iv) In the event of

- a) any total stoppage of work on notice from the Engineer under sub-clause (1) in that behalf.
- b) Withdrawal by the Contractor from the contractual obligation to complete the remaining un-executed work under sub-clause (2) on account of continued suspension of work for a period exceeding 90 days.
- c) Curtailment in the quantity of item or items originally tendered on account of any alteration, omission or substitutions in the specifications, drawings, designs or instructions under Clause 14 where such curtailment exceeds 25% in quantity and the value of

the quantity curtailed beyond 25% at the rates for the item specified in the tender is more than ` 5,000/-

It shall be open to the Contractor within 90 days from the service of

- i) the notice of stoppage of work or
- ii) the notice of withdrawal from the contractual obligations under the contract on account of the continued suspension of work or
- iii) notice under Clause 14(i) resulting in such curtailment

to produce to the Engineer satisfactory documentary evidence that he had purchased or agreed to purchase material for use in the contracted work before receipt by him of the notice of stoppage, suspension or curtailment and required the Corporation/Council to take over on payment such material at the rates determined by the Engineer, provided, however, that such rates shall in no case exceed the rates at which the same was acquired by the Contractor. The MJP/Corporation/Council shall thereafter take over the material so offered, provided the quantities offered are not in excess of the requirements of the unexecuted work as specified in the accepted tender and are of quality and specifications approved by the Engineer

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

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

- i) Difficulties relating to the supply of railway wagons.
- ii) Force majeure.
- iii) Act of God.
- iv) Act of enemies of the State or any other reasonable cause beyond the control of MJP/Council/Corporation.

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

Clause 16 : Under no circumstances whatsoever shall the Contractor be entitled to any compensation from MJP/Corporation/Council on

Time limit for unforeseen claims.

Contractor

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any account unless the Contractor shall have submitted claim in writing to the Engineer-in-charge within one month of the case of such claim occurring.

Clause 17 : If at any time before the security deposit or any part of thereof is refunded to the Contractor it shall appear to the Engineer-in-charge or his subordinate -in-charge of the work that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of inferior quality, or that any materials or articles provided by him for the execution of the work are unsound or quality is inferior to that contracted for, or are otherwise not in accordance with the contract, it shall be lawful for the Engineer-in-charge to intimate this fact in writing to the Contractor and then notwithstanding the fact 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 or if so required shall remove the materials or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in the written intimation aforesaid, the Contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for everyday not exceeding 10 days during which the failure so continues and in the event of any such failure the Engineer-in-charge may rectify or remove and re execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the Contractor. Should the Engineer in charge consider that any such inferior work or materials as prescribed above may be accepted or made use of, it shall be within his discretion to accept the same reduced rates as he may fix therefore.

Action and compensation payable in case of bad work.

Clause 18 : All work under or in course of execution or executed in pursuance of the contract shall at all times be open to inspection and supervision of the Engineer-in-charge and his subordinates and the Contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge and his subordinates to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the Contractor's

Work to be open to inspection.

Contractor or responsible agent to be present

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duly authorized agent shall be considered to have the same force and effect as if they had been given to the Contractor himself.

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

Notice to be given before work is covered up

Clause 20 : If during the period as listed below, from the date of completion as certified by the Engineer-in-charge pursuant to Clause 7 of the Contract or for the period as mentioned below after commissioning the work whichever is earlier in the opinion of 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 MJP/Corporation/Council, 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 MJP/Corporation/Council. In the event of the Contractor failing or neglecting to commence execution of the said rectification work within the period prescribed therefore in the said notice and/ or to complete the same as aforesaid as required by the same notice, the MJP/Council/Corporation may get the same executed and carried out departmentally or by any other agency at the risk, on account and at the cost of the Contractor. The Contractor shall forthwith on demand pay to the MJP/Corporation/Council the amount of such costs, charges and expenses sustained or incurred by the MJP/Corporation/Council of which the certification of the MJP/Corporation/Council shall be final and binding on the

Contractor liable for damage done and for imperfections

Contractor, Such costs, charges and expenses shall be deemed to be arrears of land revenue and in the event of the Contractor failing or neglecting to pay the same no demand as aforesaid without prejudice to any other rights and remedies of the MJP/Corporation/Council, the same may be recovered from the Contractor as arrears of land revenue. The MJP/Corporation/Council, shall also be entitled to deduct the same from any amount which may then be payable or which may thereafter become payable by the MJP/Corporation/Council to the contractor either in respect of the said work or any other work whatsoever or from the amount of security deposit retained by the MJP/Corporation/Council. During defect liability period, the work of daily maintenance and general repairs and expenses thereon would be out of scope of the tender. However, if any defects in the sub work or in the material are found, the same will be rectified by the Contractor at his cost and will be binding on him, failing to which legal action would be taken as per tender clauses. Ten percent amount will be withheld from security deposit depending upon the nature of work, till the defect liability period is over.

1. Pumping Machinery.

a) Pumping machinery and other allied mechanical, electrical installation (excluding those in the treatment plant contract), surge arrestors, water hammer control devices, chlorinators (excluding those provided in the treatment plant contract)	Five Years
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Repairs to the works at (a) above.	Five Years
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2. WTP/ESR/GSR/BPT, Sump and Pump House, Balancing Tank Etc. head works, approach bridge

a) Based on Contractor's own design.	Five Year.
b) Based on Departmental design.	Five Years
c) Special repairs to ESR/ GSR/ BPT	Five Years
d) Ordinary repairs to ESR/GSR/BPT Sump and Pump House, etc.	Five Years

3. Pipe Lines.

i) Pumping Mains, Gravity Mains, Leading Mains including all the fixtures	Five Years
ii) Distribution system, laterals, branch sewers of sewerage system,	Five Years

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etc.

iii) Repairs to pipe lines under the works at (a) and (b) above.

Five Years

The instructions contained in the Government of Maharashtra (Public Works Department) Resolution dated 14th June, 1989 shall henceforth be applicable to all the works for which defect liability periods have been specified as above

Clause 21 : The Contractor shall supply at his own cost all material (except such special materials, if any, as may in accordance with the contract be supplied from the MJP/Corporation/Council stores), plant, tools, appliances, implements, ladders, tackles, scaffolding and temporary works requisite or proper execution of the work, in the original, altered or substituted from the whether included in the specification or other documents forming part of the contract of referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer in charge as to any matter as to which under these conditions he is entitled to as satisfied or which he is entitled to require together with the carriage therefore to and from the work

Contractor to supply plant, ladders, scaffoldings, etc.

The Contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or the materials, Failing which the same may be provided by the Engineer-in-charge at the expense of the Contractor and expenses may be deducted from any money due to the Contractor under the contract or from his security deposit or the proceeds of sale thereof or a sufficient portion thereof. The Contractor shall provide all necessary fencing and lights required to protect the public from accident and shall also be bound to bear the expenses of defense of every suit, action or other legal proceedings that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit action or other legal proceedings that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit action or proceedings to any such person, or which may with consent of the Contractor be paid for compromising any claim by any such person.

And is liable for damages arising from non-provisions of lights, fencing, etc

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List of machinery in contractors possession and which he proposes to use on the work should be submitted along with the tender.

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

- a) Suitable scaffolds shall be provided for workmen for all works that cannot be safely done from a ladder or by other means.
- b) A scaffolds shall not be constructed, taken down or substantially allowed except
 - i) Under the supervision of a competent and responsible person, and
 - ii) As far as possible by competent workers possessing adequate experience in this kind of work.
- c) All scaffolds and appliances connected herewith and ladders shall.
 - i) be of sound material
 - ii) Be of adequate strength having regard to the loads and strains to which they will be subjected, and
 - iii) Be maintained in proper condition.
- d) Scaffolds shall be so constructed that no part thereof can be displaced in consequence of normal use.
- e) Scaffolds shall not be over - loaded and so far as practicable the load in consequence of normal use
- f) Before installing lifting gear on scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.
- g) Scaffolds shall be periodically inspected by a competent person.
- h) Before allowing a scaffold to be used by his workmen the Contractor shall whether the scaffold has been erected by his workmen or not, take steps to ensure that it complies fully with the regulations herein specified.
- i) Working platform, gangway, stairways shall:-
 - 1) be so constructed that no part thereof can sag unduly or unequally.
 - 2) be so constructed and maintained, having regard to the prevailing conditions as to reduce as far as practicable risks of persons tripping or slipping, and
 - 3) kept free from any unnecessary obstruction.
- j) In the case of working platform, gangways, working places and stairways at a height exceeding 2 meters (to be specified).

- a) every working platform, gangways shall be closely boarded unless other adequate measures are taken to ensure safety,
- b) every working platform, gangway shall have adequate width, and
- c) every working platform, gangway, working place and stairway shall be provided with railing/ barricading
- k) Every opening in the floor of a building or in a working platform shall except for the time and to the extent required to allow the excess of persons or the transport or shifting of material be provided with suitable means to prevent the fall of persons or material.
- l) When persons are employed on a roof where there is a danger of falling from the height exceeding 3 meters (to be specified) suitable precautions shall be taken to prevent the fall of persons or material
- m) Suitable precautions shall be taken to prevent persons being struck by articles, which might fall from scaffolds or other working places.
- n) Safe means of access shall be provided to all working platforms and other working places.
- o) The Contractor will have to make payments to laborers as per Minimum Wages Act.

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

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

- a) Hoisting machines and tackles, including their attachments, anchorages and supports shall.
 - i) be of good mechanical construction, sound material and adequate strength and free from patent defect, and
 - ii) be kept in good repairs and in good working order.
- b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.
- c) Hoisting machines and shackles shall be examined and adequately tested after erection on the site and before use and be re-examined in position at intervals to be prescribed by the MJP/Corporation/Council.
- d) Every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering materials or as means of suspension shall be periodically examined.

Employment of female labor work on Sunday

- e) Every crane driver or hoisting appliance operator shall be properly qualified.
- f) No person who is below the age of 18 years shall be in control of any hoisting machine, including any scaffold, which gives signals to the operator.
- g) In case of every machine and every chain, ring, hook, Shackle, swivel and pulley block used in hoisting or lowering or as a means of suspension, the safe working load shall be ascertained by adequate means.
- h) Every hoisting machine and all gear referred to in proceeding regulation shall be plainly marked with the safe working load
- i) In case of hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated.
- j) No part of any hoisting machine or any gear referred to in regulation (g) above shall be loaded beyond the safe working load except for the purpose of testing.
- k) Motors, gearing, transmissions, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards.
- l) Hoisting appliances shall be provided with such means, which will reduce to minimum, and the risks of the accidental descend of load.
- m) Adequate precaution shall be taken to reduce to a minimum the risk of any part of suspended load becoming accidentally displaced

Clause 22 : The Contractor shall not set fire to any standing jungle, trees, brushwood or grass without a written permission from the MJPC/Corporation/Council. When such permission is given and also in all cases when destroying, cut or dug up trees, brushwood, grass, etc. by fire, the Contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property. The Contractor shall make his own arrangements for drinking water for the labor employed by him.

Measures for prevention of fire.

Clause 23 : Compensation for all damages done intentionally or unintentionally by Contractor's labour whether in or beyond the limits of the MJPC/Corporation/Council property including any damage caused by the spreading of fire mentioned Clause 22 shall be estimated by the Engineer-in-charge or such other officer as he may

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

appoint and the estimate of the Engineer-in-charge subject to the decision of the Chief Engineer/Commissioner on appeal shall be final and the Contractor shall be bound to pay the amount of the assessed compensation on demand, failing which the same will be recovered from the Contractor as damage in the manner prescribed in Clause 1 or deducted by the Engineer-in-charge from any sums that may be due or become due from MJP/Corporation/Council to Contractor under this contract or otherwise.

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

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

Employment of female labor

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

Work on Sunday.

Clause 26 : The contract shall not be assigned or sublet without the written approval of the Engineer-in-charge, and if the Contractor shall assign or sublet his contract or attempt to do so, or become insolvent or commence any proceedings to get himself adjudicated and insolvent or make any composition with his creditors or attempt so to do so or if bribe, gratuity, gift, loan, perquisite, reward of advantage, pecuniary or otherwise shall either directly or indirectly be given, promised or offered by the Contractor or any of his servants or agents to any public officer or person in the employment of MJP/Corporation/Council in any relating to his office or employment or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-charge may thereupon by notice in writing rescind the contract, and the security deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of MJP/Corporation/Council and the same consequences shall ensure as if the contract had been rescinded under Clause 3 hereof and in addition the Contractor shall not be entitled to recover or be paid for any work thereof actually

Work not to be sublet.. Contract may be rescinded and security deposit forfeited for subletting it without approval or for bribing a Public Officer or if Contractor becomes insolvent.

performed under the contract.

Clause 27 : All sums payable by a Contractor by way of compensation under any of these conditions shall be considered as a reasonable compensation to be applied to the use of MJP/Corporation/Council without reference to the actual loss or damage sustained, and whether any damage has or has not been sustained

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

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

Changes in the constitution of the firm to be notified.

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

Directions and control of the Engineer in charge

Clause 30.1 : Except where otherwise specified in the contract and subject to the powers delegated to him by MJP Corporation/Council under the code, rules then in force, the decision of the Executive Engineer/Commissioner/Chief Officer for the time being shall be final, conclusive and binding on all parties of the contract, upon all questions relating to the meaning of the specifications, designs, drawings and instruction hereinbefore mentioned and as to the quality of workmanship, or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders, or these conditions, or otherwise concerning the works, or the execution, or failure to execute the same, whether arising during the progress of work, or after the completion or abandonment thereof.

Directions and control of the Engineer in charge .

Clause 30.2 : The Contractor may within thirty days of receipt by him of any order passed by the Chief Engineer/Commissioner/Chief Officer as aforesaid appeal against it to the Chief Engineer MJP with the contract work or project provided that.

a) The accepted value of the contract exceeds ` 10 lakhs(` . Ten lakhs)

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

Clause 30: If the contractor is not satisfied with the order passed by the Chief Engineer/Commissioner/Chief Officer as aforesaid, the contractor may, within thirty days of receipt by him of any such order, appeal against it to the Member Secretary, MJP who if convinced that prima facie, the contractor's claim rejected by Chief Engineer/Commissioner/Chief Officer is not frivolous and that there is some substance in the claim of the contractor as would merit a detailed examination in the claim of the contractor and decision by Secretary Urban development department for suitable decision. The decision of the MS MJP shall be final and binding on the contractor and the Engineer-in-charge.

Clause 31 : Deleted

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

Lump sums in estimates

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

Action where no specifications

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

Definition of work

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

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

Clause 36 : All quarry fees, royalties, octroi duties and ground rent for stacking materials, if any should be paid by Contractor, which will not be entitled to a refund of such charges from the MJP/Corporation/Council. (Please see special clause for royalty).

Quarry fees and royalties

Clause 37 : The Contractor shall be responsible for and shall pay any compensation to his workmen payable under the Workmen's Compensation Act., 1923 (VIII of 1923), (hereinafter called the said Act) for injuries caused to the workmen. If such compensation is payable/ paid by the MJP/Corporation/Council as principal under sub-section (1) of Section 12 of the said Act on behalf of the Contractor, it shall be recoverable by the MJP/Corporation/Council from the Contractor under the sub-section (2) of the said section. Such compensation shall be recovered in the manner laid down in Clause 1 above.

Compensation under Workmen's Compensation Act.

Clause 37 A : The Contractor shall be responsible for and shall pay the expenses of providing medical aid to any workman who may suffer a bodily injury as a result of an accident. If such expenses are incurred by MJP/Corporation/Council, the same shall be recoverable from the Contractor forthwith and be deducted without prejudice to any other remedy of the MJP/Corporation/Council from any amount due or that may become due to the Contractor.

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

- a) The workers shall be required to use the equipments so provided by the Contractor and the Contractor shall take adequate steps to ensure proper use of the equipment by those concerned
- b) When work is carried on in proximity to any place where there is a risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the

prompt rescue of any person in danger.

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

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

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

Quantities put to tender are approximate. Excess quantity beyond quantity put to tender will be governed as per Cl.38

ii) the Contractor shall, if ordered in writing by the Engineer so to do, also carry out any quantities in excess of the limit mentioned above in sub -clause (1) hereof on the same conditions and in accordance with the specifications in the tender and the rates

- a) derived from the rates entered in Current Schedule of Rates and in the absence of such rates
b) At the rates prevailing in the market.

The said rates being increased or decreased as the case may be by the percentage which the total tendered amount upon the schedule of rates applicable to the year in which the tender were accepted

For the purpose of operation of this clause ,this cost shall be worked out from the DSR prevailing at the time of inviting of tender. The cost of Clause 38 is Rs **250,41,17,824/- (Rs. Two Hundred Fifty Crore Forty One Lakh Seventeen Thousand Eight Hundred & Twenty Four Only)**

iii) This clause is not applicable to extra items.

iv) Claims arising out of reduction in the tendered quantity of any item beyond 25% will be governed by the provision of Clause 15 only when the amount of such reduction beyond 25% at the rate of the item specified in the tender is more than ` 5,000/- This reduction is exclusively the reduction in Clause Nos. 14 & 15 of the

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work and site conditions.

- v) There is no change in the rate if the excess is less than or equal to 25%. Also there is no change in the rate if the quantity of work done is more than 25% of the tendered quantity, but the value of the excess work at the tendered rates does not exceed ` 5,000/-
- vi) The quantities to be paid at the tendered rates shall include,
- a) tendered quantity plus 25% excess of tendered quantity or the excess quantity of the value of ` 5,000/- at tendered rate whichever is more

Clause 38 A : The Executive engineer MJP/Engineer in charge Chief officer of Municipal council/corporation shall see that claim towards excess quantity under this clause 38 is submitted to higher authority immediately on its cropping up. The Executive Engineer/Engineer in charge Chief officer of Municipal council/corporation while making such payment shall see that the total expenditure shall not exceed sanctioned cost of the scheme. If the proposal of Clause 38 is submitted to competent authority for payment then interim 50% payment will be released as under

Interim payment for excess quantity

- a) At accepted tender rate or current schedule rate whichever is less subject to condition that total expenditure on the tender shall not exceed sanctioned cost of the scheme

Clause 38-B : If the rate entered in to schedule B for the work of excavation of pipeline is a combined rate for different strata then the rate entered in Schedule-B will be applicable for quantity 25% in addition to the quantity mentioned in schedule-B of all items of excavation for pipe line trenches and for excess over 25% of Schedule-B quantity ,the rate payable to the contractor shall be worked out from the CSR by considering following percentage of excavation in different strata irrespective of actual strata met at the site for the increased quantity.

Payment for average rate of excavation

- 1) ~~Excavation in all types of soils, Sand, gravel and soft murum with lead up to 50 meter and lift as involved. Including dewatering, shoring and strutting etc. excluding refilling etc. % of average rate for lift 0.00 to 1.50 meter and % for lift .~~
- 2) ~~Excavation in hard murum and boulders with lead up to 50 m and lead and lift as involved including dewatering, shoring and strutting etc. excluding refilling etc. % of average rate for lift _____ meter and % _____ for lift _____.~~
- 3) ~~Excavation in soft rock and old cement and lime masonry with lead upto 50 m and lift as involved, including dewatering, shoring~~

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~~and strutting, excluding refilling etc. ___% of average rate for lift ___ and ___% for lift ___.~~

- 4) ~~Excavation in hard rock and concrete road by chiseling wedging line drilling by mechanical means or by all means other than blasting with lead upto 50m and lift as involved, including dewatering, shoring and strutting etc. excluding refilling ___% of average rate for lift 0.00 to 1.50 m ___% and 1.50 to 3.00 m. _____~~

(Note-Sheet is attached separately)

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

Employment of famine labour, etc

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

Claim for compensation for delay in starting the work.

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

Claims for compensation for delay in execution of the work.

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

Entering upon or commencing any portion of work

Clause 43 :

i) No Contractor shall employ any person who is under the age of 18 years.

ii) No Contractor shall employ donkeys or other animals with breaching of string or thin rope. The breaching must be at least three inches wide and should be of tape (Nawar).

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

iv) The Engineer-in-charge or his agent is authorized to remove

Minimum age of persons

Contractor

No. of correction

Executive Engineer

from the work, any person or animal found working which does not satisfy these conditions and no responsibility shall be accepted by the MJP/Corporation/Council for any delay caused in the completion of the work by such removal.

*employed,
the employment of
donkeys and other
animals and the
payment of fair wages.*

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

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

vii) Contractor to take precautions against accidents which taken place on account of labour using loose garments while working near machinery.

Clause 44: Payment to Contractors shall be made by cheque drawn on Executive Engineer /Commissioner/Chief Officer/ Engineer in charge's account provided the amount exceeds ` 1000/- Amounts not exceeding 1000/- will be paid in cash.

Method of payment

Clause 45: Any Contractor who does not accept these conditions shall not be allowed to tender for work.

*Acceptance of conditions
compulsory before
tendering for work.*

Clause 46 : If Government declares a site of scarcity or famine to exist in any village situated within 16 Kms of the work, the Contractor shall employ upon such parts of the work, as are suitable for unskilled labour, any person certified to him by the Executive Engineer/Engineer in charge/Chief officer of Municipal council/corporation, or by any person to whom the Executive Engineer/Engineer in charge/Chief officer of Municipal council/corporation may have delegated this duty in writing to be in need on relief and shall be bound to pay to such person wages

*Employment of scarcity
labour*

Contractor

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not below the minimum wages which Government may have fixed in this behalf. Any disputes which may arise in connection with the implementation of this clause shall be decided by the Engineer in charge whose decision shall be final and binding on the Contractor.

Clause 47: The price quoted by the Contractor shall not in any case exceed the control price, if any, fixed by Government or reasonable price which is permissible for him to charge a private purchaser for the same class and description, the control price or the price permissible under the provisions of Hoarding and Profiteering Preventing Ordinance, 1948 as amended from time to time. If the price quoted exceeds the controlled price or the price permissible under Hoarding and Profiteering Prevention Ordinance, the Contractor will specifically mention this fact in his tender along with the reasons for quoting such higher prices. The purchaser at his discretion will in such case exercise the right of revising the price at any stage so as to conform to the controlled price as permissible under the Hoarding and Profiteering Prevention Ordinance. This discretion will be exercised without prejudice to any other action that may be taken against the Contractor.

Price not to exceed controlled price fixed by Govt.

Clause 47 A :

- 1) The rates to be quoted by the contractor must be inclusive of all other relevant taxes except GST.No. extra payment will be made to the **contractor**
 - a) Bidder shall quote his rate excluding GST.
 - b) GST shall be paid on the amount of bill of the work done as per prevailing guide lines rate of GST during the period of work done as applicable.
 - c) The rates quoted by the contractor shall be deemed to be inclusive of the labour welfare cess and other taes (other than GST) that the contractor will have to pay for the performance of his contract. The employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.
- 2) a) Bidder shall quote his rate considering the provisions counted under GST Act 2017.
 - b) Amount of GST 2% I.E.CGST and SGST each 1% will be deducted at source (T.D.S.) from 01.10.2018.

Rate inclusive of all taxes

Clause 48 : In case of materials that may remain surplus with the Contractor from those issued, the date of ascertainment of the materials being surplus will be taken as the date of sale for the purpose of Sales Tax and the Sales Tax will be recovered on such date.

Sale tax on surplus material

Clause 50 : The Contractor shall employ at least 80 percent of the total number of unskilled labour to be employed by him on the said work from out of the persons ordinarily residing in the district in which site of the said work is located. Provided, however, that if required number of unskilled labour from that district is not available, the Contractor shall in the first instance employ such number of persons as is available and thereafter may with the previous permission in writing of the Engineer-in-charge of the said work obtain the rest of the requirement of unskilled labour from outside of district.

Employment of local labour

Clause 51 : The Contractor shall pay the labourers - skilled and unskilled according to the wages prescribed by Minimum Wages Act applicable to the area in which the work of the Contractor is located. The Contractor shall comply with the provision of the Apprentices Act, 1961 and the Rules and Orders issued there under from time to time.. The Contractor shall be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act. The Contractor shall pay the labourers - skilled and unskilled- according to wages prescribed by Minimum Wages Act applicable to the area in which the work lies.

Wages to be paid to the skilled and unskilled labours employed by contractor.

Clause 52 : All amounts whatsoever which the Contractor is liable to pay to the MJP/Corporation/Council in connection with the execution of the work including the amount payable in respect of i)materials and/ or stores supplied/ issued hereunder by the Corporation/Council to the Contractor,

ii) hire charges in respect of heavy plant, machinery and equipment given on hire by the MJP/Corporation/Council to the Contractor for execution by him of the work and/ or for which advances have been given by the MJP/Corporation/Council to the Contractor shall be deemed to be arrears of the land revenue and MJP/Corporation/Council without prejudice to any other rights

and remedies of the Corporation/Council recover the same from the contractor as a arrears of land revenue

Clause 53 : The Contractor shall duly comply with all the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 (37 of 1970) and the Maharashtra Contract Labour (Regulation and Abolition) Rules 1971 as amended from time to time and all other relevant statutes and statutory provisions concerning payment of wages particularly to workmen employed by the contractor and working on the site of the work. In particular and contractor shall pay wages to each worker employed by him on the site of the work at the rates prescribed under the Maharashtra Contract Labour (Regulation and Abolition) Rules 1971. If the contractor fails or neglect to pay wages at the said rates or makes short payment and the MJP/Corporation/Council makes such payment of wages in full or part thereof less paid by the contractor, as the case may be, the amount so paid by the MJP/Corporation/Council to such workers shall be deemed to be debt payable by the Contractor and the MJP/Corporation/Council shall be entitled to recover the same as such from the contractor or deduct same from the amount payable by the MJP/Corporation/Council to the contractor hereunder or from any other amounts payable to him by the MJP/Corporation/Council.

Clause 54 : Where the work are required to work near Machine and are liable to accident they should not be allowed to wear loose clothes like Dhoti, Jhabba etc.

Clause 55 : The Contractor shall comply with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued there under from time to time

Clause 56 : In view of the difficult position regarding the availability of the Foreign exchange, no foreign exchange, will be released by the Department for the purchase of the Plant and Machinery required for the execution for the work concerned work.

Clause 58 (A) : Conditions of Malaria Eradication.

Anti-Malaria and other health measures.

a) The anti malaria and the health measures shall be as directed

Contractor

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Executive Engineer

by the Joint Director (Malaria and Filarial) of Health Service, Pune.

- b) Contractor shall see that most autogenic conditions are not created so as to keep vector population to minimum level
- c) Contractor shall carry out anti malaria measures in the area as per guidelines prescribed under National Malaria Eradication Programme and as directed by the Joint Director (M & F) of Health Services, Pune
- d) In case of default in carrying out prescribed anti malaria measures resulting in increase in malaria incidence contractor shall be liable to pay to Government the amount spent by Government on anti malaria measures to control the situation in addition to fine.
- e) Relations with Public Authorities.

The contractor shall make sufficient arrangements for draining away the sullage water as well as water coming from the bathing and washing places and shall dispose of this water in such a way as not to cause, any nuisance. He shall also keep the premises clean by employing sufficient number of sweepers.

The contractor shall comply with all rules, regulations, bye-laws and directions given from time to time by any local or public authority in connection with this work and shall pay fees or charge which are leviable on him without any extra cost to Government

Clause 58 (B) : The successful contractor will have to enter into agreement in form specified by MJP/Corporation/Council on a stamp of required amount as per rules in force. The stamp charges shall be borne by the contractor

Clause 59 : PRICE VARIATION CLAUSE:

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NOT APPLICABLE

Contractor

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Executive Engineer

of India or in the price of petrol/oil & lubricants & major construction materials like bitumen, cement, steel, various types of metals pipes etc. then subject to the other conditions mentioned below, price adjustment on account of

- i. Labour component
- ii. Material component
- iii. Petrol, oil & lubricant components
- iv. Cement components
- v. HYSD & mild steel components
- vi. Cement component
- vii. CI & DI pipes component

Calculated as per the formula hereinafter appearing, shall be made. As per the contract percentage tender. Total other comp

NOT APPLICABLE

v. HYSD & mild steel components

- vi. Cement component
- vii. CI & DI pipes component

Note- if Cement, steel, bitumen, CI & DI pipes are supplied on Schedule-A, than respective component shall not be considered. Also, if particular component is not relevant same shall be deleted.

1) Formula for Labour components:

$$V_1 = 0.85P \times \frac{K_1}{100} \times \frac{L_1 - L_0}{L_0}$$

Where

V_1 = Amount of price variation in Rupees to be allowed for Labour components

P = Cost of work done during the Quarter under consideration minus the cost of cement, HYSD and mild steel, Bitumen, CI & DI pipes calculated as the basic star rates as applicable for the tender, consumed during the quarter under consideration.

K_1 = Percentage of LABOUR component as indicated above
 L_0 = Basic Consumer Price Index for ----- center shall be average consumer price index for the preceding months in which the last date prescribed for receipt of tender falls.
 L_1 = Average consumer price index for ----- center for the quarter for the consideration.

2) Formula for Material components:

$$V_2 = 0.85P \times \frac{K_2}{100} \times \frac{M_1 - M_0}{M_0}$$

Where

V_2 = Amount of price variation in Rupees to be allowed for Material components

P = Same as work out for labour component

K_2 = Percentage of Material component as indicated above

M_0 = Basic price index prescribed

M_1 = Average price index for the quarter under consideration

NOT APPLICABLE

3) Formula for POL components:

$$V_3 = 0.85P \times \frac{K_3}{100} \times \frac{P_1 - P_0}{P_0}$$

Where

V_3 = Amount of price variation in Rupees to be allowed for POL components

P = Same as work out for labour component

K_3 = Percentage of petrol, oil & lubricant components component as indicated above

P_0 = Average price of HSD at -----, during the preceding months in which the last date prescribed for receipt of tender falls.

P_1 = Average price of HSD at -----during the quarter under consideration

4) Formula for Bitumen components

$$V_4 = Q_B(B_1 - B_0)$$

Where

V_4 = Amount of price variation in Rupees to be allowed for Bitumen components

Q_B = Quantity of bitumen (Grade) in metallic tonnes used in the permanent works & approved enabling works during the quarter under consideration

B_1 = Current, average ex-refinery price per metric tone of bitumen (Grade) under consideration excluding Goods and service tax during the quarter under consideration.

B_0 = Basic rate of bitumen in Rupees per metric tonnes as considered for working out value of P or average ex-refinery price in Rupees per metric tonne excluding good and serv
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NOT APPLICABLE

5) Formula

$$V_5 = S_0 \times$$

Where

V_5 = Amount of price variation in Rupees to be allowed for HYSD / mild steel components

S_0 = Basic rate of HYSD / mild stel in rupees per matric tonne excluding GST as considered form working out value of T.

S_1 = Average steel index as per RBI bulletin during the quarter under consideration

S_0 = Average of steel index as per RBI bulletin for the precending month in which the last date prescribed for receipt tender falls.

T = Tonnage of steel used in the permanent works for the quarter under consideration

6) Formula for cement components

$$V_6 = \frac{C_0(C_1 - C_2)}{C_0} T$$

Where

V_6 =Amount of price escalation in Rupees to be allowed for cement components

C_0 = Basic rate of cement in Rupees per metric tonnes excluding GST as considered for working out value of P.

Cl_1 = Average cement index published in the RBI bulletin for the quarter under consideration

Cl_0 =Average of Cement Index published in the RBI Bulletin in for the preceding the month in which the last date

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NOT APPLICABLE

7) For

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V_7 =Amount of price escalation in Rupees to be allowed for CI/DI pipe component.

D_0 =Pig iron basic price in Rupees per tonne excluding GST considered for working out value of P.

D_1 =Average pig iron price in Rupees per tonne during the quarter underconsideration (Published by the Institute of Indian foundrymen)

Q_d =Tonnage of CI/DI pipes used the works during the quarter under consideration.

The following gconditions shall prevail:

i) The operative period of the contract shal lmean the period commencing from the date of the work order issued to the contractor & ending on the date on which the time allowed for the completion of work specified in the contract for work expires, taking in to considering the extension of time, if any, for completion of the work granted by Engineer under the relevant clauses of theConditions of Contract in cases other than those where such extension is necessitated on accountof default of the contractor. The decision of Engineer as regards the Operative period of thecontract shall be final & binding on the contractor. Where any compensation for liquidated damages

is levied on the contractor on account of delay in completion or inadequate progress under the relevant contract provisions, the price adjustment amount for the balance of work from the date of levy of such compensation shall be worked out by pegging the indices L₁, M₂, P₁, B₁, S₁₄, C₁₁, D₁ to levels corresponding to the date from which such compensation is levied.

ii) This price variation clause shall be applicable to all contracts in B1, B2 and SBD forms but shall not apply to piece works. The price variation shall be determined during each quarter as per formula given above in this clause.

iii) Price variation under this clause shall not be payable for the extra items required to be executed during the completion of the work & also on the excess quantities of items payable under the provision of Clause 41/37/38 of the contract form B1/B2/SBD respectively. Since the rates payable for the extra items or the extra quantities under Clause 41/37/38 are to be fixed as per the current DSR or as mutually agreed to yearly revision till completion of such work. In other words, when the completion/execution of extra items as well as extra quantities under Clause 41/37/38 of the Contract Form B1/B2/SBD extends beyond the operative date of the DSR, then

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shall be entitled to recover the same from the contractor & the amount shall be deductible from any amounts due & payable under the contract.

v) To the extent that full compensation for any rise or fall in costs to the contractor is notentirely covered by the provisions of this or other clauses in the contract, the unit rate & price included in the contract shall be deemed to include amount to cover the contingency of such other actual rise or fall in costs.

vi) Calculation for working out escalation payment on account of material, labour & POL will be restricted to 2 digits only.

NOT APPLICABLE

Clause 60 : The contractor shall provide and maintain **Insurance**

Contractor

No. of correction

Executive Engineer

barricades, guards, guard rails, temporary bridges and walkways, watchmen, headlights and danger signals illuminated from sunset to sunrise and all other necessary appliances and safeguards to protect the work, life, property, the public excavations, equipment and materials. Barricades shall be substantial construction and shall be painted such as to increase their visibility at night. For any accident arising out of the neglect of above instructions, the contractor shall be bound to bear the expenses of defence of every suit, action or other legal proceedings, at law, that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay all damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the contractor be paid in compromising any claim by any such person.

Clause 61 : The contractor shall take out necessary insurance policy /policies so as to provide adequate insurance cover for execution of the awarded work from the Director of insurance Maharashtra State Mumbai. However if contractor desire to effect insurance with local office of any insurance company same should be under the Co-insurance-come- servicing arrangement approved by the director of insurance if the policy taken out by the contractor is not Co - Insurance basis(GIF- 60% and insurance company -40%) the same will not be accepted and the amount of the premium calculated by director of insurance will be recovered directly from the amount payable to the contractors for the executed contract work.

- 1 Loss of or damage to the Civil and Mechanical and Electrical equipments supplied/installed including the materials such as pipes, valves, specials etc. brought on site

Loss of or damage to contractor's equipments including his vehicles.

Loss of or damage to property (except the works, Plant material and Equipment) in connection with the contractor, and :

Personal injury or death due to vehicles of the contractor and or due to any accident that may arise at or around the site to the Contractor personnel or to the MJP/Council/Corporation staff or

to any other person not connected with
MJP/Council/Corporation /Contractor

- 2 Policies and certificates for insurance shall be delivered by the
. Contractor to the Engineer for the Engineer's approval before
the date of actual starting of work. All such insurance shall
provide for compensation to be payable in the types of
proportions of currencies required to rectify the loss or damage
incurred
- 3 If the contractor did not produce any of the policies and
. certificates required the Engineer may effect the Insurance for
which the contractor should have produced the policies
certificates and recover the premium it has paid from payment
otherwise due to the contractor or, if no payments due to
payment of the premiums shall be of debt due.
- 4 Alternations to the terms of an insurance shall not be made
. without the approval of the Engineer
- 5 The minimum insurance cover for loss damages to physical
. property, injury and death shall be 10% of the contract cost per
occurrence with number of occurrences as 3(Three). After each
occurrence the contractor shall pay additional premium
necessary so as to keep the insurance police valid always till the
defect liability period is over
- 6 No payment will be released to the contractor until the
. insurance coverage with the Govt. Insurance fund, Maharashtra
State is provided and unless the proof of insurance coverage is
produced by the Contractor to the Engineer-in-Charge

Clause 62: During execution of work excavation is required to
be carried out for various sub-works for which royalty is
required is to be paid by the contractor.

During execution of work and till completion if point of royalty
is raised by collector office it will be sole responsibility of the
contractor to pay royalty charges/compensation if any to
concern. Until the certificate from the collector office
regarding royalty charges is not submitted by the contractor,

final bill and security deposit for such work will not be payable to the contractor.

Latur City Municipal Corporation

Contractor

No. of correction

Executive Engineer

LATUR CITY MUNICIPAL CORPORATION, LATUR

NAME OF WORK: LATUR CITY UNDERGROUND SEWERAGE SCHEME UNDER AMRUT
2.0 SCHEME, TAL. & DIST. LATUR

WATER SUPPLY / SEWERAGE DEPARTMENT

GENERAL SCOPE OF WORK

Scope of work under this agreement will be as follows:

Providing, Lowering, Laying, Jointing and Testing Sewerage Collection & Conveyance System for Sewerage Zone I & II, Design, Construction, Commissioning and performance of receiving Chamber, Coarse Screen, receiving well / Wet Well, pumping station, pumping main, STP of Capacity 53 MLD based on SBR technology for Zone I & II, Disposal of Treated Sewage, Flood Protection Wall & allied Works etc. complete, followed by 3 -months Trial and Run of all works under Latur City Underground Sewerage Scheme.

SCHEDULE-A

Contractor

No. of correction

Executive Engineer

LATUR CITY MUNICIPAL CORPORATION, LATUR

**NAME OF WORK : LATUR CITY UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0
SCHEME, TAL. & DIST. LATUR**

WATER SUPPLY / SEWERAGE DEPARTMENT

MATERIAL TO BE ISSUED UNDER SCHEDULE 'A'

Statement showing the material to be supplied from the store for the work contracted to be executed and preliminary and ancillary works and the rate at which they are to be charged.

<i>Sr. No.</i>	<i>Particulars of Material</i>	<i>Approx. Quantity & Unit</i>	<i>Rate at which the material will be charged for</i>	<i>Place of delivery</i>
1	2	3	4	5
1	NIL			

Contractor

No. of correction

Executive Engineer

LATUR CITY MUNICIPAL CORPORATION, LATUR

**NAME OF WORK : LATUR CITY UNDERGROUND SEWERAGE SCHEME UNDER AMRUT 2.0
SCHEME, TAL. & DIST. LATUR**

WATER SUPPLY / SEWERAGE DEPARTMENT

CONDITIONS FOR MATERIAL SCHEDULE 'A'

1. Other materials except as shown in Schedule _A' required for the work shall be procured and supplied by the contractor at his cost. In such cases the test certificate for their quality shall have to be produced by the contractor.
2. Material shall be available for delivery on any working day from 11.00 A.M. to 05.00 P.M. with at least week's intimation in advance.
3. The contractor shall maintain proper account of consumption of all material supplied to him by the department as per Schedule _A' in the register which may be if required, modified as prescribed by Latur City Municipal Corporation and shall submit the extract of the same monthly to the Executive Engineer/Engineer in charge. The Executive Engineer/Engineer in charge shall reserve the right to stop further issue of material to the contractor, if monthly account of the previously issued material is not submitted by the contractor. He shall be fully responsible for the consequence arising out of this.

The contractor shall responsible for proper handling and safe custody of material issued to him by Municipal Corporation/Council, for use on the work and shall return to Government all surplus material after completion of work, if and as ordered by the Executive Engineer vide Clause 12 of B.1 Form. The cost of damages or unserviceable material as would be fixed by the Engineer-in-charge shall be

Contractor

No. of correction

Executive Engineer

recovered from the contractor. The material, which is not found, accounted properly after considering reasonable percentage of wastage shall be charged at panel rates or determined by the Engineer-in-charge

4. The contractor shall at his own cost make arrangement for storing cement brought by him by constructing a pakka shed and platform, etc. with double locking arrangements. Any damage to the cement due to inadequate provision of store theft, etc. will to the account of the contractor.
5. If there is delay in supplying the materials due to reasons outside the control of the Department or due to the materials being out of stock, no claim for compensation will be considered on the ground of delay in the supply of materials.
6. All the materials mentioned in Schedule _A' required for the work shall be obtained from the Department's store only where otherwise provided. The material obtained from other sources shall not be allowed to be used except under written permission of the Engineer-in-charge and after producing necessary test certificate.
7. The contractor shall inspect the material thoroughly before taking delivery of the same and shall take the delivery in good and sound condition and sign the unstamped receipt in token of receipt. Damages to the material noticed afterwards will be to the account of the contractor.
8. Quantities in Schedule _A' are approximate and shall vary according to actual and bonafied use.
9. All the materials remaining unused after the completion of the work are to be returned to Municipal Corporation/Council at their store at the cost of the contractor and the credit if due will be given as per rules enforce.
10. Once the materials are issued to the contractor at the LCMC's store, he shall remove the same immediately to his stores, failing which rent as decided by Engineer-in-charge shall be recovered from the contractor.
11. The contractor shall submit account of all the materials issued to him previously before demand for any fresh materials is made. Materials that cannot be accounted for shall be recovered from him at the rates decided by the Executive Engineer/Engineer in charge.
12. The contractor will have to provide the manufacturer test report from Government

Laboratory regarding steel to be provided by the contractor.

13. If the contractor fails to return the balance materials with the firm, the same shall be recovered at two times the issue rate or at the prevailing market rate, whichever is higher.
14. C.I. flanged and S/s specials required other than that not available with the department for the work will be supplied by contractor as per necessity of the work.
15. The contractor shall be responsible for safety of materials (even if it is laid in ground) till satisfactory Hydraulic Test is completed and work is finally handed over to theMC.
16. If the material supplied to the contractor at the place other than mentioned in Schedule _A', the transport charges will be paid as per prevailing DSR for the shortest between stipulated place of delivery and actual place of delivery. In addition Octroi on such a material, if paid by the contractor, same shall be reimbursed to the contractor on production of proof of payment of such charges to Municipal Corporation/Council.

SCHEDULE-B

Contractor

No. of correction

Executive Engineer

LATUR CITY MUNICIPAL CORPORATION		
Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme		
Recapitulation Sheet of Schedule "B"		
SR. NO.	DESCRIPTION OF SUBWORK	Cost Put to Tender Rs.
	CIVIL WORKS	
1	WORKING SURVEY	12,49,999
2	COLLECTION AND CONVEYANCE SYSTEM	
a	Collection & Conveyance System for Zone I	
	200 mm - 1000 mm Dia., Total Length -146.11 Km	82,25,29,160
b	Collection & Conveyance System for Zone II	
	200 mm - 1000 mm Dia., Total Length - 185.65 Km	1,00,08,98,330
3	SEWAGE COLLECTION SUMP/WET WELL- ZONE I	1,02,07,472
4	SEWAGE PUMP HOUSE ZONE I	28,49,898
5	SEWAGE COLLECTION SUMP/WET WELL- ZONE II	70,13,144
6	SEWAGE PUMP HOUSE ZONE II	35,24,821
7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)	5,95,76,444
8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)	4,95,18,562
9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)	52,16,70,593
10	APPROACH ROAD	8,91,608
11	STAFF QUARTER	42,41,511
12	COMPOUND WALL	52,41,587
13	FENCING WORK	6,46,313
14	FLOOD PROTECTION WALL	1,37,03,082
15	TRIAL & RUN FOR 3 MONTHS	3,55,300
	TOTAL COST PUT TO TENDER RS.	2,50,41,17,824
I/We..... agree to accept the above work		
at% (In Words		
.....) below/above the		
estimated tendered cost.		

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.: 1		WORKING SURVEY			COST Rs.	12,49,999.22
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.1					
	Carrying out topographical survey, contouring of all terrain(all types), road, bridge and building works by using Electronic Total Station surveying instruments (3 second least count) with its all accessories tools, plants including preparing necessary plans such as L-Sections cross sections, contouring, topographical detail survey plans as directed by processing data on computer, preserving processed data on CD's or any other advanced type computer hardware including all manpower i.e. electronic total station operator, computer engineer, trained supervisor, skilled labours, machineries such as electronic total station with its accessories, computer with latest configuration, materials such as stationary required for printing processed data, plotting drawings of required sizes, submission of processed data and plans in properly bound book as directed etc complete As directed by Engineer-in- charge					
381.762		Km	2,117.55	INR Two Thousand One Hundred & Seventeen and Paise Fifty Five Only	8,08,400.12	
	Item No.2					
	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia over burden (by diamond drilling machine) such as soil of all sorts, soft murum,hard murum and boulders and in soft rock including all materials such as casing pipes and accessories oil, grease, steel, rods, and such other materials as required (including conveying the material to site of work) . Preserving the loose sample in glass jar and core sample serially on site of work and conveying the same to HQ of concernring office as directed.					
25.00	a) over burden 0 to 50 meter	Rmt	2,215.50	INR Two Thousand Two Hundred & Fifteen and Paise Fifty Only	55,387.50	

SUB-WORK NO.: 1 WORKING SURVEY					COST Rs.	12,49,999.22
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.3					
	Taking trial bores 75 to 100 mm for 53.0 to 88.9 mm core dia in rocks as specified below including all necessary materials such as oil,grease,steel boostan and such other materials as required (including conveying the material to site of work) and Preserving the core sample serially on site of work and conveying the same to HQ of concernring office as directed					
25.00	Other Rock with diamond drill. 0 to 50 metre	Rmt	4,104.45	INR Four Thousand One Hundred & Four and Paise Forty Five Only	1,02,611.25	
	Item No.4					
	Conveying the boring machine and engine and all its accessories etc. to the site of the work and back including loading unloading etc. complete. (Note - Distance to be measured from the station of boring machine engine etc. of district head quarters to site of the work by short route).					
100.00		Km	71.40	INR Seventy One and Paise Forty Only	7,140.00	
	Item No.5					
	Shifting boring plant with all its components and reinstalling the same at the directed place including all its charges etc. complete.					
1		Shift	9,520.35	INR Nine Thousand Five Hundred & Twenty and Paise Thirty Five Only	9,520.35	
	Item No.6					
	Providing detailed reports of the inspection logging of drilled hole by observing visual description of data as per depth, thickness of layer, type of sample, wash sample, bore recovery type of drill etc.complete.					
1		No.	10,164.00	INR Ten Thousand One Hundred & Sixty Four Only	10,164.00	

SUB-WORK NO.: 1		WORKING SURVEY			COST Rs.	12,49,999.22
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.7					
	Providing detailed geological reports of proposed site by maintaining geotechnical investigation of structure stratification collecting soil, rock and ground water samples for laboratory tests to arrive the foundation design parameters . Rock properties such as type of rock, jointing fractures, etc. complete with suggestion about the site foundation and remedies.					
1		Report	40,656.00	INR Forty Thousand Six Hundred & Fifty Six Only	40,656.00	
	Item No.8					
	Preparation of Autocad drawing with colour print for Building / Bridge / Road/ CD Works in required size etc. complete.					
5	A-0 Size	No.	9,894.00	INR Nine Thousand Eight Hundred & Ninety Four Only	49,470.00	
15	A-1 Size	No.	6,097.00	INR Six Thousand & Ninety Seven Only	91,455.00	
15	A-2 Size	No.	4,668.00	INR Four Thousand Six Hundred & Sixty Eight Only	70,020.00	
	Item No.9					
	Autocad drawing with colour print out for Building / Bridge / Road/ CD Works in required size etc.complete.					
15	A-0 Size	No.	145.00	INR One Hundred & Forty Five Only	2,175.00	
15	A-1 Size	No.	97.00	INR Ninety Seven Only	1,455.00	
15	A-2 Size	No.	73.00	INR Seventy Three Only	1,095.00	
15	A-3 Size	No.	18.00	INR Eighteen Only	270.00	
15	A-4 Size	No.	12.00	INR Twelve Only	180.00	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 1					12,49,999.22	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.1					
	Excavation for Foundation/ pipe trenches for works of Sewer Pipeline,gravity mains, and for all types of pipe materials in all types of Soil , earthy or sandy materials,soil of all type of sand,clay mud,Soft Murum ,soft average or hard murum, Boulders,all type of disintegrated rock ,shingles,brick bats ,isolated boulders of any size,all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging,line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt,concrete road,including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering,laying of pipe, manual dewatering,excluding backfilling including removing the excavated stuff upto a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below. Lift 0 -1.50 M					
247114.49	Lift 0 -1.50 M	Cum	521.29	INR Five Hundred & Twenty One and Paise Twenty Nine Only	12,88,18,314.28	
	Item No.2					
	Excavation for foundation / pipe trenches in hard rock and concrete road by chiselling, wedging, line drilling, by mechanical means or by all means other than blasting including trimming and levelling the bed, removing the excavated material upto a distance of 50 metres beyond the area and lifts as below, stacking as directed by Engineer-in-charge, normal dewatering, excluding backfilling, etc. complete by all means.					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
103543.708	Lift 1.5 to 3.0 m	Cum	1,261.70	INR One Thousand Two Hundred & Sixty One and Paise Seventy Only	13,06,41,096.11	
22935.621	Lift 3.0 to 4.5 m	Cum	1,292.50	INR One Thousand Two Hundred & Ninety Two and Paise Fifty Only	2,96,44,290.47	
3970.752	Lift 4.5 to 6.0 m	Cum	1,323.30	INR One Thousand Three Hundred & Twenty Three and Paise Thirty Only	52,54,496.71	
90.887	Lift 6.0 to 7.5 m	Cum	1,354.10	INR One Thousand Three Hundred & Fifty Four and Paise Ten Only	1,23,069.51	
545.240	Lift 7.5 to 9.0 m	Cum	1,384.90	INR One Thousand Three Hundred & Eighty Four and Paise Ninety Only	7,55,102.88	
439.820	Lift 9.0 to 10.5 m	Cum	1,415.70	INR One Thousand Four Hundred & Fifteen and Paise Seventy Only	6,22,653.17	
339.630	Lift 10.5 to 12.0 m	Cum	1,446.50	INR One Thousand Four Hundred & Forty Six and Paise Fifty Only	4,91,274.80	
263.310	Lift 12.0 to 13.5 m	Cum	1,477.30	INR One Thousand Four Hundred & Seventy Seven and Paise Thirty Only	3,88,987.86	
147.760	Lift 13.5 to 15.0 m	Cum	1,508.10	INR One Thousand Five Hundred & Eight and Paise Ten Only	2,22,836.86	
	Item No.3					
	Dewatering the excavated trenches and pools of water in the building trenches, pipeline trenches, well works, by using pumps and other devices including disposing of water to safe distance as directed by Engineer-In-Charge (including cost of machinery, labour and fuel) etc. complete					
43485.72		Bhp/hr	93.45	INR Ninety Three and Paise Forty Five Only	40,63,740.53	
	Item No.4					
	Open timbering in trenches of depth more than 1.5m for shoring & strutting including use of & waste of all necessary timber works including walling ,strutts, open pulling boards/horizontal sheeting ,runners etc. as may be necessary & fixing & removal complete.(Measurements to be taken of the face area timbered)					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
4348.572	a) Lift 0 to 1.5m for non-water logged area.	Sqm	233.20	INR Two Hundred & Thirty Three and Paise Twenty Only	10,14,086.99	
	Item No.5					
57145.11	Filling in plinth and floors, murum bedding in trenches with approved murum excavated materials from foundation in 15 cm to 20 cm layers including watering and compaction etc. complete	Cum	96.60	INR Ninety Six and Paise Sixty Only	55,20,217.70	
	Item No.6					
6349.46	Filling in plinth and floors / trenches with contractor's murum for bedding in 15 cm to 20 cm layers including watering and compaction, etc. complete.	Cum	957.60	INR Nine Hundred & Fifty Seven and Paise Sixty Only	60,80,239.78	
	Item No.7					
124549.80	Providing and supplying in standard length (PE material) Structured - Wall Plastic piping system for non pressure underground drainage and sewerage with smooth smooth internal & corrugated external surface conforming to IS 16098:Part-2 2013 with spigot or plain end with necessary jointing material coupler including transportation and freight charges, inspection charges, loading and unloading charges conveyance to departmental store/site and stacking the same in closed shade duly protecting from direct sun ray and rains excluding GST levied by GoI and GoM in all respect, etc. complete. (Class - SN 8).	Rmt	730.00	INR Seven Hundred & Thirty Only	9,09,21,354.00	
4030.20	250 ID	Rmt	1,203.00	INR One Thousand Two Hundred & Three Only	48,48,330.60	
	Item No.8					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Lowering, Laying and Jointing (PE material) Structured-Wall plastic piping system for non-pressure underground by heating to the ends of pipes with the help of tefflon coated electric heater to the required temperature and then pressing the ends together against each other, to form a monolithic & leak proof joint by thermosetting process. The pressing may be required to be done with Jacks/ Hydraulic Jacks/Butt fusion machine etc. complete with all materials labours as directed by Engineer - in - charge.					
124549.80	200 ID	Rmt	55.65	INR Fifty Five and Paise Sixty Five Only	69,31,196.37	
4030.20	250 ID	Rmt	68.25	INR Sixty Eight and Paise Twenty Five Only	2,75,061.15	
	Item No.9					
	Hydraulic testing of HDPE (PE material) Structured- wall Plastic piping for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position					
124.5498	200 ID	Km	5,833.80	INR Five Thousand Eight Hundred & Thirty Three and Paise Eighty Only	7,26,598.62	
4.0302	250 ID	Km	7,293.30	INR Seven Thousand Two Hundred & Ninety Three and Paise Thirty Only	29,393.46	
	Item No.10					
	Providing ISI standard R.C.C. pipes in standard lengths of following class and diameter suitable for either collar joints or rubber ring joints, excluding all statutory duties and taxes such as GST levied by Gol and GoM in all respect, inspection charges, transport to departmental stores/site, unloading and stacking etc. complete as per IS-458/1988					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Note : One collar should be supplied with each full length plain ended RCC pipe, cost including in rates below. One rubber ring should be supplied with each full length of socketed pipe, cost included in rates below.					
	Dia in mm Class NP - III					
3741.40	200	Rmt	474.00	INR Four Hundred & Seventy Four Only	17,73,423.60	
0.00	250	Rmt	650.00	INR Six Hundred & Fifty Only	0.00	
1661.50	300	Rmt	910.00	INR Nine Hundred & Ten Only	15,11,965.00	
3005.40	350	Rmt	1,515.00	INR One Thousand Five Hundred & Fifteen Only	45,53,181.00	
386.90	400	Rmt	1,615.00	INR One Thousand Six Hundred & Fifteen Only	6,24,843.50	
1199.60	450	Rmt	1,742.00	INR One Thousand Seven Hundred & Forty Two Only	20,89,703.20	
0.00	500	Rmt	2,146.00	INR Two Thousand One Hundred & Forty Six Only	0.00	
0.00	600	Rmt	2,525.00	INR Two Thousand Five Hundred & Twenty Five Only	0.00	
249.10	700	Rmt	3,534.00	INR Three Thousand Five Hundred & Thirty Four Only	8,80,319.40	
1264.30	800	Rmt	3,787.00	INR Three Thousand Seven Hundred & Eighty Seven Only	47,87,904.10	
209.50	900	Rmt	4,419.00	INR Four Thousand Four Hundred & Nineteen Only	9,25,780.50	
0.00	1000	Rmt	4,924.00	INR Four Thousand Nine Hundred & Twenty Four Only	0.00	
	Item No.11					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in C.M.1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar,) including cost of conveyance from stores to site of work, cost of jointing material, labour, etc. complete as directed by Engineer-in-charge (For all class of pipes.) as per IS- 783-1985.					
	Dia in mm Class NP - III					
3741.40	200	Rmt	107.10	INR One Hundred & Seven and Paise Ten Only	4,00,703.94	
0.00	250	Rmt	138.60	INR One Hundred & Thirty Eight and Paise Sixty Only	0.00	
1661.50	300	Rmt	168.00	INR One Hundred & Sixty Eight Only	2,79,132.00	
3005.40	350	Rmt	172.20	INR One Hundred & Seventy Two and Paise Twenty Only	5,17,529.88	
386.90	400	Rmt	221.55	INR Two Hundred & Twenty One and Paise Fifty Five Only	85,717.70	
1199.60	450	Rmt	263.55	INR Two Hundred & Sixty Three and Paise Fifty Five Only	3,16,154.58	
0.00	500	Rmt	286.65	INR Two Hundred & Eighty Six and Paise Sixty Five Only	0.00	
0.00	600		361.20	INR Three Hundred & Sixty One and Paise Twenty Only	0.00	
249.10	700	Rmt	398.82	INR Three Hundred & Ninety Eight and Paise Eighty Two Only	99,346.06	
1264.30	800		473.55	INR Four Hundred & Seventy Three and Paise Fifty Five Only	5,98,709.27	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
209.50	900	Rmt	525.00	INR Five Hundred & Twenty Five Only	1,09,987.50	
0.00	1000	Rmt	572.25	INR Five Hundred & Seventy Two and Paise Twenty Five Only	0.00	
	Item No.12					
	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.					
	Dia in mm Class NP - III					
3.741	200	Km	11,668.65	INR Eleven Thousand Six Hundred & Sixty Eight and Paise Sixty Five Only	43,657.09	
0.000	250	Km	16,044.00	INR Sixteen Thousand & Forty Four Only	0.00	
1.662	300	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	31,505.28	
3.005	350	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	56,988.24	
0.387	400	Km	24,795.75	INR Twenty Four Thousand Seven Hundred & Ninety Five and Paise Seventy Five Only	9,593.48	
1.200	450	Km	29,171.10	INR Twenty Nine Thousand One Hundred & Seventy One and Paise Ten Only	34,993.65	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0.000	500	Km	32,088.00	INR Thirty Two Thousand & Eighty Eight Only	0.00	
0.000	600	Km	40,838.70	INR Forty Thousand Eight Hundred & Thirty Eight and Paise Seventy Only	0.00	
0.249	700	Km	45,215.10	INR Forty Five Thousand Two Hundred & Fifteen and Paise Ten Only	11,263.08	
1.264	800	Km	52,507.35	INR Fifty Two Thousand Five Hundred & Seven and Paise Thirty Five Only	66,385.04	
0.210	900	Km	58,341.15	INR Fifty Eight Thousand Three Hundred & Forty One and Paise Fifteen Only	12,222.47	
0.000	1000	Km	64,176.00	INR Sixty Four Thousand One Hundred & Seventy Six Only	0.00	
	Item No.13					
	Providing ISI standard R.C.C. pipes in standard lengths of following class and diameter suitable for either collar joints or rubber ring joints, excluding all statutory duties and taxes such as GST levied by Gol and GoM in all respect, inspection charges, transport to departmental stores/site, unloading and stacking etc. complete as per IS-458/1988					
	Note : One collar should be supplied with each full length plain ended RCC pipe, cost including in rates below. One rubber ring should be supplied with each full length of socketed pipe, cost included in rates below.					
	Dia in mm Class NP - IV					
662.50	200	Rmt	537.00	INR Five Hundred & Thirty Seven Only	3,55,762.50	
67.20	250	Rmt	742.00	INR Seven Hundred & Forty Two Only	49,862.40	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
800.10	300	Rmt	1,136.00	INR One Thousand One Hundred & Thirty Six Only	9,08,913.60	
401.70	350	Rmt	1,615.00	INR One Thousand Six Hundred & Fifteen Only	6,48,745.50	
322.10	400	Rmt	1,767.00	INR One Thousand Seven Hundred & Sixty Seven Only	5,69,150.70	
0.00	450	Rmt	1,893.00	INR One Thousand Eight Hundred & Ninety Three Only	0.00	
0.00	500	Rmt	2,336.00	INR Two Thousand Three Hundred & Thirty Six Only	0.00	
1062.90	600	Rmt	3,029.00	INR Three Thousand & Twenty Nine Only	32,19,524.10	
21.20	700	Rmt	3,787.00	INR Three Thousand Seven Hundred & Eighty Seven Only	80,284.40	
1317.00	800	Rmt	4,103.00	INR Four Thousand One Hundred & Three Only	54,03,651.00	
0.00	900	Rmt	4,796.00	INR Four Thousand Seven Hundred & Ninety Six Only	0.00	
0.00	1000	Rmt	5,303.00	INR Five Thousand Three Hundred & Three Only	0.00	
	Item No.14					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in C.M.1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar,) including cost of conveyance from stores to site of work, cost of jointing material, labour, etc. complete as directed by Engineer-in-charge (For all class of pipes.) as per IS- 783-1985.					
	Dia in mm Class NP - IV					
662.50	200	Rmt	107.10	INR One Hundred & Seven and Paise Ten Only	70,953.75	
67.20	250	Rmt	138.60	INR One Hundred & Thirty Eight and Paise Sixty Only	9,313.92	
800.10	300	Rmt	168.00	INR One Hundred & Sixty Eight Only	1,34,416.80	
401.70	350	Rmt	172.20	INR One Hundred & Seventy Two and Paise Twenty Only	69,172.74	
322.10	400	Rmt	221.55	INR Two Hundred & Twenty One and Paise Fifty Five Only	71,361.26	
0.00	450	Rmt	263.55	INR Two Hundred & Sixty Three and Paise Fifty Five Only	0.00	
0.00	500	Rmt	286.65	INR Two Hundred & Eighty Six and Paise Sixty Five Only	0.00	
1062.90	600	Rmt	361.20	INR Three Hundred & Sixty One and Paise Twenty Only	3,83,919.48	
21.20	700	Rmt	410.55	INR Four Hundred & Ten and Paise Fifty Five Only	8,703.66	
1317.00	800	Rmt	473.55	INR Four Hundred & Seventy Three and Paise Fifty Five Only	6,23,665.35	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0.00	900	Rmt	525.00	INR Five Hundred & Twenty Five Only	0.00	
0.00	1000	Rmt	572.25	INR Five Hundred & Seventy Two and Paise Twenty Five Only	0.00	
	Item No.15					
	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.					
	Dia in mm Class NP - IV					
0.663	200	Km	11,668.65	INR Eleven Thousand Six Hundred & Sixty Eight and Paise Sixty Five Only	7,730.48	
0.067	250	Km	16,044.00	INR Sixteen Thousand & Forty Four Only	1,078.16	
0.800	300	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	15,171.46	
0.402	350	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	7,617.02	
0.322	400	Km	24,795.75	INR Twenty Four Thousand Seven Hundred & Ninety Five and Paise Seventy Five Only	7,986.71	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0.000	450	Km	29,171.10	INR Twenty Nine Thousand One Hundred & Seventy One and Paise Ten Only	0.00	
0.000	500	Km	32,088.00	INR Thirty Two Thousand & Eighty Eight Only	0.00	
1.063	600	Km	40,838.70	INR Forty Thousand Eight Hundred & Thirty Eight and Paise Seventy Only	43,407.45	
0.021	700	Km	45,215.10	INR Forty Five Thousand Two Hundred & Fifteen and Paise Ten Only	958.56	
1.317	800	Km	52,507.35	INR Fifty Two Thousand Five Hundred & Seven and Paise Thirty Five Only	69,152.18	
0.000	900	Km	58,341.15	INR Fifty Eight Thousand Three Hundred & Forty One and Paise Fifteen Only	0.00	
0.000	1000	Km	64,176.00	INR Sixty Four Thousand One Hundred & Seventy Six Only	0.00	
	Item No.16					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Providing and constructing on sewer B.B. masonry circular manhole chamber with concentric cone 1.2m dia. at bottom and 0.5 dia. at top upto depth of 2m, 1.5m dia at bottom and 0.5m at top upto depth 9.0m, with 20cm thick brick work, upto depth of 2.0m from top of MH and 35cm thick brickwork for next depth upto 5m. Depth of chamber and for depth upto 9m, 23cm thick brick work upto depth 2m from the top of manhole chamber and 35 cm thick brickwork for a depth upto 5 m and 45cm thick brick work for remaining depth upto 9m in C.M. 1:4 proportion with 20mm thick smooth plaster on both sides in C.M. 1:2 proportion including additional excavation, foundation concrete 250mm thick and hounches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing and fixing C.I. Dapauri types steps, each weighing 5.5kg, 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56cm dia. (20 tonnes capacity), etc. complete as directed by Engineer-Incharge.					
3111	For depth upto 1.5m	No.	26,497.80	INR Twenty Six Thousand Four Hundred & Ninety Seven and Paise Eighty Only	8,24,34,655.80	
642	For depth upto 2m	No.	30,605.40	INR Thirty Thousand Six Hundred & Five and Paise Forty Only	1,96,48,666.80	
281	For depth upto 2.5m	No.	42,840.00	INR Forty Two Thousand Eight Hundred & Forty Only	1,20,38,040.00	
173	For depth upto 3m	No.	51,723.00	INR Fifty One Thousand Seven Hundred & Twenty Three Only	89,48,079.00	
79	For depth upto 3.5m	No.	60,606.00	INR Sixty Thousand Six Hundred & Six Only	47,87,874.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
82	For depth upto 4.0m	No.	69,489.00	INR Sixty Nine Thousand Four Hundred & Eighty Nine Only	56,98,098.00	
67	For depth upto 4.5m	No.	78,372.00	INR Seventy Eight Thousand Three Hundred & Seventy Two Only	52,50,924.00	
55	For depth upto 5.0m	No.	87,255.00	INR Eighty Seven Thousand Two Hundred & Fifty Five Only	47,99,025.00	
	Item No.17					
	Providing and constructing on sewer RCC. circular manhole chamber with concentric cone 1.2m to 1.5 dia. at bottom and 0.5 dia. at top upto depth of 2m to 7.5 m, with 20cm to 25 Cm thick wall (As per Design) , with 20mm thick smooth plaster on both sides in C.M. 1:2 proportion including additional excavation, foundation concrete 250mm thick and hounches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing and fixing C.I. Dapauri types steps, each weighing 5.5kg, 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56cm dia. (20 tonnes capacity), etc. complete as directed by Engineer-Incharge.					
11	For depth upto 1.5m	No.	48,592.00	INR Forty Eight Thousand Five Hundred & Ninety Two Only	5,34,512.00	
41	For depth upto 2.0m	No.	54,978.00	INR Fifty Four Thousand Nine Hundred & Seventy Eight Only	22,54,098.00	
24	For depth upto 2.5m	No.	1,02,123.00	INR One Lakh Two Thousand One Hundred & Twenty Three Only	24,50,952.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
3	For depth upto 3.0m	No.	1,14,912.00	INR One Lakh Fourteen Thousand Nine Hundred & Twelve Only	3,44,736.00	
4	For depth upto 3.5m	No.	1,27,701.00	INR One Lakh Twenty Seven Thousand Seven Hundred & One Only	5,10,804.00	
0	For depth upto 4.0m	No.	1,40,490.00	INR One Lakh Forty Thousand Four Hundred & Ninety Only	0.00	
0	For depth upto 4.5m	No.	1,53,279.00	INR One Lakh Fifty Three Thousand Two Hundred & Seventy Nine Only	0.00	
0	For depth upto 5.0m	No.	1,66,068.00	INR One Lakh Sixty Six Thousand & Sixty Eight Only	0.00	
53	For depth upto 5.5m	No.	2,93,238.00	INR Two Lakh Ninety Three Thousand Two Hundred & Thirty Eight Only	1,55,41,614.00	
14	For depth upto 6.0m	No.	3,12,833.00	INR Three Lakh Twelve Thousand Eight Hundred & Thirty Three Only	43,79,662.00	
17	For depth upto 6.5m	No.	3,32,428.00	INR Three Lakh Thirty Two Thousand Four Hundred & Twenty Eight Only	56,51,276.00	
7	For depth upto 7.0m	No.	3,52,023.00	INR Three Lakh Fifty Two Thousand & Twenty Three Only	24,64,161.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
2	For depth upto 7.5m	No.	3,71,618.00	INR Three Lakh Seventy One Thousand Six Hundred & Eighteen Only	7,43,236.00	
1	For depth upto8.0m	No.	3,91,213.00	INR Three Lakh Ninety One Thousand Two Hundred & Thirteen Only	3,91,213.00	
1	For depth upto8.5m	No.	4,10,808.00	INR Four Lakh Ten Thousand Eight Hundred & Eight Only	4,10,808.00	
0	For depth upto9.0m	No.	4,30,403.00	INR Four Lakh Thirty Thousand Four Hundred & Three Only	0.00	
1	For depth upto9.5m	No.	5,70,761.00	INR Five Lakh Seventy Thousand Seven Hundred & Sixty One Only	5,70,761.00	
1	For depth upto10.0m	No.	5,95,106.00	INR Five Lakh Ninety Five Thousand One Hundred & Six Only	5,95,106.00	
1	For depth upto10.5m	No.	6,19,451.00	INR Six Lakh Nineteen Thousand Four Hundred & Fifty One Only	6,19,451.00	
1	For depth upto11.0m	No.	6,43,796.00	INR Six Lakh Forty Three Thousand Seven Hundred & Ninety Six Only	6,43,796.00	
1	For depth upto11.5m	No.	6,68,141.00	INR Six Lakh Sixty Eight Thousand One Hundred & Forty One Only	6,68,141.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
2	For depth upto12.0m	No.	6,92,486.00	INR Six Lakh Ninety Two Thousand Four Hundred & Eighty Six Only	13,84,972.00	
2	For depth upto12.5m	No.	7,16,831.00	INR Seven Lakh Sixteen Thousand Eight Hundred & Thirty One Only	14,33,662.00	
1	For depth upto13.0m	No.	7,41,176.00	INR Seven Lakh Forty One Thousand One Hundred & Seventy Six Only	7,41,176.00	
2	For depth upto13.5m	No.	7,65,521.00	INR Seven Lakh Sixty Five Thousand Five Hundred & Twenty One Only	15,31,042.00	
3	For depth upto14.0m	No.	7,89,866.00	INR Seven Lakh Eighty Nine Thousand Eight Hundred & Sixty Six Only	23,69,598.00	
2	For depth upto 14.5m	No.	8,14,211.00	INR Eight Lakh Fourteen Thousand Two Hundred & Eleven Only	16,28,422.00	
	Item No.18					
	Refilling the trenches with available excavated stuff with soft material, first over pipeline and then hard material in 15cm layers with all leads and lifts, including consolidation, surcharging etc. complete.					
276247.27		Cum	96.60	INR Ninety Six and Paise Sixty Only	2,66,85,486.70	
	Item No.19					
	Removing and transporting the exavated surplus material of all categories and disposing of the same as directed, including loading, convyeing, spreading or stacking beyond the initial lead of 5 Km as directed etc. complete					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
109493.40		Cum	264.83	INR Two Hundred & Sixty Four and Paise Eighty Three Only	2,89,97,247.66	
	Item No.20					
	Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- amended up to date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer. Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.					
36.00		No.	23,528.00	INR Twenty Three Thousand Five Hundred & Twenty Eight Only	8,47,008.00	
	Item No.21					
	Providing and laying in situ, following grades of C.C. of trap/granite/quartzite /gneiss metal for foundation and bedding including dewatering form work, compacting and curing etc, complete.					
2439.87	a) 1:2:4 (M150)	Cum	6,756.24	INR Six Thousand Seven Hundred & Fifty Six and Paise Twenty Four Only	1,64,84,327.56	
	Item No.22					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Dismantling dead pipeline of MS/ RCC/ CI/ PSC and GI/ AC/ PVC/ SW/ HDPE. pipe including cost of necessary excavation and refilling of trenches ,breaking the joints,lifting the pipes and stacking to the places as directed by Engineer-in -charge with all leads and lifts including cleaning the surface etc.complete.					
2609.10	100 mm dia	Rmt	250.95	INR Two Hundred & Fifty and Paise Ninety Five Only	6,54,753.65	
2174.25	150 mm dia	Rmt	260.40	INR Two Hundred & Sixty and Paise Forty Only	5,66,174.70	
1739.40	200 mm dia	Rmt	287.70	INR Two Hundred & Eighty Seven and Paise Seventy Only	5,00,425.38	
1304.55	250 mm dia	Rmt	317.10	INR Three Hundred & Seventeen and Paise Ten Only	4,13,672.81	
869.70	300 mm dia	Rmt	345.45	INR Three Hundred & Forty Five and Paise Forty Five Only	3,00,437.87	
	Item No.23					
	Providing D.I. pipes (push on joints pressure pipes of D. I. of following class and diameters confirming to the I. S. specification inclusive cost of jointing materials (Rubber gasket of EPDM Quality) excluding GST levied by GOI & GOM in all respect including Third party inspection charges of TPI Agency approved by MJP including Transit insurance, Railway Freight, Unloading from railway wagon, Loading into Truck, Transportation to departmental store, unloading, stacking etc. completed as directed by Engineer in charges (IS 8329/2000 for pipes and IS 158/1969 and IS 12820/1989 or latest edition/ revision with amendments for Rubber Gaskets.					
	Dia. In mm Class - D.I. K-7					
261.00	100mm	Rmt	1,209.00	INR One Thousand Two Hundred & Nine Only	3,15,549.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
217.00	150mm	Rmt	1,686.00	INR One Thousand Six Hundred & Eighty Six Only	3,65,862.00	
174.00	200mm	Rmt	2,236.00	INR Two Thousand Two Hundred & Thirty Six Only	3,89,064.00	
130.00	250mm	Rmt	2,906.00	INR Two Thousand Nine Hundred & Six Only	3,77,780.00	
87.00	300mm	Rmt	3,571.00	INR Three Thousand Five Hundred & Seventy One Only	3,10,677.00	
	Item No.24					
	Lowering laying and jointing with SBR ruber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameter in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of material from stores to site of work, including cost of jointing materials and rubber rings labour etc. complete.					
	Dia. In mm Class - D.I. K-7					
2609.10	100 mm dia	Rmt	77.70	INR Seventy Seven and Paise Seventy Only	2,02,727.07	
2174.25	150 mm dia	Rmt	94.50	INR Ninety Four and Paise Fifty Only	2,05,466.63	
1739.40	200 mm dia	Rmt	133.35	INR One Hundred & Thirty Three and Paise Thirty Five Only	2,31,948.99	
1304.55	250 mm dia	Rmt	175.35	INR One Hundred & Seventy Five and Paise Thirty Five Only	2,28,752.84	
869.70	300 mm dia	Rmt	189.00	INR One Hundred & Eighty Nine Only	1,64,373.30	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.25					
	Providing and supplyind ISI Standerd DI Specials and fittings with sealing rubbre gasket of SBR complete with cast iron follower gland and MS nut bolts coated or otherwise protected from rusting and suitable for DI pipes including cost of labour material and transportation to stores loding unloading excluding GST lived by GOI & GOM in all respect complete as per IS- 9523					
574.81	80mm to 300 mm dia	Kg	153.00	INR One Hundred & Fifty Three Only	87,946.60	
	Item No.26					
	Dismantling dead pipeline of M.S./ R.C.C./ C.I./ P.S.C. and G.I./ A.C./ P.V.C./ S.W./ H.D.P.E. pipe including cost of necessary excavation and refilling of trenches, breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete.					
7248.00	100 mm dia	Rmt	150.15	INR One Hundred & Fifty and Paise Fifteen Only	10,88,287.20	
	Item No.27					
	Providing and supplying in standard lengthsH.D. Polyethelene Pipes, confirming to IS 4984 /14151 / 12786 / 13488 with nesessary jointing material like mechanical connector i. e. thread / insert joint / quick release coupler joint /compression fitting joint or flanged joint excluding coupler/ specials, including transportation and freight charges, inspection charges, loading / unloading charges, conveyance to the departmental stores & stacking the same in closed shade duly protecting from sunrays & rains, excluding GST levied by GI & GOM in all respect etc. complete.As per IS:4984-2016(HDPE Pipes upto 110mm dia. shall be					
3624.00	110mm	Rmt	319.00	INR Three Hundred & Nineteen Only	11,56,056.00	
	Item No.28					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Lowering, Laying and Jointing H. D. P. E./M. D. P. E. pipes in proper position including all specials by compression fitting/electrofusion and butt fusion jointing procedure as per relevent IS Code complete with all materials for jointing procedure like Electrofusion machine, Electric heater/ butt fusion welding machine with hydraulic jack, top loading clamp etc. and all labours as directed by engineer in charge as per IS 7634 Part II					
7248.00	110mm	Rmt	81.90	INR Eighty One and Paise Ninety Only	5,93,611.20	
	Item No.29					
	Drainage Drops Providing following dia. S.W. or R.C.C.pipes in vertical drop arrangement including providing Following dia S.W. and R.C.C. pipe fixed in B.B. masonry of manhole at the required level including providing Following dia. double tee, Following dia. right angled bend, encasing in B.B. masonry 1:4 proportion all around the pipe, double tee, bend upto the foundation of manhole, jointing, cutting, filleting including neat cement rendering, plugging the opening with jungle wood knob complete as directed by Engineer-in-charge (0.60 M depth) excluding cost of chamber.					
228	200 mm Dia. with initial 0.60 M Depth	No	3,265.50	INR Three Thousand Two Hundred & Sixty Five and Paise Fifty Only	7,44,534.00	
110	200 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,059.45	INR One Thousand & Fifty Nine and Paise Forty Five Only	1,16,539.50	
46	200 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,118.90	INR Two Thousand One Hundred & Eighteen and Paise Ninety Only	97,469.40	
20	200 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	3,178.35	INR Three Thousand One Hundred & Seventy Eight and Paise Thirty Five Only	63,567.00	
28	200 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	4,237.80	INR Four Thousand Two Hundred & Thirty Seven and Paise Eighty Only	1,18,658.40	
6	200 mm Dia. with 2.5 M depth beyond initial depth of 0.60 M.	No	5,297.25	INR Five Thousand Two Hundred & Ninety Seven and Paise Twenty Five Only	31,783.50	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
2	200 mm Dia. with 3.0 M depth beyond initial depth of 0.60 M.	No	6,356.70	INR Six Thousand Three Hundred & Fifty Six and Paise Seventy Only	12,713.40	
4	200 mm Dia. with 3.5 M depth beyond initial depth of 0.60 M.	No	7,416.15	INR Seven Thousand Four Hundred & Sixteen and Paise Fifteen Only	29,664.60	
3	200 mm Dia. with 4.0 M depth beyond initial depth of 0.60 M.	No	8,475.60	INR Eight Thousand Four Hundred & Seventy Five and Paise Sixty Only	25,426.80	
4	200 mm Dia. with 4.5 M depth beyond initial depth of 0.60 M.	No	9,535.05	INR Nine Thousand Five Hundred & Thirty Five and Paise Five Only	38,140.20	
11	250 mm Dia. with initial 0.60 M Depth	No	3,982.65	INR Three Thousand Nine Hundred & Eighty Two and Paise Sixty Five Only	43,809.15	
5	250 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,257.90	INR One Thousand Two Hundred & Fifty Seven and Paise Ninety Only	6,289.50	
2	250 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,515.80	INR Two Thousand Five Hundred & Fifteen and Paise Eighty Only	5,031.60	
1	250 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	3,773.70	INR Three Thousand Seven Hundred & Seventy Three and Paise Seventy Only	3,773.70	
0	250 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	5,031.60	INR Five Thousand & Thirty One and Paise Sixty Only	0.00	
1	250 mm Dia. with 2.5 M depth beyond initial depth of 0.60 M.	No	6,289.50	INR Six Thousand Two Hundred & Eighty Nine and Paise Fifty Only	6,289.50	
1	250 mm Dia. with 3.0 M depth beyond initial depth of 0.60 M.	No	7,547.40	INR Seven Thousand Five Hundred & Forty Seven and Paise Forty Only	7,547.40	
3	300 mm Dia. with initial 0.60 M Depth	No	4,822.65	INR Four Thousand Eight Hundred & Twenty Two and Paise Sixty Five Only	14,467.95	
0	300 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,414.35	INR One Thousand Four Hundred & Fourteen and Paise Thirty Five Only	0.00	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0	300 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,828.70	INR Two Thousand Eight Hundred & Twenty Eight and Paise Seventy Only	0.00	
0	300 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	4,243.05	INR Four Thousand Two Hundred & Forty Three and Paise Five Only	0.00	
1	300 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	5,657.40	INR Five Thousand Six Hundred & Fifty Seven and Paise Forty Only	5,657.40	
0	300 mm Dia. with 2.5 M depth beyond initial depth of 0.60 M.	No	7,071.75	INR Seven Thousand & Seventy One and Paise Seventy Five Only	0.00	
1	300 mm Dia. with 3.0 M depth beyond initial depth of 0.60 M.	No	8,486.10	INR Eight Thousand Four Hundred & Eighty Six and Paise Ten Only	8,486.10	
1	400 mm Dia. with initial 0.60 M Depth	No	6,710.55	INR Six Thousand Seven Hundred & Ten and Paise Fifty Five Only	6,710.55	
0	400 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,833.30	INR One Thousand Eight Hundred & Thirty Three and Paise Thirty Only	0.00	
1	400 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	3,666.60	INR Three Thousand Six Hundred & Sixty Six and Paise Sixty Only	3,666.60	
0	400 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	5,499.90	INR Five Thousand Four Hundred & Ninety Nine and Paise Ninety Only	0.00	
1.00	500 mm Dia. with initial 0.60 M Depth	No	8,564.85	INR Eight Thousand Five Hundred & Sixty Four and Paise Eighty Five Only	8,564.85	
0.00	400 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,248.05	INR Two Thousand Two Hundred & Forty Eight and Paise Five Only	0.00	
2.00	600 mm Dia. with initial 0.60 M Depth	No	10,980.90	INR Ten Thousand Nine Hundred & Eighty and Paise Ninety Only	21,961.80	
1.00	600 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	2,592.45	INR Two Thousand Five Hundred & Ninety Two and Paise Forty Five Only	2,592.45	

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
1.00	600 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	5,184.90	INR Five Thousand One Hundred & Eighty Four and Paise Ninety Only	5,184.90	
1.00	600 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	7,777.35	INR Seven Thousand Seven Hundred & Seventy Seven and Paise Thirty Five Only	7,777.35	
	Item No.30					
	Sewerline Installation and pressure Pipe Installation Installation of HDPE product pipe by HDD method for on grade gravity sewer including preparing and setting up the plant and equipment,preparing new pipe-work material,making of entry & exit pits upto 1.5 meter depth,installing new pipe-work and commissioning system or making the system ready for commissioning by HDD operating including all related civil and mechanical works like excavation,shoring,strutting etc. drilling, stringing,reaming and pulling back the new pipe work on the designed bore path alignment,proper disposal of drilling fluid and back fill of site after complete all inclusive as per IndSTT:101-2007:Code of practice for horizontal Drilling Technique suiting Indian conditions.					
	Rocks					
	HDPE Pipes between 110 mm & 225 mm Outer Dia.					
855.30	200mm OD	Rmt	20,520.00	INR Twenty Thousand Five Hundred & Twenty Only	1,75,50,756.00	
	HDPE Pipes between 710 mm & 900 mm Outer Dia.					
302.20	900mm OD	Rmt	82,935.00	INR Eighty Two Thousand Nine Hundred & Thirty Five Only	2,50,62,957.00	
	Item No.31					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Providing,supplying in standard lengths Polythelene Pipes confirming to IS -4984/ 14151/ 12786/ 13488 with necessary jointing material like mechanical connectors i.e. thread/ insert joint/quick release coupler joint/compression fitting joint or flanged joint,including all taxes(Central and local) transportation and freight charges, inspection charges, conveyance to the departmental stores/ site and stacking the same in closed shade duly protecting from sunrays and rains,etc.complete.					
	P.E.100 -8 KG/CM^2					
855.30	200mm OD	Rmt	1,333.00	INR One Thousand Three Hundred & Thirty Three Only	11,40,114.90	
302.20	900mm OD	Rmt	27,892.00	INR Twenty Seven Thousand Eight Hundred & Ninety Two Only	84,28,962.40	
	Item No.33					
	Pushing of M. S. Pipe of following dia. for road crossing and Railway Crossing by push through method in all types of strata by using hydraulic jack and drilling machine of required diameter below M. S. Casing pipe lowering, laying, jointing of material, required welding machinery, tripod, chain pulley block, crane blower compressor, loading and unloading of machinery into the trench etc. transportation and dewatering etc. complete as directed by Engineer-in-charge but excluding cost of M.S. pipes.					
1056.20	a) 200 mm dia. to 499 mm dia. M.S. pipe	RMT	28,998.90	INR Twenty Eight Thousand Nine Hundred & Ninety Eight and Paise Ninety Only	3,06,28,638.18	
70.40	b) 500 mm dia. to 1000 mm dia. M. S.pipe	RMT	36,248.10	INR Thirty Six Thousand Two Hundred & Forty Eight and Paise Ten Only	25,51,866.24	
	Item No.34					

SUB-WORK NO.: 2 a		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		82,25,29,160.32
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Manufacturing, providing and supplying spirally welded / ERW/ SAW / fabricated M. S. pipes (Commercial Quality) including procurements of plates, gas cutting to required size rolling, tack welding assembling in suitable lengths to form pipes, welding on automatic welding machine and forming 'V' edge on both ends of pipes including railway freight, insurance, unloading from railway wagon, loading into truck, transport to stores, unloading, stacking, excluding GST levied by GOI & GOM in all respect etc. complete as per IS - 3589 and IS-5504 as applicable as per specifications (No negative tolerance in thickness is permissible).					
884.90	Dia of Pipe : 450.00 mm (I. D.) - 8 mm thick	Rmt	7,571.00	INR Seven Thousand Five Hundred & Seventy One Only	66,99,577.90	
38.50	Dia of Pipe : 500.00 mm (I. D.) - 8 mm thick	Rmt	9,427.00	INR Nine Thousand Four Hundred & Twenty Seven Only	3,62,939.50	
52.30	Dia of Pipe : 550.00 mm (I. D.) - 8 mm thick	Rmt	10,355.00	Ten Thousand Three Hundred & Fifty Five Only	5,41,566.50	
80.50	Dia of Pipe : 650.00 mm (I. D.) - 8 mm thick	Rmt	12,211.00	Twelve Thousand Two Hundred & Eleven Only	9,82,985.50	
30.00	Dia of Pipe : 1000.00 mm (I. D.) - 8 mm thick	Rmt	18,706.00	Eighteen Thousand Seven Hundred & Six Only	5,61,180.00	
40.40	Dia of Pipe : 1300.00 mm (I. D.) -10 mm thick	Rmt	30,388.00	INR Thirty Thousand Three Hundred & Eighty Eight Only	12,27,675.20	
	Item No.35					
	Utility Shifting					
	Repairing the damaged water supply pipe line of HSC, Electrical/ Telephone/ Other cable including cost of G.I. Pipe and cables with all connection material, labours etc. complete.					
87.666		Km	31,524.00	INR Thirty One Thousand Five Hundred & Twenty Four Only	27,63,581.09	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 2 a					82,25,29,160.32	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.: 2 b COLLECTION AND CONVEYANCE SYSTEM						COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)		
			In figures	In words			
	Item No.1						
	Excavation for Foundation/ pipe trenches for works of Sewer Pipeline,gravity mains, and for all types of pipe materials in all types of Soil , earthy or sandy materials,soil of all type of sand,clay mud,Soft Murum ,soft average or hard murum, Boulders,all type of disintegrated rock ,shingles,brick bats ,isolated boulders of any size,all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controled blasting, chiselling, wedging,line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt,concrete road,including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering,laying of pipe, manual dewatering,excluding backfilling including removing the excavated stuff upto a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below. Lift 0 -1.50 M						
309592.96	Lift 0 -1.50 M	Cum	521.77	INR Five Hundred & Twenty One and Paise Seventy Seven Only	16,15,36,317.95		
	Item No.2						
	Excavation for foundation / pipe trenches in hard rock and concrete road by chiselling, wedging, line drilling, by mechanical means or by all means other than blasting including trimming and levelling the bed, removing the excavated material upto a distance of 50 metres beyond the area and lifts as below, stacking as directed by Engineer-in-charge, normal dewatering, excluding backfilling, etc. complete by all means.						

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
124146.451	Lift 1.5 to 3.0 m	Cum	1,261.70	INR One Thousand Two Hundred & Sixty One and Paise Seventy Only	15,66,35,577.26	
26378.182	Lift 3.0 to 4.5 m	Cum	1,292.50	INR One Thousand Two Hundred & Ninety Two and Paise Fifty Only	3,40,93,800.23	
4343.598	Lift 4.5 to 6.0 m	Cum	1,323.30	INR One Thousand Three Hundred & Twenty Three and Paise Thirty Only	57,47,882.98	
649.190	Lift 6.0 to 7.5 m	Cum	1,354.10	INR One Thousand Three Hundred & Fifty Four and Paise Ten Only	8,79,068.54	
581.570	Lift 7.5 to 9.0 m	Cum	1,384.90	INR One Thousand Three Hundred & Eighty Four and Paise Ninety Only	8,05,416.29	
291.380	Lift 9.0 to 10.5 m	Cum	1,415.70	INR One Thousand Four Hundred & Fifteen and Paise Seventy Only	4,12,506.67	
55.410	Lift 10.5 to 12.0 m	Cum	1,446.50	INR One Thousand Four Hundred & Forty Six and Paise Fifty Only	80,150.57	
0.000	Lift 12.0 to 13.5 m	Cum	1,477.30	INR One Thousand Four Hundred & Seventy Seven and Paise Thirty Only	0.00	
0.000	Lift 13.5 to 15.0 m	Cum	1,508.10	INR One Thousand Five Hundred & Eight and Paise Ten Only	0.00	
	Item No.3					
	Dewatering the excavated trenches and pools of water in the building trenches, pipeline trenches, well works, by using pumps and other devices including disposing of water to safe distance as directed by Engineer-In-Charge (including cost of machinery, labour and fuel) etc. complete					
55366.53		Bhp/hr	93.45	INR Ninety Three and Paise Forty Five Only	51,74,002.23	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Item No.4					
	Open timbering in trenches of depth more than 1.5m for shoring & strutting including use of & waste of all necessary timber works including walling ,strutts, open pulling boards/horizontal sheeting ,runners etc. as may be necessary & fixing & removal complete.(Measurements to be taken of the face area timbered)					
5536.653	a) Lift 0 to 1.5m for non-water logged area.	Sqm	233.20	INR Two Hundred & Thirty Three and Paise Twenty Only	12,91,147.48	
	Item No.5					
	Filling in plinth and floors, murum bedding in trenches with approved murum excavated materials from foundation in 15 cm to 20 cm layers including watering and compaction etc. complete					
73921.34		Cum	96.60	INR Ninety Six and Paise Sixty Only	71,40,801.34	
	Item No.6					
	Filling in plinth and floors / trenches with contractor's murum for bedding in 15 cm to 20 cm layers including watering and compaction, etc. complete.					
8213.48		Cum	957.60	INR Nine Hundred & Fifty Seven and Paise Sixty Only	78,65,230.46	
	Item No.7					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Providing and supplying in standard length (PE material) Structured -Wall Plastic piping system for non pressure underground drainage and sewerage with smooth smooth internal & corrugated external surface conforming to IS 16098:Part-2 2013 with spigot or plain end with necessary jointing material coupler including transportation and freight charges, inspection charges, loading and unloading charges conveyance to departmental store/site and stacking the same in closed shade duly protecting from direct sun ray and rains excluding GST levied by Gol and GoM in all respect, etc. complete. (Class - SN 8).					
158317.40	200 ID	Rmt	730.00	INR Seven Hundred & Thirty Only	11,55,71,702.00	
6847.10	250 ID	Rmt	1,203.00	INR One Thousand Two Hundred & Three Only	82,37,061.30	
	Item No.8					
	Lowering, Laying and Jointing (PE material) Structured-Wall plastic piping system for non-pressure underground by heating to the ends of pipes with the help of teflon coated electric heater to the required temperature and then pressing the ends together against each other, to form a monolithic & leak proof joint by thermosetting process. The pressing may be required to be done with Jacks/ Hydraulic Jacks/Butt fusion machine etc. complete with all materials labours as directed by Engineer - in - charge.					
158317.40	200 ID	Rmt	55.65	INR Fifty Five and Paise Sixty Five Only	88,10,363.31	
6847.10	250 ID	Rmt	68.25	INR Sixty Eight and Paise Twenty Five Only	4,67,314.58	
	Item No.9					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Hydraulic testing of HDPE (PE material) Structured- wall Plastic piping for non pressure underground line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position					
158.3174	200 ID	Km	5,833.80	INR Five Thousand Eight Hundred & Thirty Three and Paise Eighty Only	9,23,592.05	
6.8471	250 ID	Km	7,293.30	INR Seven Thousand Two Hundred & Ninety Three and Paise Thirty Only	49,937.95	
	Item No.10					
	Providing ISI standard R.C.C. pipes in standard lengths of following class and diameter suitable for either collar joints or rubber ring joints, excluding all statutory duties and taxes such as GST levied by Gol and GoM in all respect, inspection charges, transport to departmental stores/site, unloading and stacking etc. complete as per IS-458/1988					
	Note : One collar should be supplied with each full length plain ended RCC pipe, cost including in rates below. One rubber ring should be supplied with each full length of socketed pipe, cost included in rates below.					
	Dia in mm Class NP - III					
2613.50	200	Rmt	474.00	INR Four Hundred & Seventy Four Only	12,38,799.00	
0.00	250	Rmt	650.00	INR Six Hundred & Fifty Only	0.00	
5302.90	300	Rmt	910.00	INR Nine Hundred & Ten Only	48,25,639.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
2323.40	350	Rmt	1,515.00	INR One Thousand Five Hundred & Fifteen Only	35,19,951.00	
473.60	400	Rmt	1,615.00	INR One Thousand Six Hundred & Fifteen Only	7,64,864.00	
1094.00	450	Rmt	1,742.00	INR One Thousand Seven Hundred & Forty Two Only	19,05,748.00	
973.20	500	Rmt	2,146.00	INR Two Thousand One Hundred & Forty Six Only	20,88,487.20	
0.00	600	Rmt	2,525.00	INR Two Thousand Five Hundred & Twenty Five Only	0.00	
2147.50	700	Rmt	3,534.00	INR Three Thousand Five Hundred & Thirty Four Only	75,89,265.00	
1627.10	800	Rmt	3,787.00	INR Three Thousand Seven Hundred & Eighty Seven Only	61,61,827.70	
0.00	900	Rmt	4,419.00	INR Four Thousand Four Hundred & Nineteen Only	0.00	
144.20	1000	Rmt	4,924.00	INR Four Thousand Nine Hundred & Twenty Four Only	7,10,040.80	
	Item No.11					
	Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in C.M.1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar,) including cost of conveyance from stores to site of work, cost of jointing material, labour, etc. complete as directed by Engineer-in- charge (For all class of pipes.) as per IS- 783-1985.					
	Dia in mm Class NP - III					
2613.50	200	Rmt	107.10	INR One Hundred & Seven and Paise Ten Only	2,79,905.85	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0.00	250	Rmt	138.60	INR One Hundred & Thirty Eight and Paise Sixty Only	0.00	
5302.90	300	Rmt	168.00	INR One Hundred & Sixty Eight Only	8,90,887.20	
2323.40	350	Rmt	172.20	INR One Hundred & Seventy Two and Paise Twenty Only	4,00,089.48	
473.60	400	Rmt	221.55	INR Two Hundred & Twenty One and Paise Fifty Five Only	1,04,926.08	
1094.00	450	Rmt	263.55	INR Two Hundred & Sixty Three and Paise Fifty Five Only	2,88,323.70	
973.20	500	Rmt	286.65	INR Two Hundred & Eighty Six and Paise Sixty Five Only	2,78,967.78	
0.00	600		361.20	INR Three Hundred & Sixty One and Paise Twenty Only	0.00	
2147.50	700	Rmt	398.82	INR Three Hundred & Ninety Eight and Paise Eighty Two Only	8,56,465.95	
1627.10	800		473.55	INR Four Hundred & Seventy Three and Paise Fifty Five Only	7,70,513.21	
0.00	900	Rmt	525.00	INR Five Hundred & Twenty Five Only	0.00	
144.20	1000	Rmt	572.25	INR Five Hundred & Seventy Two and Paise Twenty Five Only	82,518.45	
	Item No.12					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.					
	Dia in mm Class NP - III					
2.614	200	Km	11,668.65	INR Eleven Thousand Six Hundred & Sixty Eight and Paise Sixty Five Only	30,496.02	
0.000	250	Km	16,044.00	INR Sixteen Thousand & Forty Four Only	0.00	
5.303	300	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	1,00,553.32	
2.323	350	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	44,056.19	
0.474	400	Km	24,795.75	INR Twenty Four Thousand Seven Hundred & Ninety Five and Paise Seventy Five Only	11,743.27	
1.094	450	Km	29,171.10	INR Twenty Nine Thousand One Hundred & Seventy One and Paise Ten Only	31,913.18	
0.973	500	Km	32,088.00	INR Thirty Two Thousand & Eighty Eight Only	31,228.04	
0.000	600	Km	40,838.70	INR Forty Thousand Eight Hundred & Thirty Eight and Paise Seventy Only	0.00	
2.148	700	Km	45,215.10	INR Forty Five Thousand Two Hundred & Fifteen and Paise Ten Only	97,099.43	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
1.627	800	Km	52,507.35	INR Fifty Two Thousand Five Hundred & Seven and Paise Thirty Five Only	85,434.71	
0.000	900	Km	58,341.15	INR Fifty Eight Thousand Three Hundred & Forty One and Paise Fifteen Only	0.00	
0.144	1000	Km	64,176.00	INR Sixty Four Thousand One Hundred & Seventy Six Only	9,254.18	
	Item No.13					
	Providing ISI standard R.C.C. pipes in standard lengths of following class and diameter suitable for either collar joints or rubber ring joints, excluding all statutory duties and taxes such as GST levied by Gol and GoM in all respect, inspection charges, transport to departmental stores/site, unloading and stacking etc. complete as per IS-458/1988					
	Note : One collar should be supplied with each full length plain ended RCC pipe, cost including in rates below. One rubber ring should be supplied with each full length of socketed pipe, cost included in rates below.					
	Dia in mm Class NP - IV					
408.00	200	Rmt	537.00	INR Five Hundred & Thirty Seven Only	2,19,096.00	
228.90	250	Rmt	742.00	INR Seven Hundred & Forty Two Only	1,69,843.80	
60.40	300	Rmt	1,136.00	INR One Thousand One Hundred & Thirty Six Only	68,614.40	
109.00	350	Rmt	1,615.00	INR One Thousand Six Hundred & Fifteen Only	1,76,035.00	
0.00	400	Rmt	1,767.00	INR One Thousand Seven Hundred & Sixty Seven Only	0.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
414.80	450	Rmt	1,893.00	INR One Thousand Eight Hundred & Ninety Three Only	7,85,216.40	
0.00	500	Rmt	2,336.00	INR Two Thousand Three Hundred & Thirty Six Only	0.00	
9.40	600	Rmt	3,029.00	INR Three Thousand & Twenty Nine Only	28,472.60	
57.20	700	Rmt	3,787.00	INR Three Thousand Seven Hundred & Eighty Seven Only	2,16,616.40	
1248.10	800	Rmt	4,103.00	INR Four Thousand One Hundred & Three Only	51,20,954.30	
0.00	900	Rmt	4,796.00	INR Four Thousand Seven Hundred & Ninety Six Only	0.00	
155.40	1000	Rmt	5,303.00	INR Five Thousand Three Hundred & Three Only	8,24,086.20	
	Item No.14					
	Lowering, laying and jointing in proper grade and alignment R.C.C. pipes with collar joints in C.M.1:1 proportion or socketed R.C.C. pipes with rubber joints (excluding cost of rubber ring or R.C.C. collar,) including cost of conveyance from stores to site of work, cost of jointing material, labour, etc. complete as directed by Engineerin- charge (For all class of pipes.) as per IS- 783-1985.					
	Dia in mm Class NP - IV					
408.00	200	Rmt	107.10	INR One Hundred & Seven and Paise Ten Only	43,696.80	
228.90	250	Rmt	138.60	INR One Hundred & Thirty Eight and Paise Sixty Only	31,725.54	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
60.40	300	Rmt	168.00	INR One Hundred & Sixty Eight Only	10,147.20	
109.00	350	Rmt	172.20	INR One Hundred & Seventy Two and Paise Twenty Only	18,769.80	
0.00	400	Rmt	221.55	INR Two Hundred & Twenty One and Paise Fifty Five Only	0.00	
414.80	450	Rmt	263.55	INR Two Hundred & Sixty Three and Paise Fifty Five Only	1,09,320.54	
0.00	500	Rmt	286.65	INR Two Hundred & Eighty Six and Paise Sixty Five Only	0.00	
9.40	600	Rmt	361.20	INR Three Hundred & Sixty One and Paise Twenty Only	3,395.28	
57.20	700	Rmt	410.55	INR Four Hundred & Ten and Paise Fifty Five Only	23,483.46	
1248.10	800	Rmt	473.55	INR Four Hundred & Seventy Three and Paise Fifty Five Only	5,91,037.76	
0.00	900	Rmt	525.00	INR Five Hundred & Twenty Five Only	0.00	
155.40	1000	Rmt	572.25	INR Five Hundred & Seventy Two and Paise Twenty Five Only	88,927.65	
	Item No.15					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Hydraulic testing of RCC pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position.					
	Dia in mm Class NP - IV					
0.408	200	Km	11,668.65	INR Eleven Thousand Six Hundred & Sixty Eight and Paise Sixty Five Only	4,760.81	
0.229	250	Km	16,044.00	INR Sixteen Thousand & Forty Four Only	3,672.47	
0.060	300	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	1,145.30	
0.109	350	Km	18,961.95	INR Eighteen Thousand Nine Hundred & Sixty One and Paise Ninety Five Only	2,066.85	
0.000	400	Km	24,795.75	INR Twenty Four Thousand Seven Hundred & Ninety Five and Paise Seventy Five Only	0.00	
0.415	450	Km	29,171.10	INR Twenty Nine Thousand One Hundred & Seventy One and Paise Ten Only	12,100.17	
0.000	500	Km	32,088.00	INR Thirty Two Thousand & Eighty Eight Only	0.00	
0.009	600	Km	40,838.70	INR Forty Thousand Eight Hundred & Thirty Eight and Paise Seventy Only	383.88	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0.057	700	Km	45,215.10	INR Forty Five Thousand Two Hundred & Fifteen and Paise Ten Only	2,586.30	
1.248	800	Km	52,507.35	INR Fifty Two Thousand Five Hundred & Seven and Paise Thirty Five Only	65,534.42	
0.000	900	Km	58,341.15	INR Fifty Eight Thousand Three Hundred & Forty One and Paise Fifteen Only	0.00	
0.155	1000	Km	64,176.00	INR Sixty Four Thousand One Hundred & Seventy Six Only	9,972.95	
	Item No.16					
	Providing and constructing on sewer B.B. masonry circular manhole chamber with concentric cone 1.2m dia. at bottom and 0.5 dia. at top upto depth of 2m, 1.5m dia at bottom and 0.5m at top upto depth 9.0m, with 20cm thick brick work, upto depth of 2.0m from top of MH and 35cm thick brickwork for next depth upto 5m. Depth of chamber and for depth upto 9m, 23cm thick brick work upto depth 2m from the top of manhole chamber and 35 cm thick brickwork for a depth upto 5 m and 45cm thick brick work for remaining depth upto 9m in C.M. 1:4 proportion with 20mm thick smooth plaster on both sides in C.M. 1:2 proportion including additional excavation, foundation concrete 250mm thick and hanches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing and fixing C.I. Dapauri types steps, each weighing 5.5kg, 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56cm dia. (20 tonnes capacity), etc. complete as directed by Engineer-Incharge.					
4186	For depth upto 1.5m	No.	26,497.80	INR Twenty Six Thousand Four Hundred & Ninety Seven and Paise Eighty Only	11,09,19,790.80	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
909	For depth upto 2m	No.	30,605.40	INR Thirty Thousand Six Hundred & Five and Paise Forty Only	2,78,20,308.60	
336	For depth upto 2.5m	No.	42,840.00	INR Forty Two Thousand Eight Hundred & Forty Only	1,43,94,240.00	
164	For depth upto 3m	No.	51,723.00	INR Fifty One Thousand Seven Hundred & Twenty Three Only	84,82,572.00	
131	For depth upto 3.5m	No.	60,606.00	INR Sixty Thousand Six Hundred & Six Only	79,39,386.00	
81	For depth upto 4.0m	No.	69,489.00	INR Sixty Nine Thousand Four Hundred & Eighty Nine Only	56,28,609.00	
86	For depth upto 4.5m	No.	78,372.00	INR Seventy Eight Thousand Three Hundred & Seventy Two Only	67,39,992.00	
37	For depth upto 5.0m	No.	87,255.00	INR Eighty Seven Thousand Two Hundred & Fifty Five Only	32,28,435.00	
	Item No.17					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Providing and constructing on sewer RCC. circular manhole chamber with concentric cone 1.2m to 1.5 dia. at bottom and 0.5 dia. at top upto depth of 2m to 7.5 m, with 20cm to 25 Cm thick wall (As per Design) , with 20mm thick smooth plaster on both sides in C.M. 1:2 proportion including additional excavation, foundation concrete 250mm thick and hounches and channels in C.C. 1:2:4 proportion, finishing channels in smooth rendering, providing and fixing C.I. Dapauri types steps, each weighing 5.5kg, 1:2:4 coping and providing and fixing approved make and quality S.F.R.C. frame and cover of 56cm dia. (20 tonnes capacity), etc. complete as directed by Engineer-Incharge.					
0	For depth upto 1.5m	No.	48,592.00	INR Forty Eight Thousand Five Hundred & Ninety Two Only	0.00	
0	For depth upto 2.0m	No.	54,978.00	INR Fifty Four Thousand Nine Hundred & Seventy Eight Only	0.00	
0	For depth upto 2.5m	No.	1,02,123.00	INR One Lakh Two Thousand One Hundred & Twenty Three Only	0.00	
0	For depth upto 3.0m	No.	1,14,912.00	INR One Lakh Fourteen Thousand Nine Hundred & Twelve Only	0.00	
0	For depth upto 3.5m	No.	1,27,701.00	INR One Lakh Twenty Seven Thousand Seven Hundred & One Only	0.00	
0	For depth upto 4.0m	No.	1,40,490.00	INR One Lakh Forty Thousand Four Hundred & Ninety Only	0.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0	For depth upto 4.5m	No.	1,53,279.00	INR One Lakh Fifty Three Thousand Two Hundred & Seventy Nine Only	0.00	
0	For depth upto 5.0m	No.	1,66,068.00	INR One Lakh Sixty Six Thousand & Sixty Eight Only	0.00	
16	For depth upto 5.5m	No.	2,93,238.00	INR Two Lakh Ninety Three Thousand Two Hundred & Thirty Eight Only	46,91,808.00	
12	For depth upto 6.0m	No.	3,12,833.00	INR Three Lakh Twelve Thousand Eight Hundred & Thirty Three Only	37,53,996.00	
16	For depth upto 6.5m	No.	3,32,428.00	INR Three Lakh Thirty Two Thousand Four Hundred & Twenty Eight Only	53,18,848.00	
13	For depth upto 7.0m	No.	3,52,023.00	INR Three Lakh Fifty Two Thousand & Twenty Three Only	45,76,299.00	
5	For depth upto 7.5m	No.	3,71,618.00	INR Three Lakh Seventy One Thousand Six Hundred & Eighteen Only	18,58,090.00	
4	For depth upto 8.0m	No.	3,91,213.00	INR Three Lakh Ninety One Thousand Two Hundred & Thirteen Only	15,64,852.00	
5	For depth upto 8.5m	No.	4,10,808.00	INR Four Lakh Ten Thousand Eight Hundred & Eight Only	20,54,040.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
5	For depth upto9.0m	No.	4,30,403.00	INR Four Lakh Thirty Thousand Four Hundred & Three Only	21,52,015.00	
3	For depth upto9.5m	No.	5,70,761.00	INR Five Lakh Seventy Thousand Seven Hundred & Sixty One Only	17,12,283.00	
4	For depth upto10.0m	No.	5,95,106.00	INR Five Lakh Ninety Five Thousand One Hundred & Six Only	23,80,424.00	
2	For depth upto10.5m	No.	6,19,451.00	INR Six Lakh Nineteen Thousand Four Hundred & Fifty One Only	12,38,902.00	
0	For depth upto11.0m	No.	6,43,796.00	INR Six Lakh Forty Three Thousand Seven Hundred & Ninety Six Only	0.00	
0	For depth upto11.5m	No.	6,68,141.00	INR Six Lakh Sixty Eight Thousand One Hundred & Forty One Only	0.00	
0	For depth upto12.0m	No.	6,92,486.00	INR Six Lakh Ninety Two Thousand Four Hundred & Eighty Six Only	0.00	
0	For depth upto12.5m	No.	7,16,831.00	INR Seven Lakh Sixteen Thousand Eight Hundred & Thirty One Only	0.00	
0	For depth upto13.0m	No.	7,41,176.00	INR Seven Lakh Forty One Thousand One Hundred & Seventy Six Only	0.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
0	For depth upto13.5m	No.	7,65,521.00	INR Seven Lakh Sixty Five Thousand Five Hundred & Twenty One Only	0.00	
0	For depth upto14.0m	No.	7,89,866.00	INR Seven Lakh Eighty Nine Thousand Eight Hundred & Sixty Six Only	0.00	
0	For depth upto 14.5m	No.	8,14,211.00	INR Eight Lakh Fourteen Thousand Two Hundred & Eleven Only	0.00	
	Item No.18					
	Refilling the trenches with available excavated stuff with soft material, first over pipeline and then hard material in 15cm layers with all leads and lifts, including consolidation, surcharging etc. complete.					
337585.54		Cum	96.60	INR Ninety Six and Paise Sixty Only	3,26,10,763.14	
	Item No.19					
	Removing and transporting the exavated surplus material of all categories and disposing of the same as directed, including loading, conveing, spreading or stacking beyond the initial lead of 5 Km as directed etc. complete					
136666.68		Cum	264.83	INR Two Hundred & Sixty Four and Paise Eighty Three Only	3,61,93,574.03	
	Item No.20					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Providing, fixing and erecting RCC (M20) Vent shaft with cowl, 125mm x 225mm internal and external dia respectively at top, 300mm and 450mm internal and external dia at bottom and 9.10m over all length, bottom 1.25m below ground level fixed in the pit 900mmx900mmx1500mm with PCC M15, 250mm in bed and 200mm around with top 150mm in cement concrete 1:2:4 (1 cement 2 coarse sand and 4 graded stone aggregate of 20mm nominal size) junction of vent shaft and concrete grouted with cement mortar 1:2 (1 cement and 2 fine sand) including making connection with sewer manhole with 150 mm dia NP4 RCC pipe (IS 458- amended up to date) for 5.0 m length including Murum bedding complete and as per standard design and finished with water proofing cement of approved brand of required shade as per drawings and/or as directed by Engineer. Providing and fixing RCC ventilation shaft, making connection to manhole etc. complete as directed by EIC.					
46.00		No.	23,528.00	INR Twenty Three Thousand Five Hundred & Twenty Eight Only	10,82,288.00	
	Item No.21					
	Providing and laying in situ, following grades of C.C. of trap/granite/ quartzite /gneiss metal for foundation and bedding including dewatering form work,compacting and curing etc, complete.					
1826.09	a) 1:2:4 (M150)	Cum	6,756.24	INR Six Thousand Seven Hundred & Fifty Six and Paise Twenty Four Only	1,23,37,496.92	
	Item No.22					
	Dismantling dead pipeline of MS/ RCC/ CI/ PSC and GI/ AC/ PVC/ SW/ HDPE. pipe including cost of necessary excavation and refilling of trenches ,breaking the joints,lifting the pipes and stacking to the places as directed by Engineer-in -charge with all leads and lifts including cleaning the surface etc.complete.					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
3321.90	100 mm dia	Rmt	250.95	INR Two Hundred & Fifty and Paise Ninety Five Only	8,33,630.81	
2768.25	150 mm dia	Rmt	260.40	INR Two Hundred & Sixty and Paise Forty Only	7,20,852.30	
2214.60	200 mm dia	Rmt	287.70	INR Two Hundred & Eighty Seven and Paise Seventy Only	6,37,140.42	
1660.95	250 mm dia	Rmt	317.10	INR Three Hundred & Seventeen and Paise Ten Only	5,26,687.25	
1107.30	300 mm dia	Rmt	345.45	INR Three Hundred & Forty Five and Paise Forty Five Only	3,82,516.79	
	Item No.23					
	Providing D.I. pipes (push on joints pressure pipes of D. I. of following class and diameters confirming to the I. S. specification inclusive cost of jointing materials (Rubber gasket of EPDM Quality) excluding GST levied by GOI & GOM in all respect including Third party inspection charges of TPI Agency approved by MJP including Transit insurance, Railway Freight, Unloading from railway wagon, Loading into Truck, Transportation to departmental store, unloading, stacking etc. completed as directed by Engineer in charges (IS 8329/2000 for pipes and IS 158/1969 and IS 12820/1989 or latest edition/ revision with amendments for Rubber Gaskets.					
	Dia. In mm Class - D.I. K-7					
332.00	100mm	Rmt	1,209.00	INR One Thousand Two Hundred & Nine Only	4,01,388.00	
277.00	150mm	Rmt	1,686.00	INR One Thousand Six Hundred & Eighty Six Only	4,67,022.00	
221.00	200mm	Rmt	2,236.00	INR Two Thousand Two Hundred & Thirty Six Only	4,94,156.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
166.00	250mm	Rmt	2,906.00	INR Two Thousand Nine Hundred & Six Only	4,82,396.00	
111.00	300mm	Rmt	3,571.00	INR Three Thousand Five Hundred & Seventy One Only	3,96,381.00	
	Item No.24					
	Lowering laying and jointing with SBR ruber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameter in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of material from stores to site of work, including cost of jointing materials and rubber rings labour etc. complete.					
	Dia. In mm Class - D.I. K-7					
3321.90	100 mm dia	Rmt	77.70	INR Seventy Seven and Paise Seventy Only	2,58,111.63	
2768.25	150 mm dia	Rmt	94.50	INR Ninety Four and Paise Fifty Only	2,61,599.63	
2214.60	200 mm dia	Rmt	133.35	INR One Hundred & Thirty Three and Paise Thirty Five Only	2,95,316.91	
1660.95	250 mm dia	Rmt	175.35	INR One Hundred & Seventy Five and Paise Thirty Five Only	2,91,247.58	
1107.30	300 mm dia	Rmt	189.00	INR One Hundred & Eighty Nine Only	2,09,279.70	
	Item No.25					
	Providing and supplyind ISI Standerd DI Specials and fittings with sealing rubbre gasket of SBR complete with cast iron follower gland and MS nut bolts coated or otherwise protected from rusting and suitable for DI pipes including cost of labour material and transportation to stores loding unloding excluding GST lived by GOI & GOM in all respect complete as per IS- 9523					

SUB-WORK NO.: 2 b COLLECTION AND CONVEYANCE SYSTEM			COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)
			In figures	In words	
732.47	80mm to 300 mm dia	Kg	153.00	INR One Hundred & Fifty Three Only	1,12,067.15
	Item No.26				
	Dismantling dead pipeline of M.S./ R.C.C./ C.I./ P.S.C. and G.I./ A.C./ P.V.C./ S.W./ H.D.P.E. pipe including cost of necessary excavation and refilling of trenches, breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete.				
9228.00	100 mm dia	Rmt	150.15	INR One Hundred & Fifty and Paise Fifteen Only	13,85,584.20
	Item No.27				
	Providing and supplying in standard lengths H.D. Polyethelene Pipes, confirming to IS 4984 /14151 / 12786 / 13488 with necessary jointing material like mechanical connector i. e. thread / insert joint / quick release coupler joint /compression fitting joint or flanged joint excluding coupler/ specials, including transportation and freight charges, inspection charges, loading / unloading charges, conveyance to the departmental stores & stacking the same in closed shade duly protecting from sunrays & rains, excluding GST levied by GI & GOM in all respect etc. complete.As per IS:4984-2016(HDPE Pipes upto 110mm dia. shall be				
4614.00	110mm	Rmt	319.00	INR Three Hundred & Nineteen Only	14,71,866.00
	Item No.28				
	Lowering, Laying and Jointing H. D. P. E./M. D. P. E. pipes in proper position including all specials by compression fitting/electrofusion and butt fusion jointing procedure as per relevant IS Code complete with all materials for jointing procedure like Electrofusion machine, Electric heater/ butt fusion welding machine with hydraulic jack, top loading clamp etc. and all labours as directed by engineer in charge as per IS 7634 Part II				
9228.00	110mm	Rmt	81.90	INR Eighty One and Paise Ninety Only	7,55,773.20
	Item No.29				

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Drainage Drops Providing following dia. S.W. or R.C.C.pipes in vertical drop arrangement including providing Following dia S.W. and R.C.C. pipe fixed in B.B. masonry of manhole at the required level including providing Following dia. double tee, Following dia. right angled bend, encasing in B.B. masonry 1:4 proportion all around the pipe, double tee, bend upto the foundation of manhole, jointing, cutting, filleting including neat cement rendering, plugging the opening with jungle wood knob complete as directed by Engineer-in-charge (0.60 M depth) excluding cost of chamber.					
252	200 mm Dia. with initial 0.60 M Depth	No	3,265.50	INR Three Thousand Two Hundred & Sixty Five and Paise Fifty Only	8,22,906.00	
134	200 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,059.45	INR One Thousand & Fifty Nine and Paise Forty Five Only	1,41,966.30	
47	200 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,118.90	INR Two Thousand One Hundred & Eighteen and Paise Ninety Only	99,588.30	
23	200 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	3,178.35	INR Three Thousand One Hundred & Seventy Eight and Paise Thirty Five Only	73,102.05	
19	200 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	4,237.80	INR Four Thousand Two Hundred & Thirty Seven and Paise Eighty Only	80,518.20	
9	200 mm Dia. with 2.5 M depth beyond initial depth of 0.60 M.	No	5,297.25	INR Five Thousand Two Hundred & Ninety Seven and Paise Twenty Five Only	47,675.25	
10	200 mm Dia. with 3.0 M depth beyond initial depth of 0.60 M.	No	6,356.70	INR Six Thousand Three Hundred & Fifty Six and Paise Seventy Only	63,567.00	
3	200 mm Dia. with 3.5 M depth beyond initial depth of 0.60 M.	No	7,416.15	INR Seven Thousand Four Hundred & Sixteen and Paise Fifteen Only	22,248.45	
3	200 mm Dia. with 4.0 M depth beyond initial depth of 0.60 M.	No	8,475.60	INR Eight Thousand Four Hundred & Seventy Five and Paise Sixty Only	25,426.80	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
1	200 mm Dia. with 4.5 M depth beyond initial depth of 0.60 M.	No	9,535.05	INR Nine Thousand Five Hundred & Thirty Five and Paise Five Only	9,535.05	
16	250 mm Dia. with initial 0.60 M Depth	No	3,982.65	INR Three Thousand Nine Hundred & Eighty Two and Paise Sixty Five	63,722.40	
9	250 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,257.90	INR One Thousand Two Hundred & Fifty Seven and Paise Ninety Only	11,321.10	
4	250 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,515.80	INR Two Thousand Five Hundred & Fifteen and Paise Eighty Only	10,063.20	
3	250 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	3,773.70	INR Three Thousand Seven Hundred & Seventy Three and Paise Seventy Only	11,321.10	
9	300 mm Dia. with initial 0.60 M Depth	No	4,822.65	INR Four Thousand Eight Hundred & Twenty Two and Paise Sixty Five Only	43,403.85	
4	300 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,414.35	INR One Thousand Four Hundred & Fourteen and Paise Thirty Five Only	5,657.40	
1	300 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,828.70	INR Two Thousand Eight Hundred & Twenty Eight and Paise Seventy Only	2,828.70	
3	300 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	4,243.05	INR Four Thousand Two Hundred & Forty Three and Paise Five Only	12,729.15	
0	300 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	5,657.40	INR Five Thousand Six Hundred & Fifty Seven and Paise Forty Only	0.00	
1	300 mm Dia. with 2.5 M depth beyond initial depth of 0.60 M.	No	7,071.75	INR Seven Thousand & Seventy One and Paise Seventy Five Only	7,071.75	
0	300 mm Dia. with 3.0 M depth beyond initial depth of 0.60 M.	No	8,486.10	INR Eight Thousand Four Hundred & Eighty Six and Paise Ten Only	0.00	

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
2	400 mm Dia. with initial 0.60 M Depth	No	6,710.55	INR Six Thousand Seven Hundred & Ten and Paise Fifty Five Only	13,421.10	
2	400 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	1,833.30	INR One Thousand Eight Hundred & Thirty Three and Paise Thirty Only	3,666.60	
5.00	500 mm Dia. with initial 0.60 M Depth	No	8,564.85	INR Eight Thousand Five Hundred & Sixty Four and Paise Eighty Five Only	42,824.25	
2.00	400 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	2,248.05	INR Two Thousand Two Hundred & Forty Eight and Paise Five Only	4,496.10	
6.00	600 mm Dia. with initial 0.60 M Depth	No	10,980.90	INR Ten Thousand Nine Hundred & Eighty and Paise Ninety Only	65,885.40	
1.00	600 mm Dia. with 0.5 M depth beyond initial depth of 0.60 M.	No	2,592.45	INR Two Thousand Five Hundred & Ninety Two and Paise Forty Five Only	2,592.45	
4.00	600 mm Dia. with 1.0 M depth beyond initial depth of 0.60 M.	No	5,184.90	INR Five Thousand One Hundred & Eighty Four and Paise Ninety Only	20,739.60	
1.00	600 mm Dia. with 1.5 M depth beyond initial depth of 0.60 M.	No	7,777.35	INR Seven Thousand Seven Hundred & Seventy Seven and Paise Thirty Five Only	7,777.35	
1.00	600 mm Dia. with 2.0 M depth beyond initial depth of 0.60 M.	No	10,369.80	INR Ten Thousand Three Hundred & Sixty Nine and Paise Eighty Only	10,369.80	
	Item No.30					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM			COST Rs.	1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	Sewerline Installation and pressure Pipe Installation Installation of HDPE product pipe by HDD method for on grade gravity sewer including preparing and setting up the plant and equipment,preparing new pipe-work material,making of entry & exit pits upto 1.5 meter depth,installing new pipe-work and commissioning system or making the system ready for commissioning by HDD operating including all related civil and mechanical works like excavation,shoring,strutting etc. drilling, stringing,reaming and pulling back the new pipe work on the designed bore path alighment,proper disposal of drilling fluid and back fill of site after complete all inclusive as per IndSTT:101-2007:Code of practice for horizontal Drilling Technique suiting Indian conditions.					
	Rocks					
	HDPE Pipes between 110 mm & 225 mm Outer Dia.					
160.60	200mm OD	Rmt	20,520.00	INR Twenty Thousand Five Hundred & Twenty Only	32,95,512.00	
	HDPE Pipes between 710 mm & 900 mm Outer Dia.					
718.00	800mm OD	Rmt	82,935.00	INR Eighty Two Thousand Nine Hundred & Thirty Five Only	5,95,47,330.00	
218.00	1000mm OD	Rmt	82,935.00	INR Eighty Two Thousand Nine Hundred & Thirty Five Only	1,80,79,830.00	
	Item No.31					
	Providing,supplying in standard lengths Polythelene Pipes confirming to IS -4984/ 14151/ 12786/ 13488 with necessary jointing material like mechanical connectors i.e. thread/ insert joint/quick release coupler joint/compression fitting joint or flanged joint,including all taxes(Central and local) transportation and freight charges, inspection charges, conveyance to the departmental stores/ site and stacking the same in closed shade duly protecting from sunrays and rains,etc.complete.					
	P.E.100 -8 KG/CM^2					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
160.60	200mm OD	Rmt	1,333.00	INR One Thousand Three Hundred & Thirty Three Only	2,14,079.80	
718.00	800mm OD	Rmt	22,577.00	INR Twenty Two Thousand Five Hundred & Seventy Seven Only	1,62,10,286.00	
218.00	1000mm OD	Rmt	28,577.00	INR Twenty Eight Thousand Five Hundred & Seventy Seven Only	62,29,786.00	
	Item No.33					
	Pushing of M. S. Pipe of following dia. for road crossing and Railway Crossing by push through method in all types of strata by using hydraulic jack and drilling machine of required diameter below M. S Casing pipe lowering, laying, jointing of material, required welding machinery, tripod, chain pulley block, crane blower compressor, loading and unloading of machinery into the trench etc transporation and dewatering etc. complete as directed by Engineer-in-charge but excluding cost of M.S. pipes.					
464.10	a) 200 mm dia. to 499 mm dia. M.S. pipe	RMT	28,998.90	INR Twenty Eight Thousand Nine Hundred & Ninety Eight and Paise Ninety Only	1,34,58,389.49	
145.60	b) 500 mm dia. to 1000 mm dia. M. S.pipe	RMT	36,248.10	INR Thirty Six Thousand Two Hundred & Forty Eight and Paise Ten Only	52,77,723.36	
	Item No.34					
	Manufacturing, providing and supplying spirally welded / ERW/ SAW / fabricated M. S. pipes (Commercial Quality) including procurements of plates, gas cutting to required size rolling, tack welding assembling in suitable lengths to form pipes, welding on automatic welding machine and forming 'V' edge on both ends of pipes including railway freight, insurance, unloading from railway wagon, loading into truck, transport to stores, unloading, stacking, excluding GST levied by GOI & GOM in all respect etc. complete as per IS - 3589 and IS-5504 as applicable as per specifications (No negative tolerance in thickness is permissible).					

SUB-WORK NO.: 2 b		COLLECTION AND CONVEYANCE SYSTEM		COST Rs.		1,00,08,98,330.43
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
348.10	Dia of Pipe : 400.00 mm (I. D.) - 8 mm thick	Rmt	7,571.00	INR Seven Thousand Five Hundred & Seventy One Only	26,35,465.10	
87.70	Dia of Pipe : 550.00 mm (I. D.) - 8 mm thick	Rmt	10,355.00	INR Ten Thousand Three Hundred & Fifty Five Only	9,08,133.50	
28.30	Dia of Pipe : 650.00 mm (I. D.) - 8 mm thick	Rmt	12,211.00	INR Twelve Thousand Two Hundred & Eleven Only	3,45,571.30	
110.80	Dia of Pipe : 900.00 mm (I. D.) - 8 mm thick	Rmt	16,850.00	INR Sixteen Thousand Eight Hundred & Fifty Only	18,66,980.00	
34.80	Dia of Pipe : 1200.00 mm (I. D.) -10 mm thick	Rmt	28,068.00	INR Twenty Eight Thousand & Sixty Eight Only	9,76,766.40	
	Item No.35					
	Utility Shifting					
	Repairing the damaged water supply pipe line of HSC, Electrical/ Telephone/ Other cable including cost of G.I. Pipe and cables with all connection material, labours etc. complete.					
111.391		Km	31,524.00	INR Thirty One Thousand Five Hundred & Twenty Four Only	35,11,490.51	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 2 b					1,00,08,98,330.43	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:3	SEWAGE COLLECTION SUMP/WET WELL- ZONE I			COST Rs.	1,02,07,472.00
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)
			In figures	In words	
	Item No.1				
	Designing (aesthetically), and constructing RCC ground service reservoirs / RCC sumps in M-300 mix. of required capacity including excavation in all types of strata, foundation concrete, container walls, bottom slab top RCC roof slab / or dome, 20 mm thick cement plaster with water proofing compound in CM 1:3 proportion. to inside face of the container,including epoxy paint from inside including refilling and disposing of surplus stuff within lead of 50 M, all labour and material charges, for laying and jointing of pipe assembly for inlet, outlet washout, over flow and bye-pass arrangement consisting of D.I./ M.S. D/F. pipes, specials and valves of given diameters, providing and fixing accessories such as M.S. ladder outside, Stainless Steel Ladder in container, C.I. Manhole frame and cover, water top slab, B.B. masonry chamber for all valves, ventilating shafts, including giving satisfactory hydraulic test and water tightness test as per IS code and providing three coat of Acrylic emulsion with silicon additives paint to all expose surface of structure including roof surface etc. complete as per design data, criteria, obligatory requirements and detailed specifications. Antitermite treatment shall be given for under ground portion of the structure.				
	Note : 1 The designing shall be in accordance with various rel evant I.S. specification (I.S. 456/2000, I.S. 875 - 1987, I.S.3370-1965 or revised.)				
	2 Only M.S. bars grade I confirming to I.S. 432 part I or high yield strength deformed bars confirming to I.S. 1786 or I.S.1139 shall be used grade II M.S. bars shall not be used.				
	3 Entire structure shall be in M - 300 only.				
	4 The scope of pipe assembly work shall be upto 5 metre beyond outside face of the wall, cost of pipes valves and specials is not included in the rate but labour cost for laying and jointing is included.				
	5 The G.S.R. / Sump above 15 lakh litres capacity shall be in two compartment				

SUB-WORK NO.:3		SEWAGE COLLECTION SUMP/WET WELL- ZONE I		COST Rs.		1,02,07,472.00
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)	
			In figures	In words		
	6 .The job includes designing the structure for uplift pressure and dewatering if required using entire execution and disposal of surplus excavated stuff with in lead of 50 metres as directed by Engineer in-charge.					
	7. G.S.R. outlets shall be with bell mouth of approved partern in bottom slab and cost of designing bell mouth is included in the rate. Sump well includes cost of suction pit required at bottom.					
	8. For pipe diameters upto 300 mm only DI pipes and DI specials shall be used. For pipe diameters above 300mm, M.S. pipes and specials minimum 10 mm thick shall be used with proper anticorrosive epoxy treatment from in side and outside.					
	9. Above rates are applicable for all seismic zones.					
	10. 75% part rate shall be payable for reinforcement,concrete and plastering items of all types of G.S.R.s. and sumps till satisfactory hydraulic testing for water tightness test is given and till that work shall be treated as incomplete					
	Cost for 1825000 Litres Cap.					
1		Job	1,02,07,471.45	INR One Crore Two Lakh Seven Thousand Four Hundred & Seventy One and Paise Forty Five Only	1,02,07,471.45	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 3					1,02,07,472.00	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:4		SEWAGE PUMP HOUSE ZONE I		COST Rs.		28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Providing and casting in situ Cement Concrete of trap/ granite / quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer- in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with CM 1:3 of sufficient minimum thickness if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor					
	In RCC M-200 -All types of Column					
9.072		Cum	9,426.31	INR Nine Thousand Four Hundred & Twenty Six and Paise Thirty One Only	85,515.48	
	Item No. 2 :-					
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)					
	In RCC M-200 - -For Beams / Braces / Lintels					
20.895		Cum	9,278.26	INR Nine Thousand Two Hundred & Seventy Eight and Paise Twenty Six Only	1,93,869.24	
	Item No. 3 :-					

SUB-WORK NO.:4 SEWAGE PUMP HOUSE ZONE I				COST Rs.	28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)				
	In RCC M-200 - Slabs / Landings / Vertical Walls / Waist				
44.03		Cum	9,949.21	INR Nine Thousand Nine Hundred & Forty Nine and Paise Twenty One Only	4,38,073.67
	Item No. 4 :-				
	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, 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, etc. complete (including cost of binding wire). (Bd-F-17/306)				
9.25		MT	86,091.00	INR Eighty Six Thousand & Ninety One Only	7,96,341.75
	Item No. 5 :-				
	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.				
55.856		CUM	8,853.20	INR Eight Thousand Eight Hundred & Fifty Three and Paise Twenty Only	4,94,504.34
	Item No. 6 :-				

SUB-WORK NO.:4 SEWAGE PUMP HOUSE ZONE I				COST Rs.	28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	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. complete.				
277.78		SQM	325.00	INR Three Hundred & Twenty Five Only	90,278.50
	Item No. 7 :-				
	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				
332.64		SQM	718.35	INR Seven Hundred & Eighteen and Paise Thirty Five Only	2,38,951.94
	Item No. 8 :-				
	Providing neeru finish to plastered surfaces in all positions including scaffolding and curing etc. complete.				
277.78		SQM	68.25	INR Sixty Eight and Paise Twenty Five Only	18,958.49
	Item No. 9 :-				

SUB-WORK NO.:4 SEWAGE PUMP HOUSE ZONE I				COST Rs.	28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 g/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 section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. 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 with all required screws and nuts etc, complete. With colour Anodising with box.				
4.50		SQM	5,752.95	INR Five Thousand Seven Hundred & Fifty Two and Paise Ninety Five Only	25,888.28
	Item No. 10 :-				
	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 62481979) (With mechanical gear)				
6.25		SQM	5,573.40	INR Five Thousand Five Hundred & Seventy Three and Paise Forty Only	34,833.75
	Item No. 11 :-				

SUB-WORK NO.:4 SEWAGE PUMP HOUSE ZONE I					COST Rs.	28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	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					
4.50		SQM	2,201.85	INR Two Thousand Two Hundred & One and Paise Eighty Five Only	9,908.33	
	Item No. 12 :-					
	Providing and fixing steel ventilator fully glazed partly fixed as per detailed drawing without hot dip zinc coating including fabricating glazing with plain / obscured glass panes 5 mm thick and approved type and quality and iron oxidized fixtures and fastening oil paint 2 coats etc. complete					
0.72		SQM	3,543.75	INR Three Thousand Five Hundred & Forty Three and Paise Seventy Five Only	2,551.50	
	Item No. 13 :-					
	Providing and applying three coats of water proof cement paint of approved manufacture and of approved colour to new plastered surfaces including scaffolding if necessary, cleaning and preparing the surface, watering for two days etc. complete.					
332.64		SQM	109.20	INR One Hundred & Nine and Paise Twenty Only	36,324.29	
	Item No. 14 :-					
	Providing and applying washable oil-bound distemper of approved colour and shade to old and new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) etc.complete.					
277.78		SQM	50.40	INR Fifty and Paise Forty Only	14,000.11	
	Item No. 15 :-					
	Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm thick and required width in plain/ diamond pattern on bed of 1:6 C. M. including cement float, filling joints withneat cement slurry, curing, polishing and cleaning etc. complete.					
205.27		SQM	1,312.30	INR One Thousand Three Hundred & Twelve and Paise Thirty Only	2,69,375.82	

SUB-WORK NO.:4	SEWAGE PUMP HOUSE ZONE I			COST Rs.	28,49,898.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 16 :-				
	Providing structural steel work in rolled stanchions fixed with connecting plates or angle cleats as in main and cross beams, hip and jack rafters, purlins connecting to truss members and like as per detailed designs and drawings or as directed by Engineer-in-charge including cutting, fabricating, hoisting, erecting, fixing in position, making riveted / bolted / welded connections and one coat of anticorrosive paint and over it two coats of oil painting, etc. complete. (Bd-C-3/275)				
0.945		MT	89,820.15	INR Eighty Nine Thousand Eight Hundred & Twenty and Paise Fifteen Only	84,880.04
	Item No. 17 :-				
	Providing and fixing in position copper lightening conductor including copper rod of 20 mm dia as per upper terminal 1.5 M long with a knob at end and with conical spike at top, copper tape conductor 20 x 3 mm size, copper earth plate of 3 mm thick and 0.81 sqm. in area, clamps at 1 M centre to centre including, necessary excavation, laying and fixing the conductor, providing and fixing 40 mm G.I. pipe upto 3 M height from ground and 0.5 M below ground including making all connections, filling earthing pit with charcoal, salt, etc. & refilling & watering, etc. complete as per specifications laid down in relevant I.S. codes.				
	For tape of 10 M length				
1.00		NO	15,641.85	INR Fifteen Thousand Six Hundred & Forty One and Paise Eighty Five Only	15,641.85
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 4					28,49,898.00

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:	SEWAGE COLLECTION SUMP/WET WELL- ZONE II			COST Rs.	70,13,144.00
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)
			In figures	In words	
	Item No.1				
	Designing (aesthetically), and constructing RCC ground service reservoirs / RCC sumps in M-300 mix. of required capacity including excavation in all types of strata, foundation concrete, container walls, bottom slab top RCC roof slab / or dome, 20 mm thick cement plaster with water proofing compound in CM 1:3 proportion. to inside face of the container,including epoxy paint from inside including refilling and disposing of surplus stuff within lead of 50 M, all labour and material charges, for laying and jointing of pipe assembly for inlet, outlet washout, over flow and bye-pass arrangement consisting of D.I./ M.S. D/F. pipes, specials and valves of given diameters, providing and fixing accessories such as M.S. ladder outside, Stainless Steel Ladder in container, C.I. Manhole frame and cover, water top slab, B.B. masonry chamber for all valves, ventilating shafts, including giving satisfactory hydraulic test and water tightness test as per IS code and providing three coat of Acrylic emulsion with silicon additives paint to all expose surface of structure including roof surface etc. complete as per design data, criteria, obligatory requirements and detailed specifications. Antiterminate treatment shall be given for under ground portion of the structure.				
	Note : 1 The designing shall be in accordance with various rel evant I.S. specification (I.S. 456/2000, I.S. 875 - 1987, I.S.3370-1965 or revised.)				
	2 Only M.S. bars grade I confirming to I.S. 432 part I or high yield strength deformed bars confirming to I.S. 1786 or I.S.1139 shall be used grade II M.S. bars shall not be used.				
	3 Entire structure shall be in M - 300 only.				
	4 The scope of pipe assembly work shall be upto 5 metre beyond outside face of the wall, cost of pipes valves and specials is not included in the rate but labour cost for laying and jointing is included.				

SUB-WORK NO.:5 SEWAGE COLLECTION SUMP/WET WELL- ZONE II				COST Rs.	70,13,144.00
Qty.	Description of item	unit	Tender Rate		Amount (Rs.)
			In figures	In words	
	5 The G.S.R. / Sump above 15 lakh litres capacity shall be in two compartment				
	6 .The job includes designing the structure for uplift pressure and dewatering if required using entire execution and disposal of surplus excavated stuff with in lead of 50 metres as directed by Engineer in-charge.				
	7. G.S.R. outlets shall be with bell mouth of approved partern in bottom slab and cost of designing bell mouth is included in the rate. Sump well includes cost of suction pit required at bottom.				
	8. For pipe diameters upto 300 mm only DI pipes and DI specials shall be used. For pipe diameters above 300mm, M.S. pipes and specials minimum 10 mm thick shall be used with proper anticorrosive epoxy treatment from in side and outside.				
	9. Above rates are applicable for all seismic zones.				
	10. 75% part rate shall be payable for reinforcement,concrete and plastering items of all types of G.S.R.s. and sumps till satisfactory hydraulic testing for water tightness test is given and till that work shall be treated as incomplete				
	Cost for 1010000 Litres Cap.				
1		Job	70,13,143.15	INR Seventy Lakh Thirteen Thousand One Hundred & Forty Three and Paise Fifteen Only	70,13,143.15
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 5					70,13,144.00

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:6		SEWAGE PUMP HOUSE ZONE II		COST Rs.		35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Providing and casting in situ Cement Concrete of trap/ granite / quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer- in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with CM 1:3 of sufficient minimum thickness if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)					
	In RCC M-200 -All types of Column					
9.072		Cum	9,426.31	INR Nine Thousand Four Hundred & Twenty Six and Paise Thirty One Only	85,515.48	
	Item No. 2 :-					
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)					
	In RCC M-200 - -For Beams / Braces / Lintels					
23.625		Cum	9,278.26	INR Nine Thousand Two Hundred & Seventy Eight and Paise Twenty Six Only	2,19,198.89	
	Item No. 3 :-					

SUB-WORK NO.:6 SEWAGE PUMP HOUSE ZONE II				COST Rs.	35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)				
	In RCC M-200 - Slabs / Landings / Vertical Walls / Waist				
63.704		Cum	9,949.21	INR Nine Thousand Nine Hundred & Forty Nine and Paise Twenty One Only	6,33,804.47
	Item No. 4 :-				
	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, 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, etc. complete (including cost of binding wire). (Bd-F-17/306)				
12.05		MT	86,091.00	INR Eighty Six Thousand & Ninety One Only	10,37,396.55
	Item No. 5 :-				
	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.				
62.321		CUM	8,853.20	INR Eight Thousand Eight Hundred & Fifty Three and Paise Twenty Only	5,51,740.28
	Item No. 6 :-				

SUB-WORK NO.:6 SEWAGE PUMP HOUSE ZONE II				COST Rs.	35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	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. complete.				
308.23		SQM	325.00	INR Three Hundred & Twenty Five Only	1,00,174.75
	Item No. 7 :-				
	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				
367.655		SQM	718.35	INR Seven Hundred & Eighteen and Paise Thirty Five Only	2,64,104.97
	Item No. 8 :-				
	Providing neeru finish to plastered surfaces in all positions including scaffolding and curing etc. complete.				
308.23		SQM	68.25	INR Sixty Eight and Paise Twenty Five Only	21,036.70
	Item No. 9 :-				

SUB-WORK NO.:6 SEWAGE PUMP HOUSE ZONE II				COST Rs.	35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 g/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 section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. 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 with all required screws and nuts etc, complete. With colour Anodising with box.				
4.50		SQM	5,752.95	INR Five Thousand Seven Hundred & Fifty Two and Paise Ninety Five Only	25,888.28
	Item No. 10 :-				
	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness 0.9 mm with lock plate of 3.15 mm thickness reinforced with 35 x 35 x 5 mm angle section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M.S. Bracket plate 300 x 300 x 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M.S. sheet not less than 0.9 mm thickness and of any size at top and safety devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete. (I.S. 62481979) (With mechanical gear)				
6.25		SQM	5,573.40	INR Five Thousand Five Hundred & Seventy Three and Paise Forty Only	34,833.75
	Item No. 11 :-				

SUB-WORK NO.:6		SEWAGE PUMP HOUSE ZONE II		COST Rs.		35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	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					
4.50		SQM	2,201.85	INR Two Thousand Two Hundred & One and Paise Eighty Five Only	9,908.33	
	Item No. 12 :-					
	Providing and fixing steel ventilator fully glazed partly fixed as per detailed drawing without hot dip zinc coating including fabricating glazing with plain / obscured glass panes 5 mm thick and approved type and quality and iron oxidized fixtures and fastening oil paint 2 coats etc. complete					
0.72		SQM	3,543.75	INR Three Thousand Five Hundred & Forty Three and Paise Seventy Five Only	2,551.50	
	Item No. 13 :-					
	Providing and applying three coats of water proof cement paint of approved manufacture and of approved colour to new plastered surfaces including scaffolding if necessary, cleaning and preparing the surface, watering for two days etc. complete.					
367.655		SQM	109.20	INR One Hundred & Nine and Paise Twenty Only	40,147.93	
	Item No. 14 :-					
	Providing and applying washable oil-bound distemper of approved colour and shade to old and new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) etc.complete.					
308.23		SQM	50.40	INR Fifty and Paise Forty Only	15,534.79	
	Item No. 15 :-					
	Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm thick and required width in plain/ diamond pattern on bed of 1:6 C. M. including cement float, filling joints withneat cement slurry, curing, polishing and cleaning etc. complete.					

SUB-WORK NO.:6		SEWAGE PUMP HOUSE ZONE II		COST Rs.		35,24,821.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
276.66		SQM	1,312.30	INR One Thousand Three Hundred & Twelve and Paise Thirty Only	3,63,060.92	
	Item No. 16 :-					
	Providing structural steel work in rolled stanchions fixed with connecting plates or angle cleats as in main and cross beams, hip and jack rafters, purlins connecting to truss members and like as per detailed designs and drawings or as directed by Engineer-in-charge including cutting, fabricating, hoisting, erecting, fixing in position, making riveted / bolted / welded connections and one coat of anticorrosive paint and over it two coats of oil painting, etc. complete. (Bd-C-3/275)					
1.161		MT	89,820.15	INR Eighty Nine Thousand Eight Hundred & Twenty and Paise Fifteen Only	1,04,281.19	
	Item No. 17 :-					
	Providing and fixing in position copper lightening conductor including copper rod of 20 mm dia as per upper terminal 1.5 M long with a knob at end and with conical spike at top, copper tape conductor 20 x 3 mm size, copper earth plate of 3 mm thick and 0.81 sqm. in area, clamps at 1 M centre to centre including, necessary excavation, laying and fixing the conductor, providing and fixing 40 mm G.I. pipe upto 3 M height from ground and 0.5 M below ground including making all connections, filling earthing pit with charcoal, salt, etc. & refilling & watering, etc. complete as per specifications laid down in relevant I.S. codes.					
	For tape of 10 M length					
1.00		NO	15,641.85	INR Fifteen Thousand Six Hundred & Forty One and Paise Eighty Five Only	15,641.85	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 6					35,24,821.00	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:7		SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)		COST Rs.		5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Excavation for Foundation/ pipe trenches for works of Transmission mains, for all types of pipe materials in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering, laying of pipe, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge					
	Lift 0 to 1.5 M					
6246.00		Cum	812.46	INR Eight Hundred & Twelve and Paise Forty Six Only	50,74,625.16	
	Item No. 2 :-					
	Excavation for foundation / pipe trenches in hard rock and concrete road by chiselling, wedging, line drilling, by mechanical means or by all means other than blasting including trimming and levelling the bed, removing the excavated material upto a distance of 50 metres beyond the area and lifts as below, stacking as directed by Engineer-in-charge, normal dewatering, excluding backfilling, etc. complete by all means.					
	Lift 1.50 to 3.0 M					
1041.00		Cum	1,261.70	INR One Thousand Two Hundred & Sixty One and Paise Seventy Only	13,13,429.70	

SUB-WORK NO.:	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 3 :-				
	Providing D.I. pipes (push on joints pressure pipes of D. I. of following class and diameters confirming to the I. S. specification inclusive cost of jointing materials (Rubber gasket of EPDM Quality) excluding GST levied by GOI & GOM in all respect including Third party inspection charges of TPI Agency approved by MJP including Transit insurance, Railway Freight, Unloading from railway wagon, Loading into Truck, Trans- portation to departmental store, unloading, stacking etc. completed as directed by Engineer in charges (IS 1536/2001 for pipes and IS 158/1969 and IS 12820/1989 or latest edition/ revision with amendments for Rubber Gaskets.				
	D.I. K-9 - 600 mm				
3470.00		RMT	11,896.00	INR Eleven Thousand Eight	4,12,79,120.00
	Item No. 4 :-				
	Lowering laying and jointing with SBR ruber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameter in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of material from stores to site of work, including cost of jointing materials and rubber rings labour etc. complete. Note : Only SBR Rubber gaskets to be used as per IS-5382 and IS-12820.				
	C.I. 'L.A.' Class / Mortar inlined D.I.K-9/ K-7 -600 mm without Rubber Rings				
3470.00		RMT	529.20	INR Five Hundred & Twenty Nine	18,36,324.00
	Item No. 5 :-				
	Hydraulic testing of C.I./D.I. pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position using water supplied by the contractor.				
	C.I. 'L.A.' Class / Mortar inlined D.I.K-9/ K-7 -600 mm without Rubber Rings				

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
3.47		Km	58,889.25	INR Fifty Eight Thousand Eight	2,04,345.70
	Item No. 6 :-				
	Providing and supplying ISI standard D. I. specials & fitting with sealing rubber gasket of S.B.R,complete with cast iron follower gland and M. S. nut bolts coated or otherwise protected from rusting and suitable for D.I.pipes including cost of labour, materials, and transportation to stores, loading and unloading excluding GST levied by GOI & GOM in all respect etc. complete as per IS-9523. For all types of specials, bends tees etc.				
	350 mm & above dia.				
6607.00		Kg	186.00	INR One Hundred & Eighty Six	12,28,902.00
	Item No. 7 :-				
	Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron confirming to EN 1563/IS 1865 Gr. 500/7 or Gr.400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 250 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845. including transportation charges excluding GST levied by GOI & GOM in all respect etc. complete. (For PN 10 & 16)				
	Kinetic Air Valve Flanged Type - PN -1- 100 MM				
7.00		NO	21,904.00	INR Twenty One Thousand Nine	1,53,328.00
	Item No. 8 :-				

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Lowering, laying and fixing in proper alignment and position all types of C.I. air valves as directed by Engineer-in-charge including cost of conveyance from stores to site of work, cost of all material and giving satisfactory hydraulic testing, etc. complete. (for all class of valves).				
	Kinetic Air Valve (PN-1 and PN - 1.6)- 100 MM				
7.00		NO	592.20	INR Five Hundred & Ninety Two	4,145.40
	Item No. 9 :-				
	Providing and fixing in position air valve shaft including providing and fixing GI Medium Class or 6 mm thick M.S. pipe shaft 2.70 M long over branch flange of air valve tee, providing PCC block of M-150 concrete, 150 mm thick around the air valve tee including encasing of vertical shaft in PCC M-150 as shown in type design together with providing and making flanged joints wherever required and fixing of air valve tee, etc. complete as per type design and as directed by Engineer -in- charge for following diameters of pipe lines (type design attached.)				
	Foundation on Murum and Harder Strata-upto 450-900 MM				
7.00		NO	16,048.20	INR Sixteen Thousand &Forty	1,12,337.40
	Item No. 10 :-				

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non-rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/ 16 rated, with body and bonnet of ductile iron conforming to IS 1865 Gr. 500/7 or Gr.400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/1.4104, stem seals min. 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 250 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. including transportation charges excluding GST levied by GOI & GOM in all respect etc. complete. (For PN 10 & 16)				
1.00	Sluice valves -600 MM	NO	4,37,862.00	INR Four Lakh Thirty Seven	4,37,862.00
1.00	Sluice valves -300 MM	NO	63,505.00	INR Sixty Three Thousand Five	63,505.00
	Item No. 11 :-				
	Lowering, laying and jointing in position following C.I.D/F Reflex valves, Butterfly valves and Sluice valves including cost of all labour jointing material, including nut bolts and giving satisfactory hydraulic testing etc. complete. (Rate for all class of valves.)				
1.00	600 MM	NO	11,476.50	INR Eleven Thousand Four	11,476.50
1.00	300 MM	NO	5,902.05	INR Five Thousand Nine Hundred	5,902.05
	Item No. 12 :-				
	Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm to 20 cm layers including watering and compaction, etc. complete.				
281.07		Cum	96.60	INR Ninety Six and Paise Sixty	27,151.36
	Item No. 13 :-				

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Filling in plinth and floors / trenches with contractor's murum for bedding in 15 cm to 20 cm layers including watering and compaction, etc. complete. (Bd-A-11/263)				
281.07		Cum	957.60	INR Nine Hundred & Fifty Seven	2,69,152.63
	Item No. 14 :-				
	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum)				
	In PCC M-150				
62.46		Cum	6,353.00	INR Six Thousand Three Hundred	3,96,808.38
	Item No. 15 :-				
	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M- 250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)				
	In RCC M-200				
111.11		Cum	7,854.50	INR Seven Thousand Eight	8,72,716.64
	Item No. 16 :-				
	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc. complete.				
5619.32		Cum	96.60	INR Ninety Six and Paise Sixty	5,42,826.12
	Item No. 17 :-				
	Utility Shifting				
	Repairing the damaged water supply pipe line of HSC, Electrical/ Telephone/ Other cable including cost of G.I. Pipe and cables with all connection material, labours etc. complete.				
1.74		Km	31524.00	INR Thirty One Thousand Five	54,694.14

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 18 :-				
	Removing and transporting the excavated surplus material of all categories and disposing of the same as directed, including loading, conveying, spreading or stacking beyond the initial lead of 5 Km as directed etc. complete				
	5 Km				
1948.75		Cum	434.72	INR Four Hundred & Thirty Four	8,47,163.42
	Item No. 19 :-				
	Providing and fixing in position M.S. air valve boxes fabricated with 2 mm thick M.S. plate, 30 x 30 x 3 mm size M.S. angle frame, concreting in M-150 for fixing the box in position, applying two coats of oil paint, painting chainage, locking arrangement, etc. complete as directed by Engineer-in-charge.				
	For double ball air valve				
7.00		No.	3,942.75	INR Three Thousand Nine	27,599.25
	Item No. 20 :-				
	Valve Chamber with Precast RCC Covers Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast RCC frame and cover, etc. complete as directed by Engineer-in-charge.				
	As above of 1.5 x 1.5 M internal size and depth upto 1.5 M with precast R.C.C slab cover				
2.00		No.	33,165.30	INR Thirty Three Thousand One	66,330.60
	Item No. 21 :-				
	Reinstating of road surface after laying of sewer pipe to its original condition and level .specification of work as per PWD				
2200.00		Sqm	1,701.05	INR One Thousand Seven	37,42,310.00
	Item No. 21 :-				

SUB-WORK NO.:7	SEWAGE PUMPING MAIN (Zone I - 600 mm Dia. , L- 3470 M)			COST Rs.	5,95,76,444.02
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, 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, etc. complete (including cost of binding wire). (Bd-F 17/306)				
11.11	Tor Steel	MT	90,395.55	INR Ninety Thousand Three	10,04,388.57
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 7					5,95,76,444.02

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 1 :-				
	Excavation for Foundation/ pipe trenches for works of Transmission mains, for all types of pipe materials in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering, laying of pipe, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge				
	Lift 0 to 1.5 M				
4260.75		Cum	812.46	INR Eight Hundred & Twelve and Paise Forty Six Only	34,61,688.95
	Item No. 2 :-				
	Excavation for foundation / pipe trenches in hard rock and concrete road by chiselling, wedging, line drilling, by mechanical means or by all means other than blasting including trimming and levelling the bed, removing the excavated material upto a distance of 50 metres beyond the area and lifts as below, stacking as directed by Engineer in-charge, normal dewatering, excluding backfilling, etc. complete by all means.				
	Lift 1.50 to 3.0 M				
994.18		Cum	1,261.70	INR One Thousand Two Hundred & Sixty One and Paise Seventy Only	12,54,350.60
	Item No. 3 :-				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing D.I. pipes (push on joints pressure pipes of D. I. of following class and diameters confirming to the I. S. specification inclusive cost of jointing materials (Rubber gasket of EPDM Quality) excluding GST levied by GOI & GOM in all respect including Third party inspection charges of TPI Agency approved by MJP including Transit insurance, Railway Freight, Unloading from railway wagon, Loading into Truck, Trans- portation to departmental store, unloading, stacking etc. completed as directed by Engineer in charges (IS 1536/2001 for pipes and IS 158/1969 and IS 12820/1989 or latest edition/ revision with amendments for Rubber Gaskets. (IS:8329-2000 Latest Version)				
	D.I. K-9 - 700 mm				
2185.00		RMT	15,337.00	INR Fifteen Thousand Three Hundred & Thirty Seven Only	3,35,11,345.00
	Item No. 4 :-				
	Lowering laying and jointing with SBR ruber gaskets C.I. S/S pipes of various classes with CI / MS specials of following diameter in proper position, grade and alignment as directed by Engineer-in-charge including conveyance of material from stores to site of work, including cost of jointing materials and rubber rings labour etc. complete. Note : Only SBR Rubber gaskets to be used as per IS-5382 and IS-12820.				
	C.I. 'L.A.' Class / Mortar inlined D.I.K-9/ K-7 -700 mm without Rubber Rings				
2185.00		RMT	745.50	INR Seven Hundred & Forty Five and Paise Fifty Only	16,28,917.50
	Item No. 5 :-				
	Hydraulic testing of C.I./D.I. pipe line to specified pressure including cost of all materials and labour and water for testing for specified length including cutting, placing end cap making arrangement for filling safe water using reciprocating type pumps which should be able to provide specified test pressure gauges and other necessary equipments, labour, operation charges, etc. required for testing. The rate under this item shall also include cost of retesting, if necessary and reinstating to original position using water supplied by the contractor.				
	C.I. 'L.A.' Class / Mortar inlined D.I.K-9/ K-7 -700 mm without Rubber Rings				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
2.19		Km	82,772.55	INR Eighty Two Thousand Seven Hundred & Seventy Two and Paise Fifty Five Only	1,80,858.02
	Item No. 6 :-				
	Providing and supplying ISI standard D. I. specials & fitting with sealing rubber gasket of S.B.R,complete with cast iron follower gland and M. S. nut bolts coated or otherwise protected from rusting and suitable for D.I.pipes including cost of labour, materials, and transportation to stores, loading and unloading excluding GST levied by GOI & GOM in all respect etc. complete as per IS-9523. For all types of specials, bends tees etc.				
	350 mm & above dia.				
7645.00		Kg	186.00	INR One Hundred & Eighty Six Only	14,21,970.00
	Item No. 7 :-				
	Providing and supplying at site ductile iron / Spheroidal Graphite (S.G.) iron single / Double chamber tamper proof air valve without isolating sluice valve. Valves in accordance with BSEN 1074-4 of PN 10/16 rated, with body and bonnet of ductile iron confirming to EN 1563/IS 1865 Gr. 500/7 or Gr.400/15 floats, float guide, seat ring of stainless steel 1.4436/1.4306, seat ring gasket of WRAS approved EPDM rubber (suitable for drinking water), internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 250 microns. Flange connections as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14845. including transportation charges excluding GST levied by GOI & GOM in all respect etc. complete. (For PN 10 & 16)				
	Kinetic Air Valve Flanged Type - PN -1- 150 MM				
4.00		NO	30,465.00	INR Thirty Thousand Four Hundred & Sixty Five Only	1,21,860.00
	Item No. 8 :-				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Lowering, laying and fixing in proper alignment and position all types of C.I. air valves as directed by Engineer-in-charge including cost of conveyance from stores to site of work, cost of all material and giving satisfactory hydraulic testing, etc. complete. (for all class of valves).				
	Kinetic Air Valve (PN-1 and PN - 1.6)- 150 MM				
4.00		NO	927.15	INR Nine Hundred & Twenty Seven and Paise Fifteen Only	3,708.60
	Item No. 9 :-				
	Providing and fixing in position air valve shaft including providing and fixing GI Medium Class or 6 mm thick M.S. pipe shaft 2.70 M long over branch flange of air valve tee, providing PCC block of M-150 concrete, 150 mm thick around the air valve tee including encasing of vertical shaft in PCC M-150 as shown in type design together with providing and making flanged joints wherever required and fixing of air valve tee, etc. complete as per type design and as directed by Engineer -in- charge for following diameters of pipe lines (type design attached.)				
	Foundation on Murum and Harder Strata-upto 450-900 MM				
4.00		NO	16,048.20	INR Sixteen Thousand &Forty Eight and Paise Twenty Only	64,192.80
	Item No. 10 :-				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and supplying at site of ductile iron / spheroidal graphite (S.G.) iron D/F non-rising spindle resilient seated glandless sluice valves with handwheel & without bypass arrangement. Valves in accordance with BS 5163 of PN-10/ 16 rated, with body and bonnet of ductile iron conforming to IS 1865 Gr. 500/7 or Gr.400/15. Wedge fully encapsulated WRAS approved EPDM rubber (approved for drinking water), Wedge nut of brass, shaft of stainless steel 1.4021/1.4104, stem seals min. 3 nos. of NBR, internal fasteners of stainless steel A2. Body & Bonnet coated inside & outside with electrostatically applied epoxy powder coated blue colour (suitable for drinking water) as per DIN 30677-2 & GSK guidelines with a coating thickness of min. 250 microns. Valves should be full bore & tight shut-off. Flange drilling as per IS 1538 raised face & pressure testing at manufactures works shall be done as per IS 14846. including transportation charges excluding GST levied by GOI & GOM in all respect etc. complete. (For PN 10 & 16)				
1.00	Sluice valves -700 MM	NO	4,37,862.00	INR Four Lakh Thirty Seven Thousand Eight Hundred & Sixty Two Only	4,37,862.00
1.00	Sluice valves -300 MM	NO	63,505.00	INR Sixty Three Thousand Five Hundred & Five Only	63,505.00
	Item No. 11 :-				
	Lowering, laying and jointing in position following C.I.D/F Reflex valves, Butterfly valves and Sluice valves including cost of all labour jointing material, including nut bolts and giving satisfactory hydraulic testing etc. complete. (Rate for all class of valves.)				
1.00	700 MM	NO	12,374.25	INR Twelve Thousand Three Hundred & Seventy Four and Paise Twenty Five Only	12,374.25
1.00	300 MM	NO	5,902.05	INR Five Thousand Nine Hundred & Two and Paise Five Only	5,902.05
	Item No. 12 :-				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
191.73	Filling in plinth and floors murum bedding in trenches with approved murum from excavated materials from foundation in 15 cm to 20 cm layers including watering and compaction, etc. complete. (Bd-A-10/263)	Cum	96.60	INR Ninety Six and Paise Sixty Only	18,521.48
	Item No. 13 :-				
191.73	Filling in plinth and floors / trenches with contractor's murum for bedding in 15 cm to 20 cm layers including watering and compaction, etc. complete. (Bd-A-11/263)	Cum	957.60	INR Nine Hundred & Fifty Seven and Paise Sixty Only	1,83,604.24
	Item No. 14 :-				
42.61	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum)	Cum	6,353.00	INR Six Thousand Three Hundred & Fifty Three Only	2,70,685.45
	In PCC M-150				
	Item No. 15 :-				
117.48	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M- 250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	Cum	7,854.50	INR Seven Thousand Eight Hundred & Fifty Four and Paise Fifty Only	9,22,758.44
	In RCC M-200				
	Item No. 16 :-				
3945.78	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc. complete.	Cum	96.60	INR Ninety Six and Paise Sixty Only	3,81,162.57

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 17 :- Utility Shifting				
	Repairing the damaged water supply pipe line of HSC, Electrical/ Telephone/ Other cable including cost of G.I. Pipe and cables with all connection material, labours etc. complete.				
1.09		Km	31524.00	INR Thirty One Thousand Five Hundred & Twenty Four Only	34,439.97
	Item No. 18 :-				
	Removing and transporting the excavated surplus material of all categories and disposing of the same as directed, including loading, conveying, spreading or stacking beyond the initial lead of 5 Km as directed etc. complete				
	5 Km				
1500.88		Cum	434.72	INR Four Hundred & Thirty Four and Paise Seventy Two Only	6,52,462.53
	Item No. 19 :-				
	Providing and fixing in position M.S. air valve boxes fabricated with 2 mm thick M.S. plate, 30 x 30 x 3 mm size M.S. angle frame, concreting in M-150 for fixing the box in position, applying two coats of oil paint, painting chainage, locking arrangement, etc. complete as directed by Engineer-in-charge.				
	For double ball air valve				
4.00		No.	3,942.75	INR Three Thousand Nine Hundred & Forty Two and Paise Seventy Five Only	15,771.00
	Item No. 20 :-				
	Valve Chamber with Precast RCC Covers Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast RCC frame and cover, etc. complete as directed by Engineer-in-charge.				
	As above of 1.5 x 1.5 M internal size and depth upto 1.5 M with precast R.C.C slab cover				

SUB-WORK NO.:8	SEWAGE PUMPING MAIN (Zone II - 700 mm Dia. , L- 2185 M)			COST Rs.	4,95,18,561.52
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
2.00		No.	33,165.30	INR Thirty Three Thousand One Hundred & Sixty Five and Paise Thirty Only	66,330.60
	Item No. 21 :-				
	Reinstating of road surface after laying of sewer pipe to its original condition and level .specification of work as per PWD				
2200.00		Sqm	1,701.05	INR One Thousand Seven Hundred & One and Paise Five Only	37,42,310.00
	Item No. 21 :-				
	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, 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, etc. complete (including cost of binding wire). (Bd-F 17/306)				
11.75	Tor Steel	MT	90,395.55	INR Ninety Thousand Three Hundred & Ninety Five and Paise Fifty Five Only	10,61,980.48
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 8					4,95,18,561.52

LATUR CITY MUNICIPAL CORPORATION					
Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme					
SCHEDULE - B OF TENDER					
Memorandum showing the approximate quantity of work to be executed and rate thereof					
SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Item No. 1 :-				
	Designing, providing, constructing, hydraulic testing, commissioning and giving satisfactory trials of STP based on SBR technology with SCADA & Automation and consisting of Inlet Chamber, Screen Chamber, Detritus tanks, Distribution Chamber and Biological CASP Basins, Sludge Sump, Chlorine Contact Tank, Chlorinator Room/Shed, Sludge Centrifuge necessary piping work with required valves, gates, drains, pathways Administration Block cum Laboratory, Laboratory Equipments, Tools and Plants, Spare Parts, etc. complete as turnkey job with all involved civil, electrical and mechanical works including HT Substation , Transformeres, DG Sets, Metering Cubical Instrumentation works etc. as specification inclusive of following items, units as per detailed specification for civil , electrical and mechanical components				
	with all duties and taxes, etc. complete to achieve BOD < 5 ppm, COD < 100 ppm, TSS < 10 ppm, to get recyclable quality of water for industrial / agricultural purposes. (In Case Cyclic activated sludge plant is esigned for N, P outlet parameters shall also include TN < 10 ppm, Nh3N < 2 ppm and TP < 1 ppm)				
	UNITS INCLUDED				
	1. Inlet Chamber				

SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Designing, providing, and constructing RCC (M:250) inlet chamber for the peak low of 2 DWF including necessary excavation in all types of strata including walkway all around the periphery. Each compartment will have phosphor bronze steel gates with extension rod, head stock, operating wheels. GI pipe railing etc. The work includes providing and making necessary arrangements to connect the flow to screen chamber by approach channel as directed and as per specifications.				
	2. Screen Chamber				
	Designing, providing, constructing, testing and commissioning of screen chamber, designed for average 1 DWF and maximum peak flow of 2 DWF in RCC (M -250), including inlet pipe / channel from inlet chamber, outlet pipe channel to detritus tank, free board of 0.5 m minimum, RCC walkway 1.2 m wide with GI pipe railing, RCC stair case of 1.2 m width from GL to screen chamber.				
	3. Detritus Tank				

SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	<p>Designing, providing and constructing continuous grit removal type of Detritus Tank, mechanically operated in RCC (M 250) capable of removing 100 % of 0.2 mm size particle and above, having specific gravity 2.30 designed for one peak 2 DWF with suitable arrangement of separation of grit from putrescible solids. Inlet and outlet channels of required sizes as may be required to connect the flow to connecting unit etc. Complete including hydraulic testing for water tightness of structure having minimum FB of 0.3 m, wash out arrangement to Grit chamber and platform 1.2 m wide RCC walkway with GI pipe handling shall be provided. A pit for collecting grit conveyed by conveyor shall be provided. It should be suitable to handle the grit for carting. All arrangements shall be as detailed specifications and as directed.</p>				
	4. CASP Basins				

SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	<p>Designing, providing and constructing in RCC (M:250), CASP basins for biological removal of BOD along with nitrification, denitrification, Bio-P removal in compartments to handle combine flow of 1 DWF incoming flow and recirculation flow including construction of selector compartments and providing 1.2 m wide clear approach walkways, expansion joints wherever necessary, including foundations etc as per specifications. Peak factor shall be 2, F/M ration shall be 0.15, complete with air blowers, fine diffused aeration grid / equipment and FB 0.5 m and SWD as required. DO level in basin to be minimum 2 mg/l complete with "Oxygen Uptake Rate" control system and all related instruments. Stainless steel decanters and automation works. MLSS concentrations shall be 2000-5500 mg/l or more, MLVSS to MLSS ratio to be 0.8. HRT shall be between 12 to 13 hrs and SRT suitable for fully digested sludge. It should have all other related works as per detailed specification. In Case CASP is designed to achieve N, P removal HRT shall be between 15-18 hrs and SRT shall be suitably provided to achieve N, P removal.</p>				
	5. Chlorine Contact Tank				
	<p>Designing providing and constructing chlorine contact chamber of adequate capacity to deal with 1 DWF average flow. The chlorine contact tank should be 30 min capacity, during average flow to achieve 99.99% coliform reduction. Chlorine dose shall be maintained as per standard provisions, including designing, providing and constructing water supply provision for chlorination including providing dewatering and by pass arrangement jointing to final effluent mains and outlet weir, etc complete. The effluent quality should match with the standards laid down by Maharashtra water pollution control board and as per obligatory provision and as detailed specification and as directed by Engineer-in-charge.</p>				
	6. Chlorinator and Chlorinator Room / Tonner Room				

SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	<p>Designing, providing and constructing chlorinators vacuum type 2 Nos. with auto switchover facility and having capacity for dosage of adequate chlorine to ensure 99.99% coliform reduction as per obligatory provisions and detailed specifications with necessary provision of having chlorinator room of adequate size. The chlorinator equipment shall include cost of chlorine cylinders / tonner piping, valves, measuring and controlling equipments, safety devices, lifting equipments, etc. complete as per IS-10553 (part II) 1982. The tonner room should have minimum 3 MTcapacity Hoist for loading and unloading facility. Tonner storage should be distinctly isolated and should be for minimum storage space as directed in the design specification and as per gas laws 1981 and factory act shall be provided. All other matching amenities shall be provided, 5 MT gantry rail shall be provided for full length of tonner room at 6 m height from level of tonner room, with outlet chamber and treated effluent outlet channel etc. complete as per detailed</p>				
	7. Sludge Sump				
	<p>Designing, providing and constructing of sludge sump and pump house of appropriate size with pumps, ceiling height minimum 6 m over sump for discharging sludge to centrifuge using CI pipe, etc. complete as per detailed specification.</p>				
	8. Sludge Centrifuge Platform with Centrifuges				
	<p>Designing, providing, constructing and installing including foundation etc., sludge centrifuge to handle the sludge flow of 1 day in 20 hours per unit with sludge dewatering unit drain etc. complete as per specification. Sludge centrifuges with the necessary arrangement, as per detailed specification mentioned in tender and obligatory provisions to be provided with satisfactory functioning.</p>				
	9. Outfall Sewer				

SUB-WORK NO.:9	SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	<p>Designing, providing and constructing appropriate outfall sewer of RCC NP2 pipe, to discharge treated effluent from outlet chamber after chlorination tank to the local Nallah at the point shown on the drawing including necessary chamber for inspection and cleaning including necessary excavation, dewatering, refilling, concrete encasing / bedding concrete steps to reach the nallah bed level, pitching and energy dissipation chamber in nallah portion etc. complete upto 50 m length RCC NP2 pipe line and including all above items.</p>				
	<p>10. Piping work in CI-LA Class including Sluice valves, Reflux Valves, MS gates</p>				
	<p>Providing laying and jointing pipes other than those already included in the above items for interconnection by - pass drains etc. of all units including adequate numbers of manhole chambers.</p> <p>The item includes excavations, refilling and hydraulic testing of pipes, valves, gates, accessories and cost of jointing materials. The items includes required channels with gates for interconnection of units, by pass drains etc for all units as directed etc. complete as per detailed specifications.</p>				
	<p>11. Administrative Building cum Laboratory (G+1)</p>				

SUB-WORK NO.:9		SEWAGE TREATMENT PLANT - 53 MLD (ZONE- I & II)			COST Rs.	#####
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	<p>Designing, providing and constructing administrative building, office cum laboratory including stores. This shall be a building having appropriate carpet area and ground floor and at first floor complete as per specifications including necessary excavation, foundation in RCC M 200 framed structure B. B masonry (IInd- class in C.M. 1:6) 20 mm cement plaster in CM 1:3 inside and outside painting. Aluminium door and window with glass panels, mosaic tile flooring and skirting and all other allied items, fixtures fastening electrification arrangement water supply arrangement etc. complete.</p> <p>The building will have laboratory on upper floor of administrative building and should be so centralized that it should not be attached with any unit but should have complete control of every unit as per laboratory equipment, beautification, telephone and intercom arrangement and</p>					
	NOTES					
	These Rates are for Civil Works, in M30 grade RCC.					
	Water Table is considered at 5 m below ground level.					
	Soil bearing capacity considered as 20 T/m ² at 1.5 m below ground level.					
	All civil items, electrical, piping, valves, pumps, motors, blowers, etc. are considered as per MJP Schedule of Rates.					
	53 MLD Capacity STP					
53.00		MLD	98,42,841.36	INR Ninety Eight Lakh Forty Two Thousand Eight Hundred & Forty One and Paise Thirty Six Only	52,16,70,592.08	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 9					52,16,70,593.00	

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:10		APPROACH ROAD		COST Rs.		8,91,607.50
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
450.00	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.60	INR Twelve and Paise Sixty Only	5670.00	
	Item No. 2 :-					
180.00	Excavation for roadway in earth, soil of all sorts, sand, gravel or soft murum including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed. By Manual Means.	m ³	124.95	INR One Hundred & Twenty Four and Paise Ninety Five Only	22491.00	
	Item No. 3 :-					
180.00	Providing earth work in embankment with approved materials obtained from 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 & section, watering and compaction with vibratory roller with V-Sat attachment to achieve not less than 97 % of standard proctor density etc. complete (Material obtained from Other sources)	m ³	794.85	INR Seven Hundred & Ninety Four and Paise Eighty Five Only	143073.00	
	Item No. 4 :-					
180.00	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 vibratory roller.	m ³	95.55	INR Ninety Five and Paise Fifty Five Only	17199.00	
	Item No. 5 :-					

Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
135.00	Providing dry trap / granite / quartzite / gneiss, rubble stone soling in 15cm to 20 cm thick layers (including hand packing and compacting), etc. complete.	m ²	1381.80	INR One Thousand Three Hundred & Eighty One and Paise Eighty Only	186543.00
	Item No. 6 :-				
67.50	Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader / Paver on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -- By Mix in Place Method and Grading - I Material	m ³	1894.20	INR One Thousand Eight Hundred & Ninety Four and Paise Twenty Only	127858.50
	Item No. 7 :-				
67.50	Construction of granular sub-base by providing close graded material, spreading in uniform layers with motor grader/ Paver on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -- By Mix in Place Method and Grading -II Material	m ³	1894.20	INR One Thousand Eight Hundred & Ninety Four and Paise Twenty Only	127858.50
	Item No. 8:-				
450.00	Prime coat - Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including cleaning of road surface and spraying, primer at the rate of 0.60 kg/sqm using mechanical means.	m ³	34.65	INR Thirty Four and Paise Sixty Five Only	15592.50
	Item No. 9:-				
22.50	DENSE BITUMINOUS MACADAM: Proving and laying dense bituminous macadam using crushed aggregates of Grading 1, premixed with bituminous binder of specified grade of Bitumen @4.50 per cent by weight of total mix and filler, transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired density for 76-100 mm compacted thickness .USING Batch mix type hot mix plant with SCADA, Sensor Paver, Vibratory roller with Stone Dust filler.(VG-30 bulk bitumen rates are considered to arrive at rates)	m ²	10147.20	INR Ten Thousand One Hundred & Forty Seven and Paise Twenty Only	228312.00
	Item No. 10:-				

Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
900.00	Providing and applying tack coat on the prepared surface heating by fumes in Boiler and spraying bitumen set footed in bitumen boller on B.T. surface 2.5 kg/10 sqm.(VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	18.90	INR Eighteen and Paise Ninety Only	17010.00
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 10					8,91,607.50

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:11		STAFF QUARTER		COST Rs.		42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Excavation for Foundation / pipe trenches in earth, soils of alltypes, sand gravel and soft mrrum,including removing the excavated material up to a distance of 50 metres and lifts as below m stacking and spreading as directed , manual dewatering, preparing the bed for foundation and excluding backfilling etc. complete. (Bd-A-1 /259)					
	Lift 0 to 1.5 M					
62.21		Cum	181.50	INR One Hundred & Eighty One and Paise Fifty Only	11,290.75	
	Item No. 2 :-					
	Excavation for foundation / pipe trenches in soft rock and old cement and lime masonry foundation asphalt road including removing the excavated material upto a distance of 50 M beyond the area and lifts as below, stacking as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete.(Bd-A-4/259)					
	Lift 0 to 1.5 M					
62.21		Cum	691.90	INR Six Hundred & Ninety One and Paise Ninety Only	43,041.72	
	Item No. 3 :-					
	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B-7, Page No. 38					
	In PCC M-150					
21.19		Cum	6,353.00	INR Six Thousand Three Hundred & Fifty Three Only	1,34,599.74	

SUB-WORK NO.:11 STAFF QUARTER				COST Rs.		42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 4 :-					
	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement					
	In RCC M-200					
46.66		Cum	7,854.50	INR Seven Thousand Eight Hundred & Fifty Four and Paise Fifty Only	3,66,459.55	
	Item No. 5 :-					
	Filling in plinth and floors / trenches with contractor's murum for bedding in 15 cm to 20 cm layers including watering and compaction, etc. complete. (Bd-A-11/263)					
156.43		Cum	957.60	INR Nine Hundred & Fifty Seven and Paise Sixty Only	1,49,799.00	
	Item No. 6 :-					
	Providing and casting in situ Cement Concrete of trap/ granite / quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer- in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with CM 1:3 of sufficient minimum thickness if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)					
	In RCC M-200 -All types of Column					
14.53		Cum	9,426.35	INR Nine Thousand Four Hundred & Twenty Six and Paise Thirty Five Only	1,36,978.06	
	Item No. 7 :-					

SUB-WORK NO.:11	STAFF QUARTER			COST Rs.	42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)				
	In RCC M-200 - -For Beams / Braces / Lintels				
29.80		Cum	9,278.30	INR Nine Thousand Two Hundred & Seventy Eight and Paise Thirty Only	2,76,503.55
	Item No. 8 :-				
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings				
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)				
	In RCC M-200 - Chajjas / Parapets / Curtain Walls / Partition Walls / Pardies				
1.51		Cum	9,907.25	INR Nine Thousand Nine Hundred & Seven and Paise Twenty Five Only	14,979.76
	Item No. 9 :-				

SUB-WORK NO.:11 STAFF QUARTER				COST Rs.		42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)					
	In RCC M-200 - Slabs / Landings / Vertical Walls / Waist					
40.56		Cum	9,949.25	INR Nine Thousand Nine Hundred & Forty Nine and Paise Twenty Five Only	4,03,541.58	
	Item No. 10 :-					
	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, 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, etc. complete (including cost of binding wire). (Bd-F-17/306)					
	Tor Steel					
16.63		MT	86,091.00	INR Eighty Six Thousand & Ninety One Only	14,31,913.94	
	Item No. 11 :-					
	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.					
67.77		CUM	8,853.20	INR Eight Thousand Eight Hundred & Fifty Three and Paise Twenty Only	5,99,956.58	
	Item No. 12 :-					

SUB-WORK NO.:11 STAFF QUARTER				COST Rs.		42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	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. complete.					
381.00		SQM	325.00	INR Three Hundred & Twenty Five Only	1,23,825.00	
	Item No. 13 :-					
	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					
381.00		SQM	718.35	INR Seven Hundred & Eighteen and Paise Thirty Five Only	2,73,691.35	
	Item No. 14 :-					
	Providing neeru finish to plastered surfaces in all positions including scaffolding and curing etc. complete.					
381.00		SQM	68.25	INR Sixty Eight and Paise Twenty Five Only	26,003.25	
	Item No. 15 :-					

SUB-WORK NO.:11 STAFF QUARTER				COST Rs.	42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and fixing in position. (as per I.S.1868 / 1982) Aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50 x 38.10 x 1.02 mm at weight 0.547 kg/Rmt. and window frame bottom track section 61.85 x 31.75 x 1.20 mm at weight 0.695 kg/Rmt. Top and side track section 61.85 x 31.75 x 1.30 mm at weight 0.659 g/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 section 40 x 18 x 1.25 mm at weight 0.417 kg/Rmt. 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 with all required screws and nuts etc, complete. With colour Anodising with box.				
11.52		SQM	5,752.95	INR Five Thousand Seven Hundred & Fifty Two and Paise Ninety Five Only	66,273.98
	Item No. 16 :-				
	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				
14.40		SQM	2,201.85	INR Two Thousand Two Hundred & One and Paise Eighty Five Only	31,706.64
	Item No. 17 :-				
	Providing and fixing steel ventilator fully glazed partly fixed as per detailed drawing without hot dip zinc coating including fabricating glazing with plain / obscured glass panes 5 mm thick and approved type and quality and iron oxidized fixtures and fastening oil paint 2 coats etc. complete				

SUB-WORK NO.:11 STAFF QUARTER				COST Rs.		42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
2.88		SQM	3,543.75	INR Three Thousand Five Hundred & Forty Three and Paise Seventy Five Only	10,206.00	
	Item No. 18 :-					
	Providing and applying three coats of water proof cement paint of approved manufacture and of approved colour to new plastered surfaces including scaffolding if necessary, cleaning and preparing the surface, watering for two days etc. complete.					
381.00		SQM	109.20	INR One Hundred & Nine and Paise Twenty Only	41,605.20	
	Item No. 19 :-					
	Providing and applying washable oil-bound distemper of approved colour and shade to old and new surfaces in two coats including scaffolding, preparing the surfaces. (excluding the primer coat.) etc.complete.					
381.00		SQM	50.40	INR Fifty and Paise Forty Only	19,202.40	
	Item No. 20 :-					
	Providing and laying machine cut machine Polished Kota stone flooring 25mm to 30mm 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.					
56.35		SQM	1,315.10	INR One Thousand Three Hundred & Fifteen and Paise Ten Only	74,103.25	
	Item No. 21 :-					
	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc. complete.					
60.35		Cum	96.60	INR Ninety Six and Paise Sixty Only	5,829.33	

SUB-WORK NO.:11	STAFF QUARTER			COST Rs.	42,41,511.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 11					42,41,511.00

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:12		COMPOUND WALL		COST Rs.		52,41,587.21
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Excavation for foundation / pipe trenches in hard murum including removing the excavated material up to a distance of 50 M and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete.					
428.652	Pits for wall footings	Cum	196.35	INR One Hundred & Ninety Six and Paise Thirty Five Only	84165.82	
	i) Lift upto 1.50m. A) By Manual Means					
	Item No. 2 :-					
	Providing and laying in situ cement concrete M-15 of trap metal for foundation and bedding including bailing out water, formwork, compaction and curing complete. For M-150 Concrete					
33.075	For wall footings	Cum	6,442.60	INR Six Thousand Four Hundred & Forty Two and Paise Sixty Only	213089.00	
	Item No. 3 :-					
	Providing & laying in situ Ready mix cement concrete grade of trap / granite/ quartzite / gneiss metal for RCC works in foundation and footing of RCC column and steel stanchions including normal dewatering, form work, compaction finishing and curing including transporting from mixing plant upto distance of 25Km, pouring the concrete at work site for 1.5m lift above G.L. and 5.0m lift below GL etc complete .(Excluding reinforcement)					
49.392	Column Footings	Cum	7,951.45	INR Seven Thousand Nine Hundred & Fifty One and Paise Forty Five Only	392738.02	
	Item No. 4 :-					

SUB-WORK NO.:12 COMPOUND WALL				COST Rs.	52,41,587.21
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing & laying in situ Ready mix cement concrete grade of trap / granite/ quartzite / gneiss metal for RCC works in foundation and footing of RCC column and steel stanchions including normal dewatering, form work, compaction finishing and curing including transporting from mixing plant upto distance of 25Km, pouring the concrete at work site for 1.5m lift above G.L. and 5.0m lift below GL etc complete .(Excluding reinforcement)				
20.286	Columns	Cum	9,523.30	INR Nine Thousand Five Hundred & Twenty Three and Paise Thirty Only	193189.66
	Item No. 5 :-				
	Providing & laying in situ Ready mix cement concrete grade of trap / granite/ quartzite / gneiss metal for RCC works in foundation and footing of RCC column and steel stanchions including normal dewatering, form work, compaction finishing and curing including transporting from mixing plant upto distance of 25Km, pouring the concrete at work site for 1.5m lift above G.L. and 5.0m lift below GL etc complete .(Excluding reinforcement)				
24.950	Beams & Lintels M-200	Cum	9,375.25	INR Nine Thousand Three Hundred & Seventy Five and Paise Twenty Five Only	233912.49
	Item No. 6 :-				
	Providing & fixing in position steel bar reinforcement of various diameters for R.C.C. piles caps footings foundations slabs beams, lintels, slabs beams columns canopies staircase newels, chajjas, lintels padies 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. (including cost of binding wires)				
24.95	Tor Steel	MT	86091.00	INR Eighty Six Thousand & Ninety One Only	2147970.45
	Item No.7 :-				

SUB-WORK NO.:12 COMPOUND WALL				COST Rs.	52,41,587.21
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Refilling the trenches with available excavated stuff with soft material, first over pipeline and then hard material in 15cm layers with all leads and lifts, including consolidation, surcharging etc. complete.				
340.011		Cum	96.60	INR Ninety Six and Paise Sixty Only	32845.06
	Item No.8 :-				
	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.				
114.609		Cum	8777.95	INR Eight Thousand Seven Hundred & Seventy Seven and Paise Ninety Five Only	1006032.07
	Item No.9 :-				
	Providing sand faced cement plaster externally in two coats to brick or stone masonry surfaces in all positions with base coat of 12 to 15mm thick in c.m.1:4 and rough cast treatment 12mm thick in proportion 1:11/ 2:3 including scaffolding and fourteen days curing complete.				
1301.76		SqM	676.84	INR Six Hundred & Seventy Six and Paise Eighty Four Only	881083.24
	Item No.10 :-				
	Providing and fixing MS Gate 2.5 M Wide for compound with 40 mm dia. GI pipe medium class, approved grill work, RCC M-15 side pillars of 25cm x 40cm x 2.5 M height, its foundation, finishing, painting etc. complete				
1.00		Nos	34792.80	INR Thirty Four Thousand Seven Hundred & Ninety Two and Paise Eighty Only	34792.80
	Item No.11 :-				
1.00	Providing and fixing Wicket Gate 1.0 M Wide for compound with 40 mm dia. GI pipe medium class, approved grill work, RCC M-15 side pillars of 25cm x 40cm x 2.5 M height, its foundation, finishing, painting etc. complete	Nos	21768.60	INR Twenty One Thousand Seven Hundred & Sixty Eight and Paise Sixty Only	21768.60

SUB-WORK NO.:12	COMPOUND WALL			COST Rs.	52,41,587.21
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 12					52,41,587.21

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:13		FENCING WORK		COST Rs.		6,46,312.80
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Providing and erecting chain link fencing 1.6 M. height with G.I. chain link of size 50 x 50 mm, 8 gauge thick and fixed 75 mm above ground level on vertical M.S. Angles of 40 x 40 x 6 mm size, including excavating pits for foundation and embedded in C.C. block of 1:4:8 mix of size 450 x 450 x 670 mm. at 1.75 M. c/c with iron bar 16mm dia as hold fast including welding link with angle frame at 30 cm c/c with nuts and bolts and horizontal M.S. Angles at top and bottom of 25 x 25 x 5 mm size and vertical M.S. flat 35 x 5 mm and 25 x 5 mm horizontal including cross support of 40 x 40 x 6 mm angles both side at every corner or bend embedded in concrete blocks of 1:4:8 of size 450 x 450 x 670 mm including 3 coats of oil painting etc. complete.					
200.00		RMT	2,665.95	INR Two Thousand Six Hundred & Sixty Five and Paise Ninety Five Only	533190.00	
	Item No. 2 :-					
	Providing and fixing M.S. gate 2.5 M wide for compound with 40 mm dia G.I. pipe, approved grill work, RCC M-150 side pillars of 25 cm x 40 cm x 2.5 M height, its foundation, finishing, painting, etc. complete.					
2		No.	34,792.80	Thirty Four Thousand Seven Hundred & Ninety Two and Paise Eighty Only	69585.60	
	Item No. 3 :-					
	Providing and fixing Wicket gate 1.0 M wide for compound with 40 mm dia G.I. pipe, approved grill work, RCC M-150 side pillars of 25 cm x 40 cm x 2.5 M height, its foundation, finishing, painting, etc. complete.					

SUB-WORK NO.:13 FENCING WORK				COST Rs.	6,46,312.80
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
2		No.	21,768.60	Twenty One Thousand Seven Hundred & Sixty Eight and Paise Sixty Only	43537.20
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 13					6,46,312.80

LATUR CITY MUNICIPAL CORPORATION

Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme

SCHEDULE - B OF TENDER

Memorandum showing the approximate quantity of work to be executed and rate thereof

SUB-WORK NO.:14		Flood Protection Wall		COST Rs.		1,37,03,082.45
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No. 1 :-					
	Excavation for Foundation for works of Flood Protection wall/ Retaining Wall in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for PCC, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below. Lift 0 -1.50 M					
1929.837		Cum	343.33	INR Three Hundred & Forty Three and Paise Thirty Three Only	662570.94	
	Item No. 2 :-					

SUB-WORK NO.:14 Flood Protection Wall				COST Rs.	1,37,03,082.45
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Providing and laying Cast in situ/Ready Mix cement concrete in M15 of trap/ granite/quartzite/gneiss metal for foundation and bedding / steps including steel centering, formwork, laying/pumping, 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 fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Crushed sand VSI Grade)				
105.42		Cum	7,024.93	INR Seven Thousand &Twenty Four and Paise Ninety Three Only	740568.12
	Item No. 3 :-				
	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 (Crushed sand VSI Grade)				
223.80		Cum	7,909.57	INR Seven Thousand Nine Hundred & Nine and Paise Fifty Seven Only	1770161.77
	Item No. 4 :-				

SUB-WORK NO.:14 Flood Protection Wall				COST Rs.	1,37,03,082.45
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	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 (Crushed sand VSI Grade)				
249.26		Cum	16,868.59	INR Sixteen Thousand Eight Hundred & Sixty Eight and Paise Fifty Nine Only	4204664.74
	Item No. 5 :-				
	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.				
56.77		MT	94,188.15	INR Ninety Four Thousand One Hundred & Eighty Eight and Paise Fifteen Only	5347061.28
	Item No. 6 :-				
	Providing and fixing bituminous pad 25mm thick for expansion joints in retaining wall, compound wall etc. complete.				
40.35		Sqm	1,837.68	INR One Thousand Eight Hundred & Thirty Seven and Paise Sixty Eight Only	74150.39
	Item No. 7 :-				
	Providing and laying weep holes of 100 mm diameter PVC pipes as per drawing for abutment returns, return walls etc. Complete.				

SUB-WORK NO.:14 Flood Protection Wall				COST Rs.	1,37,03,082.45
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
127.88		RMT	559.65	INR Five Hundred & Fifty Nine and Paise Sixty Five Only	71568.04
	Item No.9 :-				
	Providing and erecting chain link fencing 1.6 M. height with G.I. chain link of size 50 x 50 mm, 8 gauge thick and fixed 75 mm above ground level on vertical M.S. Angles of 40 x 40 x 6 mm size, including excavating pits for foundation and embedded in C.C. block of 1:4:8 mix of size 450 x 450 x 670 mm. at 1.75 M. c/c with iron bar 16mm dia as hold fast including welding link with angle frame at 30 cm c/c with nuts and bolts and horizontal M.S. Angles at top and bottom of 25 x 25 x 5 mm size and vertical M.S. flat 35 x 5 mm and 25 x 5 mm horizontal including cross support of 40 x 40 x 6 mm angles both side at every corner or bend embedded in concrete blocks of 1:4:8 of size 450 x 450 x 670 mm including 3 coats of oil painting etc. complete.				
211.00		Cum	2665.95	INR Two Thousand Six Hundred & Sixty Five and Paise Ninety Five Only	562515.45
	Item No.10 :-				
	Refilling the trenches with available excavated stuff with soft material first over pipeline and then hard material in 15 cm layers with all leads and lifts including consolidation, surcharging, etc. complete.				
1475.987		Cum	96.60	INR Ninety Six and Paise Sixty Only	142580.34
	Item No.11 :-				
	Filling in plinth and floors with approved excavated material in 15cm. to 20cm. Layers including watering and compacting etc. complete.				
226.925		Cum	126.00	INR One Hundred & Twenty Six Only	28592.55
	Item No.12 :-				

SUB-WORK NO.:14 Flood Protection Wall				COST Rs.	1,37,03,082.45
Qty	Description of Item	Unit	Rate		Amount (Rs.)
			In figure	In words	
	Removing and transporting the exavated surplus material of all categories and disposing of the same as directed, including loading, convyeing, spreading or stacking beyond the initial lead of 5 Km as directed etc. complete				
226.925		Cum	434.72	INR Four Hundred & Thirty Four and Paise Seventy Two Only	98648.84
TOTAL COST OF SUBWORK NO.SUB-WORK NO.: 14					1,37,03,082.45

LATUR CITY MUNICIPAL CORPORATION						
Project Name : Underground Sewerage Scheme for Latur City Municipal Corporation Under AMRUT 2.0 Scheme						
SCHEDULE - B OF TENDER						
Memorandum showing the approximate quantity of work to be executed and rate thereof						
SUB-WORK NO.:	15	TRIAL & RUN FOR 3 MONTHS			COST Rs.	3,55,300.00
Qty	Description of Item	Unit	Rate		Amount (Rs.)	
			In figure	In words		
	Item No 1					
	Commissioning, running and maintaining the scheme the to quantities, rated capacity, including managing necessary personnels such as operator, valve man, labour etc. as per requirments of the scheme and who should also administrator, chemical dose for period of Three months together with training of personnels spared by local body and handing over scheme to local body after completion of the above period as directed by engineer in charge. TRIAL & RUN FOR 3 months					
1		Job	3,55,300.00	INR Three Lakh Fifty Five Thousand Three Hundred Only		3,55,300.00
TOTAL COST OF SUBWORK NO.SUB-WORK NO.:					15	3,55,300.00

GENERAL SPECIFICATION

GS-1

1) All the materials used in the work shall be of best quality and the material rejected shall be removed from the site by the contractor within 36 hours in the presence of the Engineer in charge at his own cost.

2) All other rules regarding workmen compensations etc will be binding on the contractor.

Unwanted persons shall be dispensed with if called upon by the Engineer in charge.

3) Other unforeseen items to be executed in course of work will have to be done by the contractor as per specifications, in P.W.D. Hand book volume I and II (Latest Edition) I.S. code of practice and as per standard specifications book of latest edition.

4) The contractor shall be responsible and liable to pay for the damages caused by him to public property etc.

5) All T and P machinery shall be provided by the contractor. Non availability of the same shall not be an excuse for application for extension of time limit.

6) Water of good quality for labour, construction, washing and such other purposes shall be provided by the contractor without any claim for extra cost.

7) Materials belonging to contractor if not removed from site of works after completion of the work within a period of 15 days shall be taken over by Maharashtra Jeevan Pradhikaran department at contractors risk and cost and then shall be auctioned at the contractor's risk and cost. The amount so recover shall be credited to contractor's account after recovery of any dues or over payments etc.

8) The final bill and deposits will not be paid unless the site is cleared off all rubbish materials and contractor's stores etc from the site of the work.

9) The contractor will have to pay the royalties and municipal taxes, if charged

by the Maharashtra Jeevan Pradhikaran. The same will not be refunded.

10) Specifications given for relevant nature and type of work, for any particular item of the tender shall also be applicable to the other item of work when similar work is repeated or carried out in part or full although the item numbers may not have been mentioned especially against the particular specifications.

11) The contractor shall be responsible for obtaining permission from Government local bodies, private party for storing, stacking of materials required for execution of work.

12) Necessary sign board, danger flags, red lamps shall be provided by the contractor to avoid accidents. Necessary guarding will also have to be provided.

13) Before entering any land, the contractor shall make independent enquiry regarding ownership of land. Any action regarding trespassing will be at the risk of contractor.

14) Materials remaining unsold or unserviceable as per discretion of the Executive Engineer shall be confiscated destroyed or disposed off without any compensation to the contractor, who will be responsible for all legal disputes at his own cost and consequences without reference to the department.

15) In case of legal disputes for materials brought and stores at site without permission of the Executive Engineer, the contractor will be responsible for all legal disputes at his own cost and consequences without reference to the department.

GS 2: SPECIFICATION OF WORK :

The work shall be carried out as per practices and procedures laid down in P.W.D. Hand book Volume - I & II Latest Edition and Public Works Department's standard specifications (Latest Publication of Government of Maharashtra) with amendments from time to time and as per I. S. applicable for respective items of works, as directed by the Engineer in charge.

GS 3: MOTIVE POWER :

No electric power supply shall be entered by the Maharashtra Jeevan

Pradhikaran/Corporation/Council during construction and testing of various structures under different sub-works. The contractor shall have to make his own arrangement for the same at his cost. During trial period of the plant, power supply shall be made available by the department. The firm should inform within one month from the date of receipt of work order, the total electrical load required for successful operation of the treatment plant. This electrical load shall also include lighting load for inside and outside light points etc. attached to the buildings in proper as well as premises of the plant.

GS 4: FOUNDATION CONDITIONS AND PRESCRIBED BEARING CAPACITIES

The tenderer shall acquaint himself for results of S.B.C. by taking actual trial pits on site and refilling them afterwards at his cost. The foundation depth shall be considered as minimum 3.00 m below G.L. for the construction of BPT, MBR & E.S.R.. The bearing capacities of the actual strata met with the foundation levels shall wherever be required got tested from reputed institution, at contractor's cost and in the presence of Engineer-in-charge. Detailed design shall be prepared and submitted by the contractor and got approved from the department after actual confirmation of S.B.C.

GS 5: WATER TIGHTNESS TEST

All the water retaining and carrying structures will have to be tested for their water tightness by filling them with water up to their designed F.S.L. Similarly the pipe line will have to be tested hydraulically. Structures will be considered water tight when the reductions in filled up level is not more than 6 mm in 48 hours with outer surface dry. As regards pipe line, they should hold pressure as directed by Engineer in charge without reduction for thirty minutes. The contractor will have to give all such hydraulic tests by making his own arrangements for water supply, filling and disposing off water after the test. He shall repeat this test if necessary until the above results are achieved and certified by the Engineer-in-charge without any claim for extra cost. The contractor shall carry out the rectification of the structures or pipe lines to achieve the above tests at his own cost. The structures and pipe lines shall be kept filled with water upto F.S.L. after the above test are over at his own cost.

GS 6: SATISFACTORY COMPLETION OF VARIOUS ITEMS :

The sub works included in the schedule of works for BPT MBR WTP & ESR on Lump sum basis.

The various items of the sub work are to fit in perfectly in the whole system physically, hydraulically, architecturally and mechanically.

GS 7: DISPOSAL OF EXCAVATED STUFF :

All materials obtained from any excavation carried out under this contract will be the property of Maharashtra Jeevan Pradhikaran and the contractor shall not have any claim on it. It will not be used by the contractor for any other purpose than the legitimate use on the work itself. Stuff still remaining surplus shall be spreaded over the different site of work or disposed off as directed by the Engineer in charge without extra cost.

GS 8: SUBMISSION OF DETAILED DESIGNS AND DRAWINGS AFTER ACCEPTANCE OF TENDER :

For Lump sum job works the contractor shall submit complete detailed designs and drawings within 15 days from the date of issue of work order for approval If the department to the same. Piecemeal submission of designs and drawings shall not be permitted to commence the actual work at site unless detailed structural designs and working drawing are approved by the department. If called upon, the contractor shall also submit within reasonable time relevant books and other literature which have been referred to by him in working out the design for civil, mechanical or electrical works involved in the construction. Such books and literature will be returned to him. Reason of secrecy in regard to details of designs, materials, equipments etc shall not be placed by the contractor in the name of TRADE SECRET for not furnishing the requisite details called for the Maharashtra Jeevan Pradhikaran. The design get approved from Govt. Engineering College structural consultants approved enlisted in MJP shall be subjected to modifications if found necessary and such modification shall not violet the contract. The contractor shall be responsible for the correctness and soundness of the designs submitted by him. The structures shall be as per recognized engineering practices

and if any provisions, are found inadequate or faulty, necessary modifications will have to be carried out by him at any stage up to the expiry of guarantee period and no extra payment will be made on the account.

Six copies of all the approved designs and drawings should be furnished by the contractor to the department free of cost.

GS-9: REQUIREMENT OF STRENGTH OF CONCRETE

The contractor shall make field arrangements for testing of all materials for cement concrete i.e. slumps test, compression test etc. The concrete cube moulds 3 Nos. of 15 x 15 x 15 cm size shall be kept during concreting operation. Three cubes shall be prepared from at site during concreting to be used in work for compression test, for each concreting to be used in work for compression test, for each concreting of the structures. One cube shall be tested for test at 7 days age and two at 28 days in Regional Testing Laboratory at Govt. Polytechnic/Engineering college / Vishveshvarayya National Institute of Technology, Nagpur or at any approved laboratory, by Engineer -In-Charge. ALL THE TESTING CHARGES SHALL BE PAID BY CONTRACTOR. The entire responsibility of the testing of materials will be borne by the contractor.

Mixing of concrete shall be done with Concrete Mixers.

- a) The contractor will make his own arrangement for receiving all materials, tools, etc. required for the work.
- b) No extra charges for the carriages of water will be allowed.
- c) The rates for all items are inclusive of all charges such as carting, lifting etc. No extra payment for any lead and lifts will be paid for any item.
- d) The contractor should not be subletted without written permission of the Engineer-In-Charge.
- e) The conditions in the tender notice will be binding on the contractor and the Tender Notice will form a part of agreement.
- f) The material required for carrying out the work for which the tender is offered shall be brought by the tenderer.

GS-10:ORDINARY CONCRETE

Full payment shall be made when 75% of the result are equal and above the specified strength and the remaining 25% of the result are above 75% of specified strength.

Cases failing outside the above limit shall be examined by the Engineer-In-Charge on merits in each case.

- 1) The charges for preliminary design of concrete mix shall be entirely borne by the contractor .
- 2) For grades of concrete M-20 and above where cement is to be used by weighment, the cost of extra cement required to make up under weight bags shall be borne by the contractor.
- 3) For the item of concrete and other items in the agreement where cement is not to be used by weighment the cement bags are received from the manufacturer shall be assumed to contain cement of 50 kg. net weight. The work shall carried out as per this method of reckoning.

GS-11:GENERAL NOTES

The Employer requires that all goods and materials to be used in the works are new unused, of the most recent or current models and incorporate all recent improvements in design and material.

Only the Employer's Requirements and design brief are specified in the following section. These are not restrictive. The Contractor has to draft, the technical specification and the specification of standards for goods, materials and workmanship with recognized codes and standards.

GS-12:SUBMITTALS

The submittals include but is not limited to work required to comply in accordance with general and specified procedures for transmittal of submissions; submission review and subsequent actions; schedule of submissions; resubmission; construction schedule; coordination of drawings; submission of drawings; insert and sleeve location drawings; reproduction of submitted drawings; sample; and construction

photocopies.

GS-13: DESIGN, DRAWINGS, DOCUMENTS AND DATA

General Obligations

The Contractor shall carry out, and be responsible for, the design of the Works. Design shall be prepared by qualified designers/professionals who comply with the criteria stated in the Employer's Requirements. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer In-charge at all reasonable times during the Contract Period.

Basic Design Parameters

The bidder is required to examine and check the Employer's design criteria, specifications etc., as included in the Bid documents to confirm their correctness in its bid and to assume full responsibility for them.

Submission of Design Calculations, Drawings and Other Documents by the Contractor

- (a) After signing the Contract, within 28 days from the date intimated by the Employer to proceed with the work, the Contractor shall supply to the Engineer In-charge 6 (six) hard copies (along with workable soft copies in a CD) each of the design calculations for the process and sizing of all components of the plant including mechanical and electrical equipment, supported by flow diagrams, and general arrangement drawings, reference catalogues /literature of manufacturers, other reference documents used for the design purpose, for approval of the Engineer In-charge . The Contractor shall incorporate all necessary comments of the Engineer In-charge in the above design and drawings, if any, and shall re-submit further 6 (six) copies each of the revised design and drawings within 14 (fourteen) days for final approval of the Engineer In-charge. The Contractor shall thereafter submit 6 (six) copies each of the approved design and workable soft copies of all approved designs, calculations and drawings. The entire cost shall be borne by the Contractor and the Employer does not hold reliability on this account at any cost and any time.

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(b) Design calculations and drawings shall be submitted in sequence as per schedule to be drawn and agreed upon mutually, immediately after submission of the general arrangement drawing. The entire process of submission of all such documents by the Contractor in initial copies and final copies after approval of the Engineer In-charge shall be completed within 90 days from the date of the work order. These documents shall cover:

- Site Plan.
- Layout Plan and hydraulic flow diagram, process design, P & I diagram
- Architectural Drawings
- GA drawing of each / individual unit
- Detailed structural design and good for execution drawings pertaining to all components of the plant and other associated works.
- Drawings showing the size, position and other necessary details of all mechanical and electrical equipment and fixtures.
- Wiring diagrams, pressure control, pumps and motor control gear particulars.
- Details of foundations, position of openings, etc., for the pumps, motors, starting cubicles, LT/HT panels, etc.
- Elementary diagram and manufacturers' shop and part drawings for all equipments.
- Services like internal illumination and ventilation, building water supply, sanitation and plumbing, area lighting, etc.
- Landscaping & Plant beautification plan
- Any other design and drawings to fulfill the Employer's requirement.

Format of Drawings

All drawings submitted for approval shall be ISO standard size sheets. Every drawing shall have a title block in the bottom right corner showing:

Employer's Name :
 Contract No. :
 Consultant :
 Contractor :
 Project :
 Drawing Title :
 Drawing Number :
 Revision Number :
 Date :

Each drawing shall bear the signature of the Project Manager on behalf of the Contractor to the effect that the drawing whether his own or from any other source has been checked by the Contractor before submission to the department.

Each revision shall be properly recorded to show the number, date, specific description of revision(s) carried out, and signature of the Project Manager in the revision block. The Contractor shall be responsible for incorporating all the comments issued by the Engineer In-charge.

Construction Documents

As-Built Drawings

The Contractor shall prepare, and keep up-to-date, a complete set of –As Built records of the execution of the Works, showing the exact –as built location, sizes and details of the work as executed, with cross references to relevant specifications and data sheets. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-clause. Two hard copies shall be submitted to the Engineer In-charge prior to the Tests on Completion.

In addition, the Contractor shall prepare and submit to the Engineer In-charge –As Built drawings of the Works, showing all Works as executed. The drawings shall be prepared as the Works proceed, and shall be submitted to the Engineer In-charge for his inspection. The Contractor shall obtain the consent of the Engineer In-

charge as to their size, the referencing system, and other pertinent details.

Prior to the issue of substantial completion Certificate, the Contractor shall submit to the Engineer In-charge one soft copy, workable CD, one full-size original copy of the relevant –As Built Drawings, and any further Construction Documents specified in the Employer’s Requirements. The Works shall not be considered to be completed for issue of substantial completion certificate until such documents have submitted to the Engineer In-charge.

Coordination Drawings

Coordination drawings shall be prepared and shall comprise composite section drawings showing coordination of mechanical and electrical work to structural work. The composite drawings shall be in sufficient detail to show overall dimensions of ductwork, piping, conduit, and related items and clearance between structural members, lighting and related features for review and approval of relative locations of work in allocated spaces. The drawings shall indicate any conflicts of clearance problems between various trades. Coordination drawings shall be submitted to the Employer's Representative. Coordination drawings will not be submitted for approval but for review only.

Equipment and Interconnection Diagram

Equipment room layout drawings shall be based on actual requirements of equipment furnished and be consolidated for all trades, shall be to scale and shall show all pertinent structural and penetration features and other items, such as electrical cabinets, which affect available space. All mechanical and electrical equipment including electrical conduits, accessories, ductwork and piping shall be shown to scale in plan and also in elevation and / or section and resolve any conflicts or clearance problems. Physical descriptions of the various mechanical and electrical items shown on these drawings shall be submitted concurrently.

Quality

Proof of quality of manufacture and reliability in field application. Such proof will normally constitute evidence that the product / equipment has been manufactured by the manufacturer, or fabricator of the quality assured for a unit or item over a

period of time and has an established field service record. It shall include installation locations, dates and year of operating service. If there is no experience for an identical unit or item it may relate to a similar unit or item by the same manufacturer.

Manufacturer's Data

Manufacturer's data shall include catalogue cuts, brochures, circular, specifications, equipment operations and maintenance manuals and other printed information in sufficient detail and scope to verify compliance to the requirements.

Performance Data

Performance Data shall include certified curves of equipment responses and performance characteristics as required.

Parts and Special Tools Lists

- a) Parts lists shall include a complete list of component parts of an item of equipment together with an expanded view or equivalent means to identify the parts.
- b) Special Tools lists shall include all tools and devices required for assembly, disassembly, operation and maintenance of the equipment and an indication of the use of each item.
- c) The lists shall further identify the sources of manufacture and supply of consumable supplies and those parts, special tools and supplies that are normally furnished with the purchase of the equipment or are specified to be furnished.
- d) In additions, a list shall be provided showing items recommended by the manufacturer to support normal maintenance based on the manufacturer's anticipated life cycle of the part for continuous normal operation.

Certificates of Compliance

Certificate of compliance shall include material or product manufacturer's statement that the supplied items or systems conform to the specifications.

Test Reports

Test reports shall be provided as required and as follows:

- a) Shop tests shall show the results of required shop tests of equipment or systems certified in writing by the manufacturer or its authorized Representative. However, the Employer / its representative along with consultant is free to visit and inspect the equipment and systems at manufacturing unit before dispatch. The cost toward such inspections shall be borne by the contractor.
- b) Field test reports shall show the results of required field tests and compliance with approved procedures and shall be certified in writing.

Maintenance Instructions

Maintenance instructions shall cover finish material including but not limited to hard-surfaced materials. Instructions shall include cleaning, tarnishing, dents and stains from various chemicals.

SUBMISSION REVIEW AND SUBSEQUENT ACTION PROCEDURES

- i) Submission will be returned by the Employer's Representative to the Contractor indicating the appropriate action to be taken by the Contractor as follows:
 - a) Except in cases where local jurisdictional authority approval is required to validate a particular submittal, fabrication, manufacturer, construction or purchasing may proceed.
 - b) The submission does not comply with contract requirements, and fabrication, manufacturer and construction shall not proceed. The Contractor shall make revisions and resubmit. The Contractor has 14 calendar days from date of receipt of advice of the Engineer In-charge as to compliance with his comments and to resubmit drawings evidencing such compliance.
- ii) Failure of the Contractor to process submissions for review shall not relieve the Contractor of his responsibilities under the contract.
- iii) Do not proceed with work dependent on submissions until the submissions

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have been verified by the Contractor and reviewed by the Employer. Making good work which has proceeded in error because of non-compliance with these requirements shall be at the Contractor's expense. Review of Resubmissions shall not relieve the Contractor of his responsibility for execution of the works in accordance with contract document.

- iv) The Contractor shall not be relieved of responsibility for deviations from the contract or errors of any kind in the submissions or from the necessity of furnishing work required by the contract which may have been omitted from the submissions reviewed by the Engineer In-charge. The Engineer In-charge's review of individual items in submissions shall not be constructed as a review of the complete assembly in which it functions.
- v) No authorization of an increase in total contracting price or time or completion shall be implied by comments marked on submissions or submission transmittals by the Engineer In-charge .
- vi) Review of submission shall not absolve the Contractor from the responsibility of correctly locating all items in the works.
- vii) Employer's approval of substitutions, alternatives and deviations:

Whenever and wherever the Contractor proposes to make substitutions to the specified construction method or process or proposes the use of non-specified manufacturer's, products or to deviate from the material specified, the Contractor must make a full submission as required in the contract. The Contractor is advised that only the Employer has the final authority to approve or reject proposed substitutions, alternates and / or deviations from the contract.

CONSTRUCTION PHOTOGRAPHS

- i) Work shall include progress photographs for each work of construction taken each month made by a professional photographer.
- ii) Photographs shall show general extent of the works by both exterior and interior views. Each viewpoint will be selected and the number of monthly repetitive photographs taken from exactly the same viewpoint as decided by the owners authorized representative.

iii) Submit six 200mm x 254mm glossy color prints of each photograph to the owners authorized representative at the first of each month duly attached / pasted in the Progress Report.

iv) Title and mount each photograph per the owners authorized representative's requirements. As a minimum include on title: Project name, direction of view, and date when taken.

v) Video shooting during major construction stages of plant or at least once every month must be carried out by the contractor and shall be submitted to the Employer / authorized representative.

QUALITY ASSURANCE

The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. Such system shall be in accordance with the details stated in the Contract. Compliance with the quality assurance system shall not relieve the Contractor of his duties, obligations or responsibilities.

Details of all procedures and compliance documents shall be submitted to the Engineer In-charge for his information before each design and execution stage is commenced. When any document is issued to the Engineer In-charge, it shall be accompanied by the signed quality statements for such document, in accordance with the details stated in the Contract. The Engineer In-charge shall be entitled to audit any aspect of the system and require corrective action to be taken. The quality assurance system and the audit of any aspect of system and necessary corrective action shall be at contractor's risk and cost.

Quality assurance shall include, but shall not be restricted to as noted herein.

The Quality Assurance system should ensure the quality and quantity continuously through monitoring systems as envisaged in Project Management and Construction proforma so as to give daily progress report, labour / manpower deployed, quantity executed on periodic basis, observations thereof through following proforma placed at the end of this subsection.

- Bar bending schedule

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- Pour Card
- Post Concreting check ups
- Form work check up
- Tests on materials

QUALITY ASSURANCE IN GENERAL

- i) Maintain continuity of quality assurance surveillance throughout fabrication of products and execution of work.
- ii) Submit details of quality assurance tests and methods inclusive of the specification.
- iii) Perform inspection and testing in accordance with specified reference standards, or as otherwise approved by the Employer's Representative.
- iv) Calibrate measuring and testing devices periodically against certified standard equipment. Calibration shall be verified by inspection firm.

QUALITY ASSURANCE OF THE WORKS ON SITE

- i) Provide an assurance system to ensure quality assurance by phased inspection as follows:

Preparatory Phase Inspection

Perform inspections prior to commencement of each part of the works which shall include a review of requirements with the supervisors directly responsible for that part of the works. Such review shall be in the form of written statements of the processes to be followed and critical characteristics, tests and similar evaluations which will be a part of inspection procedures. Verify that products incorporated with that part of the works which have been tested and applicable submissions have been made for control testing. Verify that preceding work has been completed and approved. Verify products incorporated with that part of the works conform to submission data and Contract requirements and that necessary materials and equipment are easily and readily available.

Continuing Inspection

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- i) Perform inspection on a continuing basis as each part of the works commences and on a regular basis to ensure constant compliance with the tender requirements.
- ii) Provide samples of materials to be tested in required quantities at locations where testing is performed.
- iii) Provide labour, instruments, testing devices, facilities and required shelter at the site:
 - a) To determine ambient and material temperature by thermometers with Celsius scale.
 - b) To determine relative humidity of air and moisture content of materials.
 - c) To facilitate inspection and tests.
 - d) For obtaining and handling of samples at site and plant.
- iv) Upon receipt of items at the job site, the Contractor's quality assurance representative at the site shall be responsible on receipt of items at the site for noting damage suffered by them during transit and for directing that they be replaced.
- v) The Contractor shall be responsible for protecting and maintaining items on the site free from damage during storage, erection, installation and maintenance.
- vi) When it is discovered on inspection that work is proceeding with incorrect materials or methods, ensure that corrections are immediately made and that improperly complete work is replaced.

QUALITY ASSURANCE OF OFF-SITE WORKS

- i) The Contractor shall impose quality assurance methods at the location of manufacture, fabrication and assembly of items to be incorporated in the works to ensure that they conform to requirements of the Contract Documents. This quality assurance shall not apply to proprietary catalogue production products except as may be deemed necessary by the Contractor or as directed by the Employer's Representative.

- ii) The Contractor's quality assurance representative off-site shall be responsible for the release of items for transit to the job site.
- iii) In addition to the Contractor shall provide notice to the Employer's representative in writing at least 4 weeks in advance of packing of every batch of product components or assemblies so that the Employer or Employer's Consultants and their designated representatives may have opportunity at his / their choice of inspecting any such product components or assemblies prior to transportation at the cost of the bidder.

SCHEDULE OF QUALITY ASSURANCE OPERATIONS

Provide the Employer's Representative with a minimum of three copies of a schedule of quality assurance operations, both on-site and off-site, to outline the procedures, instructions and reports which will be used, as follows:

- i) Quality assurance organization.
- ii) Qualifications of quality assurance personnel.
- iii) Authority and responsibilities of each quality assurance person.
- iv) Schedule of inspections and tests with personnel assigned to each task and duration of each task.
- v) Schedule of required services to be provided by inspection and testing firms.
- vi) Co-ordination required in order that quality assurance is integrated.
- vii) Test methods which will be utilized.
- viii) Methods of performing and documenting quality assurance operations.

TESTS REQUIRED BY JURISDICTIONAL AUTHORITIES

- i) The Contractor shall be responsible for inspection and testing required by jurisdictional authorities in conformance with the performance requirements.
- iii) If the Engineer In-charge so desires, he may delegate inspection and testing of materials or Plant by an independent body / agency. Any such dele-

gation shall be effected for this purpose shall be considered as an assistant of the Engineer-in-Charge. Notice of such appointment (not being less than 14 days) shall be given by the Engineer In-charge to the Contractor.

QUALITY ASSURANCE REPORTS

- i) Document each test and inspection on a report and submit the report in triplicate to the Employer's Representative.
- ii) Reports shall be in an approved format and shall certify off-site items produced correctly for on-site work of installed correctly, as applicable. Similarly the report shall certify items that are defective with a statement of records on corrective measures taken.
- iii) Include on each report the purpose of the inspection or test, a description of methods used, observations made and personnel involved.
- iv) The Contractor shall also maintain in the approved format a log book of all tests performed which shall include the date of test, type of test and the results of the test.
- v) If inspection and testing procedures are sub-contracted to an approved inspection and testing firm, only copies of test reports signed by the approved inspection and testing firm will be acceptable.

GS-14 VALUE ADDED TAX

The value added tax shall be deducted at 2% from the contractor or at appropriate rate as may be determined by the sale tax department from time to time on basis of actual work done by the contractor from each R.A. bill and shall be remitted to sales tax department. No payment on account of reimbursement of value added tax will be made to contractor by Maharashtra Jeevan Pradhikaran.

GS-15 CONDITION RELATING TO INSURANCE

Contractor shall take out necessary insurance policy / policies so as to provide adequate insurance cover for execution of the awarded contract work from the Director of insurance, Maharashtra State Mumbai 51, only. Its postal address for correspondence is 264-1st floor, MHADA, Opposite Kala Nagar, Bandra (East),

Mumbai-51 (Tel. No. 26438403 / Fax - 26438461 / 26438690). Insurance policy / policies taken out from any other company will not be accepted. However if the contractor desires to effect insurance with the local office of any insurance company, the same should be under the co-insurance cum servicing arrangement approved by the Director of Insurance. The policy taken out by the contractor is not on co-insurance basis (G.I.F. 60% and Insurance Company 40%). The same will not be accepted and amount of premium calculated by Director of Insurance will be recovered directly from the amount payable to the contractor for the executed contract work which may be noted.

GENERAL TECHNICAL SPECIFICATIONS

1.1 GENERAL

This section deals with civil construction of the entire plant, piping etc. complete work under this contract.

i) All the civil & structural works shall be carried out as per latest CPWD / PWD specifications Vol. I to III and Vol. IV to VI with up to date corrections slips issued up to the date of submission of tender unless otherwise specified herein. In case the CPWD / PWD specifications are not found applicable or inadequate, then the relevant BIS specifications (latest version) on the date of submission of tender shall be used. Further, in case, any of above two is not applicable, to particular/specialized works, then the manufacturer's specifications or their relevant instructions shall be followed. Specifications mentioned anywhere in the bid document will prevail over CPWD / PWD Specifications and BIS specifications as the case may be.

ii) All raw materials including Cement and reinforcement/structural steel wherever to be used by the contractor shall confirm the latest BIS/CPWD / PWD specifications. All mandatory tests as required by BIS/CPWD / PWD specifications shall be carried out and test certificates to be submitted to Engineer - in charge. However, the contractor shall be fully responsible for required performances of civil/ structural work. Costs of such tests are to be borne by the

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contractor.

iii) For testing of all materials, following shall be strictly adhered to -

a) All the tests shall be done in laboratories approved by the Employer.

The contractor is required to take written approval from Engineer In-charge, in this respect.

b) Cement and Steel shall be of a make approved by the Employer as detailed out in respective material sections of this document.

1.1.1 MATERIALS

1.1.1.1 Cement

i) The Contractor shall procure minimum 43 grade, unless otherwise stated separately confirming to BIS specifications, ordinary Portland cement, as required in the work only, from reputed manufacturers such as L&T, ACC, Gujarat Ambuja, Cement Corporation of India, Vikram, J.P. etc. and as approved by the Employer, Ministry of Industry, Government of India and holding license to use BIS certification mark for their product, whose name shall be got approved from Engineer In-charge. Supply of cement shall be taken either in silos or in 50 kg. Bags bearing manufacturer's name and BIS marking. Samples of cement arranged by the Contractor shall be taken by the Engineer In-charge and got tested in accordance with provisions of relevant BIS codes. Cost of such tests shall be borne by the contractor. In case test results indicate that the cement arranged by contractor does not conform to be relevant BIS codes, the same stand rejected and shall be removed from the site by the Contractor at his own cost within one week time of written order from the Engineer In-charge.

ii) The cement shall be brought at site in bulk supply of approximately 50 tones from the manufacturer direct, or as decided and approved by the Engineer In-charge, as the case may be.

iii) The cement godown of the sufficient capacity should be constructed by the contractor and at all time it should have a stock of minimum of 2000 bags.

The contractor shall facilitate the inspection of the cement godown by the Engineer In-charge at any time. Storage of cement shall be as per CPWD / PWD specification.

iv) Cement brought at site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer In-charge.

1.1.1.2 Steel

(a) Reinforcement Steel & Structural Steel

i) The contractor shall procure high strength CRS steel reinforcement bars and structural steel conforming to relevant BIS codes from main producers such as SAIL, TISCO, RATHI or as approved by the Ministry of Steel. The steel reinforcement, structural steel shall be brought to the site in bulk supply of 10 tons or more or as decided by the Engineer In-charge. For small or occasional quantities of steel reinforcement bars that less than 10 MT, the Engineer In-charge may authorize the contractor to purchase the same from authorized dealers of the approved manufacturers. The contractor shall have to obtain and furnish test certificates to the Engineer In-charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the as per the provisions in this regard in relevant CPWD / PWD/BIS codes. Cost of such tests shall be borne by the contractor. In case the test results indicate that the steel arranged by the contractor does not conform to CPWD / PWD/BIS codes, the same shall stand Engineer In-charge rejected and shall be removed from the site of work by the Contractor at his cost within a week's time after written orders from the.

ii) The steel reinforcement, structural steel shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion. Bars of different sizes and lengths shall be stored separately.

iv) For checking nominal mass, tensile strength, bend test, re-eand- test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below: -

Size of Bar	For consignment below 100 tonnes	For consignment over 100 tonnes
Under 10 mm dia.	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof.
10mm to 16 mm dia.	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof.
Over 16 mm dia.	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof.

Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

1.1.1.3 Quarry Materials

The Contractor shall be wholly responsible to identify the suitable sources for quarry materials required for the Works, such as earth, sand, stone, murum, etc., and to make his own arrangements for collection and transportation of the materials irrespective of the leads and lifts required. The quarry thus identified by the Contractor should have proper license from the concerned Government. All materials supplied by the Contractor shall satisfy the requirements set forth in the Specifications and shall be subject to the approval of the Engineer In-charge. The Contractor shall take this into account while offering his rates and no claims whatsoever shall be entertained for extra costs on this account.

1.1.2 PRECAUTIONS DURING EXECUTION

i) The successful tenderer shall comply with all instructions in all respects issued by the Employer in respect of road maintenance and inter utility code of conduct for excavating trenches across and along various roads and other places.

ii) The contractor shall have to provide GI sheet barricading up to a minimum height of 2m above ground level all around the site of excavation and trenches as per direction of Engineer In-charge. Such barricading must be provided before taking up the excavation work and must remain in position till complete filling back of excavated trenches and resurfacing work, if any. The GI sheets must be painted in red & White stripes with fluorescent paint.

iii) Proper supporting of all underground services such as water mains, sewers, cables, drains, water and sewer connections shall be provided by the contractor without any additional cost. If the services/connections are damaged, the contractor will be responsible for the restoration of the same to original specifications at his own cost.

iv) The contractor shall provide necessary warning sign boards painted and written with luminous paint as per direction of Engineer In-charge. The warning notice boards should be put at least 100 metres before the approach to the area on either side where the work is going on. In addition proper lighting arrangement will be made for all excavations works.

v) Proposed alignment of rising mains to cross cables, water mains, and other underground services. Contractor shall be required to work under these constraints. Costs of such items are to be included in the bid of the contractor. Necessary statutory permission for road cutting will have to be arranged by the Contractor at his own cost and fee deposited to the concerned dept. will be reimbursed by the Employer on actual basis.

vi) During excavation of trenches, the underground services (UGS) such as water mains, electric poles/cables/Telephone cable and sewer line etc. may become exposed and unsupported. It will be the responsibility of the contractor to make suitable and necessary arrangement for supporting such UGS to keep them functional. Such arrangement will be done as per direction of the Engineer In-charge. No separate payment for supporting the services will be made by the dept. Any damages caused to the above mentioned underground services due to negligence of the contractor or otherwise shall be made good by the contractor at his own cost. After laying the pipe, the contractor shall have to construct masonry pillars, to support the water lines/U.G.S. before the temporary supports are removed and filling of trenches is done.

vii) Existing drains shall not be blocked by excavated earth or any other materials; the contractor shall ensure that sullage/storm water flow uninterrupted.

In addition: throughout the design, construction, commissioning, operation and maintenance stages of the project, the following safety principles shall apply:

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Workforce, contractors, visitors and the public shall be safeguarded against hazards, risk of serious injury and disease.

Adequate training shall be made available for the use of all related equipments.

Appropriate responsibilities will have to be assigned throughout each stage of a project.

Safety consciousness shall have to be promoted by effective internal communication, signs and media.

Safety performance shall be easily audited during operation and maintenance.

All accidents or potential serious incidents shall have to be reported and investigated.

Routine requirement to enter confined spaces needs to be eliminated, where practicable.

Safe access to all working areas shall have to be provided. Concrete slab over wet wells, tanks and chambers shall have double steel reinforcing.

Lifting eyes and bolts for slabs to be stainless steel or any other durable and non-corrosive material.

Protection against falling needs to be provided, where the drop exceeds 1.5 m.

Where the drop exceeds 2.0 m, edge protection will have to be provided.

Power driven machinery needs to be guarded.

Within plants and installations, all wells, sumps, channels. Chambers, tanks etc., containing liquid shall be covered, walled and railed.

Electrical equipments and controls will have to be protected from unauthorized access.

Individual electrical drives to be capable of being isolated and locked off.

Electrical motors should be rated as continuous run.

Junction boxes for submersible pumps and float controls shall be above floor level not in the wet well.

Major hazards to be identified and posted on site.

Protection against counter measures against spillage of dangerous chemicals to be provided.

Appropriate training for the end users to be identified and stipulated in construction and procurement documents.

All equipment to be regularly checked and prominently marked accordingly.

Safety information and operating documents to be provided by suppliers.

All electrical equipment in sumps, wet wells, inlet channels, inlet chambers, cited below coping level to be explosion proof.

Lighting, appropriate to the needs of the end user, to be provided in working areas.

Emergency contact list, showing telephone numbers of key personnel and emergency services during office hours, to be circulated to all parties involved in the project.

All treatment plants, installation and construction sites shall be provided with perimeter fencing adequate to protect the public from entry. All fencing shall be securely fixed and inspected.

All treatment plants, installations and construction sites shall be adequate warning signs at or near the perimeter.

Access to construction sites shall be controlled to prevent unauthorized access.

Any confined space requiring routine person entry, which contains sewage, sludge or other foul water to be ventilated.

Safe lifting in unrestricted areas is 16 kg. For heavier objects and/or in very tight locations, provision of crane or access for truck mounted crane to be made.

Fixed vertical ladders to be avoided in:

Inlet sump

Dry wells with a height greater than 3 m

1.1.3 REBOUND HAMMER TEST

As per CPWD / PWD specification, Rebound Hammer Test for concrete is mandatory and the same shall be carried out as per the provision. Rebound Hammer required for conducting the test shall be procured by the contractor at his own cost for testing and the same shall be made available at site as and when required by the Engineer In-charge.

1.1.4 BAR BENDING SCHEDULE

The Contractor will be required to prepare the bar bending schedule prior to taking up all the reinforcement cutting and bending works at site. No reinforcement work will be allowed without the bar bending schedule.

Note: All the data and details as provided are indicative only and bidders are advised to verify them before submission of their offer. No extra payments shall be made against any discrepancy found anywhere in the bid document.

1.2 CIVIL AND BUILDING WORKS

1.2.1 General

This part of the specification covers the design loads to be considered and specifications of material and workmanship for the civil works. Material used and workmanship for the civil works of Raw Sewage Pumping Station, Sewage treatment plant, campus development, civil works associated with pipe laying etc. to be done under the contract will adhere to the provisions laid down in this chapter.

The bidder shall have to get Soil Analysis carried out for determining the Safe Bearing Capacity (SBC) of the soil as per relevant code through a reputed firm. The charges for the same shall be included in the offer. The lesser SBC out of the two i.e. one which is given in the tender and other one got carried out by the tenderer will be followed for design of foundation of various structures. Nothing extra shall be paid due to decrease in SBC.

The bidder should ascertain about the actual Sub Soil Water Table at site. Price quoted shall be inclusive of cost of pumping Sub Soil Water / seepage water from any other source required for execution of work. No extra payment shall be made due to variation in Sub Soil Water Level if mentioned anywhere in the tender

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documents either for designing or execution, on account of fluctuation due to any reason whatsoever.

Materials for which specifications are not given the requirement of respective Indian Standards are to be fulfilled. The contractor shall get prior approval of the materials proposed to be used under the contract from the Engineer In-charge.

1.2.2 Design Considerations:

1.2.2.1 Design Submissions

The contractor shall be responsible for the safety of structures, correctness of design and drawings, even after the approval of the same by Engineer In-charge. Complete detailed design calculations of foundations and superstructure together with general arrangement drawings and explanatory sketches shall be submitted to the Engineer-in-charge. Separate calculations for foundations or superstructures submitted independent of each other shall be deemed to be incomplete and will not be accepted by the Engineer-in-charge.

The design considerations described hereunder establish the minimum basic requirements of plain and reinforced concrete structures, masonry structures and structural steel works. However, any particular structure shall be designed for the satisfactory performance of the functions for which the same is being constructed.

1.2.2.2 Design Standards

All civil designs shall be based on the latest BIS/PWD/CPWD norms.

1.2.2.3 Design Loading

1.2.2.3.1 General

All buildings and structures shall be designed to resist the worst combination of the following loads/ stresses under test and working conditions: dead load, live load, wind load, seismic load, stresses due to temperature changes, shrinkage and creep in materials dynamic load, vehicular load and uplift pressure etc.

Dead Load

This shall comprise all permanent construction including walls, floors, roofs, partitions, stairways fixed, service equipments and other items of machinery. In estimating the loads of process equipment for the purpose of design, the empty weight of the equipment including all fixtures and attached piping, but excluding contents, shall be considered. Dead loads shall be taken as per relevant BIS codes.

Live Load

Live loads shall be in general as per BIS: 875. Surcharge load for underground structures, if any shall be considered as per actual condition. Equipment load shall be considered as per manufacturer's specification

In the absence of any suitable provisions for live loads in BIS codes or as given above for any particular type of floor of structure, assumptions made must receive the approval of the Department / prior to taking up the design work. Apart from the specified live loads or any other load due to material stored, any other equipment load or possible overloading during maintenance or erection shall be considered and shall be partial or full whichever causes the most critical condition.

Wind Load

Wind loads shall be as per BIS: 875.

Earthquake Load

Earthquake load shall be computed as per B.I.S. 1893 taking into consideration soil foundation system, importance factor appropriate to the type of structure, basic horizontal seismic coefficient/ seismic zone factor & average acceleration coefficient as applicable.

Dynamic Load

Dynamic Loads due to working of machines / equipments such as pumps, blowers, compressors, switch gears, travelling cranes, etc. shall be considered in the design of structures as given by the manufacturers or in BIS code, whichever is more.

Vehicular Load

IRC Class AA (wheeled vehicle) loading shall be considered for design of

structures under or by the side of roads.

1.2.2.4

Design Conditions for Underground or Partly Underground Liquid Retaining Structures

Liquid retaining/conveying structures including the members covering the same (such as roof of a chamber, channel etc.) shall be designed by BIS: 3370 latest. Shear shall be checked by working stress method as per BIS: 456. Minimum temperature and shrinkage reinforcement shall be adequately considered in each direction.

All underground or partly underground liquid containing structures shall be designed for the following conditions:

Liquid depth up to full height of wall including free board: no relief due to soil pressure from outside to be considered.

Structure empty (i.e. Empty of liquid, any material, etc.) : Full earth pressure and surcharge pressure wherever applicable, to be considered;

Partition wall between dry sump and wet sump: to be designed for full liquid depth up to full height of wall; including free board

Partition wall between two compartments: to be designed as one compartment empty and other full including free board;

Structures shall be designed for uplift in empty conditions with the water table and due care should be taken for seasonal variation on higher side, wherever required.

Underground or partially underground structures shall also be checked against stresses developed due to any combination of full and empty compartments with appropriate ground/uplift pressures below base slab. The design shall be such that the minimum gravity weight (empty conditions) exceeds the uplift pressure at least by 15%.

1.2.2.5 Foundations

A detailed topography survey and soil investigation report has been enclosed with the bid documents. All the data and details as provided are indicative only and bidders are advised to verify them before submission of their offers. No extra

payment shall be made against any discrepancies in the above documents.

Foundation depths and the type of footings shall be appropriately computed from the parameters given in the soil report or obtained during the soil testing by the contractor whichever is stringent, and got reviewed and approved by department.

The minimum depth of foundations for all structures, equipments, buildings and frame foundations and load bearing walls shall be as per the recommendation of BIS provided adequate bearing pressure is available at that depth.

Bearing capacity of soil shall be determined as per BIS: 6403.

Care shall be taken to avoid the foundations of adjacent buildings or structure foundations, either existing or not within the scope of this contract. Suitable adjustments in depth, location and sizes may have to be made depending on site conditions. No extra claims for such adjustments shall be accepted by the Employer.

A structure subjected to groundwater pressure shall be designed to resist floatation. The dead weight of empty structure shall provide a factor of safety of 1.2 against uplift during construction and service.

1.2.2.6 Pressure Release Valve

Use of pressure release valves to reduce uplift pressure due to ground water table shall not be allowed.

1.2.2.7 Design Requirements

1.2.2.7.1 General

The Civil & Structural design shall be carried out in accordance to BIS: 456 and BIS: 3370 and other relevant Indian Codes. For the seismic forces, the structure should be designed as per IS: 1893 and all the factors as applicable.

The following are the design requirements for all reinforced or plain concrete structures.

- a) All blinding and leveling concrete shall be of minimum 100 mm

thickness of concrete mix- M10, unless otherwise specified.

b) Liquid Retaining Structures/Buildings:

All structural reinforced concrete for liquid retaining structures or buildings shall be of a minimum M25 grade with a maximum 20 mm aggregate size.

c) The minimum reinforcement in walls, floors and roofs of liquid retaining structures in each of two directions at right angles shall be adequately considered using CRS STEEL bars.

d) All buildings shall be provided with damp proofing for basement and floors and water proofing for roofs as specified in specific requirements.

e) Any structure or pipeline crossing below roads shall be designed for Class AA of IRC loading or as classified by the respective authority. NP2 RCC pipe (with encases) shall be used below roads inside the plant.

f) All pipes and conduits laid below the structural units shall be embedded in reinforced concrete of grade M20 of minimum thickness 150 mm.

f) Suitable admixtures may be used with the approval of engineer in charge.

1.2.2.7.2 Minimum Thickness

The following minimum thickness shall be used for different reinforced concrete members, irrespective of design thickness.

Walls for liquid retaining structures except at (x) below	200 mm
Roof slabs for liquid retaining structures (other than flat slabs)	150 mm
Bottom slabs for liquid retaining structures	200 mm
Floor slabs including roof slabs, walkways, canopy slabs	125 mm
Wall of cables/ pipe trenches, underground pits	150 mm
Column footings	300 mm
Parapets, Chajja	100 mm
Pre-Cast trench cover	75 mm

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Beams, columns	230 mm
Channels, launder	150 mm

1.2.2.7.3 Minimum Cement Content:

The following Minimum cement content shall be used for different grades of reinforced concrete as per IS456 & IS3370:

Grade of Concrete	Minimum Cement in Concrete (Kg/m ³) of finished concrete)
M20	300
M25	300
M30	320
M35	340

1.2.3 Materials & Standards

The term –materialsll shall mean all materials, goods and articles of every kind whether raw, processed or manufactured and equipment of every kind to be supplied by the Contractor for incorporation in the Works.

Except as may be otherwise specified for particular parts of the works the provision of clauses in –Materials and Workmanshipll shall apply to materials and workmanship for any part of the works.

All materials shall be new and of the kinds and qualities described in the Contract and shall be at least equal to approved samples.

Materials and workmanship shall comply with the relevant CPWD Specification (with amendments) current as on the date of submission of the tender.

Where the relevant standard provides for the furnishing of a certificate to the Engineer-in-charge, at his request, stating that the materials supplied comply in all respects with the standard, the Contractor shall obtain the certificates and forward it to the Engineer-in-charge.

The specifications, standards and codes listed below are considered to be part of this Bid specification. All standards, specifications, codes of practices referred to herein shall be the latest editions including all applicable official amendments and revisions as on the date of submission of the tender.

In case of discrepancy between two standards the provisions, more stringent shall be followed.

BIS No.	Title
4082	Recommendation on stacking and storage of construction materials at site (first revision)
7969	Safety code for handling and storage of building materials
1498	Classification and identification of soils for general engineering purposes (first revision) (Amendments 2) (Reaffirmed)
2682 : 1984	Chlordane emulsifiable concentrates (second revision) (Amendment 1) (Reaffirmed 1994)
3764: 1992	Excavation work - Code of safety (first revision)
6313(Part2)	Code of practice for anti-termite measures in buildings : Part 2 Pre-constructional chemical treatment measures (Reaffirmed)
875 (Part 1)	Code of practice for design loads (other than earthquake) for buildings and structures : Part 1 Dead loads -Unit weights of building material and stored materials
875 (Part 2)	Code of practice for design loads (other than earthquake) for buildings and structures : Part 2 Imposed loads
875 (Part 3)	Code of practice for design loads (other than earthquake) for buildings and structures : Part 3 Wind loads
875 (Part 4)	Code of practice for design loads (other than earthquake) for buildings and structures : Part 4 Snow loads
875 (Part 5)	Code of practice for design loads (other than earthquake) for buildings and structures : Part 5 Special loads and load combinations
1080 : 1986	Code of practice for design and construction of shallow foundations on soils (other than raft, ring and shell)
1904	Code of practice for design and construction of foundations in soils: General requirements
2950(Part1)	Code of practice for design and construction of raft foundations: Part 1 Design
2974(Part1)	Code of practice for design and construction of machine foundations: Part 1 Foundations for reciprocating type machines
2974(Part2)	Code of practice for design and construction of machine foundations: Part 2 Foundations for impact type machines (hammer foundations)
2974(Part3)	Design and construction of machine foundations - Code of practice : Part 3 Foundations for rotary type machines (medium and high frequency)
2974(Part4)	Code of practice for design and construction of machine foundations: Part 4 Foundations for rotary type machines of low frequency
2974(Part5)	Code of practice for design and construction of machine foundations: Part 5 Foundation for impact machines other than

	hammers (forging and stamping press, pig breakers, drop crusher and jolter)
6403	Code of practice for determination of bearing capacity of shallow foundations.
8009(Part1)	Code of practice for calculation of settlement of foundations : Part 1 Shallow foundations subject to symmetrical static vertical loads
8009(Part2)	Code of practice for calculation of settlement of foundations: Part 2 Deep foundations subjected to symmetrical static vertical loading.
11089	Code of practice for design and construction of ring foundation
13094	Guidelines for selection of ground improvement techniques for foundation in weak soils.
13301	Guidelines for vibration isolation for machine foundations
SP 36 (Part 2): 1988	Compendium of Indian Standards on soil engineering: Part 2 Field testing
2720 (Parts 1 to 41)	Methods of test for soils
6452	Specification for high alumina cement for structural use
6909	Specification for supersulphated cement
8041	Rapid hardening Portland cement
8042	White Portland cement
8043	Hydrophobic Portland cement
8112	43 grade ordinary Portland cement
13330	Sulphate resisting Portland Cement
383	Coarse and fine aggregates from natural sources for concrete
432 (Part 1& 2)	Mild steel and medium tensile steel bars and hard-drawn steel wire for concrete reinforcement
456	Code of practice for plain and reinforced concrete
516	Method of test for strength of concrete
650	Standard sand for testing of cement
1199	Methods of sampling and analysis of concrete
1343	Code of practice for Pre-stressed concrete
1566	Hard-drawn steel wire fabric for concrete reinforcement
1786	High strength deformed steel bars and wires for concrete reinforcement
2386 (Part 1 to 8)	Methods of test for aggregates for concrete
2502	Code of practice for bending and fixing of bars for concrete reinforcement
2595	Code of practice for radiographic testing
2645	Integral cement waterproofing compounds
3025	Methods of sampling and test (physical and chemical) for water used in industry
3085	Method of test for permeability of cement mortar & concrete
3370 (Part 1 to 4)	Code of practice for concrete structures for the storage of liquids

3466	Masonry cement
3812	Fly ash for use as pozzolana and admixture
4031 (Part 1)	Methods of physical tests for hydraulic cement : Part 1 Determination of fineness by dry sieving
5816	Method of test for splitting tensile strength of concrete cylinders
6452	Specification for high alumina cement for structural use
7861 (Part 1)	Code of practice for extreme weather concreting : Part 1 Recommended practice for hot weather concreting
7861 (Part 2)	Code of practice for extreme weather concreting : Part 2 Recommended practice for cold weather concreting
8142	Method of test for determining setting time of concrete by penetration resistance
9012	Recommended practice for Concreting
9013	Method of making, curing and determining compressive strength of accelerated cured concrete test specimens
9077	Code of practice for corrosion protection of steel reinforcement in RB and RCC construction
9103	Admixtures for concrete
9284	Method of test for abrasion resistance of concrete
10262	Recommended guidelines for concrete mix design
13311 (Part 1)	Non-destructive testing of concrete - Methods of test : Part 1 Ultrasonic pulse velocity
13311 (Part 2)	Non-destructive testing of concrete - Methods of test : Part 2 Rebound hammer
SP 20 (S & T)	Handbook on masonry design and construction
SP 21 (S & T)	Summaries of Indian Standards for building materials
SP 23 (S & T)	Handbook on concrete mixes (based on Indian Standards)
SP 24 (S & T)	Explanatory handbook on Indian Standard Code for plain and reinforced concrete
SP 34 (S & T)	Handbook on concrete reinforcement and detailing
3696 (Part 1)	Safety code of scaffolds and ladders : Part 1 Scaffolds
4014 Part 1 & 2	Code of practice for steel tubular scaffolding
2116	Sand for masonry mortars
2212	Code of practice for brick work
2250	Code of practice for preparation and use of masonry mortars
SP 25 (S & T)	Handbook on caused and prevention of cracks in building
1123	Method of identification of natural building stones
1127	Recommendations for dimensions and workmanship of natural building stones for masonry work
1129	Recommendation for dressing of natural building stones
1597 (Part 1)	Code of practice for construction of stone masonry : Part 1 Rubble stone masonry
3622	Specification for sandstone (slab and tiles)
4101 (Part 1)	Code of practice for external facing and veneers : Part 1 Stone

	facing
303	Plywood for general purposes
4990	Plywood for concrete shuttering work
6313 (Part 1)	Code of practice for anti-termite measures in buildings : Part 1 Constructional measures
6313 (Part 2)	Code of practice for anti-termite measures in buildings : Part 2 Pre-constructional chemical treatment measures(first revision) (Amendments 3)
737	Wrought aluminium and aluminium alloy sheet and strip for general engineering purposes
883	Design of structural timber in building - Code of practice
1003 (Part 1)	Timber panelled and glazed shutters : Part 1 Door shutters
1003 (Part 2)	Timber panelled and glazed shutters : Part 2 Window and ventilator shutters
1038	Steel doors, windows and ventilators
1081	Code of practice for fixing and glazing of metal (steel and aluminium) doors, windows and ventilators
1361	Steel windows for industrial buildings, ventilation blinds for windows
1826	Venation blinds for windows
1948	Aluminium doors, windows and ventilators
1977	Structural steel (ordinary quality)
2062	Steel for general structural purposes
2191 (Part 1)	Wooden flush door shutters (cellular and hollow core type) : Part 1 Plywood face panels
2202 (Part 1)	Wooden flush door shutters (solid core type) : Part 1 Plywood face panels
2202 (Part 2)	Wooden flush door shutters (solid core type) : Part 2 Particle board and hard board face panels
3548	Code of practice for glazing in building
3629	Specification for structural timber in building (first revision) (Reaffirmed 1991)
4020 (Parts 1-16)	Door shutters, method of test
4021	Timber door, window and ventilator frames
4351	Specification for steel door frames
4913	Code of practice for selection, installation and maintenance of timber doors and windows
4962	Specification for wooden side sliding doors
5509	Fire retardant plywood
5539	Specification for preservative treated plywood
6248	Specification for metal rolling shutters and rolling grills
7205	Safety code for erection of structural steel work
7452	Hot-rolled steel sections for doors, windows and ventilators
12896	Classification of Indian timbers for door and window shutters and frames
2074	Ready mixed paint, air drying, red oxide-zinc chrome, priming

809	Rubber flooring materials for general purposes
1195	Bitumen mastic for flooring
1196	Code of practice for laying bitumen mastic flooring
1197	Code of practice for laying of rubber floors
1198	Code of practice for laying, fixing and maintenance of linoleum floor
1237	Cement concrete flooring tiles
1322	Bitumen felts for waterproofing and damp-proofing
1443	Code of practice for laying and finishing of cement concrete flooring tiles
1580	Bituminous compounds for water proofing and caulking purposes
1609	Code of practice for laying damp-proofing treatment using bitumen felts
1661	Code of practice for application of cement and cement-lime plaster finishes
2114	Code of practice for laying in-situ terrazzo floor finish
2571	Code of practice for laying in-situ cement concrete flooring
3384	Specification for bitumen primer for use in waterproofing and damp proofing
3414	Code of practice for design and installation of joints in buildings
3461	Specification for PVC - asbestos floor tiles
3462	Specification for unbacked flexible PVC flooring
3478	Specification for high density wood particle boards
3502	Steel Chequered plates
3629	Specification for structural timber in building
3670	Code of practice for construction of timber floors
4443	Code of practice for use of resin type chemical resistant mortars
4457	Ceramic unglazed vitreous acid resisting tile
4631	Code of practice for laying of epoxy resin floor toppings
4860	Acid resistant bricks
4971	Recommendations for selection of industrial floor finishes
5318	Code of practice for laying of flexible PVC sheet and tile flooring
5389	Code of practice for laying of hardwood parquet and wood block floors
5491	Code of practice for laying of in-situ granolithic concrete flooring topping
9197	Epoxy resin, hardness and epoxy resin compositions for floor toppings
9472	Code of practice for laying mosaic parquet flooring
10440	Code of practice for construction of RB and RBC floors and roofs
459	Corrugated and semi-corrugated asbestos cement sheets
777	Glazed earthenware wall tiles
1414	Code of practice for fixing wall covering
1661	Code of practice for application of cement and cement-lime plaster finishes
1946	Code of practice for use of fixing devices in walls, ceilings and

	floors of solid construction
2095	Gypsum plaster boards
2098	Asbestos cement building boards
2402	Code of practice for external rendered finishes
2441	Code of practice for fixing ceiling covering
3630	Code of practice for construction of non-load bearing gypsum block partitions
4671	Expanded polystyrene for thermal insulation purposes
5390	Code of practice for construction of timber ceiling
5509	Fire retardant plywood
7316	Decorative plywood using plurality of veneers for decorative faces
1322	Bitumen felts for waterproofing and damp-proofing
1346	Code of practice for waterproofing of roofs with bitumen felts
1580	Bituminous compounds for water proofing and caulking purposes
1609	Code of practice for laying damp-proofing treatment using bitumen felts
1834	Hot applied sealing compound for joint in concrete
2508	Low density polyethylene films
2527	Code of practice for fixing rainwater gutters and down pipes for roof drainage
2645	Integral cement water proofing compounds
3037	Bitumen mastic for use in waterproofing of roofs
3067	Code of practice for general design details and preparatory work for damp-proofing and waterproofing of buildings
3384	Specification for bitumen primer for use in waterproofing and damp proofing
4365	Code of practice for application of bitumen mastic for water proofing of roofs
5871	Bitumen mastic for tanking and damp-proofing
6494	Code of practice for waterproofing of underground water reservoirs and swimming pools
7198	Code of practice for damp-proofing using bitumen mastic
7290	Recommendations for use of polyethylene film for waterproofing of roofs
9759	Guidelines for dewatering during construction
13182	Waterproofing and damp-proofing of wet areas in building Recommendations
1172	Code of basic requirements of water supply, drainage and sanitation
1239 (Part 1)	Mild steel tubes, tubular and other wrought steel fittings : Part 1 Mild steel tubes
1536	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage
1537	Vertically cast iron pressure pipes for water, gas and sewage
1592	Asbestos cement pressure pipes

3114	Code of practice for laying of cast iron pipes
5822	Code of practice for welded steel pipes for water supply
1626 (Part 1)	Asbestos cement building pipes and pipe fittings, gutters and gutter fittings and roofing fittings : Part 1 (Pipe and pipe fittings)
2064	Selection, installation and maintenance of sanitary appliances - Code of practice
2065	Code of practice for water supply in buildings
3076	Low density polyethylene pipes of potable water supplies; sewage and industrial effluents
4984	Specification for high density polyethylene pipes for potable water supplies; sewage and industrial effluents
4985	Specification for un-plasticised PVC pipes for potable water supplied
7634 (Part 2)	Code of practice for plastics pipe work for potable water supplies : Part 2 Laying and jointing polyethylene (PE) pipes
7634 (Part 3)	Code of practice for plastics pipe work for potable water supplies : Part 3 Laying and jointing of UPVC pipes
1916	Steel cylinder pipes with lining and coating
4127	Code of practice for laying of salt glazed stoneware pipes
12709	Glass fibre reinforced plastic pipes, joints and rings for potable water supply
3597	Concrete pipes-methods of test
7319	Perforated concrete pipes
NBC	National Building Code of India
SP 35 (S & T)	Handbook of water supply and drainage with special emphasis on plumbing
277	Galvanized steel sheet (plain and corrugated)
458	Precast concrete pipes (with and without reinforcement)
651	Salt glazed stoneware pipes and fittings
782	Caulking lead
783	Code of Practice for laying of concrete pipes
1626 (Part 1)	Asbestos cement building pipes and pipe fittings, gutters and gutter fittings and roofing fittings : Part 1 (Pipe and pipe fittings)
1726	Cast iron manhole covers and frames
1742	Code of Practice for building drainage
3006	Specification for chemically resistant glazed stoneware pipes and fittings
4111 (Parts 1 to 5)	Code of Practice for ancillary structures in sewerage system
4733	Methods of sampling and test for sewage effluents
12592 (Parts 1 & 2)	Precast manhole covers & frames
2470 (Parts 1 & 2)	Code of Practice for installation of septic tank

784	Pre-stressed concrete pipes
1893	Criteria for earthquake resistant design of structures
4326	Earthquake resistant design and construction of buildings- Code of practice
13920	Ductile detailing of reinforced concrete structures subjected to seismic forces - Code of practice
13935	Repair and seismic strengthening of buildings - Guidelines
2190	Selection, installation and maintenance of first-aid fire extinguishers - Code of practice
3696 (Part 2)	Safety code of scaffolds and ladders : Part 2 Ladders
4912	Safety requirements for floor and wall openings, railings and toe boards
10005	S.I. units and recommendations for use of their multiples and of certain other units
6060	Code of practice for day lighting of factory buildings
3103	Code of practice for industrial ventilation
3483	Code of practice for noise reduction in industrial buildings
2440	Guide for day lighting of buildings
1200 (1 to 28)	Method of measurement of Building and Civil Engg. Works
7973	Code of practice for architectural and building working drawings
962	Code of practice for architectural and building drawings
13415	Code of safety for protective barrier in and around buildings
8969	Safety code for erection of concrete framed structures

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dition to the above-referred codes, CPHEEO manual on sewerage and sewage treatment and other relevant codes shall be applicable as per requirement. Copies of all relevant codes, reference literature shall have to be submitted to the Employer.

1.2.4 Samples and Tests of Materials

The Contractor shall submit samples of such materials as may be required by the Engineer-in-charge and shall carry out the specified tests directed by the Engineer-in-charge at the Site, at the supplier's premises or at a laboratory approved by the Engineer-in-charge. Samples shall be submitted and tests carried out sufficiently early to enable further samples to be submitted and tested if required by the Engineer-in-charge.

The cost of such test and material shall be borne by the contractor and nothing shall be paid on this account.

ITEM: Excavation for foundation in earth, soils of all types, sand, gravel, soft, murum, hard murum with boulders, soft rock and hard rock....etc. complete.

General The specifications contained in the standard specification volume IInd published by Public Works and Housing Department, Govt. of Maharashtra, Chapter Bd.A (1,A-2, A-3, A-4 & A-6 etc. on page No. 259) (Red Book) shall apply

The excavation shall be done to the required depth and section as per design drawing and as directed by Engineer-in-Charge. Extra depth shall be made up clear with concrete or other suitable materials as directed by Engineer-in-charge. At the cost of contractor. The excavated material shall be not be placed nearer than 300 m. from the edges of excavated portion. No. Compensation shall be admissible to the contractor due to any delay such as permission etc. After refilling of the trenches, the balanced stuff should be disposed off as directed. Refilling and disposal will be paid separately in relevant items if Schedule B’.

Site Clearance

The area to be excavated shall be cleared off.All trees and bushes and rubbish and other objectionable materials removed shall be burnt or disposed off as directed by the Engineer-in-Charge. The cost of such clearing shall be deemed to have been included in the rates accepted for different items under excavation.

During excavation, if masonry, concrete structure roots of trees etc are met with the same shall be removed without extra cost. The loss to public or private utility services such as telephone or electric cables/water mains or such other if comes across the trenches, shall have to be made good at the cost of the contractor. The permission for such crossing if required form the competent authority shall be obtained through Department. However delay in obtaining such permission shall not be considered as cause of delay for the works and no compensation shall be admissible to the contractor due to such delay.

Dewatering

No distinction shall be made as to whether the material being excavated is dry, moist or wet. The item also includes bailing out of water manually to keep the trenches reasonably dry for all further works of concerning, lowering ,laying &

Jointing and testing of the pipe line till the completion of the work. Separate item of Dewatering is incorporated in the tender, if any ground water sources are met during excavation. No extra over the tendered provision shall be paid to contractor for this reason on any account.

SHORING AND STRUTTING

The item includes all shoring and strutting that may be required. On no account the width of trenches more than these mentioned here in after shall be measured. If excavation width more than the specified is required for the purpose of keeping machinery, steeping due to loose material or for any other reasons the same shall be at the Contractors cost.

Fencing, Lighting and Watching :-

The contractors shall made all proper arrangement for protecting the work by means of fencing, watching, and lighting at night, as directed by the Engineer-in-charge. The post of fencing shall be of timber, securely fixed in the ground not more than 3m. apart, and they shall not be less than 75 mm in diameter or less than 1.2 m. above the surface of the ground. There shall be two rails, one near the top of the posts and the other about 450 mm above the surface of the ground and each shall be from 50 mm to 70 mm in diameter and sufficiently long to run form post to post, to which they shall be bound with strong rope. The method of projecting not be allowed on any account. All along the edges of the excavated trenches a bank of earth about 1.20 m high shall be formed where required by the Engineer-in-charge for further protection. Proper provision shall be made for lighting at night and watchman shall be kept to see that this is properly done. In the event of the contractors not fully complying with the provisions of these clauses. The Engineer-in-charge may put up a fence or improve the fence already put up or provide or improve the lighting or adopt such measures as he may deem necessary without prior intimation to the contractor and all the cost of such procedure as may be adopted by the Engineer-in-charge, shall be borne by the contractor.

In addition to the normal lighting arrangements, the contractor shall be provide, wherever a sewer work is in progress, battery operated linking lights (6 Volts) in the beginning and end of a trench with a view to provide suitable indication to the vehicular traffic. The contractor shall also provide and display special boards painted with fluorescent paints indicating the progress of the work along a particular road.

The items of excavation are including necessary lighting at night at suitable intervals, but not more than 15 meter along the excavated trenches and at all crossing and barricading the same by fencing so as to avoid the accident. Chowkidars shall be employed at place where the trenches cross over any traffic road to caution the vehicles and pedestrians etc. The arrangements shall be maintained till completion of work and at the cost of the Contractor.

Alignment and levels. :-

Before the excavation of trench is commenced, sight rails shall be erected at every 30 m. and at all points of change of direction, gradient and at ends. The excavation work shall be proceeded by a joint survey along with alignment of the main, to obtain ground level at every 30 m. or less distance. Temporary Bench Marks shall be constructed at every 300 m. distance along the alignment and shall be maintained till the completion of the work. All labour and materials for the survey work of fixing Bench Marks etc. shall be provided by the contractor at his own cost. Since the lines to be laid are drainage lines., the grade and level are very important factors. Those shall be maintained very carefully. For any mistakes in survey the Contractor is fully responsible. He should not lay the pipes, unless the alignment is thoroughly checked by the Engineer-in-Charge or his authorized representative who is empowered to sign the work order book in token of checking the exact grade and level of the trenches excavation.

Excavation at random places shall not be measured by the Pradhikaran's Engineer. Any non-technical practices during the excavation of the contracted work shall be viewed very seriously by the Pradhikaran and a note to that effect will be recorded against the Contractor in his name.

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Depth and Grades of trenches :-

The trenches shall be excavated to the required grades and depth as shown on approved drawings or as directed by the Engineer-in-charge. If not so, the payment for the item will not be paid to the Contractor. The depths of excavation and the level of the pipe inverts shall be checked by means of boning rods of suitable lengths. Additional depths if required to be excavated for pits for sockets, collars, specials, joints, and for any other working facility shall not be measured and paid separately. The minimum cover above the pipe shall be 0.90 m.

The bottom of trench shall be leveled both longitudinally and transversely or stepped as directed by Engineer-in-charge.

The Contractor shall notify the Engineer when the trenches are ready for bedding so that the Engineer can inspect and record the depth. Only on explicit approval by Engineer, the bedding shall be provided by the Contractor. If any public utility i.e. electrical cable, telephone cable, water connections, sewer connections, gutter damage etc. then same will be rectified by contractor at his own cost.

Width of trenches for excavation :-

The maximum width of trench allowable for different diameter of pipe sewer is given in the table below. The offset for width is allowable for every additional depth of trenches as tabulated for soft strata only.

The sides of the trenches shall be as nearly vertical as possible. The bottom of the trench shall be flat side to side.

Sr.No.	Dia of Pipe	Lift 0.0 m. to 1.50 m.	Lift 1.5 m. to 3.00 m.	Lift 3.00 m. to 4.50 m.	Lift 4.50 m. to 6.00 m.
1	150 mm to 300 mm	1.00 m.	1.30 m.	1.60 m.	2.00 m.
2	400 mm	1.10 m.	1.40 m.	1.70 m.	2.05 m.
3	450 mm	1.15 m.	1.45 m.	1.75 m.	2.10 m.
4	500 mm	1.20 m.	1.50 m.	1.80 m.	2.10 m.

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5	600 mm	1.30 m.	1.60 m.	1.90 m.	2.20 m.
6	700 mm	1.40 m.	1.70 m.	2.00 m.	2.30 m.
7	800 mm	1.50 m.	1.80 m.	2.10 m.	2.40 m.
8	900 mm	1.60 m.	1.90 m.	2.20 m.	2.50 m.
9	1000 mm	1.70 m.	2.00 m.	2.30 m.	2.60 m.
10	1100 mm	1.80 m.	2.10 m.	2.40 m.	2.70 m.
11	1200 mm	1.90 m.	2.20 m.	2.50 m.	2.80 m.

The maximum width as mentioned in the table of different depth of trenches or the actual width which ever is less shall be taken into account for measurement and payment. No. extra width is allowable due to large quantity or big boulders met with in the trenches. Dressing and consolidation of the trenches.

The bed of the trenches shall be well rammed before laying of the murum or sand for bedding hollows, if any, shall be filled with murum duly rammed and watered to required level and grade at cost of the Contractor.

The contractor shall properly assess the work involved in above description and quote accordingly. The Executive Engineer's decision regarding any of the issue of scope of work here in and rates payable shall be final, conclusive and binding on contractor.

Any damages to the telephone cables / electrical cables shall be borne by the contractor, if demanded by the concerned authority. The cost of damages shall be directly paid by the Executive Engineer to the authority and such amounts shall be recoverable from the contractor through his due payments/ security deposits. In case water mains is damaged by the contractor during execution and quantity of water is wasted due to his negligence, that amount of wastage of water shall be recoverable from the contractor as per the MJP's water rate prevailing at the time of execution through his running bill.

For excavated width whichever is less shall be recorded and paid for. Extra widths for pits at sockets, collars, specials, joints, construction and also for working liabilities shall neither be measured nor paid for. However, excavation

required for providing and casting fixity block, thrust blocks, encasing etc. will be measured and paid for under relevant item of excavation. The pits for welding joints will also be paid under relevant item of excavation.

CLASSIFICATION OF MATERIALS IN TRENCHES

The exact classification of the strata met with during the excavation shall be done by the representative of Engineer-in-Charge and accordingly measurement shall be recorded under different items of excavation provided under Annexure to Clause-38 of tender for the purpose of excess quantity. In case of any, dispute regarding classification of strata, the decision of Engineer-in-Charge shall be final and binding. The strata classifications and its quantity shown are indicative only. The Contractor therefore, shall carry out his own assessment regarding the strata at different depth along the alignment, before submission of the tender.

Disposal of Surplus Stuff :-

The contractor shall carefully excavate the road surfaces and stack the materials obtained from for road surface cutting systematically for selectively reusing the same for remarking the road. At times it may be necessary for the contractor to remove the excavated stuff to a suitable destination away from the excavation work. This stuff stacked as directed within 50 m. lead shall be brought back for refilling by the contractor without any extra payment on this account.

The excavated stuff remaining in balance after refilling and remaking of road shall be conveyed, unloaded and leveled by the contractor at a destination as directed by Engineer-in-charge within a radius of 5 Kms form site of work. The same shall be paid to the contractor separately under relevant item of Schedule _B' If it is seen that the surplus excavated stuff is being sold by the agency the agency will be penalized as decided by the Engineer-In-Charge.

ITEM: EXCAVATION BY CHISELLING MECHANICAL MEANS

(In Hard Strata)

Excavation in hard strata shall be done by chiseling, wedging or line drilling as specified any mechanical all means or ordered by the Engineer. The excavation refers to excavation generally for foundation, wet or dry, in hard rock by chiseling,

wedging or line drilling and shall comply with the specifications.

MODE OF MEASUREMENT AND PAYMENT

The excavation shall be measured in Cubic meters only. Dimensions shall be measured correct to two decimal of meter and quantity shall be calculated to two places of Decimal of Cubic meters. The item mentioned in Schedule-B in which includes disposing excess excavated material remained after refilling will not be paid separately for disposing excavated material.

1.7 WIDTH OF TRENCHES

The maximum width of the trenches admissible for payment shall be as under

Sr. No.	Internal dia of pipe	Width of excavation of trenches	Nature of strata
1.	80 mm and below	0.70 M	In soft and hard material
2.	100 mm	0.75 M	In soft and hard material
3.	150 mm	0.75 M	In soft and hard material
4.	200 mm	0.85 M	In soft and hard material
5.	250 mm	0.85 M	In soft and hard material
6.	300 mm	0.90 M	In soft and hard material
7.	350 mm	0.95 M	In soft and hard material
8.	400 mm	1.10 M	In soft and hard material
9.	450 mm	1.15 M	In soft and hard material
10.	500 mm	1.20 M	In soft and hard material
11.	550 mm	1.25 M	In soft and hard material
12.	600 mm	1.25 M	In soft and hard material
13.	700 mm	1.30 M	In soft and hard material
14.	750 mm	1.40 M	In soft and hard material
15.	More than 750 mm	OD + 0.60 M	In soft and hard material

Item :- Providing laying in situ P.C.C. (M-150) 1:2:4 & C.C. 1 : 1 1/2 :3 (M - 200)etc. complete.

This shall comply as per standard specification No. Bd-E-1 on page No.287 or latest edition.

Materials

a) Cement :-

All cement for use on the works except otherwise stated shall be the standard ordinary Portland cement manufactured in India and shall conform to the I.S. 269 latest version. It shall be of make and quality approved by the Engineer-in-charge.

The cement shall be stored in weather proof godown specially constructed for the purpose, of such a manner as to prevent deterioration due to moisture or instruction of foreign matter. The weather proof godown shall have solid impervious floor raised 300 mm above the general ground level so that the cement stored there on shall not come in direct contact with the sub-soil moisture. The passages and the general construction shall be such that it affords full protection from whether effects. Large stock cement shall not be kept at the works but only sufficient quantities should be kept to maintain continuity of work.

Storage of Cement :-

If cement is supplied in bags a suitable weighing scale shall be provided and shall required by the Engineer be used for checking the weight of every bag at the contractor's expense. Bags under weight by more than 2 percent of the nominal weight shall be rejected and removed from the site.

No cement has been store for more than 90 days ordinarily be allowed to be used on the works. Cement stored for longer period more than 90 days shall be used on work only with the specific written permission of the Engineer-in-charge who shall ascertain its quality after due testing in the laboratory before giving such permission. All expenses in connection with the test shall be borne by the contractors.

For testing the quality of cement, samples shall be taken from every consignment arrived at the site of work at the option of the Engineer. The contractors shall afford every facility to the Engineer for inspection for sampling the cement. The cement godown shall be so arranged by the contractors that each consignment could be stocked separately and in such manner so as to allow counting bags in each row with case. The test result shall, ordinarily. Be available

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within a week of sampling and the contractors shall not use any part of the consignment until the results of the tests are received and found satisfactory. However, the use of such cement becomes imperative before the test result are received, the contractors may do so entirely at their own risk and cost and the whole of such work carried out by them is liable for rejection, if the tests results are found unsatisfactory. Any consignment failing to meet the requirements to I.S. 269 shall be rejected and shall be removed from the work site within 48 hours of the intimation from the Engineer. The decision of the Engineer-in-charge in this respect shall be final and binding on the contractors.

The cement in connection with the testing of cement such as transport of samples, testing fees, etc. shall be borne by the contractors.

The cement used in any type of concrete shall always be measured by weight and one cubic meter shall be taken as per table 30 of A.C.C. Hand Book.

b) Aggregates :-

All the aggregates shall conform to the latest I.S. 383. The aggregate shall consist of naturally occurring sand and gravel or stone crushed or uncrushed or a combination thereof. They are classified broadly under two categories, viz (i) Sand of fine aggregates and (ii) coarse, aggregates, depending upon their size. The fine aggregates are those which pass through I.S. Sieve No. 480. and the coarse aggregate are those which retained on I.S. sieve 480.

(i) Storage of Aggregate :-

The fine and coarse aggregates shall be stored separately and in such a manner that segregation of the various sized particle shall not occur, the stock shall be formed on a platform of weak concrete, timber or similar approved hard standing and aggregates shall be kept clean and free from foreign substance.

(ii) Aggregates shall not be unloaded on to roadways or pathways the Engineer may reject any stock pile of part of a stock pile if improper storage has opinion, caused contamination with foreign substances.

(iii) Storage piles of aggregate shall be arranged with proper drainage and protection from rainfall in order to prevent excessive changes in moisture content

taking place during concerning.

(iv) The aggregates both fine and coarse shall be hard, strong, durable, clean, free from veins and adherent coatings. The use of flaky and elongated pieces of aggregates shall be prohibited.

(v) The aggregate shall not contain deleterious materials such as iron pyrite, coal, mica, shale or similar laminate material, clay, alkali, soft fragments, sea shells, organic impurities etc. in such quantity as to affect the strength of durability of concrete or the reinforcement embedded in such reinforcement concrete.

(vi) The maximum quantities of deleterious material that may be permitted shall conform to the following limits by weight.

Deleterious substance	Fine aggregates percent by weight		Coarse aggregates percent by weight.	
	Uncrushed	Crushed	Uncrushed	Crushed
1. Local and lignite	1.00	1.00	1.00	1.00
2. Clay lumps	1.00	1.00	1.00	1.00
3. Soft fragments	-	-	3.00	-
4. Material passing through 75 micro sieve.	3.00	3.00	3.00	1.00
5. Shale	1.00	-	-	-

(vii) The total of various deleterious materials occurring in any sample shall, no case, exceed 5 percent.

(viii) If the aggregate supplied is unclean, it shall be washed. If it is not properly graded, it shall be screened by hand or by mechanical means and the various sizes proportioned to get the required grading.

(ix) Storing of aggregate on dusty, muddy and grassy spots shall be avoided. They shall be stored on the works in such a manner as to prevent intrusion of foreign matter and protected from exposure to dust. They shall be placed in stock piles

individual units of suitable sizes and in suitable layers to prevent segregation. They shall not be allowed to run down slopes.

Sand or fine aggregates :-

All fine aggregates shall consist of clean, hard, strong, durable uncoated siliceous gitty material consisting of well graded particles obtained from rock fragment. It shall be free from clay lumps injurious amount of dust, mica shell, soft or flaky particles, shale, alkali, organic matter lead or other deleterious substances.

- i) The sand shall be taken from sources approved by the Engineer-in-charge. The sand or fine aggregate shall conform to the latest I.S. No. 383
- ii) If the Engineer-in-charge considers if necessary, it shall be washed and / or screened before use, at the expense of the contractors.
- iii) The sand shall have a fineness modulus of not less than 2.5 and not more than 3.0 and the grading shall conform as far as possible to the following analysis.

I.S. Sieve No.	Percentage Passing	
	Natural sand or crushed gravel	Crushed Stone
480	95-10	90-100
240	70-95	60-90
120	45-85	40-80
60	25-60	20-50
30	5-30	5-30
15	0-10	0-15

iv) the specific gravity of sand shall not be less than 2.6

v) In no case shall fine aggregate be accepted, containing more than 2 % by dry weight not more than 3.5% by dry volume, not more than 5% by dry volume of clay, loam, or silt. If any sample of fine aggregate shown more than 5% of clay, loam, silt in one hour's settlement after shaking in excess of water, the lot represented by the sample shall be rejected.

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vi) The following two field tests are recommended for ascertaining the percentage of clay lumps and impervious organic material and the contractors shall carry out the same if the Engineer-in-charge deems necessary.

1. Test for determining silt in sand: -

Fill a calibrated tumbler with sand to half its volume and water there to until the tumbler is three quarters full. Shake up the mixture vigorously and allow it to settle for about an hour. The volume of silt visible on top the sand shall be measure. If the volumes of the silt standing over the sand exceed 5% of total volume of sand. The same shall be rejected.

2. Calorimetric test for impurities :-

The sample of sand shall be mixed with equal volume of 3% solution (about one ounce, in a quarter of water) of caustic soda / sodium hydroxide taken in a plain glass and the mixture shall be allowed to stand for 24 hours. The liquid standing above the sand shall not be darker than lights straw (pale yellow) color. If the color marked yellow or brown, the test would indicate presence of organic material in excessive amount.

In case suitable sand is not available in adequate quantities within a reasonable and economical limit, the contractor may be allowed to use the crushed or pulverized stone or gravel either alone or mixed within natural sand in parts. The stone or gravel shall be clean sharp and free from dust etc. and shall conform to the latest. I.S. 383. The percentage of crushed stone to be mixed with sad shall be such as to obtain in fineness modules of blended sand within the units specified above and / or as approved by Engineer after laboratory test.

Coarse Aggregates :-

All coarse aggregates use in concrete work shall consist of crushed rock gravel or other approved inert material.

i) Broken or crushed rock from sound blue basalt or black trap free from zealot or other common impurities shall be used in the concrete as coarse aggregate. The particles of aggregate shall be clean, hard, tough durable, free from deleterious substance and shall contain no soft, flat or elongated pieces. The course aggregate

shall have specific gravity not less than 2.6 and the water absorption measured after being immersed for 24 hours in water shall not be more than 6% by weight. The maximum percentage of deleterious materials in the coarse aggregate shall not exceed 5 % by weight in the aggregate when tested in conformity with I.S. No.383.

ii) The nominal size of the coarse aggregate for reinforced concrete work shall be 20 mm larger coarse aggregate up to 40 mm size may be used if approved by the Engineer-in-charge, in plain concrete work. The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case shall be greater than one quarter than one quarter of the maximum thickness of the member, provided that the concrete can be placed in from work without difficulty so as to surround all reinforcement thoroughly and to fill the corners of the form work. The minimum size of coarse aggregate shall be, as mentioned earlier, such as to retain most of the material (90%-95%) on L.S. Sieve No. 480.

iii) The aggregate shall be screened and, if necessary, blended to give the required grading when tested in the laboratory at contractors cost by means of standard mesh sieve, the grading shall fall within the following limits.

Sieve Size	Percentage retain by weight	
	Plain C.C.	R.C.C.
40 mm	-	-
25 mm	10 to 15	-
20 mm	35 to 40	15 to 0
10 mm	75 to 80	100 to 80
No. 480	98 to 100	100 to 95

The percentage given above are for guidance and the Engineer-in-charge reserves the right to modify the same to any other lower or higher value if considered necessary by him, in consonance with the requirements of the work.

iv) in the event of undesirable segregation occurring in coarse aggregates, the contractor shall separate the coarse aggregates in two or more suitable fraction as directed by the Engineer-in-charge, who shall set up the required limit of each such

fraction. The grading so specified shall be such as to give a dense, water tight concretes of specified proportion and strength and required consistency.

v) The Engineer-in-charge shall have the right and authority to carry out routine control tests and analysis of the broken rock at any stage of the work processing and / or concerning operation and the contractors shall give all necessary facilities in respect of such testing. The sampling and testing shall be carried out as per standard I.S. practice entirely at the cost of the contractor.

Water

The water use for the preparation of concrete., for washing sand etc. and for curing shall be clean and free from objectionable quantities of silt, organic material, acid , alkali, salts, oil and other deleterious impurities and it shall be obtained from the sources approved by the Engineer-in-charge. Potable water shall generally be found fit for preparation of concrete. The quantity of water to be added shall generally be properly measured and controlled.

i) Water Cement Ratio :-

Suitable water cement ratios for the different mixes and used shall be determined in consultation with the Engineer-in-charge and they shall generally not be exceeding 0.5 (i.e. 50% by weight), the exact values being fixed after taking into account all relevant factors such as strength required, weather condition, water absorbed by material, work ability and slump required consistent with the work requirements, method of compaction etc. The concrete mix shall be designed with the materials which will be used hence forth for the preparation of concrete. The same task shall be repeated if there is change in the quarries for the fine and the coarse aggregate.

Concrete :-

All cement concrete, whether used in R.C.C. work or plain concrete work shall be M-150, M-200 and M-250, as per latest LS. Code.

Gauge Boxes

Gauge boxes approved type shall be used for measuring sand and coarse

aggregate in required proportion whenever concrete is allowed to be prepared by mixing the aggregate on volumetric basis. Such boxes shall be of seasoned timber or steel and shall be of such size and shape and shall be used in a manner as to enable the proportion of the material to be checked readily. The cement used in concrete is however shall not be used by measuring it in gauge boxes, but it shall be measured by weight, whatever may be the type of concrete.

Manufacture and Placement of concrete :-

a) Batching :-

Whether controlled or ordinary concrete is to be mixed, the quantity of cement shall be determined by weight. If the mixers weight per bag is to be used, the same shall be verified by weighing a reasonable number of bags.

Whenever direct use of bagged cement is allowed, one bag of cement shall be considered to contain 50 kg of net weight of cement. This shall, however, be verified at site by weighing for which the contractor shall provide an accurate weighing apparatus on work sites

Having once decided the mix, the Engineer-in-charge may permit further mixing of the aggregate to be done on volumetric basis.

Wherever the concrete is to be laid in trenches, the trench shall be cleaned, watered and compacted before placing. The sub soil water which met shall be removed and the trench shall be kept dry during and after two hours of placing of concrete. For more depth of P.C.C. mechanical vibrator shall be used for compaction by the contractor.

The damages to concrete during laying of pipe line shall be rectified free of cost. The rate for the concrete includes all labour, material centering shuttering securing etc. all leads and lifts.

Mixing of concrete shall be done with concrete mixer.

For providing Electric wiring duct, tubes of the required diameter and length shall be provided through walls beams and floors, slabs as and when directed without any extra cost.

- a) The contractor will make his own arrangement for receiving all material tools etc. required for the work.
- b) No extra charges for the carriages of water will be allowed.
- c) The rates for all items are inclusive of all charges such as carting, lifting, etc. No extra payment for any lead and lifts will be paid for any item.
- d) The contractor should not be Sublette without written permission of the Engineer-in-Charge

Cement cubes of size 15 cm x 15 cm x 15 cm are taken during the concreting of important structure like RCC well, water treatment plant, elevated service reservoirs, bridge etc. to check the strength of the concrete and its acceptability it is observed that while taking cubes the requirement specified in the relevant Indian Standard specification are not observed properly and cubes are not cast in the required numbers. Due to this the acceptability of the concrete can not be decided correctly. Similarly, proper care is also not taken for curing of the cubes the requirements specified in the ISS in respect of casting of concrete cubes and curing thereof, with acceptability criteria of concrete are reproduced below, which shall be following scrupulously.

FREQUENCY OF SAMPLING (IS:456:2000 (Clause 15.2))

- a) Number of samples to be taken during concreting based on the quantum of concrete cast shall be as below.

Quantity of concrete in Cum	No. of samples
01 to 05	1
06 to 15	2
16 to 30	3
31 to 50	4
50 and above	4 + 1 for every 50 Cum. part

thereof.

At least one sample shall be taken from each shift of concrete and three test specimens (cubes of size (15 x 15 x 15 cm) shall be cast from each such sample for testing of the compressive strength additional three cubes will also have to be

taken for 7 days test.

The test strength of the sample shall be the average the strength of the three specimen.

ACCEPTANCE CRITERIA (IS:456:2000 Clause 16)

The concrete cost shall be supposed to be acceptable in the compressive strength (i.e. average strength of the three specimen) of the samples fulfill the following requirements.

a) Every sample has a test strength not less then characteristic value.

OR

b) The strength of one or more samples, though less the characteristic value is in each case, not less then the greater of following.

i) The characteristic strength minus 1.35 times the standard deviation.

and

ii) 0.80 times the characteristics strength.

c) And the average strength of all the samples is not less than the characteristic strength plus

$$1.65 * \frac{1.65}{\text{No. of samples}} = \text{times the standard deviation}$$

d) However, it should be noted that individual variation should not be more than the percent of average.

STANDARD DEVIATION VALUES

Grade of Concrete	Assumed Standard deviation in Kg/Cm ²
M-100	35.00
M-200	46.00
M-250	53.00
M-300	80.00

CURING OF CONCRETE CUBES (IS:516:1959, CLAUSE 3.3)

The test specimen (cubes) shall be stored on the site at place free from vibration,

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under damp matting, sacks or other similar material for 24 hours + ½ hour from the time of adding the water to the other ingredients. The temperature of the place of storage shall be within the range of 22° to 32°C. After the period of 24 hours, stored in clean water at temperature of 24° to 30°C until those are transported to the testing laboratory. Samples shall be sent to the testing laboratory well packed in damp sand, damp sacks or other suitable material as to arrive there in a damp condition, not less than 24 hours before the time of test.

On arrival at the testing laboratory, the specimen shall be stored in water at a temperature of 27° + 2° C until the time of test. Record of the daily minimum and maximum temperature shall be kept, both during the period specimen remain on the site and in the laboratory.

TEST PROCEDURE (IS:516:1959 CLAUSE 5.5)

Specimen stored in water shall be tested immediately on removal from water and while those are still in the wet condition. Surface water and grit shall be wiped off the specimens and any projecting fins removed. Specimen, when received dry, shall be kept in water for 24 hours before taken for testing. The dimensions of the specimens to the nearest 0.2 mm and also weight shall be noted before testing.

OTHER THINGS

Here, it should be specifically noted that age of concrete cube will be age as on the date of testing i.e. time difference between addition of water to dry ingredient and actual testing.

MIX DESIGN

The following instructions shall be followed as regards preliminary design of mix and methods of batching of plain cement and reinforced cement concrete. These instructions should be treated as supplementary to the relevant provision in the specifications for the respective items contained in the book of standard specification and will be carried the provisions contained therein, wherever they are contrary to the following instructions.

The preliminary design and batching for various grades of concrete shall be governed by the following guidelines.

No.	Concrete Grade	Guidelines
1	Upto M-150	This should only be ordinarily concrete. No change may be prescribed in the present practice as regards preliminary design of mix and permitting volume batching.
2.	M-200 to M-250	Preliminary mix design must be carried out for these mixes. However, weigh batching shall be insisted for cement, fine aggregate and course aggregate.
3.	Above M-250	Preliminary mix design must be prepare for such mixes weigh batching should be for cement fine aggregate and course aggregate.

For the grades of concrete M-200 and above the preliminary mix design shall be carried out from the approved laboratory. The rate quoted by the contractor in the agreement for these items shall be final and binding on him, irrespective of content of cement required as per preliminary mix design and there shall be no adjustment in the agreement rate for these item on this account.

The charges for preliminary design of concrete mix shall be entirely borne by the contractor.

For grades of concrete M-200 and above where cement is to be used by weightment, the cost of extra cement required to make up the under weight bags shall be borne by the contractor.

For the items of concrete of grades lower than M-200 and other items in the agreement where cement is not to be used by weightment the cement bags as received from the manufacturer and shall be assumed to contain cement of 50 kg net weight.

This shall be as per specification of P.W.D. (Hand Book) and as directed by Engineer-in-charge. Only trap stone shall be used other than the specification for this item in Standard Specification Book.

(a) Proportions of concrete for types of work

i) M-100 - For leveling course and foundation of chairs and thrust blocks etc

- ii) M-150 PCC with temperature nominal 0.15% reinforcement for footing thrust blocks, anchor blocks, chairs and encasing of pipes etc.
- iii) M-200 PCC for water retaining structure
- iv) M-300 for Construction of Jack well, Pump House & Water Retaining Structure. Such as ESR, WTP, MBR, BPT.
- v) M-250 Pump house and bridges (excluding sub-merged portion)
- b) General specifications of this work shall be as per standard specification of Public Works Department, latest edition, for PCC Bd.-E1 to E-7 and for RCC Bd.F2 to F16.
- c) Whenever concrete is to be laid in trenches, the trench shall be cleaned, and watered before placing. The sub-soil water which is met shall be removed and the trench shall be kept dry during and after 2 hours of placing concrete.
- d) Pedestal pier shall be perpendiculars to center line of pipe.
- e) Proper seat shall be left on top of pedestal pier to construct saddle. Seat shall be strictly done within 24 hours, failing which MJP will not accept it for payment
- f) RCC saddle shall be constructed as per detailed drawing. The top of saddle where pipe rests shall be provided with wearing plate fixed in CM 1.3 smoothly and CM grouting may be done after pipe is placed and no extra payment will be made for this.

MODE OF MEASUREMENT AND PAYMENT.

The tender rate shall be for one cubic meter of concrete. The concrete shall be measured for its length, breadth and depth limiting dimensions to those specified in drawing or as per direction of Engineer-in-Charge.

ITEM: MILD STEEL AND TOR STEEL REINFORCEMENT FOR RCC

WORKS

The item provides for supply of mild steel, tor steel bars, cutting, bending with G.I. wire and placing in position, welding for reinforcement in the RCC.

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Mild steel and tor steel bars shall confirm to Specification A-10 of Standard Specification of Public Works Department, Latest Edition.

The binding wire shall confirm to Specification A-15 of Standard Specification of Public Works Department, Latest Edition.

During contractor's supply, if any, the steel bars shall be supplied directly to the site of work.

Bending reinforcement confirm accurately to the dimensions and shapes in the details drawings (approved) or as directed by the Engineer-in-charge.

Bars shall be bend cold only. In no way bending by heat will be allowed.

Bars with kinks, bends or cracks shall not be used.

Details of length, size, laps and bending diagram shall be got approved by the Engineer-in-charge.

As far as possible full length of bars shall be placed as per drawing details. When full lengths are not available, bars be supplies only after written permission of the Engineer-in-charge. Supplies shall be staggered and in tension zone shall be avoided strictly. Bars shall be lapped as specified in IS:456-2000 with due regards to the grade of concrete. Welding may be used for large diameter of bar only after permission of Engineer-in-charge.

Welding, if permitted shall conform to specification B.10.7 of Standard Specification of Public Works Department.

All reinforcement shall be accurately placed in position with spacing and cover shown in detailed drawing and firmly held during the placing and setting of concrete. Bars shall be ties at all intersections. Binding wire of 1.63 mm or 1.22 mm diameter (about 16 or 18 gauge) shall be used. Spacing of the bars shall be maintained by means of stays, blocks ties, spacers, hangers or other approved supports at sufficient close intervals so that bars will not be displaced. During placing vibrating or compacting concrete, placing bars for reinforcement on a layer of fresh concrete as the work progress will not be permitted. The use of pieces of broken stones or bricks or wooden blocks for maintaining spacing or cover shall not be permitted. Layers of bars shall be separated by precast cement blocks, spacer

bars or other devices.

Full details of numbers, sizes, lengths, weights, laps, welds, spacing of bars placed in position in different parts of the work shall be recorded by the contractor and certified and signed by the Engineer-in-charge or his representative to show that all reinforcement has been placed correctly as per sanctioned drawing or as directed by the Engineer-in-charge in writing, before placing concrete. No concrete shall be placed in position until the certified the correctness of reinforcement, recording the steel measurements and has given permission in writing to place concrete. After approval of reinforcement as above, it will be the contractor's responsibility to seal that the spacing of reinforcement and arrangements are not tampered with in any way before or during concreting. Any steel is required to be procured by Contractor. He shall produce the test certificate. In addition, actual test shall be carried out according to IS:432-1982, in an Government laboratory and the cost of test shall be borne by the contractor, including all transport, etc.

This item includes,....

- a) Cost of labour, materials, use of tools, plant and tackle and other incidental items to complete the work satisfactorily.
- b) Supplying, conveying, cleaning, cutting, bending, binding with (1.63 mm or 1.22 mm diameter - 16 to 18 gauge) wire on spot, welding and placing reinforcement in position and maintaining it clean and in position till the concrete is laid.
- c) Cost of sampling and testing, as required.

In no case, any foreign material e.g. oil, grease, etc. which prevent bonding between steel and concrete shall remain on steel on steel bars during placing of concrete.

MODE OF MEASUREMENT AND PAYMENT

The tender rate shall be on weight basis for MT of MS/tor steel reinforcement. The weight of steel reinforcement used for the item of concrete will be measured in tonnes based on total compacted weight for the sizes and lengths of bars as shown

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in drawing or as directed by Engineer-in-charge.

The lengths of the bars shall be measured correct to 2 places of decimals of meters. The weights for payments shall be calculated according to standard weights mentioned in the ISI Hand Book correct upto 0.10 Kg.

ITEM: BURNT BRICK MASONRY SECOND CLASS

4.1 GENERAL

This specification lays down the requirements for B.B. Masonry 1st class in cement mortar of specified proportion required for various structures, including necessary scaffolding, watering etc. The specifications shall conform to IS:2212-1991 its latest revision.

4.2 MATERIALS

BRICKS : Bricks shall be first class and shall conform IS:1077-1992.

4.3 MORTAR

The quantity of mortar to be used per Cum of B.B. masonry shall be about 30 to 32% or 300 to 320 liters for conventional bricks and 32 to 33% or 320 to 330 liters for ISI bricks. The proportion of mortar shall be as specified in the item of the tender.

4.4 CONSTRUCTION

JOINTS : Joints shall not exceed 12 mm (about ½") in thickness and shall be uniform

throughout.

All other specifications of KB-1 for B.B. masonry first class shall apply to this class of masonry also.

Mode of Measurement :

The contract rate shall be for a unit of one cubic meter of Masonry. The concrete shall be measured for its length, breadth and depth limiting dimensions to those specified on the plan or as directed by Engineer-in-Charge. No deduction shall be made for reinforcement in concrete in RCC work. Individual dimension shall be measured in Cum. And quantities shall be worked out correct upto three places of

decimal of a cubic meter.

4.5 HALF BRICK MASONRY

The half brick masonry shall be in cement mortar specified in the item but not weaker than 1:4.

Mode of measurement : Per Sq,mt.

The half brick masonry shall be reinforced by 2 No. of 6 mm dia M.S. longitudinal bars or 2 No. of hoop item strips of 25 x 1.6 mm size, at even third course properly bent and bounded in vertical joints of the brick work or to main walls as directed by the Engineer-in-charge, if continuous strip is not available, strips shall be rivet jointed with a minimum overlap of 8 cm. All the bricks shall be laid stretch wise breaking joint with the upper and lower courses. Fixtures, plugs, hold, fasts, frame down, windows shall be based into brick work while laying only and of the correct levels and positions. Holes of required size and stage shall be left in the brick work during laying for fixing pipes or service lines, passage of water etc. After the pipeline work is completed, extra hollow left around the hole shall be plugged with 1:3 cement mortar or 1:3:6 cement concrete. Hold fasts for frames of doors and windows shall be accommodated in the joints of the brick which laying. The joints in the courses where reinforcements is places shall admit of a mortar cover at least 5 mm for the brick work with 15 bricks and not more than 12 mm for conventional brick work. A set of mason's tools shall be maintained on work for each group of 3 masons or less for frequent use and checking. The ends of walls shall be bonded into the side walls where necessary.

The joints shall be raked out to depth not less than the thickness of the joints.

This item shall include :

- a) Providing and fixing mild steel reinforcement bars or hoop iron strips as mentioned above.
- b) Leaving holes for fixtures or pipes and making them good after completion of the work.
- c) Building in frames, hold fasts etc. and forming chassis and grooves.

Mode of measurement

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The contract rate shall be for a unit of one Square meter and quantities shall be worked out correct upto three places of decimal of a Sqmt.

ITEM: CEMENT PLASTER : Internal Neeru finish

GENEAL

This specification lays down the requirement of cement plaster to be applied to concrete or brick masonry surface. In cement mortar of specific proportion and thickness.

PREPARATION

For masonry all joints in the frame work that is to be plastered shall be raked out to a depth not less than the width of the joints or as directed by the Engineer-in-charge. The raking shall be done taking care not to allow any chipping of masonry. In new work the raking out shall be done while the mortar in the joints is still green. Smooth surface of concrete or plaster etc. must be suitably roughened to provide necessary bond for the plaster all dirt, soot oil paint or any other materials that might interfere with satisfactory bond shall be removed and surface wetted before plastering is started.

General : The item shall comply with specification B.11.b subject to the additional clauses Bd.L 1.2, Bd.L 1.3, Bd.L 1.4 and the following

Finishing : When no finish is specified the plastered surface shall be rubbed well to an even plane with a wooden float for external surfaces and finished smooth with a steel trowel for internal surfaces.

When cement finish is specified, a coat of pure Portland cement slurry 1.5 mm (1/6') thick shall be applied to the plastered surface while the second coat is still fresh. If neeru finish is specified, then the surface shall be finished as per specification for Item Bd.L-10.

The thickness of the cement plaster shall be 12 mm excluding cement or neeru finish.

Mode of measurement

As per NdL-1.7 on square meter basis

MATERIALS

Cement mortar shall be prepared from cement and as specified for RCC work and mixed in the proportion specified. Sand shall be screened and washed if called upon to do so. Water proofing compound of directed make in directed quantities shall be added where it is water proof plaster, scaffolding shall be prepared from sound materials and shall be provided, where ever situation demands for facility of proper working.

GAUGES

Patch of plaster 15 x 15 cm shall be put on about 3 m apart as gauges to ensure even plastering in one place.

FINISHING

In any continuous face of wall, finishing treatment of any type shall be carried out continuously and day to day breaks made to coincide with architectural breaks in order to avoid unsightly junctions. All mouldings shall be worked true to template and drawn neat, clean and level. All exposed angles, junctions and openings shall be carefully finished.

WATERING

All pointing work shall be kept damp continuously for a period of 14 days. To prevent excessive evaporation of the sunny and wind ward side of the building in hot, dry weather matting or gunny bags may be hung over on the outside of the plaster in the beginning and kept moist. If the contractor fails to water the work to the satisfaction of the Engineer-in-charge, the requisite labour, materials and equipment to water the work properly shall be engaged departmentally at the cost of the contractor.

Cost all scaffolding is included in the tender rate.

ITEM: SAND FACED CEMENT PLASTER

GENERAL

The item shall comply with the specification B.11 in all pertinent particulars. In addition Bd.L.1.2, Bd.L 1.3, Bd.L 1.4 and the following specifications shall also be complied with.

Base Coat : The base coat plaster shall be of cement mortar 1:4. Water proofing

compound of approved make like Pudlo, Sika, Accorproof shall be added according to the maker's instruction in Bd.L 2 which a thickness of 15 mm for brick work and concrete surfaces and 20 mm for rubble stone masonry. Keys shall be formed on the surface by thoroughly combing it with wavy horizontal lines about 12 mm apart and about 3 mm deep when the mortar is still plastic.

Sand Faced Treatment : The cement mortar for sand faced plaster shall have washed Kharsalia or Kasaba or similar type of approved sand with slightly larger proportion of coarse material. The proportion of cement to sand shall be 1:4. The water is added gradually to make the mixture homogeneous. The thickness of finishing coat shall not exceed 8 mm. After applications the surface should be finished with a wooden float lined with cork and tapped gently to retain a coarse surface texture. When the finishing coat has hardened the surface shall be kept moist continuously for 14 days.

Item to include relevant portion of Bd.L 1.6. it shall also be include the base coat and sand face treatment of above.

Mode of Measurement and payment per Bd.L 1.7 on square meter basis

The specification lays down the requirements of applying sand faced plaster in specified thickness with cement mortar to concrete or masonry surface in specified coats. This shall conform to specification for ordinary cement plaster where ever it is not irrelevant and in addition following shall also be applicable.

Tools and accessories used in plastering work be thoroughly cleaned before plastering is done.

The programming of other building operations before during and after plastering shall be according to the instructions contained in Clause 4 of IS:1661-1960 or its latest revision. The item shall be executed as per Red book specification BdL-7 to 7.50 page No. 351)

Care shall be taken that other parts of work of adjacent work are not damaged while plastering.

The base coat plaster shall be of cement mortar of specified proportion 1:4 and thickness as mentioned in the item or otherwise, it shall be of cement mortar 1:3

and thickness 15 mm to 20 mm. The base coat shall be laid in a similar manner as stipulated in. However, instead of finishing the top surface smooth keys shall be formed on the surface thoroughly combined in with wavy horizontal lines about 12 mm apart and about 3 mm deep when the mortar is still plastic. The base coat shall be cured for suitable period as per relevant code.

ITEM: DOORS, WINDOWS AND ROLLING SHUTTERS

The specification for this work are as per Standard Specification BD-T-2 and T-7 and as directed by Engineer-in-Charge. (The item shall be executed as per Red book specification)

ITEM: PAINTING WHITE WASH

This item is to be executed as per Standard Specification and as directed by Engineer-in-Charge. (The item shall be executed as per Red book Specification)

ITEM: STEEL ROLLING SHUTTERS

The specifications lays down requirements of providing and fixing steel rolling shutters with accessories locking arrangement top hood cover and painting in three coats of synthetic enamel paint of approved quality and shade

The specification for this work as per standard specification of Red Book - and as directed by

Engineer-in-Charge.

MATERIALS

The rolling shutters shall conform to IS:6248:1979. Rolling shutter shall be supplied of specified type with accessories. The size of the rolling shutters shall be as specified in the drawings. The shutters shall be constructed with interlocking lath sections foamed from cold rolled steel strips not less than 0.9 mm thick and 80 mm wide for shutters upto 3.5 m width and not less than 1.25 mm thick and 80 mm wide for shutters 3.5 m width and above unless otherwise specified. Guide channels shall be of mild steel deep channel section and or rolled pressed or built up (fabricated) jointless construction. The thickness of sheet used shall not be less

than 3.15 mm.

Head cover shall be made of M.S. sheet not less than 0.9 mm thick for shutters upto 3.5 m width. For shutters having width 3.5 m and above the thickness of M.S. sheet for the hood cover shall not be less than 1.25 mm.

The spring shall be of best quality and shall be manufactured from tested high tensile spring steel wire or strip of adequate strength to balance the shutters in all positions. The spring pipe shaft etc. shall be supported on strong M.S. or Malleable C.I. brackets the brackets shall be fixed on or under the lintel as specified with raw plugs and screws bolts etc.

The rolling shutters shall be self rolling type upto 8 Sq.mt clear area without ball bearing and upto 12 Sqm.. Clear area with ball bearing. If the rolling shutters are of larger size, then gear operated type shutters shall be used.

The locking arrangement shall be provided at the bottom of shutters at bottom ends. The shutters shall be opened from outside.

The shutters shall be complete with door suspension shafts, locking arrangements, pulling hooks, handles and other accessories.

WORKMANSHIP

Rolling shutters and top hood with all accessories shall be supplied of specified type and shall be got approved before fixing by the Engineer-in-Charge. The fixing shall be done in true line and level. The damaged work shall be made good to the level of original works. The fixing work shall be done to the entire satisfaction of the Engineer-in-Charge. After the erection and fixing the rolling shutters with hood shall be painted with synthetic enamel paint in three coats. The paint shall be of approved quality and shade.

MODE OF MEASUREMENT AND PAYMENT

The item shall include -

- a) Providing and fixing the rolling shutters of specified size, material with all accessories, locking

arrangement and top hood cover.

- b) Painting the same with approved synthetic enamel paint in three coats.
- c) Redoing the damaged works

The item will be measured and paid in Sqmt. Basis of the shutter area.

ITEM: WATER PROOFCEMENT PAINTING

GENERAL

This specification lays down the requirement of applying cement based paint in specified coats to concrete or masonry surface.

MATERIALS

Cement paint with a base of white portland cement of approved manufacture. Colour and shade shall be used. Approved quality cement based paint shall be brought to site in original air tight containers with seal intact.

Scaffolding wherever necessary shall be provided to the entire satisfaction of the Engineer-in-Charge.

PREPARATION

The surface to be painted shall be cleaned of all loose dust, and dirt paints and all cracks, holes and surface defects shall be repaired with cement plaster cured and allowed to set hard. Before the panting is commenced the surface is wetted well and water is allowed to run off. Any grease, oil paint, shall be removed by approved methods.

APPLICATION OF PAINT

Mixing of paint and procedure of painting shall be as specified by the manufacturer when no specification are following specification shall generally apply.

The dry cement shall be thoroughly mixed with clean fresh water to produce paint of required consistency (normally that of ordinary paints). The paint shall be kept stirred and used within one hour of mixing hardened or damaged paint shall not be used. The paint shall be applied by brushes in the manner specified by the manufacturer.

The number of coats shall be specified in the wording of the item. When more than one coat is to be given the subsequent coats shall be applied after the preceding coat has thoroughly hardened, inspected and approved.

CURING

Each application of paint should be wetted at the end of the day with a fine water spray, depending on climatic conditions. Wetting shall be done only after an interval of at least 6 to 8 hours after the applications. In dry weather the painted surfaces shall be kept damp for at least two days and protected from direct sun.

MODE OF MEASUREMENT AND PAYMENT

The item includes,

- a) All materials and labour for painting.
- b) All equipment and scaffolding.
- c) Curing as per specification
- d) Non uniform colour or shade shall be rectified without any extra cost.

The item shall be measured and paid in per Sqmt basis of area painted.

ITEM: PROVIDING, FIXING RSJ AND OTHER STRUCTURAL STEEL WORK

The specification of the work as per standard specification Bd.C2 and the item cover fixing MS/RS girders, M.S. angle, channels, flats, base plate gusset plates, cleat, bracket etc. and other accessories as per requirement and as directed and fabricating the assembly by cutting, drilling holes etc and erecting and fixing item as site with necessary riveted or welded joints fixtures with nuts and bolts etc. wherever necessary together with their proper fixing and embedding in masonry or slabs of concrete as directed. Structural steel works materials shall be procured by the Contractor from open market at his cost. The item includes 3 coats of oil paint of shade as directed to all structural work.

All above operations including cost of materials and labour thereof are included in the tender item. The measurement and payment shall be on the weigh basis in the unit as mentioned in Schedule-B actually erected at site as directed shall be admissible for payment. RSJ channels, angles, flats, gusset plates, brackets base plate, cleats, packing pieces actual used as directed shall be admissible for payment but not the rivets, nuts and bolts etc.. the riveted or welded joints or

fixing with nuts are included in the tendered rates. The specifications for this item given in Standard Specification (Red Book) published by B&C Department will be followed.

STRUCTURAL STEEL WORK (for pipe line, outlet arrangement work only)

Requirements specified in this section will form a part of detailed specifications for items of works falling under this category. Indian Standard shall apply as if included herein. Design of structure shall be compliance with Indian Standard (IS) viz. Rivet IS:1148-1964 for bolts IS:1148-1964 and IS:800-1962 for structural fabrication IS:800-1962, etc.

PRINCIPAL ITEMS

- 1) Structural steel members
- 2) Steel joints
- 3) Plates and connection
- 4) Steel chair assembly
- 5) Pipe supports and hangers for piping in all locations
- 6) Pipe railing
- 7) Ladders and stairs
- 8) Misc. metal work for water supply and sewerage disposal installations.

QUALITY ASSURANCE

Unless otherwise specified all work specified herein and shown on the drawings shall conform to the applicable requirements of the following specifications and codes.

- A) Fabrication and erection of structural steel shall be in accordance with IS:800-1962. (latest edition)

B) WELDING INSPECTION

The contractor shall perform all structural field welding under continuous inspection of a representative of the Pradhikaran. Notice will be given at least 24 hours in advance of needed inspection.

SUB METALS

SHOP DRAWINGS

The contractor shall submit shop drawings for approval before fabrications of any of the work. Complete fabrication details with material and specification lists showing all welds, fabrication and finish details, and shop painting will be shown with the drawing. In approving shop drawings, the owner does not assume responsibility for accuracy of the work relative to other components as constructed.

SHOP FABRICATION**GENERAL**

- A) The maximum possible fabrication on structural steel work shall be manufactured off-site in a fabrication shop.
- B) Shop connections shall be welded or bolted, unless otherwise indicated.
- C) In so far as possible all work shall be fitted and assembled in shop ready for erection.

MEMBERS

- A) All members shall be free from twists, kinks, buckness or open joints.
- B) All members, holes and their spacing shall be so accurately made that when assembled the parts shall come together and bolt without distortion.
- C) Parts assembled with bolts shall be in close contact, except where separators are required where unlike metals are in contact, to insulate as necessary to prevent corrosion.
- D) Bolt holes will be provided to secure special items, if any, to structural members.
- E) Bearing surface shall be planned to true beds. Abutting surface shall be closely fitted. Steel requiring accurate alignment shall be provided with slotted holes and/or washers for aligning the steel.
- F) All materials shall be delivered in the order, in which they will be required so as to avoid all delay in completion of the project.

WELDING

- A) Welding in shop and field shall be done by qualified operators who have

experience of similar work. The standard for welders will be as required by IS:817-1966.

- B) All steel before being fabricated shall be thoroughly wire brushed, cleaned of all scale and rust and thoroughly straightened by approved methods, that will not injure the materials being worked on. Welding shall be continuous along the entire line of contact except where tack or intermittent welding is permitted. Where exposed welds shall be cleaned of flux and slag and ground smooth.

ERECTION

- A) Erection shall include the installation and erection of all steel as called for in this section. The contractor shall verify correctness before starting erection.
- B) As erection progresses, the work shall be securely bolted up to take care of all dead-load, wind and erection stresses.
- C) No final bolting or welding shall be done until each portion of the structure has been properly aligned and plumbed.
- D) Bolts shall be drawn up tight and threads set so that nuts cannot become loose.

E) DAMAGED MEMBERS

During erection, members which are bent, twisted or damaged shall be straightened or replaced as directed. If heating is required in straightening, a heat method shall be used, which will ensure uniform temperature throughout the entire members. Members which in the opinion of the Pradhikaran are damaged to an extent impairing appearance, strength or service ability, shall be removed and replaced with new members.

F) ANCHOR BOLTS AND ANCHORS

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and nuts shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts

accurately. Embedded anchor bolts that are submerged in process, water or pump room floors, or are in enclosed tanks or spaces exposed to process gas or moisture shall be of stainless steel with nuts of same material. To such stainless steel bolts, a non-oxidizing lubricant grease will be applied before bolting.

G) BEARING PLATES

Bearing plates shall be provided under beams and columns resting on walls or footings. Bearing plates may be attached or loose and aligned on steel wedges or shims. After the supported members have been plumbed and properly positioned and the anchor nuts tightened, the entire bearing are under the plate shall be dry packed solidly with bedding mortar. Wedges and shims shall be cut off flush with edge of bearing plate and shall be left in place.

H) SUBSTITUTIONS

Unless otherwise directed, the exact sections, shapes, thickness, sizes, weights and the details of construction shown for the structural steel work, shall be furnished. However the contractor, because of his stock or shop practices, may suggest change of the net area of section is not thereby reduced, if the section properties are at least equivalent and if the overall dimensions are not exceeded. All substitutions or otherwise deviations from drawings and/or specifications shall be specifically noted or 'clouded' on the shop drawing submittals.

I) FLAME CUTTING

Flame cutting by the use of a gas cutting torch in the field for correcting fabrication errors will not be permitted on any major member in the structural framing. The use of a flame cutting torch will be permitted only on minor members, when the members is not under stress, and only after the approval of the Pradhikaran has been obtained.

J) STORAGE OF MATERIALS

Structural materials, either plain or fabricated shall be stored above ground upon platforms, skids, or other supports. Materials shall be kept free from

dirt, grease and other foreign matter and shall be protected for corrosion.

K) TEST REPORTS

Certified physical and chemical mill test reports for material used for major structural members shall be furnished. All tests shall be performed in accordance with applicable Indian Specification Standards.

MATERIALS AND WORKMANSHIP

A) STRUCTURAL STEEL AND MISCELLANEOUS METAL WORKS

i) GENERAL

This work shall include the furnishing and installation of all structural steel and miscellaneous metal work and related work including grating and grating supports, pipe hangers and supports, tanks, manhole steps, equipment guards, anchors and other appurtenances and any other shown on the drawings or herein specified. All materials shall be new, sound and of the best quality available.

ii) MATERIAL

Steel rolled sections, plates and bars shall conform to the latest editions of IS:226, 808, 1730, 1731, 1732 and 3954. Pipe used for columns or other structural purposes shall conform to IS:1161-1968. Iron for castings shall conform to IS:210.

B) STEEL JOINTS

These shall be fabricated true to size and details shown on drawings in strict conformance with requirements of reference standards.

C) COMMON BOLTS

Bolts and nuts shall conform to IS:1363-1967.

D) WELDING ELECTRODES

The electrodes shall conform to the requirements of IS:814, latest edition.

E) SHOP PAINTING

Structural steel not designated to be galvanized shall be shop coated, using priming coat of red lead as specified in painting section, of these

specifications. The portion of steel to be embedded in concrete shall not be painted.

F) GALVANIZING

All metal work shown or specified to be galvanized, shall be zinc coated, as per IS:2629-1966. The zinc coating should be free from defects and shall have uniform thickness of coating.

Galvanizing coating marred or damaged during erection or fabrication shall be repaired by any approved process as directed by the Engineer.

G) SHOP PAINTING

Before leaving the shop all steel not shown or specified to be galvanized shall be given one coat of primer red lead. Final painting shall be in specified coats of approved and approved brand oil paint. The portion of steel to be embedded in concrete shall not be painted.

H) TEST REPORTS

Certified physical and chemical mill test reports for material used for major structural members shall be furnished by the contractor.

I) SHOP DRAWINGS

Five sets of shop drawings shall be submitted to the Engineer, for approval before fabrications of any of the work. In approving shop drawings, the Engineer does not assume responsibility for accuracy of the work relative to other plant components, as constructed.

J) ANCHOR BOLTS

Anchor bolts shall be galvanized and shall be fabricated as shown or as specified by the equipment manufacturer.

Suitable expansion bolts may be used in lieu of anchor bolts, at certain locations. It shall be the responsibility of the contractor to request the substitution and obtain the Engineer's approval, regarding type and location of expansion and bolts proposed to be used prior to pouring concrete.

K) STEEL GRATING

Contractor

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Seat angles and anchors shall be of steel, grating and support shall be galvanized. Gratings to be supplied and installed as detailed in the drawings.

L) MECHANICAL EQUIPMENT GUARDS

All rotating belts, pulleys and shafting shall be covered and guarded in conformity with applicable safety requirements or as directed by the Engineer.

MODE OF MEASUREMENT

This item will be calculated as per Metric Tone basis.

ITEM: Refilling The trenches with available excavated stuff with soft material etc. complete.

The item shall be done as per standard specification No. Bd-A-10, Page No.263

After lowering, laying, jointing and welding of pipe line, site gunitting and concreting work, refilling of trenches with available excavated stuff shall be done For beding only approved quality of excavated materials from trenches shall be used. Beding shall be done before laying of pipe line to the desired grade as directed by Engineer-in-charge.

For refilling purpose, approved excavated stuff shall only be used. The refilling shall be done in layers of 15 to 20 cms. Each layers should be watered and compacted properly before the upper layer is laid till the required level is reached. First 2 layers of 15 to 20 cms shall be free from stones or chips or any harmful material, to protect the pipe from damage. Only soil or soft murum shall be used for filling. Originally filling shall be done 30 to 40 cms above natural ground or road level. Sinking below the road or ground level, if noticed till the completion of work, the contractor shall have to make it level at his cost.

This item includes,..

- a) Clearing useful excavated material of rubbish bracking clods, stone, etc.
- b) Conveying the useful excavated material upto 500 M and filling in layers, watering and compacting.

- c) All labour, equipment and other arrangements necessary for the satisfactory completion and completion of the item.

After water tightness test etc. the trench shall be refilled in layers and shall be rammed manually. The filling shall be kept above ground level for subsequent settlement. In the case of trench in rock, cushioning from approved excavated materials shall be provided at sides and 0.30 m. on top of pipe line by manually to avoid the damages to the laid pipes. The item includes free lead of 50 meters for actual operation. After refilling of trenches, it shall be watered and compacted satisfactory by the roller as directed by Engineer-in-charge.

The contractor shall have to cart the selected excavated stuff from site of work to any other site for refilling as per requirements as directed. The payment shall be made to contractor under relevant item No.11 for disposal in Schedule __B‘

Mode of Payment :-

The payment of refilling shall be made to the contractor only after completion of water tightness satisfactory test etc. of the pipe line. The measurement of work shall be taken in cubic meter up two place of decimals. Mode of measurement and payment of the rate shall be for a unit of 1 Cum of compacted trench filling with approved excavated material.

The measurement shall be net for the compacted filing and no deduction for shrinkage or voids shall be made. However, deduction for pipe volume will be made. Depth of filling for measurement will be limited from natural ground level only. No payment will be made for filling for 30 to 40 cms above natural ground level, if so insisted by the Engineer-in-charge.

Surplus excavated material is the property of Pradhikaran. So contractor is not empowered to sell this excavated material to any other agency.

This disposal will not be considered for initial 500 M lead from edge of pipe line trenches and so will not be paid for.

The material shall be conveyed by means of suitable devices/manner.

The material conveyed to the place of disposal shall either be stocked or spread as directed by Engineer-in-charge or his representative.

The route opening and maintenance, payment of any royalties, compensation to land owners and for damaged of any etc. during the process of conveyance etc. shall be the entire responsibility of the contractor.

10% amount will be withheld till satisfactory hydraulic testing of pipe line.

90 % payment s made after completion of lowering ,laying and remaining 10% amount will be withheld till satisfactory hydraulic testing of pipe line is given.

ITEM: Filling in plinth and floors/trenches with contractor's murum..... etc. complete.

For beding, only murum brought from outside as approved by Engineer-in-charge. Shall be used. Beding shall be done before laying of pipes to the desired grade, line and level with necessary watering and compaction etc. complete. This shall be executed when B.C. Soil and hard rock met at the bottom of trench for certain length. The filling in trench around the pipes and 0.30 m on top of pipe line shall be done in B.C. Soil and rock as directed. The item includes lead beyond 0.50 kms. And lift as required.

If the approved quality of murum is available within 5 Kms. Lead at any of work, the same shall be used for beding and refilling as directed by Engineer-in-charge. The payment shall be made as per relevant item No.11 of disposal in Schedule _B' this can be possible only, if the execution of work is done simultaneously at more site.

ITEM: Dewatering the excavated trenches and pools of water as directed.

The item shall comply as per standard specification No.Bd-A-9, on page No. 261.

This item is provided for Dewatering during excavation of entire work when it is not possible to bail out the water manually, the item includes all machinery, fuel, labour etc. The contractors shall provide all dewatering pumps, engines and machinery required to keep the trenches dry laying sewer lines, drains or foundations and all other excavations shall be clear of water, whether sub-soil water, storm water leakage from tanks, wells drains, sewers water, mains, tide water etc. so that there may be no accumulations of such water. And that no setting out may be done the pumping shall be continued so long after execution of

any portion of work and repeated so after as the Engineer-in-charge may determine to be sufficient at any particular time, or he may himself supply pumps and power at contractor expenses, so he may stop the work all together until he is satisfied and also impose a fine upon the contractor. It is the contractor's responsibility to keep dewatering machinery in up to date working condition to keep the trenches dry for laying pipes or for placing the concrete.

Mode of Pyament :-

Mode of Payment:-

25% payment will be released after completion of 50% work & remaining 75% shall be made after completion of Work, in a zone. The necessary documents shall be submitted by the agency The provision of dewatering is on lumpsum basis for whole items of the sub work No.1 to be executed. However the payment will be made, in proportionate with the quantity of work executed. No extra payment will be made if quantity of items is increased. Maximum quantity of dewatering will be considered hot trunk sewer line in nalla bed and rest of the quantity will be considered for laterals, as directed by Engineer-in-charge.

ITEM: G.I. HAND RAILING

(Sub Work No....., Item No)

The item shall be executed as specified in the tender item and as shown on drawing. The vertical supports shall be properly fixed at base either in masonry or concrete by nuts and bolts duly embedded in the form, right anchorage holes in the vertical support to pass G.I. piping in it or welding to fix the G.I. pipes to supports together with M.S. cleats, etc. are included in this item. The G.I. piping shall be provided along with required specials, fixtures, fastening, etc. and G.I. piping shall be bent in circular or spiral railing pipes and shall be jointed by G.I. collar or welded as per necessity. The diameter of G.I. piping, number of rows size and type to vertical posts together with its centre to centre distance height, etc. shall be as specified in the tender item an in absence thereof as per the MJPs type design in force. The rate shall also include two coats of approved shade oil paint. Cost of all the materials which shall be procured by the Contractor, labor involved for executing this item is included in tender item. The measurements and

Contractor

No. of correction

Executive Engineer

the payment shall be on the basis of lengths in running meters occupied by the complete railing assembly in plan.

The agency should provide G.I. pipe railing having one meter height consisting 50 x 50 x 6 mm thick MS angles and vertical at 1.50 m c/c and additional post at every corner bends or curved point with three rows of 25 mm G.I. pipe of medium class variety of horizontal at 3 coats of oil paints over one coat of anti corrosive paint approved colour including cost of labour, transport, materials etc. complete

Mode of payment

The payment shall be made on running meter basis

ITEM: PROVIDING AND FIXING MANHOLES FRAME AND COVER COWL TYPE VENTILATORS

The cost of providing the above item is included in tender item. These are to be properly fixed at place and manner as directed, painting with two coats of anti-corrosive black paint is also included in this item. If locking arrangement are required they shall be done by Contractor as directed without any extra cost.

Mode of Measurement

This item will be measured and paid as per unit basis.

ITEM: LIGHTING CONDUCTOR

(Sub Work No.3, Item No.5)

The contractor shall ensure that any structure. Must or other installation provided by him is adequately designed to minimize damage to the works from lighting strike.

Any lighting conductors shall be design in accordance with the edition of the appropriate Indian Standard Code of Practice IS:2903:1969.

Mode of measurement : Per No.

ITEM COLOUR WASH

General

It item refers to providing and applying of approved colour wash to surfaces which are not given any finishing.

COLOUR WASH

This is prepared by adding necessary colouring matter of approved make to the white wash which has been stained. The colour shall be as approved by the Engineer. For all colour wash, a sample must first be applied, allowed to dry and approved by the Engineer-in-Charge before the work proceeds. It should be noted to large surface such as a the walls of a room . Care must be taken to mix sufficient colour wash to complete the whole surface to be treated, otherwise it is taken to mix impracticable to obtain exactly the same shade of colour in two successive mixtures. Sufficient gum or rice size should be added to prevent the colour wash coming off when rubbed with fingers.

Preparation of surfaces : The surfaces shall be prepared by brooming down, brushing or other means as may be ordered by the Engineer-in-Charge. The surface shall be thoroughly cleaned down and freed from all foreign matter before the base coat is applied.

Sub-base:Sub-base of two coats of white wash shall be applied as specified in Item No. Bd.P-1.

Application of colour wash: The colour wash shall be applied over the base coat. It shall be applied in the same way as white wash. The number of coats shall be as mentioned in the item, each coat being applied after the earlier coat has dried.

Mode of measurement : Per sq m

ITEM: POLISHED SHAHABAD/TANDUR/KOTAH STONE FLOORING

The specification for this item shall be same as for item No. B.M.1

1. All the stone slabs shall be square in shape. The dimensions shall be 0.60 x 0.60 m or other dimensions as specified in the special provisions or as directed by Engineer-in-Charge. Tolerance in thickness ± 3 mm
2. The exposed surface of the specified stone flags shall be machine polished to a smooth, even and true plane and the edges machine cut square and to the required shape when necessary. Samples shall be got approved by the Engineer-in-Charge who will keep them in his office for reference.

3. The thickness of joints shall not exceed 1.5 mm
4. Joints shall be grouted with neat cement slurry
5. When the bedding and joints of the flooring have completely set, the surface shall be machine polished to give a smooth, even and true plane to the floor and thoroughly cleaned.

Mode of measurement : Per sq meter

ITEM: GLAZED TILES FOR SKIRTING AND DADO

Plastering : Cement plaster of about 12 mm for brick walls and 20 mm for stone masonry walls shall be applied to the part of the wall where dado or skirting is to be fixed as per specification No. B.11. The proportion of mortar shall be as mentioned in the item.

Fixing tiles : Dado or skirting work shall be done only after fixing tiles on the floor.

The white glazed tiles shall be soaked in water for at least 2 hours before being used for skirting or dado work. Tiles shall be fixed when the cushioning mortar is still plastic and before it gets very stiff. The back of tiles shall be covered with a thin layer of neat cement plaster and the tile shall then be pressed in the mortar and gently tapped against the wall with a wooden mallet. The fixing shall be done from the bottom of wall upwards without any hollows in the bed or joints. Each tile shall be fixed as close as possible to the one adjoining. The tiles shall be joined with white cement slurry. Any difference in the thickness of tiles shall be evened out in cushioning mortar to that all tile faces are in the vertical plane. The joints between the tiles shall not exceed 1.5 mm in width and they shall be uniform between the tiles in dado work, care shall be taken to break joints vertically. After fixing the dado, skirting etc. they shall be kept continuously wet

for 14 days.

If doors, windows or other openings are located within the dado area, the sills, jambs, angles etc. shall be provided with white glazed tiles and appropriate specials according to the foregoing specification and such tiled area shall be measured net along with the dado.

Cleaning : After the tiles have been fixed the surplus cement grout that may have come out of the joints shall be cleaned off before it sets. After the complete curing the dado or skirting work shall be washed thoroughly clean.

Item to include : The rate shall include all labour, materials, tools and equipment required for the following operations to carry out the item as specified above.

- Plastering
- Fixing the tiles including all angles, etc., after applying neat cement paste
- Jointing the tiles with white cement slurry
- Curing
- Cleaning the dado and skirting.

Mode of measurement and payment : Same as for item No. Bd.M-9.

ITEM: PROVIDING AND LAYING C.C.FLOORING

Providing and laying cement concrete flooring 40 mm thick with cement concrete M-25 laid to proper line, level and slope in alternate days including compaction, filling joints marking lines to give appearance of tiles 30cm x 30cm or other approved design, finishing smooth (with extra cement) in approved colour as directed and curing etc. complete.

MODE OF MEASUREMENT AND PAYMENT

The item shall be measured and paid in weight per Sqm. basis.

ITEM : POLISHED SHAHABAD/TANDUR/KOTAH STONE FLOORING

The specification for this item shall be same as for item No. B.M.1

1. All the stone slabs shall be square in shape. The dimensions shall be 0.60 x 0.60 m or other dimensions as specified in the special provisions or as directed by Engineer-in-Charge. Tolerance in thickness ± 3 mm
2. The exposed surface of the specified stone flags shall be machine polished to a smooth, even and true plane and the edges machine cut square and to the required shape when necessary. Samples shall be got approved by the Engineer-in-Charge who will keep them in his office for reference.
3. The thickness of joints shall not exceed 1.5 mm
4. Joints shall be grouted with neat cement slurry
5. When the bedding and joints of the flooring have completely set, the surface shall be machine polished to give a smooth, even and true plane to the floor and thoroughly cleaned.

Mode of measurement : Per sq meter

ITEM: GLAZED TILES FOR SKIRTING AND DADO

Plastering : Cement plaster of about 12 mm for brick walls and 20 mm for stone masonry walls shall be applied to the part of the wall where dado or skirting is to be fixed as per specification No. B.11. The proportion of mortar shall be as mentioned in the item.

Fixing tiles : Dado or skirting work shall be done only after fixing tiles on the floor. The white glazed tiles shall be soaked in water for at least 2 hours before being used for skirting or dado work. Tiles shall be fixed when the cushioning mortar is still plastic and before it gets very stiff. The back of tiles shall be covered with a thin layer of neat cement plaster and the tile shall then be pressed in the mortar and gently tapped against the wall with a wooden mallet. The fixing shall be done from the bottom of wall upwards without any hollows in the bed or joints. Each

tile shall be fixed as close as possible to the one adjoining. The tiles shall be joined with white cement slurry. Any difference in the thickness of tiles shall be evened out in cushioning mortar to that all tile faces are in the vertical plane. The joints between the tiles shall not exceed 1.5 mm in width and they shall be uniform between the tiles in dado work, care shall be taken to break joints vertically. After fixing the dado, skirting etc. they shall be kept continuously wet for 14 days.

If doors, windows or other openings are located within the dado area, the sills, jambs, angles etc. shall be provided with white glazed tiles and appropriate specials according to the foregoing specification and such tiled area shall be measured net along with the dado.

Cleaning : After the tiles have been fixed the surplus cement grout that may have come out of the joints shall be cleaned off before it sets. After the complete curing the dado or skirting work shall be washed thoroughly clean.

Item to include : The rate shall include all labour, materials, tools and equipment required for the following operations to carry out the item as specified above.

- Plastering
- Fixing the tiles including all angles, etc., after applying neat cement paste
- Jointing the tiles with white cement slurry
- Curing
- Cleaning the dado and skirting.

Mode of measurement and payment : Same as for item No. Bd.M-9.

ITEM: PROVIDING AND LAYING C.C.FLOORING

Providing and laying cement concrete flooring 40 mm thick with cement concrete M-25 laid to proper line, level and slope in alternate days including compaction, filling joints marking lines to give appearance of tiles 30cm x 30cm or other approved design, finishing smooth (with extra cement) in approved colour as directed and curing etc. complete.

MODE OF MEASUREMENT AND PAYMENT

The item shall be measured and paid in weight per Sqm. basis.

ITEM; RUBBLE STONE SOLING**GENERAL**

After the structural foundation, plinth construction and filling are completed, rubble soling of specified thickness shall be laid over the consolidated plinth filling, hand packed and compacted. The specification of the work as per Standard Specification Bd.A-12)

MATERIALS

The stones to be used shall be broken rubble with fairly regular shape and free from weathered, soft and decayed portion. The rubble shall be of sound stones of the type mentioned in the item and selected for their larger size. Stones shall be of the full height of the soling and the length and width shall not generally exceed 2 times the height. The stones to be used for wedging in the joints between larger stones, shall be chips of the largest size possible to fit in the interstices. All sound and suitable rubble obtained from the foundation excavation and approved by the Engineer shall be necessarily made use of first unless otherwise directed.

CONSTRUCTION

The bed on which rubble filling is to be laid shall be cleared of all loose materials, leveled, watered and compacted and got approved by the Engineer before laying rubble soling.

Rubble soling shall be laid to the specified thickness closely packed by hand and firmly with their broadest face downwards. The interstices between adjacent stones shall be wedged in with stones of the proper size and shape and well driven in with wooden mallets to ensure a tightly packed layer. Such wedging shall closely follow the placing of the larger stones. After hand packing and wedging, compaction of the soling shall be done thoroughly with logrammers. Adequate care shall be taken by the contractor while laying and compacting the rubble soling to see that the masonry or any part of the structure is not damaged. Rubble soling shall be started only after the masonry is fully cured.

BROKEN RUBBLE

- a) Supplying broken rubble of approved of approved quality and size at site.
- b) All labour, material, tools and equipment for handling, laying, hand packing and compacting the rubble.

Any other incidental charges to complete the work as per sanctioned plan.

MODE OF MEASUREMENT & PAYMENT

Rubble soling shall be measured and paid in cubic meters limiting the dimensions to those shown on the drawings or as directed by the Engineer. The dimensions shall be measured correct to 2 places of decimals of a meter and quantities worked out correct to 2 places of decimals of a cubic meter. No deduction shall be made for voids.

ITEM; PROVIDING AND APPLYING WASHABLE OIL BOUND DISTEMPER.

The surface to be distempered shall be cleaned and all cracks, bores and surface defects shall be repaired with gypsum and allowed to set hard. All irregularities shall be sand papered smooth and wiped clean. The surface so prepared must be completely dry and free from dust before distempering is commenced. In the case of walls newly plastered, special care shall be taken to see that it is completely dry before any treatment is attempted.

The washable oil bound distemper of the approved shade of colour conforming to IS:428:1969, shall be used after applying priming coat of petrifying liquid or other primer as may be recommended by the manufacturers of the distemper.

The rate shall include all labour, material, equipments and tools for carrying out the following operations.

- Providing the primer and distemper and mixing the distemper.
- Scaffolding
- Preparing the surface to receive the primer and finishing coats.
- Applying the priming coat
- Applying the distemper as specified above in the number of coats, mentioned in the item.

Mode of Measurement & Payment

Contractor

No. of correction

Executive Engineer

This item will be measured and paid in Sqm basis.

PROVIDING FUSION BONDED EPOXY COATING

(Sub-work No, Item No.),

Providing fusion bonded epoxy coating to reinforcement bars as per ASTM-755 specification for a thickness of 175 (+50) microns including extra cost on account of careful handling, extra cost on account of using PVC coated binding wire instead of G. I. wire, extra cost on account of touch-up material supplied by coating agency and repair work extra cost account of transportation to and fro from steel yard at - ----- to plant at Daman and Plant at Daman to work site by trailer, loading, unloading, including all taxes (Central and Local), etc. complete.

MODE OF MEASUREMENT AND PAYMENT

The item shall be measured and paid in weight per MT basis.

ITEM: MURUM BEDDING

(Sub-Work No, Item No.),

General

The specification contained in the Standard Specification Volume-II published by Public Works and Housing Department, Govt. of Maharashtra, Chapter Bd.A-10, Page 263 shall apply. In addition to above, following specifications shall govern.

Murum bedding shall be done with approved quality of soft murum, selected from excavated stuff and approved by the Engineer-in-Charge. The murum shall be collected from available excavates stuff and to be utilized if murum is not available from selected excavated stuff, it should be brought from outside and rates payable will be as stipulated in the tender item. Thickness of murum bedding will be 15 cm.. The contractor shall be paid for one Cubic Meter of the filling laid and compacted and will be paid upto two place of decimal of Cum.

Murum bedding shall be laid in exact 15 cm thickness for full width of excavation, it shall be well rammed with hand rammers so that pipe line is laid on firm bedding. Collection of murum from excavated stuff and carting upto the work site is included in the item and contractor shall make his own arrangement for procurement and carting of murum at his cost.

Contractor

No. of correction

Executive Engineer

Mode of Measurement and Payment

Quantity shall be measured in Cubic Meter. The dimensions shall be measured upto two Decimal of Cubic meters and quantity shall be calculated upto two places of Decimal of Cubic meter. Payment for murum bedding will be made after lowering, laying and jointing of the pipe.

ITEM: PROVIDING AND ERECTING WIRE FENCING

Providing and erecting 1.5 meter high wire fencing with seven rows of barbed wire supported on mild steel angles (50 x 50 x 6 mm) at 2.5 meters centre to centre including excavating pit for foundation, fixing posts in cement concrete blocks of size 45 x45 x 45 cm, fastening the wire and painting the mild steel angles with one coat of red lead primer and two coats of painting etc. complete.

MODE OF MEASUREMENT

This item will be measured and paid as per Rm. basis.

ITEM: Disposing of excavated stuff etc. complete.

- 1) After refilling of trenches, surplus excavated stuff remaining at the site of work have to be disposal off at suitable places within five Km. distance, as directed by Engineer-in-charge.
- 2) Surplus excavated materials is the property of M.J.P. and therefore contractor is not empowered to sell this excavated materials to any other agency.
- 3) This disposal will not be considered for initial 50 M. lead from site of work, so will not be paid for
- 4) The materials shall be conveyed by means of suitable devices.
- 5) The material conveyed to the place of disposal shall either be stacked or spread as directed by Engineer-in-charge or his representative.
- 6) The route for operation and maintenance, payment of any royalties, compensation to land owners and for damages if any etc. during the process of conveyance etc. shall be the entire responsibility of the contractor.
- 7) This item includes all labours, materials and equipments required for loading, conveyance, unloading, stacking or spreading the material.
- 8) The tender rate shall be for one cubic meter of excavation quantity conveyance

to the place of disposal.

- 9) The quantity conveyed and disposed of shall be calculated from the trench excavation after deduction of quantities for bedding, concrete or any other refilled materials and balanced net excavation quantity will be payable under this item.

ITEM: Open timbering in trenchetc. complete.

Providing and fixing approved type of shoring.....etc. complete.

The item shall comply as per relevant item of Schedule __B‘ as per standard specification of latest Edition of Red Book and N.B.O. Item No.4, 15 page No. 59. This item shall be executed with prior permission of Superintending Engineer.

When the depth of trench required to be excavated is more than 1.5 M. and the strata met with is unstable, timbering of trenches shall be done to prevent caving or collapse of side walls. Precautions to prevent extensive caving shall be adopted for minimizing danger when the depths exceed 1.5 m as stated above. Only in such cases, the timbering shall be done from top to bottom of the trench.

The sheeting and the other members like polling Boards, struts walling shall be strong enough to withstand against the soil pressure. Timbering shall be done only at the required places. The location of timbering is required to be carried out shall necessarily be approved and finalized by competent authority. Timbering unnecessary provided shall not be measured and paid for. The contractor shall take photographs of timbering work done by him at his own cost and shall be submitted to the Department from time to time.

Shoring :-

Wherever shoring may deemed necessary by the Engineer-in-charge the contractor shall provide the same in the best possible manner with the best materials and to the satisfaction of the Engineer-in-charge. The contractor shall employ such kinds or kinds of shoring as the Engineer-in-charge any consider the exigencies of the work of require and it is to be distinctly understood that the work „shoring“ is to comprise all clauses of such work and all appliances and

appurtenances including polling boards, sheet piling of runners (Whether the joints be butt, groove and tongue, feather edge and groove, birds mouth and double splay, rebated or otherwise), together with walling struts prop, point blank shores, blocks, wedges, iron dog, bolts, screws, nails and everything that may be required for due execution of the work. No part of the shoring shall at any time be removed by the contractor without obtaining permission from the Engineer-in-charge. While taking out shoring plank the hollows if any, formed must simultaneously be filled in with of earth well rammed with rammers and with water.

Shoring left in trenches :-

The Engineer-in-charge may order portions of shoring to be left in the trenches at such places, where it is found absolutely necessary to do so as to avoid any damages which may be caused to building cables, gas-mains water mains, sewers etc. in close proximity of the excavation, by pulling out the shoring from the excavations. No extra payment shall be made to the contractor on account of shoring left in trench.

Engineer-in-charge may put up or improve shoring :-

In the event of the contractors not complying with the provisions of this contract in respect of shoring, already put up or adopt such other measures as he may deem necessary and all the cost of such procedures adopted by the Engineer-in-charge shall be borne by the contractor.

Liability for Timbering :-

- a) No work done by the Engineer-in-charge or his workmen for the fact that the timbering has complied with his specification shall absolve the contractor from his responsibility and he will be responsible for making good any damage caused as a result of the timbering failing to give proper support to the sides of the Excavation.
- b) The timbering to the sides of excavation for structures shall be carried out in such a way that there is no obstruction caused to the work. The supporting struts and walling shall be removed by the contractor in stages to suit the progress of work.

c) If the Engineer-in-charge is not satisfied that the standard of timbering is equal to that the sides of the excavation have not been secured in a manner to render such excavating safe for working, he may, one hour after notifying the contractor or his representative in writing, employ his own men to alter the timbering and the cost of such workman and materials employed shall be paid for by the contractors.

Contractor's responsibility for secure shoring and or all damages :-

The contractors will be held responsible for providing secure shoring and for adopting every other precaution which may be necessary or proper for protecting and building which may be damaged or be liable to damage by the excavation of any trench or otherwise by the excavation of the works in the vicinity of such building. If the Engineer-in-charge shall require the adoption of any special or extra measures or precautions the contractors shall forth with adopt & supply the same but this proportion is not to be read or understood as in any degree of relieving the contractors from responsibility or from liability under relevant clause contract, in respect of claims made against the department by for loss or damage which may be caused to any such building by the excavation of any of the works or otherwise. After the work is completed near buildings, the contractors shall remove any shoring and make good any cutting out or other damage that may have been done.

Mode of Payment :-

The item shall be measured and paid for on square meter basis. The area shall be calculated by considering the length and height of open timbering and shoring provided for each side of trench separately. The timbering shall be paid to the extent of 85% only after its objective of protecting the excavation till the lowering, laying, jointing, testing of the sewer line is completed and the section is refilled. 15% payment shall be made after the zone

ITEM: Providing and constructing 100 mm dia. C.I. Pipe ventilator.....etc. complete.

The item is provided for escape and ventilation of the gasses formed in the system. This is includes required excavation in any strata in all lift, providing,

laying, erecting and jointing 100 mm dia C.I. soil vent pipe of length 6 m. providing P.C.C. 1:2:4 base at bed and block/of size cement concrete in M-150 size grade 0.45 x 0.45 x 2.00 m. height as shown in the drawing attached, 12 mm thick plaster in C.M. 1:3 proportion shall be provided to the concrete block. The item also includes providing and fixing wire gauge dome vent pipe. In case of any discrepancy in drawing and the specification, the decision of Engineer-in-charge shall be final and binding on the contractor. The location shall be given by the Engineer and the item shall be paid on number basis.

ITEM: Reinstating the road surface, includes

- a) Providing and laying Water Bound Macadam roadetc. complete.
- b) Providing and laying hot mix hot laid per mix carpet.....etc. complete.
- c) obtaining necessary permission & necessary deposits t contractors cost.

The item shall comply as per relevant item of Schedule 'B' and as per the detailed specifications given as under.

Sr. No.	Description of Item	Reference of Red Book
1.	Excavation for roadway in earth soil of all sorts, sand gravel or soft murumetc. complete.	Specification No. Rd.-2,P.No.180
2.	Supplying 80 mm trap / granite / quartzite /gneiss stone metal.....etc. complete.	Specification No. Rd.-19,P.No.197
3.	Supplying 40 mm trap / granite / quartzite / gneiss stone size metal ..etc. complete.	Specification No. Rd.-22,P.No.201
4.	Supplying hard murum at the road sideetc. complete.	Specification No. Rd.-23,P.No.202
5.	Supplying soft murum at the road sideetc. complete.	Specification No. Rd.-24,P.No.203
6.	Spreading 50 mm / 60 mm / 80 mm metaletc. complete.	Specification No. Rd.-29 A, P. No. 205.
7.	Spreading 40 mm metal including sectioning	Specification No. Rd.-29 A,

Contractor

No. of correction

Executive Engineer

	complete.	P.No. 205
8.	Spreading gravel / sand / soft murum / hard murum / over rubble soling/WBM surface complete.	Specification No. Rd.-28 A, P.No. 205
9.	Compacting the sub-grade / gravel oversize / metal.....etc. complete.	Specification No. Rd.-32 A, P.No. 205
10.	Compacting the sub-grade / gravel / oversize / metal (100 mm loose) layers.....etc. complete.	Specification No. Rd.-35 A, P.No. 209
11.	Providing and laying hot mix hot laid premix carpet 25 mm average thickness.....etc. complete.	Specification No. MOTO 39 B.
12.	Providing and laying premix seal coat to the black topped surface.....etc. complete.	Specification No. MOTO 39 B.

Item: Repairing the damaged cables of telephone , water supply pipe lines etc during the trench excavation for sewage collecting net work. including cost of material required for repairs pipe, specials etc including excavation and refilling etc complete per km of completion of laying of sewer laterals and trunk mains .

Damages to Services :-

The work of excavation shall be proceeded very carefully by the contractor. Before actual excavation trial trenches shall be carefully taken by the contractor for assessing the services e.g. water mains, drainage lines, telephone and Electrical cables that are likely to be encountered in the excavation of pipe-line trenches. The trial trenches shall not be paid for separately. After assessing the alignment and level of other services, the contractor shall get approved the exact alignment from the Engineer and proceed with the work accordingly.

Any damages to the private and Government properties shall be reinstated by the contractor .If any damages are caused or likely to be caused, The contractor shall remove the service connections from water mains and re-do them as directed by the Engineer-in-charge. This shall be done with least inconvenience to the

connection holder and without any extra cost for any diameters

Item includes :-

- 1) All type of excavation for repairs of damages of telephone cables, electric lines, water mains up to 100 mm dia
- 2) All type of materials pipes, specials jointing materials such as C.I.D. Joints , couplers rubber rings , rubber sheet nut bolts etc up to 100 mm dia

If water mains of R.C.C./A.C./C.I./G.I./M.S./PVC/D.I. etc. of diameter more than 100 mm and above are encountered the contractor shall relay such lines to keep service continued as directed by the Engineer-in-charge, If in the opinion of the Engineer, it is possible to obviate such mains, the contractor shall realign the pipe line in tender scope as directed by the Engineer-in-charge without any compensation for the excavation discarded by the Pradhikaran.

The pipe and special required for shifting/relaying of mains shall be supplied by the Pradhikaran free of cost for dia above 100 mm if available with the Pradhikaran. If such required materials are not available with the Pradhikaran, the special materials as directed by the Engineer-in-charge shall be procured by contractor and shall be payable to him. The payment of such materials shall be regulated at mutually decided rates based on reasonable markets rates or CSR prevailing at the time whichever is less. The contractor shall procure the materials without waiting for finalization of rates in order to meet the urgency. Proper account of the materials shall be kept by contractor.

All the labour and materials charges shall be payable to the contractor only when continuous length requiring shifting / relaying of mains of dia of above 100 mm exceed 5 m. The basis for such payment shall be the rates of respective works terms covered in Schedule _B' of the tender for the items available in the tender or rates derived from tendered rates for similar items. In case of item not covered in Schedule _B', the prevailing C.S.R. shall be applicable. For the relaying / shifting work involving dia above 100 mm in continuous length below 5 m. no labour and material charges (except pipes and specials) shall be payable. No any material or labour charges will be paid to the contractor which damages of pipe line below 100 mm.

Mode of payment :-

The item shall be measured and paid for on kilometer length basis. The length shall be considering the actual length of sewer laterals / trunk main network completed and hydraulically tested by contractor . All the damages and repairs are carried out by contractor

ITEM: Providing and reinstating the tar / Concrete road

Tar road : This item shall be executed as per the description given in the schedule B of relevant item and as directed by Engineer-in-charge.

Item to include: The work includes supply and spreading of 40 mm metal. The murrum of good quality be laid in 5 to 6 cm over the spread metal. The complete layer then compacted. 75 mm thick bituminous bound macadam layer be placed over the compacted surface. 20 mm thick bituminous carpet shall be provided over this surface. The tar surface shall be done in the level of nearby road surface.

Mode Of Payment: The reinstating of road payment shall be recorded on Sqm basis after full completion of work.

Concrete road : This item shall be executed as per the description given in the schedule B of relevant item and as directed by Engineer-in-charge.

Item to include: The work includes supply and spreading of 40 mm metal. The murrum of good quality be laid in 5 to 6 cm over the spread metal. The complete layer then compacted. 75 mm thick bituminous bound macadam layer be placed over the compacted surface. cement concrete of M-20 of 0.2 M thick shall be laid matching the nearby level of road.

Mode Of Payment: The reinstating of road payment shall be recorded on Sqm basis after full completion of work.

**DETAILED ITEMWISE TECHNICAL
SPECIFICATIONS
(Attached Separately)**

Condition to Schedule B

- 1 Supply of pipes 80% payment will be released & 10 % payment will be released after laying & jointing of pipes and 10 % payment will be after satisfactory hydraulic testing is done
2. Supply of specials & Valves 85 % payment will be released & 15 % payment will be released after laying & jointing& after satisfactory hydraulic testing is done
3. Refilling the trenches 85 % payment will be released & 15 % payment will be released after after satisfactory hydraulic testing is done

Sewerage Treatment Plant

1. The contractor should quote his offer on own Design based on the Obligatory Data attached with the tende
2. 10% Payment for R.C.C. work of water retaining portion will be withheld till Satisfactory Hydraulic testing given by Agency
3. 0.5% Payment will be withheld for smooth finishing to all Exposed Surfaces untill Satisfaction of Engineer in charge.
4. 5% payment will be with held for Cube & Steel testing till Satisfactory results are obtained for Every R.A. Bill & will be forfeited if the Agency does not produce the result.
5. The painting should be done only after hydraulic testing and finishing works is completed.

The breakup of payment shall be as per enclosed statement

6. Only tested cement, steel as per relevent I.S. shall be used by the contractor. The contractor shall arrange and produce test certificates of cement, sand, steel, metal, concrete cubes from Govt. Engineering College at his own cost as per direction of Engineer In Charge.

Pumping Stations

- 1.The contractor should quote his offer on own Design based on the Obligatory Data attached with the tender.
- 2.10% Payment for R.C.C. work of water retaining portion will be withheld till Satisfactory Hydraulic testing given by Agency.
- 3.0.5% Payment will be withheld for smooth finishing to all Exposed Surfaces untill Satisfaction of Engineer in charge.
4. 5% payment will be with held for Cube & Steel testing till Satisfactory results are obtained for Every R.A. Bill & will be forfeited if the Agency does not produce the result.
5. The snowcem painting should be done only after hydraulic testing and finishing works is completed.
6. The centering for base beam & slab should be got approved from Engineer In Charge

Contractor

No. of correction

Executive Engineer

before fabricating Reinforcement

7. The breakup of payment shall be as per enclosed statement

8. Only tested cement, steel as per relevant I.S. shall be used by the contractor. The contractor shall arrange and produce test certificates of cement, sand, steel, metal, concrete cubes from Govt. Engineering College at his own cost as per direction of Engineer In Charge.

Pumping Machinery

The breakup of payment for Pumping Machinery shall be as follows

- | | | | |
|----|---|---|-----|
| 1. | Supply of Material/Pumping Machinery | : | 80% |
| 2. | Irrection of Material | : | 10% |
| 3. | Successful commissioning and completion of work | ; | 10% |

INFORMATION ABOUT WORK IN HAND

(To be supported with certificate signed by concerned Superintending Engineer/City Engineer) in case Col. 8 shows the cost of completed work as more than 80%)

Sr. No .	Name of Works	Name of Division /MC	Accepted Tender Cost.	Cost of supply of pipes	Balance cost (4-5)	Cost of work completed as on <hr/> (Excluding supply of pipe)	Proportion of Col.7 to Col.6 %	Reason for delay (if any) for completion of balance work.
1	2	3	4	5	6	7	8	9

Contractor

No. of correction

Executive Engineer

ANNEXURE-II

DETAILS OF MACHINERY AVAILABLE WITH THE TENDERER

FOR THE USE ON THIS WORK

Sr. No.	Name of Equipment	No. of unit	Name of Make	Capacity	Age and Condition	Remark

Contractor

No. of correction

Executive Engineer

ANNEXURE-III

FORM OF BANK GUARANTEE
BANK GUARANTEE
(Security for Performance)

In consideration of the Commissioner (hereinafter called “Latur City Municipal Corporation” (LCMC) having agreed to exempt hereafter called “The said contractor”) from the demand, under the terms and conditions of an Agreement dated (hereafter called “the said Agreement”) made between the Commissioner LC MC and the said contractor for the Security Deposit for the due fulfilment by the said contractor of the terms and conditions contained in the said Agreement, on production of the Bank Guarantee for Rs _____ (In words Rs _____) we, (hereinafter referred to as “the Bank” at the request of the said contractor do hereby undertake to pay to the LCMC an amount not exceeding the above said amount of Guarantee against any loss or damage caused to or would be caused to or suffered by the LCMC by reason of any breach by the said contractor or any of the terms or conditions.

2. We, _____ do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, in hereby on a demand from the LCMC stating that the amount claimed is due by way of loss or damage caused to or would be to or suffered by the LCMC by reason of breach of the said contractor of any of the terms or condition contained in the said agreement or any reason of the contractor’s failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding the above said amount Guarantee.

3. WE undertake to pay to the LCMC any money so demanded not withstanding any dispute or disputes raised by the Contractor in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.

Contractor

No. of correction

Executive Engineer

4. We _____ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the MJP/....MC under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged till LCMC certified that the terms and conditions of the said Agreement have been duly and properly carried out by the said contractor and accordingly discharges this guarantee unless a demand or claim under this guarantee is made on us in writing on or before we shall be discharged from all liability under this guarantee thereafter.

5. We _____ further agree with the LCMC that the LCMC shall have the fullest liberty without our consent and without affecting in any manner our obligations here under to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the LCMC against the said contractor and to forbear or enforce any of the terms and conditions relating to the said Agreement, and we shall not be relieved from any liability by reason of any such variation, or extension being granted to the said contractor, or for any forbearance act or omission on the part of the LCMC any indulgence by the LCMC to the said contractor or by any such matter or thing whatsoever which under the law to sureties would, but for this provisions, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or of the Contractor.

7. We, lastly undertake not revoke this guarantee during its currency except with the previous consent of the LCMC in writing.

Dated the _____ *day of* _____ *2023-24*

For _____
(Indicate the name of the Bank)

Note: However, these form's will be as per the current practices of LCMC and Banks.

Contractor

No. of correction

Executive Engineer

ANNEXURE-IV

UNDERTAKING FOR GUARANTEE

I/We Guarantee that:

- 1 I/We will replace repair and adjust free of all charges to the employer any part of the work which fails to comply with the Specifications or amendment to such specifications as referred to in our specifications attached to tender, fair was and tear except until the completion and for a period mentioned under clause 20 from the date or completion of contract.
- 2 All the work will be reliable.
- 3 All the work will be of a type which has been proved in service to be suitable for the duty required by the specifications and will be manufactured and tested in accordance with the appropriate standard specifications approved by the Engineer-in-charge.
- 4 I/We accept the abide by the clause relating to quality and guarantee of work.

DATE:

CONTRACTOR SIGN with Stamp

Contractor

No. of correction

Executive Engineer

ANNEXURE-V

DECLARATION BY CONTRACTOR

Contractor

No. of correction

Executive Engineer

Latur City Municipal Corporation

WATER SUPPLY/SEWERAGE DEPARTMENT

**Name of work: - Latur City Underground Sewerage Scheme
Tal. & Dist. Latur, Maharashtra**

DECLARATION

I hereby declare that I have made myself thoroughly conversant with the local conditions regarding all materials such as stones, murum, sand, availability of water etc. and labour on which I have based my rates for this work. The specifications and requirements of lead for this work have been carefully studied and understood by me before submitting the tender. I undertake to use only the best materials, to be approved by the Commissioner/ Engineer in charge of the work or his duly authorized representative, before starting the work and also to abide by his decision.

I hereby undertake to pay the labours engaged on the work as per Minimum Wages Act 1984 applicable to the zone concerned.

Contractor's Signature

Contractor

No. of correction

Executive Engineer

ANNEXURE-VI

COLLABORATION AGREEMENT

NOT ALLOWED

Contractor

No. of correction

Executive Engineer

COLLABORATION AGREEMENT

This agreement made at (Place) _____ this day (date, month and year) between M/s. _____ (Name of the bidder, who intends to collaborate and its registered office address) here-in-after referred as (Principal contractor) which expression shall unless it be repugnant to the context or contrary to the meaning there of be deemed to mean and includes its successors in business and permitted assigns of the ONE PART and M/s -----(name of the collaborator and its registered address) here-in-after referred as (Collaborator) which expression shall unless it be repugnant to the context or contrary to the meaning there of be deemed to mean and include its successors in business and permitted assigns

WHERE AS

1) Latur City
City Undergroup

NOT ALLOWED

k Latur

(Principal contractor)
with Maharashtra
in Class -----
execution of water supply projects.

Registered
ORGANIZATION

1. (Collaborator) -----Registered with Maharashtra Jeevan Pradhikaran/MIDC/MCGM/CIDCO/ANY GOVT in Civil/Mechanical Class-----

--

-- is well established contractor having the experience of work mentioned in para 4.

1. The principal contractor desires to collaborate with the collaborator for execution of following works, as he don't have sufficient experience of this particular work included in tender as mentioned in para 1 above.

Sr.No.	Name of work	Amount
	Total: -	

Contractor

No. of correction

Executive Engineer

(Note: - *It is obligatory to furnish above information otherwise collaboration agreement will not be considered*).

1. The Parties hereto have come together to set up a collaboration in order to quote for the tender mention in para 1 above and on award of the tender to jointly execute the work as mentioned in para 4 above as well as to guarantee its perfect execution utilizing the technical experience. The principal contractor involved in this collaboration, directly or indirectly will hold fully responsible towards Latur City Municipal Corporation to look after the execution of the said work as per the terms and conditions and specifications mentioned in tender.

NOW IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS UNDER: -

- 1) In consideration of the mutual understanding, trust and confidence each of the parties in other, they have mutually agreed to form a collaboration to submit the tender and if the tender is accepted by the Latur City Municipal Corporation then carry on the business as a collaboration in respect of development and execution of the said work in accordance with the terms and conditions that may be imposed or agreed by and between the Latur City Municipal Corporation and the Principal contractor hereto.
- 2) The collaborator shall be responsible for completion of works for which the collaboration is made, however the principal contractor shall be ultimately responsible and liable for completion of entire works in accordance with the terms a
- 3) In the ev
both of
to the
shall be
decision

NOT ALLOWED

IN WITH
respective hands and seals the day, month and year first above written.

SIGNED, SEALED AND DELIVERED
BY THE WITH NAME

(Name of First Party)

(Name of Second Party)

WITNESS: -

1.

2.

Contractor

No. of correction

Executive Engineer

JOINT VENTURE AGREEMENT

NOT ALLOWED

JOINT VENTURE AGREEMENT

JOINT VENTURE AGREEMENT

This agreement of joint venture made and entered into at _ on this _____ day ofby and between.

1. PARTY NO.1:- _____

2. PARTY NO _____

1. Name of j _____

1. Period of _____

NOT ALLOWED

DEFINITION

In this deed the following words and expressions shall have the meaning set out below

The joint venture (J.V.) shall mean _____ (Party No.1) _____ and _____ (Party No.2) _____ Collectivity acting in collaboration for the purpose of this agreement.

"Appex Co-ordination Body (ACB) shall mean the body comprising the managing director of _____ (Party No.1) _____ and managing director of _____ (Party No.2) _____ - as the two partners of the Joint Venture. New firm will be _____ (Name of joint venture firm) _____".

"The Employer" shall mean the Executive Engineer of Maharashtra Jeevan Pradhikaran (MJP)/COMMISSIONER/CHIEF OFFICER

The 'work' shall mean
.....

Contractor

No. of correction

Executive Engineer

2. Party No.2

a. And all rights, interests, liabilities, obligations, work experience and risks (and all net profit or net losses) arising out of the contract shall be shared or born by the parties in proportion to these share. Each of the parties shall furnish its proportionate share in any bounds, guarantees, sureties required for the work as well as its proportionate share in any working capital and other financial requirements, all in accordance with the decisions of the ACB.

b. Any loan/advances shall be shared by the _____ Party No.1 and Party No.2 _____ the ratio of & _____ respectively.

c. All funds, _____
or contrac _____
_____ executing the works
_____ ly agreed by them.

a. Site mana _____
A project ma _____
The pr _____
respec _____
_____ the work on the site.
_____ nt venture on site, in

NOT ALLOWED

a. The _____ Name of joint venture
firm _____ shall be jointly
and severally responsible and liable towards the employer for the execution of the
contract condition.

b. The joint venture deed shall be registered with the Registrar of partnership firms,
Govt. of Maharashtra.

c. This joint venture agreement shall not be dissolved till the completion of defect
liability period as stipulated in the tender document condition of works.

d. This joint venture agreement is deemed to be null and void in case the joint venture
firm is not qualified by the employer or unsuccessful in the award of work.

e. That question relating to validity and interpretation on this deed shall be governed by
the laws of India. Any disputes in interpretation of any conditions mentioned herein
shall be referred to Member Secretary, Maharashtra Jeevan Pradhikaran and his
decision in this respect shall be final and binding to both the parties. Neither the
obligation of each party hereto performs the contract nor the execution of the work
shall stop during the course of this arbitration processing or as a result there of.

f. That no party to the J.V. has the right to assign any benefits, obligations or liability
under the agreement to any third party without obtaining the written consent of the
other partner and employer.

g. Bank account in the name of the joint venture firm may be opened with any scheduled
or nationalized bank and the representatives of the J.V. partner are authorized to

operate upon individually.

- h. That both the parties to the J.V. shall be responsible to maintain or cause to maintain proper books of accounts in respect of the business of the joint venture firm and the same shall be closed as at the end of the every financial year.
- i. That the financial year of the firm shall be the year ended on the 31st March of every year.
- j. That upon closure of the books of account balance sheet and profit and loss account as to that state of affairs of the firms as the end of the financial year and as to the profit or loss made or incurred by the firm of the year ended of that day, respectively shall be prepared and the same shall be subject to audit by a chartered accountant.

LEGAL JUDGE

All matters involving employer

NOTICES

All correspondence

NOT ALLOWED

agreement involving the firm at Mumbai.

to the following address.

**SIGNED, SEALED AND DELIVERED
BY THE WITH NAME**

(Name of First Party)

(Name of Second Party)

WITNESS :-

1.

2.

Authority letter for Site Visit

This is to certify that Shri _____(Name of person) is authorized representative of M/s. _____(Name of bidder). He has been authorized to visit the site, Important locations of Projects and evaluate the work cost. He is also authorized to complete the Geo-Tagging on his visit for quotation of tender.-----

(Name of tender), His photo identity is enclosed with this letter.

Signature of Shri. is certified as below.

Name & signature
(Authorized Representative)

Signature of bidder
With Seal

Date : -
Time :-
Place :-

Name & Signature
Municipal Engineer/Commissioner

Contractor

No. of correction

Executive Engineer

Annexure-VIII

Details of audited turnover executed by the contractor in last five years and existing commitment of ongoing work.

Sr. No	Name of Works	Name of Division /MC	Accepted Tender Cost.	Amount of work completed					Amount of balance work	Remark
				2017-18	2018-19	2019-20	2020-21	2021-22		

(in Rs. Cr.)

Abstract for BID Capacity Calculation

Details of audited turnover executed by the contractor in last five years and existing commitment of ongoing work.

Year	Max. value of engineering works executed in the year	Maximum value of engineering works executed by the contractor in any one year, during the last five years		Remarks
		Value	Year	
1	2	3	4	5
2017-18		Write the max value here	Write concerned year here	
2018-19				
2019-20				
2020-21				
2021-22				

Contractor

No. of correction

Executive Engineer

(Rs. In Crore)

<u>Year</u>	Value of existing commitment of ongoing work to be completed during next N years	Total value of existing commitment of ongoing work to be completed during next N years. (B)
1	2	3
2023-24		
2023-24		
2024-25		

Average of engineering works of a maximum value executed in any three years during last five years upgrade to present year (i.e., Tender submission year) by increasing the cost as per rise in wholesale price index between the year of maximum value and month and year of tender submission (A) =.....

No. of year prescribed for completion of work for which present tender are invited (N) =

Total value of existing commitment of ongoing work to be completed during next N years (B) =

Note: -

- Since all the data is pertaining to the contractor's own performance, the contractors are requested to provide its bidding capacity for this work by furnishing the calculations and supporting documents duly certified by chartered accountant to prove its contentions
- Ongoing works and works where contractor is lowest and for which letter intent has been issue to the contractor shall be considered in the calculation of value of existing commitment and ongoing works. (B)
- The statement showing the value of existing commitments of ongoing works during next N years for each of works in the list should be counter signed by Engineer-in-charge not below the rank of Executive Engineer or equivalent officer or head of any other Govt/semi-Govt. organization.
- Submission of false information results in blacklisting of the contracting agency.
- Bidder shall submit the affidavit as per the format provided in the Annexure 14.
- Bidder shall submit the self- declaration as per the format provided in

Contractor

No. of correction

Executive Engineer

- Annual turnovers and Bid capacity calculations shall be submitted in contractor's letter head with signature of contractor. Same shall be submitted due verified certification of the Chartered Accountant.
- If support documents are not found uploaded, bid capacity will not be taken into account which will result in disqualification for this tender.

Contractor

No. of correction

Executive Engineer

BAR CHART

S.N.	Activities	Start Date	End Date	Months																										
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1.	Working Survey																													
2.	Collection & Conveyance System for Zone I																													
3.	Collection & Conveyance System for Zone II																													
4.	Sewage Collection Sump/ Wet Well – Zone I																													
5.	Sewage Pump House – Zone I																													
6.	Sewage Collection Sump/ Wet Well – Zone II																													
7.	Sewage Pump House – Zone II																													
8.	Sewage Pumping Main of 600 mm Dia., L- 3470M																													
9.	Sewage Pumping Main of 700 mm Dia., L- 2185M																													
10.	Sewage Treatment Plant - 53 MLD (Zone I & II)																													
11.	Approach Road																													
12.	Staff Quarter																													
13.	Compound Wall For STP																													
14.	Flood Protection Wall																													
15.	Trial and run for 3 Months																													

ANNEXURE-X

SELF DECLARATION

Iage.....years occupation business
residing at
.....do hereby state on oath as under: -

That I am proprietor / Director / Partner / Power of Attorney Holder of the company name
and style as M/s.....having its address at

That I further say that M/s ----- is **not black listed** by any
Government / Semi Government Organization / any Local Bodies and any other Private
Bodies.

Whatever information of documents submitted for registration are true and correct as per my
knowledge. I take full responsibility regarding genuineness of documents submitted by me.

Date: -

Place: -

Signature of Contractor

Contractor

No. of correction

Executive Engineer

Annexure - XI

Name of work:

Date: -

Draft Affidavit Regarding**The work in hand & work where bids have been submitted**

I / We hereby declare that, I / We have bid for the work of _____ and at the date of bid in the below given Table – I (A). The following works amounting to Rs. _____ Crores are the balance works. Which are yet to be executed by my / our firm.

Table -I (A) During th next Years

Sr. No.	Description of works	Place & State	Contract No. & Date of W.O.	Name & Address of Department	Accepted Tender Cost Rs. (In Lakhs)	Sanction date of Completion
1	2	3	4	5	6	7
Ongoing works						

Details of ongoing works			Value of works remaining to be completed (Rs. In Lakhs)	Reasons for delay
Expenditure	Expected progress in % & Amount	Actual progress % & Amount		
8	9	10	11	12
To be certified by CA.				

Similarly in the works mentioned in the table 1 (b), my / our firm is lowest and the tender I is approved and work order is yet to issued. The cost of such work in is Rs. _____ cr.

Contractor

No. of correction

Executive Engineer

Table 1 (B)

Sr. No.	Description of works	Place & State	Contract No. & Date of W.O.	Name & Address of Department	Accepted Tender Cost Rs. (In Lakhs)	Sanction date of Completion
1	2	3	4	5	6	7
Tender where bidder is lowest and tender is approved, work order to be issued.						

Details of ongoing works			Value of works remaining to be completed (Rs. In Lakhs)	Reasons for delay
Expenditure	Expected progress in % & Amount	Actual progress % & Amount		
8	9	10	11	12
To be certified by CA.				

I / We here by declare that, the above given information is true as on _____ the day of _____ month _____ year _____. No any information is false and misleading, I have not abandoned any work or action under clause 3 (c) is not executed against my / our firm. I am not black listed for any of the work.

If information is above table is found to be false or in complete or the department finds that any information is hidden by my / our firm, the department will have all the liability to debar my firm from this binding or any further binding and department can black-listed my/ Our firm for the period as it may find suitable for such action.

Date: -	Signature
Place: -	Name of the firm

Contractor

No. of correction

Executive Engineer

Annexure - XII

Self-Declaration

- All the information provided in the forms, statements and attachments submitted in proof of the qualification requirements are correct. No any misleading or false information provided.
- I have not abandoned the works and I have properly completed all the contractor in time.
- I have / have not participated in the previous biddings for the same work and had/ had not quoted unreasonably high bid prices and could not furnish rational justification
- The details of litigation history are as below.

Name of Other party(s)	Cause of dispute	Litigation where (Court/arbitration)	Amount involved
------------------------	------------------	--------------------------------------	-----------------

- I am not financially failure.

TECHNOLOGY TIE UP AGREEMENT

(To be made on Rs. 100 stamp paper and notarized to be submitted along with Technical Bid)

This Technology Tie-up Agreement is entered into on (Date) by and between (Bidder) (Hereinafter referred as 'XXX'), a company incorporated under the Companies Act 1956 with a Registered Office at

AND

M/s (Technology Provider) (Hereinafter referred as 'YYY'), a company incorporated under the Companies Act 1956 with a Registered Office at

WITNESSETH

WHEREAS 'XXX' is in the business of turnkey execution of Water and Sewage / Wastewater Treatment Plants.

WHEREAS 'YYY' is in the business of Design, Engineering and Supply of Components for Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology for Sewage / Wastewater Treatment Plants.

WHEREAS The Commissioner, EMPLOYER (Hereinafter referred as 'EMPLOYER') has invited sealed tenders on prescribed proforma from reputed and experienced agencies on turnkey basis for —..... (insert name of work)"

This Tie-up Agreement is executed specifically for the above mentioned work and cannot be used for any other Works/ Project and this tie-up Agreement does not apply or constitute a Joint Venture.

AND

'XXX' is submitting its bid as lead partner and 'XXX' has decided to enter into an

Contractor

No. of correction

Executive Engineer

exclusive Tie-up Agreement with 'YYY' to engage them exclusively as Technology Provider for the biological treatment section using Cyclic Activated Sludge / SBR Technology as a part of the above mentioned Work for which tenders are invited by 'EMPLOYER'.

Now, therefore both the parties hereto agree as follows:

1. 'XXX' is submitting its bid only and exclusively with 'YYY'.
2. 'YYY' will be the Technology Provider to 'XXX' for the Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology to be used for in the biological treatment section of the STP.
3. 'YYY' shall provide following Services and Equipments to 'XXX':
 - a. Basic Engineering for the Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology.
 - b. Supply of all Equipments and Instruments as part of the Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology along with back-up guarantee for performance as per the tender requirement. Back-up guarantee for performance shall be applicable and valid only in case all design and documents for the complete STP is in accordance with 'YYY' design guidelines and all documents and drawings are reviewed, stamped and signed by 'YYY'.
 - c. Shall provide supervision assistance during erection, commissioning, performance testing and trial runs of the STP on Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology.
 - d. Shall provide supervision assistance during O & M period of the STP for the Cyclic Activated Sludge / Sequential batch Reactor (SBR) Technology Units of the STP if required on a chargeable basis.
4. 'XXX' will be the main contractor and the authority to sign the agreement with 'EMPLOYER' and accept responsibility and obligation for the Works will rest with main contractor and shall be responsible to the client viz. 'EMPLOYER'. 'YYY', in turn, shall be responsible and liable to 'XXX' for their scope of work. Further 'XXX' shall furnish bank guarantees for due Security, Performance and O&M and all other such obligations under the Project as a

whole.

5. 'YYY' shall provide and commit such resources as are necessary to perform their scope of work for the successful completion of the Project. 'YYY' shall also attend all review meetings over the Project as and when called for by 'EMPLOYER' till the completion of the Project.
6. 'XXX' shall make all payments due to 'YYY' or to their accredited representative as per their Offer.
7. Each Party hereto in relation with the other is solely responsible and liable for their respective scope of work, to be mutually agreed between the Parties and incorporated in a detailed Agreement / Purchase Order to be entered into between the Parties before start of work for the above mentioned Work. Such detailed Agreement / Purchase Order shall deal with technical and financial aspects of the Project.
8. Each Party agrees to and undertakes to indemnify and hold harmless the other Party against any liability, loss, cost, damages or expenses sustained as a result of negligent or improper performance or disturbance caused by itself or by any of its sub-contractors, suppliers or associates in connection with its share of Works as per the Contract. If any third party enforces any claim, which is attributable to the scope of work of a certain party, that Party shall settle such claims. The Parties agree to indemnify each other against all claims made by any third party in respect of any infringements of any rights protected by patents, designs or copyrights or trademarks employed in the Project by any Party.
9. In the course of working as associates, 'XXX' / 'YYY' will be sharing information with each other which may be proprietary / confidential information / knowledge acquired by each other. It is hereby agreed that both the parties will maintain complete secrecy regarding such information / knowledge and will not divulge to any party for any other purpose except for the success of the joint execution of the contract.
10. Disputes if any arising in connection with this agreement shall, at the first place, be referred and settled mutually and amicably between the Parties herein through their respective senior executive without making reference to

the arbitration. In the extreme unlikely case, where no reconciliation is reached within sixty (60) days from reference for the dispute to the other party by the dispute raising party, such dispute shall be settled by arbitration in accordance with the provisions of the Arbitration & Conciliation Act, 1996 and/or any statutory amendments thereto. The number of arbitrators shall be three. Each Party shall nominate their respective arbitrators and both the nominated arbitrators shall appoint the third arbitrator who shall act as the Presiding arbitrator. The venue of arbitration shall be(location of employer) and the language used shall be English. The arbitral award shall be final and binding upon the Parties. Neither Party shall be released from its obligations to comply with any of the provisions of this Agreement, the contract and the detailed agreement as a result of reference of disputes to arbitration or during the course of arbitral proceeding.

11. This Tie-up Agreement shall be effective from the date as mentioned in the first page of the Tie-up Agreement and shall remain valid till the project completion and shall terminate on the happening of any of the following:
 - a. The bid submitted by 'XXX' is rejected or 'XXX' is unsuccessful in the bid.
 - b. The Contract for the Works has been awarded to other Third Parties.
 - c. The client notifies the Parties that they will not proceed with the Project.
 - d. Any of the Parties to the Agreement is declared insolvent by a Court of Competent Jurisdiction.
12. This Tie-up Agreement shall be subject to the laws in India and shall be subject to the jurisdiction of the court at (location of employer).
13. For the sake of correspondence, following Addresses and the Persons concerned are to be contacted:

'XXX'	'YYY'
Address:	Address:
Tel No. :	Tel No.:
Fax No. :	Fax No.:

Contact Person:	Contact Person:
Designation:	Designation:

For 'XXX'

For 'YYY'

(Authorized Signatory)

(Authorized Signatory)

Name:

Name:

Designation:

Designation:

376
Calculation for Wetted Average Rate For Excavation For Sewer pipe line Zone I
(Lift 0-1.50 M)

Sr. No.	Description of Item in Short	Qty.	Rate	Amount in Rs.
1	Excavation in Hard Murum and Boulders, WBM road (0-30 M)	13369.92	232.10	31,03,159.20
2	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0-30 M)	21391.88	691.90	1,48,01,039.92
3	Excavation in H.R. By Chiselling (0-30 M)	18717.89	1,230.90	2,30,39,854.07
4	Excavation in Soft Soil (0.30 - 0.48 M)	32087.82	181.50	58,23,938.60
5	Excavation in Hard Murrum (0.48 -0.65 M)	30750.82	205.70	63,25,444.43
6	Excavation in Hard Murum and Boulders, WBM road (0.65 -0.75 M)	17380.90	232.10	40,34,106.97
7	Excavation in Hard Murum and Boulders, WBM road (0.75 -0.85 M)	14743.98	232.10	34,22,078.64
8	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0.85 -1.50 M)	98671.28	691.90	6,82,70,656.09
		247114.49		12,88,20,277.93
		247114.49		12,88,20,277.93
	Wetted Average Rate for Excavation	521.29		
	Say	521.29	Per Cum	

If Quantity of Ecavation Exceed than of Tender Quantity by + 25 % then the % Starta Classification is as Under

Lift 0-1.50	Strata Classification	Quantity	% Starta
0- 0.30 M	Excavation in Hard Murum and Boulders, WBM road (0-30 M)	53479.69	21.64%
	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0-30 M)		
	Excavation in H.R. By Chiselling (0-30 M)		
0.30 -0.48 M	Excavation in Soft Soil (0.30 - 0.48 M)	32087.82	12.98%
0.48 -0.65 M	Excavation in Hard Murrum (0.48 -0.65 M)	30750.82	12.44%
0.65 -0.85 M	Excavation in Hard Murum and Boulders, WBM road (0.65 -0.75 M)	32124.88	13.00%
	Excavation in Hard Murum and Boulders, WBM road (0.75 -0.85 M)		
0.85 -1.50 M	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0.85 -1.50 M)	98671.28	39.93%
	Total	247114.49	100.00%

Excavation for Foundation/ pipe trenches for works of Sewer Pipeline, gravity mains, and for all types of pipe materials in all types of Soil, earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum, soft average or hard murum, Boulders, all type of disintegrated rock, shingles, brick bats, isolated boulders of any size, all type of rock including soft, hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering, laying of pipe, manual dewatering, excluding backfilling including removing the excavated stuff upto a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below.

Lift 0 -1.50 M

.. Note:- No payment will be made unless final depth of excavation is reached.

3 7 8
Calculation for Wetted Average Rate For Excavation For Sewer pipe line Zone II
(Lift 0-1.50 M)

Sr. No.	Description of Item in Short	Qty.	Rate	Amount in Rs.
1	Excavation in Hard Murum and Boulders, WBM road (0-30 M)	16677.83	232.10	38,70,923.52
2	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0-30 M)	26684.52	691.90	1,84,63,021.00
3	Excavation in H.R. By Chiselling (0-30 M)	23348.96	1,230.90	2,87,40,231.22
4	Excavation in Soft Soil (0.30 - 0.48 M)	40026.78	181.50	72,64,861.20
5	Excavation in Hard Murrum (0.48 -0.65 M)	38359.00	205.70	78,90,446.47
6	Excavation in Hard Murum and Boulders, WBM road (0.65 -0.75 M)	21681.17	232.10	50,32,200.58
7	Excavation in Hard Murum and Boulders, WBM road (0.75 -0.85 M)	18565.91	232.10	43,09,147.76
8	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0.85 -1.50 M)	124248.78	691.90	8,59,67,733.45
		309592.96		16,15,38,565.20
		309592.96		16,15,38,565.20
	Wetted Average Rate for Excavation	521.77		
	Say	521.77	Per Cum	

If Quantity of Ecavation Exceed than of Tender Quantity by + 25 % then the % Starta Classification is as Under

Lift 0-1.50	Strata Classification	Quantity	% Starta
0- 0.30 M	Excavation in Hard Murum and Boulders, WBM road (0-30 M)	66711.31	21.55%
	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0-30 M)		
	Excavation in H.R. By Chiselling (0-30 M)		
0.30 -0.48 M	Excavation in Soft Soil (0.30 - 0.48 M)	40026.78	12.93%
0.48 -0.65 M	Excavation in Hard Murrum (0.48 -0.65 M)	38359.00	12.39%
0.65 -0.85 M	Excavation in Hard Murum and Boulders, WBM road (0.65 -0.75 M)	40247.08	13.00%
	Excavation in Hard Murum and Boulders, WBM road (0.75 -0.85 M)		
0.85 -1.50 M	Excavation in Soft rock and Old cement and lime masonry foundation asphalt road (0.85 -1.50 M)	124248.78	40.13%
	Total	309592.96	100.00%

Excavation for Foundation/ pipe trenches for works of Sewer Pipeline,gravity mains, and for all types of pipe materials in all types of Soil , earthy or sandy materials,soil of all type of sand,clay mud,Soft Murum ,soft average or hard murum, Boulders,all type of disintegrated rock ,shingles,brick bats ,isolated boulders of any size,all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controled blasting, chiselling, wedging,line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt,concrete road,including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering,laying of pipe, manual dewatering,excluding backfilling including removing the excavated stuff upto a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below.

Lift 0 -1.50 M

.. Note:- No payment will be made unless final depth of excavation is reached.

**Calculation for Wetted Average Rate For Excavation For Flood Protection Wall/
Retaining Wall
(Lift 0-1.50 M)**

Sr. No.	Description of Item in Short	Qty.	Rate	Amount in Rs.
1	Excavation in Soil , S.M'	456.82	250.95	1,14,638.00
2	Excavation in H.M.	456.82	383.25	1,75,074.00
3	Excavation in H.M. & Boulders	456.82	264.60	1,20,873.00
4	Excavation in Soft rock and old cement or lime masonry foundations	559.39	450.45	2,51,978.00
		1929.84		6,62,563.00
		1929.84		6,62,563.00
	Wetted Average Rate for Excavation	343.33		
	Say	343.33	Per Cum	

If Quantity of Ecavation Exceed than of Tender Quantity by + 25 % then the % Starta Classification is as Under

Strata Classification	Quantity	% Starta
Excavation in Soil , S.M'	456.82	23.67%
Excavation in H.M.	456.82	23.67%
Excavation in H.M. & Boulders	456.82	23.67%
Excavation in Soft rock and old cement or lime masonry foundations	559.39	28.99%
Total	1929.84	100.00%

Excavation for Foundation for works of Flood Protection wall/ Retaining Wall in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for PCC, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below.

Lift 0 -1.50 M

.. Note:- No payment will be made unless final depth of excavation is reached.

**Calculation for Wetted Average Rate For Excavation For Transmission pipe line
Zone - I
(Lift 0-1.50 M)**

Sr. No.	Description of Item in Short	Qty.	Rate	Amount in Rs.
1	Excavation in Soil , S.M'	1249.20	181.5	226729.8
2	Excavation in H.M.	832.80	205.7	171306.96
3	Excavation in soft rock and old cement and lime masonry foundation asphalt road	832.80	691.9	576214.32
4	Excavation in H.R. By Chiselling	3331.20	1,230.90	4100374.08
		6246.00		5074625.16
		6246.00		5074625.16
	Wetted Average Rate for Excavation	812.46		
	Say	812.46	Per Cum	

If Quantity of Ecvation Exceed than of Tender Quantity by + 25 % then the % Starta Classification is as Under

Strata Classification	Quantity	% Starta
Excavation in Soil , S.M'	1249.20	20.00%
Excavation in H.M.	832.80	13.33%
Excavation in soft rock and old cement and lime masonry foundation asphalt road	832.80	13.33%
Excavation in H.R. By Chiselling	3331.20	53.33%
Total	6246	100.00%

Excavation for Foundation/ pipe trenches for works of Transmission mains, for all types of pipe materials in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering, laying of pipe, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below.

Lift 0 -1.50 M

.. Note:- No payment will be made unless final depth of excavation is reached.

**Calculation for Wetted Average Rate For Excavation For Transmission pipe line
Zone - II
(Lift 0-1.50 M)**

Sr. No.	Description of Item in Short	Qty.	Rate	Amount in Rs.
1	Excavation in Soil , S.M'	852.15	181.5	154665.225
2	Excavation in H.M.	568.10	205.7	116858.17
3	Excavation in soft rock and old cement and lime masonry foundation asphalt road	568.10	691.9	393068.39
4	Excavation in H.R. By Chiselling	2272.40	1,230.90	2797097.16
		4260.75		3461688.95
		4260.75		3461688.95
	Wetted Average Rate for Excavation	812.46		
	Say	812.46	Per Cum	

If Quantity of Ecvation Exceed than of Tender Quantity by + 25 % then the % Starta Classification is as Under

Strata Classification	Quantity	% Starta
Excavation in Soil , S.M'	852.15	20.00%
Excavation in H.M.	568.10	13.33%
Excavation in soft rock and old cement and lime masonry foundation asphalt road	568.10	13.33%
Excavation in H.R. By Chiselling	2272.40	53.33%
Total	4260.75	100.00%

Excavation for Foundation/ pipe trenches for works of Transmission mains, for all types of pipe materials in all types of Soil , earthy or sandy materials, soil of all type of sand, clay mud, Soft Murum ,soft average or hard murum, Boulders, all type of disintegrated rock ,shingles, brick bats ,isolated boulders of any size, all type of rock including soft ,hard and manjara rock by permissible and suitable methods such as Controlled blasting, chiselling, wedging, line drilling and or by use of mechanical means including excavation in all type of road surfaces such as WBM, Asphalt, concrete road, including trimming the surface by chiselling whenever required including removing the roots of trees met with during excavation levelling the bed and keeping it clean and dry by dewatering and making ready for lowering, laying of pipe, manual dewatering, excluding backfilling including removing the excavated stuff up to a distance of 50 m beyond the work site and stacking the same as directed by Engineer in charge etc. complete for lift as mentioned below.

Lift 0 -1.50 M

.. Note:- No payment will be made unless final depth of excavation is reached.

APPENDIX 'A-1' ABSTRACT OF SPECIFICATIONS

Sr. No.	Particulars	Standard Specifications	Page No.	Reference of Red Book (PWD)
1.	Excavation	B.1 & B.2, Bd. A-1 to A-13	24, 25, 26, 27, 28, 257 to 265	Vol. I Vol. II
2.	Materials, lime, cement, neeru, water, fine and coarse aggregate, stone bricks, HT steel wires, stainless steel, cast	A-1, A-2, A-4, A-5, A-6, A-7, A-8, A-9, A-10(abc), A-11, A-12, A-13, A-14	5 to 8	Vol. I
	Cl: WI:MS wire timber, oil paints	A-15, A-16, A-17 a, b and c		
3.	Structural steel	Bd.C-2, B-19.1	273	Vol. I & II
4.	Plain cement concrete	Bd. E-1, E-7	287 to 291	Vol. II
5.	Reinforced cement concrete	Bd. F-2 to Bd. F-16	297 to 306	Vol. II
6.	Steel	Bd. F-17	306 to 397	Vol. II
7.	Brick Masonry	B-8(a) & (b), Bd. G-1, Bd. G-2, G-3, G-4, G-5, G-6, G-7	40 to 45 313 to 317	Vol. I
8.	Stone Masonry	B9(i)	57	Vol. I
9.	Cement Plaster	B11(i)	65 to 66	Vol. I
10.	Cement Pointing	B13	67	Vol. I
11.	General Wood Work	B20	82,83,84	Vol. I
12.	Oil Painting	B21	84,85,86 and 87	Vol. I
13.	Water proofing	Bd j(3)	355,356	Vol. II
14.	Paving	Bd M1, M2, M3, M4, M5, M6, M7	379 to 383	Vol. II
15.	Glazed Tiles	Bd M12, Bd M13	385, 386	Vol. II
16.	Marble Mosaic	Bd M14, Bd M15	386, 387	Vol. II
17.	Chequered Tiles	Bd M33(a) and (b)	392	Vol. II
18.	Wood finishes, French Polish	Bd N	399,400	Vol. II
19.	Wooden doors	Dn T1	477	Vol. II
20.	Glass and Glazing	Bd 5	465 to 467	Vol. II
21.	Iron Grill Work	Bd U1	537	Vol. II
22.	Laying of CI Pipes	Bd V1 to V3	547	Vol. II
	GI Pipes	Bd V5	555	Vol. II
23.	Water Meter	Bd V6 & V7	553,554	Vol. II
24.	Taps	Bd V8	555	Vol. II
25.	Gunmetal Brass Tap	Bd V10 and V11	555	Vol. II
26.	Rolling Shutter	Bd T56	511	Vol. II
27.	MS Ladder	Bd V19	559	Vol. II
28.	Water closet	Bd V20	559 to 560	Vol. II
29.	Urinals	Bd V25	562 to 563	Vol. II

30.	Hand Basin	Bd V30	565 to 566	Vol. II
31.	Sink	Bd V31	566 to 567	Vol. II
32.	Cl/AC Rain Water Pipes	Bd V33 and V34	567 to 568	Vol. II
33.	Cl Soil Pipes	Bd V35	570 to 571	Vol. II
34.	AC Soil Pipes	Bd V36	570 to 571	Vol. II
35.	Stoneware Soil Pipes	Bd V39	573	Vol. II
36.	Concrete Soil	Bd V41	574	Vol. II
37.	Septic Tank	Bd V45 2-3	575	Vol. II
38.	Colour Washing, White Washing & Distemper	Bd P1 to Bd P6	411 to 414	Vol. II
39.	Welding	Bd 18	78 to 81	Vol. II
40.	Cement Based Paint	Bd 0.8.1	406	Vol. II

DRAWINGS