

MAHARASHTRA FILM, STAGE & CULTURAL DEVELOPMENT CORPORATION LTD
(MFSCDCL)



TENDER DOCUMENT

Name of work

Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb
Phalke Chitra Nagari at Goregaon Filmcity Goregaon East Mumbai 400065.

Amount of Tender : **16,64,06,151/-**

Earnest Money Deposit : **Rs. 8, 32,031/-**

Engineer in Charge: Deputy Engineer (Civil)

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

Name of Work: Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Chitra-Nagari at Goregaon Filmcity Goregaon East Mumbai.

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E-TENDER NOTICENO.10/2023-24/INTERNAL NIT NO.
DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) BRIEF
TENDER NOTICE (BTN)

On line Tenders (e-tender) in B-1 form for the following work are invited by
Dadasaheb Phalke Chitranagari Goregaon East Mumbai

The Details can be viewed and downloaded on line directly from the Mahatenders portal from
20-12-2023 at 10.00 Hours onwards

Sr. No	Name of work	Estimated cost in (Rs)	Time limit for completion (Months)	Earnest Money in (Rs)	Cost of Blank tender form (Rs)
1	2	3	4	5	6
1	Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Chitra-Nagari	16,64,06,151/-	04 (Four) Calendar Months including Monsoon.	8,32,031/- (To be paid online)	11800/- (To be Paid online)

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

NOTE:

1. Details of tender documents will be available on website [WWW.filmcitymumbai.org](http://www.filmcitymumbai.org). <http://mahatenders.gov.in>
2. Contractors are mandated to get enrolled on <http://mahatenders.gov.in>
3. For details contact – Toll Free No.1800 3070 2232,
Mobile No.+917878107985/86 +917878007972/73, Email
eproc.maharashtra@gmail.com, cpppsupot@nic.in
4. Right is reserved to reject any or all tenders without assigning any reason thereof.
5. We are not responsible for any problem coup up during online-tender process.

Deputy Engineer (Civil),

**DADASAHEB PHALKE CHITRANAGARI (MFSCDCL)
DETAILED TENDER NOTICE (DTN)**

1. TENDER SCHEDULE

Online percentage rate tenders in 'B-1' Form are invited by the **Deputy Engineer (Civil), Dadasaheb Phalke Chitranagari, Goregaon East Mumbai** for the following work from **Contractors who meet the eligibly criteria** mentioned in Tender. The Name of Work, Estimated Cost, Earnest Money, Security Deposit, Time limit for completion etc. are as under. The bidder is advised to carefully examine all instructions in this NIT including addendum/ amendments to NIT, conditions of contract, contract data, forms, terms, technical specifications, bill of quantities etc. in the bid Document.

The Name of Work, Estimated Cost, Earnest Money, Security Deposit, Time limit for completion etc. are as under

Name of work	Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Phalke Chitranagari
Estimated Cost Put to Tender	Rs. 16,64,06151/-
Earnest Money Deposit (EMD)	Rs. 8,32,031/- -(to be paid online as prescribed)
Security Deposit	Rs.16,64,062/-
Cost of Tender form	Rs.11,800/--(to be paid online as prescribed)
Period for Downloading Tender forms	Refer Online schedule on portal http://mahatenders.gov.in or sub portal of Dadasaheb Phalke Chitranagari(MFSCDCL) 20-12-2023 at 10:00 Am to 01-01-2024 At 5:30 PM
Last date and time for submitting pre-bid queries online	Refer Online schedule on portal http://mahatenders.gov.in or sub portal of Dadasaheb Phalke Chitranagari(MFSCDCL) 20-12-2023 at 10:00 Am to 27-12-2023 At 3:00 PM
Place, time and date of opening Technical Bid.	On Dated 03-01-2024 At 3:00 PM in the office of the MFSCDCL Goregaon East Mumbai
Place, time & date of opening of Financial Bid.	On Dated 05-01-2024 At 3:00 PM (if possible) in the office of the MFSCDCL Goregaon East Mumbai

Note -Above Schedule is subjective & to be verified by the Tenderer himself on web site. Tender Schedule Flashed on Website (System Generate Schedule) is final & binding to all Tenderers.

2. Guidelines to Bidders on the operations of Electronic Tendering Management System [ETMS] of Dadasaheb Phalke Chitranagari (MFSCDCL), <https://mahatenders.gov.in>

1. Tender Forms can be downloaded from the e-Tendering portal of Dadasaheb Phalke Chitranagari (MFSCDCL), Government of Maharashtra i.e. <https://mahatenders.gov.in> Document Tender Fee and EMD to be paid Via SBI MOPS Online Payment Gateway Mode Only. And upload successful payment receipt in **ENVELOPE NO.1 TECHNICAL BID** Documents.
2. The tender submitted by the tenderer shall be based on the clarification, additional facility offered (if any) by the Department, and this tender shall be unconditional. Conditional tenders will be summarily REJECTED.
3. All tenderers are cautioned that tenders containing any deviation from the contractual terms and conditions, specifications or other requirements and conditional tenders will be treated as non-responsive. The contractor should clearly mention in forwarding letter that his offer (in Envelope No.1 & 2) does not contain any condition, deviations from terms and conditions stipulated in the tender.
4. Tenderers should have valid Class II / III Digital Signature Certificate (DSC) obtained from any Certifying Authorities.
5. For any assistance on the use of Electronic Tendering System, the Users may call the below.
6. Toll Free Ph. No. 1800 3070 2232 E-Mail: eproc.support@maharashtra.gov.in, cphp-support@nic.in
7. Special Instructions to the Contractors / Bidders for the e-submission of the bids online through this tender site: <https://mahatenders.gov.in> Bidder must register themselves on <https://mahatenders.gov.in> portal by clicking “Online Bidder Enrollment” and then map Digital Signature certificate.
8. Bidder then login to the site giving User id / Password chosen during registration. The DSC e-token that is registered should be used by the bidder and should not be misused by others.
9. The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under My Documents option and these can be selected as per tender requirements and then attached along with bid documents during bid submission.
10. After downloading / getting the tender schedules, the Bidder should go through them carefully and then submit the documents as asked, otherwise, the bid will be rejected.
11. If there are any clarifications, this may be obtained online through the tender site, or

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through the contact details. Bidder should take into account of the corrigendum published before submitting the bids online.

12. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender schedule and they should be in PDF/XLS/RAR formats. If there is more than one document, they can be clubbed together.
13. Document Tender Fee and EMD to be paid via SBI MOPS Online Payment Gateway Mode only and upload successful payment receipt in **ENVELOPE No 1 TECHNICAL BID along with other Qualification Documents as per Qualification Criteria mentioned in the tender.**
14. Subletting of work can also be permissible as per the latest available PWD of Maharashtra guidelines/ as per the requirements of MFSCDCL.
15. The bidder reads the terms & conditions and accepts the same to proceed further to submit the bids.
16. The bidder has to submit the tender document online well in advance before the prescribed time to avoid any delay or problem during the submission process.
17. After the bid submission, the acknowledgement number, given by the e- tendering system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender.
18. Document Tender Fee, EMD to be paid via SBI MOPS Online Payment Gateway Mode only and upload successful payment receipt in **Envelope No.1 (Technical Bid)** along with Pre-qualification Technical Bid Documents. Whereas BOQ in.xls format file to Uploaded in **Envelope No.2 (Financial Bid).**
19. The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay, or the difficulties faced during the submission of bids online by the bidders.
20. The bidder may submit the bid documents by online mode through the site (<https://mahatenders.gov.in>) as indicated in the tender.
21. The tendering system will give a successful bid updating message after uploading all the bid documents submitted & then a bid summary will be shown with the bid no, date & time of submission of the bid with all other relevant details. The documents submitted by the bidders will be digitally signed using the DSC e-token of the bidder and then submitted. The bid summary has to be printed and kept as an acknowledgement as a token of the submission of the bid. The bid summary will act as a proof of bid submission for a tender floated and will also act as an entry point to participate in the bid opening date.

22. Bidder should log into the site well in advance for bid submission so that he submits the bid in time i.e., on or before the bid submission end time. If there is any delay, due to other issues, bidder only is responsible.
23. The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected.
24. The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.
25. All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission & not be viewable by any one until the time of bid opening. Overall, the submitted tender documents become readable only after the tender opening by the authorized individual.
26. The confidentiality of the bids is maintained since the secured Socket Layer 128-bit encryption technology is used. Data storage encryption of sensitive fields is done.
27. The bidders are requested to submit the bids through online eTendering System to the TIA well before the bid submission end date & time (as per Server System Clock).
28. The bidder should logout of the tendering system using the normal logout option available at the top right-hand corner and not by selecting the (X) option in the browser.
29. The bidder should upload the Technical Bid in .rar format single file to upload in technical cover and then BOQ in .xls format single file to Uploaded in ENVELOPE NO.2 FINANCIAL BID Documents.
30. The User acknowledges and agrees that his/ her information will be managed in accordance with the laws for the time in force.
31. **Payment Gateway Disclaimer the Service** is provided in order to facilitate payment of Tender Fees/Earnest Money / Bid Security Deposit online. The Merchant or the Payment Gateway Service Provider(s) do not make any representation of any kind, express or implied, as to the operation of the Payment Gateway other than what is specified in the Website for this purpose. By accepting/ agreeing to these Terms and Conditions, the User expressly agrees that his/ her use of the aforesaid online payment service is entirely at own risk and responsibility of the User.

3. EXAMINATIONS OF DRAWINGS AND SITE CONDITIONS:

- 3.1** The tenderer shall in his own interest carefully examine the available drawings, conditions of contract specifications etc.
- 3.2** He shall also inspect the site and acquaint himself about the climate, physical and all other conditions prevailing at site, the nature, magnitude, special features, practicability of the works, all existing and required means of communications and accesses to site, availability of housing and other facilities, the availability of labor, materials, Power & Water, space for labor's camp, plant, stores and Go down etc.
- 3.3** He shall obtain all necessary information as to the risk, contingencies, and other circumstances, which may affect and influence the tender.
- 3.4** Should there be any discrepancy or doubt or obscurity as to meaning of any of the tender document or as to the instructions to be observed by him, he shall set forth in writing such discrepancies, doubts obscurity and submit the same to the **Deputy Engineer (Civil),Dadasaheb Phalke Chitranagari, Goregaon East** for elucidation as soon as possible.
- 3.5** No claims on any of the above or any other factors will be entertained by the Government.

4. PRE – TENDER CONFERENCE: -

- 4.1** The online Pre- Tender conference will be open to all prospective tenderers, who have downloaded tenders from, can ask for any clarification regarding tender conditions, and seek additional information by submitting Pre-Tender queries before the date mentioned in the Tender Schedule by “Post Queries” option available on e-tendering system portal. Reply of these queries will be given by the Department through the same “Post Queries” option.
- 4.2** This reply / clarification / Amendment given by the department refer to as common set of condition / Deviations (CSD) will form part of Tender. Which will be common and applicable to all tenderers.
- 4.3** **This CSD will be available on the e tendering portal as corrigendum to the tender documents.**
- 4.4** The tender submitted by the tenderer shall be based on the clarification, additional facility issued (if any) by the Department, and this tender shall be unconditional. Conditional tender will be summarily **REJECTED**.

- 4.5 Point / Points if any throw online by the contractor in online queries and not finding place in CSD issued after they are deemed rejected. In such case the provision in NIT shall prevail. No individual correspondence will be made thereafter with the contractor in this regard.
- 4.6 All Intending Tenderers are cautioned that the tenders containing any deviation from the contractual terms and condition, specifications or other requirements, and conditional tenders will be treated as non-responsive.
- 4.7 If CSD is not issued uploaded by the Department then it shall be deemed that there is no any Amendment to NIT.
- 4.8 In case of any clarification and queries contractors are requested to place their queries on the mahatender portal within the allocated time line. Same shall be answered by MFSCDCL as per the tender schedule. Any clarification or query of whatsoever nature after pre bid queries will not be entertained and decision of Consultant/MFSCDCL shall be unconditionally binding on all.

5. EARNEST MONEY DEPOSIT (EMD):-

- 5.1 Earnest Money Deposit (EMD.) which should be paid online using NEFT/RTGS or payment gateway mode only as prescribed elsewhere in the Tender Document. Earnest Money in any other form or cash or cheques will not be accepted.
- 5.2 **The EMD Exemption Certificate is not allowed.**
- 5.3 Required amount of EMD must be paid through the Bank Account of Tendering Firm only.
Screenshot of EMD transaction showing Name & Account Number shall be uploaded in Envelop No. 1
- 5.4 Any tender not accompanied by the EMD shall be rejected as non- responsive.
- 5.5 The amount of EMD will be forfeited, in case a successful contractor does not pay the amount of initial security deposit within the time specified as stipulated by the Deputy Engineer (Civil) and complete the contract documents. In all other cases, EMD will be refunded to account provided by the bidder during the bid preparation.

6. CONDITION FOR PAYMENT OF ADDITIONAL PERFORMANCE SECURITY DEPOSIT IF THE OFFER IS RECEIVED LOWER MORE THAN 1% BELOW

In Case lowest successful bidder's offer found more than 1.00% below the estimated cost put to tenderer, in that case, the tender shall have to pay Additional Performance Security deposit drawn in favor of the **Maharashtra Film Stage and Cultural Development Corporation**

Limited in the form of Demand Draft only) within 8 (eight) days [in no case limit of 8 days will be increased] from the date of opening of Financial Bid i.e. Envelope No 2 as specified below.

- 6.1** There is no need to pay Additional Performance Security deposit, if Tenderer's offer is up to 1% (one percent) below the estimated cost put to tender.
- 6.2** If Tenderer's offer is up to 10% below the estimated cost put to tender, then the **Additional Performance Security deposit** shall be 1% of the estimated cost put to tender.
- 6.3** If Tenderer's is upto 15 percent below the estimated cost put to tender, Tenderer shall submit 1% plus the percentage by which tender offer is more than 10% below of amount put to tender. (e.g., if tenderer offered 14% below, he has to submit $(14\% - 10\%) + 1\%$ i.e. total 5% of estimated cost put to tender) or minimum Rs. 1000/- whichever is higher.
- 6.4** If Tenderer's offer is more than 15 percent below the estimated cost, put to tenderer shall have to submit Additional Performance Security Deposit as specified below

1	for offer up to 10% below the estimated cost put to tender	1%
2	for offer up to 15% below the estimated cost put to tender (15% - 10% = 5%)	5%
3	more than 15% below tenderer have to submit (e.g. if tenderer offered 19% below tenderer have to submit $(19 - 15\% = 4\% \times 2 = 8\%)$)	8%
	Total (1%+5%+08%)	14%

- 6.5** If the calculated amount of additional Performance Security deposit is less than Rs.1000/- then the performance security deposit shall be Rs.1000/- minimum of the estimated cost, put to tender.
- 6.6** Amount of Additional Performance Security Should be rounded up to two decimals only.
- 6.7** All above Demand Draft shall be of either of Government Bank or of Scheduled Bank drawn in favor of Maharashtra Film Stage & Cultural Development Corporation Limited only. In respect of Demand Draft, it's duly mentioning the MICR and IFSC code of said bank shall be mentioned specifically on the said Demand Draft.
- 6.8** Successful Tenderer's Additional Performance Security will be refunded immediately upon the Certificate of satisfactorily completion of works issued by Deputy Engineer (Civil). In all other cases additional Performance Security shall be forfeited to Government.
- 6.9** In case of lowest successful bidder whose offer found more than 1% below fails or neglects to deposit the Additional Performance Security within 8 (eight) specified days, then his

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EMD shall be forfeited to Government and 2nd lowest tenderer will become lowest and will be negotiated for award of work.

6.10 The said amount of Additional Performance Security shall not carry any interest whatsoever.

7. Manner of Submission :

7.1 Uploading of Formats, Templates and Tender Documents:-

- (a) The Intending Tenderer shall prepare the Bids in the Templates provided online as part of tender. The Templates shall be either Documents based (in which the Intending Tenderer is required to attach the relevant documents separately) or Forms Based (in which the Intending Tenderer is required to fill in the information in given Formats).
- (b) The required Documents (single document or a compressed file containing multiple documents having size of each document not more than 5 MB) available in Brief Case shall be attached against each up loadable option in the Document Based Templates.
- (c) The Information being filled in the Form Based Templates shall be encrypted using a valid class II / III DSC.
- (d) The Following Formats/ Templates/Documents shall be uploaded in **Envelope No.1 (Technical Bid)** on the sub- Portal <http://mahatender.gov.in>

1. QUALIFICATION CRITERIA:-

To qualify for award of the contract each tenderer in his name should have in the last Five Years i.e. from FY 2018-19 to FY 2022-23 as specified.

Sr. No.	Description	Qualification Criteria As Per PWD Norms	Qualification Criteria As Per this Tender/NIT
A	Maximum Annual turnover (ATC) of the bidder in the last 5 years (from FY 2018-19 to FY 2022-23 as specified)	Minimum 75 percent of the cost per annum for the work under consideration. Annual cost = (Total Cost of Work/ Period of execution in years)	Annual cost = $166406151/(4/12)$ Annual cost =49.92 Crore Minimum 75 percent of the cost per annum =49.92 x 0.75= 37.44 Crores INR
B	Minimum one work shall be done of similar nature in the last 5 years having minimum cost of	As per the cost of work (at prevalent rate) 1. Work costing Rs. 1 Cr to Rs. 10Cr - 30 Percent 2. Work costing more, then 10 Cr - 60 Percent or Rs. 6 Crores, whichever is more.	Rs.9.98 Crores INR
	Minimum Two work shall be done of similar nature in the	As per the cost of work (at prevalent rate) Two similar works of value not less than (50% of Tender Cost)	Rs.8.32 Crore INR

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	last 5 years having minimum cost of		
	Minimum Three work shall be done of similar nature in the last 5 years having minimum cost of	As per the cost of work (at prevalent rate) Three similar works of value not less than (40% of Tender Cost)	Rs.6.65 Crore INR
C	Apart From Similar Nature work Quantity in any one year in last 5 Years, the minimum quantity of the important items and the quantity executed (From similar nature work orders/some other work orders preferably from government Projects)	30 percent of the quantity of important items of the work under consideration.	Dense Bituminous Macadam (DBM/BM =3079.2 Sqm & Cement concrete (M-30 and above) (Roads/Drains/ Cross Drainage works) =805.5 Cum OR Cement concrete (M-30 and above)-Roads/Drains/Cross Drainage works=805.5 Cum & (OGPS (Potholes)= 1250 Cum or OGPC=12173 Sqm or Any other Equivalent Item) DBM=Dense Bituminous Macadam BM= Bituminous Macadam OGPS=Open Graded Premix Seal Surfacing OGPC=Open Graded Premix Carpet
D	Bid Capacity of the bidder (BC)	$(A*N*2)-B$ Where, A = minimum turn over in the last 5 year (at prevalent rate) N = period of completion of work in years B = Cost of works in hand (during the period of work under consideration.	Bidder who meets the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value of 16.64 Crore INR
E	*Similar Works/Nature mean, 'Repair/Restoration/Maintenance/Up gradation/Strengthening of Flexible Pavement'. It is mandatory that, the bidder has completed the specific nature of work equivalent to the work under confederation. If such work is a sublet from the other contractor to the bidder of the concern work, written permission document from the concerned Executive Engineer to this effect shall be submitted.		
F	An escalation of 10 percent per annum shall be considered while calculating turnover and The cost of the work at prevalent rate.		
G1	Scanned Copy of the Turnover certificate for last five years signed by Chartered Accountant having valid UID No. along with copy TDS certificate (in case of Private/Semi government works having 50% weightage) and ITR copies with CA signed) Balance sheet/Profit Loss statements.		
G2	Copy of CA Signed Bid capacity certificate with valid UDIN NO.		
G3	Scanned Copy of Completion certificate, Work order mentioning Important /Qualification Quantities with TDS copy (In case Private/Semi Government Works 50% weightage) confirming successful completion of Similar work criteria as per the tender.		

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G4	Scanned Copy of Appointment Letter/CV/Employment Certificate/Payment Slips/PF/ESIC Challans/Deposit Receipts/Form 16 or any other legal document showing the authentic Employment records covering Experience, Nature of job/Designation of employees/technical staff confirming Technical Staff requirements of the tender Related to Road works (Project Manager BE Civil Minimum 5 Year experience with other Three Technical Staffs BE Civil with average three years' experience to be stationed at site after allotment of work order
G5	Scanned Copy of Online Tender fee and EMD Payment receipts showing the name & account number of Tendering Firm.
G6	Scanned copy of Signed Annexure 5 or geo-tagging certificate with bidder sign and stamp
G7	Scanned Copy of AFFIDAVIT regarding correctness of uploaded Documents as per tender. (The Original Copy of the Bond of the above affidavit should be submitted before award of work to Concerned Division Office)
G8	Scanned copy of Signed Documents supporting Statement 2 to 5 as per tender
G9	Scanned copy of Registration Certificate of GST registration Certificate from concerned authority under GST Act 2017.
G10	Scanned copy Partnership Deed or Power of Attorney or valid NSIC or Udyam and Power of attorney documents, in case of a firm tendering for work.
G11	* Joint Venture can be allowed to the extent of 51% - 49%.
G12	Signed Copy of all the Tender documents along with all Prebid queries/Clarifications/Addendum if any
G13	Scanned Copy of Any other Document /Declarations/Certificates which is not enlisted below as per tender
G14	Scanned copy of the list of owned/Hired machinery and Plants immediately available with the tenderer for use on this work and the list of machinery proposed to be utilized on this work, but not immediately available and the Way it is proposed to be procured. (In Statement No. 2 and 2(A) respectively.)
G15	Scanned copy of Valid Professional Tax Registration Certificate in the Form of PTR and PTE under Section (I) of Section 5 of Maharashtra State Tax in Profession, Trade calling and Employment Act, 1975 Rule 3(2) for Employees including technical personnel from the Professional Tax Office of the concerned district of Maharashtra
G16	Scanned copy of list of details of technical personnel on the rolls of the tenderers. (In the Statement No. IV)
G17	Scanned Copy of Integrity Pact executed on plain paper in the given format only duly signed by Authorized signatory (The Original Copy of the Integrity Pact shall be submitted before award of work to Concerned Division Office)
G18	Joint Venture / MOU bid acceptable (Scanned copy of notarized or registered with the registrar of company's register office for Joint venture agreement) If the tender is to be submitted through a joint venture, the joint venture submitted should be notarized and if tender is the lowest bidder in the submission of the tender, you are required to register with the Register of the company office for the said work contract.

Note: All Bidders are requested to upload the scanned copy of the above Documents in Online Envelope 1 (Technical Envelope) on Mahatenders portal without any errors and shortfalls. Any shortfall or omission or error in uploading the same summarily rejected the bid unconditionally and no communication/correspondence or grievances shall be entertained as it is the one time opportunity to participate in the same.

2) You may please refer sample statement I to VI of the tender for production of various certificates insisted in this tender document.

3) All scanned documents uploaded in the technical envelope shall be clear and visible to read and evaluate. If documents are not clear/visible no evaluation will be done and bid will be summarily rejected.

4) Uploading of documents in the briefcase does not mean that the documents are available to MFSCDCL at the time of Tender Opening stage unless the documents are specifically attached to the bid during the online Bid Preparation and Hash Submission stage as well as during decryption and Re-encryption stage.

- 5) Even though the bidder meets the above, qualifying criteria, they are subject to be disqualified if they have made Misleading or False **representation** in the form, statements, and attachments submitted in proof of the qualification requirements and/or Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history of financial failure etc.
- 6) Contractors need to unconditionally undertake mandatorily to supply/install/execute such items which are not there in the BOQ or missed out by an error however these are really required for successful execution of the task/activities assigned as per this tender and no additional claim of whatsoever nature providing such items shall be entertained from MFSCDCL
- 7) Defect Liability Period for the proposed work after successful handing over the work/Project to the MFSCDCL shall be minimum 5 Years.

- (a) Each Contractor should further demonstrate the availability of the following key and critical equipment should be **Owned or hired, as specified** by the contractor and be actually in his possession and available exclusively for this work at the time of submission of tender

(Information is to be uploaded Statement No 2 A)

1.	Batch Mix Plant with SCADA / Drum Mix type hot mix plant with	1 No.
2.	Paver Finisher with SCADA (Sensor Paver)	1 No.
3.	Vibratory Roller	3No
4.	Truck/Tipper	4 No.
5.	Motor Grader	3 No
6.	Excavator	3 No.
7.	Water Tanker	3 No.

- (b) It is mandatory for bidder/tenderer to survey the proposed Work site & take geo-tag photos of the site and same photos should be uploaded along with Tenderer Signed Annexure 5 Geo-tagging Certificate.

Note: - The downloaded Tender Document along with detailed set of conditions issued / additional stipulations (C.S.D.) (if issued) shall be signed by the Intending Tenderer (In the event of Tender being submitted by Firm, it must be signed by the Nominated partner or person holding power of attorney to sign the bid) submit the same to MFSCDCL, Office before award of work. Along-with original copy only uploaded Integrity Pact form with bidders' Sign & company seal document shall be considered. AFFIDAVIT in format ANNEXURE A and original copy of **Integrity Pact which is to be uploaded in Envelope No.1 (Technical Envelope)**

2. Envelope No. 2 Tender (Financial Bid)

- (1) The Intending Tenderer must quote his offer in form of percentage of Estimated Rates only at the appropriate place provided online.
- (2) After Opening of the financial bid, if MFSCDCL or its Architectural consultant/PMC noticed the unjustified/untrusted/non-professional reason of lowering the financial price than the amount put to the tender. The financial bid of such participant is liable to be rejected by the MFSCDCL or its consultant and no claim of whatsoever nature from such participant shall be entertained and same is unconditionally accepted by all the contractors participating in the tender process.

8. ONLINE Submission:-

- 8.1** Submission of online Tender Documents {uploading of Formats & Templates} (in Envelope no.1) shall be followed by Digitally signed Bid Hashes (Seals) within the Tender Time Schedule (Key Dates)
- 8.2** Then the Intending Tenderer is required to enter the date and encrypt the data using the DSC.
- 8.3** The Hashes are the Thumbprint of electronic Data and are based on one – way algorithm. The Hashes establish the unique identity of Bid Data.
- 8.4** The Bid hash values are digitally signed using valid Class – II or Class – III DSC issued any Certifying Authority.
- 8.5** After the hash value of bid data is generated, the intending Tenderer cannot make any change / additions in his bid data.

Note-

- (a) As the tenders are being processed on the Electronic Tender Management System on Government of Maharashtra, all the provisions of Indian Information Technology Act - 2000 (re-enacted) is applicable & binding to all Intending Tenderer, so it is presumed that the contractor gone carefully through the whole tender document Before using his **DSC for quoting Offer.**
- (b) The Contractor uploads a single document or a compressed file containing documents against each upload able option.
- (c) The Step-by-step procedure as per system requirement must be followed.

9. Deadline for Submission of Tender:-

The Engineer-in-Charge (Deputy Engineer-Civil) may at his discretion extend the deadline for submission of tender by issuing an addendum in which case, all rights and obligations of the Government and Tenderers previously subjected to the original deadline shall therefore be subjected to new deadline as extended.

10. Submission of Hard Copy of online submitted copy.

Hard Copy of the online submitted Tender & Documents in one copy should be compulsorily submitted within 72 (Seventy-Two) hours after Bid Lock in following manner.

- 10.1** Documents submitted online in Envelope No. 1 & 2 are put in separate Envelope as Envelop No. 1 (Technical Bid) and Envelope No. 2 (Financial Bid) respectively and sealed properly.
- 10.2** The above two sealed Envelopes No.1 and 2 shall be again put together in one common

cover and sealed. The name of work, online tender Notice Number and Name and full address of Tenderer with Mobile Number shall be mentioned on the said common cover marked sealed Common Cover Properly covers corner.

10.3 The above Common Cover containing Envelope No. 1 & 2 must be submitted to the following Office within the time and date specified in Tender Schedule Flashed on Web-Site portal on working days (**during office hours**) only.

(1) Deputy Engineer (Civil), Dadasaheb Phalke Chitranagari, Goregaon East

10.4 No delay on account of any cause will be entertained for the receipt of said Hard Copy...

Note: - In Case of inability to Proceed with the E-Tender due to technical disruption, /Problems, Physical documents should be considered as valid tender. But in any circumstances, the submitted physical documents should not be opened without the prior information of date and time to the concerned.

11. Close for bidding (Generation of Super Hash Values) : After the expiry of the cut off time of Bid Preparation and Hash Submission stage to be completed by the Intending Tenderer has lapsed, the Tender will be closed by the Tender Authority. The Step-by-step procedure as per system requirement must be followed. The Tender Authority from MFSCDCL shall generate and digitally signed the Super Hash values (Seals).

12. Decryption and Re-encryption of Bids (Submitting the Bids online):- The Intending Tenderers are expected to get themselves fully conversant with the GoM E-Tender System and latest changes therein. However brief details about E- Tender System, its requirements, necessary procedure regarding purchase of Tender Forms, downloading of Tender Forms, Submission of Tender Documents, quoting offer etc, has been mentioned below.

12.1 After the time for generation of Super Hash values by the Tender Authority from MFSCDCL has lapsed, and after making online payment towards Fees of Service Provider, the Contractors are required to decrypt their bid data using their DSC and immediately re-encrypt their bid data using the Public Key of the Tendering Authority. The Public Key of the Tendering Authority is attached to the Tender during the Close for bidding stage.

12.2 At this time, the Intending Tenderer are also required to upload the files for which they generated the Hash Vales during the Bid Preparation and Hash Submission stage.

12.3 The Bid Data and Documents of only those Intending Tenderer who have submitted their Bid Hashes (Seals) within the stipulated time (as per the Tender Schedule), will be available for decryption and re-encryption and to upload the relevant documents from

Briefcase.

12.4 A Intending Tenderer who has not submitted his Bid Preparation and Hash Submission stage within the stipulated time will not be allowed to decrypt/ re encrypt the Bid Data / submit documents during the stage of Decryption and Re encryption of Bids (submitting the Bids Online)

12.5 The Step-by-step procedure as per system requirement must be followed.

13. Receipt of Tender After Deadline: The Tenderer will have to carry out their respective tasks within the deadline defined in the Tender Schedule.

14. Department will not be responsible, for non-Enrolment and non-Empanelment of ETMS, non-submitting / uploading tender online due to failure of internet services, or power supply or online submission of Tender Fees of EMD or any other unforeseen or foreseen reasons/causes what-so-ever. No claims on any of the above or any other factors in the regards will not be entertained.

15. Opening of Technical Bid (Envelope No. 1):

15.1 Tenders will be opened as per the Tender Schedule, (if possible) in the presence of such intending Tenderers or his/ their authorized representatives who may be present at that time.

15.2 Tenders will be opened **as per the Tender Schedule,**

- a) All tenders are to be received on-line so Tender Opening Authority not able to know who have submitted tender. Therefore, it is not possible to communicate the date and time of Tender opening to Tenderer. Hence it is responsibility of Tenderer remain keep in touch with concerned office to know the date and time of Tender Opening to present for Tender Opening. Therefore, all Tender Opening Procedure will be done in the presence of such tenderer who may wish to be present or their representatives. No claim or any grievances will be entertained what-so-ever by the Tender Opening Authority in this regard.
- b) The Tendering Authority will first open the Envelope – I documents of all Intending Tenderer and after scrutinizing these documents will shortlist the Intending Tenderer who are eligible for Financial Bidding Process. The Short-listed Tenderers will be intimated by e-mail.
- c) The Contents in Envelope No. 1 will be verified by the Tender opening authority to check their validity as per requirements. If any particular document of any tender is either missing or does not meet the requirements as specified above, then a above to that effect will be recorded by the tender opening authority at the time of short listing of Envelope-

16. Opening of Financial Bid (Envelope No. 2)

- 16.1** The Envelope No. 2 of the tenderer whose Envelope No. 1 does not contain the specified documents or any of the specified document is missing or do not satisfy the requirements, such tenders will be rejected. The Envelope No. 2 of such tender shall not be opened and a note to that effect will be made online at the time of short listing of Envelope -1
- 16.2** After the analysis and scrutiny of documents and evaluation with respect to Departmental Requirement is over, the tender opening authority shall intimate the date and time of opening of Envelope No. 2 to the Eligible Tenderers. The Envelope No. 1 shall be opened as per tender schedule.
- 16.3** The Envelope No. 2 of Eligible Tenderers shall be opened serially. The percentage above or below over the estimated cost put to tender by the Department quoted by each Eligible Tenderers shall then be read out by tender opening authority and shall be reflected online for information of those present / participated.
- 16.4** In the case of difference between the rates written in figures and in words, the correct rate will be the one, which is lower of the two.

17. Tender Liable for Rejection:

Tender is liable for outright rejection if on opening it is found that–

- (a) If Tenderer has not strictly followed the procedure laid down for submission of tender.
 - (b) If the tender is CONDITIONAL
 - (c) If the Tenderer has quoted his offer anywhere else other than specified place provided.
 - (d) The Tenderer has not uploaded the documents or failed to fill the templates as stated.
 - (e) Any Corrections, modifications, additions, omission, or any type of changes in main tender document is not permissible and if it is found or noticed at any stage the tender shall be rejected by forfeiting the Security Deposit.
- 17.1** Contractor will be solely responsible and liable for action under Indian Penal Code for submission of any false information, false bills/ invoice / vouchers of purchase of material in supporting proof of purchase, proof of testing / test results and any other required documents submitted by his staff /representative or by himself or subletting company / contractor during contract period or even after completion of work till finalization of bill and completion of defect liability period.
- 17.2** If false information / documents are submitted as mentioned above, the contractor will be blacklisted and if contract is at initial stage, then such contract will be terminated, and no

compensation will be payable on any account to the contractor.

17.3 MFSCDCL Officials / MFSCDCL Officers / Divisional Accounts Officer will not be responsible for any complications due to submission of false / fraudulent documents by the contractor as mentioned above.

18. The Contractor will have to sign the tender papers and the drawings C.S.D. according to which the work is to be carried out. He shall also have to give a declaration to the effect that he has fully studied the plans, specifications, local conditions and availability of labor and materials and that he has quoted his rates with due consideration to all these factors. And same shall submit to Division office before award of work.

19. The acceptance of the tender may be intimated to the Contractor telegraphically or **otherwise (even may be by e-mail)** and either by the Officer competent to accept the tender or any authority in the department including Government and such intimation shall be deemed to be an intimation of acceptance of the tender given by the authority competent to accept the tender.

20. SECURITY DEPOSIT:-

20.1 The Total Security Deposit to be paid shall be **1% (One Percent)** of amount put to tender.

20.2 The Successful tenderer shall have to pay, half of the Security Deposit preferably in the form of National Saving Certificate or in the form of Bank Guarantee (in the form as prescribed by Govt.) from any Scheduled Bank in favor of **Maharashtra Film Stage & Cultural Development Corporation Limited** within **10 days** of acceptance of tender, and the balance security deposit will be recovered from running account bills at the percentage as shown in item (d) of the memorandum in printed B-1 form or as may be decided by the Deputy Engineer (Civil) during course of execution of the work looking to the position and circumstances that may prevail, whose orders will be final and binding on the contractor.

20.3 The Security Deposit for the due performance of the contract shall be as detailed in the tender documents elsewhere. Fifty percent of the Security deposit will have to deposited within ten days of the acceptance of the tender and the Balance Security Deposit will be recovered from the Running Bills at the rates as specified in the tender form on the cost of work as per CSR prevailing at the time of acceptance of tender. Amount of total security deposit to be paid shall be 1% (One Percent) of the cost of work worked out as per the **S.S.R. 2022-23** of respective District/Department/Corporation.

20.4 Initial Security Deposit may be in Bank Guarantee form in format of the Tender document

for full period of completion of work and it should be extendable up to expiry of valid extension if any, as directed by Engineer-in-charge.

- 20.5** In the event of the tenderer to pay cash security deposit within 10 days (unless extended in writing by the Deputy Engineer (Civil),) from the date of receipt of notice (sent by Registered Post) of acceptance of his tender, the amount of EMD shall be forfeited to Government and the acceptance of his tender, shall be considered withdrawn. Except that in the event of the notice of acceptance of the tender not being issued within 60 days of the date of opening of Envelope No. 2 (financial bid). The tenderer shall have the option (to be intimated in writing in good time before the expiry of 60 days period) of withdrawing his tender, in which case the earnest money should be refunded in full. All the tenders shall remain open for acceptance for 60 days from the date fixed for opening of envelope No.2 (financial bid) and thereafter until it is withdrawn by the tenderer by notice in writing as per condition No2 of the Memorandum on

21. Income Tax :-

Income tax @ 2.00 % and surcharge thereon or at the rates amended from time to time as intimated by competent Income tax authority shall be deducted from bill amount, whether measured bills, advance payment, or secured advance.

22. GST:-

GST @ 2 % at the rates as amended from time to time as intimated by competent GST Authority shall be deducted from bill amount, whether measured bills, advance payment, or secured advance.

23. Insurance:-

As per the Govt. Resolution No. FD/Insurance 1098/cess No. 28/98 dated 19/08/1998 and Director of Insurance Maharashtra, Mumbai letter dated 26/04/2005. Contractor must submit Govt. insurance policy before starting the work, failing to which an amount equivalent to (1%) one percent of the tendered cost will be recovered from the first Running Account Bill of this work.

- ii) If completion period of work is extended then period of work Insurance must be renewed extended as per requirement.

24. BUILDING & OTHER CONSTRUCTION WORKERS WELFARE CESS:- Building & other Construction workers welfare cess @ 1% or at the rates amended from time to time as intimated by the competent authority of Building and other construction workers welfare

Act, 1996 shall be deducted from bill amount, whether measured bill, advance payment, or secured advance.

25. The contractor whose tender is accepted is required to note that no foreign exchange will be released by the Department.

26. The e-notice-inviting tender and shall form part of the tender agreement.

27. The Tendering Authority is interested to make payment of contractor's bill through ECS / NEFT system. For this purpose, contractor should open his Bank Account, having core banking facility.

28. TIME LIMIT:-

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

29. TENDER RATE :-

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

30. TENDER UNITS:-

The tenderer should particularly note that the unit mentioned in the schedule 'B' on which the rates are based. No changes in the nits shall be allowed.

31. CORRECTION:-

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

32. TENDER ACCEPTANCE:-

Acceptance of tender will rest with the Managing Director (MFSCDCL), who reserve the right to reject any or all tenders without assigning any reason thereof. The tenderer whose tender is accepted will have to enter into a regular B-1 agreement within 10 days of being notified to do so. In case failure on the part of tenderer to sign the agreement within the stipulated time, the earnest money paid by him shall stand forfeited to the Govt. and the offer of the tenderer shall be considered as withdrawn by him.

33. POWER OF ATTORNEY :-

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- 33.1** If the tenderer is a firm or company, they should in their forwarding letter mention the names of all partners together with the name of the person who holds the power of Attorney authorizing him to conduct all transactions on behalf of the body, along with the tender.
- 33.2** The tenderer may in the forwarding letter mention any points he may wish to make clear, but right is reserved to reject the same or the whole of the tenders if the same become conditional tender thereby.
- 33.3** The contractor or the firms tendering for the work shall inform the Department if they appoint their authorized Agent on the work.
- 33.4** No foreign exchange will be released by the dept. for the purchase of plants and machinery for the work by the contractor.
- 33.5** Any dues arising out of contract will be recovered from the contractor as arrears of Land Revenue if not paid amicably. Moreover, recovery of Government dues from the contractors will be affected from the payment due to the contractor from any other Government works under execution with them.
- 33.6** All pages of tender document, conditions, specifications correction slips etc. shall be initialed by the tenderer. The tender should bear full signature etc. shall be initialed by the tenderer or his authorized power or Attorney holder in case of firm.
- 33.7** The Successful tenderers will be required to produce to the satisfaction of the specified concerned authority, a valid and concurrent license issued in his favor.

34. VALIDITY PERIOD:

The offer shall remain open for acceptance for minimum period of 90 days from the date of opening of Envelope No. 2 (financial Bid) and thereafter until it is withdrawn by the contractor by notice in writing duly addressed to the authority opening the tender and sent by registered post. Acknowledgment due. (Refer to memorandum of the Tender) The right is reserved to revise or amend the contract document prior to the date notified for the receipt of tender or extended date. Such deviations, amendment, or extensions, if any, shall be communicated in the form of corrigendum, by letter and / or by notice in newspapers as may be considered suitable.

- 35.** The tender submitted by the tenderer remain valid for a period of 90 days from the date of opening of Envelope No. 2 (Financial Bid) tenderers. Also see para 2 of General Rules etc.

of contract form.

36. The contractor(s) whose tender is accepted is required to note that no foreign exchange will be released by the Department.
37. The tenderers, who do not fulfill all or any of the conditions or are incomplete in any respect are liable to summarily rejection.
38. Right to reject any or all tenders without assigning reasons therefore is reserved. The acceptance of the tender lies with the Managing Director (MFSCDCL)
39. The Notice inviting tender shall from part of the tender agreement.
40. The successful tenderers will be required to produce to the satisfaction of the specified concerned authority, a valid and concurrent license issued in his favor under the provisions of the Contract Labor (Regulation and Abolition) Act 1970 before starting the work. Failure to do so, acceptance of the tender shall be liable to be withdrawn and earnest money forfeited.

41. INSTRUCTION TO CONTRACTOR:-

- 41.1 In case the tenderer whose offer is found lowest is requested to negotiate and reduce the offer & if the contractor, does not respond within a period of 10 days the tender accepting authority without issuing any reminder the right to reject such tender.
- 41.2 In case the contractor who is informed of acceptance of his tender, dose not remit the initial Security Deposit within a period of 10 days, the tender accepting authority reserves the right to forfeit the Earnest Money Deposit without issuing any reminder to take further action according to the tender provision.
42. Contractor shall submit a certificate to the effect that, all the payments to the labor / Staff are made in bank accounts of staff linked to Unique Identification Number*(AADHAR CARD)” The Certificate shall be submitted by the contractor within 60 days from the commencement of contract. If the period of contract is less than 60 days, then such certificates shall be submitted within 15 days from the date of commencement of contract.
43. Tenderer should note that, Tenderer shall quote for the (i.e., work portion) of Schedule B Items only. The accepted percentage rates shall be applicable for this schedule B.

44. Integrity Pact

- (1) Integrity Pact executed on plain paper in the given format only duly signed by Authorized signatory shall be part of the Contract Agreement.
- (2) Any Corrections, modifications, additions, omission, or any type of changes in format given in Tender is not permissible and if it is found at any stage the tender

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shall be rejected by forfeiting the Security Deposit.

- (3) Successful Bidder shall submit the Original Copy of the Integrity Pact before award of work to Concerned Division Office.

45. The measurements of work will be taken according to the usual methods in use in the Dadasaheb Phalke Chitranagari (MFSCDCL) and no proposals to adopt alternative methods will be accepted. The Deputy Engineer (Civil)'s decision as to what is "the usual method in use in the Dadasaheb Phalke Chitranagari (MFSCDCL)" will be final.

46. E-Billing

Contractor shall submit every bill through E-bill system. All the necessary measures for recording measurements and submission of E- Bill shall be taken by the contractor only with any extra cost to Government. No claim what-so-ever shall be entertained by the Government on this ground.

47. Payment of stamp duty

As per article 63 of Bombay stamp (Amendment) Act, 2006 and further amendments in April 2015 the contractor shall have to pay stamp duty on the value of accepted tender amount as per prevailing rate declared by the Government of Maharashtra from time to time before work order. The rates quoted by the contractor will be deemed to have considered all taxes, duties etc. including stamp duty. No separate claim will be entertained on this account by the Employer. The stamp duty has to be paid on GRAS online/e-SBTR through net banking or any other medium as per the direction of the government in this regard.

As per article 63 of the Bombay stamp act. The stamp duty is payable as per the following rates which is payable and mandatory for the execution of the contract before the work order.

- 1] For the work having contract price up to Rs. 10,00,000-Rs. 500/-
- 2] For the work having contract price above Rs. 10,00,000/-
- 3] Rs. 500/- + 0.10 % of amount more than Rs. 10,00,000/-

48. GST: (1) For GST charges on Royalty and material testing, the receipt of payment of GST charges on royalty and testing charges shall be submitted by the contractor at the time of bill Payment and amount will be reimbursed to the contractor accordingly.

ANNEXURE –A
Affidavit
(On Rs. 500/- Stamp Paper)

I..... age address

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

1. That I have submitted online Tender for the work.....(Name of work)..... on portal <http://mahatenders.gov.in> of MFSCDCL,
2. That I have carefully gone through, read thoroughly studied and understood all terms & condition, specification included in the tender document (Tender Form, Detail Tender Notice, conditions, and specification common set of Deviations drawings etc.) I hereby accept all these conditions, I agree to abide by the terms & condition in the tender document and agree to execute the work as per terms and conditions, specifications laid down in the tender document.
3. That I have Furnished EMD (Earnest Money Deposit) from the Bank Account in the name of my firm only.
4. I do here by state on oath that the documents uploaded by in Envelope No. 1 of this tender are true, correct and bonafied, there are no errors and omissions in the uploaded documents.
5. I do here by state on oath that the value of work in hand (value of –B) is accurate on the date of submission of this tender. If in the future it is found wrong or misleading, I am liable for action under Indian Penal Code if any papers are found false/fraudulent during contract period and even after the completion of contract.
6. I am liable for action under Indian Penal Code for submission of any false / fraudulent paper / information submitted in envelope no. 1.
7. The undersigned also hereby certifies that neither our firm M/s/ Shree..... Have abandoned any work on Building/Bridges/Roads etc a nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
8. The undersigned hereby authorize (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.
9. The undersigned understand and agrees that further qualifying information may by

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requested and agrees to furnish any such information at the request of the Department!
Project implementing agency/Authorized Consultant/PMC/Architect.

10. I am neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the design, specification, and other documents for the Project or being proposed.
11. I am liable for action under Indian Penal Code if during contract period and defect liability period, any false information, false bill of purchases supporting proof of purchase, proof of testing submitted by my staff, subletting company or by myself, I will be liable for action under Indian Penal Code.
12. I am liable for action under Indian Penal Code if any paper is found false/fraudulent during contract period and even after the completion of contract (finalization of final bill).
13. I/we, hereby solemnly agree that I/we have willingly entered into the contractor with MFSCDCL, Government of Maharashtra for the work of (Name of work) for the said work, I/we am/are buying the required quantities quantity of asphalt having stipulated specifications from the refinery of IOC/HP/BP, I/we also aware of the fact after receiving the said quantity of asphalt from the refinery, it is mandatory upon me to deposit the original copy / copies of challan of asphalt in the office of Deputy Engineer (Civil) in charge of the work this work or his authorized officer, I/we also agree that if I fail to produce sufficient documentary evidence i.e. original copy / copies of challan for the purchase of asphalt, I will be totally held responsible for this noncompliance & in such a case I will be responsible for any actions which the department may deem fit to impose on me/us, or legal proceedings as per prevailing law.

Hence this Affidavit.

Place:-

Date:-

Signature of Contractor

(Signed by an Authorized Officer of the Firm)

The Scanned copy of above AFFIDAVITS should be uploaded in, Envelope No. 1 And the Original Copy of the Bond of the above affidavit should be submitted when demanded by this office or before award of work to Office]

Statement No. I

Statement of List of Works in Hand and works Tendered for as on

Last date of submission of Submission this tender.

Name of Contractor: _____

Works in Hand

Sr No	Name of Work	Agreement No.	Tendered Amount	Date of commencement	Stipulated date of Completion	Value of Work already done	Value of balance Work	Value of balance Work to be executed in next 12 months.	Probable Date of Completion	Remarks
1	2	3	4	5	6	7	8	9	10	11
----- Sample Form -----										

(B) Works Tendered For

Sr. No.	Name of Work	Name and address of client	Tendered Amount	Time Limit	Probable Date when decision is expected	Other relevant details if any
1	2	3	4	5	6	7
----- Sample Form -----						

Note: Details are to be uploaded in this format in envelope -1 duly signed.

Signature of Contractor

Deputy Engineer (Civil)

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Statement No.II

Details of Plants and machinery immediately owned and
available with the tendered for this work

Name of Contractor:_____

Sr. No.	Name of Equipment	No. Of Units	Kind and make	Capacity	Age & Condition	Present Location	Remarks
1	2	3	4	5	6	7	8
-----SampleForm-----							

Signature of Contractor

Note: - Details are to be uploaded in this format in Envelope -1 duly signed.

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STATEMENT NO. 2 [A]
(To be included in envelope No.1)

(A) QUESTIONNAIRES OF MACHINERY: -

Performa for information regarding availability / Procurement of machinery required for this work.

1.	Batch Mix Plant with SCADA / Drum Mix type hot mix plant with SCADA	1 No. (Owned/Hired)
2	RMC Plant with SCADA of 75 Cum/hr. and above Capacity	1 No. (Owned/Hired)
3	Paver Finisher with SCADA (Sensor Paver)	1 No. (Owned/Hired)
4	Fully automatic microprocessor PLC with SCADA enabled reversible drum type mixer.	3 No. (Owned/Hired)
5.	Sand Screening and Washing Machine (Electrically or diesel operated)	3 No. (Owned/Hired)
6.	Vibratory Roller	3 No. (Owned/Hired)
7.	Truck/Tipper	4 No. (Owned/Hired)
8	Power Roller	3 No. (Owned/Hired)
9	Motor Grader	3 No. (Owned /Hired)
10	Excavator	3 No. (Owned/Hired)
11	Water Tanker	3 No. (Owned/Hired)
12.	Needle Vibrator	3 No. (Owned/Hired)
13.	Plater Vibrator	3 No. (Owned/Hired)
14	Transit Mixer	3 No. (Owned/Hired)

Question – 1

Is the above machinery owned by you and available with you for immediate deployment of this work?

If 'yes', please attached the documentary proof of ownership of above machinery & upload information in this sample form.

<i>Type of Machine</i>	<i>No. of Units</i>	<i>Name of work in which deployed at present</i>	<i>Location</i>	<i>Out-put</i>	<i>Work in Hands</i>
----- sample form -----					

- 1) The life of new machinery will be considered as 15th Years.
- 2) There will no need of fitness certificate from SE (Mechanical) for first 10th Years.
- 3) After 10th year the machinery shall be checked and certified for its fitness by SE Mechanical / ACE (Mechanical) every year till the 15th years.
- 4) After the 15th year, the contract or will get machinery certified every year from SE / ACE (Mechanical) and produce the certificate of fitness. The Certificate will be required for machinery where it is necessary and not issued by RTO.
- 5) If the above-mentioned machinery in respect Sr. No. 1 to 3 Annexure – I is less than 6 years old, then tenderer shall have to upload the certificate regarding SCADA either from Automation Manifold Service Pvt. Limited Nagpur or Vasundhara IT Pvt. Ltd. Pune in lieu

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of certificate of Assistant Chief Engineer (Mechanical) in all other cases tenderer must upload certificate of Assistant Chief Engineer (Mechanical) regarding SCADA. In the absence of these certificates, the Envelope No.2 (Financial bid) shall not be opened.

- 6) The owned or hired (as specified above) Drum Mix type Hot Mix Plant or Batch Mix Plant with SCADA must be located within 60 km. from farthest point work site. The Tenderer shall upload sketch showing the distance from plant to farthest point of work site by the shortest practicable route in the Envelope No.1 After opening the Envelope No.1 It shall be verified by the department (If necessary) that the distance of the plant to the farthest point of work is within 60 kilometers. If the distance found to be more than 60 kilometers and / or the route shown in sketch is not practicable, then Envelope No.2 of bidder will not be opened i.e., bidder will be disqualified. In this connection decision of Opening Authority shall be final and conclusive to all Tenderers.
- 7) In respect of Hired Machinery tender must upload the scanned copy of original Agreement on appropriate stamp paper executed for hired with the company who possess the said machinery along with the documentary proof of ownership who owned the machinery in envelope No.1

Condition Regarding Machinery

- 1) If the Machinery is not more than 6 years old, the contractor has to provide TAX invoice (VAT or GST as the case may be) and the transaction details of the purchase of the said machinery i.e., bank statement or bank passbook, No Dues documents in this regard will be considered.
- 2) In the case of pre-owned machinery i.e., purchase / procured from another owner/ user of the machinery, scanned copy of following documents shall be attached.
 - (a) Proof of Ownership of Previous Owner i.e. Tax Invoice / Transfer Agreement.
 - (b) Sale Agreement of Machinery.

Note:-The Contractor shall submit only those documents which are required/ asked in the tender documents, uploading of unnecessary attachments with the tender should be avoided.

Signature of Bidder

Statement No. III

Details of Works of Similar Type and magnitude carried out by the
Contractor last Five Years

Name of Tenderer:

Sr. No.	Name of Work	Name and address of organizati on for whom the work was done	Place and Country	Agree ment No. and Date	Date of comm ence ment	Tend ered cost	Total cost of work done	Date of com pleti on	Remarks (Principal feature as in brief)
1	2	3	4	5	6	7	8	9	10
----- Sample Form-----									

Note: - Details are to be uploaded in this format in envelope -1 duly signed.

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

Statement No.IV

Statement showing Technical Personnel available with the contractor, which can be speared exclusively for this work.

Name of Tenderer: _____

Sr. No.	Name of Person	Qualification	Whether working in field of office	Experience of execution of similar works	Period for which person is working with the tenderer	Remarks
1	2	3	4	5	6	7
----- Sample Form-----						

Note: - Details are to be uploaded in this format in envelope -1 duly signed.

Statement No.V

Statement showing work done in all classes of civil Engineering Construction works
during last Five years.

i.e., 2018-19, 2019-20, 2020-21, 2021-22, 2022-23

Name of Contractor: _____

Sr. No.	Name of Division	Amount Put to tender / tendered cost	Agree ment No.	Date of Commencement of work	Amount of work done during each of					Amount of Work still remaining to be executed	Remarks
					Five years.						
					2018-	2019-	2020-	2021-	2022-		
					2019	2020	2021	2022	2023		
1	2	3	4	5	8	9	10	11	12	13	14
----- S A M P L E F O R M -----											

Out word No. and date of certificate issuing Authority.

Note: Details are to be uploaded in this format in envelope -1 duly signed.

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

Statement No.VI

Statement showing quantities of work executed in during last Five Years (i.e.,
2018-19, 2019-20, 2020-21, 2021-22, and 2022-23)

Sr. No.	Name of work	Year	Agreement No.	Quantity of work performed					
				Not less M-30 concrete	OGPS (Potholes)	OGPC	D.B.M	B.M.	Remarks (Indicate concrete reference)
1	2	3	4	5	6	7	8	9	10
		2018-19							
		2019-20							
		2020-21							
		2021-22							
		2022-23							
		Total							

Note -1: Details are to be uploaded in this format in envelope -1 duly signed.

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Signature of Contractor

INTEGRITY PACT

Between

Dadasaheb Phalke Chitranagari (MFSCDCL),
Having its Office at Goregaon East Mumbai -400065

Hereinafter referred to as

“DADASAHEB PHALKE CHITRANAGARI(MFSCDCL)”

And

[Insert the name of the sole Bidder / Lead Partner of Joint Venture]

Having its Registered Office at

[Insert full Address]

And

[Insert the name of the partner[s] of Joint Venture, as applicable]

Having its Registered Office at

[Insert full Address]

Hereinafter referred to as

“The Bidder/Contractor” Preamble

DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) intends to award, under laid – down organizational procedures contractors for (Inset the name of the package)

DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) Values full compliance with all relevant laws and regulations, and the principles of economical use of resources, and of fairness and transparency in its relations with its Bidders/Contractors.

To achieve these goals, **DADASAHEB PHALKE CHITRANAGARI (MFSCDCL)** and the above-named Bidder/Contractor enter into this agreement called ‘Integrity Pact’ which will form a part of the bid.

It is hereby agreed by and between the parties as under:

Signature

(For & on behalf of **DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL)**)

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

Section I – Commitments of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL)

- (1) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL), personally or through family members, will in connection with the tender, or the execution of the contract, demand, take a promise for or accept, for him/herself or third person, any material or other benefit which he/she is not legally entitled to.
 - b) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will during the tender process treat all Bidder(s) with equity and fairness. PUBLIC WORKS DEPARTEMENT will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will exclude from evaluation of Bids its such employee(s) who has any personnel interest in the Companies/Agencies participating in the Bidding/Tendering process.
- (2) Honorable MD of MFSCDCL, Maharashtra Government obtains information on the conduct of any employee of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, he will inform its Chief Vigilance Officer and in addition can initiate disciplinary actions under its Rules.

Section II – Commitments of Bidder/Contractor

- (1) The Bidder/Contractor commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution:

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

- a) The Bidder/Contractor will not, directly or through any other person or firm, offer, promise or give to DADASAHEB PHALKE CHITRANAGARI (MFSCDCL), or to any of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL)'S employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange an advantage during the tender process or the execution of the contract.
- b) The Bidder/Contractor will not enter into any illegal agreement or understanding, whether formal or informal with other Bidders/Contractors. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or actions to restrict competitiveness or to introduce cartelization in the bidding process.
- c) The Bidder/Contractor will not commit any criminal offence under the relevant Anti-corruption Laws of India, further, the Bidder/Contractor will not use for illegitimate purposes or for purposes of restrictive competition or personal gain, or pass on to others, any information provided by DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) as part of the business relationship, regarding plans, technical proposals, and business details, including information contained or transmitted electronically.
- d) The Bidder/contractor of foreign origin shall disclose the name and address of the Agents/representative in India, if any, involved directly or indirectly in the Bidding. Similarly, the Bidder/Contractor of Indian Nationality shall furnish the name and address of the foreign principals, if any, involved directly or indirectly in the Bidding.
- e) The Bidder/Contractor will, when presenting his bid, disclose any and all payments he has made, or committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and/or with the execution of the contract.
- f) The Bidder/Contractor will not misrepresent facts or furnish false/forged documents/information in order to influence the bidding process or the execution of the contract to the detriment of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL).

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

- (2) The Bidder/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section III – Disqualification from tender process and exclusion from future contracts

- (1) If the Bidder, before contract award, has committed a serious transgression through a violation of Section II or in any other form such as to put his reliability or credibility as Bidder into question, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) may disqualify the Bidder from the tender process or terminate the contract, if already signed, for such reason.
- (2) If the Bidder/Contractor has committed a serious transgression through a violation of Section II such as to put his reliability or credibility into question, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) may after following due procedures also exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder/Contractor and the amount of the damage. The exclusion will be imposed for a minimum of 12 months and maximum of 3 years.
- (3) If the Bidder/Contractor can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) may revoke the exclusion prematurely.

Section IV – Liability for violation of Integrity Pact

- (1) If DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) has disqualified the Bidder from the tender process prior to the award under Section III, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) may forfeit the Bid Guarantee under the Bid.
- (2) If DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) has terminated the contract under Section III, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) may forfeit the Contract Performance Guarantee of this contract besides resorting to other remedies under the contract.

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

CONTRACTOR

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Section V– Previous Transgression

- (1) The Bidder shall declare in his Bid that no previous transgression occurred in the last 3 years with any other Public Section Undertaking or Government Department that could justify his exclusion from the tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section VI – Equal treatment to all Bidders/Contractors

- (1) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will enter into agreements with identical conditions as this one with all Bidders.
- (2) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will disqualify from the tender process any bidder who does not sign this Pact or violate its provisions.

Section VII– Punitive Action against violating Bidders/Contractors

If DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) obtains knowledge of conduct of a Bidder or a Contractor or his subcontractor or of an employee or a representative or an associate of a Bidder or Contractor or his Subcontractor which constitutes corruption, or if DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) has substantive suspicion in this regard, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will inform the Chief Vigilance Officer (CVO).

(*) Section VIII–Independent External Monitor/Monitors

- (2) **DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) has appointed a panel of Independent** External Monitors (IEMs) for this Pact with the approval of MD as may be required and deal all such concerns as per this pact.
- (3) The IEM is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement. He has right of access to all project documentation. The IEM may examine any complaint received by him and submit a report to MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL), at the earliest. He may also submit a report directly to the CVO and CVC, in case of suspicion of serious irregularities attracting the provisions of the PC Act. However, for ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter shall be referred to the full panel of IEMs, who would examine the records, conduct the investigations, and submit report to Joint MD MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL), giving joint findings.
- (4) The IEM is not subject to instructions by the representative of the parties and performs his functions neutrally and independently. He reports to the honorable MD of the MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL).

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

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- (5) The Bidders/Contractors accepts that the IEM has the right to access without restriction to all documentation of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) related to this contract including that provided by the Contractor/Bidder. The Bidder/Contractor will also grant the IEM, upon his request and demonstration. The same is applicable to Subcontractors. The IEM is under contractual obligation to treat the information and documents of the Bidders/Contractors/Subcontractors with confidentiality.
- (6) DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) will provide to the IEM information as sought by him which could have an impact on the contractual relations between DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) and the Bidder/Contractor related to this contract.
- (7) As soon as the IEM notices, or believes to notice, a violation of this agreement, he will so inform the Joint MD MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) and request the Joint MD MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) to discontinue or regard submit non-binding recommendations. Beyond this, the IEM has no right to demand from the parties that they act in a specific manner, refrain from action, or tolerate action. However, the IEM shall give an opportunity to DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) and Bidder/Contractor, as deemed fit, to present its case before making its recommendations to MFSCDCL.
- (8) The IEM will submit a writing report to the Joint MD MFSCDCL, Maharashtra Government, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) within 8 to 10 weeks from the date of reference or intimation to him by PUBLIC WORKS DEPARTEMENT and, should the occasion arise, submit proposals for correcting problematic situations.
- (9) If the IEM has reported to the Joint MD MFSCDCL, Maharashtra Government, PUBLIC WORKS DEPARTEMENT, a substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Principle Secretary MFSCDCL, Maharashtra Governments, DADASAHEB PHALKE CHITRANAGARI (MFSCDCL) has not, within the reasonable time taken visible action to proceed against such offence or reported it to the CVO, the Monitor may also transmit this information directly to the CVC, Government of India.

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

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DEPUTY ENGINEER (CIVIL)

- (10) The word 'IEM' would include both singular and plural.
- (*) This Section shall be applicable for only those packages wherein the IEMs have been referred in the tender document.

Section IX – Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor after the closure of the contract and for all other Bidder's six month after the contract has been awarded.

Section X – Other Provisions

- (1) This agreement is subject to Indian Law Place of performance and jurisdiction is the establishment of DADASAHEB PHALKE CHITRANAGARI (MFSCDCL). The Arbitration clause provided in the main tender document / contract shall not be applicable for any issue / dispute arising under Integrity Pact.
- (2) Changes and supplements as well as termination notices need to be made in writing.
- (3) If the Contractor is a partnership firm or a consortium or Joint Venture, this agreement must be signed by all partners, consortium members and Joint Venture partners.
- (4) Nothing in this agreement shall affect the rights of the parties available under the General Conditions of Contract (GCC) and Special Conditions of Contract (SCC)
- (5) Views expressed or suggestions/submissions made by the parties and the recommendations of the CVO/IEM[#] in respect of the violation of this agreement, shall not be relied on or introduced as evidence in the arbitral or judicial proceedings (arising out of the arbitral proceedings) by the parties in connection with the disputes / differences arising out of the subject contract.

CVO shall be applicable for package wherein IEM are not identified in Section IFB/BDS of Condition of Contract, Volume-I. IEM shall be applicable for packages wherein IEM are identified in Section IFB/BDS of Contract, Volume-I.

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI
(MFSCDCL))

Signature

(For & on behalf of Bidder
Partners of Joint Venture/
Contractor)

CONTRACTOR

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DEPUTY ENGINEER (CIVIL)

- (6) Should one-or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

Signature

(For & on behalf of DADASAHEB
PHALKE CHITRANAGARI (MFSCDCL))

Signature

(For & on behalf of Bidder Partners
of Joint Venture/ Contractor)

(Office Seal)

(Office Seal)

Name: -

Name:-

Designation:-

Designation:-

Witness 1:-

Witness 1:-

(Name & Address)

(Name & Address)

Witness 2:-

Witness 2:-

(Name & Address)

(Name & Address)

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

FORM B1**PERCENTAGE RATE TENDER AND CONTRACT FOR WORK****DEPARTMENT : MFSCDCL Goregaon East****NAME OF WORK:**

Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Pahlke Chitra Nagari at Goregaon Filmcity Goregaon East Mumbai 400065

GENERAL RULES AND DIRECTION FOR THE GUIDANCE OF CONTRACTORS.

1. All works proposed to be executed by contract shall be notified in a form of invitation to tender pasted on a board hung up in the office of the **Deputy Engineer (Civil), MFSCDCL, Goregaon** and signed by the **Deputy Engineer (Civil) MFSCDCL, Goregaon**. This form will state the work to be carried out as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit to be deposited by the successful tenderer and the percentage, if any, to deducted from bill. Copies of the specification, designs and drawings estimated rates, scheduled rates and any other documents required in connection with the work shall be signed by the Deputy Engineer (Civil) during office hours.
2. In the event of the tender being submitted by a firm it must be signed separately by each partner thereof, and in the event of the absence of any partner, it shall be signed on his behalf by a person holding a power of attorney authorizing him to do so.
- 2(A) The contractor shall pay online only along with the tender the sum of **Rs. 8,32,031/- (Rupees Eight Lakh Thirty Thousand Thirty-One Only)** as and by way of earnest money by forwarding along with the tender the said amount of earnest money shall not carry any interest whatsoever.
- ii) In the event of his tender being accepted subject to the provisions of sub clause (iii) below, the said amount of earnest money shall be appropriated towards the amount of security deposit payable by him, under conditions of General conditions of contract.
- iii) If, after submitting the tender, the contractor withdraws his offer, or modifies the same or if after the acceptance of his tender the contractor fails or neglects to furnish the balance of security deposit without prejudice to any other right and powers of the Government, hereunder, or in law, government shall be entitled to forfeit the full amount of the earnest money deposited by him.
- iv) In the event of his tender not being accepted, the amount of earnest money deposited by

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

the contractor, shall unless it is prior thereto forfeited under the provision of sub-clause(iii) above, be refunded to him on his passing receipt,therefore.

3. Receipts for payments made on account of any work , when executed by a firm shall also be signed by all the partners except where the contractors are described in their tender as a firm , in which case the receipt shall be signed in the name of the firm by one of the partners or by some other person having authority to give effectual receipts for the firm.
4. Any person who submits a tender shall fill- up the usual printed form stating at what percentage above or below the rates specified in scheduled 'B' (Memorandum showing items of work to be carried out)he is willing to undertake the work. Only one rate or such percentage on all the estimated rates/Schedule rates shall be named. Tenders which proposed any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions, of any sort will be liable to rejection. No printed form of tender shall include a tender for more than one work, but if contractor who wish to tender for two or more works, they shall submit a separate tender for each. Tender shall have the name and number of the work to which the refer, written outside the envelope.
5. The MD/**Joint MD MFSCDCL Goregaon, Mumbai** or his duly authorized assistant shall open tenders. In the event of a tender being accepted, the contractor shall, for the purpose of identification, sign copies of the specifications and other documents mentioned in Rule 1.In the event of tender being rejected, the Divisional Officer shall authorize the Treasury officer/Bank concerned to refund the amount of the earnest money deposited, to the contractor making the tender, on his giving a receipt for the return of the money.
6. The officer competent to dispose of the tenders shall have the right of rejecting all or any of the tenders.
7. No receipt for any payment, alleged to have been made by a contractor in regard to any matter relating to this tender or the contract, shall be valid and binding on Government unless it is signed by the DeputyEngineer-Civil
8. The memorandum of work to be tendered for and the schedule of materials to be supplied by the MFSCSCL and their rates shall be filled in and complete by the office of the Deputy Engineer (Civil) before the tender form is issued. If a form issued to an intending tenderer has not been so filled in and complete, he shall request the said office

to have this done before he completes and delivers this tender.

9. All work shall be measured net by standard measure and according to the rules and customs of the MFSCDCL and without reference to any local custom.
10. Under no circumstances shall any contractor be entitled to claim enhanced rates for any item in this contract.
11. Every registered contractor should produce along with his tender certificates of registration as approved contractor in the appropriated class and renewal of such registration with date expiry. (Copies to attested by a Gazette Officers.)
12. All correction and additions or pasted slips should be initialed.
13. The measurements of work will be taken according to the usual methods in use in the Public Works Department and no alternative methods will be accepted. The Deputy Engineer (Civil)'s decision as to what is "the usual method in use in the Public Works Department" will be final.
14. In view of the difficult position regarding the availability of foreign exchange, no foreign exchange would be released by the Department for the purchase of plant and machinery required for the execution of the work contracted for.
15. The contractor will have to construct shed / go down for storing controlled and valuable materials brought by him at work site at contractor's cost.
16. The tendering contractor shall furnish a declaration along with the tender showing all works for which he has already entered into contract and the value of the work that remains to be executed in each case on the date of the submitting the tender(with certificate from the head of the office concerned).
17. The contractors shall also give a list of machinery in their possession and which they propose to use on the work in the form of statement no. II respectively.
18. Successful tenderer will have to produce to the satisfaction of the accepting authority a valid and current license issued in his favor under the provision of Contract Labor (Regulation and Abolition) Act 1970 before starting work, failing which acceptance of the tender will be liable for withdrawal and earnest money will be forfeited to Government.
19. The contractor shall comply with the provision of the Apprentices Act. 1961 and the rules and orders issued there under from time to time. If he fails to do so his failure will be breach of the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act.

TENDER FOR WORKS

I / we hereby tender for the execution for the Governor of Maharashtra (here-in-before and hereinafter referred to as "Government") of the work specified in the underwritten memorandum within the time specified in such memorandum at **the rate quoted by me for of Schedule B only at** specified place provided **online in envelope No.**

(E-2) percent below/above the estimated rates entered in Schedule B (Memorandum showing items of work to be carried out) and in accordance in all respects with the specifications, designs, drawings, and instructions in writing referred to in Rule 1 hereof and in Clause 12 of the annexed conditions of contract and agree that when material for the work are provided by the Government such materials and the rates to be paid for them shall be as provided in Schedule 'A' hereto

Note: Tenderer should note that, Tenderer shall quote for the work portion of Schedule B- Items only. The accepted percentage rate shall be applicable for this work portion) only and not be applicable to any other part (i.e., Royalty & Testing charges) of Schedule B.

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

MEMORANDUM

a)	If several Sub-works are included, they should be detailed in a separate list.	1. a)	General Description		
c)	The amount of earnest money to be deposited shall be in accordance with the G.R. Dated 27/09/2018	(b)	Estimated Cost	Rs.	16,64,06,151/-
		(c)	Earnest Money	Rs.	8,32,031/-
d)	This deposit shall be in accordance with the G.R. Dated 27/09/2018	(d)	Security Deposit		16,64,062/-
		(i)	FDR (Not less than the amount of earnest	Rs.	8,32,031/-
		(ii)	To be deducted from current bills	Rs.	8,32,031/-
			Total Rs.		16,64,062/-
e)	This percentage where no security deposit is taken will vary from 5% to 10 % according to the requirement of the case where security deposit is taken see note to clause I of conditions of contract.	(e)	Percentage, if any to be deducted from bills so as to make up the total amount required as security deposit by the time, the half the work as measured by the cost, is done		
			01 (One) percent		
f)	Give Schedule where necessary showing dates by which the various items are to be completed	f)	Time allowed for the from date of written order to commence is of 04 (Four) months (Including Monsoon season)		

CONTRACTOR

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DEPUTY ENGINEER (CIVIL)

2) I / We agree that this offer shall remain open for acceptance for a minimum period of **90 days** from the date fixed for opening the "same" means envelope No.2 and thereafter until it is withdrawn by me/us by notice in writing duly addressed to the authority opening the tenders and sent by registered post A. D. or otherwise delivered at the office of such authority.

“Representing the earnest money is herewith forwarded. The amount of earnest money shall not bear interest and shall be liable to be forfeited to the Government should I/We fail to (i) abide by the stipulation to keep the offer open for the period mentioned above or (ii) Sign and complete the contract documents as required by the Engineer and furnish the security deposit as specified in item (d) of the memorandum contained in paragraph (i) above within the time limit laid down in Clause (1) of the annexed General conditions of contract. The amount of earnest money may be adjusted towards the security deposit or refunded to me/us if so desired by me/us in writing, unless the same or any part thereof has been forfeited as aforesaid.

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

<i>Signature of Contractor before submission of tender</i>	@Contractor.....Address.....
<i># Signature of witness to Contractor's signature.</i>	Date the..... the day of.....20 # (witness)..... Address..... (Occupation).....

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

.....

Deputy Engineer (Civil),
 Dadasaheb Phalke Chitranagari,
 Goregaon.

i) Signature of the officer by whom accepted

Dated Day of20.....

Security deposit

CLAUSE 1: The person / persons whose tender may be accepted (hereafter called the contractor which expressions shall unless excluded by or repugnant to the context include his heirs executors, Administrators, and assigns) shall

(A) within 10 days (which may be extended by the Deputy Engineer (Civil), Superintending Engineer or the Chief Engineer concerned up to one month/two month / three months respectively. If the Deputy Engineer (Civil)/Joint MD thinks fit to do so) of the receipt by him of the notification of the acceptance of his tender deposit with the Deputy Engineer (Civil)(if deposited for more than 12 months) of sum sufficient which will make up the full security deposit specified in the tender or (B) Permit Government at the time of making any payment to him for work done under the contract to deduct such sum as will amount to * **One percent** of all moneys so payable such deduction to be held by Government by way of security deposit. Provided always that in the event of the contractor depositing a lump sum by way or security deposit as contemplated at (A) above then and in such case if the sum so deposited shall not amount to

* **One percent** of the total estimated cost of the work it shall be lawful for Government at the time of making any payment to the contractor for work done under the contract to make up the full amount of, * **One percent**, by deducting a sufficient sum from every such payment as last aforesaid until the full amount of the security deposit is made up. All compensation or other sums of money payable by the contractor to the Government under the terms of his contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from interest arising there from, or from any sums which may be due or may become due by Government to the contractor under any other contract or transaction of any nature on any account whatsoever and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall within 10 days

thereafter make good in cash or Government securities endorsed as aforesaid any sum or sums which may have been deducted from all raised by sale of his security deposit or any part thereof. The security deposit referred to when paid in cash, may at the cost of the depositor, be converted into the interest bearing securities provided that the depositor has express by desired this in writing. If the amount of the security deposit referred to when paid in cash may at the cost of the depositor, be converted into the interest bearing securities provided that the depositor has expressly desired this in a lump sum within the period specified at (A) above is not paid, the tender/contract already accepted shall be considered as cancelled and legal steps taken against the contractor for the recovery of the amounts. The amount of the Security deposit lodged by a contractor shall be refunded along with the payment of the final bill, if the date up to which the contractor has agreed to maintain the work in good order is over, if such date is not, over only **50** percent amount of security deposit shall be refunded along with the payment of the final bill. The amount of the security deposit retained by the Government shall be released after expiry of period up to which the contractor agreed to maintain the work in good order is over. In the event of the contractor failing or neglecting to complete rectification work within the period up to which the contractor has agreed to maintain the work in good order then, subject to provisions of clauses 17 and 20 hereof the amount of security deposit retained by Government shall be adjusted towards the excess cost incurred by the Department on rectification work. The amount retained toward defect liability period in pursuant to clause 20 shall not be in the form of Bank Guarantee.

Note : This will be the same percentage as that in the tender at (e)

**Compensation
For delay**

CLAUSE – 2 : The time allowed for carrying out the Work as entered in the tender shall be strictly observed by the contractor

and shall be reckoned from the date On which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence and the contractor shall pay compensation an amount equal to one percent or such similar amount as the Joint MD(whose decision in writing shall be final) may decide, of the amount of the estimate cost of the whole work as shown by the tendered for every day that the work remains uncompleted or unfinished after the proper dates. And further to ensure good progress during execution of the work, the contractor shall be bound, in all cases in which the time allowed for any work exceeds one month to complete. The contractor should complete the work as per phase period given below.

1/4 of the work in 1/4 of the time

1/2 of the work in 1/2 of the time

3/4 of the work in 3/4 of the time full of the work in full of the time

[Full work will be completed in 04 (**Four**) **Months**

Including monsoon.]

In the event of the contractor failing to comply with this, conditions he shall be liable to pay as compensation an amount equal to one percent or such smaller amount as the Superintending Engineer (whose decision in writing shall be final) may decide of the said estimated cost of the whole work for every day that the due quantity of work remains incomplete. Provided always that the total amount of compensation to be paid under the provision of this clause shall not exceed 10 % of the estimated cost of the work as shown intender.

**Action when
Whole security
deposit is
Forfeited.**

CLAUSE –3 : In any case in which under this any Clause or clauses of this contract the contractor shall have rendered himself liable to pay compensation Amounting to the whole of his security deposit (whether paid in one sum or deducted by installments) or in the case of abandonment of the work owing

to serious illness or death of the contractor or any other cause to Deputy Engineer (Civil) on behalf of the Government of Maharashtra shall have power to adopt any of the following courses as he may deem best suited to the interest of Government.

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

b) To carry out the work or any part of the work departmentally debiting the contractor with the cost of the work, expenditure incurred on tools and plant, and charges on additional supervisory staff including the cost of work charged establishment employed for getting the unexcited part of the work completed and crediting him with the value of the work done departmentally in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Deputy Engineer (Civil) as to the costs and other allied expenses so incurred and as to the value of the work so done departmentally shall be final and conclusive against the contractor.

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

as aforesaid for or in getting the unexecuted work done by the new contractor and as to the value of the work so done shall be final and conclusive against the contractor. In case the contract shall be rescinded under clause

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

Action when the progress of any portion of the

CLAUSE – 4: If the progress of any particular portion Of the work is unsatisfactory the Deputy Engineer (Civil), Shall not withstanding that the general progress of the Work is in accordance with the conditions mentioned In clause 2 be entitled to take action under clause 3 (b) after giving the contractor 10 days' notice in writing. The contractor will have no claim for

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

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

compensation for any loss sustained by him owing to such action.

CLAUSE – 5 : In any case in which any of the powers Conferred upon the Deputy Engineer (Civil), by clauses 3 And 4 hereof shall have become exercisable and the Same shall not have been exercised the non-exercise Thereof shall not constitute a waiver of any of the Conditions hereof and such powers shall not with Standing is exercisable in the event of any further case of default by the contractor for which under any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit and liability of the contractor for past and future compensation shall remain unaffected. In the event of the Deputy Engineer (Civil), taking action Under sub clause (a) or (c) or clause-3 he may, if he So desires, take possession of all or any tool and Plant, materials and stores in or upon the works or the site thereof or belonging to the contractor, or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates, or in the case of contract rates not being applicable at current market rates to be certified by Deputy Engineer (Civil), whose certificate there of shall be final. In the alternative, the Deputy Engineer (Civil), may, after giving notice in writing to the contractor of his clerk of the work, foreman or other authorized agent require him to remove such tools plant, materials or stores from the premises within a time to be specified in such notice, and in the event of the contractor failing to comply with any such requisition, the Deputy Engineer (Civil), may remove them at the contractor's expenses for sale them be auction or private sale on account of the contractor and at his risk in all respect and the certificate of the Deputy Engineer (Civil), as to the Expenses of any such removal and the amount of the proceeds and expenses of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

Extension of time

CLAUSE-6: If the contractor shall desire an extension of the time for completion of work on the ground of his having been unavoidably hindered in its execution or on any other ground he shall apply in writing to the Deputy Engineer (Civil), before the expiration of the period stipulated in the tender or before the expiration of 30 days from the date on which he was hindered as aforesaid or on which the cause for asking for extension occurred whichever earlier ever and the Deputy Engineer (Civil), may with prior approval of the authority component to accept the tender if in his opinion, there are reasonable round for granting an extension. Grant such extension as he thinks necessary or proper. The decision of the Deputy Engineer (Civil), in this matter shall be final.

Final certificate

CLAUSE-7: On the completion of the work the contractor shall be furnished with a certificate by the Deputy Engineer (Civil),(hereinafter called the Engineer- In charge) of such completion, but no such certificate Shall be given nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall have been executed, all scaffolding, surplus materials and rubbish, and shall have cleaned off, the dirt from all wood work, doors windows walls floors or other parts of any building in or upon which the work has been executed, or of which he may have until the work shall have been measured by the Engineer-in-charge or where the measurements have been taken by his subordinates until they have possession for the purpose of executing the works, not until the work shall have been measured to the Engineer in charge or where the measurement have been taken by his sub-ordinates until they have received the approval of the Engineer-in-charge the said measurements being binding and conclusive against the contractor. If the contractor shall fail to comply with the requirements of his clause as to the removal of scaffolding surplus materials and rubbish and cleaning of the dirt

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**Payment on
intermediate
certificate to be
regarded as
advance.**

on or before the date fixed for the completion of the work the Engineer-in-charge may at the expense of the contractor remove such scaffolding, surplus materials and rubble and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred but shall have no claim in respect of any such scaffolding or surplus materials as except for any sum actually realized by the sale thereof.

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

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

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

Bill to be submitted monthly.

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

Bill to be on the printed form.

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

Store supplied by government.

CLAUSE – 12 : If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the store of the Dadasaheb Phalke Chitranagari

(MFSCDCL) store or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-charge (such material and stores and the prices to be charged therefore as hereinafter mentioned being so far as practicable for the convenience of the contractor but not so as in any way to control the meaning or effect of this contract specified in the schedule or memorandum annexed) the contractor shall be supplied with such materials and stores as may be required from time to time to be used by him for the purposes of the contract only and the value of the full quantity of the materials and stores so supplied shall be set off or deducted from any sums then due or thereafter to become due to the contractor under the contract, or otherwise from the security deposit or the proceeds of sale thereof. If the security deposit is held in Government Securities, the same or a sufficient portion thereof shall in that case be sold for all purpose. All materials supplied to the contractor shall remain the absolute property of the Government and shall on no account be removed from the site of the work and shall at all times be open to inspection by the Engineer-in-charge. Any such materials unused and in perfectly good condition at the time of completion or determination of the contract shall be returned to the Dadasaheb Phalke Chitranagari (MFSCDCL) store if the Engineer-in-charge so requires by a notice in writing given under his hand, but the contractor shall not be entitled to return any such materials except with consent of the Engineer-in-charge and he shall have no claim for compensation on account of any such material supplied to him as aforesaid but remaining unused by him or for any wastage in or damage to any such materials.

CLAUSE –13: The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and in every other respect in strict accordance with specifications. The contractor shall also conform exactly, fully and faithfully to the designs drawing and

**Work to be
executed in
accordance with
specifications
drawing orders etc**

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instructions in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access for the purpose of inspection at such office, or on the site of the work during office hours. The contractor will be entitled to receive three sets of contract drawings and working drawings as well as one certified copy of the accepted tender along with the work order free of cost. Further copies of the contract drawings and working drawings if required by him, shall be supplied at the rate of Rs. 300/- per set of contract drawings and Rs. 150/- per working drawings except where otherwise specified.

Alteration in specifications and designs not to invalidate contracts.

CLAUSE –14: The Engineer-in-charge shall have Power to make any alterations in or additions to the original specifications drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the work in accordance with any instructions in this connection which may be given to him in writing signed by the Engineer-in-charge and such alteration shall not invalidate the contract, and any additional work, which the contractor may be directed to do in the manner above, specified as part of the work shall be carried out by the contractor on the same condition in all respects on which he agreed to do the main work, and at the same rates as are specified in the tender for the main work and if the additional and altered work includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out at the rates entered in the schedule of rates of the Division or at the rates mutually agreed upon between the Engineer-in-charge and the contractor whichever, are lower.

Rates for work not entered in estimate or schedule of rate of the district

If the additional or altered work for which no rate is entered in the schedule of rates of the Division, is ordered to be carried out before the rates are agreed upon the contractor shall within seven days of the date of receipt by him of the order to carry out the

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work inform the Engineer-in-charge of the rate which it is his intention to charge for such class of work and if the Engineer-in-charge of the rate which it is his intention to charge for such class of work and if the Engineer-in-charge does not agree to this rate he shall be notice in writing be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider advisable provided always that if the contractor shall commence work or incur any expenditure in regard there to before the rates shall have been determined as lastly herein before the mentioned, then in such case he shall only be entitled to be paid in respect of the work carried to or expenditure incurred by him prior to date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-charge. In the event of accordance dispute, the decision of the Superintending Engineer of the Circle, will be final.

Extension of time in consequence of additions or alteration

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

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

CLAUSE-15 (1): If at any time after the execution of the contract documents. The Engineer shall for any reason what-so-ever (other than default on the part of the contractor for which the Government is entitled to rescind the contract) desires that the whole or any part of the work specified in the tender should be suspended for any period or that the whole or part of the work should not be carried out at all he

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shall give to the contractor a notice in writing of such desire and upon the receipt of such notice the contractor shall forthwith suspend or stop the work wholly or in part as required, after having due regard to the appropriate stage at which the work should be stopped or suspended so as not to cause any damage or injury to the work already done or endanger the safety thereof provided that the decision of the Engineer as to the stage at which the work or any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the contractor. The contractor shall have no claim to any payment or compensation whatsoever by reason of or in pursuance of any notice as aforesaid on account of any suspension, stoppage or curtailment except to the extent specified hereinafter.

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

(3) Where the Engineer requires the contractor to suspend the work for accordance period in excess of 30 days at any time

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

(4) The event of

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

(ii) Withdrawal by the contractor from the contractual obligation to complete the remaining unexecuted work under sub clause.

(5) On account of continued suspension of work for accordance period exceeding 90 days. OR (iii) Curtailment in the quantity of item or items originally tendered on account of any alteration, omission or substitutions in the specifications drawings designs, or instructions under clause 14 where such curtailment exceeds 25% in quantity and the value of the quantity curtailed beyond 25% at the rates for the item specified in the tender is more than Rs. 5000/-

It shall be open to the contractor within 90 days from the service of (i) the notice of stoppage of work or (ii) the notice of withdrawal from the contractual obligations under the contract on account of the continued suspension of work or (iii) notice under clause 14 resulting in such curtailment to produce to the Engineer satisfactory documentary evidence that he had purchased or agreed to purchase material for use in the contracted work, before

receipt by him of the notice of stoppage, suspension or curtailment and require the Government to take over on payment such material at the rates determined by the Engineer, Provided however, such rates shall in no case exceed the rates at which the same were acquired by the contractor. The Government shall thereafter take over the material so offered, provided the quantities offered are not in excess of the requirements of the unexecuted work as specified in the accepted tender and are of quality and specifications approved by the Engineer.

6) No claim to compensation on account of loss due to

7) Delays in supply of material by government.

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

- (i) Difficulties relating to the supply of railway wagons.
- (i) Force measure
- (i) Act of God.
- (iv) Act of enemies of the state or any other reasonable cause beyond the control of Government. In the case of such delay in the supply of materials, Government shall grant such extension of time for the completion of the works as shall appear to the Deputy Engineer (Civil), to be reasonable in accordance with the circumstances of the case. The decision of the Deputy Engineer (Civil) on to the extension of time shall be accepted on final by the contractor.

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

CLAUSE –17 : If any time before the security deposit or any part thereof is refunded, or any part thereof is refunded to

**Time limit for
unforeseen
claims**

**Action and
compensation
payable in
case of bad
works**

the contractor it shall appear to the Engineer-in-charge or his subordinate in charge of the work, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of inferior quality, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for, or are otherwise not in accordance with contract it shall be lawful for the Engineer-in-charge to intimate this fact in writing to the contractor and then notwithstanding the fact that the work, materials or articles complained of may have been inadvertently passed, certified and paid for, the contractor shall be bound forthwith to rectify or remove and reconstruct the work so specified in whole or in part, as the case may require of if so required, shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer- in-charge in the written intimation aforesaid, the contractor shall be liable to pay compensation at the rate of 1% on the amount of the estimate for every day not exceeding 10 days during which the failure so continues and in the case of any such failure the Engineer-in-charge may rectify or remove, and re-execute the work or remove and replace the materials or articles complained of as the case may be at the risk and expense in all respects of the contractor should the Engineer-in-charge consider that any such inferior work or materials as described above may be accepted or made use of it shall be within his discretion to accept the same at such reduced rates as he may fix, therefore.

Works is to be open to inspection contractor or responsible agent to be present

CLAUSE –18: All works or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer-in-charge and his subordinates and the contractor shall at all time during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer- in-charge or his subordinate to

visit the work shall have been given to the contractor, either himself be present to receive orders and instructions or have accordance responsible agent duly authorized in writing, present for that purpose. Orders given to the contractor's duly authorized agent shall be considered to have the same force and effect as if they had been given to the contractor himself.

**Notice to be given
before work is
covered up**

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

**Contractor liable for
damage done and
for impuberties.**

CLAUSE –20 : If during the period of **If during the period of “ 10 (Ten) years for Box Cell & 60 months for B.T. Works** from the date of completion as certified by the Engineer-in- charge pursuant to clause 7 of the contract or **“If during the period of “ 10 (Ten) years for Box Cell & 60 months for B.T. Works”** after commissioning the work, whichever is earlier in the opinion of the Deputy Engineer (Civil), the said work is defective in any manner whatsoever, the contractor shall forthwith on receipt of the notice in that behalf from the Deputy Engineer (Civil), duly commence execution and completely carry out at his cost in every respect all the work that may be necessary for rectifying and setting right the defects specified therein including dismantling and reconstruction of unsafe portion strictly in accordance with

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and in the manner prescribed and under the supervision of the Deputy Engineer (Civil) in the event of the contractor failing or neglecting to commence execution of the said rectifications work within the period prescribed therefore in the said notice, and / or to complete the same as aforesaid as required by the said notice, the Deputy Engineer (Civil), get the same executed and carried out departmentally or by any other agency at the risk on account and at the cost of the contractor. The contractor shall forthwith on demand pay to the Government the amount of such costs, charges and expenses sustained or incurred by the Government of which the certificate of the Deputy Engineer (Civil), shall be final and binding on the contractor. Such cost, charges and expenses shall be deemed to be arrears of land revenue and in the event of the contractor failing or neglecting to pay the same on demand as aforesaid without prejudice to any other rights and remedies of the Government the same may be recovered from the contractor as arrears of land revenue. The Government shall also entitle to deduct the same from any amount which may then be payable or which may thereafter become payable by the Government to the contractor either in respect of the said work or any other work whatsoever, or from the amount of the security deposit retained by Government.

Contractor to supply plant, ladders, scaffolding etc.

CLAUSE- 21 : The contractor shall supply at his own cost all material (except such special materials, if any as may in accordance with the contract be supplied from the Dadasaheb Phalke Chitranagari (MFSCDCL)al Stores, plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works which may require for the proper execution of the work in the original altered or substituted form and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-charge as to

And is liable for damages arising from non-provision of light, fencing etc.

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

CLAUSE- 21 (A) : The contractor shall provide suitable scaffolds and working platforms, gangways and stairways and shall comply with the following regulations in connection there with

- a) Suitable scaffold be provided for workmen for all works that cannot be safely done from a by other means.
- b) A scaffold shall not be constructed, taken down or substantially altered except.
 - i) Under the supervision of accordance competent and responsible person and
 - ii) As far as possible by competent workers possessing adequate experience in this kind of work.

c) All scaffold and appliances connected therewith, and ladders shall.

i) Be of sound material.

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

iii) Be maintained in proper condition.

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

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

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

g) Scaffolds shall be periodically inspected by a competent person.

h) Before allowing a scaffold to be used by his workmen the contractor shall, whether the scaffold has been erected by his workmen or not taken step to ensure that it complies fully with the regulation here in specified.

i) Working platforms, gangways and stairways shall:

(i) Be so constructed that no part thereof can sag unduly or unequally.

(ii) Be so constructed and maintained, having regard to the prevailing conditions as to reduce as far as practicable risks of persons tripping or slipping and

(iii) Be kept free from any unnecessary obstruction.

j) In the case of working platform gangways working places and stairway at accordance height exceeding 3.00 Meters.

(i) Every working platform and every gangway shall be closely boarded unless other adequate measures are taken to ensure safely.

(ii) Every working platform and gangway, shall have adequate width and

(iii) Every working platform, gangway, working place and

stairway shall be suitable fenced.

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

l) When persons are employed on a roof where there is a danger of falling from a height exceeding 3.00-meter suitable precautions shall be taken to prevent the fall of persons or material.

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

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

CLAUSE –21(B) : The contractor shall comply with the following regulations as regards the Hoisting Appliances to be used by him:

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

i) Be of good mechanical construction, sound materials and adequate strength and free from patent defect and

ii) Be kept in good repair and in good working order.

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

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

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

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

f) No persons who are below the age of 21 years shall be in control of any hoisting machine, including any scaffold which, or give signals to the operator.

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

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

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

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

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

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

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

**Measure for
prevention of fire**

CLAUSE –22: The contractor shall not set fire to any standing jungle, Trees, brushwood or grass without a written permit from the Deputy Engineer (Civil). When such permit is given and also in all cases when destroying cut or dug up trees' brushwood, grass etc. by fire, the contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property. The contractor shall make his own arrangements for drinking water for the labour employed by him.

Liability of contractor for any damage done in or outside work area

CLAUSE–23: Compensation for all damages done Intentionally or un-intentionally by contractor's Labor whether in or beyond the limits of Government property including any damage caused by the spreading of fire mentioned in clause 22 shall be estimated by the Engineer-in-charge or such other officer as he may appoint and the estimates of the Engineer- in-charge subject to the decision of the Superintending Engineer on appeal shall be final and the contractor shall be bound to pay the amount of the assessed compensation on demand, failing which the same will be recovered from the contractor as damages in the man prescribed in clause 1 or deducted by the Engineer-in-charge from any sums that may be due or become due from Government to the contractor under this contract or otherwise. The contractor shall bear the expenses of defending any action or other legal proceedings that may be brought by any person for injury sustained by him owing to neglect of precautions to prevent the spread of the fire and he shall pay any damages and cost that may be awarded by the court in consequence.

Employment of female labour

CLAUSE –24: The employment of female laborers on works in neighborhood of solders barracks should be avoided as far as far as possible.

Work on Sunday

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

Work not to be sublet.

CLAUSE –26 : The contract shall not be assigned or sublet without the Written approval of the Engineer-in-charge and if the contractor shall assign or sublet his contract or attempt so to do, become insolvent or commence any proceedings to get himself adjudicated an insolvent or make any composition with his creditors or attempt so to do or if bribe, gratuity, gift, loan perquisite, reward or advantage perquisite, or otherwise shall either directly or indirectly be given promised or offered by the contractor or any of his servants or agents to any public officer or person in the employ of Government in any way relating to his

Contract may be rescinded, and security deposit forfeited for subletting it without approval or for bribing a public officer or if contractor becomes insolvent.

office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract the Engineer- in-charge may there upon notice in writing rescind the contract and the security deposit of contractor shall there upon stand forfeited and be absolutely at the disposal of Government an the same consequences shall insure as if the contract had been rescinded under clause 3 hereof and in addition the contractor shall not be entitled to recover or be paid for any work therefore contract.

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

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

Changes in the constitution of firm to be notified.

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

Direction & control of the superintending engineer.

CLAUSE–29: All works to be executed Engineer under the contractor Shall be executed under the direction and subject to the approval in all respects of the superintending Engineer, for the time being, who shall be entitled to direct at what point or points and in what manner they are to be.

Commenced and from time to time carried on.

Direction & control of the superintending engineer

CLAUSE – 30 (1): Except where otherwise specified in the contract and subject to the powers delegated to him by Government under the code rules then in force. The decision of the Superintending Engineer of the Circle for the time being shall be final, conclusive and binding on all parties to the contract upon all questions relating to the meaning of the specifications designs, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work, or as to any other question, claim, right, matter or things whatsoever, if any way arising out of or relating to the contracts, designs,

drawings specifications, estimates, instructions orders, or other conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof.

CLAUSE-30(2) : The contractor may within 30 days of receipt by him of any order passed by the Superintending Engineer of the circle as aforesaid appeal against it to the Chief Engineer concerned with the contract, work or project provided that.

a) The accepted value of the contract exceeds Rs. 10 Lakh. (Rs. Ten lakh)

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

CLAUSE- 30(3): If the contractor is not satisfied with the order passed by the Chief Engineer as aforesaid the contractor may, within thirty days of receipt by him of any such order, appeal against it to the concern Superintending Engineer who if convinced that prima facie the contractor claim rejected by Superintending Engineer is not frivolous and that there is some substance in the claim of the contractor as would merit a detailed examination and decision by Standing Committee. Shall put up to the Standing Committee at Government level for suitable decisions.

Store of European or American manufacture to be obtained from government.

CLAUSE –31: The contractor shall obtain from the Public Works Department stores, all stores and articles of European or American manufacture which may be required for the work of any part thereof or in making up any article required therefore or in connection therewith unless he has obtained permission in writing from the Engineer in charge to obtain such stores and articles elsewhere. The value of such stores and articles as may be supplied to the contractor by the Engineer in charge will be debited to the contractor in his account at the rate shown in the schedule, in form- A attached to the contract and if they are not entered in the said schedule, they shall be debited

	<p>to him at cost price which for the purpose of this contract shall include the cost of carriage and all other expenses whatsoever which shall have been incurred in obtaining delivery of the same at the stores aforesaid.</p>
Lump – sums in estimate	<p>CLAUSE- 32 : When the estimate on which accordance tender is made includes lump sums in respect of parts of the work the contractor shall be entitled to payment in respect of the items of works involved or the part of the work in question at the same rates as are payable under this contract for each item, or if the part of the work in question is not in the opinion of the Engineer in charge capable of measurement, the Engineer in charge may at his discretion pay the lump sum amount entered in the estimate and the certificate in writing of the Engineer in charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of this clause.</p>
Action where no specification	<p>CLAUSE- 33 :</p> <p>In the case of any class of work for which there is no such specifications as is mentioned in rule 1 such work shall be carried out in accordance with the divisional specifications and in the event of there being no divisional specification then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer in charge.</p>
Definition of work	<p>CLAUSE- 34 : The expression “ work” or “works” where used in these conditions shall unless there be something in the subject or context repugnant to such construction be constructed to mean the work or worked contracted to be executed under or in virtue of the contract whether temporary or permanent and whether original altered, substituted, or additional.</p>
Contractors’ percentage whether applied to net or gross amount of bill	<p>CLAUSE- 35: The percentage referred to in the tender shall be deducted from/added to the gross amount of the bill before deducting the value of any stock issued.</p> <p>CLAUSE- 36: All quarry fees, royalties, octroi dues and ground rent, for stacking materials, if any, should be paid by the</p>

**Compensation under
the workmen's
compensation act**

contractor.

CLAUSE- 37: The contractor shall be responsible for and shall pay compensation to his workmen payable under the workmen's compensation Act 1923 (viiith of 1923) (hereinafter called the said act) for injuries caused to the workmen, if such compensation is payable/ paid be the Government as principal under subsection (i) of section 12 of the said act on behalf of the contractor it shall be recoverable by Government from the contractor under subsection (2) of the said section. Such compensation shall be recovered in the manner laid down in clause 1 above.

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

CLAUSE- 37(B) : The contractor shall provide all necessary personnel safety equipment and first aid apparatus available for the use of the persons employed on the site, and shall maintain the same condition suitable for immediate use at any time and shall comply with the following regulations in connection therewith : a) The worker shall be required to use the equipment so provided by the contractor and the contractor shall take adequate steps to ensure proper use of the equipment by those concerned. (b) When work is carried on in proximity to any place where there is a risk of drowning all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger. (c) Adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

CLAUSE- 37(c): The contractor shall duly comply with the provisions of "The Apprentices Act 1961 (III of 1961). The rules

**Claim for quantities
entered in the tender
or estimate.**

made there under and the orders that may be issued from time to time under the said Act and the said rules and on his failure or neglect to do so, he shall be subject to all the liabilities and penalties provided by the said act and said rules.”

CLAUSE- 38 (1): Quantities in respect of the several items shown in the tender are approximate no revision in the tendered rate shall be permitted in respect of any of the items so long as subject to any special provision contained in the specification prescribing a different percentage of permissible variation, the quantities of the items does not exceed the tender quantity by more than 25% and so long as the value of the excess quantity beyond this limit, at the rate of the item specified in the tender is not more than Rs.5000/-

(2) The contractor shall if ordered in writing by the Engineer so to do also carry out any quantities in excess of the limit mentioned in sub-clause (1) here of on the same conditions as and in accordance with specifications in the tender and at the rates.

(i) Derived from the rates entered in the current schedule of rates and in the absence of such rates (ii) at the rate prevailing in the marked the sand rates being increased or decreased as the case may be by the percentage which he total tendered amount bears to the estimated cost of the work as put tender. Based upon the schedule of rates applicable to the year in which the tenders were invited. **(For the purpose of operation of this clause, this cost shall be taken, as arrived at S.S.R for 2022-23 respective District)**

(3) Claims arising out of reduction in the tendered quantity of any item beyond 25% will be governed by the provision of clause 15 only when the amount of such reduction beyond 25% at the rate of the item specified in the tender is more than Rs. 5000/-

**Employment
offamine labour etc.**

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

Claim for compensation for delay in starting work.	<p>CLAUSE- 40: No compensation shall be allowed for any delay in the execution of the work on account of acquisition of land or in the case of clearance works on account of any delay in according to sanction to estimates</p>
Claim for compensation for delay in execution.	<p>CLAUSE – 41: No compensation shall be allowed for any delay in the execution of the work on account of water standing in borrow pits or compartments. The rates are inclusive of hard or cracked soil excavation in mud, sub- Soil water or water standing in borrow pits and no claim for an extra rate shall be entertained unless otherwise expressly specified</p>
Entering upon or commencing any portion of work.	<p>CLAUSE- 42: The contractor shall not enter upon or commence any portion of work except with the written authority and instruction of the Engineer in charge or of his subordinate in Charge of the work. Failing such authority, the contractor shall have no claim to ask for measurements of or payment for work.</p>
Minimum age of person employed the employment of donkeys and / or other animals and the payments of fair wages.	<p>CLAUSE- 43 :</p>
	<p>i) No contractor shall employ any person who is under the age of 18 years.</p>
	<p>ii) No contractor shall employ donkeys or other animals with breaching of string or thin rope. The breaching must be at least 7.50 m. wide and should be of tape (Newar).</p>
	<p>iii) No animal suffering from sores; lameness or emaciation or which is immature shall be employed on the work.</p>
	<p>iv) The Engineer in charge or his agent is authorized to remove from the work any person or animal found working which does not satisfy these conditions and no responsibility shall be accepted by Government for any delay caused in the completion of the work by such removal. v) The contractor shall pay fair and reasonable wages to the workmen employed by him in the contract undertaken by him. In the event of any dispute arising between the contractor and his workmen on the grounds that the wages paid are not fair and reasonable, the dispute shall be referred without delay to the Deputy Engineer (Civil), who shall</p>

decide the same. The decision of the Deputy Engineer (Civil), shall be conclusive and binding on the contract regarding the payment to be made by Government at the sanctioned tender rates.

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

vii) The contractor should take precaution against accidents, which take place on account of labour using loose garments while working near machinery.

Method of payment

CLAUSE- 44: Payment to contractor shall be made by cheque drawn on any treasury within the division convenient to them, provided the amounts exceed Rs. 10. Amount not exceeding Rs. 10/- will be paid in cash.

Acceptance of conditions compulsory before tendering for work

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

Employment of scarcity labor

CLAUSE- 46: If Government declares a state of scarcity or famine to exist in any village situated within 16 km. of the work, the contractor shall employ upon Such parts of the work, as are suitable for unskilled labor any person certified to him by the Deputy Engineer (Civil), or by any person to whom the Deputy Engineer (Civil), may have delegated this duty in writing to be in need of relief and shall be bound to pay to such persons wages not below the minimum which Government may have fixed in this behalf. Any disputes which may arise in connection with the implementation of this clause shall be decided by the Deputy Engineer (Civil), whose decision shall be final and binding on the contractor.

CLAUSE- 47: The price quoted by the contractor shall not in any case exceed the control price, if any, fixed by Government or reasonable price which it is permissible for him to charge a private purchaser for the same class and description the controlled price

or price permissible under Hoarding and Profiteering Ordinance, 1943 as amended from time to time. If the price quoted exceeds the controlled price or the price permissible under Hoarding and profiteering ordinance, the contractor will specifically mention this fact in his tender along with the reasons for quoting such higher prices. The purchaser at his discretion will in such case exercises the right of revising the price at any stage so as to conform with the controlled price on the permissible under the Hoarding and Profiteering Prevention Ordinance. This discretion will be exercised without prejudice to any other action that may be taken against the contractor.

CLAUSE- 47 (A): The tender rates are inclusive of all taxes, rates cesses except GST.

CLAUSE- 48: The rates to be quoted by the contractor must be exclusive of GST.

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

CLAUSE- 49(A): Contractor should note that recovery at penal rate of twice the issue rates will be affected if the contractor does not return surplus material. tax will be recovered from them

CLAUSE-50: The contractor shall employ the unskilled labour to be employed by him on the said work only from locally available labors and shall give preference to those persons enrolled under Government Employment and self-Employment Department's Scheme. Provided, however, that if the required unskilled labors are not available locally, the contractor shall in the first instance employ such number of persons as is available and thereafter may with previous permission, in writing of the Deputy Engineer (Civil)- in-charge of the side work, obtain the rest of his requirement of unskilled the labour from outside the

above scheme.

CLAUSE- 51: Wages to be paid to the skilled and unskilled labors engaged by the contractor. The contractor shall pay the labors skilled and unskilled according to the wages prescribed by the Minimum Wages Act 1948 applicable to the area in which the work of the contractor is located.

CLAUSE- 52: All amounts whatsoever which the contractor is liable to pay to the Government in connection with the execution of the work including the amount payable in respect of (i) materials and / or stores supplied / issued hereunder by the Government to the contractor (ii) hire charges in respect of heavy plant, machinery and equipment given on hire by the Government to the contractor for execution by him of the work and / or on which advances have been given by the Government to the contractor shall be deemed to be Arrears of Land Revenue and The Government may without prejudice to any other rights and remedies of the Government recover the same from the contractor as arrears of land revenue.

CLAUSE- 53: The contractor shall duly comply with all the provision of the contract (Labor Regulation and Abolition Act 1970.) (37 of 1970) and the Maharashtra contract Labor Regulation and Abolition Rules 1971 as amended from time to time and all other relevant status and statutory provision concerning payment of wages particularly to workmen employed by the contractor and working on the site of the work in particular the contractor shall pay wages to each worker employed by him on the site of the work at the rates prescribed under the Maharashtra Contract Labor (Regulation And Abolition) Rules 1971. If the contractor fails or neglects to pay wages at the said rates or makes short thereof less paid by the contractor, as the case may be the amount so paid by the Government to such works shall be deemed to be an arrears of land revenue and the Government shall be entitled to recover the same as such from the

contractor or deduct the same from the amount payable by the Government to the contractor here under or from any other amounts payable to him by the Government.

CLAUSE- 54: The contractor shall engage apprentices such as bricks layers, carpenters, wireman, plumber as well as blacksmith, as recommended by the state Apprenticeship Advisor Director of Technical Education, Dhobi Talao, and Bombay-1 on the construction work.

CLAUSE- 55(A): The antimalarial and other health measure shall be as directed by the joint. Director (Malaria and Filarial) of Health Services, Pune.

(B) Contractor shall see that mosquito genic conditions are not created so as to keep vector populations to the minimum level.

(C) Contractor shall carry out anti malaria measures in area as per guidelines prescribed under national malaria eradication program and as directed by the Joint Director (M& F) of Health Services, Pune.

(D) In case of default in carrying out prescribed antimalaria measure resulting increasing in malaria incidence contractor shall be liable to pay to Government the amount spent by Government on antimalarial measures to control the situation in addition to fine.

(E) **AUTHORITIES:** The contractor shall make sufficient arrangement for draining away the sullage water as well as water coming from the bathing and washing places and shall dispose of this water in such a way as not to cause any nuisance. He shall also keep premises clean by employing sufficient number of sweepers. The contractor shall comply with all rule's regulation, by laws and direction given time to time by any local or public authority in connection with this work and shall pay fees or charges with are livable on him without any extra cost to Government.

Annexure 5**Certificate of Geo - tagging**

- 1) Name of work
- 2) Tender Notice No.
- 3) Name of person visiting the site
- 4) Date of Visit
- 5) Time of Visit to

I have uploaded Geo-tagged photos in envelope no.1 along with this Certificate.

I have visited / studied scope of work, site conditions, verified provisions in Tender documents, resources available and difficulties / restrictions of site in all respect.

(Signature of Bidder/authorized representative)

**To,
Deputy Engineer
(Civil) MFSCDCL
Goregaon Mumbai**

(To be submitted on Stamp paper of Rs.500/-)

MEMORANDUM OF UNDERSTANDING FOR JOINT VENTURE AGREEMENT FOR

Name of work _____

DEED OF PARTNERSHIP

(JOINT VENTURE OF _____ AND _____)

This Memorandum of Understanding for Joint Venture Agreement made and entered into at on his _____ by and between:

Party No.1

1) Prime Contractor _____

AND

Party No.2

2) JV Partner

A) _____

B) _____

C) _____

D) _____

DEFINATIONS:-

In this deed, the following words and expression shall have meanings set out below:

“The Joint Venture” (“JV” for short) shall mean “_Joint Venture (JV)” and Joint Venture collectively acting in collaborations for the purpose of this agreement.

“Apex Co-ordination Body (ACB) shall mean the body comprising Director of the Parties to the Joint Venture”

“The Owner” shall mean Proprietor or Partner or Director.

“The Works” shall mean is:-

Name of work _____

“The Contract” shall mean the contract entered into or to be entered into between the “Joint Venture” and “The Owner” for the works.

JOINT VENTURE (JV)

(Whereas the Parties hereto declare that, they agree and undertake to form a Joint Venture for the purpose of Execution of the works, as an integrated Joint Venture. The JV shall be called as “**JOINT VENTURE**” for short) Provided that the Parties are Not under this agreement entering into any permanent Partnership or Joint Venture to tender or undertake any contract other than the subject works. Nothing herein contained shall be considered to construe the Parties or Partners to constitute either Party the agent of the other.

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

WITNESSES

WHEREAS **The Deputy Engineer, MFSCDCL Electrical Division, Goregaon** herein after referred as the **The Deputy Engineer**, have invited Tenders for the work of

Name of work _____

Hereinafter referred as **"The Works"**

Whereas PARTY NO. 1 and PARTY NO. 2 wish to execute the Contract, if awarded as per the terms of this indenture. Now, therefore this Deed of Partnership witnesses as follows:-

- 1) That, these recitals are and shall be deemed to have been part and parcel of the present MOU for JV.
- 2) That, this MOU shall come into force from the date of this MOU i.e. The day of _____
- 3) That, the operation of this MOU for JV firm concerns and is confined to "the works" only.
- 4) That, the name of the Joint Venture firm shall be _____ **and JV.**
- 5) That, PARTY NO. I and PARTY NO. II shall jointly execute the works according to all terms and conditions as stated in the relevant instructions contained in the Bid Documents / Contract as an integrated JV styled as

Name of work _____

That, this MOU for JV shall regulate the relations between the parties and shall include without being limited to them the Following conditions.

a) _____ Shall be the lead Company In charge of the Joint Venture for all intents and purpose.

b) The parties hereto shall jointly and severally liable to PWD for all acts, deeds and things pertaining to the Contract. The Contract for the works shall be signed by

Name of Authorized Signatory of _____ **& JV.**

d) That the Director of one of the parties of the JV, _____ shall be the lead Partner of the JV firm and shall have the Power to Control and Manage the Affairs of the **& JV.**

e) That, on behalf of the Joint Venture Lead Partner _____ has the Authority to incur liabilities, receive instructions and payments, sign and execute the Contract for and on behalf of the Joint Venture. All payments made under the contract shall be made into the Joint Venture's bank account.

e) One or two Bank accounts shall be opened in the name of JV to be operated by the Joint Signatory by representative of both the Partner of Joint Venture.

f) That each of the parties to the JV agrees and undertake to place at the disposal of the JV benefits of its individual experience, technical knowledge and skill and shall in all respects bear its share of the responsibility including the provision of information, advice and other assistance required in connection with the works. The share and the participation of the partners in the JV shall broadly be as follows:-

Name of Contractor Share of Percentage

1. Prime Contractor _____

2. Other Partners

A) _____

B) _____

C) _____

D) _____

Total 100%

And all rights, interests, liabilities, obligations, works experience and risks (and all net profit or net losses) arising out of the contract shall be shared or borne by the Parties in proportion to these share. Each of the parties shall furnish its Proportionate share in any bonds, guarantees, sureties required for the works as well as its proportionate share in working capital and other financial requirements, all in accordance with the decisions of the Apex Coordinating body.

g) Any loan/advances shall be shared by the PARTY NO. I and PARTY NO. II in the ratio of respectively.

h) All funds, finance or working capital required for carrying out and executing, the works or contract shall be procured and utilized by the parties are mutually agreed by them and they shall be liable and responsible for the same. Initial Capital of the JV firm shall be Rs.....

i) The execution of the work on the site will be managed by a Project Manager. The Project Manager shall be authorized to represent the JV on site in respect of matters arising out or under the contract.

j) The PARTY NO. I and PARTY NO. II shall be jointly and severally liable towards the owner for the execution of the contract commitment in accordance with contract conditions.

k) The JV shall be registered with the Registrar of Firms / Company, Maharashtra State. Prior written approval of PWD Maharashtra Govt. shall be obtained before any changes are proposed to be made in this Joint Venture Agreement, once it is registered with the Registrar of firms / Company, Maharashtra State.

l) This Joint Venture Agreement shall not be dissolved till the completion of the defect liability period as stipulated in the Tender Document conditions of the works and till all the liabilities thereof are liquidated.

m) That, no party to the JV has the right to assign any benefit, obligation or liability under the agreement to any third party without obtaining the written consent of the other partner and PWD Maharashtra Govt.

n) Bank account (s) in the name of the Joint Venture firm may be opened with any Nationalized / Scheduled Bank / Banks approved by GoM and the representatives of both partners are authorized to operate upon such accounts jointly.

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

o) That, the parties to the JV shall be responsible to maintain or cause to maintain proper Books of Accounts in respect of the business of the JV firm and the same shall be closed at the end of the every financial year.

p) That the financial year of the firm shall be the year ended on the 31st day of March every year.

q) That upon closure of the books of account, balance sheet and profit and loss account, as to the state of affairs of the firm, as at the end of the financial year and as to the profit or loss made, or incurred by the firm for the year ended on that date respectively, shall be prepared and the same shall be subject to audit by a Chartered Accountant.

LEGAL JURISDICTION

All matters pertaining to or emanating from this JV agreement involving the owner shall be subject to jurisdiction or High Court of Judicature, at Mumbai.

NOTICE AND CORRESPONDANCE

All correspondence and notices to the JV shall be sent to the following address:

IN WITNESS WHERE TO the parties have caused their duly authorized representative to sign below:

Sign for and on behalf of
Prime Contractor

Sign for and on behalf of
JV Partner E.I Work

Sign for and on behalf of
(JV Partner.....)

Sign for and on behalf of
(JV Partner.....)

Sign for and on behalf of
(JV Partner)

Witness

- 1.
- 2.

ADDITIONAL GENERAL CONDITIONS AND SPECIFICATIONS

1. These are to apply as additional specifications and conditions unless otherwise already provided for contradictorily elsewhere in this contract.

2. CONTRACTOR TO STUDY SITE CONDITIONS :-

The contractor shall be deemed to have carefully examined the work and site conditions including labor, the general and the special conditions, specifications, schedules and drawings and shall be deemed to have visited the site of the work and to have fully informed himself regarding the focal conditions and carried out his own investigation to arrive at rates quoted in the tender. In this regard, he will be given necessary information to the best of the knowledge of Department but without any guarantee about it.

If he shall have any doubt as to the meaning of any portion of these general conditions or the special conditions, or the scope of work or the specifications and drawings or any other matter concerning the contract, he shall in good time, before submitting his tender, set forth the particulars thereof and submit them to **Deputy Engineer (Civil), Dadasaheb Phalke Chitranagari, Goregaon** in writing in order that such doubts may be clarified authoritatively before tendering. Once a tender is submitted, the matter will be decided according to tender conditions in the absence of such authentic pre-clarification.

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

3. DECELERATION OF THE CONTRACTOR

The contractor should sign the declaration form.

4. INDEMNITY :-

The contractor shall indemnify the Government against all actions, suits, claims and demands brought or made against in respect of anything done or committed to be done

by the Contractor in execution of or in connection with the work of this contract and against any loss or damage to the Government in consequence of any action or suit being brought against the contractor for anything done or committed to be done in the execution of the works of this contract.

5. DEFINITIONS :

Unless excluded by or repugnant to the context.

- a) The expression “**Government**” as used in the tender papers shall mean the Dadasaheb Phalke Chitranagari(MFSCDCL)
- b) The expression “**MD**” as used anywhere in the tender papers shall mean Managing Director of the MFSCDCL
- c) The expression “**Joint MD**” as used in the tender papers shall mean an Joint Managing Director of MFSCDCL (by whatever designation he may be known) under whose control the work lies for the time being.
- d) The expression “**Employee**” used in the tender papers shall mean the party who will employ the contractor to carry out the works.
- e) The expression “**Architect/Consultant/PMC**” as used in tender paper shall mean the Authorized Technical/Planning/Design/Execution agency of MFSCDCL. for this work at Goregaon Mumbai.
- f) The expression “**Contractor**” as used in the tender papers shall mean the deed of contract together with of its original accompaniment and those later.
- g) The expression “**Plant**” as used in the tender papers shall means every machine necessary or considered necessary by the Engineer to execute, construct complete and maintain the works and used in altered, modified substituted and additional works ordered in the time and in the manner here in provided and all temporary materials and special and other articles of appliances of every sort, kind and description whatsoever intended or used hereof.
- h) “**Drawing**” shall mean the drawings referred to in the specifications and any modifications of such drawings approved in writing by Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- i) “**Engineer’s representative**” shall mean, and assistant of the Engineer notified

in writing to the contractor by the Engineer.

- j) “Provisional items” shall mean items for which approximate quantities have been included in the tender documents.
- k) The “Site” shall mean the lands and/ or other places, on, under, in or through which the work is to be executed under the contract including any other lands or places which may be allotted by Government or used for the purpose of contract.
- l) The “ Work ” shall mean the works to be executed in accordance with the Contract or part(S) thereof as the case may be and shall include all extra, additional, altered or substituted works as required for performance of the contract.
- m) The “Contract sum” shall mean the sum for which the tender is accepted
- n) The “Accepting Authority” shall mean the officer competent to accept the tender.
- o) The “Day” shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in any day.
- p) “Temporary Works” shall mean all temporary works of every kind required in or about the execution, completion or maintenance of the works.
- q) “Urgent Works” shall mean any measure which, in the opinion of the engineer-in-charge become necessary during the progress of the works to obviate any risk or accident or failure or which become necessary for security of the work or the persons working thereon.

Where the context so requires, words importing the singular only also include the plural and vice-versa.

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

Wherever there is mention of “Schedule of rates” of the Division or simply D.S.R. in this tender, it will be taken to mean as “the schedule of the rate of the Division in whose jurisdiction the work lies.

6. ERRORS, OMISSIONS AND DISCREPANCIES:

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

7. (a) METHODOLOGY OF CONSTRUCTION

Contractor shall furnish at least 15 days in advance, his programme of commencement of items of work, the details of actual methods that would be adopted by the contractor for the execution of various items of work such as well sinking cast-in-situ, superstructure for bridge work, earth work, W.B.M. black topping items etc. for road works supported by necessary drawings and sketch including those of the plant and

machinery that would be used, their locations, arrangement for conveying and handling materials etc. and obtain prior approval of the Engineer-in-charge well in advance of starting of such items of work. The Engineer-in-charge reserves the right to suggest modifications or make completion in the method proposed by the contractor, whether accepted previously or not, at any stage of work to obtain the desired accuracy, quality and progress of the work which shall be binding on the contractor and no claim on account of such change in method of execution will be entertained by Government so long as specification of the items remain unaltered. The sole responsibility for the safety and adequacy of the methods adopted by the contractor will however rest on the contractor irrespective of any approval given by the Engineer. In case of slippage from the approved work program at any stage the contractor shall furnish revised program to make up the slippage within the stipulated time schedule and obtain the approval of the Engineer to the revised program.

7-b) CONSTRUCTION EQUIPMENT

The contractor shall be required to give a trial run of the equipment's for establishing their capacity to achieve the laid down specifications and tolerance to the satisfaction of the Engineer before commencement of the work. All equipment provided shall be proven efficiency and shall be operated and maintained at all times, in a manner acceptable to the Engineer and no equipment or personal will be removed from situ without permission of the Engineer.

7-c) PROGRESS SCHEDULE

- i) The contractor shall furnish within the period of one month of the order to start the work, the program of work in CPM/PERT charts in quadruplicate indicating the date of actual start, the monthly progress expected to be achieved and the anticipated completion date of each major item of work to be done by him, also indicating dates of procurement and setting up to materials, plant and machinery. The schedule is to be such as is practicable of achievement towards the completion of the whole work in the time limit, the particular items, if any on the due dates specified in the contract and shall have the approval of the Engineer in charge. No revised schedule shall be operative without such acceptance in writing. The Engineer is further empowered to ask for more detailed schedule or schedules say. Week by week for any item or items, in case of urgency of work as will be directed by him and the contractor shall supply the same as and when asked for.

- ii) The contractor shall furnish sufficient plant, equipment and labour as may be necessary to maintain the progress schedule. The working and shift hours restricted to one shift a day for operations to be done under the Government supervision shall be such as may be approved by the Engineer-in-charge. They shall not be varied without the prior approval of the Engineer. Night work requiring supervision shall be such as may be approved by the Engineer-in-charge. They shall not be varied without the prior approval of the Engineer. Night work requiring supervision shall not be permitted except when specifically allowed by Engineer on each item if requested by contractor. The contractor shall provide necessary lighting arrangements etc. for night work as directed by Engineer without extra cost to Government.
- iii) Further the contractor shall submit the progress report of work in prescribed forms and charts etc. at periodical intervals as may be specified by the Engineer-in-charge. Schedule shall be in form of progress charts, forms progress statement and /or reports as may be approved by the Engineer.
- iv) The contractor shall maintain proforma, charts, details (regarding machinery, equipment, labor, materials, personnel etc.) as may be specified by the Engineer and submit periodical returns thereof as may be specified by the Engineer in charge.

8. AGENTS AND WORK ORDER BOOK

The contractor shall himself engage an authorized all – time agent on the work capable of managing and guiding the work and understanding the specifications and contract conditions. A qualified and experienced Engineer shall be provided by the contractor as his agent for technical Matters in case the Engineer-in-charge considers this as essential for the work and so directs the contractor. He will take orders as will be given by the Deputy Engineer (Civil), or his representative and shall be responsible for carrying them out. This agent shall not be changed without prior intimation of the Deputy Engineer (Civil), and his representative on the work site. The Engineer in charge has the unquestionable right to ask for change in the quality and strength of contractor's supervisory staff and to order removal from work of any of such staff. The contractor shall comply with such orders and effect replacements of the satisfaction of the Engineer, in charge. A work order book shall be maintained on site, and it shall be the property of the Government and the contractor shall promptly sign orders given therein by the Deputy Engineer (Civil), or his representative and his superior Officers, and comply with them. The contractor to the Engineer shall report the compliance in good

time so that it can be checked. The Department free of charge will be provided the blank work order book with machine numbered pages for this purpose. The contractor will be allowed to copy out instructions therein from time to time.

9. SETTING OUT :

I) SETTING OUT FOR BRIDGE/ROAD WORK : Immediately on receipt of the work order, the contractor shall at his own expenses clean the site and take up a provisional and final setting out and lining out of the work under the supervision of his responsible representative and shall provide necessary materials, labor, tools, instruments etc. required for the same. One tentative abutment location will be indicated by the Engineer in charge and center line of the bridge shall be defined by him. The contractor will then have to fix up the location of the other abutment. The abutment locations will then be verified by the Department and maybe adjusted. Once the final location of abutments is so finalized, it will be the contractor's responsibility to line out and locate the remaining foundations of piers.

The contractor shall be responsible for true and proper setting out of the work and for the correctness of the positions, level, dimensions, and arrangements of all parts of works and for providing all necessary instruments appliances and labors in connections therewith at his own cost. Officers may assist the contractor in proper setting out. Government instruments may be allowed to be used for setting out of work for which no cost shall be recovered from the contractor. If at any time during the progress of work, any errors arise in regard to levels or dimensions or alignment of any part of the work, rectification thereof, on being required to do so, will be carried out by the contractor at his own cost, unless such errors are based on incorrect data, supplied in writing, by the Engineer or his authorized representative in which case the expenses of the rectification shall be refunded by Government.

The checking of any setting out or checking of levels by the Engineer or his authorized representative shall not in any way relieve the contractor of his responsibility for the correctness thereof. The contractor shall carefully protect and preserve all benchmarks, site rails, pegs and other things used in setting.

II) SETTING OUT FOR ROAD WORK :

a) The contractor shall establish working benchmarks in the area soon after taking

possession of the site. The reference benchmarks for the area shall be as indicated in the contract document. The working benchmarks shall be at the rate of four per km. and also at or near all drainage structures, over bridge and under passes, the working benchmarks/ levels should be got approved from the Engineer. Checks must be made on these benchmarks once in every month and adjustment if any got agreed with the Engineer and recorded. An up-to date record of all benchmarks including approved adjustment, if any, shall be maintained by the contractor and also a copy supplied to the Engineer for this record.

- b) The lines and levels of formations, side slopes, drainage, carriageways and shoulders shall be carefully set out and frequently checked, care being taken to ensure that correct gradients and cross sections are obtained everywhere.
- c) In order, to facilitate the setting out of the works, the centre line of the carriageways or highway must be accurately established by the contractor and approved by the Engineer. It must then be accurately referenced in a manner satisfactory to the Engineer at every 50 m. intervals in plane and rolling terrain and 20 m. intervals in hilly terrain and at all curve points as directed by the Engineer with marker pegs and change boards set in or near the fence line, and a schedule of reference dimension shall be prepared and supplied by the contractor to the Engineer. These markers shall be maintained until the works reach finished formation level and are accepted by the Engineer.
- d) On construction reaching the formation level stage, the centre line shall again be set out by the contractor and when approved by the Engineer shall be accurately referenced in a manner satisfactory to the Engineer by marker pegs set at the outer limits of the formation.
- e) No reference peg or marker shall be removed or withdrawn without the approval of the Engineer and no earthwork or structural work shall be commenced until the center line has been referenced.
- f) The contractor will be the sole responsible party for safeguarding all survey monuments, benchmarks beacons etc. The Engineer will provide the contractor with the data necessary for the setting out of the Centre line. All dimensions and levels shown on the drawings or mentioned in document forming part or issued under the contract shall be verified by the contractor on the site and he shall

immediately inform the Engineer of any apparent errors or discrepancies in such dimension or level. The contractor shall after or in connection with the setting out of the center line, survey the terrain along the road and shall submit to the Engineer, for his approval, a profile along the road center line and cross sections at intervals as required by the Engineer.

- g) After obtaining approval of the Engineer, earthwork can commence and profile and across section shall form the basis for measurements and payments. The contractor is responsible for checking that all the basic traverse points are in place at the commencement of the contract and if any are missing, or appear to have been disturbed, the contractor shall make arrangements to re-establish these points. A "Survey File" containing the necessary data will be made available for this purpose. If in the opinion of the Engineer, design modifications of the center line or grade are advisable, the Engineer will issue detailed instructions to the contractor and the contractor shall perform the modifications in the field as required and modify the ground levels on the cross sections accordingly as many times as required. There will be no separate payment for any survey work performed by the contractor. The cost of these services shall be considered as being included in the cost of the items of work in the bill of quantities.
- h) The work of setting out shall be deemed to be a part of general works preparatory to the execution of work and no separate payment shall be made for the same.

III) RESPONSIBILITIES FOR LEVEL AND ALIGNMENT :

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

10. LEVELING INSTRUMENTS :

If measurements of items of the work are based on volumetric measurements calculated from levels taken before and after construction of the item a large number of leveling staves, tapes etc. will have to be kept available by the contractor at the site of work for this purpose, Lack of such leveling staves tapes etc. in required numbers

may cause delay in measurements and the work. The contractor will have therefore to keep sufficient number of these instruments readily available at the site and in good working condition.

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

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

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

11. CO-ORDINATION :

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

In case of any dispute or disagreement between the contractors, the Engineer's decision regarding the co-ordination, co-operation and facilities to be proved by any of the

contractors shall be final and binding on the contractor concerned and such a decision shall be final and binding on the contractor concerned and such a decision shall not vitiate any contract nor absolve the contractor of his obligations under the contract nor form the grounds for any claim or compensation.

12. ASSISTANCE IN PROCURING PRIORITIES, PERMITS ETC :

The Engineer on a written request by contractor, will, if in his opinion the request is reasonable and in the interest of work and its progress, assist the contractor in securing, the priorities for deliveries, transport, permits for controlled materials etc. where such are needed. The Government will not however be responsible for the non-availability of such facilities or delays on this behalf and no claims on account of such failure of delays shall be allowed by the Government.

The contractor shall have to make his own arrangement for machinery required for the work. However, if the same is conveniently available with the Department it may be spared as per the rules in force on recovery of necessary Security Deposit and rent at the rate approved from time to time by the independent agreement to this contract and the supply or non-supply of machinery shall not form a ground for any claim or extension of time for this work.

13. QUARRIES:

13.1 The contractor(s) shall have to arrange himself/themselves to procure the quarry.

However necessary assistance without any extra cost to Government will be rendered by the Department for procuring the quarries if required by the contractor.

The quarrying operations shall be carried out by the contractor with proper equipment such as compressor jack hammers, drill bits, explosive etc. and sufficient number of workmen shall be employed so as to get the required- out turn.

13.2 The contractor shall carry out the works in the quarries in conformity with all the rules and regulations already laid down or may be laid down from time to time by Government. Any cost incurred by Government due to non- compliance of any rules or regulations or due to damages by the contractor shall be the responsibility of the contractor.

The Engineer-in-charge or his representative shall be given full facility by the

contractor for inspection at all times of the working of the quarry, records maintained, the stocks of the explosives and detonators etc. so as to enable him to check that the working records and storage are all in accordance with the relevant rules. The Engineer-in-charge or his representative shall at any time be allowed to inspect the work, building and equipment at the quarries.

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

13.4 All quarrying operations shall be carried out by the contractor in organized and expeditions manner systematically and with proper planning, the contractor shall engage licensed blaster and adopted electric blasting and /or any other approved method which would ensure complete safety to all the men engaged in the quarry and its surroundings. The contractor shall himself provide suitable magazines and arrange to procure and store explosives etc., as required under the rules at his own cost. The designs and the location of the magazine shall be got approved in advance from the chief inspector of explosives and the rules and regulations in this connection as laid down by the chief inspector of explosives, from time to time shall be strictly adhered to by the contractor. It is generally experienced that it takes time to obtain the necessary license for blasting and license for storage of material from the concerned authorities. The contractor must therefore take timely advanced action for procuring all such licenses so that the work progress may not be hampered.

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

13.6 The approaches to the quarrying place from the existing public roads shall have to be arranged by the contractor at his own cost, and the approaches shall be

maintained by the contractor at his own cost till the work is over.

13.7 Since all stones quarried from Government quarry (if made by the contractor including the excavated over burden are the property of the Government, no stones or the earth shall be supplied by the contractor to any other agencies or works and are not allowed to be taken away for any other works. All such surplus quarried materials not required for work under this contract shall be property of the Government shall be handed over by the contractor to the Government free of cost at the quarry site duly heaped at the spots indicated by the Engineer-in-charge. If, however the Government does not require such surplus material, the contractor may be allowed to dispose off or use such material elsewhere with prior written permission of Engineer-in-charge. Leaving off a quarry face or opening of new quarry face shall be done only with the approval of the Engineer-in-charge.

13.8 Quarrying permission will have to be directly obtained by the contractor from the Collector of the District concerned for which purpose the Department will render necessary assistance. All quarry fees, royalty charges, Octroi duties ground rent for stacking material etc. if any to be paid shall be paid directly by the contractor as per rules in force.

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

13.10 The contractor shall not use any land in the quarry for cultivation or for any other purpose except that required for breaking or stacking transporting stones.

14. COLLECTIONS OF MATERIALS :

- (i) Where suitable and approved MFSCDCL. Department's quarries exist, the contractor piece of work will be allowed if otherwise there is no objection to obtain the materials to the extent required for the work from the quarry. He will be however, liable to pay compensation, if any damage is caused to the quarry either deliberately or through negligence or for wastage of materials by himself or his staff or labor. The contractor shall pay necessary royalty in advance.
- (ii) Where no suitable MFSCDCL. Department's quarries exist or when the quality

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

- (III) The rate in the tender includes all incidental charges such as opening of new quarry, opening out a new portion in an existing quarry, removing top soil and the unsuitable material, dewatering a quarry, cost of blasting powder and fuse, lift lead, repairs of existing cart tracks, making new cart tracks, control charges Central/State Government or Municipal taxes.
- (M) The rates in the tender are for the delivery of approved material on roadside property stacked at places specified by Engineer-in-charge and are inclusive of conveyance charges in respect of the leads and lift. No claim on account of the charges in lead will be entertained.
- (M) No material shall be removed from the land within road boundary or the land touching it without the written permission of the Engineer-in-charge or his authorized agent. If any material is unauthorized obtained from such places, the contractor or piece worker shall have to make good the damages and pay such compensation, in addition as may be decided by the Deputy Engineer (Civil) and will have stop further collection.
- (M) Any material that on any MFSCDCL Owned Road from the cart etc. during conveyance shall be immediately picked up a removed by the contractor or piece worker, failing which it will be got removed departmentally at his cost. No heap shall be left prior to stacking even temporarily on the road surface or in any way so as to cause any obstruction or danger to the traffic. The contractor or the piece worker shall be liable to pay for any claims of compensation etc. arising out of accident etc. Any such material causing obstruction danger etc. Will be got

removed departmentally at his cost and no claims for any loss or damage to the material, thus removed, will be entertained. The contractor shall also be responsible for the damage or accident etc. arising out of any material that falls on the road or track, not in charge of the Department and shall attend to any complaints, which may be received.

- (VI) The material shall not be stacked in place where it is liable to be damaged or lost due to traffic passing over it, to be washed away by rains or flood, to be buried under the land slide etc. or to slip down on embankment or hill side etc. No claims for any loss due to these and similar causes will be entertained.
- (VII) Before stacking, the material shall be free from all earth, rubbish, vegetable matter, and other extraneous substances and in the course of metal, screened to gauge, if so directed. When ready, it shall be stacked entirely clear of the roadway, on ground which has been cleaned of vegetation and leveled. On high banks, Ghat roads etc. where it may not be practicable to stack it entirely clear of the roadway, it may be stacked with the permission of the Engineer-in-charge on berms in such a way as to cause minimum danger and obstruction to the traffic or as may be directed by him.
- (X) The size of the stacks for the materials other than rubble shall be 3.00 x 1.50 x 0.60 meter or such other size as may be directed by the Engineer – in-charge and all but one stack in 200 meters shall be of the same uniform size and shall be uniformly distributed over whole lengths. One stack (at the end) in each 200 meter may be of length different from the rest in order to adjust total quantity to be required but its width and height will be the same as those of the rest.
- (X) The Engineer In charge's office shall supply the contractor with a statement showing 200-meter wise quantities that will be required and the order in which the collection is to be done. No materials in excess of requirements in that 200 meter shall be stacked. Any excess quantity shall be removed at the expenses of the contractor or piece worker to where it is required before the material in that 200 meter is finally measured.
- (XI) In stacking material, the deposition shall commence at the end of the km farthest from the quarry and be carried continuously to the other end (unless otherwise

directed by the Deputy Engineer Civil). Stacking in one 200 meters shall be completed before it is started in another unless directed otherwise in writing by the Deputy Engineer (Civil). Measurements of the materials stacked in the 200 meter will not be recorded until the full quantity required has been stacked unless otherwise authorized by Engineer in writing. Collection and spreading shall not be carried out at the same time one and the same km or in two adjoining kms. except with the written permission of the Deputy Engineer (Civil).

(XII) Unless otherwise directed, the materials shall be collected in the following order according to availability of space.

(1) Rubble (if included in tender). (2) Metal, (3) Soft murmur and (4) Hard murum. Hard Murum shall be stacked on the side opposite to that on which soft murmur has been stacked. Similar, metal collected for petty repairs shall be stacked on the side opposite to metal for new layer. Where metal for two layers has been stacked as in the case of new roads, the metal for each layer shall be stacked on the opposite sides of the road.

(XIII) All road material shall be examined and measured before it is spread. The labor for measurements (and check measurements wherever carried out) shall be supplied by the contractor or piece worker. Immediately after the measurements are recorded, the stacks shall be marked by the contractor or piece worker by whitewash or otherwise as may be directed by the Deputy Engineer (Civil) to prevent of any possibility of the same material being measured and recorded over again and to prevent any unauthorized tampering with the stacks. If the contractor or the piece worker fails to attend the measurements of materials after receiving the notice from the Sub- Divisional Officer or his subordinate stating date and time of the intention to measure the work, the same shall be measured nevertheless and no piece worker fails to supply sufficient labor for the materials required at the time of measurements or check measurements after due notice has been given to him, the expenses incurred on account of employing departmental labor or material etc. shall be charged against his account.

(XIV) No deduction will be made for voids.

15. TEMPORARY QUARTER AND SITE OFFICE :

- (1) The contractor shall at his own expense maintain sufficient experienced supervisory staff etc. required for the work and shall make his own arrangement for housing such staff with all necessary amenities. General labor plan for such structures shall be got approved from the Engineer-in-charge.
- (2) The contractor shall provide, furnish, maintain and remove on completion of the work, a suitable office on the work site for the use of Deputy Engineer (Civil)'s representative. The covered area exclusive of verandah should not be less than 37.17 sq. It may have bamboo matting walls and asbestos or corrugated iron roof; paved floor should be 45 cm. above ground level. He should provide latrines, urinals and keep them clean daily. This will be supposed to be included in his rate.

16. TREASURE TROVE :

In the event of discovery by the contractor or his employees, during the progress of the works of any treasure, fossils, minerals or any other articles of value or interest the contractor shall give immediate intimation thereof to the Engineer such Treasure or thing which shall be the property of the Government.

17. PATENTED DEVICES, MATERIALS AND PROCESSES :

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

18. EXPLOSIVES :

The contractor shall at his own expenses contract and maintain proper magazines, if surcharge required for the storage of explosive for use in connection with the works such magazine being situated, construction and maintained in accordance with the Government prevalent rules applicable on that behalf. The contractor shall at his own expense obtain such license or licenses as may be necessary for storage and using explosives. Notwithstanding that the location etc. for storage of explosives are approved by the Engineer, the Govt. shall not bear any responsibility whatsoever in connection with the storage and use of explosive on the site or any accident or occurrence whatsoever in connection there with, all operations of the contractor in or for which explosive

employed being at the risk of the contractor and upon his sole responsibility in respect thereof.

19. DAMAGE BY FLOODS OR ACCIDENTS :

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

20. POLICE PROTECTION :

For the special protection of camp of the contractor's works, the Department will help the contractor as far as possible to arrange for such protection with the concerned authorities. The cost is borne by the contractor.

21. TRAFFIC REGULATION :

21.1The contractor shall regulate the traffic as per directions of engineer-in-charge. The contractor shall have to provide necessary caution boards, barricades, flags, lights, and watchman etc. so as to comply with the latest motor vehicles rules and regulations and for traffic safety and he shall be responsible for all claims for the accidents which may arise due to his negligence whether in regulating the traffic or in staking material on the roads, or due to any other reasons.

21.2The contractor shall at all times carry out the work on the road in a manner creating least interference to the flow of traffic which consistent with the satisfactory execution of the same. For all works involving improvements to the executing road, the contractor shall in accordance with the directives of the Engineer-in-charge, provide and maintain during the execution of work a passage for traffic, along a part of the existing carriage way under improvement. Or along a temporary diversion constructed close to the road.

21.3 It is to be clearly understood that whatever work carried out by the contractor for construction of diversion road including the earth work. W.B.M. bituminous surface, traffic, due to floods or due to any other cause, this diversion road and / or the R.C.C. drain gets damaged it shall be repaired and maintained by the contractor in good condition till completion of the whole work at his own expenses.

21.4 The contractor has to make own arrangement for temporary acquisition of land if

required for diversion.

22. SUPERVISION AND INSPECTION OF WORKS AND QUALITY CONTROL

22.1 SUPERVISION :

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

22.2 INSPECTION :

The contractor shall inform the Engineer-in-charge in writing when any portion of the work is ready for inspection giving him sufficient notice to enable him to inspect the same without affecting the further progress of the work. The work shall not be considered to have been completed in accordance with the terms of the contract until the Engineer-in-charge shall have certified in writing to that effect. Approval of materials or workmanship or approval of part of the work during the progress of execution shall not bind the Engineer-in-charge or in any way affect him even to reject the work which is alleged to be completed and to suspend the issue of his certificate of completion until such alteration and modification or reconstruction have been effected at the cost of the contractor as shall enable him to certify that the work has been complete to his satisfaction.

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

22.3 INSPECTION OF OPERATION :

The Engineer and any person authorized by him shall at all times have access to the works and to all workshops and places, (including require documents) where work is

being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

23. INITIAL MEASUREMENTS FOR RECORD :

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

24. SAMPLES AND TESTING OF MATERIALS :

24.1 All materials to be used on work, as cement, lime, aggregate, stone, asphalt, wood, etc. shall be got approved in advance from the Engineer- in-charge and shall pass the tests and analysis required by him, which will be.

- (a) as specified in the specifications for the items concerned and/or
- (b) as specified by the Indian Road Congress Standard Specification.
- (c) I.S.I. Specification (whichever and wherever applicable) or
- (d) such recognized specifications acceptable to the Engineer-in- charge as equivalent there to or in the absence of such authorized specification.
- (e) such requirements test and / or analysis as may be specified by the Engineer in charge in the order of procedure given above.

24.2 The contractor shall at his risk and cost make all arrangements and / or shall provide for all such facilities as the Engineer-in-charge may require for collecting preparing testing required number of samples for tests or for analysis at such time and to such place or places as may be directed by the Engineer and bear all charges and cost of testing. Such samples shall also be deposited with the Engineer-in-charge.

- 24.3** The contractor shall as and when required submit at his cost the samples of materials to be tested or analyzed and if, so directed, shall not make use or incorporate in the work any materials represented by the samples until the required analysis have been made and after the test of the materials, finally accepted by the Engineer-in-charge.
- 24.4** The contractor shall not be eligible for any claim or compensation, either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of the materials
- 24.5** The contractor or his authorized representative will be allowed to remain present in the departmental laboratory while testing samples furnished by him. However, the results of all the tests carried out in the departmental laboratory in the presence or absence of the contractor or his authorized representative will be binding on the contractor.
- 24.6** Cost of routine day quality control testing charges for tests required as per specifications will be borne by contractor by sending the same to the concerned government MFSCDCL Approved Laboratories.
- 24.7** The contractor shall have at his own cost set up laboratory to carry out the routine tests of material, which are to be used on the work. The test will have to be carried out either in his field laboratory or in an approved laboratory. In case tests are carried out in field laboratory at least 25% testing should be carried out at the nearest MFSCDCL.D. quality control laboratory of the Department. Failing to which recovery at prescribed rate of MFSCDCL Quality Control laboratory will be effect from contractor's bill.
- 24.8** In case of material procured by the contractor, testing as required by the codes and specifications shall be arranged by him at his own cost. Testing shall be done in the presence of authorized representative of the Engineer-in-charge at the nearest approved MFSCDCL Laboratory. If additional testing other than as required by specifications is ordered, the testing charges shall be borne by the Department. If the test results are satisfactory and by the contractor if the same are not satisfactory.
- 24.9** In case of material supplied by the Government. If the contractor demands certain testing, the charges thereof shall be paid by the contractor. If the test results are satisfactory and by the department if the same are not satisfactory.
- 24.10** Testing shall be carried out at approved MFSCDCL.D. Government Laboratories or

institutions are directed by Engineer-in-charge and all testing charges shall be borne by the contractor.

24.11 15% of the rate shall be withheld and shall be released only after the receipt of the satisfactory test results whenever specified excluding concrete items. "Routine test shall mean testing of aggregate for gradation, flakiness index, impact value and binder contents".

24.12 Mix design of concrete items where specified shall be brought by the contractor at his own cost, from approved laboratory. Also testing of high tensile steel is to be done by the contractor at his own cost.

25. MISCELLANEOUS :

- 1) Rate shall be inclusive of Sale Tax, Turnover Tax, Octroi duty, General Tax, Royalty, and other taxes etc.
- 2) For providing electric wiring or water lines etc. recesses shall be provided, if necessary, through walls, slabs, beams etc. and later on refilled it with bricks or stones chipping cement mortar without any extra cost.
- 3) In case it becomes necessary for the due fulfillment of contract for the contractor to occupy land outside the Department limits, the contractor will have to make his own arrangements with the landowners and pay such rents, if any, are payable as mutually agreed between them. The Department will afford the contractor all the reasonable assistance to enable him to obtain Government land for such purpose of usual terms and conditions as per rule of Government.
- 4) The special provision in detailed specification or wording of any item shall gain precedence over corresponding contradictory provision (if any) in the standard specifications or MFSCDCL authorized Handbook where reference to such specifications is given without reproducing details in contract. Decision of the Engineer in charge shall be final in case of interpretation of specifications.
- 5) Suitable separating barricades and enclosures as directed shall be provided to separate material brought by contractor and material issued by Government to contractor under schedule "A" same applies of the material obtained from different sources of supply.
- 6) It is presumed that the contractor has gone carefully through the standard specification (Vol. I & II 1981 edition) M.O.S.T. Specifications (edition 1995) and the

schedule of rate of the Division and studied the site condition before arriving at rates quoted by him.

- 7) The stacking and storage of construction materials at site shall be in such a manner as to prevent deterioration or inclusion of foreign materials and to ensure the preservation of the quality, properties and fitness of the work. Suitable precautions shall be taken by contractor to protect the materials against atmospheric fire and other hazard. The materials likely to be carried away by wind shall be stored in suitable stores or with suitable barricades and where there is likelihood of subsidence of soil, heavy materials shall be stored on paved platforms. The contractor shall at his own expenses engage watchman for guarding the material and plant and machinery and working during day and night against any pilferage or damage and also for prohibiting trespasser.
- 8) For Road and Bridge works the contractor shall in addition to the specifications cited here, comply with requirements of relevant I.R.C. Code of Practice, M.O.S.T. specifications.
- 9) The contractor shall be responsible for making good the damages done to the existing property during construction by his men.
- 10) If it is found necessary from safety point of view to test any part of the structure, the test shall be carried out by the contractor with the help of the Department at his own cost.
- 11) The contractor shall provide, maintain, furnish, and remove on completion temporary shed for office on work side for the use of Deputy Engineer (Civil)'s representative.
- 12) Defective work is liable to be rejected at any stage. The contractor on no account can refuse to rectify the defects merely on reasons that further work has been carried out. No extra payment shall be made for rectification.
- 13) In the Schedule 'B' the work has been divided into sections but notwithstanding this, every part of it shall be deemed supplementary to and complementary of every other part.
- 14) General directions or detailed description of work, material and items coverage of rates given in the specification are not necessarily repeated in the Bill of Quantities/item wise specifications. Reference is however, drawn to the appropriate section clause(s) of the General specifications in accordance with which the work is to be carried out.

- 15) In the absence of specific directions to the contrary, the rates and the prices inserted in the items are to be considered as the full inclusive rates and prices for the finished work described there under and are to cover all labour, materials, wastage, temporary work, plant overhead charges and profits, as well as the general liabilities, obligations and risks arising out of the General Conditions of contract.
- 16) The quantities set down against the item in the Schedule 'B' are only estimated quantities of each kind of work included in the contract and are not to be taken as a guarantee that the quantities scheduled will be carried out or required or that they will not be exceeded.
- 17) All measurements will be made in accordance with the methods indicated in the specifications and read in conjunction with the General conditions of contract.
- 18) The details shown on drawings and all other information pertaining to the work shall be treated as indicative and provisional only and are liable to variation as found necessary while preparing working drawing which will be supplied by the Government during execution. The contractor shall not, on account of such variation be entitled to any increase over the ones quoted in the tender which are on quantity basis.
- 19) The recoveries if any from contractor will be affected as arrears of land revenue through the collector of the District.
- 20) Clause 101 to 107 of specifications of Road and Bridge work adhered herewith will be applicable to works as per Schedule 'B' unless specified otherwise in the detailed specifications of the relevant items.
- 21) All materials used in the construction shall conform to the requirements of specification clause under section- 1000 "Materials for structure" of specification of Road and Bridge works, M.O.S.T., New Delhi, and also the MFSCDCL.D. Standard Specification.
- 22) Extraneous materials and steps to minimize dust nuisance during construction shall be as per clause 111 of M.O.S.T. specification (Third Edition 1995).

26. CHANGE OF CEMENT CONTENTS ETC :

The tendered rates for any items, involving the use of cement shall apply to the quantity of cement specified for the mix for that item in the specifications. If for any reasons, expect those required for compensating the deficiencies in the components, the cement

content and properties are altered by the Executive (Engineer-in-charge) at any time or from time to time the tendered rates for that particular item and quantity or quantities, reduction in cost of the cement content from the laid down in the specification at the rates. Specified in D.S.R. of the district on which the estimate is based plus 10% to cover all other incidental change whatever. Likewise, if any additives compounds, water proofing materials etc. are ordered by the Engineer to be added to the mortar or concrete, no extra rate shall be payable for this change which shall be carried out as per directions of the Engineer-in-charge provided cost of such additives etc. is borne by Government or these are supplied free of costs to contractor at site by the Government. If the contents of cement in concrete used for work is less than 2% of Schedule 'A' consumption specified in item, then the rates of the item shall be reduced by difference in cost of cement specified in Schedule and actually used while carrying out work and shall be paid accordingly.

27. CEMENT CONCRETE :

- a) The contractor shall carry out all preliminary tests to work out grading and proportioning of aggregates in order to obtain and maintain uniform quality of work. The contractor shall supply all materials, labour and testing cost for preparing and testing samples as required by the Engineer. Unless otherwise specific in the detailed item wise specifications 3 cubes 150 mm x 150 mm x 150 mm will be tested for every 15 cubic meters of concrete or per day whichever is higher.

The contractor shall make field arrangements for slump test, density and bulk age testing and also prepare concrete cubes 150 mm x 150mm x 150 mm for testing compressive strength, at his cost. The cubes shall be got tested at approved laboratory and the test results shall not fall below those prescribed in MFSCDCL.D. Handbook (Table CVP. 412) or as laid down in the specifications. The cost of such cubes and tests shall be entirely borne by the contractor.

- b) All concrete shall be machine mixed, unless otherwise directed by the Engineer-in-charge for controlled or high-grade concrete, the grading of aggregate shall be got approved from the Engineer. The correct proportions and the total amount of water for the mix will be determined by means of preliminary tests and shall be got approved by the Engineer-in-charge however, such approval does not relieve the contractor from his responsibility regarding the minimum works strength requirements. Work test shall be taken in accordance with relevant codes and

specifications. The proportioning of aggregate shall be done by weight.

- c) All mixing shall be done by mechanical means in approved mixers. The Engineer may at his discretion, allow in writing hand mixing of concrete for minor items where in small quantities are involved but in that cases the contractor shall increase the cement content of the mixture by 10% without any extra cost.
- d) The form work used shall be made invariably of steel/with lining of steel or with plywood lining, wooden shutters may be allowed at the discretion of the Engineer, lintels, small slabs, and beams, copping etc.
- e) The concrete shall be mechanically vibrated for proper compaction by the method approved by the Engineer.
- f) The concrete shall be cured only by sweet potable water for full 21 days after the time of its placement or as may be directed by Engineer-in-charge.

27.1 REINFORCED CONCRETE WORK :

a) The work included in this contract shall be carried out in addition to these specifications detailed herein, in accordance with specifications and regulations as down the following standard specifications.

1. Standard Specification published by Government of Maharashtra 1985 Edition.
2. I.S. 8112 :- 1989–Specification for 43 grade ordinary port land cement.
3. **I.S. 383 :- 1976 – Specifications for coarse and fine aggregate from natural course for**
4. I.S. 1786 :- 1985- Specifications for cold twisted bars.
5. I.S. 432 :- 1982- Specifications for mild steel and medium steel bars.
6. **I.S. 456 :- 1978 - Code of practice for plain and reinforce. concrete.**
7. MOST :- Ministry of Surface Transport (Road Wing) Specification for Road and Bridge works (Third Revision) 1995 Edition.
8. **IRC :82 2015 : Code of Practice for Maintenance of Bituminous Roads**
9. **IRC SP:62-2014:Guideline for Design & Construction of Concrete Low Volume Pavement for Roads.**
10. **IRC SP:42 2014: Guidelines for Road Drainage**
11. IRC SP:73 2018:Manual of Specifications and Standards

If the standard specifications quoted above, fall short for the items quoted in these Schedules of this contract reference shall be made to the latest British Standard of Specifications. If any of the items of contract do not fall in reference quoted above the decision and specifications of the Engineer shall be final

27.2 ADDITIONAL GENERAL SPECIFICATION FOR ORDINARY AND HIGH GRADE CONCRETE :

If the concrete strength falls below that specified for the items and if the use can be permitted under clauses 303.3.7 of the I.R.C. Bridge code section. III given below, the unit (Bridge Component) may be accepted at the discretion of the Superintending Engineer concerned as a substandard work at a suitable reduced rate, reduced rate will be determined by the Deputy Engineer (Civil) concerned according to circumstances of the case and the concerned MD/Joint MD approval to the reduced rate as mentioned above is necessary. “Standard specification and code of Practice for Road and Bridge, Section III Cement concrete 303.3.7 standard of acceptance”.

- i) Full payment should be made when 75% of the test cube results are equal and above specified strength. Cases failing outside the above limits should be examined and decided by the Engineer-in-charge on merits on each case.
- ii) The test specimen should be taken by representative of the contractor in presence of a responsible officer of the rank of not lower than an Assistant Engineer/Deputy Engineer.
- iii) The test specimen should be formed carefully, and no claim shall be entertained later on, on the ground that the casting of the test specimen was faulty and that the results of the test specimen did not give correct indication of the actual quality of concrete.
- iv) The minimum quantity of cement per one cubic meter of M-15 grade and above concrete should be as per standard specification Book specification B 7.4 (1979 Edition).
- v) Payment:
 - a) The payment of such concrete work will not be made till the strengths are ascertained.
 - b) The payment of reinforcement of such affected items will not be made till the strengths of the concrete are ascertained.

27.3 FROM WORK AND STAGING FOR BRIDGE STRUCTURE :

1. For bridge structure forms for concrete shall be constructed of mild steel plates or marine plywood and be of substantial and rigid construction true to shape and dimensions shown on the drawings. Where metal forms are used all bolts and

rivets shall be counter sunk and well ground to provide a smooth plane surface.

2. Forms shall be mortar tight and shall be made sufficiently rigid by the use of ties and bracing to prevent any displacement or sagging between supports. They shall be strong enough to withstand all pressures ramming and vibrations, without deflection from the prescribed lines occurring during and after placing the concrete and shall be tight enough to prevent any appreciable loss of concrete during vibration. Screw jacks of hard wood wedges where required shall be provided to make up and settlement in the form work before or during the placing of concrete.
3. Schedule camber shall be provided in horizontal members of structure, especially in long spans to counter act the effects of any deflection, the form work shall be so fixed as to provide for such camber, if required.
4. Forms shall be so constructed as to make removal in sections in the desired sequence without damaging the surface of concrete or disturbing other sections.

27.4 NUMBER OF SETS OF STAGING AND SHUTTERING AND EQUIPMENT.

(FOR BRIDGE WORK ONLY-OPTIONAL)

In order to ensure completion of bridge within the stipulated period the contractor shall have to arrange a minimum member of sets of staging and shuttering as well as equipment of the required size for different components as stipulated hereunder.

[I]	for well foundations	[a]	Staging and shuttering	Nil Sets
		[b]	Equipment's	Nil Sets
[II]	for other items of Substructure	[a]	Staging and shuttering	Two Sets
		[b]	Equipment's	Two sets
[III]	for superstructure	[a]	Staging and shuttering	One set
		[b]	Equipment's	One set

Use of slip form shuttering wherever feasible will be preferred.

27.5 LOAD TEST OF SUPER STRUCTURE.

In the event of the reasonable doubts as to quality of workmanship or of materials used in construction, the contractor shall carry out a load test on superstructure for testing one complete unit of the same preferably the very first of it to be cast as directed by Engineer

in order to satisfy the Department about the strength of the structure of the adequacy of the procedure of working as sufficiency of methods followed, and results obtained. The load test shall be carried out as relevant specifications. The test shall be carried out for the full dead load and 125% live load including impact by observation of deflections a salient point and comparing them with those computed ones. They should closely agree with residual deflections after removal of live load after 24 hours and difference between the two shall not be more than 20% of the maximum ones if the recovery is less than 80% of the structure shall be deemed to unacceptable. In case there is any deficiency, the same shall be made good by the contractor by necessary strengthening of the untested component and necessary improvement shall be made in the units to be constructed next as warranted by their results of the test. The next unit will again be tested, and process repeated until absolutely satisfactory results are obtained, and the rest of work will be carried out according to the procedure giving such results.

27.6. COST OF LOAD TEST AND TESTING CHARGES OF ANY PART OF STRUCTURE

Load testing and testing of any part of the structure will be asked only in case of reasonable doubts. Cost of testing will have to be borne by the contractor if the results are not satisfactory, any by Department if satisfactory.

28. PROTECTION OF UNDERGROUND TELEPHONE CABLE AND AERIAL TELEPHONE WIRES AND POLES, TRANSMISSION TOWERS, ELECTRICAL CABLES AND WATER SUPPLYING LINES.

During the execution of work, it is likely that the contractor may meet with telephone cable, electrical cable, water supply lines etc. it will therefore be the responsibility of the contractor to protect them carefully all such cases should be brought to the notice of the Engineer-in-charge by the contractor and also the concerned Department. Any damages whatsoever done to these cables and pipelines by the contractor shall be made good by him at his cost.

29. MEDICAL AND SANITARY ARRANGEMENTS TO BE PROVIDED FOR LABOUR EMPLOYED IN THE CONSTRUCTION BY THE CONTRACTOR

- a) The contractor shall provide an adequate supply of pure and wholesome water for use of laborers on works and in campus.
- b) The contractor shall construct trench or semi-permanent latrines for the use of the Laborers. Separate latrines shall be provided for men and women.

- c) The contractor shall build sufficient number of huts on a suitable plot of land for use of laborers according to the following specifications:-
- (1) Huts of Bamboos and Grass may be constructed.
 - (2) A good site not liable to submergence shall be selected on high ground remote from jungle but well provided with trees, shall be chosen wherever it is available. The neighborhood of tank, jungle, trees, or woods should be particularly avoided, camps should not be established close to large cuttings of earthwork.
 - (3) The lines of huts shall have open space of at least ten meters between rows. When a good natural site cannot procure, particular attention should be given to the drainage.
 - (4) There should be no overcrowding. Floor space at the rate of 2.78 Sqm. per head shall be provided. Care should be taken to see that the huts are kept clean and in good order.
 - (5) The contractor must find his own land and if he wants Government land, he should apply for it. Assessment for it if made available Government.
 - (6) The contractor shall construct a sufficient number of bathing places. Washing places should also be provided for the purpose of washing clothes.
 - (7) The contractor shall make sufficient arrangement for drainage away the surface & sewage water as well as water from the bathing and washing places and shall dispose of this waste water in such a way as not to cause any nuisance.
- d) The contractor shall engage a Medical Officer with a traveling dispensary for camp containing 500 or more persons if there is no Government or other private dispensary situated within 8 km. from the camp. In case of an emergency the contractor shall arrange at his cost-free transport for quick medical help to his sick worker.
- e) The contractor shall provide the necessary staff for effecting a satisfactory conservancy and cleanliness of the camp to the satisfaction of the Engineer-in-charge. At least one sweeper per 200 persons should be engaged.
- f) The Assistant Director of Public Health shall be consulted before opening a

labors camp and his instructions on matters such as water supply sanitary conveniences, the campsite accommodation and food supply shall be followed by contractor.

- g) The contractor shall make arrangements for anti-malarial measures to be provided for the labors employed on the work. The anti-malarial measures to be provided for the labors employed on the work. The anti- malarial measures shall be provided as directed by Assistant Director of Public Health.
- h) Where are workers are required to work near machine and are liable to meet with accident, they should not be allowed to wear loose clothes like dhoti, zabba etc.

30. SAFETY MEASURES AND AMENITIES :

The contractor shall take all necessary precautions for the safety of the workers and preserving their health's while working on such job as require special protection and precautions wherever required. The following are some of the requirements listed, though not exhaustive. The contractor shall also comply with the directions issued by the Engineer in this behalf from time to time and at all times.

- (1) Providing protective footwear to workers, in situations like mixing and placing of mortar or concrete, in quarries and place where the work is to be done under too much wet conditions as also for movements over surfaces infected with oyster growth etc.
- (2) Providing protective head wear to workers, working in quarries etc. protect them against accidental fall of materials from above.
- (3) Taking such normal precautions like providing handrails to the edges of the floating platform or barges, not allowing nails or metal parts or useless timber to spread around it.
- (4) Supporting workmen with proper belts, ropes etc. when working on any masts, cranes, crips, hoist, dredgers etc.
- (5) Taking necessary steps forwards training the workers concerned on the use of machinery before, they are allowed to handle it independently and taking all necessary precautions in and around the areas where machines, hoists and similar units are working.
- (6) Providing adequate number of boats (if at all required for playing in water) To

prevent overloading and overcrowding.

- (7) Providing life belts to all men working at such situations, from where they may accidentally fall into the water, equipping the boats with adequate number of life belt etc.
- (8) Avoiding bare live wires etc. as would electrocute workers.
- (9) Making all platforms, staging and temporary structures sufficiently strong so as not to cause inconvenience and risk to the workmen and supervisory staff.
- (10) Providing sufficient first aid trained staff and equipment to be available quickly at the work site to render immediate first aid treatment in case of accidents due to suffocation's, drawing and other injuries.
- (11) Take all necessary precautions with regard to use of divers.
- (12) providing full length gum boots, leather hand gloves leather jackets with fire proof apron to cover the chest and back reaching up to knees and protective goggles for the eyes to the laborers working with hot asphalt handling vibrator in cement concrete and also where use of any or all these items is beneficial in the interest of health and wellbeing of the laborers in the opinion of the Engineer in Charge.
- (13) Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When ladder is used, an extra man shall be engaged for holding the ladder and if the ladder is used for carrying the materials as well as suitable footholds and handholds shall be provided on the ladder and ladder shall be given an inclination not steeper than 1:4 (1 horizontal and 4 vertical).
- (14) Scaffolding or staging more than 3.25 meters above the ground or floors, swing or suspended from an overhead support or erected with stationary supports shall have a guard rail properly attached, bolted, braced and otherwise assured at least one meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building

or structure.

- (15) Working platform, gangways and stairways shall be so constructed that they do not sag unduly or are more than 3.25 meters above ground level or floor level. It shall be loosely boarded, have adequate width and be suitably fenced as described in 14 above.
- (16) Every opening in floor of the building or in a working platform shall be provided with suitable protection to prevent fall of person or materials by provided suitable fencing or railing with minimum height of 1 meter.
- (17) Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length, width between side rails in hung ladder shall in no case may be less than 30 cms. for ladders up to and including 3 meters in length. For longer ladders, this width shall be increased at least 6 mm for each additional 30 cms of length uniform step shall not exceed 30 cms.
- (18) Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any or the sites shall be stacked or placed as to cause danger or inconvenience to any person or the public. The Contractor shall provide all necessary fencing and light to protect public from accident and proceeding of law that may be brought by any person for injury sustained owing to neglect of the above precaution and to pay any damages and costs which may be awarded in any such suit action or proceedings to any such person or which may with the consent of the Contractor, to be paid to compromise any claim by any such person.
- (19) All necessary personal safety equipment as considered adequate by the Engineer-in-charge shall be available for use or persons employed on the site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.
 - a) Workers employed on mixing asphaltic materials, cement or lime mortars concrete shall be provided with protective footwear and protective footwear and protective goggles.
 - b) Those engaged in handling any materials, which is injurious to eyes shall be

provided with protective goggles.

- c) Those engaged in welding works shall be provided with welder's protective eye shields.
- d) Stonebreaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- e) When workers are employed in sewers and manholes which are in use, the Contractor shall ensure that manhole covers are opened, and manholes are ventilated at least for an hour before workers are allowed to get into them. Manholes opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public.
- f) The Contractor shall not employ, men below the age of 18 years and the women on the work of painting with products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions shall be taken.
 - i) No paint containing lead or lead product shall be used except in the form of paste or ready-made paint.
 - ii) Suitable facemasks shall be supplied for use by workers when paint is applied in the form of spray or surface having lead paint, dry rubbed and scrapped.
 - iii) Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working painters to have wash during and on cessation of work.
- g) When work is done near any place where there is risk of drawing all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

Use of hoisting machines and shackle including their attachments, anchorage, and supports shall conform to the following.

- a) i) These shall be of good mechanical construction, round materials, and adequate strength and free from patent defects and shall be kept in good working order.

- ii) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and of adequate strength and free from patent defects.
- b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall over see any hoisting machine including any scaffolding.
- c) In case of every hoisting machine and of every chain, ring, hook, shackle, and pulley block used in hoisting or lowering or means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be clearly marked with safe working load.

In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.

- d) In case of departmental machines safe working load shall be notified by the Engineer-in-charge. As regards Contractor's machines, Contractor shall notify safe working load of each machine to the Engineer-in-charge whenever, he brings it to site of work and get it verified by the Engineer-in-charge. Motors, gearing transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with such means as will reduce the minimum risk to the accidental descent of load. Adequate precautions shall be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced, when workers are employed. On electrical installations, which are already, energized insulating wearing materials approved such as gloves, sleeves and coats as may be necessary, shall be provided. Workers shall not wear any rings, watches and carry keys and other materials, which are good conductor of electricity.

As scaffolds, ladders, and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at near places of work.

- e) These safety provisions shall be brought to the notice of all concerned by display

on a notice board at a prominent place at the work spot. Persons responsible for ensuring compliance with the safety code shall be named therein by the Contractor.

- i) To ensure the effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer-in-charge or his representative and the inspecting officers.
- ii) Failure to comply with the provisions here under shall make the Contractor liable to pay to the department as penalty an amount not exceeding Rs. 50/- for each default and decision of the Engineer-in-charge shall be final and binding. Notwithstanding the above conditions the Contractor is not exempted from the operation of any other Act or rules in force.

31. EXCAVATION AND TRENCHING :

All trenches, 1.5 meters or more in depth, shall at all times be supplied with at least one ladder for each 30 meters in length or fraction thereof. Ladder shall be extended from bottom of trench to at least 1 meter above surface of the ground, side of trench which is 1.5 meter or more in depth shall be stepped back to give suitable slope, are security held by timber bracing, so as to avoid the danger of side collapsing. Excavated materials shall be placed with 1.3 meters of edge of trench or half depth of trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall undermining or undercutting be done.

32. DEMOLITION:

Before any demolition work is commenced and also during the process of the work.

- a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- b) No electric cable or apparatus, which is liable to be a source of danger, or a cable or apparatus used by operator, shall remain electrically charged.
- c) All practical steps shall be taken to prevent danger to persons employed, from risk or fire or explosion or hoarding. No floor, roof or other part of a building shall be so overload with debris of materials as to render it unsafe.

33. SCOPE OF RATES FOR DIFFERENT ITEMS OF WORKS :

For item rate contract, the contract unit rates for different items of work shall be paid in full for completing the work to the requirements of specification including full compensation for all the operation detailed in the relevant sections of these specification under “Rates”. In the absence of any direction to the contrary, the rates are to be considered as the full inclusive rate for finished work covering all labors, Materials wastage, temporary work, plant equipment. Overhead charges and profit as well as the general liabilities, obligations and risks arising out of the General Conditions of Contract. The item rates quoted by the contractor shall, unless otherwise specified, also include compliance with supply of the following :

- i) General works such as setting out clearance of site before setting out and clear range of works after completion.
- ii) A detailed program for the construction and completion of works (using CPM/PERT techniques) giving, in addition to the construction activities, detailed network activities for the submission an approval of materials, procurement of critical materials and equipment, fabrication of special products/equipment, and their installation and testing and for all activities of the employer that are likely to effect the progress of work, etc. including updating of all such activities on the basis of the decisions taken at the periodic site review meeting or as directed by the Engineer.
- iii) Samples of various material proposed to be used on the work for conducting tests thereon required as per the provisions of the contract.
- iv) Design if mixes as per the relevant clauses of the specifications giving proportions of ingredients, sources of aggregates and binder along with accompanying trial mixes as per the relevant clauses of these specifications to be submitted to the Engineer for his approval before use of in the works,
- v) Detailed design calculations and drawing for all Temporary works (such as formwork, staging, centering, specialized constructional handling and launching equipment and the like.):
- vi) Detailed drawing for templates, support and end anchorage, details for prestressing, cable, profiles, bars bending and cutting schedules for

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reinforcement, material lists for fabrication and structural steel etc.

- vii) Mill test reports for all mild and high tensile steel and cast steel as per the relevant provision of the specifications.
- viii) Testing of various finished items and materials including bitumen, cement, concrete, bearing as required under these specifications and furnishing test reports/certificates:
- ix) Inspection Reports in respect of form work, staging reinforcement, and other items of work as the relevant specification.
- x) Any other data which may be required as per these specifications or the conditions of contract or any other annexure/schedules forming part of the contract.
- xi) Any other item of work which is not specifically provided in the bill of quantities, but which is necessary for complying with provisions of the contract and
- xii) All temporary works and false work. Portion of roads works beyond the limits and or any other work may be got constructed by the employer directly through other agencies. According, other agencies employed by the employer may be working in the vicinity of the work being executed by the contractor. The contractor shall liaise with such agencies and adjust his construction program for the completion of work accordingly and no claim or compensation due to any reason whatsoever will be entertained on this account. The employer will be indemnified by the contractor for any claims from other agencies on this account.
- xiii) All prevailing taxes levied by Government and as amended from time to time.

34. PAYMENTS :

The contractor must understand clearly that the rates quoted are for completed work and include all costs due to labor scaffolding, plant, machinery, supervision, power, royalties, octroi taxes etc. and should also include all expenses to cover the cost of night work if and when required and no claim for additional payment beyond the prices or rates quoted will be entertained.

The mode of measurements has been indicated in the specifications, if there is any ambiguity or doubt in this respect, the decision of Superintending Engineer will be final.

a) **RUNNING BILLS :**

Two payments in a month will be granted by Engineer-in-charge if the progress is satisfactory. Contractor should submit bills to the **Engineer- in- charge/appointed Consultants** in appropriate forms. The payments for work done will be made as and when the funds are available for this work under concerned head and no claims whatsoever from agency on account of delay in payment will be entertained by the department.

b) **FINAL BILL :**

The contractor should submit final bill within one month after completion of the work and the bill will be paid within 3 months if it is in order. Depending on availability of funds for this work and no claims whatsoever on account of delay in payment will be entertained by the department. Disputed item and claims if any shall be excluded from the final bill and settled separately latter on.

35. CLAIMS :

Bills for extra work or for any claim shall be paid separately apart from the interim bills for the main work. The payment of bills for the main work shall not be withheld for want of decision on the extras or claims not covered in the appendices. Claims for extra work shall be registered within 30 days of occurrences of the event. However, bills for these claims including supporting data/details maybe submitted subsequently.

36. PRIORITIES OF WORKS TO BE EXECUTED :

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

37. WAGES ACT :

The contractor shall comply with the provisions of payments of wages Act 1936. Minimum Wages Act 1948, Employee's Liability Act 1937, Workmen's Compensation Act 1923, Industrial Dispute Act 1947, Maternity Benefit Act 1961, Contractor Labour (R&A) Act 1970 migrant workmen (Regulation of Employment and conditions of service) Act 1979, or modifications there of or any other law relating thereto and rules and there under from time to time by the Government.

38. DISPUTE AND ARBITRATION :

No Arbitration is allowed.

39. ELECTRIC POWER :

Arrangement for obtaining Electric Power connection will have to be made by the contractor at his own cost. Electricity and water shall be provided by MFSCDCL on prevailing nominal charges of the Filmcity as per Deputy Engineer (Civil) instructions.

40. PRELIMINARY ARRANGEMENTS :

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

The contractor shall at his own expenses, engages watchmen for guarding the materials and plant and machinery and the work during day and night against any pilferage, damages and also for prohibiting trespassers or damage to them. The contractor shall have to make his own arrangements for water required for any purposes on the work.

The contractor after completion of work shall have to clean the site of all debris and remove all unused materials other than those supplied by the Department and all plant and machinery, equipment, tools etc. belonging to him within one month from the date of completion of the work, or otherwise the same shall be removed by the Department at his cost and the contract shall not be entitle for payment of any compensation for the same. Temporary storage place for materials and designated place for labour accommodation shall be arranged by MFSCDCL based on the actual availability of the same which will be communicated later by Deputy Engineer Civil.

41. ACCIDENT :

In the event of an accident involving serious injuries or damages to human life or death of any of his employees and or laborers or trespassers, the same the same shall be reported within 24 hours of the occurrence to the Deputy Engineer (Civil) and the Commissioner of Workmen's Compensation.

42. PLANT :

All constructional plant, provided by the contractor shall when brought on the site be deemed to be exclusively intended for the construction of this work and the contractor

shall not remove the same or any part thereof (Save for the purpose of moving it from the part of the site to another or for repairs etc.) Without the consent in writing of the Engineer- in-charge which shall not be unreasonably withheld.

43. PUBLIC UTILITIES :

In addition to clause 110 of M.O.S.T. (R.W.) Specifications for Road and Bridge works (Second Revision) 1988 following should be added Para 110.6.

Public utility service like HT Lines telephone line etc. that are visible at site should be taken notice of by the contractors while planning their works. It shall be the contractor's responsibility to inspect such services prior to the commencement of any work.

While executing the works, the contractors should take care to see that these services are not disturbed or damaged during the execution.

The Government will not be held liable or responsible for any delay in completion of the job under this contract which may occur due to any damage occurred to such services in consequence of the contractor's operations of delayed completion of the execution for the same.

44. DRAWINGS :

A) Contract Drawings/Details :

The contract drawings are very preliminary and provided for tendering purpose with the tender documents shall be used as reference only. Contractor should visualize the nature of type of work contemplated and should ensure that the rates and prices quoted by him in the bill of quantities take due consideration of the complexities of work involved during actual execution/construction work as an experienced contractor in the same field which involves developing their own drawings/details as may be required so as to happen error free Execution of work at the site within the agreed time line.

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

B) Completion Drawings :

The contractor shall submit to the Engineer within 2 (two months) of actual completion "Completion Drawings" as specified below and operation and

maintain instructions for the whole of the work.

These drawings shall be accurate and correct in all respect and shall be shown to and approved by the Engineer earlier. For “Completion Drawings” 2(two) prints and one polyester film of quality approved by the Engineer or his representative shall be supplied.

45. HANDING OVER OF WORK :

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

46. RELATION WITH PUBLIC AUTHORITIES :

The contractor shall comply with all rules, regulations, byelaws and directions given from time to time by local or public authority in connection with this work and shall himself pay fees or charges which are livable on him without extra cost to the Department.

47. DOCUMENTATION:

If so, ordered by the Engineer-in-charge, the contractor will prepare drawings of the work as constructed and will supply original and three copies to the Engineer who will verify and certify these, drawings Final as contracted drawing shall then be prepare by the contractor and supplied in triplicate to the Engineer for record and reference purposes at the contractor's cost.

The decision of architectural consultant/PMC consultant on all technical matter including supervision, quality analysis, quality testing, Quantity certification, and completion formalities shall be binding on contractor.

48. If the potable water is not available in the riverbed the contractor has to make his arrangement for potable water required for concrete mixing its curing and other parts of the construction for which no extra claim will be paid by the Department.

49. DAY- TO DAY QUALITY CONTROL OPERATIONS :

The day-to-day controls to be exercised by the contractor and engineer are enumerated in the below paragraphs.

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49.1 ALIGNMENT AND LEVEL, CONTROL :

- a) The contractor should locate the center line of the road from the pegs, pillars or reference point fixed during the location survey and from the information furnished in the contract drawings. Any discrepancy between the reference points on the ground and those on the drawings should immediately be brought to the notice of the Engineer for reconciliation.
- b) Based on the approved center line, contractor should set up batter pets (to delineate the limits of embankment / cutting and cleaning stakes to delineate limits of cleaning and grubbing) and have these got checked and approved by Engineer.
- c) The contractor should check the reduced levels of benchmarks set up along the alignment, Any discrepancy in the reduced levels of those at site and as indicated in the drawings should immediately be brought to the notice of the Engineer for reconciliation. The contractor should re- establish those benchmarks which are found missing at site and should establish additional bench means as needed, for ensuring effective level control.
- d) The contractor shall be responsible for the true and proper setting out of the works in relation to original survey points, lines and levels of reference given by the Engineer in writing. If at any time during the progress of the works any error shall appear or arise in the position, levels, dimensions or alignment of any part of the works, the contractor on being required to do so by the Engineer, shall at his own cost rectify the error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer.
- e) The contractor shall carefully protect and prepare all benchmarks, reference pillars and pegs used in setting out the works till final take over by the Engineer.

49.2 NATURAL GROUND FOR EMBANKMENT CONSTRUCTION / CUT FORMATION AND THEIR COMPACTION.

- a) Attesting limits in situ dry density and CBR of the material at ground / cut formation level, should be determined and got approved by the Engineer. Any unsuitable material shall be removed and replaced by better material as ordered by the Engineer.
- b) The Engineer quality control units shall have independent test checks on the

quality and compaction of the natural ground / cut formation. EMBANKMENT CONSTRUCTION

- c) All borrow areas shall be got approved by the Engineer based on result of tests for attesting limits proctor / modified proctor density, CBR and soil classification.
- d) Layer thickness and in- situ density shall be checked and got approved by the Engineer before proceeding to the next layer.

49.3 EMBANKMENT CONSTRUCTION :

- a) All borrow areas shall be got approved by the Engineer based on result of tests for Atterberg limits, proctor / modified proctor density, CBR and soil classification.
- b) Layer thickness and in – situ density shall be checked and got approved by the Engineer before proceeding to the next layer.

49.4 SUBGRADE :

- a) Specific borrow areas having soil satisfying the requirements of specifications and specified strength criteria shall be identified for use in sub grade and got approved by the Engineer.
- b) In case of any appreciable variation of inbuilt subgrade characteristics from the designed ones, the pavement design shall be reviewed to match the inbuilt characteristics of the sub grade.
- c) The soil used in actual construction of subgrade shall be remolded at density referred in sub para (d) below at placement moisture content and check for 4 days soaked and unsoaked
C.B.R. A set of 3 specimen shall be collected from each 300 cum. Area of the subgrade (i.e., top 0.50 m of embankment) for C.B.R. test.
- d) In situ density and C.B.R. of the constructed subgrade shall be checked and got approved by the Engineer before proceeding on with the next pavement layer.

49.5 SUB-BASE :

- a) The source of supply of materials shall be inspected tested and got approved by the Engineer before any material is delivered to site of works.
- b) Job- mix formula falling within the specified limits where applicable, shall be got approved by the Engineer based on test results thereof.

- c) Sample of the material from the laid sub-base shall be tested for gradation, PI
- d) Field compaction shall be checked and got approved by the Engineer before proceeding with the work on the next pavement layer.
- e) In case of any appreciable variation of inbuilt subbase characteristics from the designed ones, the pavement design shall be reviewed to match the inbuilt characteristics of the sub-base.

49.6 GRANULAR BASE COURSE :

- a) For graded type of granular material, the job mix formula falling within the specified grading limits should be got approved by the Engineer.
- b) Testing of aggregates brought to site of works for gradation and aggregate impact value should be done.
- c) Testing of filler material for WBM for gradation liquid limit and plasticity index shall be done.
- d) Field compaction control should be exercised for density and by other sensory checked such as observation of movement of layer under compaction, sinking / crushing of a piece of agyer guilt placed a moving roller completely removed of roller marks etc.

49.7 SHOULDERS :

- a) Checking for the quality of should materials including gradation sh all be done.
- b) Field compaction shall be checked at site onthe compacted layer.
- c) Checking for the cross fall built shall be done.

49.8 BITUMINOUS CONSTRUCTION GENERAL :

- a) Manufacture's test certificate for quality of bitumen will be acceptable to the Engineer. However, where the quality is in doubt, the Engineer may call for tests to be conducted by the contractor for verification.
- b) The base on which bituminous courses are to be laid must be dry and free of dust and other deleterious matters.
- c) Mineral aggregates to be used should be checked for their specification requirements and got approved by the Engineer.

49.9 BITUMINOUS SPRAYED WORK :

- a) Temperature of binder in the boiler and rate of spray at site shall be checked. Spraying shall be uniform and shall be carried out with the help of either self-

propelled or towed bitumen pressure sprayer with self-heating arrangements and spraying nozzles arrangements.

- b) Rate of uniformity of spread of chippings should be checked and controlled.
- c) Adequate embedment of the chippings by rolling shall be assured.

50. FIELD LABORATORY

The contractor shall arrange to provide a well-furnished and fully equipped field laboratory which shall be manned by adequately qualified technical staff. The laboratory shall be preferably located adjacent to the plant site and shall be provided with amenities like water supply, electric supply, toilet block etc. The laboratory equipment shall confirm to Clause

The equipment shall be preferably of AMIL make. This shall be considered as incidental to work and no separate payment whatsoever will be made for the same. The testing of materials of work should be carried out as per frequently laid by the MFSCDCL. Department. 25% of the test should be performed in MFSCDCL. Laboratory in variably, failing to which recovery at prescribed rate of should be effective from contractor's bill.

51. SUPPLY OF COLOURED RECORD PHOTOGRAPHS AND ALBUMS

The contractor shall arrange to take dated post card size-colored photographs at the rate of 10 photographs per kilometer at various stages/facts of the work including interesting and novel features of the work as desired by MFSCDCL. Laboratory the Engineer-in-charge and supply them in five copies each in separate albums of appropriate size.

He shall also arrange for the video Filming of important activities of the work during the currency of the contract and edit it to a video film of 60 to 180 minutes playing time. It shall contain narration of the various activities in English / Marathi by a competent narrator. The cassette shall be of acceptable quantity and the film shall be capable of producing colour pictures. This shall be considered as incidental to the work and no additional payment whatsoever will be made for the same.

52. SUPPLY OF SAFETY JACKETS TO LABOURES / SUPERVISORS / ENGINEERS.

As a safety measure during the execution of work all labors, construction and supervisory staff be provided with an orange color jackets in fluorescent blue to make them starkly visible from a distance even during evening hours.

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53. SUPPLY OF SAFETY JACKTS TO LABOURES / SUPERVISORS / ENGINEERS.

As a safety measure during the execution of work all labors, construction and supervisory staff be provided with an orange color jackets in fluorescent blue to make them starkly visible from a distance even during evening hours.

54. APPROVAL OF CONSTRUCTION MATERIALS AND CONSTRUCTION ACTIVIES.

Approval of all materials for the work shall be obtained in writing from Engineer-in-charge or his representative before its use in the project. Before taking up of any construction activity the construction work done earlier shall be got approved in writing. Any failure on this account may result in the work for which the contractor will be solely responsible. Materials and job mix etc. shall be got approved in writing at least 15 days in advance of the commencement of corresponding activity. The testing charges shall be borne by the contractor. Besides the prescribed tests and frequencies any other test or tests over prescribed frequency shall also be carried out by the contractor at his own cost if so directed by the Engineer- in-charge or his authorized representative.

55. MAINTENANCE :

55.1 The maintenance of the existing black topping surface length in the tender shall be the responsibility of the contractor after receipt of work order. The contractor shall attend and fill up potholes if formed on the existing B.T. surface in entire length under his contract. If the contractor fails to fill the potholes, the same shall be got filled by the Department on contractors risk and cost and recovery towards the expenditure. incurred by the Department on Potholes will be recovered though the R.A. bill of this work. The contractor should quote the rates offer considering this maintenance aspect.

55.2 The Contractor shall maintain the finished surface of road length in the tender for

a period of Three Years after the completion of work without any extra cost to Government irrespective of the designs, standards and specifications and the actual traffic etc. the Contractor shall get the potholes filled up with asphalt mix material and keep the road surface in good condition throughout the year. 5 % amount of the total work done shall be withheld from Running Account bills for 36 months from the actual date of completion of work as maintenance charge for maintenance charges for maintaining and keeping the road in good condition, this 5 % amount withheld towards maintenance charges shall be allowed to be replaced with other recognized form of interest-bearing Government securities at intermediate stage, if so desired in writing. These maintenance charges shall be in addition to security deposit of bank Guarantee of Schedules Bank.

55.3 On completion of the work in all respects necessary certificate will be issued by the concerned Deputy Engineer (Civil) and the defects liability period will be counted from the date of issue of certificate.

55.4 During defect liability period contractor is supposed to detect the defects or damages in the completed work. These defects and damages should be rectified within period specified in the notice of defect. If contractor fails to detect or carry out the repairs to such defect, the Engineer in charge will inform in writing about these defects and rectification will be carried out at contractors' risk and cost.

55.5 All damage during execution shall be made good by the contractors or his cost. He will be responsible for any damages to the road surface including B.T. surface in rainy seasons and during construction and guaranteed maintenance period. No separate payment will be made for restoring damages. "The Road and Bridge which are designed as per IRC-37 / IRC-58 & relevant IRC Code considering the life of Bituminous Road for 15 years / Cement Concrete road for 30 years & Bridges for 100 years. If during the period of Defect Liability (DLP) the said work is defective in the opinion of the Deputy Engineer (Civil), in any manner whatsoever, or bridge fall down within the designed period the Department may take Civil / Criminal disciplinary action against the Contractor."

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

55.7 In case of damages type failure will be investigated by Engineer-in- charge and repairs to the defective portion will be suggested accordingly. If contractor fails to rectify such damages within specified period in the instructions of Engineer-in-charge, then heavy penalty will be imposed and damaged work will be rectified at contractor's risk and cost. Equipment list of field laboratory.

Nos.		Nos.(Minimum required)
1.	Set of bucket for bulk density 30 lit. cap sample diving. (Various sizes 15, 20, 30 Lit.)	3
2.	Riffle Box (Sample Diving Box)	1
3.	Bitumen extractor (Hand/Electrically operated)	1
4.	Marshal stability testing machine.	1
5.	Field density (Send replacement method)	1
6.	Straight edge 3m. long ISMC 50 X 100	1
7.	M.S. Camber plate 2.75 m. 3.5 m. long	1 No. each
8.	Constant temporary Hot Water bath	1 No.
9.	Electronic weigh balance capacity upto 2000 g.	1 No.
10.	G.I. Trays of various sizes	12
11.	Digital thermometers capacity upto 2100 ^o C. with 100 least Count. 10 ⁰	1
12.	Electric Oven	1
13.	Marshall stability moulds with rammer	1 Set.
14.	Chemicals (Benzene/Trichloroethylene)	250 Liter.
15.	Filter papers	500/season
16.	Weight Box with 5 Kg. To 1 gm. Weights.	1
17.	Fractional weight Box & pan balance	1
18.	G-I/Brass Sieves of various sizes for gradation	1 No. each
19.	Pick axes	2
20.	Cooking gas / Kerosene burner with cylinder.	1
21.	Impact Test Apparatus (For coarse Aggregate)	1
22.	Flakiness and Elongation test gauges.	1
23.	Penetrometer with standard needle for asphalt test	

55.8 CONDITION FOR TREE PLANTATION: The contractor shall plant 100 trees per kilometer along the roadside or 50 plants in the premises of proposed building are whichever is applicable for the contractor. These plants / trees shall be maintained till the D.L.P. period is over.

56. ADDITIONAL SPECIAL CONDITIONS FOR HOT MIX HOT LAID BITUMINOUS WORKS :

(I) CLAUSE NO. 106 OF MINISTRY OF SUFACE TRANSPORT

SPECIFICATION 4TH REVISION):-

This clause stipulates certain conditions relating to choose and use of equipment which have relating to use of equipment which have relevance to production of quality work.

56.1The contractor shall be required to give a trial of the equipment for establishing their capability to achieve the laid down specifications and tolerances to the satisfaction of the Engineer before commencement of work.

56.2All equipment provided shall be of proven efficiency and shall be operated and maintained at all times in a manner acceptable to the Engineer.

56.3No equipment and personnel will be removed from the work site without the permission of the Engineer.

(II) CLAUSE NO. 901 OF MINISTRY OF SURFACETRANSPORT

SPECIFICATION 4TH REVISION. :-

- a) The responsibility for the quality of the entire construction work is on the Contractor. For this purpose, he is required to have his own independent and adequate set-up.
- b) The Engineer for satisfying himself about the quality of the materials and work will also have tests conducted by quality control units or by any other agency, generally to the frequency set out in the specifications. For tests to be the Engineer, the Contractor is to render all necessary co-operation and dispatching samples etc.
- c) For the work of embankment, sub grade and pavement, construction of subsequent layer of the same of other material over the finished layer shall be done only after obtaining approved from the Engineer.
- d) Contractor shall be responsible for rectifying / replacing any work fall in short

of quantity requirements as directed by Engineer In Charge.

(III) CLAUSES IN THE CONDITIONS OF CONTRACT:

- a) All materials and workmanship shall be of the respective type described in the contract and in accordance with the Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication of on the site. All samples be supplied by the contractor.
- b) No work is to be covered up or put out of view without the approval of the Engineer for his examination and measurement. During the progress of the work, the Engineer shall have the power to order, the removal from the site any unsuitable material substitution of proper and suitable material and the removal and proper re-rejection notwithstanding any previous tests or interim payment, therefore and of any work which in respect of materials or workmanship is not, in the opinion of the Engineer in accordance with the contract.

57. According to the contract, the contractor is responsible for the quality of the entire construction work. To meet this requirement :

- a. The contractor shall setup his own laboratory at location(s) approved by the Engineer. The laboratory shall be equipped with modern and efficient equipment with sufficient stand byes, suitable to carry out the test prescribed for different materials and work according to the specifications. The list of equipment to be procured and facilities to be provided shall be got approved by the Engineer. The equipment shall be maintained in a workable condition to the satisfaction of the Engineer.
- b) Sampling and testing procedures shall be in accordance with the relevant standards of BIS (previously called ISI) of IRC. Frequency of testing shall be as laid down in the Ministry's Specifications for Road and Bridge work (4th Revision.) In the absence of relevant Indian Standards, sampling and testing procedures shall be as approved by the Engineer.
- c) The laboratory should be manned by a qualified Materials Engineer assisted by Materials Inspector / Technicians, and the set-up should be got approved by the Engineer.
- d) The Contractor should prepare Printed Proforma for recording reading and results

of each of test, after getting the formats of the performance approved from the engineer. He should keep a daily record of all the tests conducted him. Two copies of the test results should be submitted to the Engineer for his examination and approval of which one copy will be returned to the contractor for being kept at site of work.

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

57.1 HOT MIXED AND HOT LAID BITUMINOUS CONSTRUCTIONS :

- a) Job mix formula satisfying specification requirements should be worked out based on laboratory test and got approved by the engineer. Engineer will have independent test made before appearing the job mix formula.
- b) The plant should be checked for capacity to produce mix confirming to the specification. If necessary, trial stretches should be laid and checked approximately.
- c) Control should be exercised on temperature of binder in the boiler, aggregate in the dryer and mix at the time of laying and rolling.
- d) The mix collected from the discharge point of the plant, extraction test for binder content and aggregate gradation should be performed to check the quality of mix discharged from the plant.
- e) Thickness and density of the compacted mix should be checked by taking core samples.
- f) Each truck/ tipper load of bituminous load shall be weighed on a standard weigh bridge. (Location to be decided by Engineer in charge) The record of weight of bituminous road thus obtained shall be kept in measurement book. The weighing of the bituminous load shall be done by the contractor at his expense in the presence of authorized representative of Deputy Engineer (Civil).
- g) The quality of mix (weight basis) physically arrived at site shall be tallied with the quantity arrived at by volumetric measurement. The register showing dispatch of bituminous load from plant, vehicle No. time of dispatch, temperature at the time

of dispatch etc. shall be kept in prescribed form at hot mix plant site. Similarly, the register showing vehicle number, time of arrival of vehicle at site, weight of vehicle with bituminous load, temperature of the mix at site etc. shall be kept by the Department, in the presence of contractor or his authorized representative (if he or his authorized representative is present at the site at that time). Both the registers shall be filled daily, and contractor shall sign the register every day in token of acceptance of the contents in register. The record maintained in the form of the register shall ensure quantity of the materials only. The maintenance of these registers does not absolve the contractor of his contractual obligation towards quality of the work.

- f) Contractor and Engineer in-charge shall maintain the details of mix in the prescribed proforma
- g) Location of Hot mix Drum Mix Plant should be such maximum time taken for transporting bituminous mix from plant site to paver does not exceed 60 minutes.

57.2 In case of cement concrete works :

- a) Besides manufacture's test certificate for quality of cement, at least set of physical and chemical tests should be conducted for each source of supply for verification. Where the quality is in doubt, or where the cement had been stored for long periods or in improper condition, or where the cement had been stored for long periods or in improper condition, the Engineer shall call for testing the cement at more frequent intervals.
- b) Job mix formula based on trials carried out in the contractor's laboratory should be got approved by the Engineer.
- c) The mineral aggregates should be tested for their properties. Water to be used for mixing should be tested for chemical impurities.
- d) Checking for stability and sturdiness of form work.
- e) Ensuring that the crucial equipment like mixers and vibrators are in working order before start of work.
- f) Control on water ratio.
- g) Control on workability and time elapsed between mixing and placing of concrete.
- h) Control on compaction and finishing.

- i) Tests on cube samples at 7 and 28 days.
- j) Check on provisions for adequate curing.

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

57.4 For R.C.C. work quality of steel in each batch may be approved on the basis of test certificate. The reinforcement layout should be checked for conformity with approved drawings and bar bending schedules. All laps should be checked for conformity with the specification. The reinforcement should be free from oil and loose rust scale and should be properly tied with binding wire.

57.5 PAVEMENT COURSES-GENERAL CONTROLS:

- a) The base on which the pavement layer is to be placed should be checked for levels and regularity and should be in a condition to receive the pavement layer.
- b) Each layer should be checked for thickness, levels, crossfall (camber) regularity and strength before next layer is permitted to be laid.

58. TECHNICAL REQUIREMENTS OF DRUM MIX PLANTS: GENERAL:

The drum mix plant should be of reputed make and proven design, sturdy in structure and capable of producing desired quality of mix as per specification for laying bituminous road surface and should have following essential arrangements.

58.1 COLD AGGREGATE FEEDER:

The cold aggregate feeder arrangement should have minimum 3 bins of sufficient capacity capable of storing different sizes of aggregates and fine to ensure continuous uninterrupted supply of aggregate matching the capacity of the plant. Each bin should have independent belt feeder system, driven by a variable speed motor and a central gate to ensure accurate aggregate feed to meet design mix formula. It is pre-requisite that only properly screened and graded materials are fed to the bins. There should be a gathering conveyor to receive and transport material discharged from bins with separate drive arrangement. There should be a screen or a suitable arrangement like battle plate at the discharge end of gathering conveyor for rejection of any oversize material above the permissible limit. The conveyor should be fitted with suitable electronic weight bridge device for weighing quantity of cold aggregate being fed to dryer drum. The plant should have a mineral filler arrangement with suitable control device to accurately

proportion the flow of filter material into dryer drum at appropriate stage.

58.2 DRYER DRUM:

It should be thermo drum type with smooth rotation arrangement to give rates output and capable of reducing the moisture content of the aggregate to desirable limit of 2 % to 6 % and achieving hot mix temperature (upto 1600 as per requirement) with such design that no blue smoke is omitted from the exhaust. The drum may have optional arrangement for feeding reclaimed material. There should be arrangement to restrict burner flame upto certain length in the drum before bitumen is injected. It should be fitted with positive displacement bitumen pump driven by variable speed motor Automatically controlled from control cabin capable of feeding desired quantity of bitumen synchronized with aggregate feed system. Thermos fluid system be an in-built feature to keep bitumen pump and pipes sufficiently not to avoid clogging of pipes.

58.3 BURNER:

The burner used should be capable of burning the fuel efficiently and develop the required temperature. It should be fitted with remote control system to detect flame failure and also electric spark ignition system or some other suitable arrangement. Burner operation should have thermostatic control of flame within the specified temperature range.

58.4 BITUMEN HEATER:

It should consist of an insulated tank of adequate capacity fitted with effective and positive control of temperature of allowing continuous circulation of bitumen between Bitumen Heater and proportioning units. Suitable arrangement should be provided for recording the temperature at the tank and in circulating system.

58.5 FUEL – SYSTEM

Fuel tanks should be of sufficient capacity and fitted with suitable type of fuel pump receiving the fuel from storage tank and supply to line heater and burner.

58.6 CYCLONE SYSTEM

Cyclone unit is required to control dust discharge within the admissible standard of pollution level.

58.7 OPERATING CONTROL UNIT:

The drum mix plant must have centralized control system with operation from a control cable located adjacent to the drum mix plant. The control system should be

capable of following.

- 1] Automatic control of speed of each bin feeder conveyor and gate, so as to control and regulate the flow of various grades of material to ensure constantly and accurate proportion of aggregates.
- 2] Pre-set and control the percentage of flow of aggregate and asphalt required as per design mix.
- 3] Automatic detection of plant operation failure, display of aggregate temperature, asphalt and mix temperature, aggregate flow etc. fully/ automatic aggregate blending, bitumen/ aggregate ratio control and burner control system.
- 4] Control for pre- setting the moisture content of aggregate displayed digitally.
- 5] Control for pre-setting the should be such that of desired it would be operated manually also.

58.8 SURGE SILO :

The plant may have optional arrangement to store hot mix material for a least equivalent of 30 % of rated capacity to cater for any delay in leading the tippers temporary storage silo should have adequate automatic hydraulic unloading arrangement operated either from the control cabin or manually with necessary safety control. The hot mix plant shall be as approved by the Engineer in charge before use for the work tendered.

59. WORK INSURANCE POLICY Contractor shall take out necessary insurance Policy / Policies (viz.Contractors All Risks Insurance Policy, Erection All Risks insurance policy etc. as decided by the Director of Insurance) so as to provide adequate insurance cover for execution of the awarded contract work for total contract value and complete contract period compulsorily from the Directorate of Insurance, Maharashtra State, Mumbai'' only. Its postal address for correspondence is "264 MHADA, First Floor. Opp. Kalanagar, Bandara (E) Mumbai – 400 051 '' Telephone Nos. 26590403 / 26590690 and Fax No. 26592461 / 26590403 similarly all workmen appointed to complete the contract work are required to insure under workmen's compensation Insurance Policy, Insurance Policy / Policies taken out from any other company will not be accepted. **If any contractor has affected insurance with any other Insurance Company, the same will not be accepted** and the amount of premium calculated by the Government Insurance Fund, Maharashtra

State. The Director of Insurance reserves the right to distribute the risks of insurance among the other insurances.

60. Building & Other Construction worker welfare cess :

One percent of the contract amount will be recovered from contractor towards Building and other construction workers welfare cess as per the building and other contraction workers welfare Act. 1996 @ one percent of value of work done in each bill.

61. Royalty (If applicable) :

Contractor should submit Royalty clearance certificate obtained from concerned Revenue authority along with each bill. If the certificate from Revenue authority is not submitted, amount of Royalty will be recovered from Contractor's bill in hand. After deduction from bills no refund shall be allowed even after resubmission of challans.

62. Additional Condition about availability of Funds:

The Budget provision for this work is less at present. The payment of bill will be made as per the availability of funds. No. claims will be entertained for delayed payments.”
“If situation arises, the work will be stopped at safe stage and will be withdrawn under clause 15 for which no compensations will be allowed. In order to enhance the road safety and to timely complete the side shoulders and roadside furniture, the contractor shall complete side shoulders along with MPM work and rode side furniture along with B.T. wearing coat.

Annexure "A"
Quality control tests

Sr.No.	Material	Test
01.	Masonry Stone	1. Compressive Strength
		2. Crushing Value
02.	Metal	1. Crushing Value
		2. Impact Value
		3. Abrasion Value
		4. Water Absorption
03.	Bricks	1. Crushing Strength
		2. Water Absorption
04.	Mangalore Tiles	1. Breaking load
		2. Water Absorption
05.	Flooring Tiles	1. Flexural Strength
		2. Water Absorption
06.	Glazed Tiles	1. Water Absorption
07.	Cement	1. Compressive Strength
		2. Initial Setting time
		3. Final Setting time
		4. Specific gravity
		5. Soundness
		6. Fineness
		7. Standard Consistency
08.	Steel	1. Weight per meter
		2. Ultimate Tensile stress
		3. Yield stress
		4. Elongation
09.	Granular	1. Density of compacted layer
		2. C.B.R.
10.	Lime / Cement stabilized soil sub base	1. Quality of lime / Cement
		2. Degree of pulverization
		3. Lime / cement content
		4. CDR or uncutting, composite test on a set of 3 specimens
		5. Density of Compacted layer
11.	Water Bound Macadam	1. Aggregate impact Value
		2. Flakiness index and Elongation Index
12.	Wet Mix Macadam	1. Impact Value
		2. Flakiness and Elongation Index
		3. Density of compacted of Layer
13.	Prime coat / tack coat / Fog spray	1. Quality of Binder
14.	Seal Coat, Surface Dressing	1. Quality of Binder
		2. Impact Value / Los Angeles Abrasion value
		3. Flakiness and Elongation Index
		4. Water Absorption
15.	Open graded premix of surfacing/ Close graded premix surfacing	1. Quality of Binder
		2. Impact value/ Abrasion value
		3. Flakiness and Elongation Index
		4. Water absorption
16.	Bituminous Macadam	1. Quality of Binder
		2. Impact value / Abrasion value
		3. Flakiness and Elongation Index
		4. Water absorption
		5. Water sensitivity of Mix
		6. Density of Compacted layer
17.	Bituminous	1. Quality of Binder
		2. Impact value / Abrasion value

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	Penetration Macadam, Built up spray grout	3.	Flakiness and Elongation Index
		4.	Water absorption
18.	Dense Bituminous Macadam Semi dense Bituminous Concrete/ Bituminous Concrete	1.	Quality of Binder
		2.	Impact value / Abrasion value
		3.	Flakiness and Elongation Index
		4.	Water absorption
		5.	Stability of Mix
		6.	Density of Compacted layer
		7.	Job Mix Design
19.	Mastic Asphalt	1.	Quality of Binder
		2.	Impact value / Abrasion value
		3.	Flakiness and Elongation Index
		4.	Water absorption
20.	Slurry seal	1.	Quality of Binder
21.	Modified Binder	1.	Softening point
		2.	Penetration at 25 ^o C and 4 ^o C.
		3.	Elastic Recovery
		4.	Ductility
		5.	Viscosity
		6.	Thin Film even test penetration, softening point, Elastic Recover } of residue, loss on heating
22.	Thermoplastic paint	1.	Glass bead contents and grading analysis
		2.	Reflectance and Yellowness index
		3.	Flow-ability
		4.	Drying Time
23.	Interlocking concrete paving block	1.	Compressive strength
		2.	Flexural test
		3.	Resistance to water
24.	Wood work(Shutters)	1.	End immersion test
		2.	Effluence test
		3.	Glue adhesion test
25.	Cement Concrete	1.	Mix Design
26.	Asphalt Concrete	1.	Design with all tests on basic Materials
27.	Reinforcement steel bars	1.	Tensile strength
		2.	%Elongation

Annexure "B"
Quality control tests and their frequencies

Sr.No.	Material	Test		Frequency of testing	Remarks
01.	Sand	1.	Fitness Modulus	At the beginning and if there is change in source	
		2.	Crushing Value		
02.	Masonry Stone	1.	Compressive Strength	A set of 5 stone for each quarry and for doubtful quality.	
		2.	Specific Gravity		
		3.	Water absorption		
03.	Metal	1.	Crushing Value	One test per 200 Cubic Meter or part thereof	MFSCDCL Hand Book IS 56 Part-II
		2.	Impact Value		
		3.	Abrasion Value		
		4.	Water absorption		
		5.	Flakiness Index		
		6.	Splint Value		
		7.	Gradation		
04.	Bricks	1.	Crushing Strength	A set of 15 Bricks for each 50,000 consignments	I.S. 1077
		2.	Water absorption		
05.	Mangalore Tiles	1.	Breaking load	A set of 6 tiles for each 50,000 tiles or part thereof	IS 654-1972
		2.	Water absorption		
06.	Flooring Tiles	1.	Flexural Strength		I.S. 1237-1989
		2.	Water Absorption		
07.	Glazed Tiles, Ceramic and vitrified tiles		Water Absorption	A set of 16 times of each 200 tiles or part thereof	IS - 777
08.	Cement concrete	1.	Compressive Strength	Upto 5 Cum - 1 Set	MOST Specification 1716
				6-15 Cum - 2 Sets	
				16-30 Cum - 3 Sets	
				31-50 Cum - 4 Sets	
				51 and above - 4 Sets + 1 additional set for each additional 50 cum. Or part thereof	
09.	Cement	1.	Compressive Strength	One test for each consignment of 50 M.T. (1000 bags) or part thereof	I.S. - 269 12269
		2.	Initial Setting-time		
		3.	Final Setting time		
		4.	Specific Gravity		
		5.	Soundness		
		6.	Fineness		
10.	Steel	1.	Weight parameter	One test for every 5.0 Metric Tonne or part thereof for each diameter	I.S. - 432
		2.	Ultimate Tensile stress		
		3.	Yield stress		
		4.	Elongation		

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11.	Granular	1.	Granular	One test per 200Cum.	MOST Specification Table900-3.
		2.	Aterberg limits	One test per 200Cum.	
		3.	Moisture content prior to compaction	One test per 250Cum.	
		4.	Density of compacted layer		
		5.	C.B.R.		
12.	Lime / Cement stabilized soil sub base	1.	Quality of lime /Cement	1 test for each consignment Min 1 test per 5 Metric Tonne Periodically as considered necessary. Regularly through procedural cheeks. As required.	MOST Specificati on Table900-3.
		2.	Degree of pulverization		
		3.	Lime / Cement content		
		4.	CDR or uncontained, composite test on asset of 3 specimens	One test per 250 Sqm.	
		5.	Moisture content prior to compaction		
		6.	Density of compacted layer	One Test per 500Sqm.	
13.	Water Bound Macadam	1.	Aggregate impact Value	One test per 200Cum.	MOST Specificati on Table900-3.
		2.	Gradation	One test per 100Cum.	
		3.	Flakiness index and Elongation Index	One test per 200Cum.	
		4.	Attenberg limits of binding materials	One test per 20 Cum for binding material	
		5.	Attenberg limits of portion of aggregates passing 425Micron	One test per 100Cum.	
14.	Wet Mix Macadam	1.	Impact Value	One test per 200Cum.	MOST Specificati on Table900-3.
		2.	Gradation	One test per 100Cum.	
		3.	Flakmess and Elongation Index	One test per 200Cum.	
		4.	Attenberg limits of portion of aggregates passing 425mix	One test per 100Cum.	
		5.	Density of compacted of layer	One Test per 500Sqm.	
15.	Prime coat / tack coat / Fog spray	1.	Quality of Binder	No. of samples per lotand test as per IS-73, IS-217, IS-8887 as applicable	MOST Specificati on Table900-3.
		2.	Binder Temperature	At regular close intervals	
		3.	Rate of spread of binder	1 test per 500 Sqm. And not less than 2 test per day.	
16.	Seal Coat / Surface Dressing	1.	Quality of Binder	Same as mentioned under Sr.No. 1	MOST Specificati
		2.	Impact Value / Los	One test per 50 Cum.	

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			Angles Abrasion Value		on Table900-4.
		3.	Flakiness and Elongation Index	One test per 50 Cum.	
		4.	Stripping value of aggregate(immersion tray test)	Initially one set of 3 representative samples for each source oversupply.	
		5.	Water absorption		
		6.	Water sensitivity of Mix	Subsequently by change in the quality of the	
		7.	Gradation	One test per 25 Cum.	
		8.	Soundness	Initially one determination by each method for each source of supply then as warranted by change in the quality of aggregate.	
		9.	Temperature of Binder	At regular close intervals	
		10.	Rate of spread of materials	1 test per 500 Sqm. And not less than 2 test per day.	
		11.	Percentage of fractured faces	When gravel is used one test per 50Cum.	
		17.	Open graded premix of surfacing / Close graded premix surfacing	1.	
2.	Impact value /Abrasion value			Same as per Sr.No. 16	
3.	Flakiness and Elongation Index			Same as per Sr.No. 16	
4.	Stripping value.			Same as per Sr.No. 16	
5.	Water absorption			Same as per Sr.No. 16	
6.	Gradation			Same as per Sr.No. 16	
7.	Water sensitivity of Mix			Same as per Sr.No. 16	
8.	Soundness			Same as per Sr.No. 16	
9.	Temperature of Binder			At regular close intervals	
10.	Binder Content			1 test per 500 Sqm. And not less than 2 test per day.	
11.	Rate of spread of materials			Regular control through check of layers	
12.	Percentage of fractured faces			Same as per Sr.No. 16	
18.	Bituminous Macadam			1.	Quality of Binder
		2.	Impact value / Abrasion value	Same as per Sr.No.16	
		3.	Flakiness and Elongation Index	Same as per Sr.No.16	
		4.	Stripping value	Same as per Sr.No.16	
		5.	Water sensitivity of Mix	Same as per Sr.No.16	

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		6.	Water absorption	Same as per Sr.No.16	
		7.	Soundness	Same as per Sr.No.16	
		8.	Percentage of fractured faces	Same as per Sr.No.16	
		9.	Gradation	2 tests per day per plan both on individual constituents and mixed aggregate from dryer.	
		10.	Binder Content & aggregate grading	Periodical subject to minimum of 2 tests per day per plant.	
		11.	Control of temperature of Binder and aggregates for mixing and of premix at the time of laying and rolling	At regular close intervals	
		12.	Rate of spread of mixed material	Regular control through check of layers thickness	
		13.	Density of Compacted layer	1 test per 250 Sqm.	
19.	Bituminous Penetration Macadam	1.	Quality of Binder	Same as per Sr.No.15	MOST Specification Table 900-4.
		2.	Impact value / Abrasion value	One test per 200 Cum.	
		3.	Flakiness and Elongation Index	One test per 200 Cum.	
		4.	Stripping value	Same as per Sr.No.16	
		5.	Water sensitivity of Mix	Same as per Sr.No.16	
		6.	Water absorption	Same as per Sr.No.16	
		7.	Soundness	Same as per Sr.No. 16	
		8.	Percentage of fractured faces	Same as per Sr.No. 16	
		9.	Gradation	2 tests per day per plan both on individual constituents and mixed aggregate from driver.	
		10.	Temperature of Binder	At regular close intervals	
		11.	Rate of spread of mixed material	Same as per Sr.No.16.	
20.	Dense Bituminous Macadam Semi dense Bituminous Concrete / Bituminous	1.	Quality of Binder	Same as per Sr.No.15	MOST Specification Table 900-4.
		2.	Impact value / Abrasion value	Same as per Sr.No.15	
		3.	Flakiness and Elongation Index	Same as per Sr.No.15	
		4.	Stripping value	Same as per Sr.No.15	
		5.	Soundness	Same as per Sr.No.15	
		6.	Water absorption	Same as per Sr.No.15	

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		7.	Percentage of fractured faces	Same as per Sr.No.15	
		8.	Sand Equivalent test	As required	
		9.	Plasticity Index	As required	
		10.	Mix Grading	One set of tests on	
		11.	Binder content	Individual constituents and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two tests per plant per day.	
		12.	Stability of Mix	For each 400 Tonnes of mix products.	
		13.	Water sensitivity of Mix	Same as per Sr.No.16	
		14.	Swell test of mix	As required for Bituminous concrete	
		15.	Control of temperature of Binder and aggregates for mixing and of premix at the time of laying and rolling	As regular close intervals.	
		16.	Rate of spread of mixed material	Regular control through checks on the weight of mixed material and layer thickness.	
		17.	Density of compacted layer	One test per 250 Sqm. Area.	
21.	Mastic Asphalt	1.	Quality of Binder	Same as per Sr.No.15	
		2.	Impact value / Abrasion value	Same as per Sr.No.16	
		3.	Flakiness and Elongation Index	Same as per Sr.No.16	
		4.	Stripping value	Same as per Sr.No.16	
		5.	Water sensitivity of Mix	Same as per Sr.No.16	
		6.	Water absorption	Same as per Sr.No.16	
		7.	Soundness	Same as per Sr.No.16	
		8.	Percentage of fractured faces	Same as per Sr.No.16	
		9.	Grading of aggregate	2 tests per day per plant both on the individual aggregates and mixed aggregate from the dryer.	
		10.	Binder content and grading of aggregate	Periodical subject to minimum of 2 tests per day per plant.	
		11.	Control of temperature of Binder and aggregates	At regular close intervals	

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			for mixing and of premix at the time of laying and rolling		
		12.	Rate of spread of mixed material	Regular control through checks on the weight of mixed material and layer thickness.	
22.	Slurry seal	1.	Quality of Binder	As per Sr.No. 15.	MOST Specification Table 900-4.
		2.	Film stripping test	Initially one set of 3 representative samples for each source of supply. Subsequently by change in the quality of the aggregates.	
23.	Modified Binder	1.	Softening point	Initially on submission thereafter daily if site blended, weekly if preblended.	MOST Specification Table 900-4.
		2.	Penetration at 25 ⁰ C and 4 ⁰ C.	--do--	
		3.	Elastic Recovery	--do--	
		4.	Ductility	--do--	
		5.	Viscosity	Initially on submission.	
		6.	Thin Film even test penetration, softening point, Elastic Recovery of residue, loss on heating	--do--	
24.	Thermoplastic paint	1.	Glass bed contents and grading analysis	One test for 3 Km. Work	
		2.	Reflectance and Yellowness index	--do--	
		3.	Flow-ability	--do--	
		4.	Softening point	--do--	
		5.	Drying Time	--do--	
25.	Interlocking concrete paving block	1.	Compressive strength	A set of 8 block for every 10,000 blocks	
		2.	Water absorption	--do--	
		3.	Flexural test	--do--	
		4.	Resistance to wear	--do--	

Name of Work Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Phalke Chitra Nagari at Goregaon Filmcity Goregaon East Mumbai 400065.

SCHEDULE-A (Not Applicable)

Schedule showing (Approximately) the materials to be supplied for the work contracted to be executed and preliminary and ancillary works and the rates at which they are to be charged for. (Work/materials/activities including all are a per schedule B for which contractor will be needed to quote in financial bidding).

Sr. No	Name of Material	Qty.	Unit	Rates in Figure	Rate in words	Place of Delivery
1	----- NIL-----					

- Note: - 1. All material is to be brought by the contractor at his own cost. Condition for material to be brought by the Contractor is attached separately.
2. R.C.C. pipes required for the construction of C.D. works (included in this work) should be purchased by the contractor from MFSCDCL approved Vendor/Company only.
 3. All taxes/GST shall be paid extra as per prevailing GST rules.
 4. For GST charges on Royalty and material testing, the receipt of payment of GST charges on royalty and testing charges shall be submitted by the contractor at the time of bill Payment and amount will be reimbursed to the contractor accordingly. The rates quoted by the contractors should be exclusive of GST. The contractor should pay GST whichever is applicable and submit the receipt to MFSCDC. The GST amount will be reimbursed to the contractor on producing the receipt /challan.
 5. GST @ 2 % at the rates as amended from time to time as intimated by competent GST Authority shall be deducted from bill amount, whether measured bills, advance payment, or secured advance.

Deputy Engineer (Civil)
MFSCDCL Goregaon Mumbai

PRICE VARIATION CLAUSE

(This Clause is just for preliminary reference only. The actual details for this clause shall be taken as per Latest PWD Guidelines/MFSCDCL Instructions as per applicability at actuals)

If during the operative period of the contract as defined in condition (I) below, there shall be any variation in the consumer price index (New Series) for Industrial workers **for Mumbai** center as percentage the Labor Gazette published by the Commissioner of Labor, Government of Maharashtra and /or in the wholesale price index for all commodities prepared by the office of Economic Adviser, Ministry of industry, Government of India, or in the prices of petrol / oil and Lubricants and major construction materials like bitumen, cement, steel, various types of metal pipes etc., then subject to the other conditions mentioned below, price adjustment on account of –

- (1) Labor Component
- (2) Material component
- (3) Petrol, Oil and Lubricants Component
- (4) Bitumen Component
- (5) TMT & Mild, HYSD Steel Component
- (6) Cement Component
- (7) C.I. and D.I. Pipe Component

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

(1) Labor Component	K1	05.00 %
(2) Material Component	K2	80.00 %
(3) POL Component	K3	15.00 %
(4) Bitumen Components		Actual
(5) TMT/Mild steel Component		Actual
(6) Cement Components		Actual
(7) C.I. and D.I. Pipe Component		NIL

Note: If cement, steel, are supplied on schedule A then respective components shall not be considered. Also, if particular component is not relevant same shall be deleted.

i) **Formula for Labour Component** To be used with Latest IRC recommendations

$$V1 = 0.85 \quad P \quad \left\{ \frac{K1}{100} \times \frac{L1 - L0}{L0} \right\}$$

Where =

V1 = Amount of price variation in Rupees to be allowed.

P = Cost of work done during the quarter under Consideration minus the cost of cement, HYSD/ TMT steel bitumen calculated at the basic star rates as applicable for the Tender, consumed during the quarter under consideration

- | | | |
|-----|---------------------|----------------------------------|
| (1) | Cement | Rs. 6000.00 Metric Tonne |
| (2) | TMT Steel (FE-500) | Rs. 61000.00 Metric Tonne |
| (3) | Asphalt VG-30 grade | Rs. 45530.00 Metric Tonne |

K1 = Percentage of Labour Component as indicated above.

Lo = Basic consumer price index for Mumbai Center ascertained as above of the previous calendar month preceding the last date prescribed for receipt of tender, falls.

L1 = Average consumer price index for Mumbai center ascertained as above during the quarter under consideration.

ii) **Formula for Other Material Component :**

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

Where =

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

P = same as worked out for labour component.

K2 = Percentage of materials component as mentioned above.

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

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

iii) **Formula for Petrol, Oil and Lubricant component.**

$$V3 = 0.85 \quad P \quad \left\{ \frac{K_3}{100} \times \frac{P_1 - P_o}{P_o} \right\}$$

Where,

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

P = same as worked out for labour component.

K3 = Percentage of petrol, oil, & Lubricant component.

P_o = Average price of HSD at Mumbai during the quarter preceding the month in which last date prescribed for receipt of tender, falls.

P₁ = Average price of HSD at Mumbai during the quarter under consideration.

iv) **Formula for Bitumen component:**

$$V4 = QB (B1 - B0)$$

V4 = Amount of price variation in Rupees to be allowed for Bitumen component

QB = Quantity of Bitumen (VG-30 Grade) in metric tonnes used in the permanent works and approved enabling works during the quarter under consideration.

B1 = Lowest Price of all the Government / Private refinery on the date of supply of Bitumen.

B0 = Basic rate of Bitumen in rupees per metric tonne as considered for working out value of P or average ex- refinery price in rupees per metric ton Excluding taxes (GST) of Bitumen for the grade of bitumen under consideration prevailing quarter preceding the month in which the last date prescribed for receipt of tender, falls, whichever is higher.

v) **Formula for HYSD /TMT/Mild Steel component.**

$$V5 = \left\{ \frac{S0 (SI1 - SI0)}{SI0} \right\} \times T$$

Where,

- V5 = Amount of price variation in Rupees to be allowed for TMT steel component
- S0 = Basic rate of TMT/HYSD/Mild Steel in rupees per metric ton as considered for working out value of P
- SI1 = Average Steel Index as per RBI Bulletin during the quarter under consideration.
- SI0 = Average of Steel Index as per RBI Bulletin for the quarter preceding the month in which the last date prescribed for receipt of tender, falls
- T = Tonne age of steel used in the permanent works for the quarter under consideration.

vi) **Formula for Cement component.:-**

$$V5 = \left\{ \frac{C0 (CI1 - CI0)}{CI0} \right\} \times T$$

Where,

- V6 = Amount of price escalation in Rupees to be allowed for cement component.
- C0 = Basic rate of Cement in rupees per metric ton as considered for working out value of P
- CI1 = Average cement index as published in the RBI Bulletin for the quarter under consideration.
- CI0 = Average of cement Index published in the s RBI Bulletin for the quarter preceding the month in which the last date prescribed for receipt of tender, falls
- T = Tonnage of cement used in the permanent works f o r the quarter under consideration.

vii) **Formula for C.I. / D.I. Pipe component**

$$V7 = Q4 (D1 - D0)$$

Where

V7 = Amount of price variation in rupees to be allowed for C.I. D.I. pipe components.

D1 = Pig Iron basic price in rupees per tonne considered for working out value of P.

D0 = Average pig Iron price in rupees per tonne during the quarter under consideration (published by IISCO)

Qd = Tonnage of C.I. / D.I. Pipes used in the works during the quarter under consideration.

The following conditions shall prevail:

- i) The operative period the contract shall mean the period commencing from the date of the work order issued to the contractor and ending on the date when the time allowed for the work specified. In the Memorandum under Tender for work expires, taking into consideration the extension of time, if any, for completion the work granted by Engineer-in-charge under the relevant clause of the conditions of contract in cases other than those where such the Engineer in charge as regards the cooperative period of the contract shall be final and binding on the Contractor. Where compensation for liquidated damages is levied on the contractor on account of delay in completion or inadequate progress under the relevant contract provisions the escalation amount for the balance work from the date of levy of such compensation shall be worked out by pegging the indices L1, C1, S1, B1, F1, and M1 to levels corresponding to the date from which such compensation is levied.
- ii) The price variation clause shall be applicable to all contractor to B1/ B2 & C form but shall not apply for piece works. The price variation shall be determined during each quarter as per formula given above in this clause.
- iii) The price variation under this clause shall not be payable for the extra items required to be executed during the completion of the work and also on the excess quantities payable under the provisions of clause 38/37 of the contract form B-1, since the rates payable for the extra items or the extra quantities under clause 38/37 are to be fixed as per the current

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DSR or as mutually agreed, subject to yearly revision till completion of such work. In other words, when the completion/ execution of extra items as well as extra quantities under clause 38 of the contract form B-1 extends beyond the operative date of the then DSR, the rates payable for the same beyond that date shall be revised with reference to the next current DSR prevalent at that time on year to year basis or revised in accordance with mutual agreement thereon, as provided for in the contract, whichever is less.

- iv) This clause is operative both ways i.e., if the price variation as calculated above is on the plus side, payment on account of the price variation shall be allowed to the Contract and if it is on the negative side, the Government shall be entitled to recover the same from the contractor and the amount shall be deductible from any amounts due and payable under the contract.
- v) To the extent that full compensation for any rise or fall in costs to the Contractor is not entirely covered by the provision of this or other clauses in the contract, the unit rate and prices included in the contract shall be deemed to include amounts to cover the contingency of such other actual rise or fall in costs.
- vi) The contractor shall produce the original Gate Passes / Invoices issued by refinery for claiming price variation (Difference Cost of Bitumen) In case the bitumen is purchased from private agents, the original copies of gate pass / Invoice issued by the refinery to relevant private agent shall be submitted along with this original bill. The gate pass/ invoice shall not be returned by this office.

CERTIFICATE

The above star rates mentioned in this DTP are calculated / workout as per instructions given in Government Resolution No. CAT/06/04/148/ Bldg.2 Dated 16.05.2005, Hence Certified.

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ADDITIONAL CONDITIONS FOR MATERIALS (CEMENT, M.S., H.Y.S.D. BARS, BULK ASPHALTS ETC.) TO BE BROUGHT BY CONTRACTOR.

1. All materials such as cement, Mild Steel, HYSD bars, bulk Asphalt etc. required for execution of work shall be brought by Contractor at his own cost.
2. The contractor shall maintain the record of these materials (Cement, steel, Bulk asphalt etc.) in the prescribed Proforma and registers as directed by Engineer in charge. The samples of prescribed Proforma are attached at the end. These registers shall be signed by both contractors and representative of Engineer in charge. These registers shall be made available for inspection, verification for the MFSCDCL Departments. As and when required. These registers shall be in the custody of department and shall be maintain by the department.
3. The material required only for this work shall be kept in the Godown at site No material shall be shifted outside of the go down except for the work for which this agreement is entered without prior approval of the Engineer in charge.
4. The material i.e., cement, steel, bulk asphalt etc. brought on the work site shall be accompanied with the necessary Company/Manufacturing firm's test certificates. In addition, this material shall be tested as per frequency prescribed by the Department and the cost of such testing shall be bourned by the contractor. If the test results are satisfactory, then and then only the material shall be allowed to be used on the work. If the test results are not as per standards, these materials shall be immediately removed from the work site at contractor's cost. In case of cement, If so, requested by the Contractor in writing, materials will be allowed to be used before receipt of the test results but this will be entirely at the risk and cost of the contractor.
5. The contractor shall produce sufficient documentary evidence i.e., bill for the purchase, Octroi receipts etc. for the purchase of material brought on the work site at once if so, requested by the Department.
6. All these materials i.e., cement, steel, Bulk asphalt etc. shall be protected from any damages, rains etc. by the contractor at his own cost.
7. The contractor will have to erect temporary shed of approved specification for storing of above materials at work site at contractor's cost having double lock arrangement (By Double lock it is meant that godown shall always be locked by two locks, one lock being owned & operated by contractor & other by Engineer in charge or his authorized representative and the door shall be openable after both locks are opened).

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8. If required, the weighment of cement bags/steel/bulk asphalt bouzers etc. brought by the contractor shall be carried out by the contractor at his own cost.
9. The contractor shall not use cement and other material for the items to be executed outside the scope of this contract except for such ancillary small item as are connected and absolutely necessary forexecution of this works as may be decided by the Engineer in charge.
10. The Govt. shall not be responsible for the loss in cement, steel, bulk asphalt etc. during transit to work site. The cement brought by the contractor at the work site store shall mean 50 kg. Equivalent to 0.0347 cubic meter per bag by weight. The rate quoted should correspond to this method of reckoning. In case of ordinary controlled concrete, if cement is found short, the shortage/ shortages will be made good by the contractor at his cost.
11. Indemnity:
The condition regarding indemnity as defined on will apply mutates mutandis in case of material brought by contractor at the site for the execution of the work being executed under this contract.
12. In case the materials brought by the contractor become surplus owing to the change in the design of the work the material should be taken back by the contractor at his own cost after prior permission of the Engineer in charge.
13. All empty cement bags or empty asphalt drums shall be the property of contractor and the same shall be removed immediately after the completion of work.
14. Pipes required for the construction of C.D. works (including in this work) should be purchased by the contractor from MSSIDC only. Contractor shall produce necessary proof of purchasing from MSSIDC failing to which the cost of pipe in bill shall be withheld till receipt of proof.

Contractor may procure Bitumen from Government and / or Private refinery and / or from the private bitumen supplier, and / or other producer/ supplier of bitumen provided fulfillment of the following conditions.

1. Contractor shall produce CRC (Consignee receipt certificate) with duly mentioned the name of work clearly for which bitumen is supplied. If the refinery denied mentioning the Name of work on CRC (Consignee receipt certificate) in that case, present procedure of mentioning name of work on gate pass / bitumen Invoice Under the signature of the concerned contractor, Junior / Section Engineer and Deputy Engineer / Sub- Divisional in charge of subdivision.
2. Contractor shall submit / Produce original Bitumen GST Bill Invoice in all copies and one copy of bill will be returned to contractor with duly signed by Deputy Engineer (Civil) for Tax and Audit purpose.
3. In case of delay in submission of such bill by the contractor, the contractor shall be held responsible for delay in payment of bill and no claim on this regard will be entertained by the department.
4. The material purchased from Government and / or private refinery and / or from the private Bitumen Supplier, and / or other producer / Supplier of Bitumen and / opr Company / Manufacturing firms / authorized distributor for cement, steel, bulk asphalt etc. brought on the work site shall be accompanied with the necessary company / Manufacturing firms test certificates. In addition to this some quantity of these material shall be tested as per norms specified in Indian standard Bureau. Besides that, the material shall be tested as per frequency prescribed.

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

5. Contractor shall produce test report of Bitumen Manufacturer of relevant batch as well as test report taken in his own Laboratory 30 % tests shall be done in MFSCDCL. Department's Laboratory and remaining 70 % tests absence of such field laboratory than tests shall be done in Engineer colleges or Government Laboratory.
6. Viscosity of Bitumen shall be as per IS 73: 2013 of amended from time to time.

7. Contractor shall produce all the required reports, certificates of bitumen purchased order / Bills to the department, duly self-attested by the contractor himself along with a forwarding letter.
8. Responsibility of Genuineness of Bill produced by contractor in respect of private / Purchases of material shall lie with the contractor only.
9. If bill produced by Contractor in respect of Purchased of material found fake and / or tampered, then Department may take suitable Criminal action against the contractor as per Indian Penal code.
10. If there is any doubts regarding the Genuineness of Bill Produced by the contractor in respect of Purchased of material, Deputy Engineer (Civil) shall have rights to verify or to make enquiry about such bills, and during verification / enquiry, if the same bills / bills is found incorrect or fake of tempered Deputy Engineer (Civil) shall take Criminal action against the contractor as per Indian Penal code, and the Contractor shall also be black listed forever for works in MFSCDCL,.

CONDITION FOR THE MATERIAL BROUGHT BY THE CONTRACTOR

In case of road works, the contractor should submit the sufficient documentary evidence in the form of original copy / copies of challan for the purchase of asphalt from the refinery. It is also made mandatory upon the contractor to submit the affidavit in the form attached (below) as Annexure – B in Envelop No. 1

In the event, contractor being failed to submit the original challans, or, in the event, it is found that the challans submitted by the contractor are not original or fake, he shall be liable for any action deemed fit by the department including action covered under clauses for fraudulent practices. The action may be legal or administrative covering the losses incurred & penalty towards it.

REGISTER NO. 1

FOR RECEIPTS & CONSUMPTION OF CEMENT

Name of Work:-

Balance since last week of the Work Site:

STATEMENT OF RECEIPT AND CONSUMPTION

Date	No of Bags received	No of bags Consumed	Balance No. of Bags at end of day
1	2	3	4

Contractor's Signature

Supervisor's Signature.

REGISTER NO. 2

Chart showing weekly required theoretical consumption and actual consumption of cement bags for work done actually for the following items.

- 1) Brick Masonry in C.M. 1:6
- 2) RCC M- 10 , M- 15, M-20
- 3) PCC M-8, M-10.
- 4) Others.

ABSTRACT ENDING

.....

Sr. No.	Item	Work Done		Theoretical consumption constant (in bags)	Theoretical required consumption constant of cement (in	Cement Actual Consumption (in No. of bags)
		Quantity	Unit			
1	2	3	4	5	6	7

Contractor's Signature

Supervisor's Signature.

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DEPUTY ENGINEER (CIVIL)

REGISTER NO. 1

(Receipt, consumption & balance for months ending

.....Division..... place of work.....

Name of Work:- _____

Balance since last months	Type and quantities in M.T.					
	Type					
	Quantity					

Daily receipt, Consumption, and balance of steel for week ending.

Date	Receipt of Steel (M.T.)		Consumption of Steel (M.T.)		Balance of each transaction		Abstract of balance steel for each type for week ending	
	Type	Weight in M.T.	Type	Weight in M.T.	Type	Weight in M.T.	Type	Weight in M.T.
	Total		Total		Total		Total	

Contractor Signature
 For Issued/ consumed

Signature of J.E.
 Sec. Engineer

REGISTER NO. 2

Statement for comparison of steel consumed on each item and
 theoretical consumption as per drawing for month ending

Name of Work:- _____

Sr. No.	Item executed	Quantity	Qty. of steel to be consumed as per design drawing (in M.T.)	Actually consumed steel (in M.T.)

Contractor's signature for Issued /
 consumed.

Signature of J.E./ Engineer

CONTRACTOR

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DEPUTY ENGINEER (CIVIL)

GUARANTEE BOND FOR PERFORMANCE SECURITY

In consideration of the Governor of Maharashtra (hereinafter referred to as "the Government") having agreed to exempt _ _ _ (hereinafter referred to as "the Contractor") from depositing with the Government in Cash the Sum of Rs._ (Rupees_ only) being the amount of PERFORMANCE SECURITY Deposit payable by the Contractor to the Government under the terms and conditions of the Agreement dated the _ _ _ day of _ _ _ and made between the Government of the one part and the contractor of the other part (Hereinafter referred to as "the said Agreement") for _ _ _ _ _ as security for the observance and performance by the contractor of the terms and conditions of the said agreement, on furnishing to the Govt. a guarantee in the prescribed form of a Scheduled Bank in India being in fact these presents in the like sum of Rs. _ _ _ _ (Rupees _ _ _ _ only), We _ _ _ _ BANK / LIMITED registered in India under _ _ _ Act and having one of our Local Head Office at _ _ _ _ do hereby.

1) Guarantee to the Government

a) Due performance and observance by the contractor of the terms covenants and conditions on the part of the contractor contained in the said Agreement, **AND**

b) Due and punctual payment by the Contractor to the Government of all sums of money, losses, damages, costs, charges, penalties, and expenses payable to the Government by the contractor under or in respect of the said Agreement.

2) Undertake to pay to the Government on demand and without demur and notwithstanding any dispute or disputes raised by the Contractor (s) in any suit or proceeding filed in any Court or Tribunal relating thereto the said Sum of Rs _ _ _ (Rupees _ _ _ _ only) or s u c h less sum as may be demanded by the Government from us our liability hereunder being absolute and unequivocal and agree that.

3) a) The guarantee herein contained shall remain in full force and effect during the subsistence of the said Agreement and that the same will continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been duly paid and its claims satisfied or discharged and till the Government certifies that the terms and conditions of the said Agreement have been fully properly carried out by the contractor.

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

- i) any change in the constitution of the Bank or the Contractor, or
- ii) Any arrangement entered into between the Government and the contractor with or without our consent.
- iii) any forbearance or indulgence shown to the contractor,
- iv) Any variation in the terms, covenants or conditions contained in the said Agreement.
- v) any time given to the Contractor or
- vi) Any other conditions or circumstances under which, in law, a surety would be discharged.
- c) Our liability hereunder shall be joint and several with that of the Contractor as if we were the Principal debtors in respect of the said Sum of Rs.____(Rupees____only) AND
- d) We shall not revoke this guarantee during its currency except with the previous consent in writing of the Government.

IN WITNESS WHERE OF the Common Seal of _____has been hereunto affixed this_____day of_____2012 The Common seal of_____was pursuant to the resolution of the Board of Directors of the Company dated the_____day of _____Herein affixed in the presence of who, in token thereof, have hereto set their respective hands in the presence of-

- 1) _____
- 2) _____

GUARANTEE BOND FOR SECURITY DEPOSIT
(On Stamp paper Worth Rupees 50/-)

In consideration of the Governor of Maharashtra (hereinafter referred to as “the Governor”) having agreed to exempt----- (hereinafter Referred to as “the Contractor”) from depositing with the Government in Cash the sum of Rs. -----

------(Rupees-----only)

Being the amount of security Deposit payable by the Contractor to the Government under the terms and conditions of the Agreement dated the ----- -day of ----- and made between the Government of the one part the contractor of the other part (Hereinafter referred to as; “ the said Agreement”) for-----as security for the observance and performance by the contractor of the term and conditions of the said agreement on the furnishing the Govt. A guarantee in the prescribed form of a secluded bank in Indian being in fact these presents in the like sum of Rs.------(rupees----- -- under ----- Act and having one of our Local Head Office at ----- do hereby.

1) Guarantee to the Government

- a) Due performance and observance by the contractor of the term 's covenants and condition of the part of the contractor contained in the said Agreement **AND**
 - b) Due and punctual payment by the contractor of the Government of all sums of money, losses, damages, costs, charges, penalties, and expenses payable to the Government by the contractor under or in respect of the said Agreement.
- 2) Undertake to pay to the Government on demand and without demur and not withstanding any dispute or disputes raised by the contractor in any suit or proceeding filed in any Court or Tribunal relating thereto the said sum of Rs. ----- (Rupees-----only) or such less sum as may be demanded by the Government from us liability hereunder being absolute and unequivocal and agree that.
- 3) a) The guarantee herein contained shall remain in full force and effect during the subsistence of the said Agreement and that the same will continue to be enforceable till all the duties of the Government under or by virtue of the said Agreement have been duly paid and its claims satisfied or discharged and till the Government certifies that the terms and conditions of the said Agreement have been fully properly carried

out by the contractor.

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

- i) Any change in the constitution of the Bank or the contractor or
- ii) Any agreement entered into between the Government and the contractor with or without our consent.
- iii) Any forbearance or indulgence shown to the contractor.
- iv) Any variation in the terms, covenants or conditions contained in the said Agreement; or
- v) Any time given to the contractor or
- vi) Any other conditions of circumstances under which in law a surety would be discharged.

c) Our liability hereunder shall be joint and several with that of the contractor if we were the principal debtors in respect of the said Sum of Rs.----- (Rupees-----only) and

We shall not revoke this guarantee during its currency except with the previous consent in writing of the Government.

IN WITNESS WHERE OF the Common Seal of -----has been hereunto affixed this----- day of -----200. The common seal of ----- was pursuant to the resolution of the Board of Directors of the Company dated the ----- day of ----- herein affixed in the presence of who in token thereof, have here to set their respective hands in the represented of.

1) -----

2) -----

DECLARATION OF THE CONTRACTOR

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

I hereby undertake to pay the laborers engaged on the work as per Minimum Wages Act 1998 applicable to the Zone concerned.

Signature of the Contractor

TENDER DRAWINGS(Please refer **Annexure 2** from the **Chapter 19**)**CONTRACT DRAWINGS**

The Contract Drawings provided are preliminary and prepared only for tendering purpose with the tender documents shall be used as a reference only. Contractor should visualize the nature of type of work contemplated and to ensure that the rates and prices quoted by him in the bill of quantities take due consideration of the complexities of work involved during actual execution / consideration as experienced in the field. If required actual drawings shall be prepared for the successful execution of work well within the quoted cost only.

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

DOCUMENTATION:

If so, ordered by the Executive in Charge/Deputy Engineer (Civil), the contractor will prepare drawings of the work before after execution and will supply original and their copies to the Engineer who will verify and certify these drawings.

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

Name of work : Repair & Maintenance of Internal Roads & Providing Storm Water Drains in Dadasaheb Pahlke Chitra Nagari at Goregaon Filmcity Goregaon East Mumbai 400065

SCHEDULE B (Please refer Separated Annexure 1 in Chapter No 18 for % Up or % down in Quoting the Price through Online Price Bid Excel sheet)

Total Project cost (Excluding GST) = 16,64,06,151 /-

Notes : 1) All taxes/GST shall be paid extra as per prevailing GST rules.

2) For GST charges on Royalty and material testing, the receipt of payment of GST charges on royalty and testing charges shall be submitted by the contractor at the time of bill Payment and amount will be reimbursed to the contractor accordingly. The rates quoted by the contractors should be exclusive of GST. The contractor should pay GST whichever is applicable and submit the receipt to MFSCDC. The GST amount will be reimbursed to the contractor on producing the receipt /challan.

3) GST @ 2 % at the rates as amended from time to time as intimated by competent GST Authority shall be deducted from bill amount, whether measured bills, advance payment or secured advance.

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Name of work : Repair & Maintenance of internal Roads and Providing Storm Water Drains at Dadasaheb Phalke Chitra-Nagari

DETAILED ITEMWISE SPECIFICATION
(For Initial Reference only)

<i>I.No.</i>	<i>Description of Item</i>	<i>Specification & Page No.</i>	<i>Additional Specification</i>
1	Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area.	MORTH 201	
2	Excavation for catch / side water gutter in all sorts of soils to the specified section including stacking the excavated stuff in a regular bund and disposing of unsuitable or excess stuff as directed all sorts of soils.	MORTH 309	
3	Excavation for roadway in hard murum and boulder including dressing section to the required grade, camber and side slopes and conveying the excavated materials with all lifts upto a lead of 50m. and spreading for embankment or stacking as directed.	MORTH 301	
4	Providing earth work in embankment with approved materials obtained from departmental land upto lead of 50m. including all lifts, laying in layers of 20cm. to 30cm. thickness breaking clods, dressing to the required lines, curves, grades & section, watering and compaction with vibratory roller to achieve not less than 97 % of standard proctor density etc. complete. (Material obtained from departmental Land)	MORTH 305	
5	Providing earth work in embankment with approved materials obtained from other sources upto lead of 50m. including all lifts, laying in layers of 20cm. to 30cm. thickness breaking clods, dressing to the required lines, curves, grades & section, watering and compaction with vibratory roller with V-Sat attachment to achieve not less than 97 % of standard proctor density etc. complete (Material obtained from Other sources)	MORTH 305	
6	Dismantling of existing B.T. Surface (flexible Pavement) to a depth of 50 mm. manually including loading of dismantled material to transport vehicle at site excluding lead charges	MORTH 202	
7	Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader/ Paver on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -- Plant Mix Method and Grading - I Material	MORTH 401	

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DEPUTY ENGINEER (CIVIL)

I.No.	Description of Item	Specification & Page No.	Additional Specification
8	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting with Vibratory roller. to the required density. By Mechanical Means - Grading I (Using Screening Type A (13.2) mm Aggregate)	MORTH 404	
9	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting with vibratory roller to the required density. By Mechanical Means - Grading II (Using Screening Type B (11.2 mm) Aggregate)	MORTH 404	
10	Providing and applying tack coat on the prepared surface heating by fumes in Boiler and spraying bitumen with sprayer on Dry / Hungry B.T. surface 3 kg/10 sqm. (VG-30 bulk bitumen rates are considered to arrive at rates)	MORTH 503	
11	Providing and constructing 75 mm. thick Modified Penetration Macadam (MPM) road surface including all materials, preparing the existing road surface, spreading 40 mm. stone layers metal 100% crusher broken metal with conical crusher plant , heating and spraying the bitumen of specified grade @ 2 kg / sqm , spreading 12mm.size chips compacting with three wheel static roller having weight 8 to 10 MT. to achieve the desired degree of compaction as per Technical Specification Clause 506 etc.complete, including applying tack coat of specified grade of bitumen at the rate of 0.30 Kg Sqm. on existing bitumen surface. (VG-30 bulk bitumen rates are considered to arrive at rates)	IRC-SP-20, 2002 Clause No. 8.7.3	

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I.No.	Description of Item	Specification & Page No.	Additional Specification
12	BITUMINOUS MACADAM:--Providing and laying bituminous macadam using crushed aggregate of Grading 1, premixed with bituminous binder, transported at site with VTS, laid over a previously prepared surface , finished to the required grade ,level, alignment, and rolling to achieve the desired density for 80/100 mm compacted thickness with drum mix type hot mix plant with SCADA having complying essential features of Hot mix plant as per IRC-27 2009 specified conditions and attachments such as electronic load sensor based belt conveyers ,automatic synchronization of bitumen and aggregate feeder, built in dust controller system and PLC for Drum Mix plant ,Sensor paver, and Vibratory roller excluding prime/Tack coat etc. complete --Bitumen 3.30% of specified grade (VG-30 bulk bitumen rates are considered to arrive at rates)	MORTH 504	
13	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	MORTH 511	
14	Providing bituminous Type, A liquid seal coat on bituminous surface including supplying all materials and bitumen of specified grade preparing existing road surface, heating and applying bitumen @ 0.98 Kg Sqm. by mechanical means, spreading chips and rolling, by static roller having weight 8 to 10 MT. etc. complete. (VG-30 bulk bitumen rates are considered to arrive at rates)	MORTH 513	
15	Providing and fixing RCC 200-meter stones as per I.R.C. standard including fixing in standard size C.C.1:4:8 block including curing, painting lettering etc. complete.	MORTH 805	
16	Providing and fixing 1:2:4 ordinary km. stones as per I.R.C. standard including fixing in standard size C.C.1:4:8 block including curing, painting lettering etc. complete.	MORTH 805	
17	Road Marking with Hot Applied Thermoplastic Compound with Reflectorizing Glass Beads on Bituminous Surface- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorizing 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. Complete.	MORTH 803.4	

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I.No.	Description of Item	Specification & Page No.	Additional Specification
18	Providing and fixing board displaying information, such as 'Name of work, Tender cost, Name of Contractor, Work completion and liability period etc.', having rectangular shape of 1.20m x 0.90m size made out 18 gauge (1.25mm) thick mild steel sheet painted with one coat of Zinc chromate stoving primer and two coats of enamel paint on front side and grey stove enamel on back side and border / messages / symbols etc. with approved colour shade paint complete, on M.S.angle of size 35 x 35 x 3 mm frame with properly cross braced M.S. angles of size 35mmx35mmx3mm duly painted including Two M.S. angle iron posts of size 65 mm x 65 mm x 6 mm, 3.65 m long painted with alternate black and white bands of 25 cm width including all fixtures etc.and fixing the boards in 1:4:8 concrete block of size 60 cm x 60 cm x 75 cm including, excavation, refilling, transportation, and labor etc. complete. Spec. No. As directed by Engineer in Charge	MORTH 801	
19	Excavation for foundation in earth, soils of all types, sand, gravel, soft murum including shoring and strutting, dewatering as necessary and disposing off excavated stuff as directed etc. complete.	BR.3 Page No. 102	
20	Dewatering on BHP basis by using water pump including diversion of stream, providing cofferdams, earthen bunds etc. as may be necessary for foundation and other parts of the works and pumping out water during and after excavation as may be required by using. 5.0 to 9.0 BHP pump etc. complete. (Prior approval of Superintending Engineer will be necessary)	BR 4 Page No 104.105	
21	Providing and filling sand in foundation trenches / below Raft as per drawingand technical specifications etc. complete. (Coarse Sand and Gravel)	M.O.R.T and H - 300,2100	
23	Providing and laying in situ / ready mix / ready mix M15 cement concrete of trap/ granite/ quartzite/ gneiss metal in foundation including necessary centering, formwork, bailing out water, compacting and curing etc. complete. (With fully automatic microprocessor-based PLC with SCADA enabled with reversible drum type mixer/ concrete batch mix plant (pan mixer) with natural /artificial sand)	BR.5 Page No. 105 and B.7, Page No. 38	
24	Providing and fixing pressure relief pipes of 110 mm diameter of PVC as per drawing for R.C.C Raft, galleries return, abutments, wing wall etc complete.	MORT&H (5th Rev.) 2705, 2706	

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I.No.	Description of Item	Specification & Page No.	Additional Specification
25	Providing and laying in situ / ready mix M-30 controlled reinforced cement concrete of trap metal for raft slab including "V" haunches, formwork, scaffolding, compaction by vibrating, finishing curing etc. complete. concrete batch mix plant / pan mixer with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc) etc. complete. (Excluding reinforcement). a) RCC Grade with reversible drum type mixer/ concrete batch mix plant (pan mixer) .	MORT&H (5th Rev.) 1700, 2304	
26	Providing and laying in situ / ready mix-controlled grade of M30 of trap /granite /quartzite /Gneiss metal for RCC works in cut off walls / curtain walls including necessary scaffolding, centering, compacting by vibrator, finishing and curing etc. complete. (With fully automatic microprocessor-based PLC with SCADA enabled with reversible drum type mixer/ concrete batch mix plant (pan mixer) with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc), excluding reinforcement)	As directed by Engineer in charge.	
27	Providing and laying in situ / ready mix 1:4:8 cement concrete of trap /granite /quartzite /Gneiss metal for haunch filling including compacting, curing, mixing etc. complete. (With fully automatic microprocessor-based PLC with SCADA enabled with reversible drum type mixer/ concrete batch mix plant (pan mixer) with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc)	B R.45 Page No. 139	
28	Providing and laying in situ / ready mix M-30 plain cement concrete of trap /granite/quartzite/ gneiss metal for cast in situ piers, abutment, returns, wings etc. including provision of "V" shaped false joints to form suitable panels on the faces to approve design with compacting by vibrating and curing complete, including plywood/steel form work centering (excluding dewatering by means of pump) and including bailing out water and curing finishing in CM 1:3 etc. complete. as directed by engineer in charge basic rate shall be increased for height above 5.00 m in following manners (a) Height up to 5 M. (With Concrete Mixer)With fine aggregates of required specifications (Natural sand / VSI sand finely washed etc) i) Height up to 5 m, normal rate. ii) Height 5 to 7.50 m, add 5 percent extra over basic rate. iii) Height 7.50 to 10 m, 7.50 percent extra.iv) Over 10 m Height, add 10 percent extra for every 2.50m rise.	MORT&H (5th Rev.) 1700, 2204	
29	Providing and laying boulders apron on riverbed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawings and Technical specifications etc. complete. (Boulder laid without wire crates)	MORT and H-2500	

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I.No.	Description of Item	Specification & Page No.	Additional Specification
30	Providing, cutting, bending, hooking, tying and laying in position TMT FE 500 steel bars for reinforcement for all RCC works as per detailed drawings etc. Complete.	BR.35 Page No. 134	
31	Providing and laying in situ / ready mix M30 RCC of trap/ granite/ quartzite/ gneiss metal for RCC work of ballast walls, kerbs and box returns including scaffolding, compaction, formwork finishing and curing etc. complete. (Excluding reinforcement, with fully automatic microprocessor-based PLC with SCADA enabled concrete batch mix plant / pan mixer with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc) For Box Return	BR.50 Page No. 143 and B. 7, Page No.38	
32	Providing and laying in situ / ready mix M30 RCC of trap/ granite/ quartzite/ gneiss metal for RCC work of ballast walls, kerbs and box returns including scaffolding, compaction, formwork finishing and curing etc. complete. (Excluding reinforcement, with fully automatic microprocessor-based PLC with SCADA enabled concrete batch mix plant / pan mixer with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc) RCC work of Ballast walls & Kerb	BR.50 Page No. 143 and B. 7, Page No.38	
33	Providing and laying weep holes of 100 mm diameter PVC pipes as per drawing for abutment returns, return walls etc. Complete.	MORT&H (5th Rev.) 2705, 2706	
34	Back filling behind abutment, wing wall and return wall as per drawings and technical specifications etc. complete. (By granular material)	MORT and H 2200 &- 710.1.4 of IRC 78	
35	Providing and laying in situ / ready mix M-30 controlled cement concrete of trap/ granite/ quartzite/ gneiss metal for RCC work in solid/ deck slab etc. including ramming, vibrating, curing, formwork, centering and finishing in cement plaster excluding reinforcement etc. complete. (With fully automatic microprocessor-based PLC with SCADA enabled concrete batch mix plant / pan mixer and fine aggregates of required specifications (Natural sand / VSI sand finely washed etc) i) Height up to 5 m, normal rate. ii) Height 5 to 7.50 m, add 5 percent extra over basic rate. iii) Height 7.50 to 10 m, 7.50 percent extra. iv) Over 10 m Height, add 10 percent extra for every 2.50m rise.	BR.38(a) Page No. 135 and B. 7, Page No.38	
36	Providing and laying cement concrete wearing coat M30 grade with batch mix type / concrete mixer with SCADA including reinforcement as per drawings and technical specifications etc. complete with fine aggregates of required specifications (Natural sand / VSI sand finely washed etc)	MORT and H ? 2700	

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I.No.	Description of Item	Specification & Page No.	Additional Specification
37	Providing vent holes 100mm diameter GI pipe in the slab and wearing course with iron grill at the top and GI pipe at bottom as per drawing etc. complete.	BR.48 Page No. 142	
39	Providing railing of mild steel angle post 2.0m center to center of section 75mm x 75mm x 10mm or equivalent I/C section of height 1.05 above bridge surface with minimum anchor length of 30cm including hold fast of 25mm diameter MS bar welded at the bottom and concreting of 1:3:6 of size 30cm x 30cm x 30cm with three rows of 40mm B class GI pipe provided at 30cm on center to center including scaffolding and one coat of anticorrosive paint with two coats of oil painting, curing of concrete etc. complete.	B.R.51(b) Page No. 145	
40	Providing and laying 0.90-meter-thick metal mat consisting of rubble, oversize metal and normal size metal in specified thickness as per detailed drawing including supplying all materials, hand packing of rubble, spreading metal in layers and hard murum including watering and compaction with power roller etc. complete.	As directed by Engineer in charge	
41	Dismantling stone masonry in lime or cement mortar including stacking the materials as directed with all leads, lifts etc.	As directed by Engineer in charge.	
42	Removing lime or lean cement concrete including stacking the spoils as directed with all leads, lifts etc, complete.	As directed by Engineer in charge.	
43	Removing Np-2 and Np-3 class pipes including stacking at roadside as directed by the Engineer in charge. Up to 900mm Dia and above. etc complete.	As directed by Engineer in charge.	
44	Royalty Charges	As directed by Engineer-in-charge.	
45	Quality Control Testing charges	As directed by Engineer-in-charge.	

Assistant Engineer

Deputy Engineer (Civil)
MFSCDCL.Goregaon

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401. GRANULAR SUB-BASE**401.1 Scope**

This work shall consist of laying and compacting well-graded material on prepared sub-grade in accordance with the requirements of these Specifications. The material shall be laid in one or more layers as sub-base or lower sub-base and upper sub-base (termed as sub-base hereinafter) as necessary according to lines, grades and cross-sections shown on the drawings or as directed by the Engineer.

Materials

The material to be used for the work shall be natural sand, murum, gravel, crushed stone, or combination thereof depending upon the grading required. Materials like crushed slag, crushed concrete, brick metal and kankar may be allowed only with the specific approval of the Engineer. The material shall be free from organic or other deleterious constituents and conform to one of the three gradings given in Table 400-1.

While the gradings in Table 400-1 are in respect of close-graded granular sub-base materials, one each for maximum particle size of 75 mm, 53 mm and 26.5 mm, the corresponding gradings for the coarse-graded materials for each of the three maximum particle sizes are given at Table 400-2. The grading to be adopted for a project shall be as specified in the Contract.

Physical requirements : The material shall have a 10 per cent fines value of 50 kN more (for sample in soaked condition) when tested in compliance with BS : 812 (Part 111). The water absorption value of the coarse aggregate shall be determined as per IS: 2386 (Part 3); if this value is greater than 2 per cent, the soundness test shall be carried out on the material delivered to site as per IS: 383.

For Grading II and III materials, the CBR shall be determined at the density and moisture content likely to be developed in equilibrium conditions which shall be taken as being the density relating to a uniform air voids contents of 5 per cent.

TABLE 400-1.
GRADING FOR CLOSE-GRADED GRANULAR
SUB-BASE MATERIALS

IS Sieve Designation	Per cent by weight passing the IS sieve		
	Grading I	Grading II	Grading III
75.0 mm	100		---
53.0 mm	80-100	100	---
26.5 mm	55-90	70-100	100
9.50 mm	35-65	50-80	65-95
4.75 mm	25-55	40-65	50-80
2.36 mm	20-40	30-50	40-65
0.425 mm	10-25	15-25	20-35
0.075 mm	3-10	3-10	3-10
CBR Value (Minimum)	30	25	20

TABLE 400-2.
GRADING FOR COARSE GRADED GRANULAR
SUB-BASE MATERIALS

IS Sieve Designation	Per cent by weight passing the IS sieve		
	Grading I	Grading II	Grading III
75.0 mm	100	---	---
53.0 mm		100	---
26.5 mm	55-75	50-80	100
9.50 mm			
4.75 mm	10-30	15-35	25-45
2.36 mm			
0.425 mm			
0.075 mm	<10	<10	<10
CBR Value (Minimum)	30	25	20

Note : The material passing 425-micron (0.425 mm) sieve for all the three gradings when tested according to IS: 2720 (Part-5) shall have liquid limit and plasticity index not more than 25 and 6 per cent respectively.

Strength of sub-base

It shall be ensured prior to actual execution that the material to be used in the sub-base satisfies the requirement of CRB and other physical requirements when compacted and finished.

When directed by the Engineer, this shall be verified by performing CBR tests in the laboratory as required on specimens remolded at field dry density and moisture content and any other tests for the "quality" of materials, as may be necessary.

401.4 Construction Operations

401.4.1 Preparation of subgrade : Immediately prior to the laying of sub-base, the subgrade already finished to Clause 301 or 305 as applicable shall be prepared by removing all vegetation and other extraneous matter, lightly sprinkled with water if necessary and rolled with two passes of 80-100 kN smooth wheeled roller.

401.4.2 Spreading and Compacting : The sub-base material of grading specified in the Contract shall be spread on the prepared subgrade with the help of a motor grader of adequate capacity, its blade having hydraulic controls suitable for initial adjustment and for maintaining the required slope and grade during the operation or other means as approved by the Engineer.

When the sub-base material consists of combination of materials mentioned in Clause 401.2.1, mixing shall be done mechanically by the mix-in-place method.

Manual mixing shall be permitted only where the width of laying is not adequate for mechanical operations, as in small-sized jobs. The equipment used for mix-in-place construction shall be a rotavator or similar approved equipment capable of mixing the material to the desired degree. If so desired by the Engineer, trial runs with the equipment shall be carried out to establish its suitability for the work.

Moisture content of the loose material shall be checked in accordance with IS: 2720 (Part 2) and suitably adjusted by sprinkling additional water from a truck mounted or trailer mounted water tank and suitable for applying water uniformly and at controlled quantities to variable widths of surface or other means approved by the Engineer so that, at the time of compaction, it is from 1 per cent above to 2 per cent below the optimum moisture content corresponding to IS : 2720 (Part 8). While adding water, due allowance shall be made for evaporation losses. After water has been added, the material shall be processed by mechanical or other approved means like disc harrows, rotavators until the layer is uniformly wet.

Immediately thereafter, rolling shall start. If the thickness of the compacted layer does not exceed 100 mm, a smooth wheeled roller of 80 to 100 kN weight may be used. For a compacted single layer upto 225 mm the

compaction shall be done with the help of a vibratory roller of minimum 80 to 100 kN static weight with plain drum or pad foot-drum or heavy pneumatic tyred roller of minimum 200 to 300 kN weight having a minimum tyre pressure of 0.7 MN/m² or equivalent capacity roller capable of achieving the required compaction. Rolling shall commence at the lower edge and proceed towards the upper edge longitudinally for portions having unidirectional crossfall and super-elevation and shall commence at the edges and progress towards the centre for portions having crossfall on both sides.

Each pass of the roller shall uniformly overlap not less than one-third of the track made in the preceding pass. During rolling, the grade and crossfall (camber) shall be checked and any high spots or depressions, which become apparent, corrected by removing or adding fresh material. The speed of the roller shall not exceed 5 km per hour.

Rolling shall be continued till the density achieved is at least 98 per cent of the maximum dry density for the material determined as per IS : 2720 (Part 8). The surface of any layer of material on completion of compaction shall be well closed, free from movement under compaction equipment and from compaction planes, ridges, cracks or loose material. All loose, segregated or otherwise defective areas shall be made good to the full thickness of layer and re-compacted.

401.5. Surface Finish and Quality Control of work

The surface finish of construction shall conform to the requirements of Clause 902. Control on the quality of materials and works shall be exercised by the Engineer in accordance with Section 900.

401.6. Arrangements for Traffic

During the period of construction, arrangement of traffic shall be maintained in accordance with Clause 112.

401.7. Measurements for Payment

Granular sub-base shall be measured as finished work in position in cubic metres.

The protection of edges of granular sub-base extended over the full formation as shown in the drawing shall be considered incidental to the work of

providing granular sub-base and as such no extra payment shall be made for the same.

401.8 Rate

The contract unit rate for granular sub-base shall be payment in full for carrying out the required operations including full compensation for:

- (i) making arrangements for traffic to Clause 112 except for initial treatment to verges, shoulders and construction of diversions.
- (i) furnishing all materials to be incorporated in the work including all royalties, fees, rents where necessary and all leads and lifts;
- (i) all labor, tools, equipment and incidentals to complete the work to the Specifications.
- (M) carrying out the work in part widths of road where directed; and
- (M) carrying out the required tests for quality control.

404.3. Construction Operations

404.3.1 Preparation of base : The surface of the subgrade/sub-base/base to receive the water bound macadam course shall be prepared to the specified lines and crossfall (camber) and made free of dust and other extraneous material. Any ruts or soft yielding places shall be corrected in an approved manner and rolled until firm surface is obtained if necessary, by sprinkling water. Any sub-base/base/surface irregularities, where predominant shall be made good by providing appropriate type of profile corrective course (leveling course) to Clause 501 of these Specifications.

As far as possible, laying water bound macadam course over an existing thick bituminous layer may be avoided since it will cause problems of internal drainage of the pavement at the interface of two courses. It is desirable to completely pick out the existing thin bituminous wearing course where water bound macadam is proposed to be laid over it. However, where the intensity of rain is low and the interface drainage facility is efficient, water bound macadam can be laid over the existing thin bituminous surface by cutting 50 mm x 50 mm furrows at an angle of 45 degrees to the center line of the pavement at one metre intervals in the existing road. The directions and depth of furrows shall be such that they provide adequate bondage and also serve to drain water to the existing granular base course beneath the existing thin bituminous surface.

407.4. Construction Operations

407.4.1. Shoulder: The sequence of operations shall be such that the construction of paved shoulder is done in layers each matching the thickness of adjoining pavement layer. Only after a layer of pavement and corresponding layers in paved and earth shoulder portion have been laid and compacted, the construction of next layer of pavement and shoulder shall be taken up.

Where the materials in adjacent layers are different, these shall be laid together and the pavement layer shall be compacted first. The corresponding layer in paved shoulder portion shall be compacted thereafter, which shall be followed by compaction of earth shoulder layer. The adjacent layers having same material shall be laid and compacted together.

In all cases where paved shoulders have to be provided alongside of existing carriageway, the existing shoulders shall be excavated in full width and to the required depth as per Clause 31.3.7. Under no circumstances, box cutting shall be done for construction of shoulders.

Compaction requirement of earthen shoulder shall be as per Table 300-2. In the case of bituminous courses, work on shoulder (earthen/hard/paved), shall start only after the pavement course has been laid and compacted.

During all stages of shoulder (earthen/hard/paved) construction, the required crossfall shall be maintained to drain off surface water.

Regardless of the method of laying, all shoulder construction material shall be placed directly on the shoulder. Any spilled material dragged, on to the pavement surface shall be immediately removed, without damage to the pavement, and the area so affected thoroughly cleaned.

404. WATER BOUND MACADAM SUB-BASE/BASE

404.1 Scope

404.1.1 The Work shall consist of clean, crushed aggregates mechanically interlocked by rolling and bonding together with screening, binding material where necessary and water laid on a properly prepared sub grade/ sub-base/ base or existing pavement, as the case may be and finished in accordance with the requirements of these Specifications and per approved plans or as directed by the Engineer.

404. 1.2. It is however, not desirable to lay water bound macadam on an existing thin black topped surface without providing adequate drainage facility for water that would that get accumulated at the interface of existing bituminous surface and water bound macadam.

404.2. Materials

404.2.1 Coarse aggregates : Coarse aggregates shall be either crushed or broken stone, crushed slag, over burnt (Jhama) brick aggregates or any other naturally occurring aggregates such as kankar and laterite of suitable quality. Materials other than crushed or broken stone and crushed slag shall be used in sub-base courses only .If crushed gravel/ shingle pieces retained on 4.75 mm sieve shall have at least two fractured faces .The aggregates shall confirm to the physical requirements shall be specified in the Contract or shall be as specified by the Engineer. If water absorption value of the coarse aggregate is greater than 2 per cent. the soundness test shall be carried out on the material delivered to site as per IS:2386(part 5).

404.2.2 Crushed or broken stone : The crushed or broken stone shall be hard durable and free from excess flat ,elongated ,soft and disintegrated particles, dirt and other deleterious material.

Table 400.6: PHYSICAL REQUIREMENTS OF COARSE AGGREGATES FOR WATER BOUND MACADAM FOR SUB-BASE/BASE COURSES.

Test	Test Method	Requirements
1 . Los Angeles Abrasion value or	IS : 2386 (Part-4)	40 per cent (Max)
. Aggregate Impact value	IS : 2386 (Part-4) or IS : 5640**	30 per cent (Max)
2 Combined Flakiness and Elongation Indices (Total)***	IS : 2386 (Part-1)	30 per cent (Max)

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- * Aggregate may satisfy requirements of either of the two tests.
- ** Aggregates like brick metal, kankar, laterite etc .which get softened in presence of water shall be tested for Impact value wet condition in accordance with IS :5640.
- *** The requirement of flakiness index and elongation index shall be enforced only in the case of crushed slag.

404.2.3 Crushed slag : Crushed slag shall be made from air –cooled blast furnace slag .It shall be of angular shape ,reasonably uniform in quality and density and generally free from thin ,elongated and soft pieces, dirt or other deleterious materials. The weight of crushed slag shall not be less than 11.2 kN per m³ and the percentage of glossy material shall not be more than 20. It should also comply with the following requirements:

- (i) Chemical stability : To comply with requirements of appendix of BS :1047.
- (ii) Sulphur content : Maximum 2 per cent
- (iii) Water absorption : Maximum 10 percent

404.2.4.Over burnt (Jhama)brick aggregates : Jhama brick aggregates. shall be made from over burnt bricks or bats and be free from dust and other objectionable deleterious material.

404.2.5 Grading requirement of coarse aggregates : The coarse aggregate shall conform to one of the Grading given In Table 400-7 as specified, provided; however, the use of Grading No.1 shall be restricted to sub-base courses only.

Grading No.	Size Range	IS Sieve Designation	Per cent by weight
1	90mm to 45mm	125mm	100
		90mm	90-100
		63mm	25-60
		45mm	0-15
2	63mm to 45mm	22.4mm	0-5
		90mm	100
		63mm	90-100
		53mm	25-75
		45mm	0-15
3	53mm to 22.4mm	22.4mm	0-5
		63mm	100
		53mm	90-100
		45mm	65-90
		22.4mm	0-10
		11.2mm	0-5

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Note : The compacted thickness for a layer with Grading 1 shall be 100mm while for layer with other Grading i.e., 2 & 3, it shall be 75mm.

404.2.6. Screenings : Screenings to fill voids in the coarse aggregate shall generally consist of the same material as the coarse aggregate. However, where permitted, predominantly non-plastic material such as moorum or gravel (other than rounded river worn material) may be used for this purpose liquid limit and plasticity index of such material are below 20 and 6 respectively and fraction passing 75 micron sieve does not exceed 10 per cent.

Screenings shall conform to the grading set forth in Table 400-8 The consolidated details of quantity of screenings required for various grades of stone aggregates are given in Table 400-9.

The table also gives the quantities of materials (loose) required for 10 m² for sub-base/base compacted thickness of 100/75 mm.

TABLE 400-8 GRADING FOR SCREENINGS

Grading Classification	Size of Screening	IS Sieve Designation	Per cent by weight Passing the IS Sieve
1	13.2mm	13.2mm	100
		11.2mm	95-100
		5.6mm	15-35
		180 micron	0-10
2	11.2 mm	11.2mm	100
		5.6 mm	90-100
		180 micron	15-35

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TABLE 400.9 APPROXIMATE QUANTITIES OF COARSE AGGREGATES AND SCREENINGS REQUIRED FOR 10075 MM COMPACTED BASE/BASE COURSE FOR 10M2 AREA

Classification	Size Range	Compacted thickness	Loose Qty.	Screenings			
				Stone Screening		Crushable Type such as Murum or Gravel	Loose Qty.
				Grading Classification – cation & size	For WBM Sub-base/base course (Loose Qty.)	Grading Classification & size	
Grading-1	90mm to 45mm	100mm 75mm	1.21 to 1.43 m ³	Type A 13.2mm	0.27 to 0.30m ³	No uniform	0.30 to 0.32m ³
Grading-2	63mm to 45mm		0.91 to 1.07 m ³	Type A 13.2 mm	0.12 to 0.15m ³	-do-	0.22 to 0.24 m ³
-do-	-do-	-do-	-do-	Type B	0.20 to		-do-

Classification	Size Range	Compacted thickness	Loose Qty.	Screenings			
				Stone Screening		Crushable Type such as Murum or Gravel	Loose Qty.
				Grading Classification – cation & size	For WBM Sub-base/base course (Loose Qty.)	Grading Classification & size	
Grading-3	53mm to 22.4 mm	75mm	-do-	11.2mm -do-	0.22m ³ 0.18 to 0.21m ³	-do-	-do-

404.2.7 Binding material : Binding material to be used for water bound macadam as a filler for meant for preventing raveling, shall comprise of a suitable material approved by the Engineer having a Plasticity Index (PI) value of less than 6 as determined in accordance with IS :2720(Part-5)

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The quantity of binding material where it is to be used, will depend on the type of screening .Generally ,the quantity required for 75mm compacted thickness of water bound macadam will be 0.06-0.09 m³/10m² and 0.08-0.10m³/10m² for 100mm compacted thickness.

The above-mentioned quantities should be taken as a guide only, for estimation of quantities for construction etc.

Application of binding materials may not be necessary when the screenings used are of crushable type such as murum or gravel.

404.3. Construction Operations

404.3.1 preparation of base : The surface of the sub grade/ sub-base/base to receive the water bound macadam course shall be prepared to the specified lines and cross fall (camber) and made free of dust and other extraneous material. Any ruts or soft yielding places shall be corrected in an approved manner and rolled until firm surface is obtained if necessary, by sprinkling water ,Any sub-base/base/surface irregularities ,where predominant ,shall be made good by prociding appropriate type of profile corrective course (leveling course) t Clause 501 of these Specifications.

As far as possible, laying water bound macadam course over existing thick bituminous layer may be avoided since it will can problems of internal drainage of the pavement at the interface of two courses .It is desirable to completely pick out the existing thin bituminous wearing course where water bound macadam is proposed to be laid over it. However, where the intensity of rain is low on the interface drainage facility is efficient, water bound macadam can be laid over the existing thin bituminous surface by cutting 50mm to 50mm furrows at an angle of 45 degress to the Centre line of the pavement at one metre intervals in the existing road. The directions and depth of furrows shall be such that they provide adequate bondage is also served to drain water to the existing granular base course benefit the existing thin bituminous surface.

404.3.2 Inverted choke : If water bound macadam is to be laid directly over the sub grade, without any other intervening pavement course a 25mm course of screenings (Grading B) or coarse sand shall be spread on the prepared sub grade before application of the aggregates is taken up. in case of a fine sand or silty or clayey sub grade, it is advisable to lay 100mm insulating layer of screening or coarse sand on top of fine-grained soli, the gradation of which will depend upon whether it is intended to act as a drainage layer as will. As a preferred alternative to inverted choke, appropriate geosynthetics performing functions of separation and drainage may be

used over the prepared sub grade as directed by the Engineer. section 700 shall be applicable for use of geosynthetics. performing functions of separation and drainage may be used over the prepared sub grade as directed by the Engineer.

404.3.3 Spreading coarse aggregates : The coarse aggregates shall be spread uniformly and evenly upon the prepared sub grade/sub-base/base to proper profile by using templates placed across the road about 6mm apart, in such quantities that thickness of each compacted layer is not more than 100mm for Grading 1 and 75mm for Grading 2 and 3, as specified in Clause 404.2.5. wherever possible, approved mechanical devices such as aggregate spreader shall be used to spread the aggregates uniformly as to minimize the need for manual rectification afterwards .Aggregates placed at locations which are inaccessible to the spreading equipment, may be spread in one or more layers by any approved means so as to achieve the specified results.

The spreading shall be done from stockpiles along the side of the roadway or directly from vehicles .No segregation of large or fine aggregates shall be allowed and the coarse aggregate as spread shall be uniform gradation with no pockets of fine material.

The surface of the aggregates spread shall be carefully checked with templates and all high or low spots remedied by removing or adding aggregates as may be required .The surface shall be checked frequently with a straight edge while spreading and rolling so as to ensure a finished surface as per approved drawings.

The coarse aggregate shall be not normally be spread more than 3 days in advance of the subsequent construction operations.

404.3.4. Rolling : Immediately following the spreading of the coarse aggregate, rolling shall be started with three wheeled power rollers 80 to 100kN capacity or tandem or vibratory rollers of 80 to 100 kN static weight .The type of roller to be used shall be approved by Engineer based on trial run.

Except on super elevated portions where the rolling shall proceed from inner edge to the outer, rolling shall begin from the edges gradually progressing towards the centre. First the edge/edges shall be compacted with roller running forward and backward. The roller shall then move inward parallel to the center line of the road, in successive passes uniformly lapping preceding tracks by at least one-half width.

Rolling shall be discontinued when the aggregates are partially compacted with sufficient void space in them to permit application of screenings .However, where screenings are not to be applied , as in the case of crushed aggregates like brick metal, laterite and kankar, compaction shall be continued until the aggregates are

thoroughly keyed .During rolling, slight sprinkling of water may be done, if necessary. Rolling shall not be done when the sub grade is soft or yielding or when it causes a wave-like motion in the sub grade or sub – base course.

The rolled surface shall be checked transversely and longitudinally, with templates and any irregularities corrected by loosening the surface, adding or removing necessary amount of aggregates and re-rolling until the entire surface conforms to desired cross fall (camber) and grade. in no case shall the use of screenings be permitted to make up depressions.

Material which gets crushed excessively during compaction or becomes segregated shall be removed and replaced with suitable aggregates.

It shall be ensured that shoulders are built up simultaneously along with water bound macadam courses as per Clause 407.4.1.

404.3.5. Application of screenings : After the coarse aggregate has been rolled to Clause 404.3.4., screenings to completely fill the interstices shall be applied gradually over the surface. These shall not be damp or wet at the time of application .Dry rolling shall be done while the screenings are beings spread so that vibrations of the roller cause them to settle into the voids of the coarse aggregate.

The screenings shall not be dumped in piles but be spread uniformly in successive thin layers either by the spreading motions of hand shovels r by mechanical spreaders, or directly from tipper with suitable grit spreading arrangement. .Tipper operating for spreading the screening shall be so driven as not to disturb the coarseaggregate.

The screenings shall be applied at a slow and uniform rate (in three or more applications)so as to ensure filling of all voids. This shall be accompanied by dry rolling and brooming with mechanical brooms, hand brooms or both. In no case shall the screenings be applied so fast and thick as to from cakes or ridges on the surface in such a manner as would prevent filling of voids or prevent the direct bearing of the roller on the coarse aggregate. These operations shall continue until no more on screenings can be forced into the voids of the coarse aggregate.

The spreading, rolling, and brooming of screenings shall be carried out in only such lengths of the road which could be completed within one day's operation.

404.3.6. Sprinkling of water and grouting : After the screenings have been applied, the surface shall be copiously sprinkled with water, swept and rolled. Hand brooms shall be used to sweep the wet screenings into voids and to distribute them evenly. The sprinkling, sweeping and rolling operation shall be continued, with additional screenings applied as necessary until the coarse aggregate has been.

thoroughly keyed, well-bonded and firmly set in its full depth and a grout has been formed of screenings. Care shall be taken to see that the base or sub grade does not get damaged due to the addition of excessive quantities of water during construction.

In case of lime treated soil sub-base, construction of water bound macadam on top of it can cause excessive water to flow down to the lime treated sub-base before it has picked up enough strength (still "green") and thus cause damage to the sub-base layer. The laying of water bound macadam layer in such cases shall be done after the sub-base attains adequate strength, as directed by the Engineer.

404.3.7. Application of binding material : After the application of screening in accordance with Clauses 404.3.5. and 404.3.6. The binding material where it is required to be used (Clause 404.2.7.) shall be applied successively in two or more thin layers at a slow and uniform rate. After each application, the surface shall be copiously sprinkled with water, the resulting slurry swept in with hand brooms, or mechanical brooms to fill the voids properly, if necessary to wash down the binding material sticking to them. These operations shall continue until the resulting slurry after filling of voids, forms a wave ahead of the wheels of the moving roller.

404.3.8. Setting and drying : After the final compaction of water bound macadam course, the pavement shall be allowed to dry overnight. Next morning hungry spots shall be filled with screenings or binding material as directed, lightly sprinkled with water if necessary and rolled. No traffic shall be allowed on the road until the macadam has set. The Engineer shall have the discretion to stop hauling traffic from using the completed water bound macadam course, if in his opinion it would cause excessive damage to the surface.

The compacted water bound macadam course should be allowed to completely dry and set before the next pavement course is laid over it.

404.4. Surface Finish and Quality Control of Work

404.4.1. The surface finish of construction shall conform to the requirements of Clause 902.

404.4.2. Control on the quality of materials and works shall be exercised by the Engineer in accordance with Section 900.

404.4.3. The water bound macadam work shall not be carried out when the atmosphere temperature is less than 0°C in the shade.

404.4.4. Reconstruction of defective macadam : The finished surface of water bound macadam shall conform to the tolerance of surface regularity as prescribed in Clause 902. However, where the surface irregularity of the course exceeds the tolerance or where the course is otherwise defective due to sub grade

soil mixing with the aggregates, the course to its full thickness shall be scarified over the affected area, reshaped with added material, or removed and replaced with fresh material as applicable and recompactd. In no case shall depressions be filled up with screening or binding material.

404.5 Arrangement for Traffic

During the period of construction, the arrangement of traffic shall be done as per Clause 112.

404.6. Measurement for payment :

Water bound macadam shall be measured as finished work in position in cubic metres.

404.4. Rate

The Contract unit rate for water bound macadam sub-base/base course shall be payable in full for carrying out the required operations including full compensation for all components listed in Clause 404.8 (i) to (v) including arrangement of water used in the work as approved by the Engineer.

SPECIFICATIONS FORMODIFIED PENETRATION MACADAM(MPM)

1. Scope :

These guidelines comprise providing and laying 50/75 mm thick Modified Penetration Macadam (MPM)

2. Description :

The work consists of supply of materials and labor required for providing and laying MPM surface for compacted thickness of 50 or 75 mm. This item includes preparing the existing road surface to receive the MPM course., i.e. cleaning of the existing WBM surface spreading of 40 mm size metal layer in required thickness, with compaction with power roller, heating and spraying bitumen with sprayer, spreading key aggregates (12 mm chips) and final compaction with power roller etc. complete and finishing in accordance with the requirement in close conformity with grades lines, cross sections and thickness as per approved drawingsetc.

3. Materials :

3.1 **Aggregates** : The aggregate for providing MPM surface shall comply with MORT&H specifications and shall normally comply with the following regarding size and quantity of aggregates and grade and quantities of bitumen,

Description	Rate of Application for 10 sqm area			
	75 mm		50 MM	
	On Asphalt surface cum	On WBM surface, cum	On asphalt surface, cum	On WBM surface cum
a) 40 mm sizehand broken metal	0.90	0.90	0.60	0.60
b) 12 mm sizechips	0.18	0.18	0.18	0.18

Note : Hand broken metal is preferred, however up to 30 percent of total quantity of 40 mm size metal , 40 mm crusher broken, metal can be used.

3.2 Bitumen :

The bitumen shall be paving grade of S-35 to S-65 (30/40 to 60/70) as per IS-73 1992 specifications. The rate of application 75 mm and 50 mm MPM to be construed over existing bituminous or WBM surface is given in the table below.

Description	Rate of Application for 10 sqm area (Kg)			
	75 mm		50 MM	
	Bituminous surface	WBM surface	Bituminous surface	WBM surface
a) Bitumen for grouting	0.90	20	17.50	17.50
b) Tack coat for existing bituminoussurface	5	--	5	-

4. Preparing the Base:

- 4.1 Any pothole in the existing bituminous road surface and broken edges shall be repaired in advance and the surface shall be brought to correct level and camber with additional metal and bitumen as required. Before starting the work, the surface shall be swept clean of the entire dirt, mud cakes, animal droppings and other loose foreign material.

- 4.2 If so required by the Engineer, the contractor shall keep the side width and nearby diversion watered to prevent dust from blowing over the surface to be bituminized.

Existing water bound macadam shall be picked and surface loosened for a depth of 2.50 m and the picked surface shall be brought approximately to the correct camber and section.

Edge line shall be correctly marked by dog bellying the surface to form a continuous vee notch.

There shall always be sufficient length of prepared surface ahead of the bituminous surfacing operations as directed by Engineer to keep these operations continuous.

5. Tack coat on Bitumen surface :

Applying tack coat for existing bituminous surface only at the rate of 50 kg/10 sqm.

6. Preparation of Existing WBM surface :

Preparation of existing WBM surface for receiving MPM which is quite similar to the bituminous bound macadam as per MORT&H

7. Spreading and compaction:

- 7.1 40 mm size metal shall be spread evenly at the specified rate of 9 cum or 6 cum per 100 sqm of area so as to form a layer (75 mm and 50 mm MPM respectively) over the width of road with correct

camber / super elevation as required. Any foreign matter, organic matter, dust, grass etc. shall be removed immediately. The sections shall be checked with camber board and straight edge batten etc. Any irregularities shall be made good by adding aggregates in case of depressions and removing aggregates from height spots checked with camber board and straight edge batten.
etc.

- 7.2 The surface of 40 mm metal layer after bringing it to necessary grades and sections shall be rolled with the use of 8 to 10 tonnes power roller. Rolling shall commence from the edges and progress towards centre longitudinally except on super elevated portion, it shall progress from the lower to upper edge parallel to the center line of pavement. When the roller has passed over the whole area any high spots or depressions, which become apparent, shall be corrected by removing or adding aggregates.
- 7.3 Rolling shall then be continued till the entire surface has been rolled to desired compaction such that there is no crushing of aggregates and all roller marks have been eliminated. Each pass of roller shall uniformly overlap not less than one third of the track made in the preceding pass.

8. Application of Bitumen:

Bitumen of paving grade S-35 or S-65 supplied for the work shall be heated to temperature of 177⁰C to 191⁰C in a bitumen boiler and temperature shall be maintained at the time of actual applications. The hot bitumen shall be applied through a pressure sprayer on road surface uniformly at the rate of 200 kg/100 sqm. or 175 kg/100 sqm as the case may be. The road surface shall be divided into suitable rectangles marked by chalk so as to ensure correct rate of application of the bitumen.

9. Key aggregates:

On completion of bitumen application, 12 mm size key aggregate shall be spread immediately at a uniform rate of 1.8 cum or 1.2 cum per 100 sqm. Brooms shall be used to ensure even distribution of key aggregate.

10. Final compaction:

Immediately after spraying of bitumen and spreading of key aggregates, the surface shall be rolled with a power roller to obtain full compaction and to force the blindage of key aggregates into the interstices of the

coarse aggregate. The rolling shall continue till the asphalt surface hardens and key aggregates stop moving under power roller.

11. Surface Finish and Quality Control :

The surface finish shall conform to the requirements of clause 902 of specifications for road and Bridge works of MORT&H and as detailed in Chapter 10.

12. Items of Include :

- i) Diversions unless separately provided in the tender.
- ii) Preparing the road surface.
- iii) Applying tack coat on existing BT or picking the existing WBM surface.
- iv) Supplying spreading and compaction of 40 mm size aggregates.
- v) Supplying heating and spraying bitumen.
- vi) Supplying, spreading and compaction of 12 mm size chips.
- vii) All labour, materials, including bitumen and aggregates use of tools, plans and equipment for completing the item satisfactory.

Sl.

No.	Quality of Test	Frequency
	Quality of binder	Two samples per lot to be subjected to all or some test as directed by Engineer.
2	Aggregate Impact value	One test per 200 cum of aggregate.
3	Flakiness Index and Elongation index	One test per 200 cum of aggregate.
4	Stripping value	Initially one set of three representative specimens for each source of supply subsequently when warranted by changes in the quality of aggregate.
5	Water absorption of aggregates.	Initially one set of three representative specimens for each source of supply subsequently when warranted by changes in the quality of aggregate.
7.	Temperature of binder at application	At regular close intervals.
8.	Rate of spread of binder	One test per 500 sqm of area.

504. BITUMINOUS MACADAM

504.1. Scope

This work shall consist of construction in a single course having 50 mm to 100 mm thickness or in multiple courses of compacted crushed aggregates premixed with a bituminous binder on a previously prepared base to the requirements of these Specifications. Bituminous macadam is more open graded than the dense graded bituminous materials described in Clauses 507, 508 and 509.

504.2. Materials

504.2.1 Bitumen : The bitumen shall be paving bitumen of Penetration Grade complying with Indian Standard Specifications for “Paving Bitumen” IS:73, and of the penetration indicated in Table 500-4.

504.2.2 Coarse aggregates : The coarse aggregates shall consist of crushed rock, crushed gravel or other hard material retained on the 2.36 mm sieve. They shall be clean, hard, durable, of cubical shape, free from dust and soft or friable matter, organic or other deleterious matter. Where the Contractor's selected source of aggregates have poor affinity for bitumen, as a condition for the approval of that source, the bitumen shall be treated with approved anti-stripping agents, as per the manufacturer's recommendations, without additional payment. Before approval of the source, the aggregates shall be tested for stripping.

The aggregates shall satisfy the physical requirements set forth in Table 500-3.

Where crushed gravel is proposed for use as aggregate, not less than 90% by weight of the crushed material retained on the 4.75 mm sieve shall have at least two fractured faces.

504.2.3 Fine aggregates : Fine aggregates shall consist of crushed or naturally occurring material, or a combination of the two, passing 2.36 mm sieve and retained on 75-micron sieve. They shall be clean, hard, durable, dry and free from dust, and soft or friable matter, organic or other deleterious matter.

TABLE 500-3.
PHYSICAL REQUIREMENTS FOR COARSE AGGREGATES
FOR BITUMINOUS MACADAM

Property	Test	Specification
Cleanliness	Grain size analysis	Max 5% passing 0.075 mm sieve
Particle shape	Flakiness and Elongation Index (combined) ²	Max 30%
Strength*	Los Angeles Abrasion Value ²	Max 40%
	Aggregate Impact Value ³	Max 30%
Durability	Soundness ⁴	
	Sodium Sulphate	Max 12%
	Magnesium Sulphate	Max 18%
Water Absorption	Water absorption ⁵	Max 2%
Stripping	Coating and stripping of Bitumen Aggregate Mixtures ⁶	Minimum retained coating 95%
Water Sensitivity ⁷	Retained Tensile Strength	Min 80%

Notes :	1.	IS: 2386 Part 1 4.	IS : 2386 Part 5
	2.	IS : 2386 Part 25.	IS : 2386 Part 3
		(the elongation test to be done only on non-flaky aggregates in the sample)	
	3.	IS : 2386 Part 4*	6. IS : 6241.
	7.	The water sensitivity test is only to be carried out if the minimum retained coating in the stripping test is less than 95%.* Aggregate may satisfy requirements of either of these two tests.	

504.2.4 Aggregate grading and binder content : When tested in accordance with IS:2386 Part 1 (wet sieving method), the combined aggregate grading for the particular mixture shall fall within the limits shown in Table 500-4 for the

grading specified in the Contract. The type and quantity of bitumen, and appropriate thickness, are also indicated for each mixture type.

504.2.5 Proportioning of material : The aggregates shall be proportioned and blended to produce a uniform mixture complying with the requirements of Table 500-4. The binder contents shall be within a tolerance of ± 0.3 per cent by weight of total mixture when individual specimens are taken for quality control tests in accordance with the provisions of Section 900.

504.3. Construction Operations

504.3.1 Weather and seasonal limitations : The provision of Clause 501.5.1 shall apply.

TABLE 500-4. COMPOSITION OF BITUMINOUS MACADAM

Mix designation	Grading 1	Grading 2
Nominal aggregate size	40 mm	19mm
Layer thickness	80-100 mm	50-75mm
IS Sieve (mm)	Cumulative % by weight of total aggregate passing.	
45		100
37.5	90-100	
26.5	75-100	100
19	---	90-100
13.2	35-61	56-88
4.75	13-22	16-36
2.36	4-19	4-19
0.3	2-10	2-10
0.075	0-8	0-8
Bitumen content, % by Weight of total mixture	3.1-3.4	3.3-3.5
Bitumen grade	35 to 90	35 to 90

Notes : 1. Appropriate bitum "> contents for conditions in cooler areas of India may be up to 0.5% higher subject t< the approval of the Engineer.

504.3.2 Preparation of the base : The base on which bituminous macadam is to be laid shall be prepared, shaped and compacted to the required profile in accordance with Clause 501.8 and 902.3 as appropriate, and a prime coat, shall be applied in accordance with Clause 502 where specified, or as directed by the Engineer.

504.3.3 Tack coat : A tack coat in accordance with Clause 503 shall be applied as required by the Contact documents, or as directed by the Engineer.

504.3.4 Preparation and transportation of the mixture : The provisions of Clauses 501.3 and 501.4 shall apply.

504.3.5 Spreading : The provisions of Clauses 501.5.3 shall apply.

TABLE 500-5.

MANUFACTURING AND ROLLINGTEMPERATURES

Bitumen *eni'tration	Bitumen Mixing (°C)	Aggregate Mixing (°C)	Mixed Material(°C)	RoUing (°C)	Laying (°C)
65	160-170	160-175	170 Maximum	100 Minimum	130 Minimum
90	150-165	150-170	165 Maximum	90 Minimum	125 Minimum
	140-160	140-165	155 Maximum	80 Minimum	115 Minimum

504.3.6 Rolling : Compaction shall be carried out in accordance with the provisions of Clause 501.6 and 501.7.

Rolling shall be continued until the specified density is achieved, or where no density is specified, until there is no further movement under the roller. The required frequency of testing is defined in Clause 903.

504.4 Surface Finish and Quality Control of Work :

The surface finish of the completed construction shall conform to the requirements of Clauses 902. For control of the quality of materials supplied and the works carried out, the relevant provisions of Selection 900 shall apply.

504.5 Protection of the Layer :

The bituminous macadam shall be covered with either the next pavement course or wearing course, as the case may be, within a maximum of forty-eight hours. If there is to be any delay, the course shall be covered by a seal coat to the requirement of Clause 513 before opening to any traffic. The seal coat in such cases shall be considered incidental to the work and shall not be paid for separately.

504.6 Arrangements for Traffic :

During the period construction, arrangements for traffic shall be made in accordance with the provisions of Clause 112.

504.7 Measurement for Payment :

Bituminous macadam shall be measured as finished work in cubic metres, or by weight in metric tones, where used as regulating course, or square metres at the specified thickness as indicated in the Contract or shown on the drawings, or as otherwise directed by the Engineer.

504.8 Rate :

The contract unit rate for bituminous macadam shall be payment in full for carrying out the required operations as specified. The rate shall include for, all components listed in Clause 501.8.8.2 (I) to (xi).

511 OPEN GRADED PREMIX CARPET

511.1 Open – graded Premix Carpet using Bitumen.

511.1.1 Scope:

This work shall consist of laying and compacting an open-grade carpet of 20 mm. thickness in a single course composed of suitable small-sized aggregates premixed with a bituminous binder on a previously prepared base, in accordance with the requirements of these Specifications, to serve as a wearing course.

511.1.2 Materials

511.1.2.1 Binder : The binder shall be bitumen of a suitable grade appropriate to the region, traffic, rainfall and other environmental conditions, as directed by the Engineer and satisfying the requirements of IS : 73,217,454 or another approved cutback as applicable. Guidance in this regard may be taken from Appendix – 4.

511.1.2.2 Aggregates : The coarse aggregates shall conform to Clause 504.2.2.1 The Stone Polishing Value as measure by BS : 812 (Part 114) shall not be less than 55.

The aggregates shall satisfy the quality requirements set forth in Table 500-3 except that the water absorption shall be limited to a maximum of 1 per cent.

511.1.2.3 Proportioning of materials : The materials shall be proportioned as per quantities given in Table 50-16.

TABLE 500.16. QUANTITIES OF MATERIALS REQUIRED FOR 10 m² OF ROAD SURFACE FOR 20 mm THICK OPEN GRADED PREMIX CARPET USING BITUMEN

Aggregates for Carpet		
a)	Stone chippings – 13.2 mm size : passing 22.4 mm sieve and retained on 11.2 mm sieve.	0.18 cum
b)	Stone chippings – 11.2 mm size : passing 13.2 mm sieve and retained on 5.6 mm sieve.	1.9 cum
	Total	0.27 cum
Binder of Premixing (quantities in terms of straight run bitumen)		
a)	For 0.18 m ³ of 13.2 mm size stone chipping at 52kg per m ³ .	9.50 kg
b)	For 0.09 m ³ of 11.2 mm size stone chipping at 56kg per m ³ .	5.10 kg
	Total	14.60 kg

CONTRACTOR

NO. OF CORRECTIONS

DEPUTY ENGINEER (CIVIL)

511.1.3 Construction operations

511.1.3.1 Weather and seasonal limitations : Clause 504.3.1 shall apply.

511.1.3.2 **Preparation of base:**

The underlying base on which the bituminous carpet is to be laid shall be prepared, shaped and conditioned to the specified lines, grade and cross-section in accordance with Clause 501. A prime coat where needed shall be applied in accordance with Clause 502 as directed by the Engineer.

511.1.3.3 **Tack coat:** [@ 30 kg 100 / sqm

A tack coat complying with Clause 503, shall be applied over the base preparatory to laying of the carpet.

511.1.3.4 **Preparation of premix:**

Hot mix plant of appropriate capacity and type shall be used for the preparation of mix material. The hot mix plant shall have separate dryer arrangement for heating aggregates and pugmill for mixing aggregates and binder.

The temperature of binder at the time of mixing shall be in the range of 150⁰ C to 163⁰ C and that of the aggregates in the range of 155⁰ C to 163⁰ C provided that the difference in temperature between the binder and aggregates at no time exceeds 14⁰ C. Mixing shall be thorough to ensure that a homogeneous mixture is obtained in which all particles of the aggregates are coated uniformly, and the discharge temperature of mix shall be between 130⁰ C and 160⁰C.

The mix shall be immediately transported from the mixer to the point of use in suitable vehicles of wheel borrow. The vehicles employed for transport shall be clean and the mix being transported covered in transit if so directed by the Engineer.

511.1.3.5 **Spreading and rolling:**

The mixed material shall be spread by suitable means. As soon as sufficient length of bituminous material has been laid, rolling shall commence with 80-100 kN rollers, preferably of smooth wheel tandem type, or other approved equipment. Rolling shall begin at the edge and progress toward the center longitudinally, except that on the super vetted and uni-directional cambered portions, it shall progress from the lower the upper edge parallel to the center line of the pavement.

When the roller has passed over the whole area once, any high spots or depressions which become apparent shall be corrected by removing or adding premixed materials. Rolling shall then be continued until the entire surface has been rolled to compaction and all the roller marks eliminated. In each pass of the roller, preceding track shall be overlapped uniformly by at least 1/3 width. The roller wheels shall be kept damp to prevent the premix from adhering to the wheels and being picked up. In no case shall fuel / lubricating oil be used for this purpose. Excess use of water for this purpose shall be avoided.

Rollers shall not stand on newly laid materials while there is a risk that it will be deformed thereby. Rolling operations shall be completed in every respect before the temperature of the mix falls below 100° C.

The edges along and transverse of the carpet laid and compacted earlier shall be cut to their full depth so as to expose fresh surface which shall be painted with a thin surface coat of appropriate binder before the new mix is placed against it.

511.1.3.6 Seal coat:

A seal coat conforming to Clause 513 shall be applied to the surface immediately after laying the carpet.

511.1.4 Opening to traffic:

No traffic shall be allowed on the road till the seal coat has been laid. After the seal coat is laid, the road shall be opened to traffic according to Clause 513.4.

511.1.5 Surface finish and quality control of work:

The surface finish of construction shall conform to the requirements of Clause 902j. Control on the quality of materials and works shall be exercised by Engineer in accordance with Section 900.

511.1.6 Arrangements for Traffic:

During the period of construction, arrangement of traffic shall be done to Clause 112

511.1.7 Measurements for payment:

Open graded premix carpet shall be measured as finished work in square metres.

511.1.8 Rate:

The contract unit rate for open-graded pre-mix carpet shall be payment in

full for carrying out the require operation including full compensation for all components listed I clause 504.8.

511.2. 20 mm Thick Premix Carpet using Cationic Bitumen Emulsion

511.2.1 **Scope:**

The work shall consist of laying and compacting an open grade premix carpet of 20 mm thickness with Cationic bitumen emulsion placed on a previously prepared base in accordance with the requirements of these Specifications to serve as s wearing course.

511.2.2 **Materials**

511.2.2.1 **Binder**

The binder shall be Cationic bitumen emulsion of Medium Setting (MS) grade compying with IS:8887 and having bitumen content 60 per cent minimum by weight. For liquid seal coat MS grade can be used, but it is preferable to use Rapid Setting (RS) grade of Cationic bitumen emulsion. However, for premix seal coat Slow Setting (SS) grade C Ationic Bitumen Emulsion shall be used.

511.2.2.2 **Course aggregates:**

Clause 511.1.2.2 shall apply. Aggregates should be cleaned by washing or by sprinkling water copiously.

The coarse aggregates shall satisfy the quality requirements set forth in Table 500-3, except that the water absorption valve shall be limited to a maximum of 1 percent. Stripping value is not to be considered unless directed by the Engineer. Water absorption up to 2 percent may be permitted in exceptional cases only.

511.2.2.3 **Fine aggregates:**

Fine aggregates for seal coat shall be crushed stone chips or coarse sand, clean, uncoated and free from clay, dust and other deleterious matter.

511.2.3 **Quantities of materials required:**

The materials shall be proportioned as per quantities given in Tables 500-17 and 500-18.

Tables 500-17. QUANTITIES OF AGGREGATES FOR 10 m² AREA

A]	(A)	Premix Carpet	
	(a)	Coarse aggregate 13.2 mm size: passing	
		IS 22.4 mm sieve and retained on IS 11.2 mm sieve	0.18 m ³
	(b)	Coarse aggregate 11.2 mm size: passing	
		IS 13.2 mm sieve and retained on IS 5.6 mmsieve	0.09 m ³

- (B) For Seal Coat:
- (a) Liquid seal coat:
Crushed fine aggregates 6.7 mm size: passing 0.09 m³
IS 9.5 mm and retained on IS 2.36 mm sieve
- (b) Premix seal coat:
Crushed sand or stone grit passing 2.36 mm sieve and 0.06 m³ retained on micron sieve.

Table - QUANTITIES OF BINDER (IN TERMS OF STRAIGHT 500-18 RUN BITUMEN)

a)	For Tack Coat For	10.00 M2
	(i) Normal bituminous surfaces	2 to 2.50 kg
	(ii) Dry and hungry bituminous surface	2.50 to 3.00 kg
	iii) Granular surfaces treated with primer	2.50 to 3.00 kg
	(iv) Non bituminous surfaces	
	a) Granular base (not printed)	3.5 to 4.0 kg
	(b) Cement concrete surface	2.50 to 4 kg
B	For Premix Carpet	20 to 23 kg
C	For Seal Coat:	12 to 14 kg
	(a) for liquid seal coat	12 to 14 kg
	(b) for premix seal coat	10 to 12 kg
511.2.3.1	1 Aggregates:	
511.2.4	Construction operations	
511.2.4.1	Weather limitations:	
	Cationic bitumen emulsions shall not normally be stored below 0 C. However, premix carpet work with Cationic emulsion shall be carried out only when the atmospheric temperature is above 10 C.	
511.2.4.2	Preparation of base:	
	The underlying base on which the premix carpet is to be laid shall be prepared, shaped, and conditioned to the specified lines, grades and cross- sections in accordance with Clause 501. The cleaned surface can be finally washed with water if it is readily available.	
511.2.4.3	Preparation of binder:	
	Clause 508.2.3.3 shall apply.	
511.2.4.4	Tack coat:	Clause 508.2.3.4 (A) shall apply. Tack coat shall be applied

not earlier than 10 minutes before spreading the premix. On water bound macadam surface, water shall be sprayed to make the surface damp before applying tack coat.

511.2.4.5

Preparation of premix:

Premixing of Cationic bitumen emulsion and aggregates can be done in a suitable mixer such as cold mixing plant as per IS: 5435 (Revised) or concrete mixer or by shovels in exceptional cases with the approval of the Engineer. However, for large works, continuous mixing operation can be done either in batch or continuous mixer units suitable for emulsion mixes.

When using concrete mixer for preparing the premix 0.135 cu.m. (0.09 cu.m. of 13.2 mm size and 0.045 cu.m. of 11.2 mm size) of aggregates per batch may be used as this quantity will cover 5 sq.m. of road surface with 20 mm average thickness.

The aggregates required for one batch should be kept ready near the mixer. The aggregates shall be cleaned free from dust and dirt, if any, by dipping or washing or copiously sprinkling water.

First the coarse aggregates of 13.2 mm size shall be charged into the mixer followed by 5 to 6.5 kg of Cationic bitumen emulsion and then 11.2 mm size aggregates are added, followed by 5 to 6.5 kg of Cationic bitumen emulsion. After the materials have been mixed thoroughly, the mix shall be immediately transported to the laying site in suitable vehicles. Too much mixing shall be avoided as it may result in decoating of aggregates.

Because of ease of mixing, Cationic bitumen emulsion and aggregates can be mixed manually by shovels when mechanical mixer is not available or when the work is too small, with the approval of the Engineer. 0.06 cu.m. of aggregates can be conveniently mixed in one heap with appropriate quantity of emulsion. It is preferable to make the aggregates damp before mixing as it reduces the effort required for mixing and also helps to get better coating of aggregates. The 13.2 mm size aggregates and emulsion are mixed first and then the 11.2 mm size aggregates and remaining quantity of emulsion are added and mixed. Too much mixing shall be avoided as it will result in decoating of aggregates.

511.2.4.6

Spreading of mix:

The premixed cationic bitumen emulsion and aggregates shall be spread.

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within 10 minutes of applying the tack coat. The mixt is easily workable for about 20 minutes after mixing and hence all leveling, racking, etc. should be completed within this timefor easy workability.

The mix should be spread uniformly to the desired thickness, grades and crossfall (camber) making due allowance for extra quantity required to fill up depressions, if any. The crossfall should be checked by means of camber boards and inequalities evened out. Too much use of blades or rakes should be avoided.

511.2.4.4 **Rolling:**

The rolling shall start immediately after laying the premix. Smooth wheeled tandem roller of 80-100 KN shall be used preferably, though three wheeled steel rollers of equivalent capacity can also be used. While rolling, wheels of roller should be clean and kept moist to prevent the premix from adhering to the wheels and being picked up. In no case shall Fuel / lubricating Oil be used for this purpose. Excessive use of water for this purpose shall also be avoided.

Rolling shall commence at the edges and progress towards the center longitudinally except in case of super elevated and uni-directional cambered sections where rolling shall be done from lower edge towards the higher edge parallel to the center line of the road.

After one pass of roller over the whole area, depressions or uncovered spots should be corrected by adding premix material. Rolling shall be continued until the entire surface has been rolled to compaction and all the roller marks eliminated. In each pass of the roller, preceding track shall be overlapped uniformly by at least 1/3 width. Roller (s) shall not stand on newly laid material while there is a risk that it will be deformed thereby. At joints, the edges along the transverse of the carpet laid and compacted earlier shall be cut to their full depth so as to expose fresh surface which shall be painted with a thin surface to expose fresh surface which shall be painted with a thin surface coat of binder before the new mix is placed against it.

511.2.4.8 **Seal coat:**

A seal coat, liquid or premix type, shall be applied 4 to 6 hours after laying the premixcarpet.

Liquid seal coat:

Quantities of the materials required are given in Tables 500-17 and 500-18. For application of binder Clause 508.2/3/4 (A) shall apply.

Immediately after spraying emulsion, stone chips in a clean state shall be spread uniformly, preferable by means of a mechanical gritter, otherwise manually so as to cover the surface completely. Start rolling with 60-80 kN roller soon after spreading the chips. The rolling operation shall be as indicated in 511.2.4.7 as far as applicable.

Premix sealcoat:

The quantities of aggregate and binder to be used shall be as given in Tables 500-17 and 500-18. Grit or sand used for premix seal coat should be made thoroughly wet with water before mixing emulsion of slow setting grade.

The mixing, spreading and rolling etc. shall be carried out as per Clauses. 511.2.4.5 to 511.2.4.7 except for the quantities and materials which shall be for premix seal coat. rolling shall be continued till the premix materials completely seals the voids in the premix carpet and smooth uniform surface is obtained.

51125

Opening to traffic:

Traffic should not be allowed over the premix surface with or without seal coat, for 6 to 8 hours after rolling. In case of single lane roads, traffic may be allowed at slow speed not exceeding 10 km per hour. If any premix material gets picked up by vehicle tyres, the spot shall be filled by new mix. It is preferable to open the road to traffic the next day after 24 hours.

51126

Surface finish and quality control:

The surface finish of construction shall conform to the requirements of Clause 902.

The control on the quality of materials and works shall be exercised by The Engineer in accordance with Section 900

51127

Arrangements for traffic:

During the period of construction, arrangement of traffic shall be done to Clause 112.

51128

Measurement for payment:

The premix carpet and seal coat shall be measured as finished work in square metres.

51129

Rate:

The contract unit rate for premix carpet and seal coat shall be payment in

full for carrying out the required operations including full compensation for all components listed in Clause 504.8 (i) to (vi).

503. TACK COAT

503.1 Scope :

This work shall consist of the application of a single coat of low viscosity liquid bituminous material to an existing bituminous road surface preparatory to the superimposition of a bituminous mix, when specified in the Contract or instructed by the Engineer.

503.2 Materials :

503.2.1 Binder : The binder used for tack coat shall be bitumen emulsion complying with IS 8887 of a type and grade as specified in the Contract or as directed by the Engineer. The use of cutback bitumen as per IS 217 shall be restricted only for sites at sub-zero temperatures or for emergency applications as directed by the Engineer.

503.3 Weather and Seasonal Limitations :

Bituminous material shall not be applied to a wet surface or during a dust storm or when the weather is foggy, rainy, or windy or when the temperature in the shade is less than 101⁰C. Where the tack coat consists of emulsion, the surface shall be slightly damp, but not wet. Where the tack coat is of cutback bitumen, the surface shall be dry.

503.4 Construction:

503.4.1. Equipment:

The tack coat distributor shall be a self-propelled or towed bitumen pressure sprayer, equipped for spraying the material uniformly at a specified rate. Hand spraying of small areas, inaccessible to the distributor, or in narrow strips, shall be sprayed with a pressure hand sprayed, or as directed by the Engineer.

503.4.2 Preparation of base:

The surface on which the tack coat is to be applied shall be clean and free from dust, dirt, and any extraneous material, and be otherwise prepared in accordance with the requirements of Clauses 501.8 and 902 as appropriate. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high-pressure air jet, or by other means as directed by the Engineer.

503.4.3 Application of tack coat :

The application of tack coat shall be at the rate specified in the Contract and shall be applied uniformly.

503.4.3 rate of application of Tack Coat is not specified in the contract then it shall be at the rate specified in Table 500-2. The normal range of spraying.

TABLE 500.2
RATE OF APPLICATION OF TACK COAT

Type of Surface Bituminous		Quantity of liquid material in Kg. Per sq.m. area
i)	Normal bituminous surfaces	0.20 to 0.25
ii)	Dry and hungry bituminous surfaces	0.25 to 0.30
iii)	Granular surfaces treated with primer.	0.25 to 0.30
iv)	Non bituminous surfaces	
a)	Granular base (non-primed)	0.35 to 0.40
b)	Cement concrete pavement	0.35 to 0.35

temperature for a bituminous emulsion shall be 20°C to 70°C and for a cutback, 50°C to 80°C if RC-70/MC-70 is used. Where a geosynthetic is proposed for use, the provisions of clauses 703.3.2 and 703.4.4 shall apply. The method of application of tie tack coat will depend on the type of equipment to be use, size of nozzles, pressure at the spray bar, and speed of forward movement. The Contractor shall demonstrate at a spraying trial, that the equipment and method to be used in capable of producing a uniform spray, within the tolerances specified.

Where the material to receive an overly is a freshly laid bituminous layer, that has not been subjected to traffic, or contaminate by dust, a tack coat is not mandatory where the overlay is completed within two days.

503.4.4 Curing of tack coat : The tack coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started. No plant or vehicles shall be allowed on the tack coat other than those essential for the construction.

503.5 Quality Control of work : For control of the quality of materials supplied and the works carried out, the relevant provisions of Section 900 shall apply.

503.6 Arrangement for Traffic : During the period of construction, arrangements for traffic shall be made in accordance with the provisions of Clause 112.

503.7 Measurement for payment : Tack coat shall be measured in terms of surface area of application in square metres.

503.8 Rate : The contract unit rate for tack coat shall be payment in full for carrying out the required operations including for all components listed in Clause 401.8 (i) to (v) and as applicable to the work specified in these Specifications. The rate shall cover the provision of tack coat at 0.2 kg per square metre, with provision that the variance in actual quantity, of bitumen used will be assessed and the payment adjusted accordingly.

Penalty Condition for DLP with FCAMC Period

Contractor has to attend emergency break down calls with skilled staff for 24x7 within 2 hours after intimation & fault shall be nullified before 12 hours after attendance of the fault failing to do so will post the penalty of Rs. 1000.00 Per Day.

Defect Liability Period (For Civil Work)		
Work-1	All Civil Works	Defect Liability Period for the proposed work after successful handing over the work/Project to the MFSCDCL shall be minimum 5 Years.

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Total Project cost (Excluding GST) = 16,64,06,151 /-

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 01-Main Road (Main Road Security Cabin to towards Admin Security Cabin) (Approx Length 360m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	2520	31752	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	1008	89964	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	126	78057	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	72	378	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	504	1587.6	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	2520	108486	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	1008	823435.2	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1512	306406.8	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	2520	545076	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted.</p> <p>The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		2069953.2	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval.
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.1- Mrutunjay maidan to Temple (Approx Length 1200m) (Assuming Typical Average Width of Road as 7 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	8400	105840	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	0	0	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	420	260190	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	240	1260	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	420	1323	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	8400	361620	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	0	0	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	8400	1702260	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	8400	1816920	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		4334223.6	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.						

11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.03 -T15A(Mrutunjay Maidan) to BNHS Gate (Approx Length 730m)(Assuming Typical Average Width of Road as 6.7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	4891	61626.6	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	978	87304.35	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	489.1	302997.45	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	109.5	574.875	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	1467.3	4621.995	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	4891	210557.55	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	978.2	799091.58	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	3912.8	792928.92	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	4891	1057923.3	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
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Total Amount (Excluding) **3402437.22**

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.

11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.04- T16B to BNHS Gate (Approx Length 538m) (Assuming Typical Average Width of Road as 6.8m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	3658.4	46095.84	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	182.92	16325.61	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	182.92	113318.94	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	107.6	564.9	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	731.68	2304.792	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line, level, and camber rolling with 10/12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	3658.4	157494.12	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	182.92	149427.348	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS, laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	3475.48	704306.022	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	3658.4	791311.92	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
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Total Amount (Excluding) **2065960.092**

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.05-Main Road to A28 AC plant (Approx Length 506 m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	3542	44629.2	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	1771	158061.75	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	354.2	219426.9	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	75.9	398.475	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	885.5	2789.325	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	2125.2	189674.1	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	1771	1441151.25	Profile Corrective Course

8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	3542	152483.1	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	1771	1446729.9	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1771	358893.15	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	3542	766134.6	
12	(MCGM USOR 2023) R3-RT-16-09	Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		4865182.35	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.						
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval						
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.						
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity						
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)						

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.07- Access Road for Studio 1/2 to play Garden Area (Near Tarak Mehta studio) (Approx Length 344m) (Assuming Typical Average Width of Road as 7 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	2408	30340.8	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	481.6	42982.8	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	216.72	134258.04	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	68.8	361.2	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	481.6	1517.04	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	2408	103664.4	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	481.6	393419.04	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1926.4	390384.96	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	2408	520850.4	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm.</p> <p>work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		1702589.28	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifi							
Road No. 08- (Near Kapil Sharma Show) (Approx Length 144m)(Assuming Typical Average Width of Road as 6.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	936	11793.6	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	0	0	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	46.8	28992.6	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	28.8	151.2	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	93.6	294.84	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	936	40294.8	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	0	0	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	936	189680.4	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	936	202456.8	

12	(MCGM USOR 2023) R3-RT-16-09	Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.	Nos	1751.4	1	1751.4	
14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		558474.84	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifi							
Road No.09-Police station to Studio 4/5 (Approx Length 127m)(Assuming Typical Average Width of Road as 6m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	762	9601.2	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	114.3	10201.275	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	38.1	23602.95	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	25.4	133.35	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	76.2	240.03	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line, level, and camber rolling with 10/12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	762	32804.1	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	114.3	93371.67	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS, laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	647.7	131256.405	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	762	164820.6	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding		550842.18	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifi							
Road No. 10- Khandala Ghat Road (Approx Length 1427m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	25	12775	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	5	8730	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	9989	125861.4	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	4994.5	445759.125	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	799.12	495054.84	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	356.75	1872.9375	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	2996.7	9439.605	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	4994.5	445759.125	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	4994.5	4064274.375	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	9989	430026.45	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	4994.5	4080007.05	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	4994.5	1012135.425	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	9989	2160620.7	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
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Total Amount (Excluding) **13377126.63**

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accessible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the existing top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoining portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.11- (Temple road/MSEB Sub Station Road) (Approx Length 450 m)(Assuming Typical Average Width of Road as 6.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	15	7665	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	4	6984	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	2925	36855	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	1755	156633.75	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	292.5	181203.75	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	90	472.5	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	438.75	1382.0625	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	1755	156633.75	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line, level, and camber rolling with 10/12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	1755	1428131.25	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	2925	125921.25	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	1755	1433659.5	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS, laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1170	237100.5	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	2925	632677.5	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
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Total Amount (Excluding 4490130.413

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 12- (Bapu Nagar Junction To Helipad) (Approx Length 780m)(Assuming Typical Average Width of Road as 6.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	5070	63882	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	0	0	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	253.5	157043.25	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	156	819	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	507	1597.05	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line, level, and camber rolling with 10/12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	5070	218263.5	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	0	0	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS, laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	5070	1027435.5	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	5070	1096641	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface.</p> <p>It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface.</p> <p>It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
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Total Amount (Excluding	2650491.9
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Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval.
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.13- Access Road to Helipad (Approx Length 406m)(Assuming Typical Average Width of Road as 3.6m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	5	2555	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	2	3492	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	1461.6	18416.16	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	1461.6	130447.8	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	73.08	45273.06	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	81.2	426.3	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	219.24	690.606	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	1023.12	91313.46	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	1023.12	832563.9	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	1461.6	62921.88	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	1461.6	1193981.04	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	0	0	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	1461.6	316144.08	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding		2783035.886	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						

10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifi							
Road No. 14-MORACHA PADA (Approx Length=475 m)							
Estimate for Construction of Concrete Road (Internal road) At Location Moracha Pada ,Filmcity ,Goregaon (Assuming Typical Average Width of Road as 3.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
Section A							
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	4	2044	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	3	5238	
3	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	1662.5	20947.5	
4	(MCGM USOR 2023) R3-CS-EW-3	Excavation for foundation, substructures, basements, tanks, sumps,walls, chambers, manholes, trenches, poles, pits & general building works in soft/ disintegrated rock, sand stone, stiff clay, gravel,cobblestone, hard laterite, water bound macadam, wet mix macadam,asphalt mix carpet of any type, pitching, soling, paths and hardcore,lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level, rock boulders, etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/trimming the sides, leveling of bottoms, manual dewatering, removingrank vegetation, backfilling in layers not more than 200mm thickness,watering, consolidating, compacting to achieve not less then 97%Modified Proctor density conforming to relevant IS, stacking in easurable heaps for future use within owners space or disposingwithin an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.Note:1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cum	676.2	2161.25	1461437.25	
5	PWD SSR (2022-2023) 2.34	Providing dry rubble stone pitching 23 cm (about 9) thick including all material, quarry spalls, labour etc. complete.	Sqm	433.65	1662.5	720943.13	
6	PWD SSR (2022-2023) 2.28	Providing earth work in embankment with approved materials obtained from other sources upto lead of 50m. including all lifts, laying in layers of 20cm. to 30cm. thickness breaking clods, dressing to the required lines, curves, grades & section, watering and compaction with vibratory roller with V-Sat attachment to achieve not less than 97 % of standard proctor density etc. complete (Material obtained from Other sources)	Cum	794.85	831.25	660719.06	
7	PWD SSR (2022-2023) 50.6	Compacting the sub grade/gravel/oversize metal (200 mm loose) layers for all width with Vibratory roller having weight 8 to 10 MT. including necessary, labour, materials and artificial watering complete.	Sqm	38.85	1662.5	64588.13	

8	PWD SSR (2022-2023) 50.48	Water proofing of subgrade:waterproofing on top compacted (as per relevant MORT&H specification)sub grade and shoulder soil base with organosilance Nanotechnology & nano acrylic co-polymer with water (<1000 ppm TDS)in the ratio of 1KilogramOrganosilance Nanotechnology :1Kilogramnano acrylic co-polymer :200 liter water spray @3 liter/ One Square Metre in two spray application (1.5 liter +1.5 liter) as per direction of the Engineer-in-charge. with prior approval of concerned Superintending Engineer.	Sqm	15.75	1662.5	26184.38	
9	PWD SSR (2022-2023) 7.16	Providing and laying a woven Polypropylene Geotextile of Type-I manufactured from black UV stabilised Polypropylene Tape yarn on the prepared subgrade as the separator cum reinforcement with necessary overlap as per drawing.(For use this item SE/CE permission is obligatory.)	Sqm	189	1757.5	332167.5	Provisional Item
10	PWD SSR (2022-2023) 3.08	Cement Treated Crushed Rock or combination as per clause 403.2 and table 400.4 in Sub base/ Base --Providing, laying and spreading Material on a prepared sub grade, adding the designed quantity of cement to the spread Material, mixing in place with rotavator, grading with the motor grader and compacting with the road roller at OMC to achieve the desired unconfined compressive strength and to form a layer of sub-base/base course. A) For Sub-base Course	Cum	2569.35	249.375	640731.66	
11	PWD SSR (2022-2023) 5.13	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate (natural sand/ VSI grade finely washed crushed sand) conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, , cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant/ Weigh batch mixer, transported to site with all leads and lifts, laid with a paver with electronic sensor /by suitable means as approved by Engineer-in-charge , compacting with vibratory roller, finishing, curing and including preparation of sub-grade surface if required etc. complete. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	3841.95	249.375	958086.28	
12	PWD SSR (2022-2023) 5.01	Providing and laying in-situ M30 Grade unreinforced plain cement concrete pavement over a prepared sub base with 43 grade cement , coarse and fine aggregate(natural sand/ VSI grade finely washed crushed sand) conforming to IS 383, using fine and coarse aggregates combined gradation as per Table 600-3 of MORTH Specification 2013, mixed in a batching and mixing plant/ non tilting mixer and Weigh batcher as per approved mix design, admixtures, transporting to site, spreading, laying with approved make paver,compacted and finished in a continuous operation, finishing to lines and grades as directed by Engineer-in-charge and curing by curing compound /by providing cement vata in cement Mortar 1:8 @0.6m X 0.6m centre to centre, admeasuring 80 mm at bottom and 40 mm at top with depth of 75mm and maintaining the same throughout curing period by any other method approved by Engineer-in-charge. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	7961.1	415.625	3308832.19	
13	PWD SSR (2022-2023) 5.14	Providing and fixing in position TMT FE 500, 32 mm dia dowel bars precoated with anticorrosive epoxy paint of required Dia. 60 cms. Long and at 30.00 cm. C/C and wherever directed including handling, straightening, necessary cutting supported by TMT FE 500, chairs with proper alignment by using properly designed assembly of Bulkheads lubricating half length with bituminous paint as directed etc. complete.	Nos	564.9	1391	785775.9	$(4/5/4.5)=106$ (106+1)Approx 13 Dowels at Each 4.5m Length. Hence Total Dowels are approx $=106 \times 13=1391$

14	PWD SSR (2022-2023) 5.16	Providing and fixing in position TMT FE 500, tie bars precoated with anticorrosive epoxy paint of 12 mm dia. 70 cms.long and at 30.00 cm. C/C and wherever directed including handling, straightening wrapping with paper of approved quality for half length, necessary cutting, handling, straightening , supported by assembly of TMT FE 500, chairs with proper alignment etc. complete.	Nos	321.3	QRO		Qunatity As Per Site Consumption
15	PWD SSR (2022-2023) 5.17	Cutting transverse contraction joints/longitudinal 3 to 4 mm wide and depth 60mm. .in concrete slab using concrete cutting machine with diamond studded saw within 48 hours of casting of bay / slab etc. complete including subsequent widening of the groove 8 to 10 mm. wide at top having depth of 15 mm. as directed by Engineer incharge.	Rmt	79.8	845	67431	Tranverse joint= $((475/4.5)*3.5)=370$ m Longitudinal Joint=475 m
16	PWD SSR (2022-2023) 5.18	Providing to contraction joints polysuphide sealent (Pouring grade) confirming to BS : 5212 - 1989 into sawed groove widened at top for sealent reservoir of specified size and shape as per detailed drawing including fixing Polyethylene foam backer rod of required diameter (appraox. 25% larger than the initial 3 mOne Metric Tonneo 4 mm. joint) overlaid with bond breaking tape as per detailed drawing. Item includes cleaning the joints with water jet / air compressor and allowing joint to become thoroughly dry before sealent is applied and applying primer. (A) Contraction and longitudinal joints (15 mm. deep x 8 mm.wide)	Rmt	326.55	845	275934.75	
17	PWD SSR (2022-2023) 5.19	Providing and laying 125 micron Low Density Polyethylene (LDPE) sheet confirming to IS 3395 : 1997 below concrete pavement including all materials and labour complete.	Sqm	31.5	1947.5	61346.25	
18	(MCGM USOR 2023) R3-RW- 10-11	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints, fully greased inside, cotton waste in the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P.pipe shall be 30cm in length). As shown in the drawing.	Each	32.55	1391	45277.05	
19	PWD SSR (2022-2023) 7.05	Providing and casting in situ or precast tapering R.C.C. M-20 Semi Barrier type Kerb with gutter (as per IRC 86 1983) embedded 125mm below ground level over M-10 PCC finished neatly with C.M. 1:2, setting the same in C.M. 1:2, including the required excavation in any strata and removing the excavated stuff any where in city and redoing the surface as specified and directed by Engineering In-charge. Using Concrete Batching and Mixing Plant	Rmt	900.9	950	855855	
20	PWD SSR (2022-2023) 17.37	Providing and laying weep holes of 100 mm diameter PVC pipes as per drawing for abutment returns, return walls etc. Complete.	Rmt	559.65	48	26863.2	
21	Non-DSR	Providing and fixing centering and shuttering for concrete pavement work including all work.	MT	100000	12	1200000	Assuming 24 ton steel for 500meter per km of road construction structural steel shall be utilised
22	PWD SSR (2022-2023) 7.3	Metal Beam Crash Barrier -- Type - A, W : Metal Beam Crash Barrier (Providing and erecting a W metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810)""	Rmt	5157.6	475	2449860	

23	(MCGM USOR 2023) R3-RT-16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.	Nos	1751.4	1	1751.4	
24	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
25	(MCGM USOR 2023) R3-RT-16-09	Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.	Nos	25035.15	1	25035.15	
26	(MCGM USOR 2023) R3-CS-PS-168-d	Providing and laying non-pressure NP2 class (light 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 : 300 mm dia. R.C.C. pipe	Rmt	945	90	85050	
			TOTAL SECTION (Excluding GST)			14140122.81	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.15- Subroad Towards Reliance Studio (Approx Length 82 m)							
Estimate for Construction of Concrete Road (Internal road) At Filmcity ,Goregaon (Assuming Typical Average Width of Road as 6.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks
Section A							
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	615	7749	
2	PWD SSR (2022-2023) 3.1	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately etc. complete.	Cum	451.5	213.2	96259.8	
3	PWD SSR (2022-2023) 50.6	Compacting the sub grade/gravel/oversize metal (200 mm loose) layers for all width with Vibratory roller having weight 8 to 10 MT. including necessary, labour, materials and artificial watering complete.	Sqm	38.85	533	20707.05	
4	PWD SSR (2022-2023) 5.13	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate (natural sand/ VSI grade finely washed crushed sand) conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, , cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant/ Weigh batch mixer, transported to site with all leads and lifts, laid with a paver with electronic sensor /by suitable means as approved by Engineer-in-charge , compacting with vibratory roller, finishing, curing and including preparation of sub-grade surface if required etc. complete. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	3841.95	79.95	307163.9025	

5	PWD SSR (2022-2023) 5.01	Providing and laying in-situ M30 Grade unreinforced plain cement concrete pavement over a prepared sub base with 43 grade cement , coarse and fine aggregate(natural sand/ VSI grade finely washed crushed sand) conforming to IS 383, using fine and coarse aggregates combined gradation as per Table 600-3 of MORTH Specification 2013, mixed in a batching and mixing plant/ non tilting mixer and Weigh batcher as per approved mix design, admixtures, transporting to site, spreading, laying with approved make paver, compacted and finished in a continuous operation, finishing to lines and grades as directed by Engineer-in-charge and curing by curing compound /by providing cement vata in cement Mortar 1:8 @0.6m X 0.6m centre to centre, admeasuring 80 mm at bottom and 40 mm at top with depth of 75mm and maintaining the same throughout curing period by any other method approved by Engineer-in-charge. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	7961.1	133.25	1060816.575	
6	PWD SSR (2022-2023) 5.14	Providing and fixing in position TMT FE 500, 32 mm dia dowel bars precoated with anticorrosive epoxy paint of required Dia. 60 cms. Long and at 30.00 cm. C/C and wherever directed including handling, straightening, necessary cutting supported by TMT FE 500, chairs with proper alignment by using properly designed assembly of Bulkheads lubricating half length with bituminous paint as directed etc. complete.	Nos	564.9	500	282450	$(82/4.5)=19$ (19+1)No.s Approx 25 Dowels at Each 4.5m Length. Hence Total Dowels are approx $20*25=500$
7	PWD SSR (2022-2023) 5.16	Providing and fixing in position TMT FE 500, tie bars precoated with anticorrosive epoxy paint of 12 mm dia. 70 cms.long and at 30.00 cm. C/C and wherever directed including handling, straightening wrapping with paper of approved quality for half length, necessary cutting, handling, straightening , supported by assembly of TMT FE 500, chairs with proper alignment etc. complete.	Nos	321.3	741	238083.3	$(82/4.5)=19$ Approx 39 Tie Bars at Each 4.5m Length. Hence Total Tie bars are approx $19*39=741$
8	PWD SSR (2022-2023) 5.17	Cutting transverse contraction joints/longitudinal 3 to 4 mm wide and depth 60mm. .in concrete slab using concrete cutting machine with diamond studded saw within 48 hours of casting of bay / slab etc. complete including subsequent widening of the groove 8 to 10 mm. wide at top having depth of 15 mm. as directed by Engineer incharge.	Rmt	79.8	365	29127	$(82*3)+((82/4.5)*6.5)$
9	PWD SSR (2022-2023) 5.18	Providing to contraction joints polysuphide sealent (Pouring grade) confirming to BS : 5212 - 1989 into sawed groove widened at top for sealent reservoir of specified size and shape as per detailed drawing including fixing Polyethylene foam backer rod of required diameter (appraox. 25% larger than the initial 3 mOne Metric Tonneo 4 mm. joint) overlaid with bond breaking tape as per detailed drawing. Item includes cleaning the joints with water jet / air compressor and allowing joint to become thoroughly dry before sealent is applied and applying primer. (A) Contraction and longitudinal joints (15 mm. deep x 8 mm.wide)	Rmt	326.55	365	119190.75	
10	PWD SSR (2022-2023) 5.19	Providing and laying 125 micron Low Density Polyethylene (LDPE) sheet confirming to IS 3395 : 1997 below concrete pavement including all materials and labour complete.	Sqm	31.5	582.2	18339.3	

11	(MCGM USOR 2023) R3-RW-10-11	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints, fully greased inside, cotton waste in the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P.pipe shall be 30cm in length). As shown in the drawing.	Each	32.55	500	16275	
12	Non-DSR	Providing and fixing centering and shuttering for concrete pavement work including all work.	MT	100000	3	300000	Assuming 24 ton steel for 500meter per km of road construction structural steel shall be utilised
13	PWD SSR (2022-2023) 7.16	Providing and laying a woven Polypropylene Geotextile of Type-I manufactured from black UV stabilised Polypropylene Tape yarn on the prepared subgrade as the separator cum reinforcement with necessary overlap as per drawing.(For use this item SE/CE permission is obligatory.)	Sqm	189	533	100737	Provisional Item
14	(MCGM USOR 2023) R3-CS-CW-35-c	Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps,footings,raft,retaining wall,shear wall, lift wall, foundations, slabs, beams, columns, canopies,staircases, newels, chajjas, lintels, pardies,coping, fins, arches, etc. as per detailed designs,drawings and bar bending schedules,including straightening,cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels.Thermo-Mechanically Treated steel bars. (Fe 500 D)	MT	84084	7.995	672251.58	Provisional Item (Qunatity As Per Site Consumption)
15	(MCGM USOR 2023) R3-RT-16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.	Nos	1751.4	1	1751.4	
16	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	

17	(MCGM USOR 2023) R3-RT-16-09	Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.	Nos	25035.15	1	25035.15	
18	(MCGM USOR 2023) R3-CS-PS-168-d	Providing and laying non-pressure NP2 class (light 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 : 300 mm dia. R.C.C. pipe	Rmt	945	19.5	18427.5	
TOTAL SECTION A (Excluding GST)						3372388.358	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by
6	The above BOQ is tentative and is based on visual inspection of accessible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the existing top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoining portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.

11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 16- Studio 8 to 12 (Approx Length 40m)(Assuming Typical Average Width of Road as 10m) Chainage							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	400	5040	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	0	0	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	20	12390	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	0	0	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	0	0	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	400	17220	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	0	0	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	400	81060	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	400	86520	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
				Total Amount (Excluding		287040.6	

Tentative Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 16- Studio 8 to 12 (Approx Length 100m)(Assuming Typical Average Width of Road as 22m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	2200	27720	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	0	0	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	110	68145	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	0	0	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	0	0	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	2200	94710	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	0	0	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	2200	445830	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	2200	475860	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	0	0	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	0	0	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	0	0	
				Total Amount (Excluding		1112265	

Tentative Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 16- Studio 8 to 12 (Approx Length 120m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	840	10584	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	504	44982	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	84	52038	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	30	157.5	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	168	529.2	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	504	44982	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	504	410130	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	840	36162	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	504	411717.6	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	336	68090.4	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	840	181692	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	0	0	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	0	0	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	0	0	
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Total Amount (Excluding) **1261064.7**

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.

9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 17- Whistlig woods (Approx Length 60m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	420	5292	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	420	37485	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	84	52038	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	15	78.75	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	37.8	119.07	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	420	18081	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	420	343098	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	0	0	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	420	90846	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
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Total Amount (Excluding) **631848.42**

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accessible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the existing top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoining portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specific)							
Road No. 18- Road Towards Aditya Ranoliya Group (Approx Length 309m)(Assuming Typical Average Width of Road as 7m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	2163	27253.8	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	216.3	19304.775	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	324.45	200996.775	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	46.35	243.3375	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	216.3	681.345	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	216.3	19304.775	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line, level, and camber rolling with 10/12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	216.3	176014.125	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	2163	93117.15	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	216.3	176695.47	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS, laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1946.7	394498.755	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	2163	467856.9	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
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				Total Amount (Excluding	1660777.808	
Sr. No.	Notes					
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)					
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)					
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)					
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)					
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.					
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.					
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor					
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.					
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.					
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.					
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval					
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.					
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity					
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)					

Tentative Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No. 19- Near Studio No. 3 & 4 (Approx Length 68m)(Assuming Typical Average Width of Road as 6 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	408	5140.8	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	408	36414	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	20.4	12637.8	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	10.2	53.55	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	40.8	128.52	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	408	17564.4	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	408	333295.2	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	0	0	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	408	88250.4	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding		578295.27	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.						
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval						
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.						
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity						
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)						

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.20- Near Canteen (Approx Length 49m) (Assuming Typical Average Width of Road as 6.5 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	318.5	4013.1	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	63.7	5685.225	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	19.11	11838.645	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	12.25	64.3125	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	15.925	50.16375	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	318.5	13711.425	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	63.7	52036.53	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	254.8	51635.22	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	318.5	68891.55	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	
14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
NIT for Proposed Repair & Maintenance of Internal Roads at Goregaon Filmcity Mumbai 400065				Total Amount (Excluding GST)		292736.7713	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifi							
Road No. 22- Access Road to Appu-Pappu Maidan (Approx Length 110m)							
Estimate for Construction of Concrete Road (Internal road) At Filmcity ,Goregaon (Assuming Typical Average Width of Road as 5.5m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks
Section A							
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	715	9009	
2	PWD SSR (2022-2023) 3.11	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately etc. complete.	Cum	1454.25	242	351928.5	
3	PWD SSR (2022-2023) 50.6	Compacting the sub grade/gravel/oversize metal (200 mm loose) layers for all width with Vibratory roller having weight 8 to 10 MT. including necessary, labour, materials and artificial watering complete.	Sqm	38.85	605	23504.25	
4	PWD SSR (2022-2023) 5.13	Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate (natural sand/ VSI grade finely washed crushed sand) conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, , cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant/ Weigh batch mixer, transported to site with all leads and lifts, laid with a paver with electronic sensor /by suitable means as approved by Engineer-in-charge , compacting with vibratory roller, finishing, curing and including preparation of sub-grade surface if required etc. complete. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	3841.95	90.75	348656.9625	
5	PWD SSR (2022-2023) 5.01	Providing and laying in-situ M30 Grade unreinforced plain cement concrete pavement over a prepared sub base with 43 grade cement , coarse and fine aggregate(natural sand/ VSI grade finely washed crushed sand) conforming to IS 383, using fine and coarse aggregates combined gradation as per Table 600-3 of MORTH Specification 2013, mixed in a batching and mixing plant/ non tilting mixer and Weigh batcher as per approved mix design, admixtures, transporting to site, spreading, laying with approved make paver, compacted and finished in a continuous operation, finishing to lines and grades as directed by Engineer-in-charge and curing by curing compound /by providing cement vata in cement Mortar 1:8 @0.6m X 0.6m centre to centre, admeasuring 80 mm at bottom and 40 mm at top with depth of 75mm and maintaining the same throughout curing period by any other method approved by Engineer-in-charge. with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete Batch mix plant (Pan mixer) etc. complete.	Cum	7961.1	151.25	1204116.375	
6	PWD SSR (2022-2023) 5.14	Providing and fixing in position TMT FE 500, 32 mm dia dowel bars precoated with anticorrosive epoxy paint of required Dia. 60 cms. Long and at 30.00 cm. C/C and wherever directed including handling, straightening, necessary cutting supported by TMT FE 500, chairs with proper alignment by using properly designed assembly of Bulkheads lubricating half length with bituminous paint as directed etc. complete.	Nos	564.9	598	337810.2	(110/4.5)=25 (25+1) Approx 23 Dowels at Each 4.5m Length. Hence Total Dowels are approx 26*23=598

7	PWD SSR (2022-2023) 5.16	Providing and fixing in position TMT FE 500, tie bars precoated with anticorrosive epoxy paint of 12 mm dia. 70 cms.long and at 30.00 cm. C/C and wherever directed including handling, straightening wrapping with paper of approved quality for half length, necessary cutting, handling, straightening , supported by assembly of TMT FE 500, chairs with proper alignment etc. complete.	Nos	321.3	975	313267.5	$(110/4.5)=25$ Approx 39 Tie Bars at Each 4.5m Length. Hence Total Tie bars are approx $25*39=975$
8	PWD SSR (2022-2023) 5.17	Cutting transverse contraction joints/longitudinal 3 to 4 mm wide and depth 60mm. .in concrete slab using concrete cutting machine with diamond studded saw within 48 hours of casting of bay / slab etc. complete including subsequent widening of the groove 8 to 10 mm. wide at top having depth of 15 mm. as directed by Engineer incharge.	Rmt	79.8	465	37107	$(110*3)+((110/4.5)*5.5)$
9	PWD SSR (2022-2023) 5.18	Providing to contraction joints polysuphide sealent (Pouring grade) confirming to BS : 5212 - 1989 into sawed groove widened at top for sealent reservoir of specified size and shape as per detailed drawing including fixing Polyethylene foam backer rod of required diameter (appraox. 25% larger than the initial 3 mOne Metric Tonnoe 4 mm. joint) overlaid with bond breaking tape as per detailed drawing. Item includes cleaning the joints with water jet / air compressor and allowing joint to become thoroughly dry before sealent is applied and applying primer. (A) Contraction and longitudinal joints (15 mm. deep x 8 mm.wide)	Rmt	326.55	465	151845.75	
10	PWD SSR (2022-2023) 5.19	Providing and laying 125 micron Low Density Polyethylene (LDPE) sheet confirming to IS 3395 : 1997 below concrete pavement including all materials and labour complete.	Sqm	31.5	671	21136.5	
11	(MCGM USOR 2023) R3-RW- 10-11	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints, fully greased inside, cotton waste in the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P.pipe shall be 30cm in length). As shown in the drawing.	Each	32.55	598	19464.9	
12	Non-DSR	Providing and fixing centering and shuttering for concrete pavement work including all work.	MT	100000	2.5	250000	Assuming 24 ton steel for 500meter per km of road construction structural steel shall be utilised
13	PWD SSR (2022-2023) 7.16	Providing and laying a woven Polypropylene Geotextile of Type-I manufactured from black UV stabilised Polypropylene Tape yarn on the prepared subgrade as the separator cum reinforcement with necessary overlap as per drawing.(For use this item SE/CE permission is obligatory.)	Sqm	189	605	114345	Provisional Item
14	(MCGM USOR 2023) R3-CS- CW-35-c	Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps,footings,raft,retaining wall,shear wall, lift wall, foundations, slabs, beams, columns, canopies,staircases, newels, chajjas, lintels, pardies,coping, fins, arches, etc. as per detailed designs,drawings and bar bending schedules,including straightening,cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels.Thermo-Mechanically Treated steel bars. (Fe 500 D)	MT	84084	9.075	763062.3	Provisional Item (Qunatity As Per Site Consumption)
15	(MCGM USOR 2023) R3-RT- 16-07	Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.	Nos	1751.4	1	1751.4	

16	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer.	Nos	58024.05	1	58024.05	
17	(MCGM USOR 2023) R3-RT-16-09	Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.	Nos	25035.15	1	25035.15	
18	(MCGM USOR 2023) R3-CS-PS-168-d	Providing and laying non-pressure NP2 class (light 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 : 300 mm dia. R.C.C. pipe	Rmt	945	27.5	25987.5	
TOTAL SECTION A (Excluding GST)						4056052.338	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.

6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.23- Access Road for Lake (Approx Length 90m) (Assuming Typical Average Width of Road as 6 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	540	6804	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	162	14458.5	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	54	33453	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	13.5	70.875	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	108	340.2	

6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	
7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	540	23247	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	162	132337.8	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	378	76601.7	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	540	116802	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick</p> <p>Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		488925.675	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.						
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval						

12	Participating Competent Contractors are advised to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
Road No.24- Structure A21 (Back gate)to A31 Near parking/admin office (Approx Length 240m) (Assuming Typical Average Width of Road as 6.5 m)							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks (If Any)
1	PWD SSR (2022-2023) 2.01	Cutting down trees including trunks and branches with girths above 30cm to 60cm and stacking the materials neatly with all lifts and lead of 1000m as directed and earth filling in the depression / pit if any.	Nos	511	0	0	
2	PWD SSR (2022-2023) 2.03	Cutting down trees including trunks and branches with girths above 90cm to 180cm and stacking the materials neatly with all lifts and lead of 1000m. as directed and earth filling in the depression/pit if any.	Nos	1746	0	0	
1	PWD SSR (2022-2023) 2.09	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	12.6	1560	19656	
2	(MCGM USOR 2023) R3-RW-7-09	Milling upto 60mm. Depth Asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60mm. Or part thereof, same rate will be applicable.	Sqm	89.25	312	27846	
3	(MCGM USOR 2023) R3-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	619.5	156	96642	
	(MCGM USOR 2023) R3-RW-12-05-a	for grading I Material	Sqm				
			Sqm				
4	(MCGM USOR 2023) R3-RW-12-06	Crack Filling (Filling of crack using slow -curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	5.25	36	189	
5	(MCGM USOR 2023) R3-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	3.15	234	737.1	
6	(MCGM USOR 2023) R3-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For Medium Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid. (As per prevailing MCGM specification for Roadwork Clause No.313,curing as per 313.5)	Sqm	89.25	0	0	

7	(MCGM USOR 2023) R3-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadwork clause no.354)	Sqm	813.75	0	0	Profile Corrective Course
8	(MCGM USOR 2023) R3-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadwork Clause No. 314)	Sqm	43.05	1560	67158	
9	(MCGM USOR 2023) R3-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm. using new material to the required grade, level and camber rolling with vibratory roller , power roller,pnumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc.(As per prevailing MCGM specification for Roadwork Clause No. 364)	Sqm	816.9	312	254872.8	
8	PWD SSR (2022-2023) 4.12	Open Graded Premix Surfacing- Providing and Laying OGC 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates premixed with bituminous binder transported to site with VTS , laid over a previously prepared surface, finished to the required grade, level, alignment, and rolling to achieve the desired compaction but excluding prime / tack and Seal coat. For Bitumen of specified grade--USING drum mix type hot mix plant with SCADA, Paver and Vibratory roller (Over MPM Surface) (VG-30 bulk bitumen rates are considered to arrive at rates)	Sqm	202.65	1248	252907.2	
10	(MCGM USOR 2023) R3-RW-5-39	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	216.3	1560	337428	

12	(MCGM USOR 2023) R3-RT-16-09	<p>Providing, fabricating and erecting on site Street Name Board (of type 2S-A-1 and 2S-F) as per the design incorporated in the catalogue of street Furniture (Volume-II). Published by M.C.G.M., Vertical pole shall be Hot dip galvanised M.S. Square pipe of size 75mm x 75mm x 3.5mm thick Signage plaque (box) shall be of size 900mm x 600mm made of Hot dip galvanised M.S. angle frame of size 50mm x 50mm x 6 mm thick covered with 4mm thick aluminium composite panel on both sides, Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface. It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical pole shall be fixed to the ground by means of properly designed foundation of size 750mm x 750mm x 900mm. work complete as per specifications and as directed by the Engineer.</p>	Nos	25035.15	1	25035.15	
13	(MCGM USOR 2023) R3-RT-16-07	<p>Arrow marking for Route direction straight or right or left or straight & right or straight or left & lettering as per design in white or traffic yellow as specified and directed for speed limit upto 50 km/hrs. work complete as per specifications and as directed by the Engineer.</p>	Nos	1751.4	1	1751.4	

14	(MCGM USOR 2023) R3-RT-16-18	<p>Providing, Fabricating, Erecting on site Direction Board as per figure no RT-16-18, Signage plaque (box) shall be of size 1350mm x 900mm made of hot dip galvanised ISMC angle 75mm x 40mm & bracing of 50mmx6mm hot dip galvanised MS plate, covered with 4 mm thick aluminium composite panel on both sides of the box assembly; shall be fixed to the vertical pole. Both the boxes shall be pasted with micro prismatic grade retro reflective sheeting conforming to Type XI standards of IRC 67:2022. The retro reflective sheeting used on the signs shall consist of white sheeting having a smooth outer surface which has the property of retro reflection over its entire surface.</p> <p>It shall be weather resistant and exhibit colour fastness. A certificate of having the sheeting tested as per ASTM D 4956 from international and Govt. of India laboratory along with three years outdoor weathering to be submitted. The message (legends, letters, numerals, logos etc) along with the boards to be digitally printed on latex or equivalent platform using ink approved by the sheeting manufacturer conforming to UL 2801 and UL 2818. The digitally printed sheeting should be over laminated using UV clear overlay film. The retro reflective sheeting along with digital printing, ink and over laminate should be warranted for 10 years as per IRC 67 2022 clause 6.8 and 6.9. The vertical poles shall be fixed to the ground by means of properly designed foundation of size 750mmx750mmx900mm. work complete as per specifications and as directed by the Engineer</p>	Nos	58024.05	1	58024.05	
				Total Amount (Excluding GST)		1142246.7	

Sr. No.	Notes
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specification/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssible areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit. Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)

(Approx Length 1Km)

Estimate for Construction of Storm Water Drainage At Filmcity ,Goregaon

Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remarks
1	(MCGM USOR 2023) R3-CS-EW-3	Excavation for foundation, substructures, basements, tanks, sumps,walls, chambers, manholes, trenches, poles, pits & general building works in soft/ disintegrated rock, sand stone, stiff clay, gravel,cobblestone, hard laterite, water bound macadam, wet mix macadam,asphalt mix carpet of any type, pitching, soling, paths and hardcore,lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level, rock boulders, etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/trimming the sides, leveling of bottoms, manual dewatering, removingrank vegetation, backfilling in layers not more than 200mm thickness,watering, consolidating, compacting to achieve not less then 97%Modified Proctor density conforming to relevant IS, stacking in easurable heaps for future use within owners space or disposingwithin an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.Note:1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cum	676.2	1030.25	696655.05	
2	PWD SSR (2022-2023) 11.08	Providing and laying cement concrete pipe of IS 458:2003 NP-2 class of 450mm diameter in proper line, level and slope including providing and fixing collars in cement mortar 1:2 and curing etc. complete.	Rmt	2046.45	100	204645	
3	PWD SSR (2022-2023) 11.06	Providing rubble stone paving 15cm thick in 1:3 cement mortar over a bedding of 15cm thick cement concrete of 1:4:8 proportion with trap /granite /quartzite /gneiss metal including striking joints and watering etc. complete.	Sqm	2450.7	38.5	94351.95	
4	PWD SSR (2022-2023) 11.02	Providing and laying in situ / ready mix cement concrete of M-10 proportion with trap/ granite/ quartzite/ gneiss metal in foundation including necessary form work, compacting and curing etc. complete. (with reversible drum type mixer with SCADA with fine agreegates of required specifications (Natural sand / VSI sand finely washed etc)	Cum	6364.05	8.25	52503.4125	
5	PWD SSR (2022-2023) 24.04	Providing and laying Cast in situ/Ready Mix cement concrete in M15 of trap/ granite/quartzite/gneiss metal for foundation and bedding / steps including steel centering, formwork, laying/pumping, compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface, only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed.),with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Crushed sand VSI Grade)	Cum	6676.95	70	467386.5	

6	(MCGM USOR 2023) R3-CS-CW-35-c	Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps, footings,raft,retaining wall,shear wall, lift wall, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, coping, fins, arches, etc. as per detailed designs, drawings and bar bending schedules,including straightening, cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels.Thermo-Mechanically Treated steel bars. (Fe 500 D)	MT	84084	17.71	1489337.85	
7	(MCGM USOR 2023) R3-CS-CW-7	Providing and laying in position ready mixed design mix M-20 grade cement concrete for reinforced cement concrete work,using cement content as per approved design mix, including pumping of concrete to site of laying and the cost of centering, shuttering, finishing and excluding reinforcement, including admixtures in recommended proportions as per IS: 9103 toaccelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.The Mix design as per particular specifications shall be got approved by Engineer-in-Charge before execution of the item.The rate shall include cost of all specified materials and operations at all levels and heights,including the cost of centering, shuttering and and excluding reinforcement which shall be paid under relevant item.(Note :-Cement content considered in this item is @ 300 kg/cum as per IS 456 table showing minimum cement content. No extra will be paid nor any amount will recovered on account of variation of cement in mix design as per specifications for controlled concrete).All works (including Centering & Shuttering)					
	(MCGM USOR 2023) R3-CS-CW-7-b	Walls (any thickness) including attached butteresses, retaining wall, shear wall, diaphragm wall , trench,pit walls, etc	Cum	12883.5			
	(MCGM USOR 2023) R3-CS-CW-17	Extra and over for providing richer RMC of M-30 grade cement concrete instead of M20 (Note :- Cement content considered in this item is @ 340 kg/cum as per IS 456 table showing minimum cement content.)	Cum	819			
				Cum	13702.5	272.50	3733931.25
8	(MCGM USOR 2023) R3-SWD-175-B	Supply of 0.60m X 0.50m clear internal size of DI hinged type grating and frame (weighing minnum 80 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer-in-Charge.	Each	14726.25	250	3681562.5	Assuming 1 Drainage cover at distance of 4m
9	(MCGM USOR 2023) R3-RW-10-54	Providing and fixing of the precast kerb stone of height 325mm, base width 165mm, top width 115mm in M20 grade RMC supplied through BMC approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 , excavation in any soil except rock, laying a levelling course of M15 grade RMC 100mm thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/ white/black or any shade as directed. (Kerbstones shall be procured from BMC registered agencies).	MTR	576.45	1000	576450	
				TOTAL SECTION B (Excluding GST)		10996823.51	
Sr. No.	Notes						

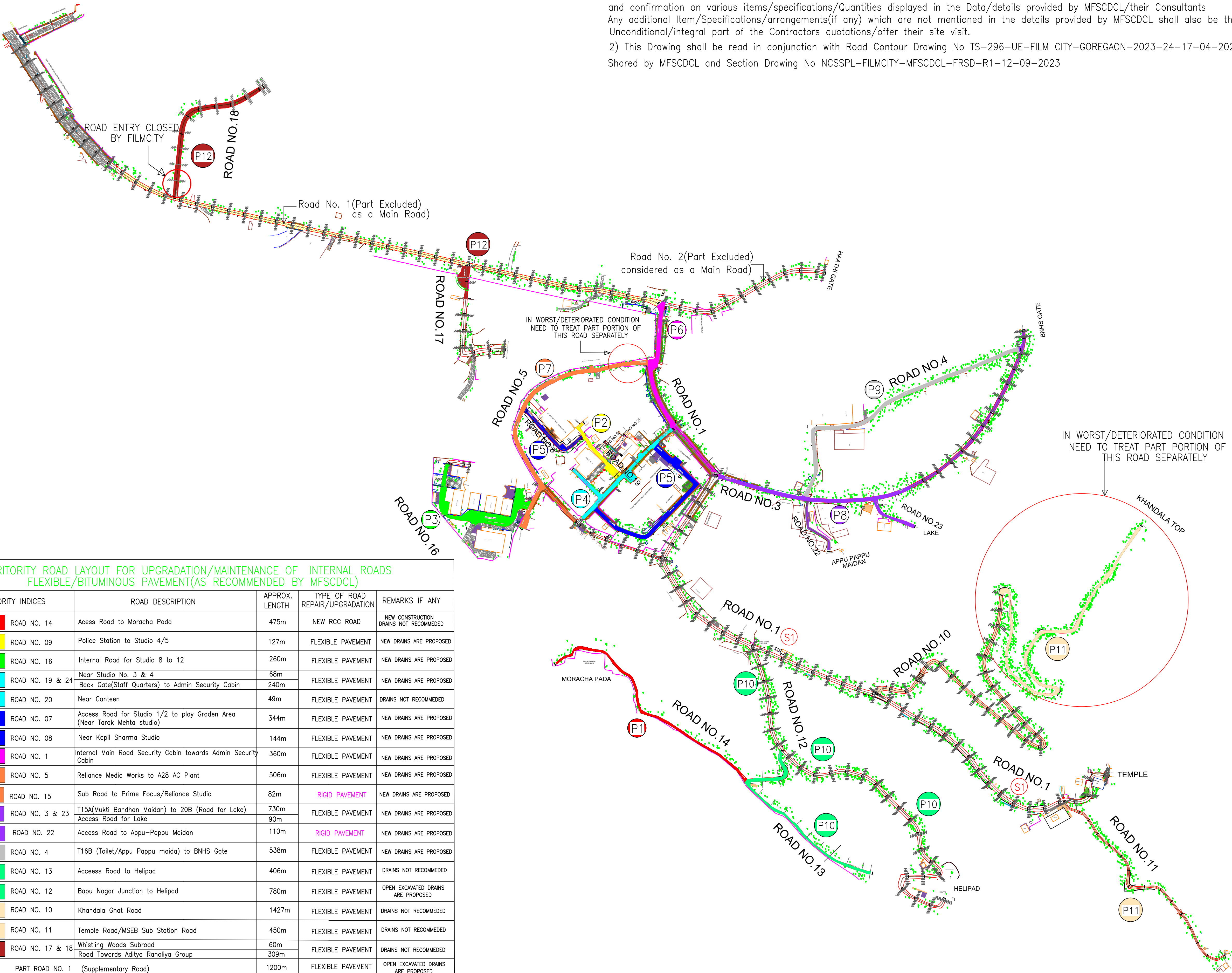
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)

Tentative Tender Repair/Restoration BOQ as Per Latest Government Norms (PWD/MCGM Specifications)							
(Approx Length 1Km)							
Estimate for Construction of Open Excavated Drainage At Filmcity ,Goregaon							
Sr.No.	Item Code	Description	Unit	Rate INR	Approximate Quantity	Amount INR	Remark
1	(MCGM USOR 2023) R3-CS-EW-3	Excavation for foundation, substructures, basements, tanks, sumps,walls, chambers, manholes, trenches, poles, pits & general building works in soft/ disintegrated rock, sand stone, stiff clay, gravel,cobblestone, hard laterite, water bound macadam, wet mix macadam,asphalt mix carpet of any type, pitching, soling, paths and hardcore,lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level, rock boulders, etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/trimming the sides, leveling of bottoms, manual dewatering, removingrank vegetation, backfilling in layers not more than 200mm thickness,watering, consolidating, compacting to achieve not less then 97%Modified Proctor density conforming to relevant IS, stacking in easurable heaps for future use within owners space or disposingwithin an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.Note:1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc. 2) It also includes the royalty and other taxes if any.	Cum	676.2	1000	676200	
2	(MCGM USOR 2023) R3-CS-MW-2-a	Brick work with common burnt clay modular bricks of class designation 3.5 and above in foundation and plinth in:Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	2046.45	400	818580	
3	PWD SSR (2022-2023) 24.01	Providing and laying Cast in situ/Ready Mix cement concrete in M-10 of trap/ granite/ quartzite/ gneiss metal for foundation and bedding including bailing out water, Steel centering, formwork, laying/pumping, compacting, roughening them if special finish is to be provided, finishing if required and curing complete, with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/concrete Batch mix plant (Pan mixer) etc. complete. With fine aggregate (Crushed sand VSI Grade)	Cum	6121.5	75	459112.5	
4	MCGM R3-SWD-59	Providing 20 mm thick cement plaster in cement mortar 1:2 including neat cement rendering with approved water proofing compound (with proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	Sqm	477.75	3600	1719900	

5	(MCGM USOR 2023) R3-SWD-233	Desilting and cleaning of nallas / storm water drains of all types including the underground, closed as well as open and of all sizes & shapes including pumping out the liquid waste / sewerage / storm water and plugging and or diverting the flow, if necessary, by manual and/or mechanical means such as deploying J.C.B., Poclain, Pontoon mounted poclain, truxor, silt pusher, or any other type of machine and spreading around / stacking the removed / desilted / floating material up to any distance for transportation or any other purpose including loading and also including all the laboures component required for maintaining the smooth flow, sprinkling of the same by approved disinfectant to avoid nuisance of pest including mosquitoes & flies and bad smell, transporting the same to any distance via the specified Municipal weigh bridges to the identified dumping sites to be provided by the bidder including loading/unloading of the same etc. complete as directed by the Engineer in-charge.	Cum	1883.7	84	158230.8	
			TOTAL SECTION B (Excluding GST)			3832023.30	
Sr. No.	Notes						
1	DSR Used- Public Works Department (State Schedule of Rates 2022-2023)						
2	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates 2023)						
3	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Roads Department 2023)						
4	DSR Used-Brihanmumbai Municipal Corporation (Unified Schedule of Rates for Traffic Department 2023)						
5	Adoption of additional/new Equivalent Repair Material/Specifiction/Methodology/item/Activity can be possible provided it is within this BOQ/Budget and same is approved by Concerned Structural engineer/Consultant/Owner/Client.						
6	The above BOQ is tentative and is based on visual inspection of accesssibe areas at site. Items/Activity in the BOQ will be utilised as per site condition and requirements.						
7	The above estimate is preliminary and based on the Combined field inspection Study by the Filmcity/MIDC officials and hence recommended to be utilised from the detail inspection/drawings by the Contractor						
8	The Items/Specifications are recommended by MIDC which are mainly aiming for Patch work repair and doesn't account the actual residual life of the exiting top Bituminous Pavement Layers which looks satisfactory during technical sanction Site visit.Thus durability and efficiency of the unrepaired existing Bituminous Surfaces/Layers can not be ascertained and assured.						
9	Effectiveness of the recommended drains with this proposal can not be fully assured due to absence of Main Road Storm water Drains and other associated shortfalls related to collection/filtration and reuse of the collected water tank.						
10	The Items related to beautification and Landscape of these Roads including adjoined portion of the Road (Pathway), Road furniture, Pathway Road marking, Painting, which excluded from the above scope and to be captured from Filmcity Empanelled Landscape Architects.						
11	Utilisation of Similar or equivalent and New Government Items/specifications are possible only in consultation with Filmcity/Appointed PMC/Authorised Consultant on their written approval						
12	Participating Competent Contractors are adviced to participate in the tender process only after detail site visit and their unconditional concurrence on the items/specifications.						
13	The works shall be executed under full supervision of appointed PMC/Authorised Consultant of Filmcity						
14	Existing cambers shall be maintained as per IRC SP:73-2018 (2-3%)						

Note: 1) This Drawing is Preliminary, which is Based on Contour Survey Drawing of the Road Shared by MFSCDCL & Visual Inspection Carried Out by Our Team with MFSCDCL in February, March & September 2023 to anticipate tentative cost for the repair/upgradation. Work. Thus it is recommended to Take Quotes from Competent Government Repair/Upgradation Road Contractors after their Site Visits and confirmation on various items/specifications/Quantities displayed in the Data/details provided by MFSCDCL/their Consultants. Any additional Item/Specifications/arrangements(if any) which are not mentioned in the details provided by MFSCDCL shall also be the Unconditional/integral part of the Contractors quotations/offer their site visit.

2) This Drawing shall be read in conjunction with Road Contour Drawing No TS-296-UE-FILM CITY-GOREGAON-2023-24-17-04-2023 Shared by MFSCDCL and Section Drawing No NCSSPL-FILMCITY-MFSCDCL-FRSD-R1-12-09-2023



PRIORITY ROAD LAYOUT FOR UPGRADATION/MAINTENANCE OF FLEXIBLE/BITUMINOUS PAVEMENT(AS RECOMMENDED BY MFSCDCL)					
	PRIORITY INDICES	ROAD DESCRIPTION	APPROX. LENGTH	TYPE OF ROAD REPAIR/UPGRADATION	REMARKS IF ANY
P1	ROAD NO. 14	Acess Road to Moracha Pada	475m	NEW RCC ROAD	NEW CONSTRUCTION DRAINS NOT RECOMMENDED
P2	ROAD NO. 09	Police Station to Studio 4/5	127m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P3	ROAD NO. 16	Internal Road for Studio 8 to 12	260m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P4	ROAD NO. 19 & 24	Near Studio No. 3 & 4 Back Gate(Staff Quarters) to Admin Security Cabin	68m 240m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P4	ROAD NO. 20	Near Canteen	49m	FLEXIBLE PAVEMENT	DRAINS NOT RECOMMENDED
P5	ROAD NO. 07	Access Road for Studio 1/2 to play Graden Area (Near Tarak Mehta studio)	344m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P5	ROAD NO. 08	Near Kapil Sharma Studio	144m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P6	ROAD NO. 1	Internal Main Road Security Cabin towards Admin Security Cabin	360m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P7	ROAD NO. 5	Reliance Media Works to A28 AC Plant	506m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P7	ROAD NO. 15	Sub Road to Prime Focus/Reliance Studio	82m	RIGID PAVEMENT	NEW DRAINS ARE PROPOSED
P8	ROAD NO. 3 & 23	T15A(Mukti Bandhan Maidan) to 20B (Road for Lake)	730m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P8	ROAD NO. 22	Access Road for Lake	90m	RIGID PAVEMENT	NEW DRAINS ARE PROPOSED
P9	ROAD NO. 4	T16B (Toilet/Appu Pappu maيدا) to BNHS Gate	538m	FLEXIBLE PAVEMENT	NEW DRAINS ARE PROPOSED
P10	ROAD NO. 13	Access Road to Helipad	406m	FLEXIBLE PAVEMENT	DRAINS NOT RECOMMENDED
P10	ROAD NO. 12	Bapu Nagar Junction to Helipad	780m	FLEXIBLE PAVEMENT	OPEN EXCAVATED DRAINS ARE PROPOSED
P11	ROAD NO. 10	Khandala Ghat Road	1427m	FLEXIBLE PAVEMENT	DRAINS NOT RECOMMENDED
P11	ROAD NO. 11	Temple Road/MSEB Sub Station Road	450m	FLEXIBLE PAVEMENT	DRAINS NOT RECOMMENDED
P12	ROAD NO. 17 & 18	Whistling Woods Subroad Road Towards Aditya Ranaliya Group	60m 309m	FLEXIBLE PAVEMENT	DRAINS NOT RECOMMENDED
S1	PART ROAD NO. 1 (Supplementary Road)		1200m	FLEXIBLE PAVEMENT	OPEN EXCAVATED DRAINS ARE PROPOSED
TOTAL LENGTH			8755m		

PROPOSED PRIORITY INDICES FOR UPGRADATION/MAINTENANCE OF INTERNAL ROADS

CLIENT:

MAHARASHTRA FILM, STAGE & CULTURAL DEVELOPMENT CORPORATION LIMITED.

NORTH

LEGEND:-

Asphalt Road	
Anchor Block	
Bridge	
Building	
Bus Stop	
Camera Pole	
Chamber	
Column	
Compound Wall	
Concrete Road	
Culvert	
Container	
Drain	
Drain Cover	
Dustbin	
Electric Box	
Fencing	
Flag Post	
Footpath	
Foundation	
Fire Hydrant	
Fire Pipe	
Gate	
Lamp Post	
Lawn	
Manhole	
Nala	
Name Board	
Paved Road	
Pipe Line	
Plinth	
Projection	
Pathway	
Railing	
Ramp	
Returning Wall	
Shed	
Structure	
Steps	
Tank	
Tree	
Tree Boundary	
TBM	

NOTES:-

1. ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE MENTIONED.

2. NORTH SHOWN IN THIS DRAWING IS MAGNETIC NORTH.

3. STORM WATER DRAINS AT THE TWO SIDES OF THE ROAD IS TENTATIVE AND LIABLE TO VARY AT ACTUAL IN LATER STAGE

4. STANDARD ROAD WIDTH OF INTERNAL ROAD IS CONSIDERED AS 7.5M. LIABLE TO VARY AT ACTUAL IN LATER STAGE

5. PROPOSED CONSTRUCTION OF THE ROAD WILL BE AS PER THE EXISTING TOP SURFACE OF THE ROAD

6. PROPOSED CONSTRUCTION OF THE ROAD IN ACCORDANCE WITH ALL LATEST IRC CODES/DESIGN STAND

7. THIS DRAWING SHALL BE REFERRED WITH ROAD CONTOUR/SURVEY DRAWING SHARED BY FILMCITY(MFSCDCL)

8. USAGE OF THIS REPAIR LAYOUT WITHOUT REFERRING TO THE ROAD CONTOUR SURVEY DWG NO.TS-296-UE-FILM CITY-GOREGAON-2023-24-17-04-23-R0 PROVIDED BY MFSCDCL INVALIDATES THE DWG AUTOMATICALLY

STATUS OF THE DRAWING:-

FOR TENDERING

CONSULTANT:-

NIMMANA CIVIL STRUCTURAL SOLUTIONS STRUCTURAL CONSULTANT PVT LTD.

OFFICE ADDRESS:

A-301, KUKREJA CENTRE, SECTOR 11, CBD BELAPUR NAVI MUMBAI, MAHARASHTRA - 400614. TEL:-91-771-5025985.

TITLE :

TENDER LAYOUT FOR MAINTAINANCE OF EXISTING BITUMINOUS FLEXIBLE ROADS

REFERENCE DRAWING NUMBER(MFSCDCL):

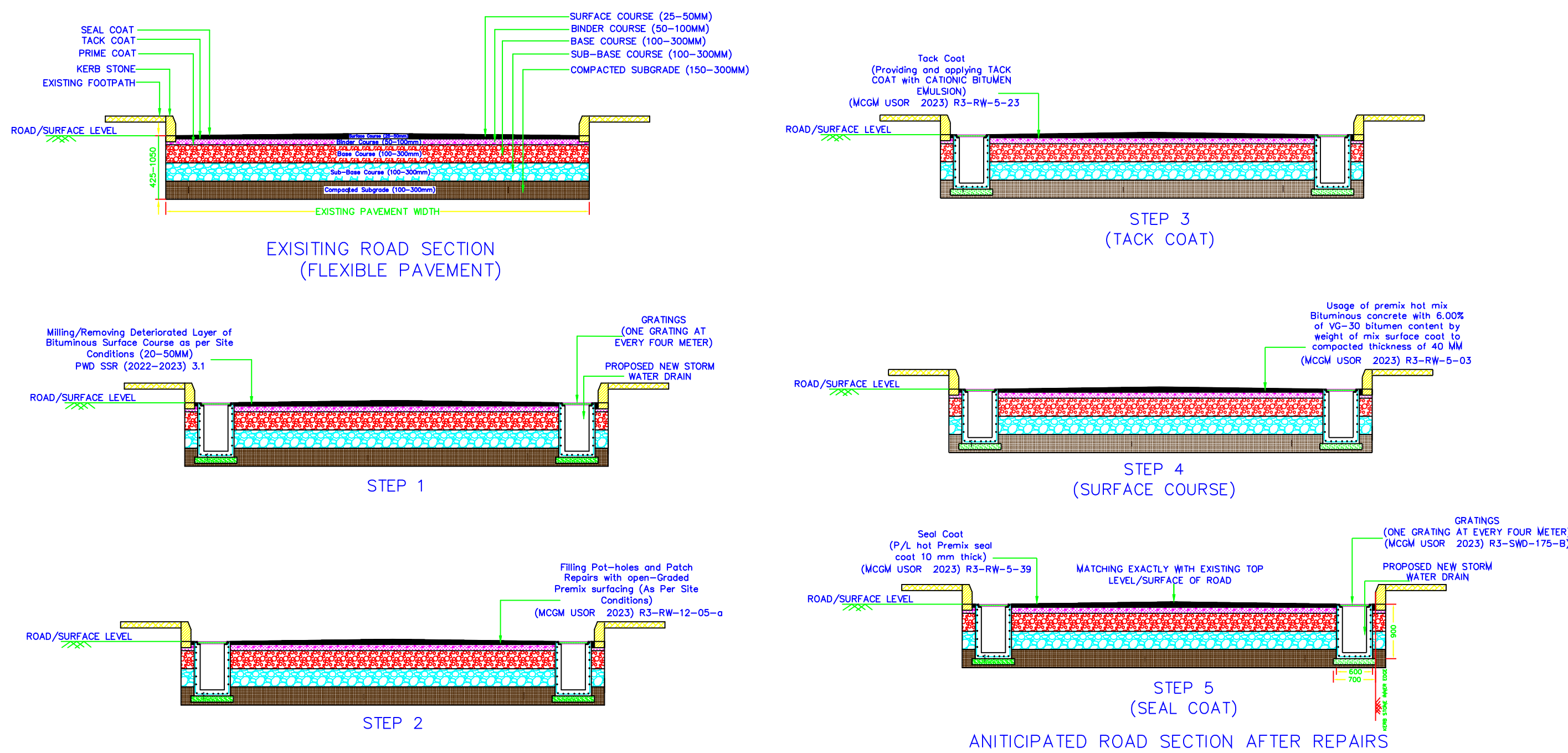
TS-296-UE-FILM CITY-GOREGAON-2023-24-17-04-23-R0

DRAWING NUMBER (NCSSPL):

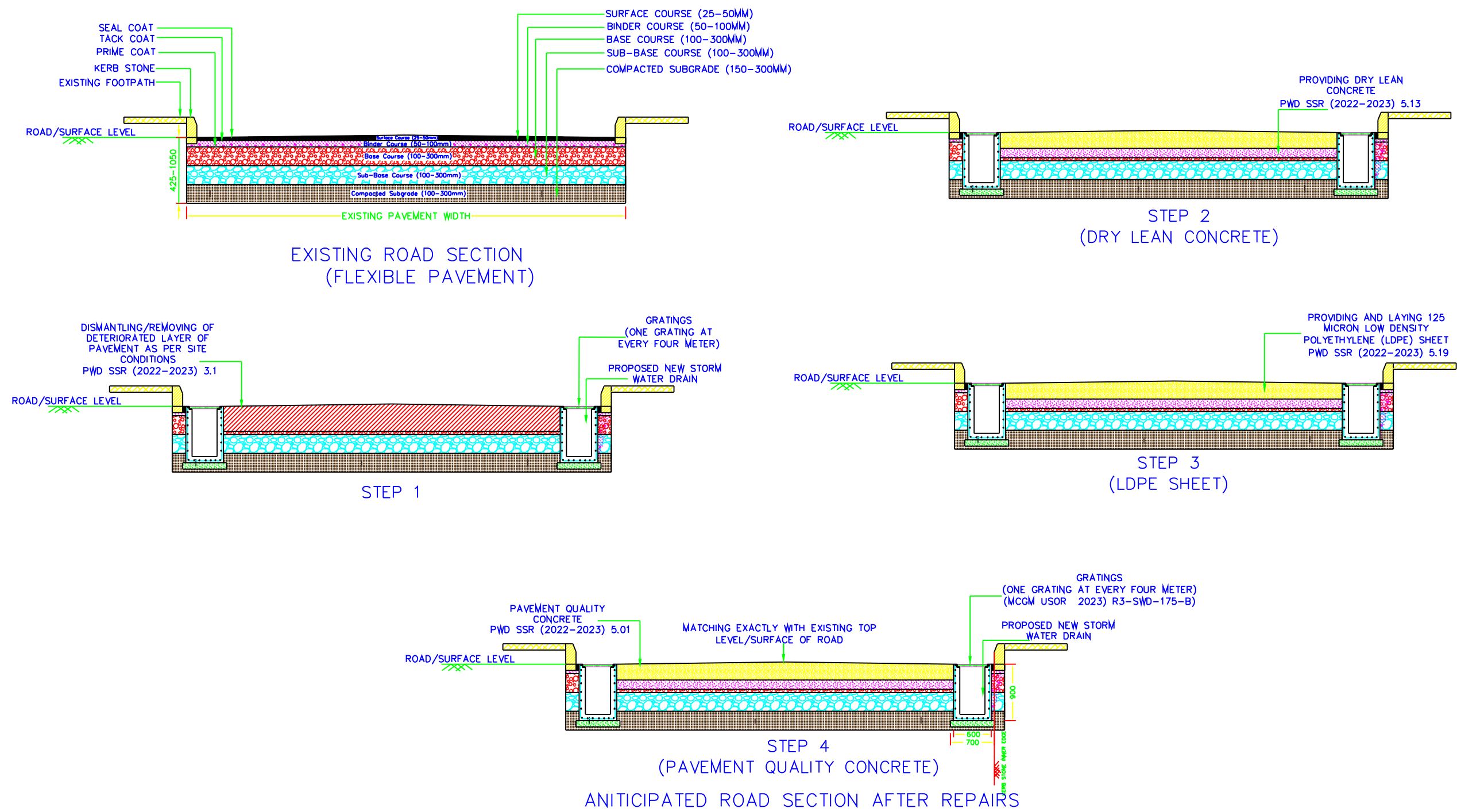
NCSSPL-FILM CITY-MFSCDCL-GOREGAON-TCDA-R2-12-09-2023

Note1: This Drawing is Preliminary and for anticipating the Cost for the Proposed Repairs.Hence necessary Concurrences shall be taken as per actual site conditions from ther Participating Contractors/Vendors while finalizing the same

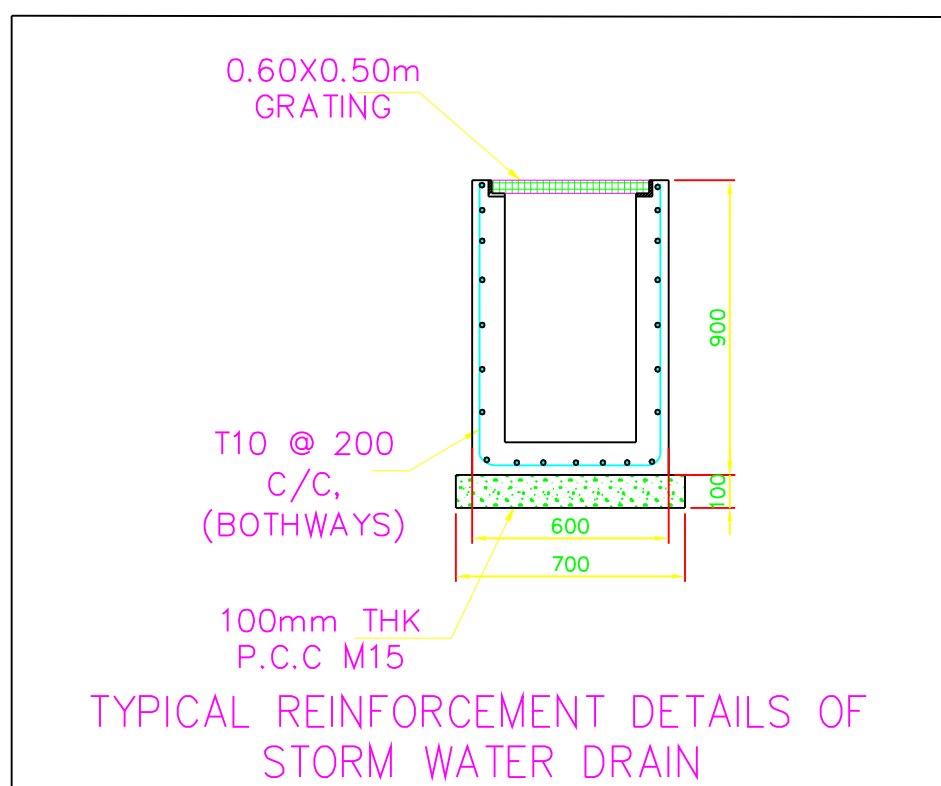
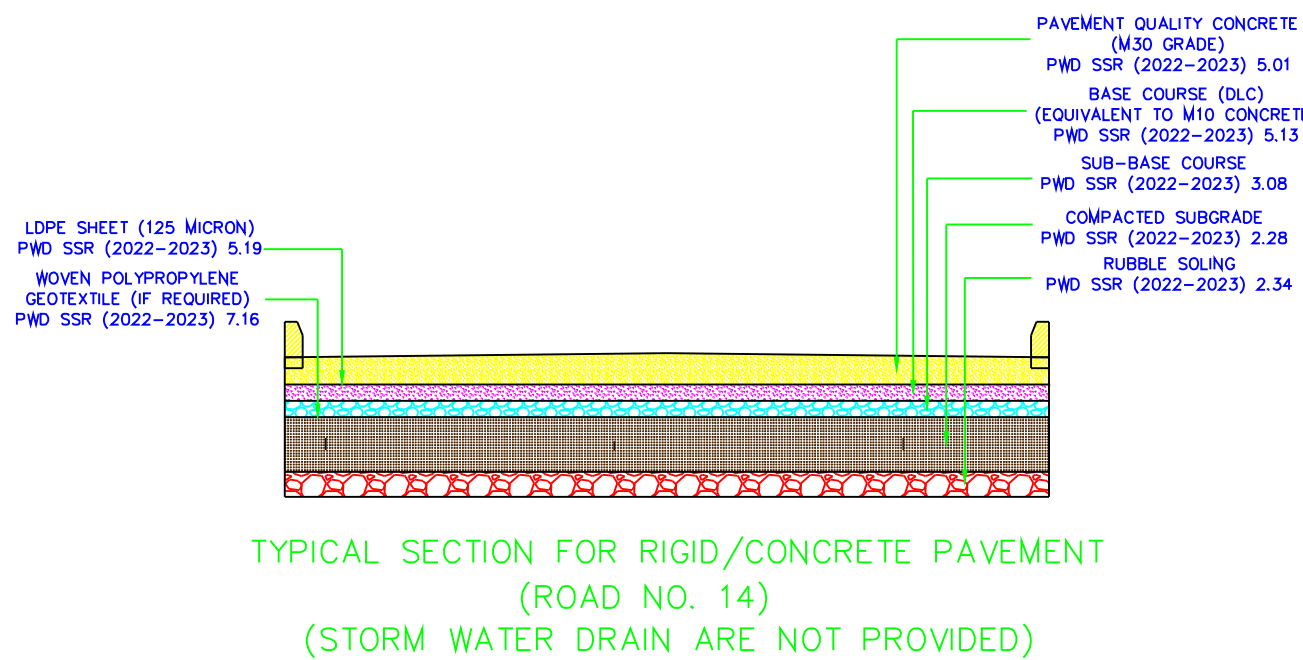
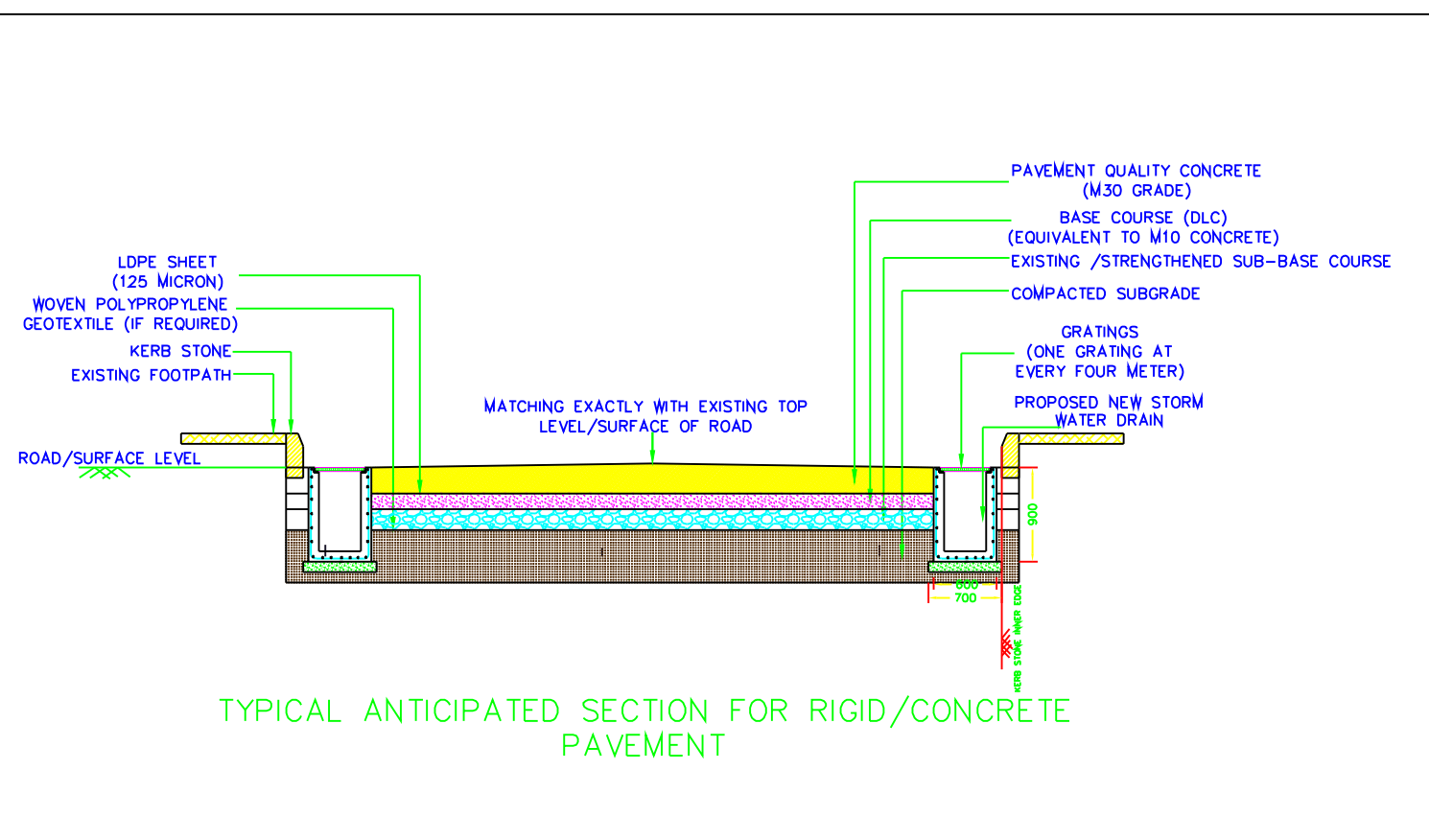
Note2: Due To Location of the site on Eleveated Area/Mountaneous Area.Water Logging appears to be rare,Hence Storm Water Drains are ideally not recommended.Existing Camber Shall be Maintained as per IRC SP:73-2018 (2 to 3%)



TENTATIVE REPAIR/RESTORATION SCHEME FOR EXISTING BITUMINOUS ROADS (BITUMINOUS TO BITUMINOUS) (ROAD NO. 1,3,4,5,7,8,9,10,11,12,13,16,17,18,19,20,23,24) (STORM WATER DRAIN PROPOSED AT ALL ROADS EXCEPT ROAD NO.10,11,12,13,17,18)

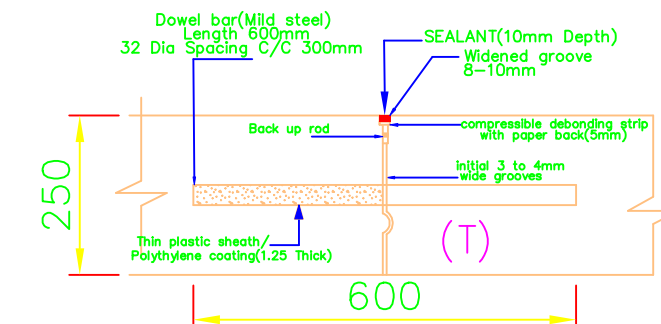
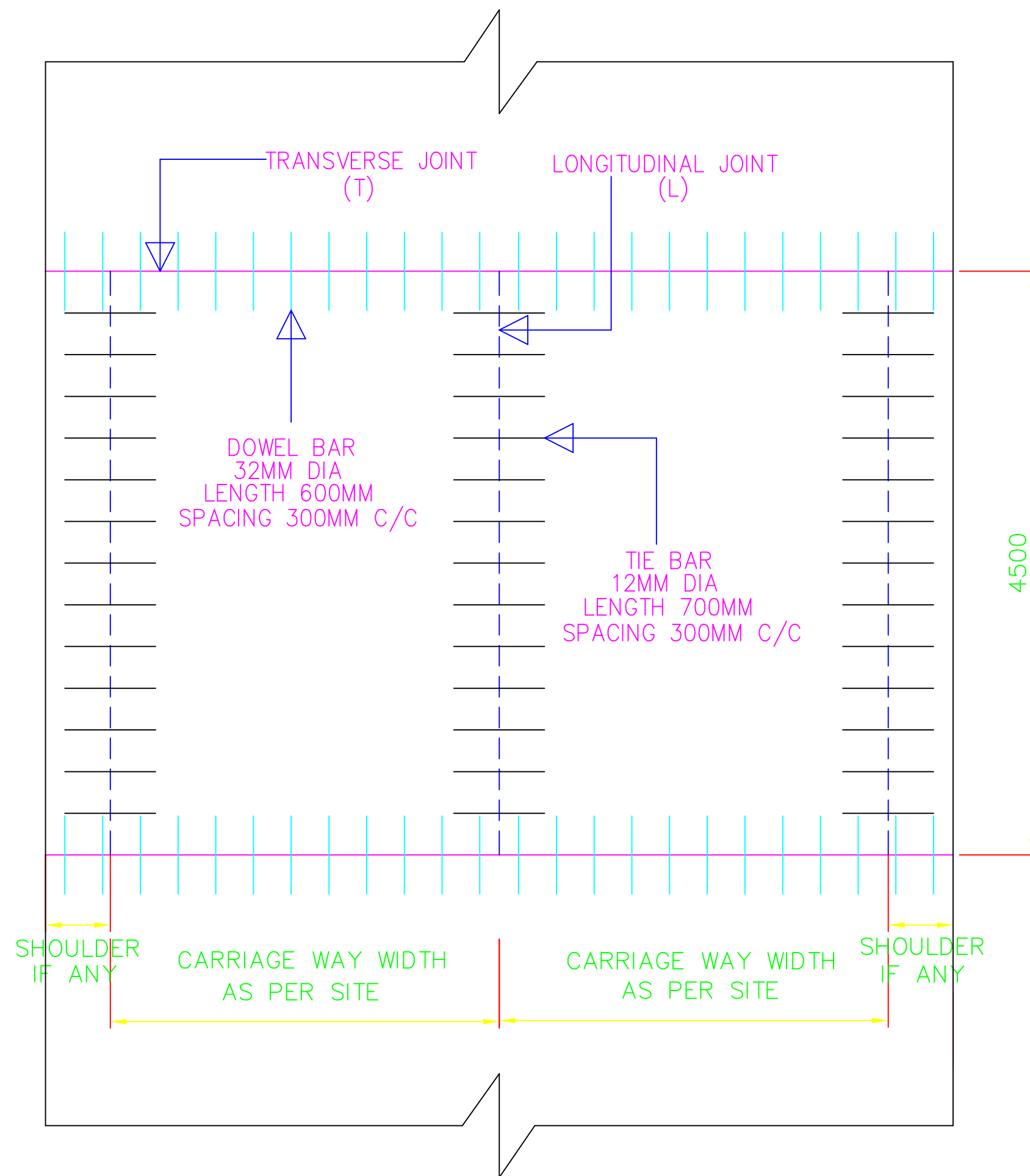


TENTATIVE UPGRADATION SCHEME FOR EXISTING BITUMINOUS ROADS (FROM EXISTING BITUMINOUS TO CONCRETE PAVEMENT) (ROAD NO. 15&22)

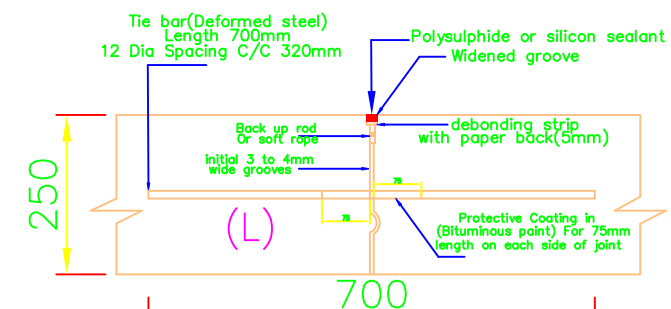


STATUS OF THE DRAWING-	TENDERING
CONSULTANT :	NIMMANA CIVIL STRUCTURAL SOLUTIONS PVT LTD.
OFFICE ADDRESS :	A-301, KUKREJA CENTER, SECTOR 11 CBD BELAPUR-400614, NAVI MUMBAI
TITLE OF THE PROJECT :	TENTATIVE ROAD SECTIONS
DRAWING NO.	NCSSPL-FILMCITY-MFSCDCL-FRSD-R1-12-09-2023

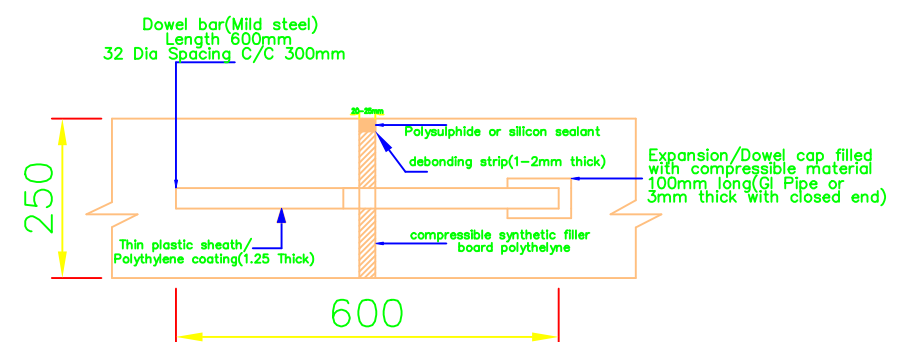
Note3: This drawing shall be read in conjunction with NCSSPL-FILM CITY-MFSCDCL-GOREGAON-TCDA-R2-12-09-23 & Contour Survey Dwg TS-296-UE-FILM CITY-GOREGAON-2023-24-17-04-23-R0



TYPICAL TRANSVERSE CONTRACTION JOINT



TYPICAL LONGITUDINAL/ WARPING JOINT



TYPICAL EXPANSION JOINT

TENTATIVE JOINTS/DOWEL DETAILS FOR RIGID PAVEMENT (FOR TENDERING)

SUMMARY SHEET (To be referred with Schedule B)											
Name of the Company			Nimmana Civil Structural Solutions Pvt. Ltd.		Nimmana Civil Structural Solutions Pvt. Ltd.			Document subject	For Initial Reference		
Name of Consultant			Mr. Pritam Khillare					Name of the Project	Repairs and maintenance of internal roads and providing storm water drains.		
Name of the Client			Maharashtra Film, Stage & Cultural Development Corporation Limited					Site address	Dadasaheb Phalke Chitranagari Goregaon (East), Mumbai - 400065.		
Tentative Tender Cost Summary-Repair/Maintenance of Roads (Mostly Restoration with Bituminous Except Few Roads (Road No 14,15,22) to be upgraded with Concrete)											
Sr No.	Priority	Chainage	Road description/Road number	Parameters of Roads		Parameters of Storm water drains (Both side)	Cost of Road Work in INR	Cost of Road Work Rs Per Km	Cost of storm water drains on both side	Remarks (if any)	
				Width (m)	Length (m)	Length (m)					
1	P6	CH:1320-CH:1680	Road No.01:-Main Road (Main Road Security Cabin towards Admin Security Cabin)	7	360	720	2069953.2	5749870	7917712.93		
2	P8	CH:000-CH:730	Road No.03:-From T15A(Mrutunjay Maidan) to BNHS Gate	6.7	730	1460	3402437.22	4660872.904	16055362.33		
3	P9	CH:000-CH:538	Road No.04:-T16B (Toilet/Appu Pappu maidan) to BNHS Gate	6.8	538	1076	2065960.092	3840074.52	11832582.10		
4	P7	CH:000-CH:506	Road No.05:-Main Road (Reliance media works) to A28 AC plant	7	506	1012	4865182.35	9614984.881	11128785.39		
5	P5	CH:000-CH:344	Road No.07:-Access Road for Studio 1/2 to play Garden Area (Near Tarak Mehta studio)	7	344	688	1702589.28	4949387.442	7565814.58		
6	P5	CH:000-CH:144	Road No.08:-Near Kapil Sharma Show	6.5	144	288	558474.84	3878297.5	3167085.17		
7	P2	CH:000-CH:127	Road No.09:-Police station to Studio 4/5	6	127	254	550842.18	4337340	2793193.17		
8	P11	CH:000-CH:1427	Road No.10:-Khandala Ghat Road	7	1427	Nil	13377126.63	9374300.373	Nil		
9	P11	CH:000-CH:450	Road No.11:- (Temple road/MSEB Sub Station Road)	6.5	450	Nil	4490130.413	9978067.583	Nil		
10	P10	CH:000-CH:780	Road No.12:-Bapu Nagar Junction To Helipad	3.6	780	1320	2650491.9	3398066.538	5058270.76	Open Excavated drains	
11	P10	CH:000-CH:406	Road No.13:-Access Road to Helipad	3.5	406	Nil	2783035.886	6854768.192	Nil		
12	P1	CH:000-CH:475	Road No.14:-Access road to Moracha Pada	3.5	475	Nil	14140122.81	29768679.61	Nil		
13	P7	CH:000-CH:082	Road No.15:-Subroad Towards Reliance Studio	6.5	82	164	3372388.358	41126687.29	1803479.06		
14	P3	CH:000-CH:040	Road No.16:-Internal road for Studio 8 to 12	10	40	622	287040.6	7176015	6840024.22		
15		CH:040-CH:140		22	100		1112265	11122650			
16		CH:140-CH:260		7	120		1261064.7	10508872.5			
17	P12	CH:000-CH:60	Road No.17:-Whistling Woods subroad	7	60	Nil	631848.42	10530807	Nil		
18	P12	CH:000-CH:309	Road No.18:-Next to Gate No 1 to Mhada Colony Road	7	309	Nil	1660777.808	5374685.461	Nil		
19	P4	CH:000-CH:68	Road No.19:-Near Studio No. 3 & 4	6	68	136	578295.27	8504342.206	1495568.00		
20	P4	CH:000-CH:49	Road No.20:- (Near Canteen)	6.5	49	Nil	292736.7713	5974219.821	Nil		
21	P8	CH:000-CH:110	Road No.22:- Access Road to Appu-Pappu Maidan	5.5	110	220	4056052.338	36873203.07	2419301.17		
22	P8	CH:000-CH:090	Road No.23:-Access Road for Lake	6	90	180	488925.675	5432507.5	1979428.23		
23	P4	CH:000-CH:240	Road No.24:-Structure No. A21 (Back gate) to A31 (Near Parking/admin office)	6.5	240	480	1142246.7	4759361.25	5278475.29		
24	S1	CH:1680-CH:2880	Supplementary road. Road No. 1	7	1200	2400	4334223.6	3611853	9196855.92	Open Excavated drains	
			Total cost of construction of above roads		8755		71874212.04		94531938.32		
				Particulars				Amount In Rs			
			Estimated cost (Road Work + Storm Water Drain)				166406150.36				
			Notes: 1) All taxes/GST shall be paid extra as per prevailing GST rules.								
			2) For GST charges on Royalty and material testing, the receipt of payment of GST charges on royalty and testing charges shall be submitted by the contractor at the time of bill Payment and amount will be reimbursed to the contractor accordingly. The rates quoted by the contractors should be exclusive of GST. The contractor should pay GST whichever is applicable and submit the receiptto MFSCDC. The GST amount will be reimbursed to the contractor on producing the receipt /challan.								
			3) GST @ 2 % at the rates as amended from time to time as intimated by competent GST Authority shall be deducted from bill amount, whether measured bills, advance payment or secured advance.								