

BIDDING DOCUMENT FOR CIVIL WORKS

**CONSTRUCTION AND IMPROVEMENTS OF ROAD AT
WESTERN SIDE OF THE MUTTOM MAINTENANCE
DEPOT FOR CONNECTING FIRST AND SECOND ENTRIES
OF DEPOT AND IMPROVEMENT OF AMBATTUKAVU -
KUNNATHERI ROAD.**



**KOCHI METRO RAIL LIMITED
8th FLOOR, REVENUE TOWER,
PARK AVENUE ROAD,
ERNAKULAM**

NOTICE INVITING TENDER

(NIT)

KOCHI METRO RAIL LIMITED
NATIONAL COMPETITIVE BIDDING

No: KMRL/PRJ/MUTTOM RW/199/2015/TEN 04/15

Date: 28.05.2015

NOTICE INVITING TENDER (NIT)**1.0 GENERAL**

1. Kochi Metro Rail Ltd (KMRL), Invites Open tenders **for the following work from financially sound and well experienced Registered Contractors of Kerala State Public Works Department (Class A) / Central Public Works Department / NHAI, who have successfully completed at least one single similar work costing more than 80% (Eighty percentage) of the estimated cost of work during the last three years.** Tender documents and tender schedule may be downloaded free of cost from the KMRL Website www.kochimetro.org

2. Key details:

Name of Work	Construction and Improvements of road at Western side of the Muttom Maintenance Depot for connecting First and Second entries of Depot and Improvement of Ambattukavu - Kunnatheri Road
Approximate Cost of Work	Rs. 250 Lakhs
Tender processing Fee	Rs.26250/- (Rupees Twenty Six Thousand Two Hundred and Fifty Only) (Demand Draft in favour of "Kochi Metro Rail Ltd") payable at Kochi,Kerala.
Tender Security Amount/EMD	Rs.5,00,000.00
Completion period of the Work	Six Months
Last Date of Pre Bid queries	08.06.2015 (up to 11:00 hrs) to chandrababu.s@kmrl.co.in
Pre-bid Meeting	09.06.2015 at 11:00 Hrs. at office of the KMRL Ltd., 8th Floor, Revenue Tower, Kochi – 682011 (Tel.: 0484-2380980, Fax : 0484-2380686)
Date of issuing addendum(if any)	10.06.2015
Date & Time of Submission of Tender	24/06/2015 (up to 14:30 hrs) at the registered corporate office of the KMRL Ltd., 8th Floor, Revenue Tower, Kochi – 682011 (Tel.: 0484-2380980, Fax : 0484-2380686)
Date & Time of opening of Technical	24/06/2015 at 15:00 hrs

bid	
Date & Time of opening of Financial opening	Will be intimated later

3. Bids / tender documents are to be submitted by India post/speed post/by hand only. Technical bid and financial bid shall be submitted in their separately designated covers properly sealed.
 4. Tender processing fee of Rs .26250/- shall be remitted in the form of Demand Draft in favour of Kochi Metro Rail Limited, payable at Kochi (Non Refundable).
 5. Bidders are requested to submit the copies of the following with the technical bid
 - (i) Registration Certificate of the firm attested by a Gazette Officer of the rank not less than Executive Engineer.
 - (ii) Experience Certificate and other documents prescribed in bidding document attested by a Gazetted Officer of the rank not less than Executive Engineer.
 - (iii) Demand Draft towards bid processing fee.
 - (iv) EMD in form of DD /BG or EMD exemption certificate if any.
 6. A pre bid meeting will be held in the office of KMRL, Kochi – 11, on the prescribed date and time to clarify the issues and to answer questions on any matter that may be raised at that stage
 7. Minutes of the pre-bid meeting, corrigendum / addendum, which form part of the tender document, shall be published in the company website only and bidders are advised to check the website regularly for the updates related to the tender before submitting the offer.
 8. KMRL reserves the right to modify / cancel the bid without assigning any reasons.
 9. If the document submission date, happens to be a holiday, or not working, due to any valid reason, the tender opening process / submission of document, will be done on the next working day, the same time and place.
 10. Further details, if require, can be had from Mr. S Chandrababu, General Manager (Civil), Kochi Metro Rail Ltd during working hours.
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SECTION 1

INSTRUCTIONS TO BIDDERS

(ITB)

Instructions to Bidders

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A. GENERAL

1. Scope of Bid

- 1.1 The Employer (named in Appendix to ITB) invites bids for the construction of works (as defined in these documents and referred to as “the works”) detailed in the table given in NIT.
- 1.2. The successful bidder will be expected to complete the works by the intended completion date specified in the NIT Table.
- 1.3. Throughout these bidding documents, the terms ‘bid’ and ‘tender’ and their derivatives (bidder/tenderer, bid/tender, bidding/tendering, etc.) are synonymous.

2. Source of Funds

- 2.1. The expenditure on this project will be met by KMRL.

3. Eligible Bidders

- 3.1 This *Invitation for Bids* is open to all bidders.
- 3.2. All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

4. Qualification of the Bidder

- 4.1. All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include programme of construction backed with equipment planning and deployment duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion as per milestones.
- 4.2. All bidders shall include the following information and documents with their bids in Section.2
 - (a) copies of original documents defining the constitution or legal status, place of registration, and the principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
 - (b) total monetary value of construction work performed for each of the last three years;
 - (c) experience in works of a similar nature and size for each of the last three years, and details of works underway or contractually committed; and clients who may be contacted for further information on those contracts;
 - (d) major items of construction equipment proposed to carry out the Contract;

- (e) qualifications and experience of key site management and technical personnel proposed for Contract;
- (f) Reports on the financial standing of the Bidder, such as Balance Sheet profit and loss statement and auditor's reports for the past five years;
- (g) Evidence of access to line (s) of credit and availability of other financial resources facilities (10% of contract value), certified by the Bankers
- (h) Undertaking that the bidder will be able to invest a minimum cash upto 25% of contract value of work, during implementation work.
- (i) Authority to seek references from the Bidder's bankers;
- (j) Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount;

4.3 QUALIFICATION CRITERIA

4.3.1 Qualification will be based on Applicant's meeting all the following minimum pass/fail criteria regarding the Applicant's general and particular experience, personnel and equipment capabilities and financial position, as demonstrated by the Applicant's responses in the forms attached to the Letter of Application.

4.3.2 Base Year and Escalation

Following enhancement factors will be used for the costs of works executed and the financial figures to a common base value for works completed in India.

Year before	multiplying factor
One	1.10
Two	1.21
Three	1.33

Applicant should indicate actual figures of costs and amount for the works executed by them without accounting for the above mentioned factors.

In case the financial figures and value of completed works are in foreign currency, the above enhanced multiplying factors will not be applied. Instead, TT buying rate of SBI prevailing on the date of publishing of tender will be applied for the purpose of conversion of amount in foreign currency into Indian rupees.

4.3.3 General Experience

The Applicant shall meet the following minimum criteria:

- a) Average annual turnover (defined as billing for works in progress and completed in all classes of civil engineering construction works only) over the last three years should be **80 per cent** of the value of contract/contracts applied for.

- b) Experience in successfully completing at least one contract of roads/airport runway of at least **80 per cent** of the value of proposed contract within the original completion period during the last three years.
- c) Experience in successfully executing the major works of preparation of Sub-grade, Sub Base, Base, bituminous nature items Bituminous Macadam/Dense Bituminous Macadam and Bituminous Concrete mentioned in the **Bill of Quantities to a minimum of 100%** in a single work.

The works may have been executed by the Applicant as prime contractor or as a member of joint venture. In case a project has been executed by a joint venture, weightage towards experience of the project would be given to each joint venture in proportion to their participation in the joint venture.

4.3.4 Personnel Capabilities

The Applicant must have suitably qualified personnel to fill the following positions. The applicant will supply information on a prime candidate and an alternate for each position, both of whom should meet the experience requirements specified below with all documentary proof. A self-attested CV of the personnel duly concurred by the authorized representative of the company should be submitted.

List of Key Personnel to be deployed on the project

SI No	Personnel	Qualification	No of Persons Required
1.	Project Manager	B.E Civil + 7 Years Exp. In road works	1 No
2.	Site Engineer	Diploma + 5 Years Exp. In road works	2 Nos.
3.	Quality Engineer	B.E Civil + 1 Years Exp. or Dip. Civil + 5 years Exp. In road works	1 No
4.	Field Surveyor	Certificate Holder + 3 Years Exp. In road works	1 No
	Total		5 Nos.

4.3.5 Equipment Capabilities

The Applicant should own or should have assured ownership to the following key items of equipment, in full working order, and must demonstrate that, based on known commitments; they will be available for use exclusively for the proposed contract only. Hot mix plant availability should be within 40 kms radius of the proposed work site.

List of Plant & Equipment to be deployed on Contract Work

Sl No	Type of Equipment	Maximum age as on	Numbers Required
1	Tipper Trucks	5-7	7
2	Front end Loader	5	2
3	Smooth wheeled roller(8-10ton)	5	2
4	Vibratory roller/pneumatic 8-10 tonne	5	1
5	Hot Mix Plant with Electronic Controls (Minimum 75 TPH Capacity)	5	1
6	Paver Finisher with Electronics Sensor	5	1
7	Water Tanker 6KL capacity	5	2
8	Bitumen Emulsion Distributor	5-7	1
9	Tandem Smooth wheel Roller 6-8 tonnes	5	1
10	Mechanical Grader	5	1
		TOTAL	19

4.3.6 Financial Position

The Applicant should demonstrate that he has access to, or has available, liquid assets (aggregate of working capital, cash in hand and uncommitted bank guarantees) and/or credit facilities of **not less than 10 per cent of the value** of the contract/contracts applied for (construction cash-flow may be taken as 10 per cent of the estimated value of contract/contracts).

- 4.3.7 The audited balance sheets for the last three years should be submitted, which must demonstrate the soundness of the Applicant's financial position. If necessary, the Employer will make inquiries with the applicant's bankers.

4.3.8 Litigation History

The Applicant should provide accurate information on any litigation, blacklisting or arbitration resulting from contracts completed or under execution by him over the last three years. A consistent history of awards against the Applicant or any partner of a joint venture may result in failure of the applicant.

4.3.9 Bid Capacity

Applicants who meet the minimum qualification criteria will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under:

Assessed Available Bid Capacity = (A*N*2-B), where

- A = Maximum value of works executed in any one year during the last three years (updated to the current price level) rate of inflation may be taken as 10 per cent per year which will take into account the completed as well as works in progress;
- B = Value at current price level of the existing commitments and ongoing works to be completed during the next one year (period of completion of works for which bids are invited) and
- N = Number of years prescribed for completion of works for which the bids are invited.

4.3.10 Disqualification

Even though the Applicants meet the above criteria, they are subject to be disqualified if they have:

- made misleading or false representation in the form, statements submitted; and /or
- Records of poor performance such as abandoning the work, rescinding of contract for which the reasons are attributable to the non-performance of the contractor; consistent history of litigation awarded against the Applicant or financial failure due to bankruptcy. The rescinding of contract of a joint venture on account of reasons other than non-performance, such as Most Experienced partner of joint venture pulling out, court directions leading to breaking up of a joint venture before the start of work, which are not attributable to the poor performance of the contractor will, however, not affect the qualification of the individual partner.

5. One Bid per Bidder

- 5.1. Each bidder shall submit only one bid for the work. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

- 6.1. The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

7. Site Visit

- 7.1. The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

- 8.1. The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 10:

Section	Particulars
	Notice Inviting Tender
1	Instructions to Bidders
2	Qualification Information, and other forms
3	Conditions of Contract
4	Contract Data
5	Technical Specifications
6	Forms and Annexures
7	Drawings
8	Form of Bid and Bill of Quantity

- 8.2. Bidding Documents will be available for downloading from the website from 28/05/2015
- 8.3. The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, and technical specifications, bill of quantities, forms, Annexures and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 26 hereof, bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

9. Clarification of Bidding Documents

- 9.1. A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by email at the Employer's address/email id indicated in the NIT. The Employer will respond to any request for clarification which is received on or before the pre bid meeting date.

9.2. Pre-bid meeting

- 9.2.1. The bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as indicated in appendix.
- 9.2.2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

- 9.2.3. The bidder is requested to submit any questions in writing or by email to reach the Employer not later than one day before the meeting, as per the date specified in the time schedule of the NIT
- 9.2.4 KMRL replies to the pre bid meeting queries will be uploaded within 72 hours of the pre bid meeting as Addendum to the tender.
- 9.2.5. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents.

- 10.1. Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addendum.
- 10.2. Any addendum thus issued shall be part of the bidding documents and shall be communicated by uploading in website as addendum or by email.
- 10.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids in accordance with Sub-Clause 20.2 below.

C. PREPARATION OF BIDS

11. Language of the Bid

11.1. All documents relating to the bid shall be in the English language.

12. Documents Comprising the Bid

12.1. The bid to be submitted by the bidder shall be in two separate parts:

Part I shall be named “Technical Bid” and shall comprise

- (i) Bid Security in the form specified in Section 6 and tender processing fee as specified in NIT
- (ii) Qualification Information and supporting documents as specified in Section 2
- (iii) Certificates, undertakings, affidavits as specified in Section 6.
- (iv) Any other information pursuant to Clause 4.2 of ITB
- (v) Undertaking that the bid shall remain valid for the period specified in Clause 15.1. of ITB
- (vi) Bidding documents listed below duly signed.

Section	Particulars
	Notice Inviting Tender (NIT)
1	Instructions to Bidders
2	Qualification Information
3	Conditions of Contract
4	Contract Data
5	Specifications
6	Forms & Annexures
7	Drawings

Part II shall be named “Financial Bid” and shall comprise

- (i) Form of Bid as specified in Section 8
- (ii) Priced Bill of Quantities for items specified in Section 8

Each part will be separately sealed and marked in accordance with the Sealing and Marking Instructions in Clause 19.

13. Bid Prices

13.1. The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.

13.2. The bidder shall fill in rates and prices and line item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total bid price (both in figures and words). *Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.* Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

13.3. All cost for quality checks, setting up labs for tests, duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.

13.4. The rates and prices quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account (For contracts upto 12 months period).

14. Currencies of Bid and Payment

14.1. The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees.

15. Bid Validity

15.1. Bids shall remain valid for a period not less than 120 days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. In case of discrepancy in bid validity period between that given in the undertaking pursuant to Clause 12.1 (v) and the Form of Bid submitted by the bidder, the latter shall be deemed to stand corrected in accordance with the former and the bidder has to provide for any additional security that is required.

15.2. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by email. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid except as provided in 15.3 hereinafter, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.3. In the case of contracts in which the Contract Price is fixed (not subject to price adjustment), in the event that the Employer requests and the Bidder agrees to an extension of the validity period, the contract price, if the Bidder is selected for award shall be the bid price.

15.4. Bid evaluation will be based on the bid prices without taking into consideration the above correction.

16. Bid Security

- 16.1. The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in NIT for this particular work. The bid security shall be in the form of Demand Draft/Bank Guarantee in favor of Kochi Metro Rail Limited payable at Kochi.
- 16.2. Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall be valid for 45 days beyond the validity of the bid.
- 16.3. Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.
- 16.4. The Bid Security of unsuccessful bidders will be returned within 28 days of the end of the bid validity period specified in Sub-Clause 15.1 or on execution of the agreement with successful bidder whichever is later.
- 16.5. The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.
- 16.6. The Bid Security may be forfeited
 - (a) if the Bidder withdraws the Bid after Bid opening during the period of Bid Validity;
 - (b) If the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
 - (c) In the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - (i) Sign the Agreement; or
 - (ii) Furnish the required Performance Security.

17. Alternative Proposals by Bidders

- 17.1. Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract (including mobilization advance or time for completion), basic technical design as indicated in the drawing and specifications. Conditions offer or alternative offers will not be considered further in the process of tender evaluation.

18. Format and Signing of Bid

- 18.1. The Bidder shall prepare original documents comprising the bid as described in Clause 12 of these *Instruction of Bidders*, bound with the volume containing the "Technical Bid" and "Financial Bid" in separate parts and clearly marked.
- 18.2. The Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.
- 18.3. The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by

bidder, in which case such corrections shall be initiated by the person or persons signing the bid.

D. SUBMISSION OF BIDS

19. Sealing and Marking of Bids

- 19.1. The Bidder shall seal the Bid in envelopes, duly marking the envelopes with Name of the work. The envelope shall contain within it two separate sealed envelopes marked "Technical Bid" and "Financial Bid" with additional markings as follows.
 - Technical Bid: To be opened on **24.06.2015, 15.00 hrs** (date of Technical Bid opening) in the presence of Bid Opening Committee.
 - Financial Bid: Not to be opened except with the approval of Evaluation Committee.
 - The contents of Technical and Financial Bids will be specified in clause 12.1
- 19.2. The envelopes containing Technical and Financial Bids shall
 - (a) Be addressed to the Employer at the address given in Appendix to ITB
 - (b) Bear the identification as indicated in Appendix to ITB
- 19.3. In addition to the identification required in Sub-Clauses 19.1 and 19.2, each of the envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21, or the Evaluation Committee declares the bid as non-responsive pursuant to Clause 26.
- 19.4. If any of the envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

20. Deadline for Submission of Bids

- 20.1. Complete Bids (including Technical and Financial) must be received by the Employer at the address specified above not later than the date indicated in appendix. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received upto the appointed time on the next working day.
- 20.2. The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

- 21.1. Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

22. Modification & Withdrawal of bids

- 22.1 Bidders may modify or withdrawal their bids by giving notice in writing before the deadline prescribed in clause 10 or pursuant to clause 23
- 22.2 Each bidders modification or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with clause 18 & 19 with the outer and inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL", as appropriate
- 22.3 No bid may be modified after the deadline for submission of Bids except in pursuance of clause 20.2
- 22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in forfeiture of the Bid security pursuant to clause 16.

E BID OPENING AND EVALUATION**23. Bid Opening**

- 23.1 The Employer will open all the Bids received (except those received late), including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at time, date and the place specified in Appendix in the manner specified in clause 20 and 23.3. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.
- 23.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened.
- 23.3 The envelope containing "Technical Bid" shall be opened. The amount, form and validity of the bid security furnished with each bid will be announced. If the bid security furnished does not conform to the amount and validity period as specified in the Notice Inviting Tender, and has not been furnished in the form specified in Clause 16, the remaining technical bid and the sealed financial bid will be returned to the bidder.
- 23.4. (i) Subject to confirmation of the bid security by the issuing Bank, the bids accompanied with valid bid security will be taken up for evaluation with respect to the Qualification Information and other information furnished in Part I of the bid pursuant to Clause 12.1.
(ii) After receipt of confirmation of the bid security, the bidder will be asked in writing (usually within 10 days of opening of the Technical Bid) to clarify or modify his technical bid, if necessary, with respect to any rectifiable defects.

- (iii) The bidders will respond in not more than 7 days of issue of the clarification letter, which will also indicate the date, time and venue of opening of the Financial Bid.
 - (iv) Immediately, on receipt of these clarifications the Evaluation Committee will finalize the list of responsive bidders whose financial bids are eligible for consideration.
 - (v) Employer will have the right to visit the establishment, plant etc. of the bidder during the technical evaluation period.
- 23.5 No bid may be modified after the deadline for submission of bids.
- 23.6. At the time of opening of “Financial Bid”, the names of the bidders were found responsive in accordance with Clause 23.4(iv) will be announced. The bids of only these bidders will be opened. The remaining bids will be returned to the bidders unopened. The responsive Bidder’s names, the Bid prices, the total amount of each bid, any discounts, Bid Modifications and withdrawals, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. Any bid price or discount, which is not read out and recorded will not be taken into account in Bid Evaluation.
- 23.7. The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.6.

24. Process to be Confidential

- 24.1. Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other person not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer’s processing of Bids or award decision may result in the rejection of his Bid.

25. Clarification of Financial Bids

- 25.1. To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of the Bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by email, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by Employer in the evaluation of the Bids in accordance with Clause 27.
- 25.2. Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.
- 25.3. Any effort by the Bidder to influence the Employer in the Employer’s bid evaluation, bid comparison or contract award decision may result in the rejection of the Bidder’s bid.

26. Examination of Bids and Determination of Responsiveness

- 26.1. During the detailed evaluation of “Technical Bids”, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities and ; (d) is substantially responsive to the requirements of the Bidding documents. During the detailed evaluation of the “Financial Bid”, the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specification, and drawings
- 26.2. A substantially responsive “Financial Bid” is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which effects in any substantial way the scope, quality or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer’s right or the Bidder’s obligations under the Contract; or (c) whose rectification would effect unfairly the competitive position of the Bidders presenting substantially responsive Bids.
- 26.3. If a “Financial Bid” is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

- 27.1. “Financial Bids” determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
 - (a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.
- 27.2. The amount stated in the “Financial Bid” will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner.
 - (a) If the Bid price increase as a result of these corrections, the amount as stated in the bid will be the ‘bid price’ and the increase will be treated as rebate;
 - (b) If the bid price decreases as a result of the corrections, the decreased amount will be treated as ‘bid price’.

Such adjusted bid price shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

28. Evaluation and Comparison of Financial Bids

- 28.1. The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.
- 28.2. In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
 - (a) Making any correction for errors pursuant to Clause 27; or
 - (b) Making an appropriate adjustment for any other acceptable variations, Deviations; and
 - (c) Making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub-Clause 23.6.
- 28.3. The Employer reserves the right to accept or reject any variation or deviation. Variations and deviations and other factors, which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Bid evaluation.
- 28.4. A bid which contains several items in the Bill of Quantities which are unrealistically priced low and which cannot be substantiated satisfactorily by the bidder, may be rejected as non-responsive.

F. AWARD OF CONTRACT**29. Award Criteria**

- 29.1. Subject to Clause 30, the Employer will award the Contract to the Bidder whose Bid has been determined.
 - (i) to the substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price; and

In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at his evaluated bid price.

30. Employer's Right to accept any Bid and to reject any or all Bids.

- 30.1. Notwithstanding Clause 29, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

31. Notification of Award and Signing of Agreement

- 31.1. The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by registered email, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") LOA will state the sum that the Employer

will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

- 31.2. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 32.
- 31.3. In the LOA, the successful bidders will be notified to execute an agreement within the maximum period of 14 days from the date of receipt of same. Fine @ 10% of contractor PAC subject to a minimum amount of Rs. 1000/- and maximum of Rs. 5000/- shall be levied if the agreement not executed within 10 days after the notice period of 14 days.
- 31.4. Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

32. Performance Security

- 32.1. Within 14 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in the forms given in section 6 for an amount equivalent to 10% of the Contact price :- a bank guarantee in the form given in Section 6;
- 32.2. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be by a Nationalized/Scheduled/Private Indian bank.
- 32.3. Failure of the successful Bidder to comply with the requirements of Sub-Clause 32.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security. After cancelling steps will be initiated to award the work to next lower bidder.

33. Dispute Resolution

- 33.1. All disputes shall be resettled in a court of law having jurisdiction at Kochi only.

34. Corrupt or Fraudulent Practices

- 34.1. The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract with Kochi Metro Rail Limited and any other agencies, besides forfeiting the bid security.

APPENDIX to ITB

S.No		Details
1.	Name of the Employer is	Kochi Metro Rail Limited
2.	The last three years	2011-2012 2012-2013 2013-2014
3	This annual financial turn over amount is (In figures)	2,00,00,000/-
	(In words)	Two Crore Only
4.	Value of work is (In figures)	2,50,00,000/-
	(In words)	Two Crore Fifty Thousand Only
5.	Quantities of work are:	
	Dense Graded Bituminous Macadam	690 Cu.m
	Bituminous Concrete	306 Cu.m
	Sub- Grade	1226 Cu.m
	GSB	804 Cu.m
	Wet Mix Macadam	777 Cum
6	Liquid assets and/or availability of credit facilities is (In figures)	50,00,000/-
	(In words)	Fifty Lakhs only
7	The pre-bid meeting will take place at	09/06/2015 KOCHI METRO RAIL LTD. OFFICE
	(Time)	11:00 Hrs
8	The technical bid will be opened at	24/06/2015
	(Time)	15:00 Hrs

9	Address of the Employer	General Manager Civil Kochi Metro Rail Ltd. 8 th Floor, Revenue Tower, Park Avenue, Kochi – 682011 Kerala India
10	Identification:	
	Bid for(Name of contract)	Construction and Improvements of road at Western side of the Muttom Maintenance Depot for connecting First and Second entries of Depot and Improvement of Ambattukavu - Kunnatheri Road
	Bid reference No(insert number)	KMRL/PRJ/MUTTOM RW/199/2015/TEN05-15
	Do not open before(time and date)	24/06/2015 15:00 Hrs
11	The bid should be submitted latest by(date and time)	24/06/2015 14:30 Hrs
12	The bid will be opened at (place)	Kochi Metro Rail Ltd. 8th Floor, Revenue Tower, Park Avenue, Kochi – 682011 Kerala India
	(on)	24/06/2015
13	The Bank Draft in favour of	KOCHI METRO RAIL LTD.
	payable at	KOCHI
14	Escalation factors (for the cost of works executed and financial figure to a common base value for works completed)	
	<u>Year before</u>	<u>Multiply factor</u>
	One	1.1
	Two	1.21
	Three	1.33

SECTION 2

QUALIFICATION INFORMATION

QUALIFICATION INFORMATION

THE BIDDERS MAY SUBMIT THE QUALIFICATION INFORMATION

The information to be filled in by the Bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1.0. STRUCTURE AND ORGANISATION

1. 1 Name of Contractor

Head Office/ Regional Office/ Local Office Address
Contact Person
Email ID
Telephone No.
Fax No.

1.2 Place and year of incorporation (attach copy of certificate of incorporation**)**

1.3 Power of Attorney of signatory of bid (Attach)

Note

(1) Contractor may be a proprietary firm, partnership, limited company or corporation.

1.4 Total value of Civil Engineering construction work performed in the last three years (in Rs. Crore)

2011-2012

2012-2013

2013-2014

1.5 WORK EXPERIENCE

1.5.1 Work performed as prime contractor, on works of a similar nature over the last three years mentioned above

*Attach certificate(s) from the Engineer(s)-in-Charge.

Name of Employer	Project Name and Location*	Description of work	Total Project Cost at award	Value of Contract executed by the applicant	Role(Whether as single associate or as Joint venture.(% share in JV should be mentioned)	Current value of Col.(5) (after applying an enhancement factor of 10% per annum)	Date of Contract	Stipulated Date of Completion	Actual Completion Date	Remarks Present Progress if work not completed. Reasons for delay and work completed
1	2	3	4	5	6	7	8	9	10	11

*Attach certificate from the Engineers in Charge

1.5.2. Quantities of work executed as prime contractor, involved in execution of all main items of work described in the bid document, provided further that all other qualification criteria are satisfied (in the same name and style) in the last three years.**

Year	Name of the work	Name of the Employer*	WMM	BUSG	BM	BC	Remarks* (indicate contract Ref)
2011-12							
2012-13							
2013-14							

1.6 Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

Description of works	Place & State	Contract No.	Name & Address of Employer	Value of Contract (Rs Cr)	Stipulated Period of Completion	Value of works* remaining to be completed (Rs Cr)	Anticipated date of completion
1	2	3	4	5	6	7	8

*Attach certificate(s) from the Engineer(s)-in-Charge

**immediately preceding the financial year in which bids are received.

(B) Works for which bids already submitted:

Description of works	Place & State	Name & Address of Employer	Estimated value of works (Rs Cr)	Stipulated period of completion	Date when decision is expected	Remarks, if any
1	2	3	4	5	6	7

1.7 Availability of key items of Contractor's Equipment essential for carrying out the Works
[Ref. Clause 4.3.5. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3(d) of the Instructions to Bidders.

Item of Equipment	Requirement		Availability proposals			Remarks (from whom to be purchased)
	No.	Capacity	Owned	Nos./Capacity	Age/Condition	

1.8 Qualifications and experience of key personnel required for administration and execution of the Contract [Ref. Clause 4.5.3. Attach biographical data. Refer also to Sub Clause 4.2 (e) of instructions to Bidders and Sub Clause 8.1 of the Conditions of Contract.

Position	Name	Qualification	Year of Experience (General)	Years of experience in the proposed position
Project Manager				
Etc.				

1.9. Financial reports for the last three years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies.

1.10. Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents.

1.11. Name, address, and telephone, telex and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.12. Information on litigation history in which the Bidder is involved.

Other Party (ies)	Employer	Cause of Dispute	Amount involved	Remarks showing Present Status

- 1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 & 4.3.1]
- 1.14 Programme
- 1.15 Quality Assurance Programme
- 1.16 All the required permissions including the pollution control board certificate should be obtained for the necessary workings before the commencement of the work

2.0 Additional Requirements

- 2.10 Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.
 - (i) Affidavit
 - (ii) Undertaking

SECTION 3

CONDITIONS OF CONTRACT

Conditions of Contract

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CONDITIONS OF CONTRACT

A. GENERAL

1. Definitions

- 1.1.1. Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 50.1.1

The **Contract** – “The contract is the contract between the Employer and the contractor to execute, complete and maintain the works till the completion of defects liability period. It consists of the documents listed in clause 2.3 below”

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer and includes Technical and Financial bids.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** shall be the date of issue of the LOA issued by KMRL. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer, which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

The **site engineer** shall be the person authorized by the engineer.

2. Interpretation

- 2.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2. If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3. The documents forming the Contract shall be interpreted in the following order of priority:
 - (1) Agreement

- (2) Letter of Acceptance, notice to proceed with the works
- (3) Contractor's Bid (Technical and Financial Bid)
- (4) Contract Data
- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Drawings
- (8) Bill of quantities and
- (9) Programme & QAP
- (10) Any other document listed in the Contract Data as forming part of the Contract.

3. Language and Law

- 3.1. The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

- 4.1. Except where otherwise specifically stated, the Engineer will decide contractual matters between the employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1. The Engineer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

- 6.1. Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Other Contractors

- 7.1. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

8. Personnel

- 8.1. The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the ITB (Clause 4.3.4) Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule. The replacement of each personnel permitted with a reduction of 0.01% of the agreement value for each replacement.

8.2. If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the contract.

9. Employer's and Contractor's Risks

9.1. The Employer carries the risks which this contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

10. Employer's Risks

10.1. The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in India, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

11. Contractor's Risks

11.1. All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

12. Insurance

12.1. The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- a) Loss or damage to the work, plant and Materials
- b) Loss or damage to equipment's;
- c) Loss or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- d) Personnel injury or death

12.2. Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

12.3. If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

12.4. Alterations to the terms of an insurance shall not be made without the approval of the Engineer.

12.5. Both parties shall comply with any conditions of the insurance policies.

13. Site Investigation Reports

13.1. The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

14. Queries about the Contract Data

14.1. The Engineer will clarify queries on the Contract Data.

15. Contractor to Construct the Works

15.1. The Contactor shall construct and install the Works in accordance with the Specification and Drawings.

16. The Works to be completed by the Intended Completion date

16.1. The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

17. Approval by the Engineer

17.1. The Contractor shall submit Specification and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.

17.2. The Contractor shall be responsible for design of Temporary Works.

17.3. The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4. The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.

17.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

18. Safety

18.1. The Contractor shall be responsible for the safety of all activities on the Site.

19. Discoveries

19.1. Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

20. Possession of the Site

- 20.1. The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

21. Access to the Site

- 21.1. The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured/fabricated/assembled for the works.

22. Instructions

- 22.1. The Contractor shall carry out all instructions of the Engineer pertaining to works which comply with the applicable laws where the Site is located.
- 22.2. The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

23. Disputes

- 23.1. All disputes and differences arising out of the contract that may be executed in pursuance of this notification shall be settled only by the Civil Court in Ernakulam.

24. Procedure for Disputes

- 24.1 Arbitration shall not be a means of settlement of disputes or claims arising out of the contract.

B. TIME CONTROL**25. Programme**

- 25.1. Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Programme showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 25.2. An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 25.3. The Contractor shall submit to the Engineer, for approval, an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue

to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

- 25.3.1. The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme is to show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

- 26.1. The Engineer shall extend the Intended Completion Date if a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 26.2. The Engineer shall decide whether and by how much to extend the Intended Completion Date within 20 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 26.3. The Engineer shall within 14 days of receiving full justification from the contractor for extension of Intended Completion Date refer to the Employer his decision. The Employer shall in not more than 7 days communicate to the Engineer the acceptance, or otherwise of the Engineer's decision.

27 Delays Ordered by the Engineer

- 27.1. The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

28 Management Meetings

- 28.1. Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 28.2. The contractor shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

29 Early Warning

- 29.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or

circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

C. QUALITY ASSURANCE & QUALITY CONTROL

30. Identifying Defects

- 30.1. The Engineer / KMRL assigned quality auditor shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect. KMRL will be engaging external quality auditors for super checking.

31. Tests

- 31.1. If the Engineer / KMRL assigned quality auditor instructs the Contractor to carry out a test not specified in the specification to check whether any work has a Defect and the test shows that it does, the contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.
- 31.2. Contractor should set up his lab facilities and do all Quality Test as specified in Section 9 of IRC in the vicinity of the HM plant/Site
- 31.3. Except as otherwise specified in the Contract, the contractor shall provide all apparatus, assistance, document and other information, electricity, fuel, consumables, instruments, labour, materials and suitable qualified experienced staff, as are necessary to carry out the specified tests efficiently. The contractor shall agree, with the Engineer/the respective quality auditor appointed by the employer KMRL, the time and place for the specified testing of any Plant, Materials and other parts of the works.
- 31.4. The contractor shall promptly forward the engineer duly certified reports of the tests. When the tests have been passed, the Engineer/ the respective quality auditor appointed by the client shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect.
- 31.5 Any non-confirmation report (NCR) compiled by Engineer/Quality Auditor the payment will be kept pending till the NCR is cleared.

32. Correction of Defects

- 32.1. The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period of the entire work shall be extended for as long as Defects remain to be corrected.
- 32.2. Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

33. Uncorrected Defects

- 33.1. If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected by a third party, and the Contractor will pay this amount or such amount will be deducted from the running bill.

D. COST CONTROL

34. Bill of Quantities

- 34.1. The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.
- 34.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

35. Variation in the Quantities

- 35.1. If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 per cent provided the change exceeds 1% of initial Contract Price, the Engineer shall adjust the rate to allow for the change, duly considering.
 - (a) justification for rate adjustment as furnished by the Contractor,
 - (b) economies resulting from increase in quantities by way of reduced plant, equipment, and overhead costs,
 - (c) entitlement of the contractor to compensation events where such events are caused by any additional work
- 35.2. If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.
- 35.3. All variations shall be included in updated Programmes produced by the Contractor

36. Extra Item

36.1. Any extra item necessitated at the Site shall be implemented only on written approval of the Competent Authority.

36.2 The rate for the extra item shall be submitted by the contractor with due rate analysis either based on similar item in the Bill of Quantities or prevailing market rate on mutually agreed condition.

37. Cash Flow Forecasts

37.1. When the Programme is updated, the Contractor is to provide the Engineer with an updated cash flow forecast.

38. Payment Certificates

38.1. The Contractor shall submit to the Engineer statements of the estimated value of the work completed as per milestone dates less the cumulative amount certified previously. Contractor shall duly record the requirement in Measurement Book and field book and bill submitted in due certification.

38.2. The Engineer in charge/site engineer shall check the Contractor's statement within 14 days and certify the measurement and amount to be paid to the Contractor after taking into account any credit or debit for the period in question in respect of materials for the works in the relevant amounts. The measurement will be checked measured by next higher authority duly authorized by the Engineer.

38.3. The value of work executed shall be certified by the Procurement Manager.

38.4. The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

38.5. The value of work executed shall include the valuation of Variations and Compensation Events.

38.6. The Engineer in charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

38.7 All payment certificates shall be supported by invoices of bitumen issued for this work and due quality certificates certified by the Engineer in Charge/Quality auditor

39. Payments

39.1. Payment shall be adjusted for deductions for advance payments, retention, other recoveries in terms of contract and taxes at source as applicable under any law. Bills shall be submitted by the contractor for part payment while the work is in progress or

final bill on completion of the work as per the specifications ,terms and conditions of the contract and KMRL shall take the requisite measures for having the same checked and the claim as far as admissible settled according to the availability of budget provision and allotment of funds made with the KMRL under the respective heads of account under which the work is sanctioned and arranged and also subjected to the seniority of such bills. The contractor shall not make any claim for interest or for damages for any delay in settling the bill for himself,

- 39.2. Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 39.3. All payment will be made to the designated bank account on electronic mode.

40. Tax

- 40.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.
- 40.2 The contractor shall be responsible for payment of all taxes and other duties as per the rules in force from time to time and KMRL will not entertain any claim or account of the enhancement of tax and rates.

41. Currencies

- 41.1. All payments shall be made in Indian Rupees.

42. Retention

- 42.1. The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.
- 42.2. On completion of the whole of the Works, half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- 42.3. On completion of the work works, the contractor may substitute retention money with an "on demand" Bank guarantee.

43. Liquidated Damages

- 43.1. The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the

amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

- 43.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment/underpayment of liquidated damages by the Contractor by adjusting the next payment certificate.
- 43.3. If the contractor fails to comply with the time for completion as stipulated in the tender, then the contractor shall pay to the employer the relevant sum stated in the Contract Data as Liquidated damages for such default and not as penalty for every day or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the contract data.

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

- 43.4. If, before the Time of Completion of the whole of the Works or, if applicable, any section, a Taking – Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or section, as applicable. The provisions of this Sub-clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.
- 43.5. The Liquidated damages is also applicable to the contractor if they fail to achieve milestone events as per the conditions stated in the contract data. The contractor shall pay the liquidated damages as per the penalty clause in the contract data.

44 Securities

- 44.1. The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

45. Cost of Repairs.

- 45.1. Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the

Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

47. Completion

- 47.1. The contractor shall request the Engineer to issue a Certificate of Completion of the works and the Engineer will do so upon deciding that the work is completed. Final bill will be paid only after completion is certified by the competent authority. The date of completion of a works is the date of last measurements taken by the concerned Site Engineer on completion of work.

48. Final Account

- 48.1. The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to Contractor and issue a payment certificate, within 56 days of receiving the contractor's revised account.

49. As built profile drawing

- 49.1. If the Contractor does not supply the as built profile Drawings by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

50 Termination

50.1 Default by Contractor

As per general conditions of contract, the competent authority has the power to cancel the contract and arrange the work otherwise in the event of default by the contractor. The competent authority in exercising the power vested with him shall follow the procedure outlined in the general conditions of the contract. The damages and penalties provided there in and applicable to the particular contract shall also be realized in accordance with the general conditions of contract.

- 50.1.1 If the contractor fails to maintain the required progress as per conditions of contract or to complete the work and clear the site on or before the contract or extended date

of completion, he shall without prejudice to any other right or remedy available under the law to the employer on account of such breach, pay to the employer as liquidated damages as detailed in the Contract Data.

- 50.1.2 The amount of compensation may be adjusted or set –off against any sum payable to the contractor under this or any other contract with the government. In case, the contractor does not achieve a particular milestone mentioned in the conditions of contract or the re-scheduled milestone(s), the amount shown against that mile stone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time.
- 50.1.3 With holding of this amount on failure to achieve the completion of work or of milestones shall be automatic without any notice to the contractor.

50.2 Termination of Contract

50.2.1 KMRL can terminate the contract and rearrange the work at the risk and cost of contractor in the following cases.

- a) If the contractor does not turn up for starting the work within the specified period to take charge of the site after executing the agreement.
- b) If the contractor does not show the proportionate progress during the original/extended period of time of completion.
- c) The Engineer issues notice to the contractor against the delay in progress of the works and if the works do not show sufficient progress even after 28 days from issuing of notice.
- d) If the contractor abandons the work after executing a portion without genuine reason and does not resume or complete it even after specific direction from the KMRL
- e) The Contractor stops work for 28 days when no stoppage of work is shown on the current programme and the stoppage has not been authorized by the Engineer.
- f) The Employer or contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
- g) Fails to make application for extension of time of completion in time
- h) If the contractor in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph: “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of KMRL and includes, collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the KMRL of the benefits of free and open competition.”

50.2.2 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed above the Engineer shall decide whether the breach is fundamental or not.

50.2.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

50.2.4 If the Contract is terminated the Contractor shall stop work immediately, make the site safe and secure and leave the site as soon as reasonably possible.

50.3 Termination of Contract in Case of Death, Insanity or Insolvency

If the contractor is an individual or a proprietary concern and the individual or the proprietor dies, becomes insane or insolvent, the competent authority has to satisfy himself whether the legal heirs or legal representatives of the contractor are capable of carrying out and continuing the work, and if they are willing, he may entrust the balance portion of the work to such legal heir or representative on a fresh agreement on the same terms and conditions as in the original agreement. In other cases the competent authority shall cancel the contract in respect of the incomplete portion of the work and rearrange the work otherwise without any penalty or damage to either party on account of such cancellation and rearrangement. All liabilities due to government arising under the contract up to the date of death of contractor shall be realized from the estate of the contractor.

51. Realisation of loss on account of termination

51.1 An amount equal to 30% of the cost of the remaining works at agreed rates of the terminated contract shall be recovered from the defaulted contractor towards the risk and cost. The contractor shall be directed to remit the risk and cost amount within three months. The total loss sustainable due to the original contractor is assessed after completion of the work. If the defaulted contractor fails to remit the amount within this period the realisation of loss by the defaulted contractor can be realised from the following.

1. EMD / Security
2. Bill amount / retention if any due to the contract.
3. Any dues from KMRL to the contractor.
4. Bank Guarantee / Performance Guarantee or By filling civil suit against the contractor.

52. Property

52.1. All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of contractor's default

53.0. Releases from Performance

53.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works duly carried

out before receiving it and for any work carried out afterwards to which commitment was made.

54. SAFETY, HEALTH AND ENVIRONMENT CLAUSE

54.1 All debris from the sites shall be disposed off in trucks and the trucks shall be covered while moving in order to avoid dust or other impact.

54.2 Every construction equipment shall be in sound working condition and certified by either competent person under Factories Act or Manufactures Warranty in case of new equipment's or authorized persons/firms approved by Employer before induction to any Site.

54.3 The contractor shall ensure proper first aid facilities at Plant and Site.

54.4 The contractor shall ensure that the Plant is provided with fire extinguishing equipment's sufficient to extinguish any probable fire at the Plant site.

54.5 The contractor shall ensure that suitable warning signs, notices and adequate marshals required for regulating the traffic and suitable road furniture shall be installed for the safety of the public. Notices and warning sign shall be both in Malayalam and English.

54.6 The contractor shall provide required PPE like safety helmets, foot wear, gumboot, high visibility waist coat/jacket, gloves, nose mask etc to all employees and workers engaged for this work. Suitable illumination and arrangements to be done for all works arranged at night.

54.7 The penalty clause for all the above items are detailed in the Contract Data.

F. SPECIAL CONDITIONS OF CONTRACT

1. LABOUR :

The contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

2. COMPLIANCE WITH LABOUR REGULATIONS :

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made thereunder, regulations,

notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) Workmen Compensation Act 1923 :- The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972 :- Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more on death, the rate of 15 days wages for every completed years of service. The Act is applicable to all establishment employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 : The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951:- The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970 :- The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is

applicable to the establishments or Contractor of Principal Employer, if they employ 20 or more contract labour.

- f) Minimum Wages Act 1948 :- The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act, if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) Payment of Wages Act 1936:- It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979 :- The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965:- The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/- per month or less. The bonus to be paid to employees getting Rs. 2500/- per month or above upto Rs. 3500/- per month shall be worked out by taking wages as Rs. 2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947 :- The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946 :- It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) Trade Unions Act 1926 :- The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from Civil and Criminal liabilities.
- m) Child Labour (Prohibition & Regulations) Act 1986 :- The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act, 1979 :- The Act is applicable to an establishment which employs 5 or more inter-

state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided facilities such as housing, medical aid, travelling expenses from home upto the establishment and bank etc.

- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 :- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948 :- The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

SECTION 4

CONTRACT DATA

CONTRACT DATA

1.	The Employer is	Kochi Metro Rail Limited
2.	The Engineer is	As delegated by Employer
3	The Dispute Review Expert appointed jointly by the Employer and Contractor is:	Not Applicable
4.	The Defects Liability Period is 2 (TWO) year from the date of completion	
5	The Start Date shall be the date of issue of the LOA with the work.	
6	The Intended Completion Date for the whole of the Work is Four months after start of work with the following milestones:	
	Milestone dates :	
	<u>Physical works to be completed</u>	<u>Period from the start date</u>
	Milestone 1 i.e. Completion of 25% of the total value of the work	3 month.
	Milestone 2 i.e. 100% completion of work	6 months
7.	The site is located at Muttom. Name of work attached as Appendix to Contract Data	
8.	The name and identification number of contract is :	Construction of New Road and Improvement for Existing road near Muttom Maintenance Depot
9.	The works consist of Preparation of Subgrade, Sub-base, WMM, DBM & BC . The Works shall, inter alia, include the following, as specified or as directed:	
(a)	Road Works	
	Site clearance; setting-out and layout; widening of existing carriageway and strengthening including camber corrections; bituminous pavements remodeling/construction of junctions, inter sections; construction/extension of drainage works etc. ; all aspects of quality assurance of various components of the works; rectification of the defects in the completed works during the Defects	

	Liability Period; and any other related documents; and other item of work as may be required to be carried out for completing the works in accordance with the drawings, direction of site engineer and provisions of the contract to ensure safety.	
b	Other Items	
	Any other items as required to fulfill all contractual obligations as per the Bid documents	
10.	The law which applies to the Contract is the law of Union of India	
11.	The language of the contract documents is English	
12.	The minimum insurance cover for physical property, injury and death is Rs.5 lakhs per occurrence .After each occurrence, contractor will pay additional premium necessary to make insurance valid	
13.	The site Possession Dates shall be the date of issue of Letter of Acceptance with the work.	
14.	The period for submission of the programme for approval of Engineer shall be 14 days from the issue of Letter of Acceptance	
15.	The period between programme updates shall be 14 days	
16.	The amount to be withheld for late submission of programme shall be 1/50th of contract PAC	
17.	The currency of the Contract is Indian Rupees	
18.	The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 6% of final contract price	
19	Amount of liquidated damages for delay in completion of works per milestone	Milestone 1 – Rs. 3,000/- per day Milestone 2 - Rs. 6,000/- per day
	Maximum limit of liquidated damages for delay in completion of work	10 percent of the Initial Contract Price rounded off to the nearest thousand.
20	The securities shall be following minimum amounts equivalents as a percentage of the Contract price	
	Performance security for 10% of contract price as additional security in terms of ITB clause 28.4	
	The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 6 of the Bidding document	
21	The date by which “as built final profile” drawings in 2 sets are required is before issue of certificate of completion or with the final bill Whichever is earlier.	

22	The amount to be withheld for failing to supply "as built profile " drawings by the date required is Rs. 1 Lakhs
23	The events shall be fundamental breach of contract is pertaining to respective clauses in ITB and Conditions of contract
24	All payment certificates shall be supported by invoices of bitumen showing the name of work, contractor and due quality certificates certified by the Engineer in Charge/Quality Auditor.
25	Quality Lab shall be installed at the Plant Site with all equipment's required for quality checks prescribed as per IRC/Morth.
26	The penalty clause for failure in implementing the SHE clauses will be 5000/- for each violation.

APPENDIX TO CONTRACT DATA

Sl. NO	NAME OF WORKS
1	AMBATTUKAVU KUNNATHERY ROAD IN CONNECTION WITH ENTRY TO MUTTOM DEPOT & AMBATTUKAVU METRO STATION
2	CONSTRUCTION OF NEW ROAD AT WESTERN SIDE OF THE MUTTOM MAINTENANACE DEPOT FOR CONNECTING FIRST & SECOND ENTRIES OF DEPOT

SECTION 5

TECHNICAL SPECIFICATIONS

- 5.1 The Technical Specifications in accordance with which the entire work are to be executed
 - a. "The specifications for Road and Bridge works, (latest Revision – Published by Indian Roads Congress, New Delhi 2001 on behalf of the Government of India, Ministry of Road Transport & Highways)"
 - b. The various amendments/modifications/additions to "The specifications for Road and Bridge Works, (Fourth Revision); referred to in (a) above.
- 5.2 In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and Specifications of IRC and is in that order. Where even these are silent, the construction and completion of the work shall conform to sound engineering practice as approved by the Engineer in charge and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer in charge shall be final and binding on the contractor.
- 5.3 The Specifications and machinery stipulated for the work are as per "The Specifications for Road and Bridge works (latest Revision)"
- 5.4 The latest edition of all Specifications/Standards till 30 (thirty) days before the final date of the submission of the tender shall be adopted.

Latest survey techniques such as Satellite survey or total Station survey shall be used for setting out the alignment for road, bridge and other components of the project.

ADDITIONAL AND SPECIAL TECHNICAL SPECIFICATIONS

1. All the materials (such as cut earth, Rubble etc) received during construction shall be the property of the Government and if used for the construction shall attract recovery or payment at rate as fixed by the employer and adjustment of cost of conveyance fixed by the departmental officers.
2. The work of Renewal/Improvement of riding quality should not continue over the bridges if any. The longitudinal profile of the immediate approaches should be suitably adjusted to merge with the finished deck level of the bridge.
3. The centre line, Edge line and other markings with thermoplastic paint should be as per guideline of IRC-35. It shall be provided as per Cl.803.4 of Ministry's specifications for Road and Bridge Works (IV revision) 2001.
4. The road signage is as per guideline of IRC-67-2001 and It shall be provided as per Cl.803.4 of Ministry's specifications for Road and Bridge Works (IV revision) 2001.

SECTION 6

SECTION VI- FORMS AND ANNEXURES

ANNEXURES	NAME OF THE FORM/ANNEXURE
1	AFFIDAVIT
2	UNDERTAKING - FIRM PERIOD
3	FORMAT- FOR BID SECURITY (BANK GUARANTEE)
4	FORMAT – LETTER OF ACCEPTANCE
5	FORMAT- BANK GUARANTEES FOR PERFORMANCE SECURITY
6	UNDERTAKING-TENDER AND BIDDERS CERTIFICATE
7	FORMAT -E PAYMENT FORM
8	FORMAT –AGGREEMENT FORM
9	SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES
10	FORMAT- UNDERTAKING

ANNEXURE 1 AFFIDAVIT

1. I the undersigned, do hereby certify that all the statement made in the required attachments are true and correct.
2. The undersigned also hereby certifies that our firm M/s.....
.....has not abandoned any work in Kerala or, any other State Government, Central Government nor any contract awarded to us for such works have been rescinded, during last three years prior to the date of this bid.
3. The undersigned hereby authorise(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Company/Department/Project implementing agency.
5. The undersigned also hereby authorises KMRL and their authorised representative to conduct any inquiries or investigation to verify the statements, documents and information submitted in connection with this application, and to seek clarification from our bankers and clients regarding any financial and technical capability.

.....
(Signed by an Authorised Officer of the Firm)

.....
Title of Officer

.....
Name of Firm

.....
DATE

ANNEXURE 2

UNDERTAKING FOR FIRM PERIOD

I, the undersigned do hereby undertake that our firm M/s.....
Agree to abide by this bid for a perioddays for the date fixed for
receiving the same and it shall be binding on us and may be accepted at any time before the
expiration of that period.

.....
(Signed by an Authorised Officer of the firm)

.....
(Title of Officer)

.....
(Name of Firm)

.....
(Date)

ANNEXURE 3
FORMAT FOR BID SECURITY (BANK GUARANTEE)

WHEREAS,(name of Bidder) hereinafter called 'the Bidder' has submitted his Bid dated(date) for the construction of(name of Contract hereinafter called "the Bid").

KNOW ALL PEOPLE by the presents that We(name of Bank) of(name of Country) having our registered office at(hereinafter called "the Bank") are bound unto.....(name of Employer) (hereinafter called "the Employer") in the sum of for which payment well and truly to be made to the said Employer the Bank itself, this successors and assigns by these presents.

SEALED with the Common Seal of the said Bank thisday of20.....

THE CONDITIONS of this obligation are :

(1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;

OR

(2) If the Bidder having been notified to the acceptance of his bid by the Employer during the period of Bid validity:

- (a) Fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
- (b) Fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders; or
- (c) Does not accept the correction of the Bid Price pursuant to Clause 26.

We understand to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force upto an including the date.....days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE.....

SIGNATURE.....

WITNESS.....

SEAL.....

(Signature, name and address)

* The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same in Clause 16.1 of the Instructions to Bidders.

** 45 days after the end of the validity period of the Bid. Date should be inserted by the Employer before the Bidding documents are issued.

ANNEXURE 4
LETTER OF ACCEPTANCE

To

-----(Name and address of the Contractor)

Dear Sirs,

This is to notify you that your Bid dated.....for execution of the
(name of the contract and identification number, as given in the Instructions to Bidders) for
the Contract Price of Rupees.....
.(amount in words and figures), as
corrected and modified in accordance with the Instructions to Bidders* is hereby accepted by
our agency.

You are hereby requested to furnish Performance Security for an amount equivalent to
Rs.....within 14 days of the receipt of this letter of acceptance valid upto 28 days from
the date of expiry of defects Liability Period i.e. uptoand sign the contract.

Yours faithfully,

Authorized Signature

Name and title of Signatory

Name of Agency

- Delete 'Corrected and' or 'and modified' if only one of these action applies. Delete as corrected and modified in accordance with the Instructions to Bidders, if corrections or modifications have not been affected.

(Seal)

ANNEXURE 5
Bank Guarantees for performance Security

**FORM OF PERFORMANCE SECURITY
BANK GUARANTEE BOND
(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)**

To,
Kochi Metro Rail Limited
8th Floor, Revenue Tower,
Park Avenue, Cochin 11

Dear Sir,

1. In consideration of the Kochi Metro rail Limited (hereinafter called "KMRL") having agreed under the terms and conditions of agreement NO..... dated.....made betweenand(herein after called "thesaid contractor(s)") for the work (herein after called "the said agreement") for compliance of his obligation in accordance with the terms and conditions in the said agreement.

We (indicate the name of the Bank) (herein after referred to as "as Bank) hereby undertake to pay to the KMRL and amount not exceeding Rs..... (Rupees only) on demand by the KMRL.

2. We (Indicate the name of the Bank) do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the KMRL stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). 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 Rs..... (Rupees..... only).

3. We undertake to pay to the KMRL any money so demanded notwithstanding any dispute or disputes raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment made by us under this bond shall be valid discharge of our liability for payment to there-under and the contractor(s) shall have no claim against us making such payment.

4. We (Indicate the name of Bank) 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 KMRL under or by virtue of the said agreement have been fully paid and it is claims satisfied or discharged or till Engineer-in-charge on behalf of the KMRL. Certified that he terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) accordingly discharges this guarantee.

5. We..... (Indicate the name of Bank) further agree with the KMRL that he KMRL shall have the fullest liberty without our consent and without affecting any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any of the powers exercisable by the KMRL against the said contractor(s) and to forebear or enforce any of the terms and conditions relating to the said agreement we shall not be relieved from our liability by reasons of any such variation or

extension being granted to the said contractor(s) or for any forbearance act of omission on that part of the KMRL or any indulgence by KMRL to the said contract(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effected or so relieving us.
6. The guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

7. We..... (indicate the name of Bank) lastly undertake not to revoke this guarantee except with the previous consent of the KMRL in writing.

8. This guarantee shall be valid upto unless extended on demand by KMRL.

Not notwithstanding any thing mentioned above our liability against this Guarantee is restricted to RS..... (Rupees.....only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee, all our liabilities under the Guarantee shall stand discharged.

Dated the day of 20....

For
(Indicate the name of Bank)

ANNEXURE 6
TENDER AND BIDDERS CERTIFICATE

I hereby declare that I have perused in detail and examined closely all clauses in the MORTH Specifications before I submit the tender/ bid and I agree to be bound by and comply with all such specifications. I have understood the relevant provisions of the IRC code and agree to adhere to the same. I understand that clause relating to arbitration is not included as a part of the contract and rates agreed to will not be enhanced. I also understand that the defects liability period for the work is 2 years

Name Of Bidder :

Address :

Place:

Date:

ANNEXURE 7 – E PAYMENT FORM

Requisition for e-Payment

Certified that I am having a Savings / Current Account in

Name of Bank

Name of Branch

IFSC Code

Account Number

I wish to receive all payments in this account through NEFT and RTGS systems, as the case may be, for all payments relating to this work.

Name of Bidder

Place:

Date:

ANNEXURE 8

AGREEMENT FORM

Agreement

This agreement, made the _____ day of _____ between
(name and address of Employer) [hereinafter called "the
Employer] and _____
(name and address of the contractor) hereinafter called "the Contractor" of the other
part.

Whereas the Employer is desirous that the Contractor execute
(name and identification number of Contract) (hereinafter called "the Works") and the
Employer has accepted the Bid by the Contractor for the execution and completion of
such Works and the remedying of any defects therein, at the cost of Rs. _____ -

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy and defects therein in conformity in all aspects with the provisions of the contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be ready and constructed as part of this Agreement viz.
 - i) Letter of Acceptance.
 - ii) Notice to proceed with the works;
 - iii) Contractor's Bid
 - iv) Condition of Contract: General and Special.
 - v) Contract Data

- vi) Additional Condition.
- vii) Drawings
- viii) Bill of Quantities and
- ix) Any other documents listed in the Contract Data as forming part of the Contract.

In witnessed whereof the parties there to have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____
was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said _____

in the presence of :

Binding Signature of Employer _____
Binding Signature of Contractor _____

ANNEXURE 9

SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES

(Clause 4.2 (i) OF ITB)

BANK CERTIFICATE

This is to certify that M/s _____ is a reputed company with a good financial standing.

If the contract for the work, namely _____ is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their working capital requirements for executing the above contract during the contract period.

(Signature)

Name of Bank

Senior Bank Manager

Address of the Bank

ANNEXURE 10

UNDERTAKING

I, the undersigned do hereby undertake that our firm M/s _____
_____ would invest a minimum cash upto 25% of the value of the
work during implementation of the Contract.

(Signed by an Authorised Officer of the Firm)

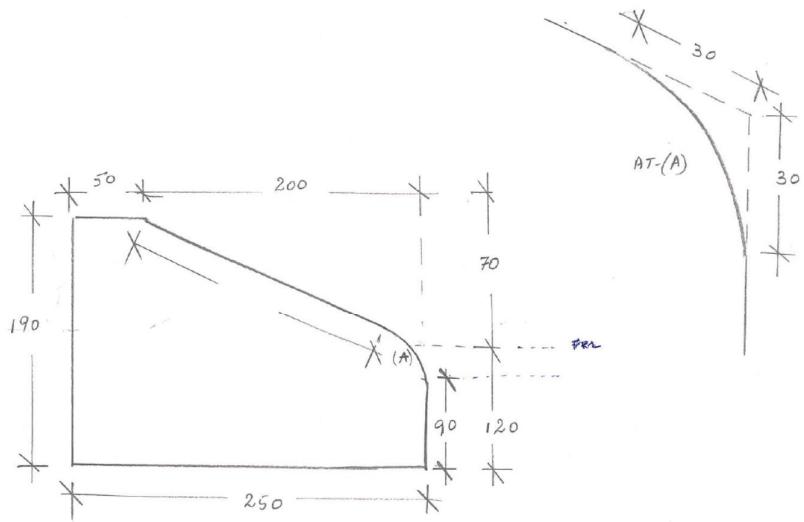
Title of Officer

Name of Firm

DATE

SECTION 7

DRAWINGS



KERB STONE

ALL DIMENSION IN MILLIMETERS

SECTION 8

FINANCIAL BID (PART II) –COVER II

- FORM OF BID
- BILL OF QUANTITIES

FORM OF BID

Construction and Improvements of road at Western side of the Muttom Maintenance Depot for connecting First and Second entries of Depot and Improvement of Ambattukavu - Kunnatheri Road

To

General Manager Civil 1
KMRL Ltd., 8th Floor,
Revenue Tower, Kochi – 682011

1. We offer to execute the Works described above and remedy any defects therein in conformity with the conditions of Contract, specification , drawings, Bill of Quantities and Addenda for the sum(s) of

.....
.....
.....
.....

2. We undertake if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the document.
3. We agree to abide by this Bid for the period of **120** days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
4. Unless and until a formal agreement is prepared and executed this Bid together with your written acceptance thereof, shall constitute a binding contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.
6. We agree that Arbitration shall not be a means of settlement of any disputes or claims arising out of the contract relating to the work.

7.

Dated this.....day of2014.
Signature.....in the capacity ofduly authorized to sign
bids for and on behalf of
(in Block capitals or typed)

Address

.....

Witness

.....

BILL OF QUANTITIES**THE BIDDERS MAY SUBMIT THE BILL OF QUANTITIES SEPERATELY****Preamble**

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Technical Specification and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract include all constructional plant, labour, supervision, materials, erection, maintenance, insurance , profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
4. The rates and prices shall be quoted entirely in Indian Currency. Rates includes all sort of lifts and leads.
5. A rate or price shall be entered against each item in the Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities , and where no Items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
7. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
8. The method of measurement of completed work for payment shall be in accordance with the specification for Road and Bridge Works published by the Ministry of Surface Transport (edition) and Revised Kerala PWD manual.
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to Clause 27 of the Instructions to Bidders.

Note:

1. Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the bill of quantities
2. Unit rates and prices shall be quoted by the bidder in Indian Rupees.
3. Where there is a discrepancy between the rate in figures and words, the rates in words will govern
4. Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall prevail.

BILL OF QUANTITY

Tender Inviting Authority : Kochi Metro Rail Limited					
Name of Work : Construction and Improvements of road at Western side of the Muttom Maintenance Depot for connecting First and Second entries of Depot and Improvement of Ambattukavu - Kunnatheri Road					
Tender Number : KMRL/PRJ/MUTTOM RW/199/2015/TEN 05-15					
Bidders Name :					
Item No	Description of Work	No/Qty	Unit	Rate to be entered by Bidder	Amount
				In Figures	In Words
A	ROAD WORK				
1	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 all as per MoRTH Specification clause 2.3	200	Sqm		
2	Maintenance of Earthen Shoulder (filling with fresh soil) Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment as per morth specification 3003 and as directed by Engineer in charge	900	Sqm		
3	Maintenance of Earth Shoulder (stripping excess soil). Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor as per Morth Specification 3003 and as directed by Engineer in charge	200	Sqm		
4	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, including obtaining quarry permission, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	1226	Cum		
5	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotator at OMC, and compacting	804	Cum		

	with vibratory roller to achieve the desired density, complete as per clause 401 and as directed by the Engineer in charge				
6	Providing ,laying , spreading and compacting graded stone aggregate to wet mix macadam , specification as per MORTH specification clause 406in all respects including premixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site , laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density and as directed by the Engineer in charge	777	Cum		
7	Providing and applying primer coat with bitumen emulsion as per MORTH specification clause No.502in all respects on prepared surface of granular base including clearing of road surface and spraying primer at the rate of .60kg/sqm. Using mechanical means as directed by the Engineer in charge	5335	Sqm		
8	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of .20 kg per sqm on the prepared bituminous/ granular surface cleaned with mechanical broom.clause 503 as directed by the Engineer	20679	Sqm		
9	Providing, laying and rolling of built-up-spray grout layer over prepared base consisting of a two layer composite construction of compacted crushed coarse aggregates using motor grader for aggregates. key stone chips spreader may be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a Base conforming to the line, grades and cross-section specified, the compacted layer thickness as per MORTH specification 506 and as directed by the Engineer in Charge	38	Cum		
10	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification	690	Cum		

	clause No. 507 complete in all respects as directed by the Engineer in charge				
11	Bituminous Concrete-Providing and laying bituminous concrete as per MORTH specification clause No. 509 complete in all respects with 100 - 120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregate of specified grading as per physical requirements of table 500-17 of MORTH ,Composition as per Table 500.18, premixed with bitumen binder per mix design, & approved job mix formulae as per clause 509.3 of MORTH , transported the hot mix to work site , laying with paver finisher with screen control to the required grade , level and alignment , rolling as per clause 501.6 and 501.7 to achieve the desired composition. (The intermediate rolling shall be done with pneumatic roller of 12 to 15 tonnes weight having nine wheel with a tyre pressure of at least 5.6 kg / cm ²	306	Cum		
B	OTHER WORKS				
1	Providing PCC 1:4:8 for foundation with crushed stone aggregate 40mm nominal size using cement 170 kg per cum mechanically mixed, placed and compacted by vibration including curing, formwork etc. as directed by the Engineer in Charge	6	Cum		
2	Providing and laying in position cement concrete of 1:3:6 with crushed stone aggregate 20mm nominal size including the cost of centering and shuttering - All work up to plinth level for drain wall raising/rectification, manhole raising and any other rectification as instructed by the Engineer in charge	53	Cum		
4	Providing and laying at or near ground level kerb stone M-25 grade cement in position to the required line, level and curvature joined with cement mortar 1:3 including making joints with or without grooves (thickness of joints expect at the sharp curve shall not be more than 5mm) including making drainage opening wherever required complete etc. as per the direction of Engineer In Charge	89	Cum		
5	Providing & fixing factory made Guard stone of size 200x200x900 mm of M-25 grade cement by fixing perpendicularly and in line & level, 600mm and 300mm above and below the ground level respectively.Rate including excavation, bottom PCC of thickness 100mm, Reinforcement etc. all	400	Nos.		

	complete as per direction of Engineer in Charge					
6	Providing and laying non-pressure NP4 class (heavy duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete:	36	Rm			
7	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 meters lead.	42	Sqm			
8	Painting two coats after filling the surface with synthetic enamel paint in all shades on concrete surfaces of electric post, handrails of culverts, parpet, guard stone etc as directed by the engineer	70	Sqm			
9	Providing and applying two coats of ready mix paint of approved brand on steel surface after thorough cleaning of surface and applying primer coat to give an even shade etc. as directed by the Engineer in charge	20	Sqm			
10	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC :35 . The finished surface to be level, uniform and free from streaks and holes.	648	Sqm			
11	Engaging Man coolies for assisting skilled mazdoors or scavengers for providing earthen drain, leading channels, etc. as directed by Engineer in charge	120	Man days			
12	Engaging Skilled Mazdoors providing earthen drain, leading channels etc. as directed by Engineer in charge	60	Man days			
13	Engaging Scavengers for drainage cleaning, etc as directed by the Engineer in charge	75	Man days			
	TOTAL AMOUNT IN FIGURES					
	TOTOL AMOUNT IN WORDS					