बिहार सरकार

Government of Bihar
Road Construction Department

MODEL BIDDING DOCUMENT (MBD)

FOR

LONG TERM OUTPUT AND PERFORMANCE BASED ROAD ASSETS MAINTENANCE CONTRACT

(OPRMC) PHASE - III

2026

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Government of Bihar
Road Construction Department

MODEL BIDDING DOCUMENT (MBD)

FOR

LONG TERM OUTPUT AND PERFORMANCE BASED ROAD ASSETS MAINTENANCE CONTRACT

(OPRMC) PHASE - III

Name of Work: Long Term Output & Performance Based Road Assets Maintenance Work for the Roads under Road Division _____.

Invitation For Bid
(IFB)

बिहार सरकार

Government of Bihar
Road Construction Department

Office of the Executive Engineer
Road Division _____,
Road Construction Department Bihar, Patna
e-mail:-

MBD BASED DETAILED NOTICE INVITING e-TENDER
(Through e-procurement mode only https://eproc2.bihar.gov.in)

NIT No.-

1.	Designation and Address of the Advertiser	:	The Executive Engineer, Road Division _____, Road Construction Department, Bihar
2.	Date of Issue of Notice Inviting Tender	:	Date: ____/____/____.
3.	Period For Download of Tender Document	:	From ____/___/____ to ___/___/____ up-to 15:00 hrs. (From Website: https://eproc2.bihar.gov.in) only
4.	Date, Time & Place of Pre-Bid Meeting	:	Date: ____/____/____, at_____
5.	Last Date & Time for Uploading Tender Document by Bidder	:	_____ Upto 15:00 hrs. on Website: (**https://eproc2.bihar.gov.in**) Only.
6.	Date, Time & Place of Opening of Technical Bid (By the office of the Executive Engineer, Road Division _____, RCD, Bihar)	:	Date- …….. at 15:30 hrs. On Website: **https://eproc2.bihar.gov.in**
7.	Date, Time & Place of opening of Financial Bid	:	To be announced by the Office of the Executive Engineer, Road Division _____, RCD, Bihar after approval of Technical Bid by Competent Authority. (on Website **https://eproc2.bihar.gov.in**

8. The Executive Engineer, Road Division _____, Road Construction Department, Bihar on behalf of Governor of Bihar invites bids for the works detailed below:

Project Name, Scope & Duration:

To undertake Ordinary Maintenance Works, Initial Rectification Works, Periodic Maintenance Works including re-application of Road Marking, Minor Improvement Works including Strengthening Works and Emergency & Contingent Works on Roads under the Package/s, for total length of as described in S.No. 9 below.

The Maintenance Works shall also include the Cross Drainage Works, Minor Works on Culverts and Roadside Maintenance within the selected road limits.

Ordinary Maintenance Works and Services shall be carried out under Output & Performance-Based Road Assets Maintenance Works on a lump sum basis and shall be paid monthly.

Initial Rectification Works and Periodic Maintenance Works including re-application of Road Marking shall be paid on measured quantity to the value of the lump sum in km.

Minor Improvement Works including Strengthening Works, Emergency and Contingent Works shall be paid on the basis of actual executed quantities of the items.

This Contract requires the specialized maintenance equipment and the contract obligations is for a period of 7 years (84 months).

9. Details of works:

1	2	3	4	5	6	7	8	9
Serial / Package No.	District/ Road Division	Name of Roads	Length (Kms)	Cost of BOQ (To be paid through online mode) (Non-Refundable) (in INR)	Bid Processing Fee (To be paid through online mode) (Non-Refundable) (in INR)	Estimated Cost Value (ECV) in INR Lakh	Earnest Money/ Bid Security in INR Lakh	Name of the Office where the Original Instrument of EMD, if paid offline in form of BG has to be submitted

10. Period of Contract: 84 Months

11. Date, Time & Place of Opening of Financial Bid: to be notified after Technical Bid Evaluation on Website: https://eproc2.bihar.gov.in

12. Bidders are strongly advised to visit the roads and be acquainted with its conditions and assess the requirement/availability of quality aggregates. Bidder are advised to download the bidding documents prior to the pre-bid meeting to have a good understanding of the Scope of Works and Services under this Contract for discussion, Clarification/s at the pre-bid meeting and satisfy themselves before participation in the Bidding Process. No excuse regarding physical conditions of roads shall be entertained on or after Award of Tender.

13. Bid Validity :-180 Days

14. Any Contractor registered with the Central Government/ Any State Government or Any PSU or an agency of International or National repute may participate in the tender but registration with the Road Construction Department, Bihar will be essential after issuance of Letter of Acceptance and before execution of Agreement.

15. Detailed NIT can be seen on website https://eproc2.bihar.gov.in or https://eadvtprd.bihar.gov.in/PublicAdView.aspx or the notice board of the office of the undersigned.

16. For participating in the above e-tendering process, the Bidders shall have to get themselves registered with the service provider so that user ID, password and Digital Signature are issued to them. This will enable them to access the website **https://eproc2.bihar.gov.in** and download/participate in e-Tender. For this, intending bidders may contact only on Toll Free No.-18005726571 & e-mail id **eproc2support@bihar.gov.in** For this, intending bidders may contact e-procurement helpdesk at e-proc2.0 helpdesk. Address: mjunction services limited RJ Complex 2nd Floor, Opposite Vidyapeeth Institute, Khajpura, Ashiana Road, P.S.-Shastri Nagar, Patna-800014. It is mandatory to participate in e-proc 2.0 application. The bidders must have bid encryption through pass phrase as per RCD Lt. No.- 5651(E), Dt.-19.08.2020.

17. The undersigned reserves the right to extend or cancel or reject the tender/tenders at any time without assigning any reason thereof. No cost whatsoever shall be claimed in such case by the bidder.

18. Earnest Money Deposit can be paid through offline or online mode.

    (a) Earnest Money Deposit (EMD) can be paid through offline mode in the form of Bank Guarantee of Nationalized/ Scheduled Bank duly endorsed/pledged to Executive Engineer, _____. In offline mode, EMD in form of Bank Guarantee will be taken after award of works and before execution of Agreement but scanned copy of Bank Guarantee is mandatory to be uploaded with the Tender Documents.

    (b) Earnest Money Deposit (EMD) can be paid through online mode also i.e. Internet payment gateway, Net Banking, NEFT/RTGS etc. Bids along with necessary online payment must be submitted through e-procurement portal **https://eproc2.bihar.gov.in** before the bid submission end date and the time specified. The department does not take any responsibility for the delay/Non submission of tender/Non reconciliation of essential online payment due to non-availability of Internet connection, Network Traffic/Holidays or any other reason.

    (c) The Bank Guarantee for EMD should be valid for not less than 180 days after bid submission end date.

    (d) The estimated cost may increase or decrease and accordingly Earnest Money may change.

19. (a) The cost of B.O.Q. and Bid Processing Fee is mandatory to be paid through online mode i.e. Internet Payment Gateway, Net Banking, NEFT/RTGS etc. The bidder shall also upload scanned copy of the acknowledgement/ Receipt of payment of cost of BOQ & Bid Processing Fee.

    (b) A scanned copy of the instrument for Earnest Money as described in S.No.18 above to be uploaded along with the Tender Documents.

    (c) In respect of 19(a) and (b), the bidder shall also upload details of the instruments including amount date, serial no, Bank on which drawn, office in favour of whom it is drawn/pledged and the place where they are payable.

20. As per RCD Lt. No.-163(E) Dt.-10.01.2024, all original documents like Affidavit, Bank Guarantee (EMD) has to be submitted before agreement.

21. Bidders will have to declare by affidavit that they have not been declared defaulter/rescinded/debarred/blacklisted by the State Govt./Central Govt./Public Undertaking. If such affidavit is subsequently found to be false, their tender shall not be considered and further legal action shall be initiated.

22. Before uploading tenders, bidders are advised to go through the conditions of the MBD uploaded with the tender document.

23. Bids from joint ventures are allowed for the works having estimated cost more than 100 Crore, however, unless & otherwise stated in the Contract, the other terms & conditions as mentioned in RCD, Bihar letter no. 8131(S)we Dt.24.07.2012 shall be applicable.

24. Bidder can quote any amount below the estimated cost. The Bidder will have to deposit additional performance guarantee for unbalanced bid within the stipulated time & before execution of agreement on the similar guidelines as mentioned in RCD Lt. No.-447(s), Dt.16.01.2020.

25. As per RCD Lt. No. 2863(E) Dt. 07.06.2017, Similar Nature of Works shall be accepted.

26. As per RCD Notification No. 5737 (S) Dt. 07.05.2007, if Earnest Money is found invalid in verification the tenderers will be blacklisted.

27. The successful bidder must have to submit Character Certificate issued from Competent Authority before agreement as per RCD Lt. No. 2033 (E) Dt. 11.04.2022.

28. As per RCD Lt. No. 3608 (E) dt. 22.05.2020, it is mandatory to attach rupees ₹25/- Advocate Welfare Stamp on affidavit for Advocate Welfare Fund.

29. As per Prohibition, Excise & Registration Department, Bihar Notification No.1026 Dt. 15.02.2013, it is mandatory that power of attorney, if applicable, should be on at-least rupees ₹1000/- Stamp.

30. As per RCD Lt. No. 5355 (S) dt. 28.10.2021, Bidder is allowed to file objection to concerned Chief Engineer, R.C.D, Bihar, Patna within 2 days after the approval of Technical Bid. Any objection/ complaint received after the 2 days of stipulated Period shall not be entertained.

31. As per RCD Lt. No.-2955 (S)we Dt.-07.04.2025, successful Bidder must have to register and use CBuD (Call Before u Dig) Application.

32. Audit Report submitted by the Bidders should be Unique Document Identification Number (UDIN) supported as per RCD Lt. No.-5023 (E) we Dt.08.10.2024.

33. Digging within the ROW of Roads is completely prohibited. Employer is not responsible for availability of borrow pits. It shall be Contractors' responsibility to get/ carry earth of their own. For that no claim shall be entertained.

34. Bidders can access tender documents on the website and must fill them and submit the completed tender documents in electronic form on the website itself, Bidders/Contractors shall attach scanned copies of all required papers and certificates as required in the eligibility criteria. All the uploaded document shall have the signature of bidder or their authorized signatories.

35. The bidders are requested to check their file size of uploaded documents at the time of submission & they should ensure that work file is uploaded. If they feel that the complete file is not uploaded then they should click on cancel & update the same before submission. The bidders should satisfy themselves of Download ability/ visibility of the scanned and uploaded file by them.

36. The Bidder must use MS-Office 2007 or lower version.

37. No claim shall be entertained on account of disruptions of Internet service being used by bidder. Bidders are advised to upload their bids well in advance to avoid last minute technical snags.

38. Bids along the necessary online payments must be submitted through e-procurement portal **https://eproc2.bihar.gov.in** before the date and time specified in the NIT. The department does not take any responsibility for the delay/Non submission of Tender/ Non-Reconciliation of online payment caused due to none availability of internet connection, network traffic/holidays or any other reason.

39. All Bidder have to submit their existing commitment of ongoing works duly issued by Engineer-in-charge along with all bidding documents. Otherwise, bid shall be considered/ declared as non-responsive & invalid.

40. Bids, whose Estimated Cost Value is more than ₹25.00 Lakh and upto ₹50.00 Crore shall be decided as per RCD Lt. No. 3103 (S) Dt. 06.05.2026.

41. Corrigendum/Addendum, if any will be published on the **https://eproc2.bihar.gov.in**

Executive Engineer
Road Division, _____
Road Construction Department,
Bihar, Patna

Bidding Document

Section 1 : Instruction to Bidders (ITB)

Section 2 : Bid Data Sheet (BDS)

Section 3 : Evaluation & Qualification Criteria

Section 4 : Bidding Forms

Section 5 : Technical Specifications

Section 6 : General Conditions of Contract (GCC)

Section 7 : Particular Conditions of Contract (PCC)

Section 8 : Contract Forms

Section 1. Instructions to Bidders (ITB)

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A General

1	**Scope of Bid**	1.1 In connection with the Invitation for Bids indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues these Bidding Documents for the procurement of Works and Services as listed below for the award of a Long-Term Output and Performance-based Road Assets Maintenance Contract (OPRMC). The Works and Services under the OPRMC will cover the Roads indicated in the BDS and will consist of: a Ordinary Maintenance Services or "Services" consisting of all interventions on the Roads which are to be carried out by the Bidder in order to achieve and keep the Road performance standards defined by the Service Level included in the Technical Specifications mentioned in Bidding Documents, and all activities related to the management and evaluation of the road network under contract. b Initial Rectification Works, when requested in the BDS for the sections of the Road(s) indicated in the BDS, consisting of specific types of civil works described in the Technical Specifications as per the Maintenance Plan. Bidder has to execute the minimum quantity of Initial Rectification Works as provided in Section 5D of Technical Specification/ Appendix D. c Periodic Maintenance Works including re-application of Road Marking, when requested in the BDS for the sections of the Road(s) indicated in the BDS, consisting of specific types of civil works described in the Specifications as per Maintenance Plan as provided in Section 5E of Technical Specification/ Appendix E. d Minor Improvement (including Strengthening) Works, when requested in the BDS, consisting of a set of specific interventions indicated in the Specifications as per maintenance plan to the Roads in response to existing or new traffic and safety or other considerations as provided in Section 5F of Technical Specification/ Appendix F. e Emergency and Contingent Works consisting of Schedule rates for activities needed to reinstate the Roads and reconstruct their structure or their right of way which has been damaged as a result of natural phenomena with imponderable consequences, such as strong storms, flooding, earthquakes and as further detailed in Section 5G of Technical Specifications for Emergency and Contingent works.

		1.2 Throughout these Bidding Documents: a the term "in writing" means communicated in written form and delivered against receipt; b except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and c "day" means calendar day.
2	**Source of Funds**	2.1 The expenditure under this contract shall be made from budget of Road Construction Department, Govt. of Bihar.
3	**Corrupt Practices**	3.1 It is the State Govt.'s Policy that Bidders, Contractors, Suppliers and their sub-contractors observe the highest standard of ethics during the procurement and execution of such contracts. In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper. a For the purposes of above provision, the terms set forth below are as follows: i "corrupt practice" is the offering, giving, receiving, or soliciting directly or indirectly, of anything of value to influence improperly the action of another party. "Another party" refers to a public official acting in relation to the procurement process or contract execution. ii "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation. "A "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.; iii "collusive practice" is an arrangement between two or more parties, designed to achieve an improper purpose including to influence improperly the actions of another party. "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non-competitive levels.; and

		iv "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party. A "party" refers to a participant in the procurement process or contract execution v "obstructive practice" is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/ or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or acts intended to materially impede the exercise of the inspection and audit rights. b Employer will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question; c Employer will sanction a firm or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a government-financed contract if at any time determines that they have, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing a contract.
4 Eligible Bidders	4.1	A Bidder may be a natural person, private entity, subject to ITB 4.4 or any combination of such entities supported by a letter of intent to enter into an agreement or under an existing agreement in the form of a joint venture (JV). In the case of a joint venture: a unless otherwise specified in the BDS, all partners shall be jointly and severally liable, and b the JV shall nominate a representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JV during the bidding process and, in the event the JV is awarded the contract, during contract execution.

c unless & otherwise stated in the Contract, the JV shall be constituted as per stipulated norms set by the RCD Bihar letter no.8131 (S) dt. 24.07.2012.

d bids submitted by a joint venture (JV) of two or more firms as partners shall comply with the following requirements:

i the bid shall include all information listed in bidders' qualification forms for all the partners;

ii the joint venture agreement should indicate precisely the role of all members of JV in respect of planning, design, construction equipment, key personal, work execution and financing of the project. All the members of JV should have active participation in execution. This should not be varied / modified subsequently without prior approval of the Employer;

iii "The nominated representative shall be from the lead partner of the JV".

4.2 JV shall be allowed only for the Estimated Cost Value (ECV) more than ₹100.00 Crore.

4.3 Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

a they have controlling partners in common; or

b they receive or have received any direct or indirect subsidy from any of them; or

c they have the same legal representative for purposes of this bid; or

d they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or

e each bidder shall submit only one bid for any work or one package or group. A bidder who submits or participates in more than one bid for the same work will cause all the proposals with the Bidder's participation to be disqualified. However, this does not limit the inclusion of the same sub-contractor in more than one bid;

	f a Bidder participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or g a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Government as Engineer for the contract. 4.4 Bidders shall provide such evidence of their eligibility satisfactory to the Employer, as the Employer shall reasonably request. 4.5 The bidding is open only to Bidders as stated in the BDS.

B Contents of Bidding Documents

5	**Selection of Bidding Document**	5.1 The Bidding Documents consist of Sections indicated below, and should be read in conjunction with any corrigendum/ addenda issued in accordance with ITB 7. i Section 1 Instruction to Bidders (ITB) ii Section 2 Bid Data Sheet (BDS) iii Section 3 Evaluation and Qualification Criteria iv Section 4 Bidding Forms v Section 5 Technical Specifications vi Section 6 General Conditions (GC) vii Section 7 Particular Conditions (PC) viii Section 8 Contract Forms 5.2 The Invitation for Bids issued by the Employer is a part of the Bidding Document. 5.3 The Employer is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids. 5.4 The Bidder is expected to examine all instructions, forms, terms, specifications, drawings, maintenance schedule, etc. in the Bidding Document. Failure to furnish all information or documentation required by the bidding documents may result in the rejection of the bid.
6	**Clarification of Bidding Document, Site Visit, Pre-bid Meeting**	6.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer's address indicated in BDS or raise his enquiries during the pre-bid meeting if provided for in accordance with ITB 6.4. The Employer will respond to all request for

	clarification in pre bid meeting, provided that such request is received no later than two days before the date of pre-bid meeting. The Employer shall upload its response on departmental website. If the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 7 and ITB 19.2. 6.2 The Bidder is required to visit and examine the Site of the Construction and Roads and its surroundings and obtain all information including maintenance requirements and environmental aspects that may be necessary for preparing the bid and entering into an Output Performance Based Maintenance Contract. A site visit is required particularly to survey the existing road condition in order to estimate the Lump Sum costs for Ordinary Maintenance, Initial Rectification Works and Periodic Maintenance. The costs of visiting the Site shall be at the Bidder's own expense. 6.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to visit the Roads and surrounding lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection. 6.4 The Bidder's designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage. A Pre-Bid meeting will take place at the following date, time and place: Date: [date to be mentioned]/As per NIT Time: [time *to be mentioned*]/ As per NIT Place: [name of place to be mentioned]/ as per NIT 6.5 The Bidder is requested, as far as possible, to submit any questions in writing, to reach the Employer not later than two days before pre-bid meeting. 6.6 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly through the departmental website. Any modification/s to the Bidding

			Documents that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum/ Corrigendum pursuant to ITB 7 and not through the minutes of the pre-bid meeting.
		6.7	Non-attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
7	**Amendments of Bidding Document**	7.1	At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Documents by issuing addenda.
		7.2	Any addendum/ corrigendum issued shall be part of the Bidding Documents and shall be posted on https://eproc2.bihar.gov.in
		7.3	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 19.2.

C Preparation of Bids

8	**Cost of Bidding**	8.1	The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
9	**Language of Bid**	9.1	The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in Hindi.
10	**Documents Comprising the Bid**	10.1	The Bid shall comprise the following: a letter of bid; b completed schedules as required, including priced bills of quantities, in accordance with ITB 11 and 13; c bid security, in accordance with ITB 17; d written confirmation authorizing the signatory of the bid to commit the bidder, in accordance with ITB 16.2; e documentary evidence in accordance with ITB 15 establishing the bidder's qualifications to perform the contract if its bid is accepted; f technical proposal in accordance with ITB 14; and g any other document required in the BDS.
		10.2	In addition to the requirements under ITB 10.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement

			entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement.
11	**Letter of Bid & Schedules**	11.1	The Letter of Bid and Schedules, including the Bills of Quantities, shall be prepared using the relevant forms furnished in Section 4, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
12	**Alternative Bids**	12.1	Not Permitted
13	**Bid Prices**	13.1	The prices quoted by the Bidder in the Letter of Bid and in the Bills of Quantities shall conform to the requirements specified below: a The Bidder shall fill in rates and prices for all items of the Works and Services described in the Bills of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities. b Unless otherwise provided in the BDS and the Contract, the rates and prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. c All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.
14	**Documents Comprising the Technical Proposal**	14.1	The Bidder shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule, software and any other information as stipulated in Section 4, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the requirements of Section 5, Technical Specifications.
15	**Documents Establishing the Qualifications of the Bidder**	15.1	To establish its qualifications to perform the Contract in accordance with Section 3, Evaluation and Qualification Criteria, the Bidder shall provide the information requested in the corresponding information sheets included in Section 4, Bidding Forms.

16	**Period of Validity of Bids**	16.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. 16.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 17, it shall also be extended for forty-five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security.
17	**Bid Security**	17.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its bid, a bid security in original form and in the amount specified in the BDS. The scanned image of bid security or downloaded receipt of online payment shall be uploaded along with the bid document as per e-tendering process. The original instrument of the bid security shall be deposited in the offices up to the date and time as specified in NIT. 17.2 Earnest Money Deposit can be paid through offline or online mode as under: a Earnest Money Deposit (EMD) can be paid through offline mode in the form of Bank Guarantee of Nationalized/ Scheduled Bank duly endorsed/ pledged to Executive Engineer, [*name of the road division*]. In off line mode, EMD in form of Bank Guarantee will be taken after award of work & before agreement but scanned copy of Bank Guarantee should be uploaded with the tender. b Earnest Money Deposit (EMD) can be paid through online mode also i.e. Internet Payment Gateway, Net Banking, NEFT/RTGS etc. Bids along with necessary online payment must be submitted through e-procurement portal https://eproc2.bihar.gov.in before the bid submission end date and the time specified. The employer does not take any responsibility for the delay/ non-submission of tender/ non-reconciliation of essential online payment due to non-availability of internet connection, network traffic/ holidays or any other reason. 17.3 The Bank Guarantee for EMD should be valid for not less than 180 days after bid submission end date or beyond any period of extension if requested under ITB 16.2.

		17.4 In the process of verification, if the Earnest Money found invalid, the bid shall be rejected and the bidder shall be blacklisted. 17.5 Any bid not accompanied by an enforceable and compliant bid security, that one is required in accordance with ITB 17.1, the bid shall be treated as non-responsive and rejected by the Employer. 17.6 The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to ITB 34.2. 17.7 The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has furnished the required performance security and additional performance security for abnormal/unbalanced bid on similar guidelines as mentioned in RCD letter no.-447 (S) dt. 16.01.2020 and signed the Contract. 17.8 The bid security will be forfeited: If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the letter of bid, except as provided in ITB 16.2; or if the successful bidder fails to: a furnish a performance security and additional performance security in accordance with ITB 33; b sign the Contract in accordance with ITB 34. 17.9 The bid security of a JV shall be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the bid security shall be in the names of all proposed partners as mentioned in the letter of intent referred to in ITB 4.1.
18	**Format and Signing of Bid**	18.1 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the bid.

D Submission of Opening of Bids

19	**Deadline for submission of Bids**	19.1 The bids must be uploaded by the bidder not later than the date & time as indicated in BDS. 19.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 7, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

20	**Bid Opening**	20.1 The technical bid shall be opened electronically at the place, date and time as specified in detailed NIT through website https://eproc2.bihar.gov.in

E Evaluation and Comparison of Bids

21	**Confidentiality**	21.1 Information relating to the evaluation of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders. 21.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid. 21.3 Notwithstanding ITB 21.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it may do so in writing.
22	**Clarification of Bids**	22.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 26. 22.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid may be rejected.
23	**Deviations, Reservations and Omissions**	23.1 During the evaluation of bids, the following definitions apply: a "Deviation" is a departure from the requirements specified in the Bidding Document; b "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and c "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
24	**Determination of Responsiveness**	24.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB10.

		24.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, a if accepted, would- i affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or ii limit in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations under the proposed Contract; or b if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids. 24.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 14. 24.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
25	**Non-material Non-conformities**	25.1 Provided that a bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non-conformities in the bid related to documentation requirements. 25.2 Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.
26	**Correction of Arithmetical Errors**	26.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis: a if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected; b if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

		c if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above. 26.2 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified.
27	**Evaluation of Bids**	27.1 The criteria and methodologies listed under this Clause shall be used by the Employer. No other criteria or methodologies shall be permitted. 27.2 To evaluate a bid, the Employer shall consider the following: a the bid price; b the price adjustment for correction of arithmetic errors in accordance with ITB 26.1; c the criteria as indicated in Section 3, Evaluation and Qualification Criteria. 27.3 The estimated effect of the price adjustment provisions of the Conditions of Contract applied over the period of execution of the Contract, shall not be taken into account in bid evaluation. 27.4 If the bid, which results in the lowest Evaluated Bid Price, is unbalanced in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analysis for any or all items of the Schedule of Prices, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. 27.5 After evaluation of the price analysis, taking into consideration the schedule of estimated contract payments, the Employer shall require that the amount of the performance security be increased as per the similar guidelines mentioned in RCD letter no. 447(S) dt. 16.01.2020 at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
28	**Comparison of Bids**	28.1 The Employer shall compare all substantially responsive bids to determine the lowest evaluated bid, in accordance with ITB 27.2. 28.2 After application of the criteria established in sub-clauses 27.1 to 27.5, the Evaluated Bid Price for comparison of bids will be: a the lump-sum price offered by the Bidder for the Ordinary Maintenance Services; plus

		b the lump-sum price offered by the Bidder for the Initial Rectification Works, if the bidding documents require prices for this type of works; plus c the lump-sum price offered by the Bidder for the Periodic Maintenance (including re-application of road marking) Works, if the bidding documents require prices for this type of works; plus d The total price of the Schedule of Prices for the Minor Improvement (including Strengthening) Works, if the bidding documents require prices for this type of works.
29	**Qualification of the Bidder**	29.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive Bid meets the qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria). 29.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 15.1. 29.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Employer shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily. 29.4 Financial bid shall be opened for technically qualified bidders on https://eproc2.bihar.gov.in website.
30	**Employer's right to accept any bid and to reject any or all bids**	30.1 The Employer reserves the right to accept or reject any bid without assigning any reason thereof, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F Award of Contract

31	**Award Criteria**	31.1 The Employer shall award the Contract to the Bidder whose Bid has been determined to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

		31.2 In the event, if more than one Bidder, whose Bid has been determined to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, the Employer shall award the Contract through lottery.
32	**Notification of Award**	32.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, that its bid has been accepted. The Notification Letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price") and the requirement for the Contractor to remedy any defects therein as prescribed by the Contract. 32.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.
33	**Performance Security**	33.1 Within twenty-one (21) days of the issue of Letter of Award (LOA) from the Employer, the successful Bidder shall furnish the Performance Security along with Additional Performance Security (if required) in the form as stated in para 17.2 of ITB alone and as mentioned in ITB 33.4. 33.2 In the event, the Bidder fails to provide the Performance Security along with Additional Performance Security (if required) within 21 days from the date of issue of LOA, the Bidder may seek extension of time for a period not exceeding 20 days on payment of damages for such extended period in a sum calculated at 0.05% of Contract Price (non-refundable) for each day until the Performance Security is provided. 33.3 Failure of the successful Bidder to submit the above-mentioned Performance Security along with Additional Performance Security (if required) or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract at the Price of Lowest Bidder (L1)to the Next Lowest Evaluated Bidder (L2) whose Bid is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily conforming to relevant provision. 33.4 The Validity of Performance Security shall be 7.5 years or upto the end date of Defect Liability Period of the Works, plus 28 days; whichever be later. The Contractor may provide the Performance Security for the Contract Period and Defect Liability Period, plus 28 days or the Contractor, initially, may provide the Performance Security for

		2 years; provided that, the Contractor shall procure the extension of validity of the Performance Security, as necessary, at least 30 days prior to the date of expiry, thereof. The first and second extension of Performance Security will be for 2 years and last extended performance security will be valid for 1.5 years or upto end date of Defect Liability Period, plus 28 days whichever is later. The Contractor, upon providing the extended Performance Security, the previous Performance Security shall be released. In case, the Contractor fails to providing the extended Performance Security, the Employer shall be entitled to encash an appropriate Performance Security as damages & to terminate this agreement & debar/blacklist the Contractor. 33.5 Performance Bank Guarantee, if issued outside of Bihar, shall be guaranteed by any branch of the same bank located in Bihar.
34	**Signing of Contract**	34.1 Promptly after notification, the Employer shall prepare the Contract Agreement. 34.2 The successful Bidder shall sign the Contract Agreement within 7 days of submission of Performance Security and Additional Performance Security, if so required.

Section 2. Bid Data Sheet (BDS)

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A General

	ITB Cl. Ref.	Bid Data
1	ITB 1.1	The Package Number of the Invitation for Bids is : [*pkg. no.*] /OPRMC-III/[n*ame of division*] The Employer is: Govt. of Bihar represented by the Executive Engineer, Road Division [_____ *name of road division*], Road Construction Department Bihar. Name of Work is : Long Term Output & Performance Based Road Assets Maintenance Contract under Road Division [*name of division*]. The Roads included in the Bid are: 1) _____ 2) _____ 3) _____ 4) _____ 5) _____ 6) _____ 7) _____ 8) _____ 9) _____ 10) _____ 11) _____ 12) _____ 13) _____ 14) _____ 15) _____ 16) _____ 17) _____ 18) _____ 19) _____ 20) _____ Details of Road Sections are contained in Clause 7 of Technical Specifications Section 5A.

		Note: Roads listed above are in different contractual status as described in maintenance plan as explained in 7 of Section 5A. Contractor is required to follow various works activities (IR, OM, PM & MI) as per the maintenance plan.
2	**ITB 1.1(b)**	Initial Rectification (IR) Works are required. The Bidder is to make an independent estimation of Initial Rectification Works necessary to bring the roads below the intervention standards/service level. For the guidance, minimum estimated quantities of Initial Rectification Works are provided in Section 5D of the Technical Specifications/ Appendix D. The Contractor shall be bound to execute the minimum quantity of Initial Rectification Works.
3	**ITB 1.1(c)**	Periodic Maintenance works are required. The Bidder is to make an independent estimation of Periodic Maintenance (including re-application of road marking) Works necessary to bring the roads below the intervention standards/service level based on International Roughness Index). For the guidance, list of sections for Periodic Maintenance Works has been provided in Section 5E of the Technical Specifications/ Appendix E. Payment shall be proportionately increased or decreased as per the actual carpet area of the kilometre).
4	**ITB 1.1(d)**	Minor Improvement (Including Strengthening) works are required as detailed in Schedule 4 and Section 5F of the Technical Specifications/ Appendix F.
5	**ITB 1.1(e)**	Procedure for conducting Emergency and Contingent Works are detailed in Section 5G of Technical Specifications.
6	**ITB 2.1**	Funding: Govt. of Bihar (Road Construction Department Bihar)
7	**ITB 4.5**	This Bid is open to all eligible Bidders.

B Bidding Documents

	ITB Cl. Ref.	Bid Data
8	**ITB 6.1**	For clarification purposes only, the Employer's address is: Office of the Executive Engineer, Road. Division [*name of division*] Road Construction Department, Bihar. Street Address: _____ City: _____ Pin Code: _____ Telephone: _____ Fax Number: _____ e-mail address: _____

C Preparation of Bids

	ITB Cl. Ref.	Bid Data
9	ITB 9.1	The language of the bid is: English.
10	ITB 10.1(g)	Append the Sub-Clause as follows: "An undertaking by all the partners in case of a JV to satisfy requirements of ITB Cl. 4.1 (a) as provided in the Form ELI-2.1 in Section-4".
11	ITB 13.1(b)	The Contract is subject to Price Adjustment from the commencement of the Contract in accordance with Clause 48 of the General Conditions/ Particular Conditions of the Contract.
12	ITB 16.1	The bid validity period shall be 180 days.
13	ITB 17.1	A Bid Security shall be required; the amount of the Bid Security shall be: Rupees ₹ _____. The Bid Security shall be duly endorsed/pledged to the Executive Engineer, Road Division [_____*name of road division*] Road Construction Department, Bihar.

D Uploading and Opening of Bids

	ITB Cl. Ref.	Bid Data
14	ITB 19.1	For bid submission purposes only, the Employer's address is: [_____*name & address of the divisional office*]. The Bid has to be submitted by e tendering only. The last date and time on https://eproc2.bihar.gov.in 1. Period for download of Tender Document: From _____ to _____ up-to 15.00 hrs. (from website: https://eproc2.bihar.gov.in). 2. Date, Time & Place of Pre-Bid meeting: Date _____ at 11 hrs. at _____. 3. Last Date & Time for uploading tender documents by the Bidder : Date _____ till 15:00 hrs. on www.eproc2.bihar.gov.in (*next day of last day of downloading*). 4. Date, Time & Place of opening of Technical Bid : Date _____till 15:30 hrs. on www.eproc2.bihar.gov.in (*2 working days after last date of uploading of tender document by the Bidders*).

E Evaluation and Comparison of Bids

	ITB Cl. Ref.	Bid Data
15	ITB 26.2	If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and the Bid Security shall be forfeited in accordance with ITB 17.8.

Appendix-A

Appendix-A: Index Map

Appendix-B

Appendix-B: Road List

(A) Operational Roads

S. No.	Name of Road	Lane SL/IL/ DL/ML	Chainage		Road Length (km)	Length of Equivalent SL (km)	Last date of Surface Renewal	Probable date of Surface Renewal
			From	To				

(B) Notional Roads (Roads under DLP)

S. No.	Name of Road	Lane SL/IL/ DL/ML	Chainage		Road Length (km)	Length of Equivalent SL (km)	Date of Expiry of DLP	Start Date of Full OM	Probable date of Surface Renewal
			From	To					

(C) Notional Roads (under Construction)

S. No.	Name of Road	Lane SL/IL/ DL/ML	Chainage		Road Length (km)	Length of Equivalent SL (km)	Probable Date of Completion	Probable Start Date of Full OM	Probable date of Surface Renewal
			From	To					

Appendix-C

Appendix-C: Road Assents Inventory Details

Name of Road	Culverts		Drain		Signages (Nos.)	Trees (Nos.)	Poles (Nos.)	Dividers		Parapets of Culverts		Kerbs	
	Type	Number	Length	Avg. Depth				Length	Avg. Painting Width	Length	Avg. Painting Width	Length	Avg. Painting Width

Appendix-D(1/7)

Appendix-D (1/7): Initial Rectification 2.1: Repair to Carriageway

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	----------	Total Quantity
2.1(a)	Providing Tack Coat with Bitumen 80/100 grade emulsion as per MORTH Specifications.	Sqm							
2.1(b)	Bituminous Concrete with 60/70 grade bitumen to carryout pavement repairs as per MORTH Specifications.	Cum							
2.1(c)	Dense Bituminous Macadam with 60/70 grade bitumen to carryout pavement repairs as per MORTH specifications.	Cum							
2.1(d)	Minor Dig-Outs Repair & failed Sections as per MORTH specifications.	Sqm							
2.1(e)	Edge Repairs as per MORTH specifications.	Rm							
2.1(f)	Light surface sealing size 7mm bitumen 80/100 grade seal applied to surface treatment as per the specifications & as directed by the Engineer-in-charge.	Sqm							
2.1(g)	Slurry seal/ seal coat to seal cracks, fill voids and minor depressions for thickness < 5mm as per MORTH specifications & as directed by Engineer-in-Charge.	Sqm							
2.1(h)	Any other item								

Appendix-D(2/7)

Appendix-D (2/7): Initial Rectification 2.2: Repair to Berms & Shoulders

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	----------	Total Quantity
2.2(a)	(i) Earthen High Shoulder repairs (Cutting) as per MORTH specifications & as per direction of Engineer-in-charge.	Cum							
	(ii) Earthen Low Shoulder (Filling) repairs (Cutting) as per MORTH specifications & as per direction of Engineer-in-charge.	Cum							
2.2(b)	(i) Non-Bituminous Hard (Paved/ Granular) Shoulder repairs as per MORTH specifications & as per direction of Engineer-in-charge.	Sqm							
	(ii) Non-Bituminous Hard Shoulder (Footpath) repairs as per MORTH specifications & as per direction of Engineer-in-charge.	Sqm							
2.1(c)	Any other item								

Appendix-D(3/7)

Appendix-D (3/7): Initial Rectification 2.3: Jungle Clearance

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	----------	Total Quantity
2.3(a)	Pruning of trees to get min 5.5m height above the pavement & as directed by Engineer-in-charge.	No.							
2.3(b)	Mowing-slashing of roadside areas to maintain site distance, grass/shrub height maximum 150mm on earthen shoulder and 400mm in rest part as per the specifications.	Sqm							
2.3(c)	New plantation in median and islands not maintained by any other Department/Agency.	No.							
2.3(d)	Any other item								

Appendix-D(4/7)

Appendix-D (4/7): Initial Rectification 2.4: Cross Drainage & Side Drains

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	---------	Total Quantity
2.4(a)	Brick Masonry Work in cement mortar (1:6) as per MORTH Specifications.								
2.4(b)	Random Rubble Masonry Works in cement mortar (1:6) as per MORTH Specifications.								
2.4(c)	Plastering 20mm thick cement mortar (1:4) per MORTH Specifications.								
2.4(d)	Pointing with Cement mortar (1:4) as per MoRTH Specifications.								
2.4(e)	Two Coat White Washing to Cross Drainage Structures /Trees/ Walls/ Structures, etc. as per the direction of Engineer-in-charge.								
2.4(f)	Providing Grouted Pitching with Rough Stone (HBG) as per MORTH Specifications.								
2.4(g)	Cement Concrete (1:3:6) Works as per MORTH Specifications.								
2.4(h)	Cement Concrete M15 grade as per MORTH Specifications.								
2.4(i)	Two Coat Painting with Synthetic enamel as per MORTH Specifications.								
2.4(j)	Revetment with Rough stone as per the direction of Engineer-in-charge.								
2.4(k)	Any other item								

Appendix-D(5/7)

Appendix-D (5/7): Initial Rectification 2.5: Road Safety & Other

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	--------	Total Quantity
2.5(a)	Fixing New Kilometre Stones as per MORTH Specifications.								
2.5(b)	Fixing New Guard/ Guide/ Boundary Pillar as per MORTH Specifications.								
2.5(c)	Fixing New Cautions Boards, Informative like; Junctions Boards, Village Name Boards etc. as per MORTH Specifications.								
	Mandatory Boards (Circular)								
	Cautionary Boards (Triangle)								
	Informative Boards (Rectangular)								
2.5(d)	Fixing New Object Hazard Marker at the opening ends of culverts and bridges or at any other points, delineators, median markers and bollards (spring post) as per the requirement & as per MoRTH specifications.								
2.5(e)	Providing New Rumble Strips/ Speed Breaker or any Traffic Calming Measures on Minor Roads as per MORTH specifications.								
2.5(f)	Providing New Retro-reflectorised strip 15 cm X 15 cm on aluminium sheet based as tree guard, minimum 2 Nos. for each tree and as per MORTH specifications.								
2.5(g)	Any other item								

Appendix-D(6/7)

Appendix-D (6/7): Initial Rectification 2.6: Road Marking & Studs

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	----------	Total Quantity
2.6(a)	Thermoplastic Road Marking as per MORTH Specifications:								
	Edge line marking	Sqm							
	Centre line marking	Sqm							
	Lane line marking	Sqm							
	Zebra Crossing	Sqm							
2.6(b)	Fixing of studs (for Urban Roads Only) as per MORTH Specifications & direction of Engineer-in-charge.	No.							
2.6(c)	Any other item								

Appendix-D(7/7)

Appendix-D (7/7): Initial Rectification 2.7: Repair & Painting

Item No.	Description	Unit	Quantity (1. Road Name)	Quantity (2. Road Name)	Quantity (3. Road Name)	Quantity (4. Road Name)	----------	----------	Total Quantity
2.7(a)	Repair of Divider, Road Kerbs, Islands Parapets and RCC/ Brick Drains as per the MORTH Specifications.								
2.7(b)	Painting of Trees upto 1.20m height above the Road Surface/ Flank as per the MORTH Specifications.								
2.7(c)	Painting of Poles upto 1.20m height above the Road Surface/ Flank as per the MORTH Specifications.								
2.7(d)	Painting of Road Dividers, Island, Parapets, Kerbs etc. as per the MORTH Specifications.								
2.7(a)	Any other item								

Appendix-E(1/3)

Appendix-E (1/3): Periodic Maintenance

Estimated Quantities in km for Periodic Maintenance Works

Year-Wise:

Year	Length of Single Lane in km (width ≤ 3.75m)	Length of Intermediate Lane in km (width > 3.75m & < 7.0m)	Length of Double Lane in km (width 7.0m)	Multi Lane (width > 7.0m)	
				Multi Lane in km	Equivalent Double Lane in km
1st					
2nd					
3rd					
4th					
5th					
6th					
7th (First 6 months)					
Total					

Appendix-E(2/3)

Appendix-E (2/3): Periodic Maintenance

Estimated Quantities in km for Periodic Maintenance Works

Road & Year Wise:

1st Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

2nd Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

3rd Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

4th Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

Appendix-E(3/3)

5th Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

6th Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

7th Year Total Length of Treatment :

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

Appendix-F

Appendix-F: Minor Improvement incl. Strengthening

1st Year Works

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

2nd Year Works

Name of Road	Start (km)	End (km)	Avg. Lane Width (m)	Type of Treatment

Appendix-G(a)

Appendix-G(a): Environmental Management Action Plan (EMAP)

S. No.	Environmental Parameter	Location / Source	Mitigation Measures	Implementing Agency	Supervision & Monitoring Agency
Pre-Construction Phase					
1.	**Ecologically sensitive areas (protected forests, reserve forests, wildlife sanctuary, national park, tiger reserve etc.)**	**Road sections pass through ecologically sensitive areas**	Obtain prior permission for working at sections of the road pass through ecologically sensitive areas from the competent authorities as mentioned in Appendix 5 of EMF. • No tree felling should be allowed • No breaking of fresh forest land should be carried out. • While black-toping, adequate precaution should be taken to avoid any damage to flora and fauna. • Plantation activities will be taken up along the road at cost of PMU, if the concerned Divisional Forest Officer find it necessary.	Road Construction Department Bihar	Concerned Competent Authority

S. No.	Environmental Parameter	Location / Source	Mitigation Measures	Implementing Agency	Supervision & Monitoring Agency
Construction Phase					
1.	**Air Pollution**	**Construction plants, equipment and vehicles**	• All vehicles used by the Contractor must have copies of currently valid Pollution under Control Certificates displayed as per the requirement of the Motor Vehicles Department for the duration of the Contract. • For Construction plant following will be maintained: • 1.5 km away from settlement, school, hospital on downwind directions • 1.5 km from any archaeological site • 1.5 km from ecologically sensitive areas i.e. forest, national park, sanctuary • 1.5 rivers, streams and lakes • 500 m from ponds • 500 m from National Highway, 250 m from State Highway, 100 m from District roads and other roads • away from agricultural land • preference to barren land • Obtaining Consent-for-Establishment (CFE) and Obtaining Consent-for-Operation (CFO) under Air and Water Acts from the Bihar State Pollution Control (BSPCB). • Ensure adequate stack height for HMP as stipulated in CFE, • Install emission control devices such as bag house filters, cyclone separators, water scrubbers etc. • Bag house filter / multi-cone cyclone for emission control. For bag house, cartridge filters reported to be more efficient than fabric filters • Pollution control measures for Diesel Generator (DG) set i.e. stack height, acoustic enclosure etc. • Greenbelt along the periphery of plant site.	**Contractor**	**Road Construction Department Bihar**

	Air Pollution	**Dust During Earthwork or from Spoil dumps**	• Maintaining adequate moisture at surface of any earthwork layer completed or non-completed to avoid dust emission. • Stockpiling spoil at designated areas and at least 5 m away from traffic lane.	**Contractor**	**Road Construction Department Bihar**
		Storage of Maintenance Materials	• Proper stockpiling and sprinkling of water as necessary.	**Contractor**	
2.	**Water Pollution**	**Clearing of waterways of cross drainage works including bridges and clearing of longitudinal side drains**	• Clearance of waterway will be undertaken before onset of monsoon i.e. early in the month of June. • Debris generated due to clearing of longitudinal side drains and waterways of cross drainage will be stored above high flood level and away from waterway, and reused on embankment slope or disposed at designated areas.[1]	**Contractor**	**Road Construction Department Bihar**
		Construction Vehicles	• Avoiding cleaning / washing of construction vehicle in any water body.	**Contractor**	
		Construction Camp & Worker's Camp	• Minimum distance of 1.5 km from river, stream and lake and 500 m from ponds • Locate facilities in areas not affected by flooding and clear of any natural or storm water courses. • The ground should have gentle slope to allow free drainage of the site. • The Contractor will prepare, make widely available (especially to staff responsible for water and material management), and implement a Storm water Management Plan (SWMP) for (all) the site(s) after approval from Employer. • The camp must have impervious flooring to prevent seepage of any leaked oil & grease into the ground. The area should be covered with a roof to prevent the entry of rainwater. • Degreasing can also be carried out using mechanical spray type degreaser, with complete recycle using an enclosure with nozzles and two sieves, coarse above and fine below, may be used.	**Contractor**	

[1] Designated Areas are to be identified & finalized by the Contractor in consultation with Employer in accordance with relevant EMF Guidelines.

			• All the waste oil collected, from skimming of the oil trap as well as from the drip pans, or the mechanical degreaser shall be stored in accordance with the Environment Protection (Storage and Disposal of Hazardous Wastes) Rules, 1989. For this purpose, metallic drums should be used. • A separate vehicle washing ramp shall be constructed adjacent to the workshop for washing vehicles, including truck mounted concrete mixers, if any, after each day's construction is over, or as required.		
3.	**Noise Pollution & Vibration**	**Vehicles & Construction Machinery**	• Site Controls: All vehicles and equipment will be fitted with silencers and/or mufflers which will be serviced regularly to maintain them in good working condition and conforming to the standard of 75dB (A) at 1m from surface of enclosure. • Scheduling of Project Activities: Operations will be scheduled to coincide with period when people would least likely to be affected. Construction activities generating noise level more than 75 dB (A) will be avoided between 10 P.M. and 6 A.M. near residential areas. • Protection devices (ear plugs or ear muffs) will be provided to the workers operating in the vicinity of high noise generating machines. • Construction equipment and machinery will be fitted with silencers and maintained properly. • Source-control through proper maintenance of all equipment. • Use of properly designed engine enclosures and intake silencers. • Vehicles and equipment used will confirm to the prescribed noise pollution norms. • Movements of heavy construction vehicles and equipment near public properties will be restricted. • Comply with sitting criteria construction plants and installations and maintenance of pollution control devices as mentioned in Appendix 9 of EMF. • Refer Appendix 10 of EMF for identification, and operation of quarry areas and adopting controlled blasting. • Refer Appendix 16 of EMF for available licensed quarry along the project road	**Contractor**	**Road Construction Department Bihar**

4.	**Land Pollution**	**Spillage from plant and equipment at construction camp**	• Providing impervious platform and oil and grease trap for collection of spillage from construction equipment vehicle maintenance platform • Collection oil and lubes drips in container during repairing construction equipment vehicles • Providing impervious platform and collection tank for spillage of liquid fuel and lubes at storage area • Providing bulk bituminous storage tank instead of drums for storage of bitumen and bitumen emulsion • Providing impervious base at bitumen and emulsion storage area and regular clearing of any bitumen spillage for controlled disposal • Reusing bitumen spillage • Disposing non-usable bitumen spills in a deep trench providing clay lining of 300 mm at the bottom and filled with soil at the top (for at least 0.5 m) to encourage vegetation growth. • Refer Appendix 8 and Appendix 9 of EMF.	**Contractor**	**Road Construction Department Bihar**
		Domestic solid waste and liquid waste generated at camp	• Collecting kitchen waste at separate bins and disposing of in a pit at designated area/s • Collecting plastics in separate bins and disposing in deep trench at designated area/s covering with soil • Collecting cottons, clothes etc. at separate bins and burning in a pit (with sand bed)		

Appendix-G(b)

Appendix-G(b): Environmentally Sensitive Area for Particular Attention[2]

S. No.	Name of Road	Circle	Type of Forest and Name of the Forest/ Wild Life Sanctuary	Section of the Road Passing through Reserve Forest/ Protected Forest /Wild Life Sanctuary	Section of the Road Passing adjacent to Reserve Forest/ Protected Forest /Wild Life Sanctuary

[2] Works shall not be proceeded in these areas without clearance from the Employer/Concerned Authority.

Appendix-H

Appendix-H: Maintenance Plan

Section 3. Evaluation & Qualification Criteria

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Section 3. Evaluation & Qualification Criteria

Note:
This section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders. In accordance with ITB 27 and ITB 29, no other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in Section 4, Bidding Forms.

1 Evaluation

1.1 Assessment of adequacy of Technical Proposal

1.1.1 Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 5 (Technical Specifications).

1.1.2 Noncompliance with equipment & personnel requirements described in Clause 2.5 & Clause 2.6 (Evaluation & Qualification Criteria) shall be a ground for bid rejection. Failure to deploy the minimum personnel & equipment, the Employer has the rights to terminate the Contract and Contractor shall be debarred/blacklisted as per the norms of the Contract Agreement.

1.2 Additional Criteria

In addition to the criteria listed in ITB 27.2(a) – (c), for assessment of Price, the other relevant criteria are as follows:

1.2.1 even though the bidders meet the all qualifying criteria, they are subject to be disqualified if they have:

a made misleading or false representations in the forms, statements and attachments uploaded in proof of the qualification requirements; and/or

b record of poor performance such as abandoning the works, not properly completing the Contract, inordinate delays in completion, litigation history, or financial failures etc.;

1.2.2 sub-contractor's experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria.

1.2.3 bidders who meet the minimum Qualifying Criteria stipulated herein Clause 2.1 to 2.6 will be qualified, only if, their Available Bid Capacity is more than the Total Bid Value of the Works. The Available Bid Capacity shall be assessed/ calculated as under:

Assessed Available Bid Capacity = A x N x 1 - B

Where;

A = Maximum Value of Civil Construction & Maintenance Works executed in any One [1] year during the last five [5] years updated to the price level of financial year [2026-27] by the Bidder taking into account of the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited.

B = Value updated at the price level of financial year [2026-27] of existing commitments and on-going works to be completed by the bidder during the next 84 months or Sum of the values updated at the price level of financial year of [2026-27] the existing commitments and ongoing works to be completed by each of the JV partner during the next 84 months. However; where the bidders are bidding for more than one [1] Contract Packages, the Value of its other allotted works will be included in the value of 'B' and the Employer may write a letter to the bidder to submit self-declaration regarding allotment of new works other than the works declared in the bid. The bidder shall be obliged to submit the above details within the stipulated time and before the date of evaluation of technical bid. Any non-compliance in this regard by the bidder shall be treated as bid non-responsive and shall be liable for rejection of bid. The Bidder is to complete form of Current Contract Commitments as part of their Bid for the determination of this value and Current Contract Commitments must be duly certified by the Engineer-in-charge.

Note: *Lead Partner must meet 50%, Other Partner must meet 25% & All Partner Combined must meet 100% of the requirements. In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.*

1.2.4 Value of Works of the previous financial years shall be given a weightage of 8% per year to update the Cost to the price level of financial year [2026-27].

2 Qualification

2.1 Eligibility

Criteria	Bidder Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Other Partner	Lead Partner	

2.1.1 Conflict of Interest

No conflicts of interests in accordance with ITB Sub-Clause 4.3.	Must Meet Requirements	Each Partner Must Meet Requirements	Must Meet Requirements	Must Meet Requirements	Letter of Bid

2.1.2 Eligible Bidders

Any Contractor registered with Central Govt./any State Govt. or any agency of International or National repute are eligible subject to registration with Road Construction Department, Bihar, which will be essential after issuance of Letter of Award .	Must Meet Requirements	Each Partner Must Meet Requirements	Must Meet Requirements	Must Meet Requirements	Form ELI-1 and ELI-2, with attachments

2.2 Pending Litigation & Historical Contract Non-Performance

Criteria	Bidder Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Other Partner	Lead Partner	

2.2.1 Pending Litigations

Information on litigation history in which the bidder is involved must be attached.	Must Meet Requirements	Each Partner Must Meet Requirements	Must Meet Requirements	Must Meet Requirements	Form LIT-1

2.2.2 Historical Contract Non-Performance

Non-performance of a Contract did not occur within the last five [5] years including current year prior to the deadline for application submission, based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the bidder have been exhausted.	Must Meet Requirements	Each Partner Must Meet Requirements	Must Meet Requirements	Must Meet Requirements	Form CON-1

2.3 Financial Situation

Criteria	Bidder Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Other Partner	Lead Partner	

2.3.1 Historical Financial Performance

(a) Net Profit

Submission of audited balance sheets acceptable to the Employer, for the last five [5] years to demonstrate the current soundness of the bidders financial position and its prospective long term profitability. The Bidder should have made a Net Profit in any three [3] years in the last five [5] years.	Must Meet Requirements	Each Partner Must Meet Requirements[#]	Must Meet Requirements[#]	Must Meet Requirements[#]	Form FIN-1

(b) Net Worth

The Bidder should have made a Net Worth not less than 10% of Estimated Cost Value (ECV) in latest financial years of last [5] five years.	Must Meet Requirements	Must Meet Requirements[#]	Must Meet 25% of Requirements[#]	Must Meet 50% of Requirements[#]	Form FIN-1

2.3.2 Annual Turnover

Annual Turnover in any one [1] year in last five [5] year must not be less than 40% of the Estimated Cost Value (ECV) excluding Provisional Sum i.e. Rupees ₹_____. (calculated as total certified payments received for Contracts in progress or completed, within the last five [5] years).	Must Meet Requirements	Must Meet Requirements[#]	Must Meet 25% of Requirements[#]	Must Meet 50% of Requirements[#]	Form FIN-2

[#] *In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.*

2.3.3 Financial Resources

The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet: Credit Lines/ Letter of Credit / Solvency Certificates from Banks etc. shall be not less than 10% of the total Estimated Cost Value i.e. ₹_____	Must Meet Requirements	Must Meet Requirements[#]	Must Meet 25% of Requirements[#]	Must Meet 50% of Requirements[#]	Form FIN-3

Note:

1. *Financial turnover and cost of completed works of previous financial years shall be given a weighting of 8% per year to update the costs.*
2. *Year 1 will be the latest completed financial year, preceding the bidding. Year 2 shall be immediately preceding year 1 and so on. In case the Bid Submission date falls within 3 (three) months of the close of the latest financial year, the bidder shall ignore such financial year for the purpose of its bid and furnish all its information and certification with reference to the 5 (five) years preceding its latest financial year i.e. 2025-26. For the avoidance of doubt, financial year shall, for the purpose of the Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.*

2.4 Experience

Criteria	Bidder Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Other Partner	Lead Partner	

2.4.1 General Experience

Experience under Road Maintenance or Improvement Contract or Construction Contract as Contractor/ Sub-Contractor, SBD, CMBD, HAM, EPC, BOT, BOOT (Developers/ Operators) or Civil Works/Management Contractor for at least the last five [5] years prior to the applications submission deadline.	Must Meet Requirements	Each Partner Must Meet Requirements[#]	Must Meet Requirements[#]	Must Meet Requirements[#]	Form Exp-1

[#] *In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.*

2.4.2 Specific Experience

(a) Participation as Contractor, Management Contractor, or Sub-Contractor or BOT, BOOT Developer/Operator with in the last five [5] years, in Road Construction or Maintenance Works Contracts, of which upto two [2] Contracts have a Combined Values not less than 50% of Estimated Cost Value (ECV) i.e. ₹_____ and have been successfully completed/ substantially completed. The Works completed must be in similar nature to the Works & Services of the proposed Contract. *For the purpose of the above requirement:* *(i) OPRMC Contracts shall be considered as substantially completed if the Contractor has completed 100% of Minor Improvement Works feasible, 100% of Initial Rectification Works feasible and 100% of Periodic Maintenance Works feasible.* (ii) *all other types of Contracts shall be considered as substantially completed if the Contractor has completed 90% of the Value of Works.*	Must Meet Requirements	Must Meet Requirements[#]	Must Meet 25% of Requirement[#]	Must Meet 50% of Requirements[#]	Form Exp-2(a)

[#] *In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.*

(b) For the above or other Contracts executed in any one [1] year, the Bidder must be executed the following minimum quantities of Works: • Concrete Works in Road Work including DLC: 50% of Estimated Quantities (IR+ MI including Strengthening) of any one [1] year which has maximum value. • Non-Bituminous sub-bases and bases (GSB, WBM/WMM): 50% of Estimated Quantities (IR+MI including Strengthening) of any one [1] year which has maximum value. • Bituminous Treatment (BM/DBM/BC/SDBC/ Mastic Asphalt): 50% of Estimated Quantities (IR+MI including Strengthening+PM) of any one [1] year which has maximum value. • Bituminous Cold Mix Treatment: 50% of Estimated Quantities of any one [1] year which has maximum value.	Must Meet Requirements	Must Meet Requirements[#]	Must Meet 25% of Requirement[#]	Must Meet 50% of Requirements[#]	Form Exp-2(b)

Note:

The Cost of completed works of previous years shall be given a weighting of 8% per year to update the costs.

[#] *In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.*

2.5 Personnel

The Bidder must demonstrate that it has the personnel for the key positions that meet the following requirements:

Position	No.	Educational Qualification	Min. Work Experience in construction and maintenance	Max. age limit 28 days prior to bid submission
Road Manager	1	Graduate in Civil Engineering	Graduate – 3 years	65 years
Maintenance Engineer	1	Diploma in Civil Engineering/ Graduate in Civil Engineering	Diploma – 5 years	50 years
Works Supervisor	1	Preferably Diploma in Civil Engineering/ any general degree holder	Diploma – 2 years General Degree holder – 5 years	40 years
Data Entry Operator	1	Certified course in Computer Applications	Intermediate & above	40 years

The Bidder should provide the details of the proposed personnel and their experience record using the Forms PER-1 and PER-2 of Section 4, Bidding Forms supported by the experience certificates duly countersigned by the respective clients.

Note:

1. **Lead Partner must meet 50%, Other Partner must meet 25% & All Partner Combined must meet 100% of the requirements. In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.**

2.6 Equipment

The Bidder shall own at least One Hot Mix Plant (40-60 tonne/hour Capacity) not more than 15 years age.

The Bidder must demonstrate & submit the supportive documents that it has or has access to (own/lease/hire etc. and to be procured) the key equipment (machinery) listed as under:

S. No.	Equipment Type and Characteristics	Minimum Number required	Maximum age of the Equipment
1.	10 Tonne Tipper Truck	6	8
2.	Loader/Backhoe (0.5 m^3 bucket)	1+1(OM)	8
3.	Excavator (0.75 m^3 bucket)	1	10
4.	Sensor Paver (3.5 m)	1	10
5.	Bitumen Distributor (2000 litre)	1	10
6.	8-10 Tonne Vibratory Roller	1	10
7.	Plate Vibrator (Compaction for Patch work)	2	5
8.	Emulsion Sprayer	1	10
9.	Tractor or Rubber Tyred Dozer with adjustable Back Blade/Grader	1	10
10.	Smooth Wheeled Roller 8-10 Tonne	2	10
11.	Power Broom or Tractor Mounted Compressor	1	10
12.	Wet Mix Plant	1	10
13.	Generator 250 KVA	1	10
14.	Concrete Mixer 0.4/0.28 cum	2	10
15.	Baby Vibratory Roller	1	10
16.	Fifth Wheel Bump Integrator duly Calibrated	1	5
17.	Milling Machine	1	10
18.	Road Marking Equipment	1	5

The minimum numbers of equipment required to carry out the Works & Services in accordance with the prescribed Works Schedule are shown in the above table are mandatory. However, the Contractor shall be liable to provide all necessary items and numbers of equipment, plant and materials in order to carry out the Works & Services to meet the performance standards and stipulated service levels.

Note:

1. ***Lead Partner must meet 50%, Other Partner must meet 25% & All Partner Combined must meet 100% of the requirements. In case one of the Joint Venture Partner is proposed to be included primarily to provide financial strength to the Joint Venture, such Joint Venture shall have to commit to provide liquidity support to the Project to the extent of 10% of the Contract Value. In such case, all partner/s remaining (including lead partner) must meet 100% requirements.***

2. *The bidder will have to commission key equipment/ machineries within 90 days of agreement. If the contractor fails to commission the key equipment/ machineries within 90 days of agreement, it may seek extension of time for a period not exceeding next 60 days on payment of damage for such extended period in a sum calculated @ ₹5000/day until the machinery is commissioned. If the Contractor fails to do as mentioned above, his bid security shall be forfeited and award shall be cancelled. In that case second lowest bidder may be awarded the work under conditions explained in the bid document.*

Section 4. Bidding Forms

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A Letter of Bid

Letter of Bid

Date: _____

Invitation for Bid No.:_____

To:

The Executive Engineer,
.....
.....

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Document, including Addenda/ corrigendum issued in accordance with Instructions to Bidders (ITB) 7;

(b) We offer to execute in conformity with the Bidding Document the following Works:

_____;

(Our bid price, submitted electronically i.e. online in financial bid excluding any discounts offered shall be considered as final Bid price:)

S. No.	Description	Amount (in rupees)
1.	Ordinary Maintenance Services in an amount of [amount in digits]	₹……..
2.	Initial Rectification Works in an amount of [amount in digits]	₹……
3.	Periodic Maintenance Works	
	a) Periodic Maintenance Works in an amount of [amount in digits]	₹……
	b) Re-Application of Road Marking at interval of Min 2 Years in an amount of [amount in digits]	₹……
4.	Minor Improvement (including Strengthening) Works [amounts in digits]	₹……
5.	**Total (1+ 2+ 3+ 4)**	**₹……**

(c) We hereby confirm that our quoted bid price is inclusive of all duties, taxes, and other levies payable by us under the contract in accordance with ITB/BDS Clause 13.1(c).

(d) Our bid shall be valid for a period of 180 days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(e) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;

(f) We, including any Sub-Contractor's or Suppliers for any part of the Contract, do not have any conflict of interest in accordance with ITB Sub-Clause 4.3;

(g) We are not participating, as a Bidder or as a Sub-Contractor, in more than one bid for the same work in this bidding process in accordance with ITB Sub-Clause 4.3, other than alternative offers submitted in accordance with ITB Sub-Clause 12;

(h) We, including any of our Sub-Contractors or Suppliers for any part of the Contract, have not been declared blacklisted / debarred from any department/s.

(i) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

(j) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(k) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

(l) We are participating as a Joint Venture and the responsibilities and obligations of each of the partners have been submitted in the bid. Further an undertaking signed by all the partners of the Joint Venture as per prescribed format (Form ELI-2.1) is also attached.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the bid for and on behalf of _____

Dated on _____ day of _____, _____

B Bid Security

Bid Security
(in the form of Bank Guarantee)

WHEREAS, _____ [Name of Bidder] (hereinafter called "the Bidder") has submitted his Bid_____ [date] to execute _____ [Name of Contract & brief description of Works hereinafter called "the Bid"].

KNOW ALL PEOPLE by these presents that We _____ _____[Name of Bank] of _____ [Name of Country] having our registered office at _____(hereinafter called "the Bank") are bound unto _____ [Name of Employer] (hereinafter called "the Employer") in the sum of _____[1]for which payment well and truly to be made to the said Employer the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____,20_____.

THE CONDITIONS of this obligation are:

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

OR

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

(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

(b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or

(c) does not accept the correction of the Bid Price pursuant to Evaluation and Comparison Clause 21 to 30 of instruction to bidder (ITB)

(d) for submission of fraudulent documents in bid.

[1] The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in BDS ITB 17.1.

OR

(3) The Employer, at its absolute discretion, may notify in written the commission/ omission/ discrepancies committed by the bidder after notification of acceptance of the bid.

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

(5) This Guarantee will remain in force up to and including the date 180 days or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE_____ SIGNATURE _____

WITNESS _____ SEAL _____

_____

[Signature, name and address]

C Works Schedules

Work Schedules

Preamble

1 Bid Summary Schedule

The following Schedules are included in this Bid:

1.1 Schedule 1 – Ordinary Maintenance (Lump Sum)

Ordinary Maintenance will be payable as a proportionate monthly Lump Sum over the 7 years period of the Contract.

1.2 Schedule 2 – Initial Rectification Works (Lump Sum)

Schedule includes Initial Rectification Works to be completed within the first 6 working months from the date of agreement. Initial Rectification Works is a firm lump sum in kilometre that will be paid on achieved service level and by executing minimum quantity of all items mentioned in Section 5D of Technical Specification/ Appendix D.

1.3 Schedule 3 – Periodic Maintenance Works (Lump Sum)

Schedule 3(a) includes Periodic Maintenance Works for Years 1 to 7th (6.5 years) is a firm lump sum that will be measured and paid on the actual work outputs.

Schedule 3(b) includes Re-application of Road Marking at the minimum interval of 2 years from the previous application of Road Marking.

1.4 Schedule 4 – Minor Improvement Works (Unit Item Rates)

Schedule includes Minor Improvement & Strengthening Works comprises items for measurement and payment of various works to be completed within 2 years as approved by the Engineer-in-charge. Only the actual quantities of work completed as certified by the Engineer-in-charge will be paid.

2 Works and Payments

2.1 Works Schedules shall be read in conjunction with the General Conditions of Contract, Particular Conditions of Contract, Technical Specifications with Appendices, Contract Quality Plan, Annexures & Drawings.

2.2 Ordinary Maintenance Works & Services shall be tendered as Lump Sum. Payment shall be made monthly on the basis of the quoted price divided by 84 months.

2.3 Initial Rectification Works shall be tendered as lump-sum amount, while indicating the quantities of measurable outputs to be executed in order that the road achieves the performance standards specified in the bidding documents. Payments will be made in accordance with the progress in the execution of those measured outputs. Minimum quantity indicated must be executed as per maintenance plan.

2.4 Periodic Maintenance items and re-application of Road Marking at the interval of minimum 2 years shall be tendered as lump sum amount, while indicating the quantities of measurable outputs to be executed in order that the road achieves the performance standards specified in the bidding documents. Payments will be made in accordance with the progress in the execution of those measured outputs subject to proportionately increased or decreased as per the actual area of the kilometre;

2.5 The quantities given in the Works Schedule for Minor Improvement works (including strengthening works) are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contactor and verified by the Engineer-in-charge and valued at the rates and prices tendered in the priced Works Schedule.

2.6 The rates and prices tendered in the Works Schedule shall allow for and include all plant, labour, supervision, testing, materials, mobilization, demobilization, maintenance, insurance, profit, taxes, levies and duties, together with all general risks, liabilities and obligations etc. set out or implied in the Contract.

2.7 General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Works Schedule. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the priced Works Schedule.

2.8 All works completed under the Contract shall be measured according to the metric system for all items, unless otherwise provided herein or in the Special provisions.

2.9 All measurements for area or volume will be made horizontally along and perpendicular to the centre line of the road, and no deductions will be made for individual fixtures in the pavement having an area of one square meter or less.

2.10 Emergency/ Contingent Work Rates– The Rates quoted for the items under Schedule 4 shall be applicable for similar items executed under Emergency & Contingent Works. Items not covered under schedule 4 shall be taken from current SOR (SOR applicable just before the execution of works). Even if any item is left out the new rate of these shall be arrived as per Clause 61 and 63 of General Conditions of Contract. Rates are subject to the price adjustment in accordance with Clause 48 of the General Conditions of Contract.

Note:

a) Items for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Works Schedule (refer: ITB Clause 13.1(a)).

b) Unit rates and prices shall be quoted by the bidder in Indian Rupees

c) Where there is a discrepancy between the rate in figures and words, the rates in words will govern. [ITB Clause 26.1]

d) Where there is a discrepancy between the unit rate and the amount, the unit rate quoted shall govern [ITB Clause 26.1].

e) Price escalation is allowed for all the schedules (except items for emergency work covered under current SOR) as per clause 48 of the General Conditions of the Contract

3 Summary of Works Schedules

Summary of Works Schedules 1,2,3,4

Name of Work: Long Term Output & Performance Based Road Assets Maintenance Contract under Road Division _____

Schedule	Description	Amount (in INR)
Schedule-1	**Ordinary Maintenance Services (Lump Sum) for 84 Months**	**₹.....**
Schedule-2	**Initial Rectification Works (Lump Sum)** *(to be completed within 6 months from the Start Date to bring the roads to below the service level)*	**₹.....**
Schedule-3	**Periodic Maintenance (Lump Sum)** *(to be executed up-to 6.5 years from Start Date as per approved Maintenance Plan)*	
	(a) Periodic Maintenance Works	**₹.....**
	(b) Re-Application of Road Marking Works at the minimum interval of 2 Year	**₹.....**
Schedule-4	**Minor Improvement (including Strengthening) Works** *(to be executed after completion of IR Works, total duration 18 months).*	**₹.....**
Total Bid Price (in figures)		**₹.....**
Total Bid Price (in Words)		

3.1 Schedule 1: Ordinary Maintenance Services

Schedule – 1: Ordinary Maintenance Services (Lump Sum)

Item No.	Description of Item	Quantity	Rate per Month	Amount in Figure (INR)	Amount in Words (INR)
1.	**Ordinary Maintenance Services (Lumpsum): in the following Roads (with chainage): -** 1. ..... 2. ..... 3. ..... 4. .... The above price is the full remuneration to the Contractor to carry out the Works and Services required in order to reach and maintain the service levels described in the Specifications and elsewhere in the Contract. It further includes the activities of the Contractor related to self-control, quality assurance and material testing, procurement, maintenance & operational charges of Patrol Maintenance Unit (PMU), Inspection vehicles and 5th wheel Bump-Integrator etc.	**84 months**	**₹.....**	**₹.....**	....
			Schedule-1 Total Price		

Note:

1. *Schedule-1 shall include the costs associated with the Contractual Obligations which are not specifically provided elsewhere, including but without being limited to; the provision of insurances, securities, implementing quality plan requirements, HIV-AIDS Prevention measures, the procurement, maintenance & operational costs of PMU, all environmental, safety and traffic management requirements, conducting various inspections, survey, Inspection Vehicles etc.*
2. *No extra costs shall be paid for change in lane widths due to improvements taken up under this Contract/ other Contracts, as long as such cumulative changes do not increase the initial bituminous surface area under the Contract by more than 10%. The cost difference assessed by the Bidder, if any, is deemed to be included in the quoted Ordinary Maintenance Lump Sum cost.*

3.2 Schedule 2: Initial Rectification Works

Schedule – 2: Initial Rectification Works (Lump Sum) (1,2/8)

Item No.	Description of Item	Quantity (excluding Notional Roads)	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
2.1	Repairs to bituminous carriage way wherever required to bring the specified service level for the damages pot holes, rut, cracks & depressions, delaminating, stripping, edge breaking, dig out etc. and any additional activity necessary to achieve the service level objective.	……	km	……..	……..	…….. ……...
2.2	Repairs to shoulders /Construction of Earthen shoulders on both sides of the carriageway wherever required to bring the service level (with 3% camber) i. Earthen Shoulder a) High Shoulder b) Low shoulder ii. Hard Shoulder a) Paved Shoulder/ Granular b) Footpath	……	km	……..	……..	…….. ……...

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications.

Schedule – 2: Initial Rectification Works (Lump Sum) (3,4/8)

Item No.	Description of Item	Quantity (excluding Notional Roads)	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
2.3	a) Removal of jungle on both sides of the road to bring the service level by uprooting and burn to ashes (Clause 201)- Clearing & 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, except forestation work done by other Government agencies. b) Plantation in medians and islands not maintained by other agencies. c) Pruning of trees to get 5.5 m height above the pavement.	.....	km	.....	.....	....
2.4	Repairs and cleaning to Cross Drainage Works including Culverts and side drains (outside the area of Municipal Corporation and Nagar Parishad) to specified service levels by taking up required items ensuring to minimum quantity as per Section 5D of Technical Specification/ Appendix D.	.....	km	.....	.....	....

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications.

Schedule – 2: Initial Rectification Works (Lump Sum) (5/8)

Item No.	Description of Item	Quantity (excl. Notional Roads)	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
2.5	Providing Road safety and informatory items complete as per IRC:67/latest code specifications such as; a) Providing and fixing new mandatory, cautionary and informatory Retro Reflectorized signage, ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. b) Maintenance of existing signages ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. c) Fixing new and maintenance of existing KM stones as per MORTH Specifications ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. d) Fixing New & Maintenance of existing Guard stones/ Guide post as per MORTH Specifications ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. e) Fixing New and Maintenance of existing Object Hazard Marker at the opening ends of culverts and bridges or at any other points, delineators. median markers and bollards (spring post) as required, as per MORTH Specifications ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. f) Providing New and Maintenance of existing Rumble strips/ speed breaker or any traffic calming measures on minor/major roads as per MORTH Specifications ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D.	……	**km**	……..	……..	……

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications.

Schedule – 2: Initial Rectification Works (Lump Sum) (6/8)

Item No.	Description of Item	Quantity (excl. Notional Roads)	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
2.6	**Providing new and maintenance of existing Road marking as per IRC: 35/latest code-** a) Hot Applied Thermoplastic compound 2.5mm thick including reflectorising glass beads with (Clause 803-Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface-Providing & laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @250gm/sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35 latest code. The finished surface to be level, uniform & free from streaks & holes). i. Centre line, lane line marking as per IRC: 35 latest code or as per existing road markings. ii. Edge line marking for all lanes/ roads as per IRC:35 latest code or as per existing road markings. Ensuring minimum quantity as per Section 5D of Technical Specification/ Appendix D. b) For Urban roads as mentioned in Appendix and as per the direction of Engineer-in-charge: Providing & fixing of reflective pavement markers (Road studs (Road Markers/Road Stud with micro prismatic Lense Reflector- Providing & fixing of road stud 100x100mm, die-cast moulded from ASA (Acrylic Strene Acrylonitrite) High impact poly styrene or ABS (Acrylonitrile Butadiene Styrene) body resistant to minimum support a load of 13635 Kg and Fitted with micro prismatic Lence Reflector installed in concrete or asphaltic surface by drilling hole 30mm upto a depth of 60mm and bedded in a suitable bituminous grout or epoxy mortar, all as per MORTH Specifications ensuring minimum quantity as per Section 5D of Technical Specification/Appendix D.	.....	**km**	.....	.....	.....

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications.

Schedule – 2: Initial Rectification Works (Lump Sum) (7/8,8/8)

Item No.	Description of Item	Quantity (excl. Notional Roads)	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
2.7	Repair and Painting of road side assets including painting of trees & poles on formation width; a) Repair of dividers, road kerbs, islands, parapets and RCC/Brick drains b) Painting of Trees and Poles Painting of road divider, island, parapets, kerbs etc. ensuring minimum quantity as per Section 5D of Technical Specification/Appendix D.	……	**km**	……..	……..	……
2.8	Any additional activities the Bidder considers necessary to achieve the Service Level Objective.	……	**km**	……..	……..	……
					Schedule-2 Total Price (in figures)	…….

Note:

1. ***As a guide a list of quantities of Initial Rectification Work activities have been provided in Section 5D of the Technical Specification/ Appendix D to assist the Contractor with the completion of this schedule. The information supplied is indicative and minimum quantities to be executed. It should not be interpreted as the contractual requirement for these activities. The Contractor will assess the current road conditions and determine himself what works are needed to meet the desired service level criteria and performance standards.***
2. ***The bidder shall quote its lump sum amount duly assessing the current condition and deterioration module of the roads.***

3.3 Schedule 3: Periodic Maintenance including re-application of Road Marking Works

Schedule – 3: Periodic Maintenance Works (Lump Sum) (1/2)

Sub-Schedule 3(a) : Periodic Maintenance Works (Lump Sum)

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(a)1.1	**Providing Periodic Maintenance to Single and Intermediate Lanes** including profile correction with the following items of works to obtain the required service level. (a) **Tack Coat (Clause-503) -** Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. (b) **BC 30mm (Clause 507) Grading II -** Providing and laying bituminous concrete with higher capacity batch type hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder @5.4 percent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause no. 507 complete in all respects. (c) **Maintenance of Shoulders** as per MORTH Specification 305. (d) **Thermoplastic Edge Line Marking**. (e) **Painting of Parapets, Kerbs, Islands, Dividers**.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(a)1.1.1	**Single lane (Carriage way width ≤ 3.75m) (30 mm thick BC).** Rate shall be quoted assuming per kilometre carpet area as 3750m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)1.1.2	**Intermediate lane (30 mm thick BC) (Carriage way width > 3.75 and < 7.0 m).** Rate shall be quoted assuming per kilometre carpet area as 5500 m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)1.2	**Providing 40mm thick BC for Periodical Maintenance to Double and Multi lanes** including profile correction (Carriage width ≥ 7.0m) with the following items of work to obtain the required service level. a) **Tack Coat (Clause-503) -** Providing and applying Tack Coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/ granular surface cleaned with mechanical broom. b) **BC (Clause-507) Grading II-** Providing and laying bituminous concrete with higher capacity batch type hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder @5.4 percent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause no. 507 complete in all respects.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
	c) **Providing shoulder width 2.5m using with 3% camber** to the required the service level for low shoulders as per MORTH Specification Clause 305. d) **Providing centre line and lane line marking** (Hot Applied Thermoplastic compound 2.5 mm thick including reflect rising glass beads) as per IRC:35/latest code. e) **Providing Continuous edge line marking** (Hot Applied Thermoplastic compound 2.5mm thick including reflect rising glass beads) as per IRC:35/latest code. f) **For Urban Roads as mentioned in Appendix and as per the direction of Engineer-in-Charge** - Providing & fixing of reflective pavement markers Road Markers/Road Studs with micro prismatic Lense Reflector- Providing and fixing of road stud 100 x 100 mm, die-cast moulded from ASA (Acrylic Strene Acrylonitrite) High impact poly styrene or ABS (Acrylonitrile Butadiene Styrene). g) **Providing repairs & painting** to median & kerbs, islands, dividers. h) **Maintenance of shoulders** as per MORTH Specifications- 305.					
3(a)1.2.1	**Double Lane** - Rate shall be quoted assuming per kilometre carpet area as 7000m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)1.2.2	**Double Lane with Paved Shoulders** of width _____.	……	**km**	……..	……..	……

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(a)2.1	**Providing Periodic Maintenance to Single and Intermediate Lanes** including Scarifying of existing surface (wherever specified by Engineer-in-Charge) with all auxiliary items, profile correction with the following items of works to obtain the required service level. (a) **Tack Coat (Clause-503) -** Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom. (b) **BC 30mm (Clause 519)** – Recycling pavement by cold milling of existing bituminous layers, planning the surface after cold milling, reclaiming excavated material to the extent of 30 percent of the required quantity, hauling and stock piling the reclaimed material near the central recycling plant after carrying out necessary checks and evaluation, adding fresh material including rejuvenators as required, mixing in a hot mix plant, transporting and laying at site and compacting to the required the grade, level and the thickness, all as specified in clause 519. (c) **Maintenance of Shoulders** as per MORTH Specification 305. (d) **Thermoplastic Edge Line Marking**. (e) **Painting of Parapets, Kerbs, Islands, Dividers**.					
3(a)2.1.1	**Single lane (Carriage way width ≤ 3.75m) (30 mm thick BC).** Rate shall be quoted assuming per kilometre carpet area as 3750m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(a)2.1.2	**Intermediate lane (30 mm thick BC) (Carriage way width > 3.75 and < 7.0 m).** Rate shall be quoted assuming per kilometre carpet area as 5500 m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)2.2	**Providing 40mm thick BC for Periodical Maintenance to Double and Multi lanes** including Scarifying of existing surface (wherever specified by Engineer-in-Charge) with all auxiliary items, profile correction (Carriage width ≥ 7.0m) with the following items of work to obtain the required service level. a) **Tack Coat (Clause-503) -** Providing and applying Tack Coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/ granular surface cleaned with mechanical broom. b) **BC (Clause-519) -** Recycling pavement by cold milling of existing bituminous layers, planning the surface after cold milling, reclaiming excavated material to the extent of 30 percent of the required quantity, hauling and stock piling the reclaimed material near the central recycling plant after carrying out necessary checks and evaluation, adding fresh material including rejuvenators as required, mixing in a hot mix plant, transporting and laying at site and compacting to the required the grade, level and the thickness, all as specified in clause 519. c) **Providing shoulder width 2.5m using with 3% camber** to the required the service level for low shoulders as per MORTH Specification Clause 305.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
	d) **Providing centre line and lane line marking** (Hot Applied Thermoplastic compound 2.5 mm thick including reflect rising glass beads) as per IRC:35/latest code. e) **Providing Continuous edge line marking** (Hot Applied Thermoplastic compound 2.5mm thick including reflect rising glass beads) as per IRC:35/latest code. f) **For Urban Roads as mentioned in Appendix and as per the direction of Engineer-in-Charge** - Providing & fixing of reflective pavement markers Road Markers/Road Studs with micro prismatic Lense Reflector- Providing and fixing of road stud 100 x 100 mm, die-cast moulded from ASA (Acrylic Strene Acrylonitrite) High impact poly styrene or ABS (Acrylonitrile Butadiene Styrene). g) **Providing repairs & painting** to median & kerbs, islands, dividers. h) **Maintenance of shoulders** as per MORTH Specifications- 305.					
3(a)2.2.1	**Double Lane** - Rate shall be quoted assuming per kilometre carpet area as 7000m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)2.2.2	**Double Lane with Paved Shoulders** of width _____.	……	**km**	……..	……..	……
3(a)3.1	**Providing Periodic Maintenance to Single and Intermediate Lanes** including profile correction with the following items of works to obtain the required service level. (a) **Tack Coat (Clause-503) -** Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
	(b) **BC 30mm (Clause 518) –** Providing laying and rolling of bituminous cold mix on prepared base consisting of a mixture of unheated mineral aggregate and emulsified or cutback bitumen, including mixing in a plant of suitable type and capacity, transporting, laying compacting and finishing to specified grades and levels. (c) **Maintenance of Shoulders** as per MORTH Specification 305. (d) **Thermoplastic Edge Line Marking**. (e) **Painting of Parapets, Kerbs, Islands, Dividers**.					
3(a)3.1.1	**Single lane (Carriage way width ≤ 3.75m) (30 mm thick BC).** Rate shall be quoted assuming per kilometre carpet area as 3750m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)3.1.2	**Intermediate lane (30 mm thick BC) (Carriage way width > 3.75 and < 7.0 m).** Rate shall be quoted assuming per kilometre carpet area as 5500 m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)3.2	**Providing 40mm thick BC for Periodical Maintenance to Double and Multi lanes** including profile correction (Carriage width ≥ 7.0m) with the following items of work to obtain the required service level. a) **Tack Coat (Clause-503) -** Providing and applying Tack Coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/ granular surface cleaned with mechanical broom.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
	b) **BC (Clause-518) –** Providing laying and rolling of bituminous cold mix on prepared base consisting of a mixture of unheated mineral aggregate and emulsified or cutback bitumen, including mixing in a plant of suitable type and capacity, transporting, laying compacting and finishing to specified grades and levels. c) **Providing shoulder width 2.5m using with 3% camber** to the required the service level for low shoulders as per MORTH Specification Clause 305. d) **Providing centre line and lane line marking** (Hot Applied Thermoplastic compound 2.5 mm thick including reflect rising glass beads) as per IRC:35/latest code. e) **Providing Continuous edge line marking** (Hot Applied Thermoplastic compound 2.5mm thick including reflect rising glass beads) as per IRC:35/latest code. f) **For Urban Roads as mentioned in Appendix and as per the direction of Engineer-in-Charge** - Providing & fixing of reflective pavement markers Road Markers/Road Studs with micro prismatic Lense Reflector- Providing and fixing of road stud 100 x 100 mm, die-cast moulded from ASA (Acrylic Strene Acrylonitrite) High impact poly styrene or ABS (Acrylonitrile Butadiene Styrene). g) **Providing repairs & painting** to median & kerbs, islands, dividers. h) **Maintenance of shoulders** as per MORTH Specifications- 305.					

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(a)3.2.1	**Double Lane** - Rate shall be quoted assuming per kilometre carpet area as 7000m^2. Payment shall be proportionately increased or decreased as per the actual area of the kilometre).	……	**km**	……..	……..	……
3(a)3.2.2	**Double Lane with Paved Shoulders** of width _____.	……	**km**	……..	……..	……
Schedule-3(a) Total Price (in figures)						…….

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications

Schedule – 3: Periodic Maintenance Works (Lump Sum) (2/2)

Sub-Schedule 3(b) : Re-Application of Road Marking at the min interval of 2 years (Lump Sum)

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
3(b).1	Providing Re-Application of Thermoplastic Edge Line Marking at interval of minimum 2 years of previous application (including the road marking carried out under the Periodic Maintenance Works) in Single & Intermediate Lanes including auxiliary items as per the MORTH/ IRC latest Specifications & as per direction of Engineer-in-charge.	.....	**km**	.....	.....	.....
3(b).2	Providing Re-Application of Thermoplastic Road Marking at the interval of minimum 2 years in Double Lane and Multi Lanes including auxiliary items as per the MORTH/IRC latest Specifications & as per the direction of Engineer-in-charge with the following items of works to obtain the required service level a) Providing centre line and lane line marking (Hot Applied Thermoplastic compound 2.5 mm thick including reflect rising glass beads) as per IRC:35/latest code. b) Providing Continuous edge line marking (Hot Applied Thermoplastic compound 2.5mm thick including reflect rising glass beads) as per IRC:35/latest code. c) For Urban Roads as mentioned in Appendix and as per the direction of Engineer-in-Charge - Providing & fixing of reflective pavement markers Road Markers/Road Studs with micro prismatic Lense Reflector- Providing & fixing of road stud 100 x 100 mm, die-cast moulded from ASA (Acrylic Strene Acrylonitrite) High impact poly styrene or ABS (Acrylonitrile Butadiene Styrene).	.....	**km**	.....	.....	.....
					Schedule-3(b) Total Price (in figures)	.....

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications

3.4 Schedule 4: Minor Improvement including Strengthening Works

Schedule – 4: Minor Improvement Works

Item No.	Description of Item	Quantity	Unit	Rate (in INR)		Amount (in INR)
				In fig.	In words	
4.1	----------	……	……	…….	……..	……
4.2	----------	……	……	…….	……..	……
……	----------	……	……	…….	……..	……
-------	----------	……	……	…….	……..	……
Schedule-4 Total Price (in figures)						……

Note: Works and Materials shall be in accordance with the MORTH Specifications and as indicated in Technical Specifications

D Technical Proposal

1 Personnel Form PER-1: Proposed Personnel

Bidder should provide the details of the proposed personnel and their experience record in the relevant Information Forms below for each candidate:

Position	Nos.	Name	Qualifications	Years of Experience (Construction & Maintenance)
Road Manager	1	……	……..	……
Maintenance Engineer	1	……	……..	……
Works Supervisor	1	……	……..	……
Data Entry Operator	1	……	……..	……

The Format of CV's (or resumes) for each of the proposed key personnel are presented in the Forms PER-2 below.

"The Contractor shall designate either the Road Manager or the Maintenance Engineer as the Environmental (EO) who is familiar with Environmental aspects of Road Projects and will be responsible for the Environmental Management"

2 Personnel Form PER–2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Use one form for each position.

Position		
Personnel Information	**Name**	**Date of Birth**
	Professional Qualifications	
Present Employment	**Name of Employer**	
	Address of Employer	
	Telephone	**Contact (Manager / Personnel Officer)**
	Fax	**E-Mail**
	Job Title	**Years with present employer**

Summarise the professional experience over the last 20 years, in reverse chronological order and Indicate particulars Technical and Managerial Experience in Road Construction & Maintenance.

From	To	Company/ Project/ Position / Technical & Management Experience in Road Construction and Maintenance
……..	……..	……
……..	……..	……
……..	……..	……
……..	……..	……
……..	……..	……
……..	……..	……
……..	……..	……

Undertaking/Consent Letter with Signature of the Personnel

3 Equipment Form EQU: Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment requirements indicated in Section 5 (Technical Specifications), using the Forms below. A separate Form shall be prepared for each item of equipment listed (with a current new purchase price exceeding ₹2 lakh), or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	**Name of manufacturer**	**Model and power rating**
	Capacity	**Year of manufacture / Condition**
Current status	**Current location**	
	Details of current commitments	
Source	**Indicate source of the equipment** **☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured**	

Omit the following information for equipment owned by the Bidder.

Owner	**Name of owner**	
	Address of Owner	
	Telephone	**Contact name and title**
	Fax	**Telex**
Agreements	**Details of rental / lease / manufacture agreements specific to the project**	

Bidder should list all the information requested for items of Contractor's Equipment essential for carrying out the Works and Services.

4 Site Organization

Bidders shall give below full particulars of the organisation they propose to establish, direct, and administer the performance of the Contract. In particular, bidders shall indicate the location of site camps and the resources they intend to allocate to Self-Control Units for planning and monitoring purposes.

4.1 Site Organization Chart

To be furnished by the Bidder.

4.2 Narrative Description of Site Organization Chart

To be furnished by the Bidder.

Note: *"The Bidder shall designate either the Road Manager or the Maintenance Engineer as the Environmental Officer (EO) who is familiar with Environmental aspects of Road Projects and will be responsible for the Environmental Management".*

5 Sub-Contractors:

5.1 Bidders shall list below those parts of the works & services which they propose to sub-contract and state the approximate value of those parts and the names and addresses of the proposed sub-contractors.

5.2 Bidders shall also list other business partners involved in the execution of the Contract and their respective roles and responsibilities.

5.3 Sub-contracting is allowed only upto 10% of the Contract Value who are having the domicile of Bihar

5.4 Ordinary Maintenance Works and Services including PMU (Patrol Maintenance Unit) shall not be allowed to be sublated.

Part of Works / Services :

Approximate Value :

Name and address of proposed Sub-Contractor :

……

……..

Approximate value of total Sub-Contract Works :

INR.....

6 Initial Tentative Program of Performance

To demonstrate a clear understanding of the requirements of the Contract, Bidders shall provide the following:

(i) a bar chart sub-divided into sections for each road showing the major activities to be carried out for Ordinary Maintenance Works, Initial Rectification Works, Periodic Maintenance Works and Minor Improvement Works (separately for Improvement & Strengthening).

(ii) activities shall be shown against time, with linkages shown between related/ sequential activities as far as possible and appropriate;

(iii) a bar chart or schedule showing the usage of major plant, including those listed in Contractor's Equipment. Duly supported with equipment planning and deployment, showing with broad calculations justifying the bidder's capability for the execution and completion of the work as per the technical specifications and within the periods of completion as per the stipulated milestones.

Note:
On award of Contract to successful Bidder, the Bidder, before the commencement of works, shall be required to submit the detailed Maintenance Plan as per the requirements of the Contract. On getting approval of the Maintenance Plan by the Employer, the Commencement of Works shall be permitted. In case of any conflict in provisions/durations etc., in the Maintenance Plan, the decision of Employer shall be final and binding upon the Contractor. The Employer shall have the right to modify/ omit/ delete any provisions made under the Maintenance Plan.

7 Project Specific Information

The Bidder shall provide the statements in respect to the following information:

a Proposed methodology for undertaking Ordinary Maintenance (OM), Initial Rectification (IR), Periodic Maintenance including re-application of Road Marking (PM) and Minor Improvement including Strengthening (MI), and identification of road sections that major activities shall be applied.

b Details of safety, traffic, environmental management aspects to be adopted by the Bidder. "As per the Checklist provided in Form OM-14 of Technical Specifications. The Bidder may modify the checklist subsequently during mobilization period (road inventory) if awarded."

c Bidder's experience in managing testing of work.

d Statement indicating whether:

i the Bidder accepts the Sample Quality Plan and if so, that the Bidder will provide an updated Quality Plan within the time frame stated in Clause 14.1 of Section 5A: Technical Specifications: Management Requirement, if awarded the Contract; or

ii the Bidder does not accept the Sample Quality Plan, in which case the Bidder will be required to provide its own Quality Plan in accordance with and within the time frame stated in 14.1 of Section 5A: Technical Specifications: Management Requirement, and which as a minimum, includes the same level of detail as the Sample Quality Plan and explains the purpose, application, responsibilities and requirements to undertake works in accordance with the intent of the Contract, the general provisions for the occupational health and safety of employees and the public, environmental management requirements and the Statutory Laws of India Statement in respect to the Quality Plan.

e All Bidders shall provide with their Bid a preliminary description of the proposed work method and program and resource schedules, including drawings and charts, as necessary.

E Bidder's Qualification

To establish its qualifications to perform the Contract in accordance with the Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder:

1. **Form ELI-1: Bidder's Information Sheet:** Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the bid to commit the Bidder;

2. **Form ELI-2: Joint Venture Information Sheet:** Copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Joint Venture;

3. **Form ELI-2.1: Undertaking by the Joint Venture Partners:** On Non-Judicial Stamp Paper of Appropriate Value, if required;

4. **Form CON-1: Historical Contract Non-Performance:** Information regarding any litigation, arbitration or blacklisting, resulting from contracts executed by the Bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute;

5. **Form LIT-1: Pending Litigation:** Information regarding litigation;

6. **Form FIN-1: Historical Financial Performance:** Reports on financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;

7. **Form FIN-2: Annual Construction & Maintenance Turnover**;

8. **Form FIN-3 and FIN-3(a): Availability of Financial Resources:** Evidence of adequacy of working capital for this contract, access to line(s) of credit and availability of other financial resources; and authority to seek references from the Bidder's bankers;

9. **Form FIN-4: Financial Requirements for the Current Contract Commitments;** Details of works under way or contractually committed and clients who may be contacted for further information on those contracts;

10. **Form EXP-1: General Experience in Construction and Maintenance Works** for each of the last five years;

11. **Form EXP-2(a): Similar Construction & Maintenance Experience:** Experience in Works of a Similar Nature and size for each of the last five years;

12. **Form EXP-2(b): Construction and Maintenance Experience in Key Activities:** Experience in works in Key Activities for each of the last five years.

1 FORM ELI-1: Bidder's Information Sheet

FORM ELI-1

The Bidder should provide the following information for:

Bidder's legal name	
In case of Joint Venture (JV), legal name of each partner:	
Bidders' year of constitution:	
Bidders legal address	
Bidders authorized representative (Name, Address, Telephone, Fax, Mobile, e-mail address)	

Attached are copies of the following documents:

☐ Articles of Incorporation or Documents of Constitution, and documents of registration of the legal entity named above.

☐ In case of JV, letter of Intent to form JV or JV agreement.

☐ Proof of registration as a contractor with Government of Bihar if any.

☐ Power of Attorney of Signatory of Bid.

☐ GST Registration

☐ PAN

2 FORM ELI-2: Joint Venture Information Sheet

FORM ELI-2

Each Partner to a JV should provide the following information for:

JV Applicant Legal Name: [insert full legal name]	
JV Applicant's Party Legal Name: [insert full legal name of Applicant's Party]	
JV applicant's Party Registration:	
JV Applicant Party's year of Constitution: [indicate year of constitution]	
JV Applicant Party's Legal Address of Constitution: [insert street/ number/ town or city/ country]	
JV Applicant Party's Authorized Representative Information: **Name:** [insert full legal name] **Address:** [insert street/ number/ town or city/ country] **Telephone/Fax numbers: [insert telephone/fax numbers, including country and city codes]** **Mobile No.:** **e-mail address: [indicate e-mail address]**	
Attached are copies of the following documents: ☐ Articles of Incorporation or Documents of Constitution and Registration Documents of the legal entity named above. ☐ Proof of registration as a Contractor with Government of Bihar if any.	

3 FORM ELI-2.1: Form of Undertaking by the Joint Venture Partners

FORM ELI-2.1

(On Non-Judicial Stamp Paper of Appropriative Value, if required)

THIS JOINT DEED OF UNDERTAKING executed on this ……. day of …….. Two Thousand and ……..... by ……. a company incorporated under the laws of …… and having its Registered Office at ..... (hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s…… a company incorporated under the laws of ……and having its Registered Office at …… (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s ……..... a Company incorporated under the laws of …… and having its Registered Office at ……. (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a Contract (hereinafter called the "Contract" {in case of award)] for the works of "Long term Output and performance based Road Assets Maintenance Contract for the maintenance of Roads under Road Division ....." taken up under Road Construction Department by Executive Engineer, Road Division ..... (hereinafter called the "Employer").

WHEREAS the Party No.1, Party No.2 and Party No.3 have entered into an Agreement dated.....

AND WHEREAS the Employer invited bids for the above-mentioned work as per the scope of work and specifications stipulated in the bidding documents.

AND WHEREAS Bid Data Sheet Clause 10.1 (g) of Section-2 stipulates that an Undertaking signed by all the partners of the Joint Venture shall be submitted along with the Bid so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract and all obligations hereunder.

AND WHEREAS the bid is being submitted to the Employer vide proposal No…….. dated ….. based on this Undertaking which has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this Deed of Undertaking do hereby declare and undertake:

1. In requirement of the award of the Contract by the Employer to the Joint Venture Partners, we, the Parties do hereby undertake that M/s…… the Party No.1, shall act as Lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the execution of the work in accordance with the Contract:
2. In case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) do hereby undertake to be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.

3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the work in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents undertake to promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(s), the Employer can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Employer.

4. The financial liability of the Parties of this Deed of Undertaking to the Employer, with respect to any of the claims arising out of the performance or non-performance of the obligations set forth in this Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of this Deed of Undertaking.

5. It is expressly understood and agreed between the Parties to this Undertaking that the responsibilities and obligations of each of the Parties are given in the bid. It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract.

6. It is also understood that this Undertaking is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract and that this Undertaking shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Undertaking or on the Joint Venture, other than the express provisions of the Contract.

7. This Undertaking shall be construed and interpreted in accordance with the provisions of the Contract.

8. In case of an award of a Contract, we the parties to this Deed of Undertaking do hereby agree that we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favour of the Employer.

9. It is further agreed that this Deed of Undertaking shall be irrevocable and shall form an integral part of the bid and shall continue to be enforceable till the Employer discharges the same or upon the completion of the Contract in accordance with its provisions, whichever is earlier. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Parties to this Deed of Undertaking have through their authorised representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of ……

has been affixed in my/ our

presence pursuant to Board of

Director's Resolution dated …….

Name ……..

Designation …….

For Lead Partner (Party No.-1)
For and on behalf of

M/s ……

(Signature of the authorized representative)

Signature …….

WITNESS:

I. ……

II. ……

Common Seal of …….

has been affixed in my/ our

presence pursuant to Board of

Director's Resolution dated …….

For Party No.-2
For and on behalf of

M/s……..

Name …….……..

Designation …….

(Signature of the authorized representative)

Signature …….

WITNESS:

I. ……

II. ……

Common Seal of …….

has been affixed in my/ our

presence pursuant to Board of

Director's Resolution dated …….

For Party No.-3
For and on behalf of

M/s. ……..

Name ……..

Designation …….

(Signature of the authorized representative)

Signature …….

WITNESS:

I. ……

II. ……

4 FORM CON-1: Historical Contract Non-Performance

FORM CON-1

Each Bidder must fill out this form if so, required under Section 3 (Evaluation and Qualification Criteria) to describe any Non-Performing Contracts. In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____

Non-Performing Contracts in accordance with Section 3, Qualification Criteria and Requirements			
☐ **Contract non-performance did not occur during the last five (5) years including current year specified in Section 3, Qualification Criteria and Requirements, sub-factor 2.2.2.** ☐ **Contract(s) non-performed occurred during the last five (5) years including current year specified in Section 3, Qualification Criteria and Requirements, sub-factor 2.2.2**			
Year	**Non-Performed portion of the Contract**	**Contract Identification**	**Total Contract Amount (In INR Lakh)**
……..	……	**Contract Identification:** **Name of Employer:** **Address of Employer:** **Reason(s) for non-performance:**	……
……..	……	**Contract Identification:** **Name of Employer:** **Address of Employer:** **Reason(s) for non-performance:**	……

5 FORM LIT-1: Pending Litigation

FORM LIT-1

Each Bidder must fill out this form if so, required under Section 3 (Evaluation and Qualification Criteria) to describe any pending litigation. In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____

Pending Litigations in accordance with Section 3, Qualification Criteria and Requirements			
☐ **No Pending Litigation in accordance with Section 3, Qualification Criteria and Requirements, sub-factor 2.2.1.**			
☐ **Pending Litigations in accordance with Section 3, Qualification Criteria and Requirements, sub-factor 2.2.1 as indicated below:**			
Year	**Outcome as Percentage of Total Assets**	**Contract Identification**	**Total Contract Amount (In INR Lakh)**
……..	……	**Contract Identification:** **Name of Employer:** **Address of Employer:** **Matter in Dispute:** **Remarks showing present status:**	……
……..	……	**Contract Identification:** **Name of Employer:** **Address of Employer:** **Matter in Dispute:** **Remarks showing present status:**	……

6 FORM FIN-1: Historical Financial Performance

FORM FIN-1

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____

Financial information in Rupees Lakh	Historic information for previous 5 (five) Years				
	Year 1 2021-22	Year 2 2022-23	Year 3 2023-24	Year 4 2024-25	Year 5 2025-26
Information from Balance Sheet					
Total Assets (TA)					
Total Liabilities (TL)					
Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					

Financial documents: The Bidder and its parties shall provide copies of the balance sheets and/or financial statements for last five (5) years pursuant Section 3, Qualifications Criteria and Requirements, sub-factor 2.3.1.

The financial statements shall:

a reflect the financial situation of the Applicant or partner to a JV, and not sister or parent companies.

b be audited by a Certified Chartered Accountant.

c be complete, including all notes to the financial statements.

d correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the last five (5) years required above; and complying with the requirements.

Note: Year 1 will be the latest completed financial year, preceding the bidding. Year 2 shall be immediately preceding year 1 and so on. In case the Bid Submission date falls within 3 (three) months of the close of the latest financial year, the bidder shall ignore such financial year for the purpose of its bid and furnish all its information and certification with reference to the 5 (five) years preceding its latest financial year i.e. 2025-26. For the avoidance of doubt, financial year shall, for the purpose of the Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.

7 FORM FIN-2: Annual Construction & Maintenance Turnover

FORM FIN-2

Each Bidder must fill out this form.

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed. In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____

Annual Turnover Data (executed works payment received over the last five years)		
Year	**Amount and Currency**	**Rupees in Lakh**
2021-22		
2022-23		
2023-24		
2024-25		
2025-26		
Annual Construction and Maintenance Turnover[2]		

Note: Year 1 will be the latest completed financial year, preceding the bidding. Year 2 shall be immediately preceding year 1 and so on. In case the Bid Submission date falls within 3 (three) months of the close of the latest financial year, the bidder shall ignore such financial year for the purpose of its bid and furnish all its information and certification with reference to the 5 (five) years preceding its latest financial year i.e. 2025-26. For the avoidance of doubt, financial year shall, for the purpose of the Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.

[2] Annual Construction & Maintenance turnover calculated as total certified payments received for works in progress or completed.

8 FORM FIN-3: Availability of Financial Resources

FORM FIN-3

Each Bidder must demonstrate & specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as indicated in Section 3, Evaluation and Qualification Criteria.

S. No.	Source of Financing	Amount In INR Lakh
1.		
2.		
3.		
4.		

Note:

1. *The Bidder is required to provide evidence of the above by attaching supporting documentations. A sample Format for evidence of access to or availability of credit facilities is given in FORM FIN-3(a).*

2. *The Bidder is required to provide authority for the Employer to seek references from the Bidders Banker. Name, address, e-mail, telephone, mobile, telex and facsimile numbers of banks that may provide references are to be provided.*

9 FORM FIN-3(a): Sample Format for Access to or availability of Credit Facilities

FORM FIN-3(a)

BANK CERTIFICATE

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

If the Contract for the works, namely ……. is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of INR ……..…. to meet their working capital requirements for executing the above contract.

(*signature*)

Name of Bank

Senior Bank Manager

Address of the Bank

10 FORM FIN-4: Financial Requirements for Current Contract Commitments

FORM FIN-4

Bidders (or each Joint Venture partner) should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Current Contract Commitments						
S. No.	**Name of Contract and Year**	**Employer's Contact, (Address, Tel., Fax)**	**Contract Completion Date**	**Outstanding Contract Value (X)[a]**	**Remaining Contract Period in Months (Y)[b]**	**Monthly Financial Resources Requirements (X/Y)**
1						
2						
3						
4						
Total Monthly Financial Requirements for Current Contract Commitments						**…….**

a *Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline.*

b *Remaining contract period to be calculated from 28 days prior to bid submission deadline.*

c *The Current Contract Commitments must be duly certified by Engineer-in-charge.*

11 FORM EXP-1: General Construction & Maintenance Experience

FORM EXP-1

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____

Identify Contracts that demonstrate continuous Construction and Maintenance Works over the past five (5) years pursuant to Section 3, Qualification Criteria and Requirements, sub-factor 2.4.1. List the Contracts chronologically, according to their commencement (starting) dates.

Starting Month /Year	Ending Month /Year	Contract Identification	Role of Bidder
		Contract Name: **Brief Description of the Works Performed by the Bidder:** **Contract Amount:** **Name of Employer:** **Address:**	

12 FORM EXP-2(a): Similar Construction and Maintenance Experience

FORM EXP-2(a)

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____.

The following table shall be filled-in for the Contracts performed in the same name as the Bidder, each Partner of a Joint Venture and specialist Sub-Contractors on Construction and Maintenance Works over the last 5 years:

Similar Contract No.	**Information**	
Contract Identifications		
Award Date		
Completion Date		
Role in Contract [check the appropriate box]	Contractor ☐	Sub-contractor ☐
Total Contract Amount		
If partner in a JV or Sub-Contractor, specify participation in Total Contract Amount		
Employer's Name:		
Address: Telephone/Fax Number Mobile No: e-mail:		

Description of the similarity in accordance with Sub-Factor 2.4.2(a) of Section 3		
1.	Contract Amount	
2.	Physical Size i.e. length of the road, carriage width	
3.	Widening & Strengthening/ IRQP/ SR/ PR/ Maintenance: GSB/WMM/WBM BM/DBM/BC/SDBC/ Mastic Asphalt	
4.	Other Characteristics (if any)	

Note: ***Attach Client Certificates in support of the above issued by not below the rank of Executive Engineer or Equivalent (Mandatory Condition).***

13 FORM EXP-2(b): Construction & Maintenance Experience in Key Activities

FORM EXP-2(b)

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Bidder's/ Joint Venture Partner: _____.

Similar Contract No.	Information	
Contract Identifications		
Award Date		
Completion Date		
Role in Contract [check the appropriate box]	Contractor ☐	Subcontractor ☐
Total Contract Amount		
If partner in a JV or Sub-Contractor, specify participation in Total Contract Amount		
Employer's Name:		
Address: Telephone/Fax Number Mobile No: e-mail:		

Description of the key activities in accordance with Sub-Factor 2.4.2(b) of Section 3		Quantity of Work Performed
1.	Concrete Works in Road Work	
2.	Non-Bituminous Sub-Base and Base GSB/WBM/WMM (as per MORTH Specifications)	
3.	Bituminous Works BM/DBM/BC/SDBC/ Mastic Asphalt (as per MORTH Specifications)	
4.	Bituminous Cold Mix Works	

Note: ***Attach Client Certificates in support of the above quantities issued by not below the rank of Executive Engineer or Equivalent (Mandatory Condition).***

Section 5. Technical Specifications

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Technical Specifications

A Section 5A: Management Requirements

1 Long Term Output & Performance-Based Assets Maintenance Contract

1.1 Long term output and performance-based contracting for roads assets is designed to increase the efficiency and effectiveness of road asset management and maintenance. It should ensure that the physical condition of the roads under contract is adequate for the need of road users, over the entire period of the contract. This type of contract significantly expands the role of the private sector, from the simple execution of works to the management and conservation of road assets.

1.2 In traditional road construction and maintenance contracts, the Contractor is responsible for the execution of works which are normally defined by the Employer, and the Contractor is paid on the basis of unit prices for different work items, i.e. a contract based on “inputs” to the works. The results of traditional road contracts are in many cases less than optimal. The problem is that the Contractor has the wrong incentive, which is to carry out the maximum amount of works, in order to maximize its turnover and profits. Even if the work is carried out according to plan and much money is spent, the overall service quality for the road user depends on the quality of the design given to the Contractor who is not accountable for it.

1.3 OPRMC addresses the issue of inadequate incentives. During the bidding process, Contractors compete among each other by essentially proposing fixed lump-sum prices for bringing the road to a certain service level and then maintaining it at that level for a relatively long period. It is important to understand that Contractors are not paid directly for “inputs” or physical works (which they will undoubtedly have to carry out), but for achieving specified Service Levels, i.e., the Initial Rectification and Periodic Maintenance (including re-application of Road Marking) of the road to predefined standards (if so required by the bidding documents), the Ordinary Maintenance Service of ensuring certain Service Levels on the roads under contract, and specific improvements/ strengthening (if so required by the bidding documents), all representing outputs or outcomes. A monthly lump-sum remuneration paid to the Contractor will cover all physical and non-physical maintenance services provided by the Contractor, except for unforeseen emergency works which are remunerated separately. The Periodic Maintenance Works including re-application of Road Marking which have been explicitly specified by the Employer in the contract are quoted on the basis of measurable output quantities and paid as performed. In order to be entitled to the monthly payment for Ordinary Maintenance Services, the Contractor must ensure that the roads under contract comply with the Service Levels which have been specified in the bidding document. It is possible that during some months he will have to carry out a rather large amount of physical works in order to comply with the required Service Levels and very little work during other months. However, his monthly payment remains the same as long as the required Service Levels are complied with. The Initial Rectification works are also paid on the basis of measurable output quantities and paid as performed. The Minor Improvements (including Strengthening)

Works are paid on BOQ basis. Whenever Emergency/ Contingency works are executed through specific work orders, the same are paid based on measured inputs.

1.4 A fundamental feature of the OPRMC is that the "Contractor" must not necessarily and in all cases be a traditional works Contractor, but can (if allowed in the Bidding Documents) be any type of firm or business venture having the necessary Technical, Managerial and Financial Capacity to fulfil the Contract. In any case, the Contractor is responsible for designing and carrying out the works, services and actions he believes are necessary in order to achieve and maintain the Service Levels stated in the Contract. The Service Levels are defined from a road user's perspective and may include factors such as average travel speeds, riding comfort, safety features etc. If the Service Level is not achieved in any given response time, the payment for that month shall be reduced in multiple of failed response time.

1.5 Under the OPRMC, the Contractor has a strong financial incentive to be both efficient and effective whenever he undertakes work. In order to maximize profits, he must reduce his activities to the smallest possible volume of intelligently designed interventions, which nevertheless ensure that predefined indicators of Service Level are achieved and maintained over time. This type of contract makes it necessary for the Contactor to have a good management capacity. Here, "management" means the capability to define, optimize and carry out on a timely basis the physical interventions which are needed in the short, medium and long term, in order to guarantee that the roads remain above the agreed Service Levels. In other words, within the contract limitations and those required to comply with local legislation, technical and performance specifications and environmental regulations, the Contractor is entitled to independently define:

a) what to do,

b) where to do it,

c) how to do it, and

d) when to do it.

The role of the Road Administration and of the Employer is to enforce the Contract by verifying compliance with the agreed Service Levels and with all applicable legislation and regulations.

1.6 Maintaining a road network includes both ordinary and periodic (maintenance) tasks. Ordinary maintenance consists of many different tasks frequently necessary to maintain the function of the road (such as pothole repairs, cleaning of drainage, sealing of cracks, cutting of vegetation, etc.). Periodic maintenance consists of predictable and more costly measures of a less frequent nature designed to avoid road degradation (such as resurfacing, bituminous concrete overlays, etc.). Intelligent management, the timeliness of interventions and the adequacy of technical solutions are critical. It is expected that the use of private specialized firms under output and performance-based contracts will unleash significant efficiency gains, and stimulate innovation in comparison with traditional road administration practices.

1.7 Minimum Road Conditions and Service Levels are defined through output and performance measures, and these are used under the OPRMC to define and measure the desired performance of the Contractor. In the OPRMC the defined performance measures are thus the accepted minimum intervention levels for the quality levels of the roads for which the Contractor is responsible.

1.8 The performance criteria should ideally cover all aspects of the Contract and take account of the fact that different sub-areas within the Contract area might require different Service Levels. Criteria can be defined at three levels (although simpler contracts will not use all of the criteria identified below):

a Road User Service and Comfort measures are expressed in terms of:

- Rutting
- Depressions
- Skid resistance
- Visibility of road signs and markings
- Response times to rectify defects that compromise the safety of road users
- Attendance at road accidents
- Drainage off the pavement (standing water is dangerous for road users)
- Vegetation control
- Slope Stabilisation
- The extent of repairs permissible before a more extensive periodic maintenance treatment is required
- Degree of sedimentation in drainage facilities

b Road Usability measures, are expressed in terms of:

- Travel delays
- Availability of each lane-km for use by traffic
- Road Roughness

c Management Performance Measures, which define the information the Employer requires both to govern the asset during the term of the contract, and to facilitate the next tender round. Requirements should include:

- Delivery of regular progress reports to the Road Controlling Authority;
- Inventory updates and other data sharing requirements;
- Maintenance history (so subsequent tenderers can price the work);
- Environmental and Requirements.

To avoid ambiguity, all performance measures are clearly defined and objectively measurable.

1.9 Together the performance measures define the minimum acceptable Service Level for the particular road. In setting the measures various criteria (both technical and practical) were carefully considered, such as:

a) traffic volume and composition;
b) urban vs. rural roads;
c) sub-grade quality and type;
d) quality of available construction materials;
e) capacity of available Contractor.

However, probably the most important criterion is the question of what Service Level can be afforded and economically justified for the road in question.

1.10 Under the terms of the Contract, the Contractor will also be responsible for the continuous monitoring and control of road conditions and Service Levels for all roads or road sections included in the Contract. This will not only be necessary to fulfil the Contract requirements, but it is an activity which will provide him with the information needed to be able (i) to know the degree of his own compliance with Service Level requirements, and (ii) to define and plan, in a timely fashion, all physical interventions required to ensure that service quality indicators never fall below the indicated thresholds. Under the OPRMC modality, the Contractor will not receive instructions from the Employer concerning the type and volume of road maintenance works to be carried out. Instead, all initiative rests with the Contractor who must do whatever is necessary and efficient to achieve the quality levels required. This concept is expected to lead not only to significant efficiency gains, as mentioned earlier, but also to technological innovation.

1.11 It is expected that in order to comply with the Contract, the Contractor will most likely have to carry out different types of works, including some Initial Rectification activities, Periodic Maintenance works and Minor Improvement including strengthening works. The definition of the exact nature of the works, their timing, their costing and their implementation is left to the judgment of the Contractor. Note that a milestone exists to get the road to the desired standard. This means that his capacity must be above the usual capacity of a traditional civil works contractor. In fact, an essential attribute is the capacity to the manage road Network.

1.12 Some emergency works should always be foreseen. Those are meant to remedy unexpected damage which occurs as a result of extraordinary natural phenomena, due to the reasons beyond control of Contractor in maintenance of roads and which affect the normal use of the road network, or the safety and security of the users. For meeting the Emergency/Contingency works a provisional sum is kept in Administrative Approval for each package. For Emergency/Contingency Works, the Contract limits the responsibility of the Contractor. The Emergency works and Contingency works are remunerated by the Engineer-in-charge from the Provisional Sum for each Work Order established on the basis of executed quantities at the unit prices covered under work schedule 4 for similar items of work item and rate as per current SOR and new rates for other items shall be arrived as per Clause 61 and 63 of General Conditions of the Contract.

1.13 Bidders will present their financial offer for:

a the Ordinary Maintenance Services, in the form of the amount of the monthly lump-sum payment demanded by the bidder according to the conditions of contract (this will be the monthly amount applicable throughout the duration of the contract);

b the Initial Rectification Works, in the form of a lump-sum amount, while indicating the quantities of measurable outputs to be executed in order that the road achieves the performance standards specified in the bidding documents. Payments will be made in accordance with the progress in the execution of those measured outputs;

c the Periodic Maintenance Works (a) Periodic Maintenance Works (b) Re-Application of Road Markings (if so, required in the Bid Data Sheet), in the form of a lump-sum amount, while indicating the quantities of measurable outputs to be executed in order that the road achieves the performance standards specified in the bidding documents. Payments will be made in accordance with the progress in the execution of those measured outputs;

d the Minor Improvement Works including Strengthening Works (if so required & indicated in the bidding documents) in the form of unit prices for outputs of each type of improvement works; payment for Minor Improvements will be made in accordance with quoted unit prices for those outputs.

A Price Adjustment Clause applicable to all prices and activities in order to compensate the increases or decreases in cost indices are included.

1.14 The agreed monthly payment for Ordinary Maintenance works and services will be made to the Contractor if he has complied, during the month for which the payment is to be made, with the agreed Service Levels on the road network under Contract. Together with his monthly invoice, the Contractor will report the result of his own evaluation of compliance with the required Service Levels, based on his own monitoring system which is mandatory. His statement will then be verified by the Employer or his representative through inspections. If the Service Levels are not met, payments are reduced, based on a schedule given in the Contract. Payments may even be suspended, and the Contract cancelled, if the contractor fails to achieve the desired Service Levels. The Contract describes the formulas used to calculate payment reduction and potential Contract cancellation.

2 General

The Contractor shall implement an appropriate maintenance strategy, incorporating regular inspections, programming and work activities to:

a) Maintain Public Safety;

b) Maintain the roadway assets to the required Performance Criteria; and

c) Keep the road open to traffic

3 Definitions

The following definitions shall apply:

a Minor Bridge

Any structure, being a bridge or culvert with a span or headwall length greater than 6 metres and up to 60 metres.

b Culvert

Any pipe, box (RCC) or slab having a diameter, span or headwall length less than 6 m.

c Critical Location

A location where the road alignment and/or pavement width and/or geometry are identified by additional markings or furniture to guide the travelling public (cars, trucks, motorcycles, bicycles, and pedestrians).

d Defect

The visible or measurable evidence of failure/distress or other undesirable condition.

e Emergency Works

Emergency Works is a set of necessary and sufficient activities to reinstate the Road and reconstruct its structure or right of way strip damaged as a result of natural phenomena with imponderable consequences, such as strong storms, flooding and earthquakes and due to the reasons beyond the control of Contractor. The need for execution of Emergency Works is jointly identified by the Employer and the Contractor and for starting of execution of Emergency Works the Employer shall issue a Work Order.

f Hazard

An event, condition or substance which has the potential to cause harm to the health and safety of persons, including the travelling public.

g Initial Rectification Works

Additional works required in the initial stage of the Contract to allow the Contractor to bring the road up to the required Service Level Criteria.

h Intervention Criteria

The condition level at which a defect is recorded and rectified within a given Response Time.

i Memorandum

An instruction from the Employer or his representative confirming approval to do any work outside those activities included in the Lump Sum payment (i.e. Emergency / Contingency works, etc.) or for issuing notice of defects not maintained to the Response Time in the Lump Sum.

j Road Obstructions

Any cardboard, paper, garbage, rubbish, wood, glass, metal, rubber, dirt, waste matter, or anything of a like nature, within the traffic lanes or shoulders, that is likely to cause damage to vehicles or otherwise be a hazard or visual detriment to the public.

k Minor Improvement (including Strengthening) Works

Minor Improvement Works consists of a set of interventions that add new characteristics to the road in response to existing or new traffic, safety or other conditions, as defined in the Specifications.

l Ordinary Maintenance

The regular program of activities including inspections, repairs, works and associated reports designed to address public safety, limit the deterioration of infrastructure and sustain functional and environmental values.

m Periodic Maintenance including Re-Application of Road Marking

Periodic Maintenance Works are specific and clearly defined civil works the Contractor is required to carry out under the conditions of the Contract, as defined in the Specifications. Periodic Maintenance Works quantities were estimated by the Contractor to achieve the performance standards defined by the Service Levels and offered at a Lump-Sum price.

n Response Time

The maximum time to repair a defect, based on consideration of the defect type, risk and severity.

o Road Number

The identification number of the road as provided by the Employer (e.g. State Highway No.1).

p Roadside

Any non-pavement area within the road reserve, including any median area.

q Rural Area

All areas outside of urban areas.

r Safety Sign

A road sign that provides the driver with advice about the safe use of a road.

s Standard Job

Description of work to restore and/or repair a damaged item to a defect free condition. The list of Standard Jobs is detailed in Tables 4.1.1 – 4.7.1.

t Structure

A bridge, culvert or sign gantry or other designated structure. The structure may have been assigned an asset structure number.

u Unit of Work

Base unit of measurement of a standard job (e.g. metre, square metre).

v Urban Area

Those sections of road that are contained within the defined limits of Towns or Villages, or as otherwise specified.

w Pavement

An artificial surface laid over ground to facilitate travel.

4 Scope of Services

4.1 Scope of Services to be provided

Notwithstanding the provisions of Clause 7 of the General Conditions, the services to be provided by the Contractor includes all activities, physical or others, which the Contractor needs to carry out, in order to comply with the Services Levels and other output and performance criteria indicated under the Contract, or with any other requirements of the Contract. In particular, they include management takes and physical works associated with the following road related assets and items:

- Pavements (paved roads)
- Roadside longitudinal drainage systems
- Road shoulders
- Signage and road safety furniture
- Slopes (cuts and embankments)
- Structures and major culverts
- Traffic management
- Data Collection

The Limits of the Contractor's maintenance work zone for each road within the Contract shall encompass the road reserve from property boundary to property boundary, including footways, parking and rest areas. It also includes the first 10m length of side road junctions, both directions of one-way systems separated carriage ways and both intermediate and terminal roundabouts (if any), up to either the end of the splitter island or 50m from the circle centre for each contract road up to either the end of the splitter island or 50m from the circle centre.

The Contractor's Maintenance Work zone shall exclude the Maintenance of Side Main Drains located within Nagar Parishad limits/ Municipal Corporation Area limits, subject to any drains constructed by OPRMC Contractor & falling under the obligation of the Contract.

4.2 Scope of Works to be provided

The objective of the project is to undertake Ordinary Maintenance, Initial Rectification Works, Periodic Maintenance Works, Minor Improvement Works (including Strengthening) and Emergency Works on the roads listed under the Road Division_____ totalling approximately _____ Lane Kilometres.

The Maintenance Works also include the Cross Drainage Works, Minor Works on Culverts (up to 6 m length) and roadside maintenance within the select road limits.

The Ordinary Maintenance works will be carried out under performance-based road maintenance on a lump sum basis paid monthly.

Initial Rectification and Periodic Maintenance will be paid on measured quantity to the value of the Lump Sum.

Minor Improvement Works (including Strengthening Works) will be paid on the basis of actual quantities of work completed.

There is a requirement for specialized maintenance equipment and the contract obligation is for continuous input over a period of 7 years.

The Project involves Maintenance of the following roads under the Road Division, _____.

S. No.	Name of Road	Length (km)	Category (SL/IL/DL/ DLES/DLPS/ML)
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……
….	……	…….	……

SL: Single Lane; IL: Intermediate Lane; DL: Double Lane; DLES: Double Lane with Earthen Shoulders; DLPS: Double Lane with Paved Shoulder; ML: Multi Lane.

The lane-wise details are given below:

a) Single Lane : ……. Km

b) Intermediate Lane : ……. Km

c) Double Lane : ……. Km

d) Multi Lane : ……. Km

The Contractor has to take up the following components for the project for the durations specified as under:

a)	Ordinary Maintenance	:	84 Months
b)	Initial Rectification	:	06 Months
c)	Periodic Maintenance incl. re-application of road marking	:	78 Months
d)	Minor Improvements (incl. Strengthening)	:	18 Months
e)	Emergency/ Contingent Works	:	84 Months

Note:

Initial Rectification, Periodic Maintenance including re-application of Road Marking and Minor improvement (including Strengthening) shall have a specific program of works within which specified services shall have to be executed.

4.2.1 Ordinary Maintenance (OM):

Contractor has to take-up Ordinary Maintenance (OM) for a period of 7 years (84 Months) for a length specified in para 4.2 as per the OM specification specified in Section 5C.

4.2.2 Initial Rectification (IR):

Contractor has to take-up this component to achieve the entire roads under the package below the intervention standards i.e., to the desired level within the specified period of 6 months from the date of agreement as per specification specified in the Section 5D.

4.2.3 Periodic Maintenance including application & re-application of Road Marking (PM):

Contractor has to take-up this component where in the pavement resurfacing activities (laying of Bituminous Concrete with profile/ camber correction, construction of earthen shoulders, providing centre line marking & edge line marking, painting of dividers, kerbs, parapets, islands and road studs in Urban areas) are required and which is beyond the Ordinary Maintenance activities to meet the service level as per specification specified in Section 5E. The Contractor has to apply the surface treatment (PM) including application of road marking over the entire roads at an interval of minimum 4 years (48 months) from the previous application as indicated in Maintenance Plan.

Re-application of road marking (with road studs in urban area) has to be applied by the Contractor at an interval of minimum 2 years over the entire roads, interval shall include the previous application of road marking during the Periodic Maintenance.

4.2.4 Minor Improvement Including Strengthening (MI)

Contractor has to take-up this component over a period of 18 months from the date of completion of Initial Rectifications Works; if any, where at initial stage of the project in response to existing or new traffic safety or other conditions to meet the service level compliance and as per the specification specified in Section 5F.

Minor Improvement works includes the strengthening of roads as per the specifications specified in Section 5F.

4.2.5 Emergency & Contingent Works

Contractor has to take-up the works in the requirement of Emergency and Contingent situations. The Works shall be taken under this component as per the specification specified in Section 5G.

5 Description of the Project Area

The project roads are under Road Division_____ in the district of _____under the control of the Executive Engineer, _____ Road Division and are as shown on the map in Appendix-A.

6 Reference Information

As a general reference, the information shown below is provided to the Bidder. The Employer provides this information to the best of his knowledge, but does not guarantee its correctness, and the Contractor may not make any claim based on potential errors or omissions in the information provided. Details for each Road; Operational and Notional covers the data listed below and as included in detail in Appendix-B:

- Technical Information of each Road, such as inventory, as available;
- Minor Bridges and Culverts;
- Other information as available.

7 Description of the Roads included in Contract

Contract Packages are based on fixed areas within the specified Road Division. Consequently, some roads may be under other works programs from time to time throughout the Contract Period. The Contractor must be aware of his commitments and all roads under his control and those specifically requiring his attention. It will therefore be necessary for the Employer to provide a list of total roads within the fixed area divided into three groups of road sections:

(a) Operational Roads i.e. Immediate Maintenance;

(b) Notional Roads i.e. Roads under Defect Liability Period / Roads under Construction or Maintenance of Other Program and to be become operational after completion of Construction or Maintenance liability under other program, as the case may be.

To enable the Contractor to program his resources, and be able to program and budge for the taking over new roads from the other programs and the transferring of roads to the other works, the expected dates for the start and completion of the all works under other programs shall be provided by the Employer. The details for each Roads; Operational and Notional listed in Appendix-B.

Note:

1. *Data given in Appendices are indicative only, actual details to be confirmed by the Employer.*
2. *Sections identified under Defect Liability the Contractor is partially responsible for the Ordinary maintenance as defined in Clause 6.3 of the Technical Specifications Section 5C.*
3. *Refer to Clause 6.3 of Technical Specification Section 5C for Contractor's responsibility for the maintenance of the road section prior to and after works (Periodical maintenance, Minor Improvements) are completed.*
4. *For the Road Sections defined above which are under construction by other agencies and does not come to OPRMC contractor as per Maintenance Plan in the Contract Period, the Monthly Lump Sum shall be adjusted in accordance with Clause 6.4 of Technical Specification Section 5C for those months and year of Contract.*

8 Self-Control Unit of the Contractor (SCU)

In conformity with sub-clause 25.2 of the GC, the Contractor is obliged to establish, within his own organizational structure, a specific Unit staffed with qualified personnel, whose task is to verify continuously the degree of compliance by the Contractor with the required Service Levels.

The Self-Control Unit is also responsible for undertaking the Quality Control Testing required for Initial Rectification Works, Periodic Maintenance (including re-application of Road Marking) Works, Minor Improvement Works (including Strengthening Works) and Emergency Works.

The Self-Control Unit is also responsible for the generation and presentation of the information needed by the Contractor for the documentation required for the Monthly Statement. In general terms, the Unit will be responsible to maintain at all times a detailed and complete knowledge of the condition of the roads or road sections included in the Contract and to provide to the management of the Contractor all the information needed in order to efficiently manage and maintain the roads included in the Contract. The Self-Control Unit is also obliged to carry out, in close collaboration with the Engineer-in-charge, the formal and scheduled inspections of Service Levels which will take place regularly.

The Compliance or Non-Compliance of the Contractor with Service Level requirements shall be reported by the Self-Control Unit to the Employer in the form of tabulated as under:

8.1 Standard Format for Ordinary Maintenance Responsibility

Ordinary Maintenance Responsibility				
MM/YYYY _____/_____				
Total Road Length as per Contract (km) : _____ Road Length Excluded (km) : _____ Ordinary Maintenance Monthly Payment (₹) : _____ (A) Road Length to Meet Required Service Level (km): _____ (B)				
Compliance Criteria		**Non-Compliance**		**Amount (₹) of Reduction = (C)/(B) x (A) x (D)**
		Non-Compliant Length in km (C)	**% Payment Reduction (D)**	
OM101	a) Pot Hole Patching b) Edge Repair c) Dig out Repair		**40%**	
OM102	a) Surface Depressions & Rut Patching b) Crack Sealing c) Other Surface defects; ravelling, bleeding etc. d) Pavement Clearance e) Repair of Concrete Pavement		**15%**	
OM201	a) Unsealed Shoulder Repair b) High Shoulder Cutting in Proper Camber c) Sealed Shoulder/ Footpath		**15%**	
OM301	a) Surface Drain Cleaning b) Culvert Vent Cleaning c) Repair of Damaged or Missing Drainage Pits/ Grates		**6%**	

OM401	a) Grass Control Clearing & Grubbing b) Tree & Shrub Management c) Maintenance of Island & Median Plantation d) Maintenance of Painted Trees		**6%**	
OM501	a) Sign Maintenance b) Guard Stones/ Boundary Stones/ Guard Rails c) Distance Markers/ Guideposts d) Painting of Electrical & Telephone Poles e) Road Marking f) Cats Eye/ Road Studs/ Bollards (Spring Post)		**6%**	
OM601	a) All Culverts Surface Drainage Maintenance b) Repair of Damaged Concrete Work/ Brick Work of parapet of all Culverts / Dividers, Kerb, Drains or any other Assets due to any incident c) Painting of Railing/ Parapets of all Culverts/ Medians/ Kerb d) Lime/Cement washing of exposed Concrete Masonry area of Culverts		**8%**	
OM701	a) Removing/ Cleaning of fallen debris / slippery substance on Pavement b) Ponding of Water on Pavement c) Fallen Tree on Formation Width d) Leaning, Dead Animal or dying Trees in ROW e) Land Slip Clearing f) Co-ordination with identified Authority for removal of Stray Animals.		**4%**	

8.2 Payment Deduction Summary for Ordinary Maintenance

Summary of Monthly Statement of Ordinary Maintenance				
			MM/YYYY _____/_____	
Service Level Criteria	**Compliance Criteria**	**No./Day/ Week**	**Payment Reduction**	**Total**
Road User Service & Comfort	As per 8.1 above		as per 8.1 above	
Management Requirements	Non-running of PMU & providing minimum resources in PMU		₹2000/- per non-running days; ₹50/- per km loss on monthly basis (min running of 3 times of operational road length under the Contract.	
	Failure to Conduct Inspection/ Survey & Non-Submission of Inspection/ Survey Report & Reports as; Initial/ Milestone/ Completion/ Monthly	day	₹3000/- per day	
	Non-submission of Program of Performance (Contract Plan)	day	₹1500/- per week	
	Failure to comply with the Contract requirements (Quality/ Environmental/ Traffic Management/ Emergency etc.)	Nos.	₹5000/- per event	
	Failure to engage & provide services of Road Manager upto 30 days	Month	₹75000/- per month	

	Failure to engage & provide services of Maintenance Engineer upto 30 days		₹50000/- per month	
	Failure to engage & provide services of Bituminous Works Supervisor upto 30 days		₹30000/- per month	
	Failure to engage 2 Nos. of Inspection Vehicles with fuel & driver4 yer		per day/ month on the prevailing Rate of Tourism Department, Bihar	
Total Deductions				

Note:
The above total deduction amount will be deducted from the Monthly Ordinary Maintenance Lump Sum Payment. The total Monthly calculated deduction shall not exceed monthly ordinary maintenance lump sum for any individual monthly payment in accordance with Clause 51.1 of the Particular Conditions. For the completion of Initial Rectification Works of any road there shall be no deduction under item 1 (Road User Comfort).

8.3 Standard Reporting Table for Compliance with Service Levels

Standard Reporting Table for compliance with Service Levels				
Inspection of Service Level for the MM/YYYY _____/_____				
Contract No.			Inspection Date	
Contractor Name			Attendees	
Road	Stretch		Criteria Road User Comfort	
	From	To	Complied with	Not-Complied with

Usability of the Road: Complied with or not-complied with. Traffic Speed: Complied with or not-complied with; average speed was _____ kmph.

(……..) (……..)
Prepared by Contractor's SCU Certified by Engineer-in-charge or its representative

9 Specification of Service Level Criteria

The Service Level applicable is indicated relevant to activities in the table 4.1.1 to 4.7.1, Clause 5.2 of Section 5C, Clause 4 of Section 5E & Clause 7 of Section 5F.

10 Functions of Key-Personnel

This Contract has a requirement that a high level of engineering management is employed to oversee the programming, inspection and execution of the works. The Contractor has to engage qualified personnel with required experience as specified in the Instructions to Bidders to undertake such tasks. The minimum key positions to be provided within Contractor's staff and their functions are as under:

Key Positions	Function
1. Road Manager	Head the SCU and control compliance activities and reporting activities.
2. Maintenance Engineer	Head the overall control and supervision of the day-to-day site activities.
3. Works Supervisor(s)	One required to manage and control each specific component of the works, like Ordinary Maintenance Services, Initial Rectification Works, Periodic Maintenance Operations, Minor Improvements including Strengthening, Culvert installation, specialized repairs. etc.
4. Data Entry Operator	One required to maintain all data related to project, all types of report management, skilled to type in English and Hindi and skilled in MS Office.

The Contractor shall designate either the Road Manager or the Maintenance Engineer as the Environmental Officer (EO) who is familiar with Environmental aspects of Road Projects and will be responsible for the Environmental Management.

11 Methods of Inspection of Service Levels

11.1 Formal Inspections of Service Levels

The Employer must inform the Contractor of his intention to carry out a formal inspection at least 48 hours in advance, indicating the exact date, hour and location where the formal inspection is to begin. The Contractor is obliged to be present at the date, hour and location specified by the Employer, providing the physical means needed for the inspection as indicated further below. The following minimum formal inspections should be undertaken by the Contractor in the presence of the Engineer-

in-charge of all of the roads covered under the Contract as part of his responsibility towards public safety and to enable him to schedule a monthly works Program:

Code	Inspection Type	Minimum Frequency
R	Routine	Monthly
H	Hazard	Weekly
B	Culverts	6 Months and Immediately after Flood Event
N	Night	3 Months
E	Emergency	Immediately on receiving information on Notification

11.1.1 Routine Inspection (R)

The main purpose of the Routine Inspection is a Conformance Inspection to enable the Employer to verify the information presented in the Contractor's monthly statement and to issue the interim payment certificate. Routine Inspections will normally, but not necessarily, be scheduled to begin within less than five (5) days after the presentation by the Contractor of the Monthly Statement to the Employer and they should normally be completed within a maximum of three (3) days. The Routine Inspections allow the comparison of the information on compliance provided by the Contractor in the standard tables which are part of his Monthly Statement, with actual measurements taken in locations to be determined by the Employer. During the formal inspections, the Employer may communicate electronically/ through any other means/ verbally or non-verbally, any non-compliance which may have been detected. Based on the above information, the Contractor shall immediately rectify the non-compliances within response time and ensure the compliance subsequently.

Based on the outcome of the formal inspection of Employer & their representatives, the Employer will immediately correct any possible errors or misrepresentations in the Contractor's Monthly Statement, countersign it and present it for payment, and to the Contractor for information.

Formal inspections will also be scheduled for the follow-up site visits, whose purpose is to verify if the Contractor has remedied the causes of earlier non-compliance, within the time frame granted by the Employer and specified in the Memorandum. In case Contractor fails to submit monthly statement, within stipulated period as specified in the Contract, the Employer shall be free to prepare monthly statement on behalf of Contractor and accordingly interim payment shall be certified and shall be binding upon the Contractor.

Defects to be Identified		Inspection Requirements
OM 100	**Sealed Pavement**	Routine Inspections are undertaken by the Contractor on a monthly basis, jointly with the Employer or its representative. It involves detailed survey to note: a) all defects that have reached Intervention Criteria; b) Programmed work not completed in the Response Time Where necessary, inspections shall be carried out on foot. Where there is dispute on any defect, every attempt should be made to find resolution on-site.
OM 200	**Shoulder**	
OM 300	**Drainage**	
OM 400	**Vegetation**	
OM 500	**Roadside Furniture**	
OM 600	**Structures**	
OM 700	**Operational Servicing**	

The information collected shall be submitted in Form OM-03.

11.1.2 Hazard Inspection (H)

The main reason for the Hazard Safety Inspection is to ensure that the pavement carriageway remains safe at all times and between Conformance Inspections and does not present a hazard to the travelling public. This inspection may be done by Road Manager and Employer or its representative jointly or independently weekly by driving through the road and particularly cover hazard chainage/ items on foot, with all defects that are visible:

- Hazards that may impose a danger or safety to the road user and others; and
- Defects that are of an offensive nature.

When determining if a defect is or likely to become a hazard, the Contractor must consider, as a minimum:

- Severity and nature of the defect;
- Extent of the defect;
- General road condition and prevailing or expected weather conditions
- Location of the defect;
- Effect on the road user; and
- Volume of traffic

Inspection Requirements:

Defects to be identified as per OM, Hazard Criteria

This inspection may be done by Road Manager and Employer or its representative jointly or independently weekly by driving through the road and particularly cover hazard chainages / items on foot. The information collected shall be submitted in Form OM-04.

11.1.3 Culvert Inspection (B)

The reason for culvert inspections is to ensure that the Contractors are undertaking the required care of culverts, other than those easily seen during the monthly Conformance Inspection. Generally detailed bridge/culvert inspections are not considered necessary as part of the Conformance Inspection as they are slow and time consuming but should be undertaken at least six monthly and specially after flood. Items requiring inspection are all defect that may affect the structural integrity of the structure including joints, superficial damage, batter protection and stream scour.

Inspection Requirements

Culvert Inspections are to be carried out by Road Manager and Employer or its representative jointly or independently initially within 3 months of Start Date and then on a regular 6-monthly basis and immediately after flooding. To include detailed visual inspections of all culverts structures for all structural defects, superficial damage, batter defects and stream scour. The information collected shall be submitted in Form OM-12.

11.1.4 Night Inspection (N)

The reason for Night Inspections is to ensure that while driving at night the road is safe and signs easily visible. It will also provide the Contractor and the Employer with a different view of the road under night time driving conditions that may highlight deficiencies that are not clearly visible during daylight hours. Conducted 3 monthly, then Night Inspection to identify defective/non reflective or missing, signs, delineators, guideposts, hazard markers, pavement markings and any potential hazards to the travelling public at night.

The speed should be kept to a level that allows the condition of the listed assets to be observed clearly and serviceability easily assessed and recorded.

Inspection Requirements

Inspection Requirements- Night Inspections are to be carried out by the Road Manager and Employer or its representative jointly or independently on a 3 monthly basis by driving all roads in each direction and to cover Standard Jobs as indicated by Inspection Type “N”.

The speed should be kept to a level that allows the condition of the listed assets to be observed clearly. The information collected shall be submitted in Form OM-13.

11.1.5 Emergency Inspection (E)

Following Notice by the Employer:

Defects to be identified	Inspection Requirements
On Inspection and items covered in OM 701	Emergency Inspections are to be undertaken by the Road Manager and Employer or its representative jointly and immediately when any event occurs, including: a) callouts to road safety/traffic emergencies; b) observation of a drainage structure, bridges and surface drains during and after heavy rainfall and floods; c) observation of safety barriers and road surface is safe after a road accident; and d) landslip sites if any. e) Co-ordination with identified Authority for removal of Stray Animals. f) Any other activities which is hazardous to the road user.

The information collected shall be submitted in Form OM-05

11.2 Informal Inspections of Service Levels

The Employer or its representative may carry out informal inspections of Service Levels as part of his duty. He may do so on his own initiative, at anytime and anywhere on the roads included in the Contract. If they detect any road sections where the Service Level criteria are not met within response time, a deduction will be made from Contractor's bills as per IPC. Contractor may collect the information regarding deduction from the office.

12 Contractor to Supply the Equipment

12.1 Communications Equipment

In accordance with sub-clause 5.3 of the GC, the Contractor is obliged to provide and maintain permanently operated communications equipment as Smart phones on PMU and for their engineers & supervisors (including Employer and his representatives).

13 Specification for the Road Management Information

The following criteria will be applied to all the deliverables required for the ongoing management of the contract and the road network.

13.1 Monthly Site Meeting and Monthly Report

Employer and Contractor shall formally meet on a monthly basis to discuss work progress, claims, and general business. Minutes will be taken at these meetings, and any noted actions held accountable at subsequent meetings.

The Regional Monsoon occurs during the period 15th June to 15th October of each year. The formal meetings shall be held on a fortnightly basis during this period. In the event of excessive rain, the formal meeting shall be held at shorter interval on the notice of Employer.

Prior to the meeting the Contractor will submit a report consisting of the following elements:

13.1.1 Monthly Statement

The Monthly Statement to be submitted in accordance with sub-clause 49.1 of the General Conditions and as per Clause 8.2 above.

The compliance (or non-compliance) of the Contractor will be reported by the Self-control Unit to the Employer in the form of tables for which a mandatory standard format is adopted. There is one table for each road or road section. The tables are part of the Contractor's monthly statement, and they may be complemented by comments for which a specific format is not required. The format of the mandatory standard table is as shown in Clause 8.3 above .

13.1.2 Monthly Works Program

The Contractor shall prepare a Monthly Works Program in Form OM-06 for the following month incorporating:

a) Items identified during Routine/ Other Inspections

b) Items identified during Inspections carried out under the Contract Quality Plan

c) Initial Rectification Work Items, Periodic Maintenance including re-application of Road Marking Works Items and Minor Improvement Works (including Strengthening) (Schedules- 2, 3 & 4) as approved by the Employer. Any items not completed from the previous month's program.

Where asset items are not repaired within the Response Time period, the Employer may deduct payment for those items as per Clauses 6 & 7 of Technical Specifications Section 5C.

13.1.3 Monthly Progress

The Contractor shall collect and record information regarding the quantity and the approximate cost of completed work under the headings of the Tables in Section 5C of the Technical Specification. Sample 'Monthly Progress Report (Form OM-07)' details the information required. The report is to be submitted by the 3rd day of the next month before the Monthly Works Program.

13.1.4 Previous Monthly Minutes

The Contractor is to include the previous monthly minutes detailing actions that have been carried out since the conduct of the meeting.

13.2 Milestone Reporting Requirements

13.2.1 Initial Road Condition Report

Within 30 days of signing the Contract, the Contractor's Road Manager shall submit the 'Initial Road Condition Report' to the Engineer-in-charge.

The Report shall consist of the following components:

- Initial Condition Survey;
- Video graphic Survey;
- Roughness Results;
- Environmental & Safety Survey;

(a) Initial Condition Survey:

The Initial Condition Survey is to establish a visual baseline of road condition at the time of commencement of the works. The Contractors Road Manager and the Employer or their Nominated Representative's shall carry out a joint 'Initial Condition Survey' of the roads and culverts, and shall submit it to the Employer. Details of the Initial Condition Survey shall be recorded on Form OM-10 as provided in Technical Specifications.

The purpose of this Initial Condition Survey is to confirm and record:

i Those asset features that require Ordinary Maintenance (OM) activities to return the asset to below Intervention Criteria. The Contractor is deemed to have made full allowance for this work in his Lump Sum tender and no additional payment will be made to bring such works back to intervention standard.

ii Those sections of road where the defect is of a considerable size, inappropriate for an Ordinary Maintenance repair, and that require the more intensive treatments that are to be programmed in Initial Rectification, Periodic Maintenance in addition to the identified Minor Improvement Sections.

iii Those sections of road that are currently programmed for reconstruction by others. Work on these sections of road does not require action on Intervention Criteria and is entered into Clause 7 of Section 5A in relation to pavement deficiencies. The Contractor is to keep the pavement surface safe and hazard-free under the provisions of the Lump Sum.

(b) Videographic Survey:

The Video graphic Survey of all the roads & culverts within the Contract is to be completed. The Contractor shall also be required to take a video record of all roads under this contract within the first 15 days from the date of signing of Contract. The video shall be taken during daylight hours with the

Digital Video Camera mounted in the front position with the camera aligned with the centre of the road. Video records shall also be taken of all Bridge, Culvert and other structures. The Videographic recording shall be done at the running vehicular speed of 5 kmph and the vehicle running in the pro direction of sunrays. The Employer may require that specific camera shots or angles be taken during the recording of such important features like junctions, culvert structures, damaged signages, road furniture and other road assets etc. The video shall be taken in the presence of the Employer or his nominated representative. The Contractor shall supply the Employer with set of two pen drives of each video recording within 21 days after the Notice to Commence.

(c) Roughness Results:

The Roughness data is required to establish the actual roughness position of each paved road at the time of commencement of the works. Roughness will be measured using the methodologies as covered in Clause-5 of Section 5E of Technical Specifications. The Contractor will complete and formally transmit to the Employer the results of the surveys within 30 days of Signing the Contract.

(d) Environmental & Safety Survey:

The Environmental and Safety Survey is to establish the pre-existing issues so the Contractor will not be penalized for breaches of these requirements committed by others prior to the commencement of work.

The Employer will confirm Initial Condition Survey within 21 days. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.2.2 Milestone 1 Report

Within 30 days of meeting the Contract Initial Rectification Milestone, the Contractor's Road Manager shall submit the 'Milestone 1 Road Condition Report' to the Employer. The Report shall consist of:

- Milestone condition survey (OM 10)
- Videography survey
- Roughness results

The Milestone Condition Survey is to confirm that road condition at the time of the Milestone meets the defined Performance Levels. The Employer will confirm Milestone Condition Survey, Videographic Survey and Roughness results within 30 days. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.2.3 Milestone 2 Reports

Within 30 days of meeting the Contract 1 year of Minor Improvement Works (including Strengthening) and Periodic Maintenance, the Contractor's Road

Manager shall submit the 'Milestone 2 Road Condition Report' to the Employer. The Report shall consist of the following components:

- Milestone Condition Survey (OM 10)
- Videographic Survey
- Roughness Results
    - PM done stretches
    - Others

The Milestone Condition Survey is to confirm that road condition at the time of the Milestone meets the defined Performance Levels. The Employer will confirm Milestone Condition Survey within 30 days. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.2.4 Milestone 3 Reports

Within 30 days of meeting the Contract 2nd year of Minor Improvement Works (including Strengthening) and Periodic Maintenance, the Contractor's Road Manager shall submit the 'Milestone 3 Road Condition Report' to the Employer. The Report shall consist of the following components:

- Milestone Condition Survey (OM 10)
- Videographic Survey
- Roughness Results
    - PM done stretches
    - Others

The Milestone Condition Survey is to confirm that road condition at the time of the Milestone meets the defined Performance Levels. The Employer will confirm Milestone Condition Survey within 30 days. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.2.5 Milestone 4, 5, 6, 7 & 8 Reports

Within 30 days of meeting the Contract 3rd, 4th, 5th, 6th, 7th (up-to 6 years 6 months) years of Periodic Maintenance, the Contractor's Road Manager shall submit respectively the 'Milestone 4, 5, 6, 7 & 8 Road Condition Report' to the Employer. The Report shall consist of the following components:

- Milestone Condition Survey (OM 10)
- Videographic Survey
- Roughness Results
    - PM done stretches
    - Others

The Milestone Condition Survey is to confirm that road condition at the time of the Milestone meets the defined Performance Levels. The Employer will confirm

Milestone Condition Survey within 30 days. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.2.6 Milestone 9 (Handover) Report

Prior to 3 months of the Completion of the Contract, the Road Manager and Employer shall conduct a Contract Completion Condition Survey of the whole project and the Contractor shall prepare a Handover Report.

Contractor shall arrange for the rectification of those distress features by others and in this event a deduction will be made to the Contract Sum payments due for the three times of cost of such work.

The Employer will provide a written record of the Contract Completion Condition Survey to the Contractor within 14 days of the completion of the survey. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

The Milestone 9 (Handover) Report will consist of the following:

- Condition survey
- Videographic survey

The Contractor is encouraged to update on pre-existing issues identified in the Initial Environmental Survey through the use of the Contractor's Environmental Checklist as per Form OM-14.

The Employer will provide a written record of the Contract Completion Condition Survey to the Contractor within 14 days of the completion of the survey. The Employer's ruling on the condition of any item feature will be final and binding upon the Contractor.

13.3 Updating of Road Administration Databases

The Employer requires data about the assets being maintained under this contract for future reference. The Contractor shall supply all information necessary and maintain this data in a condition of accuracy, currency and completeness appropriate for future use which the data is intended. The following data is to be collected and updated:

- Road and Bridge/ Culvert inventory and treatment history
- Road condition and section rating
- Road roughness
- Traffic and classification details
- Schedule of unit rate analysis for standard maintenance works

The Contractor shall be responsible to undertake detailed road condition survey to enable the Employer to review the annual Periodic Maintenance requirements and develop to prepare suitable new procurement documents for award of the next Contract. Therefore, it will be necessary to program this survey as a requirement under

this Contract and have information remitted to the Employer as detailed in Clause 13.2 above. The Contractor shall provide hard and/or electronic copies of the information to the Employer as reasonably requested.

The Contractor shall make available all the records maintained by the Contractor in relation to The Works for inspection by the Employer at any time.

The delivery times and updating frequencies shall be within 15 days after the completion of each Initial Rectification, Periodic Maintenance or Minor Improvement (including Strengthening) works or at least quarterly intervals from start date.

Information provided to Employer on this Contract by the Contractor will be used for the purposes of monitoring and reporting road asset condition. The information remains the property of Employer and may be used to provide information to tenders on subsequent Contracts.

14 Program of Performance (Contract Plan)

In accordance with clause 17.2 of the General Conditions (GC), the Contractor shall submit a Program of Performance within twenty-one (21) days after the signing the Contract Agreement. The program shall include, but not be limited, to the following items:

14.1 Contractor's Quality Assurance Plan (QAP)

The purpose of the Contractor's Quality Assurance Plan is to integrate the requirements of the Contract and the Contractor's Quality Assurance systems to deliver the Services. The Contractor's Quality Assurance Plan describes the methods and procedures which the Contractor will apply for the execution of the Contract, including how the contractor will:

a) identify the quality requirements specific to the Contract;

b) plan and execute the work to satisfy those requirements;

c) inspect and/or test the work to ensure compliance with the quality requirements;

d) ensure strict document control and structured filing of Contract Administration Documents;

e) record and monitor the results as evidence of compliance;

f) monitor the material supply and delivery processes;

g) ensure the ability to trace materials incorporated in the works;

h) undertake testing and measurement requirements;

i) provide evidence of testing apparatus being recently calibrated;

j) undertake internal audits;

k) provide staff training;

l) demonstrate manufacturer's specification confirming compliance of materials;

m) record of required testing, measurement and design sheets;

n) document all non-conformances; and

o) ensure that prompt action is taken to correct non-compliance.

The Contractor's Quality Assurance Plan must clearly describe the systems, procedures and methods that will be used to deliver and monitor compliance of the Services.

The plan is to be sighted and agreed by the Engineer-in-charge within 8 weeks of the commencement of the Contract. If a modified Contract Quality Plan is not presented by the Contractor within 3 weeks, the sample 'Draft Quality Plan', issued with the Bidding Documents, shall be the approved Contract Quality Plan until other modifications to work practices and responsibilities are presented by the Contractor and approved by the Employer. A non-refundable weekly penalty of rupees 2,000 shall apply until the Plan is presented and got approved by the Employer.

The Contractor shall carry out all works in accordance with the approved Contract Quality Assurance Plan. This Quality Control plan shall comply with the requirements of Section 900 of the MoRTH Specifications with respect to testing frequencies and specified tolerances where applicable. The practices and performances of the Contractor will be observed and audited against the agreed Plan.

The Contractor shall establish a qualified engineer within his own organizational structure whose task is to verify continuously the degree of compliance by the Contractor with the required Response Codes. The Contractor's Engineer will also be responsible for the generation and presentation of the information needed by the Contractor for the Maintenance Program Compliance Sheet (OM 08). It will require a system that is able to document a detailed and complete knowledge of the condition of the network and to program the management and maintenance requirements. The Contractor's Maintenance Engineer is also obliged to carry out, in close collaboration with the Employer or his representative, the regular quality inspections of the contracted network.

The Employer shall instruct the Contractor to revise and or resubmit this Quality Plan if amendments are required for the Quality Plan to be deemed suitable for the Contract. The Contractor shall give every assistance to the Employer in carrying out any document and/or field audits that the Employer may require.

The compliance (or non-compliance) of the Contractor in achieving the Response Time for Ordinary Maintenance will be reported monthly by the Contractor to the Employer in the form of the Maintenance Program Compliance Sheet. The sheets form part of the Contractor's monthly invoice, and shall be submitted with the Monthly Works Program (OM06). Where there is a noted non-compliance, the Non-Conformance Report (OM-09) should be similarly submitted stating reasons. As non-compliance may result in a payment penalty, so it would be in the Contractor's best interests to fully explain the reason for not achieving the 'Response Time'. These sheets form the basis of any dispute and will be periodically audited by the Employer against the Contractor's monthly program.

A sample quality plan is offered as part of the bidding documents. This plan will serve as a temporary quality plan until the Contractor submits his own details. An electronic copy will be forwarded to the successful bidder.

14.2 Health and Safety Management Plans

Contractor to provide Program of Performance which shall include a Health and Safety Management Plan. The purpose of the Health and Safety Management Plan is to foster a responsible attitude towards occupational health and safety and to comply with the provisions of the relevant act/regulations detailed in Section 5H.

Because of the nature of the Services, the Contractor may occasionally be exposed to hazardous situations which could involve risk of various degrees of harm, to the contracting staff and/or the public. Situations will arise when it is not practical to eliminate or isolate significant hazards. In these situations, the hazards must be minimized by ensuring planned protection systems (e.g. equipment, clothing) are actually used.

The Health and Safety Management Plan must be complied with by the Contractor's personnel and all sub-contractors at all times. The Health and Safety Management Plan shall, when implemented in accordance with the plan requirements:

a) Ensure systematic identification of existing & new hazards on the work site(s)

b) Ensure minimization of significant hazards, where elimination and isolation are both impractical

c) Ensure provision & use of appropriate protective measures

d) Include emergency procedures for dealing with accidental spillage, pollution or imminent danger.

e) Ensure regular review and assessment of each hazard identified and monitor employee's exposure to these hazards.

f) Ensure reporting and recording of work site safety incidents so health and safety problems can be addressed quickly and regularly. It is a requirement of this Contract that any such incident be advised promptly to the Employer.

g) The delivery time for the initial Health and Safety Program shall be not later than 21 days after the Start Date.

14.3 Emergency Procedures and Contingency Plan

The Program of Performance shall include an Emergency Procedures and Contingency Plan which shall establish the roles, practices and procedures during specific types of emergency events identified in the plans and contingency plans associated with the closure of roads. The Emergency Procedures and Contingency Plan must be developed by the Contractor and agreed with the Employer and any other stakeholders the Employer may identify.

The purpose of the Emergency Procedures and Contingency Plan is to ensure the safety of the Contractor's personnel and road users in the case of emergency and/ or road closure. It should include:

a) an effective communication and event recording system;

b) the name, contact number and specific duties of the contractor's personnel nominated to respond to an emergency event;

c) the contact number of other parties who need to be notified in cases of emergency events, e.g. police;

d) detailed response procedures for all emergency events;

e) possible detour routes in the event of road closure

The delivery time for the initial Emergency Procedures and Contingency Plan shall be not later than 21 days after the Start Date. The contact for Emergency Calls will be the RCD Executive Engineer and Contractor's Maintenance Engineer.

14.4 Traffic Management Plan

The Program of Performance shall include a Traffic Management Plan. The Traffic Management Plan establishes the practices for traffic management at work sites. The Traffic Management Plan must be developed by the Contractor and agreed with the Employer. The Contractor shall effectively implement all traffic management requirements in accordance with MORTH Clause 112 & as per the Technical Specifications in respect of all works under the Contract.

The objectives of the Traffic Management Plan are to:

a) clearly define and document the responsibilities and chain of command for the development, implementation and management of traffic control measures and systems;

b) establish the minimum requirements for temporary traffic control;

c) establish the minimum geometric, cross section and surfacing standards for temporary works;

d) provide appropriate transitions and enable safe and efficient traffic flow into, through and out of work sites;

e) protect the Contractor's personnel at all times;

f) protect the Assets and the Contractor's resources at all times;

g) meet the operational requirements for the road.

The Traffic Management Plan must include at least the following:

- A documented process for preparation, review and approval of the Traffic Management Plan

- A document tracking and control system to ensure that only the latest operative copy of the Traffic Management Plan is in circulation
- Contact details for Contractor, Principal, emergency services and other stakeholders
- Layout diagrams, method statements etc for implementation of traffic control while undertaking each aspect of the Services (including site specific layout diagrams and method statements if the Services require traffic control measures not covered by standard codes of practice)
- The delivery time for the initial Traffic Management Plan shall be not later than 21 days after the Start Date.

14.5 Environmental Management Plan

The Program of Performance shall include an Environmental Management Plan. The plan shall address but not be limited to the Environmental issues defined in Section 5H "Environmental and Social Requirements".

15 Personnel

The Bidder must demonstrate that it has the personnel for the key positions that meet the following requirements:

Position	No.	Educational Qualification	Min. Work Experience in construction and maintenance	Max. age limit 28 days prior to bid submission
Road Manager	1	Graduate in Civil Engineering	Graduate – 3 years	65 years
Maintenance Engineer	1	Diploma in Civil Engineering/ Graduate in Civil Engineering	Diploma – 5 years	50 years
Works Supervisor	1	Preferably Diploma in Civil Engineering/ any general degree holder	Diploma – 2 years General Degree holder – 5 years	40 years
Data Entry Operator	1	Certified course in Computer Applications	Intermediate & above	40 years

The Bidder should provide the details of the proposed personnel and their experience record using the Forms PER-1 and PER-2 of Section 4, Bidding Forms supported by the experience certificates duly countersigned by the respective clients.

16 Equipment

The Bidder shall own at least One Hot Mix Plant (40-60 tonne/hour Capacity) not more than 15 years age.

The Bidder must demonstrate & submit the supportive documents that it has or has access to (own/lease/hire etc. and to be procured) the key equipment (machinery) listed as under:

S. No.	Equipment Type and Characteristics	Minimum Number required	Maximum age of the Equipment
1.	10 Tonne Tipper Truck	6	8
2.	Loader/Backhoe (0.5 m^3 bucket)	1+1(OM)	8
3.	Excavator (0.75 m^3 bucket)	1	10
4.	Sensor Paver (3.5 m)	1	10
5.	Bitumen Distributor (2000 litre)	1	10
6.	8-10 Tonne Vibratory Roller	1	10
7.	Plate Vibrator (Compaction for Patch work)	2	5
8.	Emulsion Sprayer	1	10
9.	Tractor or Rubber Tyred Dozer with adjustable Back Blade/Grader	1	10
10.	Smooth Wheeled Roller 8-10 Tonne	2	10
11.	Power Broom or Tractor Mounted Compressor	1	10
12.	Wet Mix Plant	1	10
13.	Generator 250 KVA	1	10
14.	Concrete Mixer 0.4/0.28 cum	2	10
15.	Baby Vibratory Roller	1	10
16.	Fifth Wheel Bump Integrator duly Calibrated	1	5
17.	Milling Machine	1	10
18.	Road Marking Equipment	1	5

The minimum numbers of equipment required to carry out the Works & Services in accordance with the prescribed Works Schedule are shown in the above table are mandatory. However, the Contractor shall be liable to provide all necessary items and numbers of equipment, plant and materials in order to carry out the Works & Services to meet the performance standards and stipulated service levels.

Note:

- *The bidder will have to commission key equipment/ machineries within 90 days of agreement.*
- *If the contractor fails to commission the key equipment/ machineries within 90 days of agreement, it may seek extension of time for a period not exceeding next 60 days on payment of damage for such extended period in a sum calculated @ ₹5000/day until the machinery is commissioned.*
- *If the Contractor fails to do as mentioned above, his bid security shall be forfeited and award shall be cancelled. In that case second lowest bidder may be awarded the work under conditions explained in the bid document.*

17 Software

S. No.	Details of Project Management Software	Minimum no. of licences
1.	MS Project or Prima Vera or Similar	02
2.	MS Office 365 for 7 years	02

Note:

- *Bidder shall purchase at his own cost above software within 7 days of issue of work order.*
- *One license shall be made available to the respective Road Division.*

B Section 5B: General Specifications

1 General

Notwithstanding the provisions of Clause 24 and 30 of the General Conditions, the works and the materials used by the Contractor shall comply with or exceed the requirements relevant sections of the Ministry of Road Transport and Highways (MORTH) Specifications for Road and Bridge Works (MORTH Specification latest edition prior to bid submission, published by IRC) and these General Technical Specifications shall form part of the Contract.

2 Reference to MORTH Specifications

All Relevant Clauses of MORTH Specifications, (MORTH Specifications latest edition prior to Bid Due Date), except to the modifications stated in the Contract, shall apply to this Contract.

3 Testing of Materials and Work

The Contractor is hereby informed that no known borrowing pits are located in the Contract area and that it will be the responsibility of the Contractor to locate his own resources required for this Contract.

Prior to the procurement of materials for use on the roads included in the Contract, the Contractor is obliged;

(i) to carry out the laboratory tests necessary to determine the quality of the materials;

(ii) satisfied himself as to the sufficiency of the technical characteristics and the quality of the materials he intends to use for the intended purposes;

(iii) the extraction is in conformity with the legislation; and

(iv) he has informed the Employer of his intention to utilize the material.

Under no circumstances may the Contractor make any claims based on the insufficient quality of any of the materials he has used.

4 Test & Inspection

Further to Clause 20 of the General Conditions, the Contractor is to ensure the following:

a Responsibility

The Contractor shall be fully responsible for the carrying out of all tests of materials and work required under the Contract. The Contractor shall establish fully equipped site-laboratory as per MoRTH specifications within 60 days to carry out all required tests and quality control work. The Contractor shall permit full access to the laboratory for Employer staff to undertake any testing required by them.

b Testing Costs

The Contractor shall bear the full expense of all establishments, management, and incidental costs in carrying out the required tests for all works. All such costs shall be deemed to be included as part of the Lump Sum component for OM as applicable payment in Schedule 1 under the Contract.

c Sampling

All sampling whether carried out by the Employer or the Contractor shall be carried out in the presence of an authorized representative of the Contractor and the Employer. At least 24 hours' notice is required for both parties to attend any sampling for testing purposes. Where the Contractor's representative fails to attend the results of such sampling will be notified to the Contractor and will be deemed authentic.

d Testing Frequency

In the event that the frequency of testing is not detailed in the Specifications for any specific item of material or works, it shall be as per MoRTH specification 900.

e Test Results

The Contractor shall furnish all test results to the Employer as a monthly summary along with IPC by the Employer. The Employer may withhold payment for those works where test results have not been verified.

5 Traffic Management

In addition to the Traffic Management requirement of MORTH Clause 112 the Contractor is to ensure the following:

(i) The Contractor is responsible to ensure the safety of their workers and road users, including non-motorized road users and pedestrians, by installing and maintaining at his cost, adequate signalling and demarcation of work sites, which in addition must comply with the applicable legislation.

(ii) If the execution of services and works under the Contract is likely to interfere with traffic, the Contractor shall take at his cost the measures necessary to limit such interference to the strict minimum, or any danger to the workers or others. For that purpose, he is entitled to install, within the right-of-way of the road, temporary bypasses, structures or other modifications to be used by traffic during the execution of works and services. The Contractor shall notify the Employer prior to implementing any such temporary installations.

(iii) On both sides, suitable regulatory / warning signs as approved by the Employer shall be installed for the guidance of road users. On each approach, at least two signs shall be put, one close to the point of actual working zone and the other 100 to 150 m away as advance warning sign. The signs shall be of approved design and of reflective type.

(iv) If the execution of Works and Services by the Contractor makes it necessary to temporarily close a road section, and a traffic detour has to be implemented over other public roads or streets, the Contractor shall be responsible for the cost of constructing the detour and placing adequate signalling of the detour.

Additionally, if the installation of a detour is necessary due to the failure of any drainage structures, the Contractor shall construct a detour with adequate signing for the safe passage of the travelling public.

(v) The Contractor shall inform the Employer, Local Authorities and the local Police about such activities to be carried out by him which may cause any significant interruptions or changes to the normal traffic patterns. Such information shall be made in writing and at least seven (7) days before the beginning of such activities. Upon request from the Contractor, the Employer shall assist the Contractor in the coordination with the local authorities and the local police.

(vi) The cost of implementing all traffic management provisions shall be deemed to be included in the Lump Sum component for Ordinary Maintenance, Initial Rectification, and Periodic Maintenance and in the rates of Minor Improvement Works including Strengthening Works.

(vii) The Contractor is to take note of the following special circumstance:

(a) Obstruction to Traffic

If broken down vehicles or any other cause obstructs the road, the Contractor shall take the following steps to safeguard traffic:

- Provide any signs, traffic controllers, etc., necessary to protect the public;
- If the person responsible can be located, ask them to remove the obstruction immediately;
- In cases of serious obstruction or obstructions which may remain overnight, inform the Employer who may direct action to be taken by the Contractor.

(b) Private Entrances

Any person wishing to construct a private entrance to a property must first obtain the consent of the Employer. Any new entrance observed by the Contractor, shall be reported to the Employer for his information and action.

The maintenance of the surfacing of a private entrance is the responsibility of the owner; however the Contractor shall maintain all private entrance culverts as part of the Lump Sum.

The Employer may direct that a private entrance culvert, which has been installed without approval, but otherwise satisfies the Employer's requirements, remains the responsibility of the owner.

(c) Disposal / Dumping of Municipal Solid Waste or construction debris by the local population and authorities.

The Contractor shall report the matter to the Employer immediately on such dumping for their necessary corrective actions.

C Section 5C: Specifications for Ordinary Maintenance

1 General

The Contractor shall maintain each asset item to the specified Intervention Criteria and Service Levels as part of the Contract Lump Sum for the criteria:

- Sealed Pavement
- Signage and Road Safety
- Drainage
- Vegetation
- Structures
- Shoulders Batters & Slope Stabilisation

The Contractor is deemed to have carried out preliminary surveys of the relevant roads prior to bidding in order to evaluate all Ordinary Maintenance (OM) related obligations and to assess the annual Lump Sum cost of OM.

The Ordinary Maintenance (OM) shall be carried out on all roads covered by the Contract to the specified service quality levels for a period of 7 years, including:

- The provision of management services as required for the duration of the Contract;
- Provision of committed PMU vehicle(s) to carry out OM responsibilities;
- Undertaking regular condition surveys, including regular monitoring and reporting of the condition of all roads under the Contract;
- Undertaking inspections at the frequencies required (as a minimum) and identifying defects and carrying out maintenance works;
- Establishing programs for Ordinary Maintenance based on meeting required intervention standards;
- Scheduling maintenance work to meet the required maintenance standards;
- Providing effective traffic management for all works undertaken to ensure public safety and the safety of the Contractor's workforce;
- Maintaining records of all work undertake;
- Provide a Quality Plan for the Employer's approval within 8 weeks of the Start Date and implement all quality management requirements.

In respect to area of responsibility for works by others the following shall apply:

(i) Rail crossing repairs

The Contractor shall be responsible for repairs to pavement in the immediate vicinity of rail crossing. Where defective rail lines are the cause of damage to the pavement, the Contractor shall notify the Employer

(ii) Restoration of road openings

In general, Employer is responsible to reinstate all service utility road openings undertaken by a Service Authority or its contractors. The Employer may direct that temporary reinstatement or final restoration is to be carried out by the Contractor under the contingency part of the provisional sum. The Contractor is to notify the Employer immediately when any new road opening is noted.

Where the road surface fails above a completed restored road opening, the Contractor shall repair the defect as part of the Lump Sum. The cost of implementing the above provisions shall be deemed to be included in the Lump Sum component for OM.

2 Patrol Maintenance Unit (PMU)

2.1 The Contractor shall provide and run daily, except one day in a week, on national holidays and other holidays permitted by the Govt. of Bihar, **a minimum of two committed Patrol Maintenance Unit (PMU)** comprising personnel and equipment to undertake the carrying out of the Ordinary Maintenance Works & Services.

2.2 The PMU shall be a GPS enabled New Vehicle well fabricated to meet the requirements, painted and labelled appropriately for safety and public awareness as per the direction of Engineer-in-charge. Each PMU shall have as a minimum requirement as under:

(a)	Patrol Foreman	01 No.
(b)	Heavy Vehicle Driver	01 No.
(c)	Maintenance Workers	05 No.
(d)	PMU to be equipped with Mobile Phones	02 No.
(e)	Retro Reflective Board (Road Work Ahead)	01 No.
(f)	Retro Reflective Board (Half Road Close)	01 No.
(g)	Working Triangles	02 No.
(h)	Traffic Cones	12 No.
(i)	PVC Chain for Traffic Cones	01 No.
(j)	Road Barrier	01 No.
(k)	Reflective Traffic Jackets	10 No.
(l)	Gum Boots	04 No.
(m)	Safety Helmets Yellow Colour	04 No.
(n)	Rubber Hand Gloves	04 No.
(o)	Steel Brush (Heavy Duty) 850-870mm	02 No.
(p)	Spade	01 No.
(q)	Iron Tasla 16”	02 No.
(r)	Long Hand Shovel-2.5kg	02 No.
(s)	Rotary Hand Pump with Hose Extract Emulsion from Emulsion Drum	01 No.
(t)	Vibratory Plate Compactor	01 No.

(u)	Petrol Driven Chain Saw 3.9 HP, Model MS382	01 No.
(v)	Search Light 12V	01 No.
(w)	Fire Extinguishers	01 No.
(x)	First Aid Box	01 No.

2.3 The above resources shall be engaged full time per PMU on the Ordinary Maintenance activities (Standard Jobs) for works under this Contract, for a minimum of 8 hours per day and minimum running distance per month. Failure by the Contractor to provide the above resources or monthly running distance of minimum three times of Operational Road length of package or all roads in a package to be covered within 10 days, will result in proportional payment deductions to the Contractor for the Ordinary Maintenance component of the works as provided in Clause 7 of this Technical Specification.

2.4 The PMU shall also be the "Initial Emergency Response Unit" and shall have the capability of the following:

- Capable to hold a half cubic metre of sand (or other suitable absorptive or granular material depending on the nature of the requirement);
- After hour response a minimum two person crew;
- Emergency kit of temporary warning signs, flashing lights, barriers, safety clothing, shovels and brooms.

Also the PMU must carry at all times the Emergency No. of Police, Fire, Ambulance, Medical/Hospital centre along entire route to facilitate help in event of accidents and emergency encountered. A listing of all emergency contact phone numbers shall be circulated by the Contractor to all relevant officers, including the Contractor's staff and the Employer prior to the Start Date.

2.5 The Contractor shall use additional resources for carrying out all Initial Rectifications, Periodic Maintenance including re-application of Road Marking and Minor Improvement Works including Strengthening works.

3 Specification of Service Level Criteria

This section specifies the Service Levels to be complied with in the case of paved roads. There are three overall criteria:

- Road User Service and Comfort Measures
- Road Usability
- Project Management Requirements
- Average IRI Value for any 1 km Road Section must be less than the threshold value of 3500 (in IRI average)
- Average IRI Value for entire Road Section must be less than the threshold value of 3000 (in IRI average)

4 Specification of Road User Service and Comfort Measures

4.1 Paved Roads (Table 4.1.1 – OM100)

The following notes requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.1.1:

(i) Potholes - OM 101 (a)

No pothole is to be left untreated on any section of the road. Potholes causing a threat to public safety area > 0.05 m2 will be repaired within 3 days; others shall be repaired within the Response Time. Potholes will be detected by visual inspection.

(ii) Edge Repair - OM 101 (b)

The edge of the road surface should be free of excessive fretting or beaks of the surfaced width and erosion that will encourage water ingress into the pavement and result in unsafe ride quality for vehicles forced to use the shoulder of the carriageway. All breaks >100mm shall be repaired in the Response Time.

(iii) Dig out Repair - OM 101 (c)

Identify the cause of failure and appropriate treatment. Ensure the cause is removed either prior to or as part of the repair. If necessary, stabilize the sub-grade with lime, cement or geo-textile and if seeping water is present, install subsoil drains. Repair shall be undertaken in accordance with Section 5 of this specification. Dig outs < 5m2 will be considered for repair under OM responsibility. When failed area is > 5m2 at one location, it will be repaired under Provisional Sum Emergency Works.

(iv) Surface Depressions and Rut patching- OM 102 (a)

No depression greater than 70mm depth when measured under a 1.2m straight edge are permitted. Repairs are to be responded within 3 days of detection. Surface depression should be repaired with the same specification material as it is in existing crust.

(v) Crack Sealing - OM 102 (b)

Cracking greater than 5mm wide is to be sealed within the Response Time. Cracking is detected by visual inspection. It is of particular importance that crack sealing is completed prior to the end of the work season each year or the date predicted for the onset of the wet season and before the commencement of the Periodic Maintenance program. Where the cracking is of ‘‘crocodile” nature, treatment may be by Surface Treatment as outlined in item (vi) below.

(vi) Other Surface Defects- OM 102 (c)

A light surface seal (>5 m2 at any one location) will be placed over solid pavement areas which are moderately distressed with fine surface cracking. The Contractor shall thoroughly sweep and clean the area to be treated, and

seal any cracks >5mm or 'crocodile' cracks with bitumen emulsion. Any pavement weaknesses should be brought to the attention of the Project Manager before work commences.

Seal the surface as per SOR Type 'A' Clause 5.12. The surface shall be protected from traffic until the seal has properly set. All loose material shall be swept and removed from the site prior to full trafficking.

The bitumen emulsion shall be Cationic Rapid Setting, conforming to the requirements of IS: 8887.Any damage to the crust < 5m2 at one location due to fire, flood, incessant rains and accidents may be repaired on merit in response time. Type of treatment shall be decided by the Employer. It may be simple surface treatment or laying fresh wearing course including replacement of damaged base course. Damage > 5m2 at one location may be repaired under Provisional Sum Emergency Works.

(vii) Pavement Clearances- OM 102 (d)

Build-up of silt, dirt or gravel, particularly at intersections and against central medians and in angle drain/ channel kerb that may cause braking cars to skid shall be removed.

(viii) Repair of Concrete Pavement - OM 102 (e)

The repairs to broken concrete or bituminous joint material, to preserve underlying pavement material and restore the riding surface to a smooth condition. Identify the extent of damage and appropriate treatment. Work shall include preparing and cleaning the existing concrete and removing any loose, spalling material. Exposed reinforcing shall be repaired/ replaced and new M35 concrete placed, vibrated, finished and cured. Repair >0.25 m2 and < 1 m2 will be considered for repair under OM.

4.1.1 Service Level

The Service Level criteria for road user service and comfort on paved roads are defined in the table 4.1.1.

4.1.2 Procedures for Inspection of Paved Roads

For the formal inspections of compliance with Service Levels, the Contractor's Self-control Unit will work in close collaboration with, and under supervision of the Employer. The physical means needed for the inspections will be provided by the Contractor; they are the same which are normally used by the Self-control Unit for the continuous self-evaluation of the Contractor's compliance.

Table 4.1.1 : Standard Jobs, Intervention Criteria and Response Times for Paved Roads

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 101	**(a) Pothole Patching** Treatment of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition.	Potholes in traffic lane of a sealed pavement > 0.05 m^2 and 50mm depth	**H**	**3 Days**	**40% deduction for any defect/s of 1 km OM Value fault in multiple of Response Time**	**15 Days**
			Repair all Potholes	**R**	**6 Days**		
		(b) Edge Repair Repair of broken edges of seal, to line and level to maintain nominal sealed width.	When break becomes a hazard i.e. exceeds 150mm laterally over 1m length from Normal Seal Line.	**H**	**3 Days**		
			When edge break exceeds 100 mm laterally over at least a 1m length from the Normal Seal Line.	**R**	**7 Days**		
		(c) Dig out Repair Treatment of isolated failed pavement areas> 0.25m^2 and less than 5m^2 at one location by replacement with new material or improvement of existing material, including reinstatement of road surface.	When Dig out/Failed Surface Depth becomes hazard i.e. more than 150 mm.	**H**	**3 Days**		
			All other Failed areas	**R**	**6 Days**		

Table 4.1.1 : Standard Jobs, Intervention Criteria and Response Times for Paved Roads

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
2	OM 102	**(a) Surface Depression & Rut Patching** Application of a levelling course of bituminous materials to depressed or rutted areas of pavement.	Deformations >70mm under a 1.2m straight edge.	**H**	**3 Days**	**15 % deduction for any defect/s of 1 km OM Value fault in multiple of response time**	**1 Month/ 30 Days**
			Deformations >30mm under a 1.2m straight edge when isolated area>10 m^2.	**R**	**7 Days**		
		(b) Crack Sealing **Filling of cracks and joints, excluding "crocodile" cracking, using liquid bituminous sealants in accordance with monthly works program.**	All cracks > 5 mm width	**R**	**15 Days**		
		(c) Other Surface Defects **Application of bituminous materials and cover aggregate areas of pavement with:**		**R**	**15 Days**		
		(i) loss of aggregate (surface ravelled);	when ravelled surface area>1m^2				
		(ii) bleeding and flushing; or	when Bleeding/flushing of an area >5m^2				
		(iii) Crack on surface.	All Crocodile Cracking				
		(iv) surface damaged due to fire, flood, incessant rain and accidents area less than 5m^2	Surface damaged due to fire, accidents, flood, incessant rain				
		(d) Pavement Clearance **Cleaning/ sweeping of pavement including at and along divider, intersections, kerbs and channels to remove debris which poses danger to traffic or pedestrians or which prevents the free drain of surface run off.**	When accumulation of aggregate, dirt or debris along the divider and in angle drains or channel kerb is danger to vehicles and obstructing flow of water from pavement to drain.	**R**	**15 Days**		
		(e) Repair of Concrete Pavement **Repair of isolated areas of damaged concrete pavement <1m^2.**	All Damaged area > 0.25m^2	**R**	**15 Days**		

4.2 Shoulders and Embankment (Table 4.2.1 – OM201)

The Contractor is responsible for the maintenance of all embankment and cut slopes along the roads sections included in the Contract. In particular Contractor is responsible for the ensuring stability of embankments and cut slopes, without any deformations and erosions. Nevertheless, the reconstruction and major improvements to retaining structures and slope stabilization is excluded from the Contractor's obligations, unless specified elsewhere in the Technical Specifications. The Shoulder is defined as the area from the edge of the paved lane to the point to the verge or side drain. The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.2.1:

(i) Unsealed Shoulder Repair - OM 201 (a)

The activity aims to maintain the shoulder facility to support the pavement edge, the occasional use by traffic, its function as the drainage path for water runoff from the carriageway and to ensure the elimination of an edge drop off at the edge of sealed pavement. The Contractor shall fill depressions, scours and areas of drop off and ensure shoulder material supports the sealed edge. The material used for shoulder maintenance should be mechanically cohesive and able to display stability in wet weather. Shoulder material shall be suitably compacted. Where the edge drop-off is > 100mm over a continuous significant distance greater then 100m, the Contractor is to include resetting the shoulder in the Initial Rectification Works.

(ii) High Shoulder Repair- OM 201 (b)

When the high shoulder is continuous in 3m length at one location, obstructs flow of water from pavement, it should be treated by cutting the overburden. Cutting material should be removed from the site and the shoulder shall be adequately watered and compacted with a roller to get the desired camber, to facilitate support of the sealed edge and drainage away from the pavement.

(iii) Repair to Non Bituminous Hard Shoulder/Footpath- OM 201 (c)

Wherever shoulder is made up of concrete paver blocks/ brick or stone soling / gravels, damaged area < 1 m2 at one location, should be repaired within response time by the same specification material as used earlier at that location under OM responsibility.

In footpath, where damage of tiles and base is more than > 0.1 m2 and < 1 m2 due to any reason, shall be repaired within response time by the same specification material as used earlier at that location.

4.2.1 Service Level

The Service Level criteria for shoulders & embankment are defined in the table 4.2.1.

4.2.2 Procedures for Inspection

The visual inspection will be undertaken as part of the formal and informal inspections. The criteria for slopes will be checked at sections selected by the Employer based on visual appearances. The Employer shall be the sole judge on the compliances made by the Contractor. If a specified criterion is not met, the 1 km section in which the deficit occurs will be judged as non-compliant.

Table 4.2.1 : Standard Jobs, Intervention Criteria and Response Times for Shoulders and Embankments

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 201	**(a) Unsealed Shoulder Repair** **Spot Filling, Grading and Re-Shaping of unsealed Shoulders up to 25m length per location to correct:**				**15 % deduction for any defect/s of 1km OM Value fault in multiple of response time**	**1 Month/ 30 Days**
		(i) Drop off from edge of Seal to Shoulder	Edge drop off onto unsealed shoulder >100 mm deep	H	6 Days		
			Edge drop off onto unsealed shoulder > 50 mm	R	15 Days		
		(ii) Holding of Water	When there is Significant holding of Water	H	3 Days		
		(iii) Repairs to Unsealed Road, to correct Spot Shoulder, Rutting, Erosion etc.	When Potholes or scouring > 70mm depth, km measured with a 1.2m straight edge or when there is significant holding of water	R	15 Days		
		(iv) Loss in Camber of Shoulder for more than 20%	Whenever seen in Visual Routine Inspection	R	15 Days		
		(b) High Shoulder Cutting in Proper Camber	When high Shoulder obstructs flow of water from Pavement continuously 3.0m length at one location.	R	15 Days		
		(c) Repair to Non- Bituminous Hard Shoulder / Footpath, area < 1 m^2 at one location	All Damaged Area > 0.1m^2	R	15 Days		

4.3 Drainage (Table 4.3.1 - OM300)

The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.3.1. The highest priority should be given to adequate drainage of the pavement and shoulders. Where ponding of water is observed in the vicinity of the pavement or shoulders, the PMU shall immediately shape a waterway to remove the water to the adjacent side drain. Temporary drains across existing shoulders shall be shallow and tapered as to not affect the safety of traffic or pedestrians, and shall be reinstated by shaping and/or grading when conditions are favourable to allow normal 'sheet' flow. The following visual inspections should be made:

(i) Cross drainage pipes, culverts and pits Quality levels and tolerance criteria:

(a) Inside surface area of each cross pipe, culvert or pit must not be deteriorated

No more than 10% of the inside surface area of each cross pipe can be deteriorated. Deterioration includes spalled or crushed concrete, crushed metal, or any other structural deterioration along the length of the pipe/ culvert. Where the defect is a collapsed or an unmaintainable unit or structure, the defect shall be referred to the Employer for repair. The condition of the inside surface of the pipes can be detected by visual inspection.

(b) Waterway free of obstruction

Each pipe/ culvert must have at least 80% of its waterway open.

(c) No erosion at either end of the pipe/culvert that affect the structural integrity

Erosion at either end should be less than 200mm and should not affect the structural integrity of the pipe/culvert or head wall. Erosion can be detected by visual inspection.

(d) No dip in road over pipe indicating structural problems

No dips in the roadway over pipe deeper than 30 mm (measured longitudinally) are allowed. Dips are indicative of the settlement or erosion of the backfill material located around the cross pipe and may present a safety and pavement Performance problem. Dips in the roadway are to be visually identified from the shoulder or side drain and measured with a scale in mm.

(ii) **Side drains, culvert inlet/outlet drains, kerb and channelling:**

Side drains collect the runoff of water from the pavement and shoulders parallel to the road and distribute to more major waterways. Culvert inlet/outlet drains channel water into and away from the road. Quality levels and tolerance criteria are as under:

(a) All side drains and culvert inlet/outlet drains must be graded such that positive drainage of surface flow exists:

- Unpaved side drains or culvert inlet/ outlet drains must not have depressions or high spots that either hold or trap water a distance of >3 m within the drain for several days. Depressions and high spots can be detected by visual inspection.
- Bricks/ RCC drains outside the area of Municipal Corporation and Nagar Parishad is to be cleaned in likelihood of restriction of flow of water or whenever drain is filled by 20% of depth. Preferably all such drains must be cleaned before onset of monsoon thoroughly.

(b) No severe erosion along the side drains and culvert inlet/outlet drains:

No areas where the grass, sod, or gravels have been washed away or where soil erosion deeper than 200mm exists are allowed. Erosion can be detected by visual inspection.

(c) Outlets of side drains and culvert inlet and outlet drains must provide positive drainage:

Drains shall empty freely into larger channels as designed and should not exhibit erosion deeper than 200mm. The condition of the outlet can be detected by visual inspection.

(d) No obstruction to flow of water:

The side drains, culvert inlet/outlet drains and kerb and channels shall be free from obstructions such as severe sedimentation, vegetation growth or debris build up, that prevent the drains from adequately carrying water.

At the commencement of the Contract, where reinstatement/construction of side drains and culvert inlet/outlet drains are required to repair complete blockages, work will be identified during the initial survey and will be carried out under Initial Rectification Works during Milestone-1. All subsequent drain maintenance works shall be carried out under OM.

4.3.1 Service Level

In general terms, the Contractor must ensure that all drainage elements and structures are sound and without any obstructions which may reduce their normal cross-section and impede the free flow of water. The Service Level Requirements for drainage structures or devices are shown in table 4.3.1.

4.3.2 Procedure for Inspection

The cleanliness and condition of drainage structures (including open drains, causeways and all other types of drainage devices) is part of the criteria for the “Durability of the Road”. It is verified on a regular basis, in particular before and

during the rainy seasons. The drainage structures to be verified are determined by the Employer. Inspection is to be done visually.

The basic principle used to determine the cleanliness of drainage structures or devices is “the percentage of the theoretical cross-section of the structure or device which is unobstructed”. This percentage is specified in Table 4.3.1. For a 1 km road section, the cleanliness of drainage ditches must be verified at least on two subsections of 50m each.

For any 1 km section of the road, compliance with this criterion requires that:

(i) all drainage structures are clean in the sense defined above;

(ii) all structures and devices are structurally sound, based on the judgment of the Employer.

Table 4.3.1 : Standard Jobs, Intervention Criteria and Response Times for Drainage and Surface Drain Cleaning

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 301	(a) Surface Drain Cleaning Cleaning of RCC / Brick drain outside the area of Municipal Corporation & Nagar Parishad, Re-Shaping of earthen drains to maintain flow of water & protect the road.	In likelihood of restriction to flow of water in drain & when drain depth is filled more than 20%.	H (during Rainy Season)	7 Days	6% deduction for any defect/s of 1km OM Value fault in multiple of response time	22 Days/ 0.75 Months
				R (other than rainy season)	15 Days		
		(b) Culverts Vent Cleaning Cleaning of Cross-drainage pipes/ Vents, culverts, pits and to maintain flow of water.	When Debris blocks > 20% of Culverts area and inhabits free flow.	R	6 Days		
		(c) Repair of Damaged or missing drainage pits / grates	Damaged or missing drainage pit's lid, surrounds outside the area of Municipal Corporation and Nagar Parishad.	H	3 Days		

4.4 Vegetation (Table 4.4.1 - OM400)

The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.4.1:

(i) Natural grass

Vegetation grown for the purpose of protecting shoulders, slopes, and embankments from erosion, and for aesthetic purposes. Natural Grass is considered that generally located along the roadway edges. Quality levels and tolerance criteria are as under:

Sight distance is clear in intersections, passing zones, and curves: Grass height should not prevent adequate sight distance (stopping or passing) at intersections, passing zones, and curves and must not obstruct the drainage.

(ii) Trees and shrubs

Consists of trees, limbs, shrubs and creepers located within the right-of-way. Trees and shrubs located in landscaped areas should be evaluated as landscaping. Quality levels and tolerance criteria are as under:

Sight distance or sign obstructions:

No tolerance. Brush, as defined above, should not affect sight distance (stopping or passing), at intersections, passing zones, and curves. In addition, brush should not encroach onto any signs to the extent that visibility or readability of the sign is affected. Sight distance or sign obstructions can be detected by visual inspection.

Vertical clearance:

No tolerance. A vertical clearance of at least 5.5m over roadway should be maintained at all times. All tree limbs, shrubs, and creepers should be trimmed back to maintain this clearance. The measurement of the vertical clearance should be from the highest point of elevation on the traffic lanes or shoulders.

(iii) Maintenance of traffic islands, divider having plantation not maintained by any other agency

The Contractor shall mow existing grass in these areas, as well as prune existing plants and bushes. Quality levels and tolerance criteria are as under:

Grass cannot be higher than 150 mm in traffic islands and dividers:

No more than 10 percent of the total area can exhibit grass higher than 150mm at any time.

Traffic islands and dividers area must be free from weeds or other noxious vegetation:

No more than 10 percent of the total area can exhibit weeds or other noxious vegetation before intervention is required. Presence of weeds or other noxious vegetation can be detected by visual inspection.

Plants/bushes/trees to be pruned, healthy, and must not obstruct the sight distance:

No more than 20 percent of the plants/bushes/trees can be in poor condition before intervention is required. No plants/bushes affecting sight distance are allowed. The condition of the plants/bushes can be checked by visual inspection. Any dry plant must be replaced by same species plant within 30 days of response time.

Fences in traffic islands, etc must be in good condition and painted:

More than 80% of the fences and kerbs must be in good condition and painted all the time. The condition of the fences etc can be checked by visual inspection

4.4.1 Service Level

This section specifies the Service Levels to be complied within the case of vegetation growing within the road right of way. Vegetation is to be controlled to the heights and clearance, at the locations and with the restrictions as set out in the table 4.4.1.

4.4.2 Means used for Assessing Compliance with Service Levels

The height of vegetation, and its clearance above the road surface and visibility of signs is part of the criteria for the "Road User Comfort". They will be measured at road sections selected by the Employer based on their visual appearance.

The height is measured by using a ruler; it is defined as the vertical distance between the ground and the highest point of the vegetation.

Clearance is also measured with a ruler or visibility from a distance of 50m assessed as normal driving speed; it is defined as the distance between the lowest point of the tree (or other plant) above the road surface or obstruction of the sign.

The average height of vegetation in 1 km section will be equal to the average of 5 (five) values measured in at sections selected by the Employer. The visibility is measured for any obstruction of any sign.

4.4.3 For any 1 km section of road, compliance with this criterion requires that the average vegetation height measured within the section of 1 km is below the maximum value stated in the Contract or obstruction to any sign.

Table 4.4.1 : Standard Jobs, Intervention Criteria and Response Times for Drainage and Surface Drain Cleaning

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 401	(a) Clearing and Grubbing Mowing/ Slashing of Roadside areas, Maintain Sight Distance, Reduce Fire Hazards and Maintain a tidy appearance at: (i) Shoulder, Medians and Traffic Islands. (ii) Road Intersections – Maintain Sight distance to 30m in advance of all road approaches departures and any other nominated area. (iii) Safety Signs, Kilometre Posts, Guard Stones and Other Roadside Furniture – Slash to ensure full vision.	Maintain Grass / Shrub Height to an Average of the followings: (i) On Earthen Shoulder: 150mm (ii) In rest part of ROW: 400mm	R	15 Days	6% deduction for any defect/s of 1km OM Value fault in multiple of response time	1 Months / 30 Days
		(b) Tree & Shrub Management Maintenance of Roadside areas, including Brush Cutting, Foliage Trimming & removal of Vegetation.	(i) When Tree & Shrubs restrict Intersection Site Distance or obscure Safety Signs.	R	15 Days		
			(ii) Pruning of Trees to get 5.5m height clearance over the Pavement.	R	30 Days		
		(c) Maintenance of Island & Median Plantation Watering, Shredding and Cleaning/ Uprooting of Weeds, Replacement of Dead Plants by New Plants.	Which are not maintainable by any other agency & when height of Shrubs exceeds 150mm.	R	15 Days		
		(d) Maintenance of Painted Trees on Shoulder up-to 1.2m height with lime.	At every 12 Months	R	15 Days		

4.5 Signage and Road Safety (Table 4.5.1 – OM 500)

The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.5.1:

(i) Signs

Signs consist of all ground (post-mounted) signs located along the roadway and include the following types of signs:

- Regulatory Signs
- Warning Signs
- Direction Signs
- Information and Traffic Instruction Signs
- Route Markers and Kilometre Markers
- Village Name Signs
- Hazard Markers
- Service and Tourist Signs, except privately funded signs identified by the Engineer-in-charge.

The Contractor shall ensure that the signs are maintained in good condition at all times and shall wash and clean sign faces, straighten posts, level sign boards, remove posters, tighten bolts and undertake minor repairs. Quality levels and tolerance criteria are as under:

(a) Meet reflectivity standards:

All signs must meet the requirements stated in MORTH Specifications Sub-Clause 801.3.2. All signs must be clearly visible and reflective to passing motorist under both daytime and night time conditions. The daytime inspection should be performed initially, followed by the night time survey.

(b) 100 percent clear of obstruction:

All signs, when viewed from the closest traffic lane, must be completely free of brush, trees, vegetation, and other obstructions that prevent passing motorist from adequately viewing the sign. Sign obstructions can be detected by visual inspection.

(c) Present and surface free of damage:

Signs have to be present, upright in a vertical position, and at least 95 percent of the total surface area of signs must be free of damage, i.e., holes, large dents, and missing reflective material or covered in advertising. The presence and condition of the signs can be checked by visual inspection.

(d) No encroachments/trespasses, illegal signs or structures:

No tolerance. Structures or signs that were not erected or authorized by the Employer should not exist within the right-of-way. Any transgressions

can be detected by visual inspection and have to be reported in writing to the Employer within 24 hours after being detected, and all assistance provided to the Contractor in the eviction process.

(ii) Pavement marking

Pavement markings include lines and markings used to delineate traffic lanes and pavement edges. Pavement markings may consist of solid lines or broken lines that are yellow or white and arrows.

The Contractor will be responsible to reinstate by either hand or machinery, all pavement markings damaged or destroyed by its IR and OM work with hot applied thermoplastic compound as per the Specifications & approved by the Engineer-in-charge. The Contractor, at all the time, shall keep clean pavement markings. The re-application of thermoplastic markings will be done at the interval of 2 years of previous application. However, any damage to new re-applications shall be repaired by the Contractor under the OM responsibilities.

(iii) Guard Stones / Boundary Stones / Guardrail

The Contractor shall ensure that established guard stones, boundary stones and guardrail are kept in good repair and shall regularly check posts to ensure that all are in place and functional. Painting and replacement of defective posts shall be paid as part of the OM Lump Sum.

Where more than 10 posts are missing at any single location, the Contractor should immediately notify the Employer. Only supply of replacement posts above 10 No. at a single location will be done from the contingency part of provisional sum.

All guard stones and guardrails shall be painted/ repainted on a cycle of every 12 months as a part of OM responsibilities, including the painting/ repainting of any new guard stones, boundary stones and guardrails which are installed. The works shall be scheduled evenly over 12 months and shall be shown in the Program including timeframes for completing various road sections. At least two painting cycles shall be carried out during the period of the Contract. Works shall be carried out in accordance with MORTH 807, 12 months where white washing & colour banding is involved and 24 months where synthetic enamel painting is involved.

(iv) Distance Markers (Kilometre Posts)

Kilometre marker stones are generally located at 1 km intervals and show the highway number and distance to the next significant town or the start of that section of highway on non-radial routes. 5 kilometre marker stones are located at 5 km intervals and show the highway number, the distance to the next town and also the distance the next significant town on the route

All distance stones shall be repainted and kept in good repair by regular maintenance. Any damaged or missing stones shall be notified to the Employer promptly and supply only approved under Provisional sum contingency part.

Distance markers shall only be repositioned or reinstalled to an exact location as directed by the Employer. 12 months where white washing and colour banding is involved and 24 months where synthetic enamel painting is involved.

All distance markers shall be painted/ repainted as a part of OM responsibilities, including the painting/repainting of any new distance markers which are installed. The works shall be scheduled evenly and shall be shown in the Program including timeframes for completing various road sections. At least two painting cycles shall be carried out during the period of the Contract. Works shall be carried out in accordance with MORTH 805.

(v) Guideposts, delineators and Hazard markers

The Contractor shall ensure that all guideposts and delineators are clean and replaced if damaged or non-reflective. Guideposts and hazard markers that have been painted for delineation shall be repainted as a part of OM responsibilities, including the repainting of any new guideposts, delineators and hazard markers which are installed. The works shall be scheduled evenly and shall be shown in the Program including timeframes for completing various road sections. At least two painting cycles shall be carried out during the period of the Contract. Works shall be carried out in accordance with MORTH 806. 12 months where white washing and colour banding is involved and 24 months where synthetic enamel painting is involved.

(vi) Cats Eyes/Road Studs/Bollards (Spring Post)/ Median Marker

On sections of road where cat's eyes have been installed, the Contractor shall maintain and replace any missing cats eyes. All new cats eyes installed shall be of road stud 100x100mm dia. cast moulded from ASA.

Only the installation of cats eyes on a section of road which previously did not have cats eyes shall be under Provisional Items. Any such new installations shall be subsequently maintained by the Contractor under OM responsibilities. Reinstallation of cat's eye is permissible after 24 months of installation.

4.5.1. Service Level

The Contractor is responsible for ensuring that all signage, as well as guardrails and other road safety devices fully comply with Acceptable Standard within Initial Rectification period. The Service Level requirements for Signage and Road Safety devices are set out in the table 4.5.1.

4.5.2 Procedure for Inspection

The visual inspection will be undertaken as part of the formal and informal inspections. The criteria for Signage and Road Safety will be checked at sections selected by the Employer based on visual appearance. The Employer shall be the sole judge on the compliances made by the Contractor. If a specified criterion is not meet, the 1 km section in which the deficit occurs will be judged non-compliant.

Table 4.5.1 : Standard Jobs, Intervention Criteria and Response Times for Drainage and Surface Drain Cleaning

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 501	**a. Sign Maintenance** Sign Repair, Re-erection, Support Replacement and/or Maintenance Cleaning	**Straighten Sign Posts when more than 5 degrees off vertical clean sign and delineator faces when reflectivity is reduced due to accumulation of dirt. Repair damage**	**R**	**7 Days**	**6% deduction for any defect/s of 1km OM Value fault in multiple of response time**	**1 Months / 30 Days**
		b. Guard Stones/ Boundary Stones/ Guard Rails (i) Repair and installation of damage/ missing guard stones and guard rails barriers.	**(i) Fallen or damaged at a Critical Location making them substantially ineffectively.**	**R**	**7 Days**		
			(ii) Other Locations	**R**	**15 Days**		
		(ii) Painting Painting of Guard Stones, Boundary Stones and Guard Rail.	**Every 24 Months**	**R**	**15 Days**		
		c. Distance Markers, Guide Posts.					
		(i) Delineators and Hazards Markers Cleaning &/or replacement of damage and missing Guide Posts, Hazard Markers and Delineators.	**Any Items seen missing**	**R**	**7 Days**		

		(ii) Straightening of crooked or bent guideposts Painting, of distance markers, guideposts and hazard markers, including lettering.	**Every 24 Months**	**R**	**15 Days**		
		d. Painting of Electric Poles/ Telephone Poles up-to 1.2m heights.	**Every 24 Months**	**R**	**15 Days**		
		e. Road Marking Repair of defective or faded thermoplastic markings and cleaning of all markings.	**Thermoplastic marking faded or damaged and functional requirements not met**	**R**	**15 Days**		
		f. Cats Eye/ Road Studs/ Bollards (Spring Post)/ Median Marker Re-installation of defective Cats Eye	**Every 24 Months**	**R**	**15 Days**		

4.6 Structures (Table 4.6.1 – OM 600)

The Contractor is responsible for the Ordinary Maintenance of all Culverts and similar structures along the roads and road sections included in the Contract. In particular, Contractor will be responsible for the correct functioning of the structures (painting of structures, road surface on structures, condition and presence of guardrails, etc.) and the safety and comfort of road users while using the structures at normal speeds. Nevertheless, the reconstruction, structural repair and improvement of bridges and similar structures are excluded from the Contractor's obligations, unless specified elsewhere in the Technical Specifications. A structure is defined as Culvert (Span up-to 6m) and Minor Bridge (Span up-to 60m). The Contractor shall inspect Culverts in accordance with the guidelines of Form OM-02, and maintain Culverts and streams as specified. The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.6.1:

Ordinary Maintenance requirements for structures:

(a) Cleaning and clearing:

- Clean deck, footways, expansion joints of any earth/debris build-up;
- Ensure scuppers and down-pipes are clean of debris and free draining;
- Remove any debris build-up on superstructure or substructure;
- Clear vegetation in or around bridge structure.

(b) Repair of parapet, railing, medians, kerbs, islands

- Concrete/ Masonry repairs < 1m3 at any one location

(c) Painting parapet, railing, medians, kerbs, islands

- Where previously painted, the Contractor shall paint all posts /parapets/ railings /headwalls on culverts and/or bridges within 12 months of the commencement of the contract and shall repaint thereafter every 24 months and minimum two cycles in Contract Period;
- Tighten posts or rails where required;
- Washing of exposed concrete/masonry areas of bridges in two coats to give an even and smooth surface for protection, including the scraping and cleaning of old surface;
- Repair and/or strengthen existing mild steel railings.

(d) Stream maintenance

- Ensure adequate drainage on structure approaches and embankments;
- Remove all debris in and around bridge and within 10 metres upstream and downstream;

- Where minor, scours shall be repaired. If the scour is > 5m3, in the initial survey the Employer should be notified, and repairs completed as an Initial Rectification Works.

(e) Signs and bridge furniture

- Repair Culvert/ Bridge Signs and markings where required;
- Advise Employer if additional signs are required;
- Establish and/or repaint Structure Number on each structure.

4.6.1 Service Levels

The Service Level requirements for Culvert/ Bridges and Retaining Walls and similar structures are as shown in Table 4.6.1.

4.6.2 Procedures for Inspection

The visual inspections will be undertaken as part of the Formal and Informal Inspections. The criteria for Structures will be checked at points selected by the Employer based on visual appearance. The Employer shall be the sole judge on the compliances made by the Contractor. If a specified criterion is not met, the 1 km section in which the deficit occurs will be judged as non-compliant.

Table 4.6.1 : Standard Jobs, Intervention Criteria and Response Times for Drainage and Surface Drain Cleaning

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 601	a. All Culverts Surface Drainage Maintenance Inspection & Maintenance of Culverts / Bridges components including:				8% deduction for any defect/s of 1km OM Value fault in multiple of response time	0.5 Months / 30 Days
		(i) Cleaning & Clearing of Deck, Footways, Expansion Joints, Scuppers, Down Pipes.	Any accumulation of material which affects proper drainage of water, or restricts the operation of expansion joints.	H (during Rainy Season)	3 Days		
				R (All Other Season)	7 Days		
		(ii) Repair or strengthening of MS Railing less than 5m length.		R	7 Days		
		b. Repair of Damaged Concrete Work/ Brick work of parapet of all Culvert, Dividers, Kerb, Drains or any other assets due to any incident (<1m^3 at any one location).	Damages visible to Structures	H	3 Days		
		c. Paining of Railings/ Parapets of all Culverts/ Medians/ Kerbs	Every 24 Months	R	15 Days		1 Month/ 30 Days
		d. Lime/ Cement washing of exposed Concrete/ Masonry Areas of Culverts, wherever done previously.	Every 24 Months	R	15 Days		

4.7 Operational Servicing (Table 4.7.1 – OM700)

The following requirements are to be read in conjunction with the Specifications as stated in Section 5C and Table 4.7.1:

(a) Spillage of hazardous materials

Where a spillage of hazardous materials has occurred after an accident i.e. oil, glass, debris etc or in other emergency event, the pavement shall be cleaned of the offending materials immediately either in day or night. The Contractor shall bring this type of incident to the notice of the Employer, District and Police Administration and state pollution control board about the incident. This shall also apply to unauthorised deposition of household or industrial waste onto road pavement or shoulders.

(b) Initial Emergency Call out response

Prior to commencement of work on-site, the Contractor shall provide the Employer with details of a contact person available 24 hours per day, and other contact numbers that will be used by the Contractor during any emergency response.

The Contractor shall provide 24 hours per day capability to respond to an emergency within the response time specified, from the time of notification.

The Contractor's initial response to any emergency shall, within the capability of the PMU, make the incident site safe for the public or otherwise assist the control agency i.e. police etc. Any response which exceeds the capability of the PMU is to be immediately notified to the Employer. The Employer may direct that additional Contractor resources be provided and paid for as Emergency Works.

The Contractor is not responsible for salvaging vehicles which have been damaged in crashes and is not required to assist the owners of such vehicles except where necessary for the safety of the public or to reduce delays to traffic.

(c) Wet weather and flooding

During wet weather (monsoon) the Contractor shall pay particular attention to sections of road which are likely to be damaged or inundated by water. The Contractor shall provide signs on inundated sections of road, clear waterways, pit entrances and culverts of obstructions, and divert water from the roadway when necessary.

The Contractor shall remove all blockages from culverts immediately water levels permit such work to proceed. In case of flood, the highest level reached by the water on both sides of the road shall be recorded and the Employer advised within seven (7) days.

(d) Road Obstructions

The Contractor is to remove any obstructions within the road traffic lanes which are a traffic, safety or health hazard within the road reserve. Obstructions may include cardboard, old tyres, paper, wood, garbage, rubbish, glass, metal, rubber, dirt, waste matter, or anything of a like nature that has a physical dimension >300mm. that is a visual detriment to the public.

(e) Fallen trees

No tolerance. Any fallen tree on the road formation shall be removed immediately.

(f) No trees presenting a leaning hazard

No tolerance. Trees or other vegetation that are leaning and present a safety hazard should not be located within the right-of-way. In addition, dead animal or dying vegetation that is either located within a clear zone or could fall on vehicles or pedestrians must not be present. Leaning vegetation can be detected by visual inspection.

(g) Landslips

The Contractor shall repair all minor landslips under the Lump Sum. Where the slip requires replacement material > 5m3 of rock or more than 10 m3 of earth at one location or the effort to repair is of a specialised nature, the Employer should be advised and payment made under Emergency part of Provisional Sum.

(h) Stray Animals from Road

The Contractor's Patrol Maintenance Unit shall contact the Nodal Officers of the Local Police/ Animal Husbandry Officer & concerned Municipalities/ Gram Panchayats in order to facilitate the identified Authority for removal of Stray Animals from roads & shifting to safe shelters.

The Contractor shall also display the Dedicated Helpline No. at regular interval of Roads.

4.7.1 Procedures for Inspection

The visual inspection will be undertaken as part of the formal and Informal inspections. The criteria for slopes will be checked at sections selected by the Employer based on visual appearance. The Employer shall be the sole judge on the compliances made by the Contractor. If a specified criterion is not met, the 1 km section in which the deficit occurs will be judged as non-compliant.

Table 4.7.1 : Standard Jobs, Intervention Criteria and Response Times for Drainage and Surface Drain Cleaning

S. No.	OM Parameter	Standard Job Description	Intervention Criteria	Types of Inspection	Response Time to Repair	Applicable Deduction	Contractor's Risk & Cost Intervention Period
1	OM 701	a. Removing/ Cleaning of fallen Debris/ Slippery substance on Pavement.	When fallen tress/ slippery substance become danger to Traffic/ Pedestrian.	E (Emergent)	Same Day/ Night	6% deduction for any defect/s of 1km OM Value fault in multiple of response time	7 Days
		b. Ponding of Water on Pavement	Whenever seen or reported	E (Emergent)	Same Day/ Night		
		c. Fallen Tree on formation width.					
		d. Leaning, Dead Animal or dying trees in ROW	Likely to fall on the pavement when ever seen or reported after obtaining proper approval from concerned authority	E (Emergent)	1 Days		
		e. Land Slip Clearing All Work associated with the removal of all material from the road pavement and table drain up to 5m3 of rock and 10m3 of earth at one place the road and table drain including the disposal of the material at a suitable dump site.	When event is detected or made known	E (Emergent)	Same Day/ Night		
		f. Co-ordination with identified Authority for removal of Stray Animals.	Whenever seen or reported	E (Emergent)	Same Day/ Night		

5 Usability of the Road

5.1 Service Levels

The Contractor will have to ensure that the road is open to traffic and free of interruptions at all times.

5.2 Variations and gradual compliance with Service Levels

Permitted exceptions are:

Event	Service Level
Road Accidents	Time after each event
	4 hours after release from police

5.3 Procedures for Usability Inspection

There is no particular testing method for the usability of a road, other than driving on the road in a normal manner, utilizing the type of vehicle indicated in Clause 2 of Section 5C. The condition is not complied with if the road is interrupted at any point. The condition is however complied with if it is possible to continue to drive on the road, and without the vehicle suffering any damage caused by the bad condition of the road.

6 Adjustment for Maintenance Responsibility (addition/Deletion)

Adjustment of Maintenance Responsibility of Periodic Maintenance including re-application of Road Marking, Minor Improvement (including Strengthening) and Deleted of Road Sections (Addition/Deletion).

The Contractor shall be responsible for carrying out all maintenance works on those sections of roads undergoing Minor Improvement (including Strengthening) Works or Periodic Maintenance including re-application of Road Marking by other agencies except for the period when the works site is in the possession of others.

6.1 During the term of the Contract, sections of road within the Contract may need to be deleted from the Contractor's OM responsibilities for specific periods of time as directed by the Engineer-in-charge.

The sections of Road to be deleted will include either the exclusion of full OM responsibilities or partial OM responsibilities.

6.2 In the case of partial OM responsibilities, unless otherwise instructed by the Engineer-in-charge, the Contractor's responsibilities will be categorised either as Type A, B as described below:

Type	OM Code	OM Description
A	OM101	(a) Pothole Patching
		(b) Edge Repair
		(c) Dig-out Repair
	OM102	(a) Surface Depressions and Rut Patching
		(b) Crack Sealing
		(c) Other surface defects e.g. ravelling, bleeding etc.
		(d) Pavement Clearance
		(e) Repair of Concrete Pavement

Type	OM Code	OM Description
B	OM 201	Unsealed Shoulder Repair
		High shoulder cutting in proper camber
		Repair to Non-bituminous Hard Shoulder/ Footpath
	OM 301	Surface Drains Cleaning
		Culverts Vent Cleaning
		Repair of Damaged or missing drainage pits/ grates
	OM 401	Grass Control Clearing and Grubbing
		Tree and Shrub Management
		Maintenance of island and median plantation
		Maintenance of painted trees
	OM 501	Sign maintenance
		Guard stones/ Boundary stones/ Guard rails
		Distance Markers, Guideposts
		Painting of Electric poles / Telephone poles
		Road Marking
		Cats eye/ Road studs/ Bollards (Spring post)
	OM 601	All Culverts Surface Drainage Maintenance
		Repair of Damaged Concrete work/Brick work of parapet of all Culvert, Dividers, kerbs, Drains

		Painting of Railings/ Parapets of all culverts/ Medians/ Kerbs.
		Lime/ Cement Washing of exposed concrete/ masonry areas of culverts, wherever done previously
	OM 701	Removing/ Cleaning of fallen debris/ slippery substance on pavement
		Ponding of water on pavement
		Fallen tree on formation width
		Leaning, Dead Animal or Dying trees in ROW
		Land slip clearing
		Co-ordination with identified Authority for removal of Stray Animals.

6.3 Situations where the need will arise for the addition or deletion of road sections, and the subsequent need for the inclusion or exclusion of the Contractor's OM responsibilities, will include, but will not be limited to, the following:

(a) Major works contracts if any under PM& MI works which have been let by the Employer within a road section to other contractors for a specific period of time in that case, the Contractor's full OM responsibilities will be excluded for the period of the major works contract up to its completion date (inclusive of any approved time extensions) on the applicable section of road.

(b) Major works contracts if any under PM& MI works let by the Employer within a road section which have been completed and are within the defects liability period in that case, from the time of completion and up to the end of the defects liability period of the major works contract, the Contractor will carry out OM responsibilities for Type B items only as listed above on the applicable section of road.

(c) Major works contracts if any under PM& MI works let by the Employer within a road section which have reached the end of the defects liability period for the major works contract in that case, at the end of the defects liability period and on issuance of the final certificate by the Employer for the major works contract, the Contractor shall resume full OM responsibilities on the applicable section of road.

(d) A deteriorated section of road if programmed for major upgrading works or any stretches proposed to be converted as NH or otherwise or deletion of stretch for want of improvement in the future by the Employer, the same shall be deleted from the scope of the contract, and the OM payments reduced accordingly . However until the commencement of these major works, the Contractor shall carry out OM responsibilities on the applicable section of road as directed by the Employer in charge

(e) If any Periodic Maintenance works and Minor Improvement works undertaken by the Contractor within a road section which is either in progress or is within the defects liability period in that case the contractor is however required to carry out full OM responsibilities through the contract period except from the Start Date of the PM & MI works and up to the end of defect liability period for that PM work, the Contractor shall be eligible for payment for Type B items only under Ordinary Maintenance as listed above on the applicable section of road.

(f) If there is any Delay or non-availability of necessary clearances/no objections from competent authorities to carry out works within a road sections that pass through national parks/sanctuaries/reserve forest areas or other sensitive areas in that case the road section will be suspended (till the clearances are obtained) or deleted from the scope of the contract as the case may be.

6.4 The adjustment to the proportion of the monthly Lump Sum payable for OM to allow for the additions and deletions of sections of road shall be determined by the Employer in accordance with the following formulae:

$$M_n = \frac{LS}{84} \times \left(\frac{LF + LB \times WB}{LT} \right)$$

Where:

Mn= Monthly Lump Sum amount for OM applicable for month number "n" (with n being from 1 to 84).

LS= The value of the Lump Sum applicable for OM for 7 years as stated in Schedule 1, Item 1.

LT= Total length of Roads included in the Contract and as stated in Clause 7 of the Section 5A:Technical Specification.

LF= Length of Road under the Contract for which Full OM responsibilities have been carried out by the Contractor for the month in question.

LB= Length of Road under the Contract for which only Type B OM responsibilities have been carried out by the Contractor for the month in question.

WB= Proportionate cost of carrying out Type B OM relative to the full cost of OM for a typical section of road (applicable for both State Highway and Main District Roads). WB shall be taken as 0.45.

6.5 Payment amounts determined based on the above calculations shall be subject to the other adjustment provisions as provided for in Clauses 43, 47, 48, 49 and 51 of the General condition and deductions in accordance with Clause 7 of the Technical Specification of Section 5C.

7 Payment Reductions

In accordance with the relevant clauses of the GC, Payment Reductions are applied in case of non-compliance with Service Level requirements. Payment shall include provision for all costs associated with the management, administration, plant, equipment, labour and materials in keeping all asset items within the specified Response Period levels.

Where payment is made on a Lump Sum basis, the Contractor shall execute the work and perform its obligations under the Contract and the sum payable by the Employer to the Contractor shall be the Lump Sum, adjusted by any additions or deductions made under the Contract.

Payment shall be made in equal monthly instalments in OM. Price Adjustment will be as per Clause 48 of Particular Conditions. The monthly instalments will be determined by dividing the OM Lump Sum for the Schedule 1 Item 1 divided by eighty four (84) months (period of contract). These instalments are subject to deductions for the deletion of sections from OM responsibilities and for work not undertaken or not undertaken to the quality required.

The Maintenance Program Compliance Sheet and the Non-Conformance Report shall accompany the Contractor’s invoice for payment. Any Non-compliance not met within the Response Time may be subject to a deduction on the monthly instalment in multiple of failed response time.

The results of each formal inspection of the Service Levels and other performance criteria will be recorded by the Employer electronically or by any other means for all non-compliances which may have been detected. The record will state the type and location of any non-compliance detected, in particular those non-compliances already shown in the standard tables, provided by the Contractor as part of their monthly statement. For each non-compliance entry, the contractor must have remedial measures to remedy the cause of the non-compliance. A follow-up site visit is therefore necessary at the date fixed by the Employer, or soon thereafter, in order to verify that the Contractor has indeed remedied the cause of non-compliance. If not complied within response time without valid reason supported by documented proof, the contractor is subject to payment reduction in accordance with the relevant clause of GC in multiple of failed response time.

If at the date indicated in the Memorandum, the Contractor has not remedied the cause for non-compliance, independent of the reason given for their failure to do so, the Contractor is subject to Payment Reductions in accordance with the relevant clauses of the GC.

Payment Reductions are variable over time. If the Contractor fails to remedy a cause of non-compliance for which a payment reduction has already been applied, the amount of the payment reduction shall be doubled for that particular non-compliance every month until the non-compliance is corrected. On the successive fourth month if the non-compliance is not corrected, it shall be deemed a breach of Contract under Clause 59 of the General Conditions and the Contract shall be terminated.

The calculation of the initial amounts of payment reductions, and the formula for their adjustment over time, is to be based on the following rules, there are 3 (three) types of Payment Reductions on Ordinary Maintenance:

(i) Payment Reductions for non-compliance with Road User Service Comfort Measures and Durability (other than roughness):

For any road or road section as specified in Section 2 of this document (Bid Data Sheet), the Employer may reduce the monthly lump-sum payment by the percentage of non-complying kilometres as determined by the Project Manger each month. The payment will therefore be the basic lump-sum multiplied by the ratio of length of complying road to the total length of the network as detailed below:

(a) Failure to achieve Response Time or stated quality:

Where the Contractor fails to complete Ordinary Maintenance works to the Intervention Criteria within the Response Time or quality specified, the Employer may deduct monies from payments due under the Contract. The amount of deduction shall be based on the Lump Sum bid in Schedule-1, Item-1, proportioned by the quantity and percentages given in Table 6.1. An example of such deduction is shown in 7(i)(c) below.

Deductions will continue to be made on a monthly basis until the work is satisfactorily completed. The minimum deduction for any item will be based on a per kilometre basis in multiple of failed response time per month.

(b) Action by the Employer in the event of Non-Compliance in Standard Job activities:

The results of each formal inspection of the site and other performance criteria will be recorded by the Employer in the form of a Memorandum. The Memorandum will state the type and location of any non-compliance detected and in particular those non-compliances already provided by the Contractor as part of Maintenance Compliance Program Sheet (Form-OM-08). For each non-compliance the Employer will schedule a minimum of 7 day Notice from the issue of the Memorandum for the Response Time to complete the non-compliances.

A follow-up site visit shall be arranged at the date fixed by the Employer in order to verify that the Contractor has remedied the cause of non-compliances. If the Contractor has not remedied the cause for non-compliance in Response Time, a payment deduction shall be made accordingly.

(c) Method for Payment Deduction

For the purpose of establishing cause for a payment deduction for non-compliance, each road is evaluated between kilometre stones. If

kilometre stones have not been erected, a datum is established by the Employer from which even kilometre distances are measured. The minimum measurement for non-compliance is one (1) kilometre.

A monthly deduction is made when non-compliance for any Standard Job is found. It is of no consequence whether the non-compliance for each Standard Job is a single defect or multiple defects within a set one kilometre distance; the full kilometre is said to be non-compliant for that Standard Job activity.

For each Standard Job activity, the deduction is calculated by the example below. The total deduction is the sum of individual Standard Job activity deductions.

The amount of the deduction shall not be repaid to the Contractor, even after the Contractor re-establishes the quality levels to the standards required by the Contract.

Example:

Sub Item OM101

Assumptions:

Length of the Network less excluded sections is 100 Km.

5 km has found for default in OM101 beyond the Response Time.

Accordingly, the assessed deduction for non-compliance is:

= OM Lump Sum Bid (Schedule-1, Item-1) x 1/84 (per month) x 40% (percentage applicable for OM101) x 5 km/ 100 km (portion of road not compliant to the Service Level for this activity) x n (number of failed response time)

Deductions for all Standard Job activities are calculated similarly and totalled.

Payment reduction will be made in respect to road usability and non-provision of management requirements, for example, failure to provide the following; the Patrol Maintenance Unit, and program reports.

Deductions for all items shall be added to determine the total penalty to be applied to the Lump Sum.

If penalty exceeds the limits as stated in Clause 51.4 of the Particular Conditions, the Contractor will be in fundamental breach of the Contract and may be debarred and/or be terminated.

Table 6.1: Payment Deductions for Incomplete Job Activities

Ref.	Standard Job Description	Unit	Weighted Value %
OM 101	(a) Pothole Patching	km	40
	(b) Edge Repair	km	
	(c) Dig-out Repair	km	
OM 102	(a) Surface Depressions and Rut Patching	km	15
	(b) Crack Sealing	km	
	(c) Other surface defects	km	
	(d) Pavement Clearance	km	
	(e) Repair of Concrete Pavement	km	
OM 201	(a) Unsealed Shoulder Repair	km	15
	(b) High shoulder cutting in proper camber	km	
	(c) Repair to Non-bituminous Hard Shoulder/ Footpath	km	
OM 301	(a) Surface Drains Cleaning	km	6
	(b) Culverts Vent Cleaning	km	
	(c) Repair of Damaged or missing drainage pits/ grates	km	
OM 401	(a) Grass Control Clearing and Grubbing	km	6
	(b) Tree and Shrub Management	km	
	(c) Maintenance of island and median plantation	km	
	(d) Maintenance of painted trees	km	
OM 501	(a) Sign Maintenance	km	6
	(b) Guard stones/ Boundary stones/ Guard rails	km	
	(c) Distance Markers, Guideposts	km	
	(d) Painting of Electric poles/ Telephone poles	km	
	(e) Road Marking	km	
	(f) Cats eye/ Road studs/ Bollards (Spring post)	km	
OM 601	(a) Culverts Surface Drainage Maintenance	km	8
	(b) Repair of Damaged Concrete work/Brick work of parapet of all Culvert, Dividers, kerbs, Drains	km	
	(c) Painting of Railings/ Parapets of all culverts/ Medians/ Kerbs	km	
	(d) Lime/ Cement washing of exposed concrete masonry areas of culverts.	km	
OM 701	(a) Removing/ Cleaning of fallen debris/ slippery substance on pavement	km	4
	(b) Ponding of water on pavement	km	
	(c) Fallen tree on formation width	km	
	(d) Leaning, Dead Animal or Dying trees in ROW	km	
	(e) Land slip clearing	km	
	(f) Co-ordination with identified Authority for removal of Stray Animals.	km	

(ii) Payment Reductions for non-compliance with Management Performance Measure:

Calculation based on the provisions shown below, the amount of the reduction is to be deducted by the Employer from the monthly lump-sum payments due to the Contractor:

(a) Failure to provide Patrol Maintenance Unit (PMU) with Minimum Resources:

Further to Clause 2 of Section 5C, where the Contractor fails to run a fully operational PMU, the Employer will apply the following monthly deduction for each PMU:

Rupees ₹2000/- for per non-running day and rupees ₹50/- per loss in km on monthly basis (minimum running should be three times of Operational length of roads under the Contract).

(b) Failure to conduct & submit the relevant Survey Report, Inspections Report, (Initial/ Milestone/Completion/ Monthly) in accordance with Section 5A of Technical Specifications:

Full day delay – Rupees ₹3000/-

(c) Failure to submit the Program of Performance (Contract Plan) in accordance with Clause 15 of Section 5A of Technical Specifications:

Weekly penalty of rupees ₹1500/- shall apply until the Plan is submitted.

(d) Failure to comply with Contract requirements (Quality, Environmental, Traffic Management, Emergency Response, etc.):

Penalty of rupees ₹3000/- shall apply for each occurrence.

(e) Failure to engage/provide services of Road Manager up to 30 days:

Penalty of rupees ₹75,000/- for that particular month.

(f) Failure to engage/provide services of Maintenance Engineer up-to 30 days:

Penalty of rupees ₹50,000/- for that particular month.

(g) Failure to engage/provide services of bituminous works Supervisor up-to 30 days:

Penalty of rupees ₹30,000/- for that particular month.

Compliance to environmental approvals as detailed in Section 5H Table H1 is required when the Contractor establishes a new HMP/WMM Plant, Batching Plant, Crusher, Camp Site, Labour camp, exploring new borrow pit areas quarry sites, bore wells and other water sources. Failure to meet the relevant requirement will be reported to the relevant Government Department.

Note:

All deductions noted within this clause will not be reimbursable and will be treated as a deduction to the Contract.

8 Special Clauses to the MORTH Specifications:

Additional Clauses to the MoRTH Specifications for Road and Bridge Works (5th Revision 2013, published by IRC), Section 3000 for Ordinary Maintenance Activities.

(i) Potholes – General:

All potholes are to be prepared as specified in Clause 3004 amended as follows:

The area to be patched/repaired shall be located by the Contractor. They shall be cut/ trimmed with a jack hammer. The edges shall be cut vertically up to the level where the lower layer is suitable without any loose material. The areas shall be thoroughly cleaned with compressed air to remove all dust and lose particles. The excavations shall then be filled with material as mentioned hereunder in layers not exceeding 75mm, painting the sides and bottom of any existing bituminous layer with a thin layer of hot straight run bitumen or emulsion. Each layer shall be compacted with approved mechanical tampers/ vibratory roller and the top layer shall be flush with existing bituminous surface (no "skin patches" are allowable).All loose and/or surplus materials on the surface shall be removed.

(ii) Deep Potholes (Depth extends beyond bituminous layer into the granular base course)

The area to be repaired shall be excavated and prepared as described in item (i) above. The excavation shall be filled up with WMM material followed by bituminous layer as per existing road crust surface. The thickness of single compacted WMM layer shall not be less than 75 mm. The base course (BM/ DBM) and wearing course (SDBC/BC) above the repaired pothole shall be compatible with the existing layer of crust or as approved by the Engineer-in-charge and duly compacted.

(iii) Shallow Potholes (Depth limited to the extent of thickness of existing bituminous pavement)

The area to be repaired shall be excavated and prepared as described in item (i) above. A thin layer of hot straight run bitumen or bitumen emulsion shall be applied as per MORTH over the top of the horizontal surface of repaired pothole and the vertical sides. The excavation shall be filled up with BM/DBM & SDBC/BC compatible with the existing layer of crust or as approved by the Employer in layers not exceeding 75mm in thickness duly compacted. The finished surface of repaired pothole shall be up to top of existing bituminous pavement, following compaction.

D Section 5D: Specifications for Initial Rectification

1 Initial Rectification Works

Initial Rectification Works are those activities that are beyond Ordinary Maintenance activities, but not defined for Periodic Maintenance or Minor Improvement (including Strengthening) Works that are needed at the initial stage of the Contract to bring the road to below the required intervention standard.

The Contractor shall engage such additional resources necessary to complete the specified Initial Rectification Works. The Contractor shall not utilize resources specified in this Contract as being committed to Ordinary Maintenance activities.

2 Initial Rectification Works under the Lump Sum (Schedule 2)

The Contractor is to make an independent estimate of the Initial Rectification Works which in his view are necessary to bring the roads to below intervention standards within Initial Rectification Period and include the cost for those works in the item for Initial Rectification Works. Other works needed to bring roads up to the required service levels, which are beyond the scope of Ordinary Maintenance at the commencement of the project, but which are not included in the items, Initial Rectification, Periodic Maintenance Works and Minor Improvement (including Strengthening) Works, shall be included by the Bidders in the lump sum price for Ordinary Maintenance Services. The Contractors are solely responsible for estimating the type and quantity of Initial Rectification Works needed to meet the requirements of the Contract.

In the initial stage, for the Contractor to meet the service level compliance it will be necessary for the Contractor to undertake Initial Rectification Works for the repair of surface defects (ravelling, stripping, de-laminations, rejuvenation of oxidized surface, fine hair cracking repair, etc.) in bitumen roads as:

- All Pavement repairs using DBM, BC to correct large areas of Roughness, Rutting, Depressions;
- Application of Tack Coat for pavement repairs;
- Repair minor dig outs and failed pavement sections;
- Apply 7mm Light Surface Sealing for slurry seal to correct cracks > 5mm;
- Applying 5mm Slurry Seal for cracks < 5mm;
- Supply & spreading of granular material for unsealed shoulder repairs to correct edge drop-off to carry roadside repairs;
- Clearing and Grubbing;
- Remove Land Slips/ Debris/Unsuitable soil;
- Edge repairs to correct edge breaks;

- Providing and Constructing Coping, Plastering, Pointing, Apron, Masonry, Grouted Revetment and White washing for CD and structural works;
- Application of Road Marking, Paints, Fixing of Road Studs, Sign Boards, Kilometre Stone, and Boundary/Guard/Guide Stone.

The Initial Rectification Works indicated above may not be interpreted as to be sufficient in order to assure compliance with any of the Service Levels required by the Contract.

All assistance will be provided by the Employer to enable the Contractor to determine the proposed Initial Rectification Works (this will be essential for long term contracts). This will assist in the continual review and development of a program that suits the needs of the network to achieve service level Compliance.

The estimated quantities for Initial Rectification Works is the Employer's estimate to be able to achieve the desired Service Level for the entire road and has been provided as a Guide to assist the Contractor in determining his Lump Sum for Initial Rectification Works. The estimated quantities indicated are the minimum quantities which the Contractor will have to execute mandatorily during IR period. IR Works locations have not been defined and the works to absorb the quantities below will need to be assessed by the Contractor, be programmed and completed within initial rectification period of start date.

The Employer's estimated quantities for Initial Rectification Works is shown in Appendix-D. The Initial Rectification Works and quantities indicated in Appendix-D as determined by the Employer and should not be interpreted as the final Contractual requirement for these activities. Contractor needs to assess the current road conditions and determine what works are needed to meet the intervention criteria service levels within milestone period.

All Works and Materials are to be in accordance with the relevant sections as defined in Section 5B of the Technical Specification. Rectifications of Stream bed upstream and downstream of 10m preferably with PCC.

3 Performance Criteria and Service Level

The Initial Rectification Works is for the purpose of assisting the Contractor to bring the road up to the required intervention standard & service level within initial rectification period as per Contractor. The performance criteria and service level requirement for the Ordinary Maintenance as specified in Section 5C will be applicable to Initial Rectification works also. Failure to bring the road below intervention standard by the stated time period for the said road will result in Payment Reductions in the Ordinary Maintenance Lump Sum after the Initial Rectification Works completion for the road.

4 Procedures for Inspection and Payment

Payment for the Initial Rectification shall be made in Lumpsum (km) for which service level has been achieved ensuring work of minimum quantities stated in Section 5D of Technical Specifications/Appendix D and the relevant Clauses of MORTH, up-to the

limit of the Lump Sum amount in the Contractor's Bid. The Contractor shall submit Monthly Progress Report for Initial Rectification Works as per the specified Form OM-01.

Payment for Items shall be in accordance to compliance with Section 5B of Technical Specifications and the relevant Clauses of MORTH.

5 Payment Reduction and Liquidated Damages

Failure to Complete the works in the specified time period, the Liquidated Damages shall be imposed in accordance with Clause 39.3 of the Particular Conditions.

6 Amendments to the MORTH Specifications

For Initial Rectification Work:

6.1 Item No: 2.1

(a) Repair of potholes

Applicable for areas > 25 m^2 per km (any km)

Where the section of the road being repaired is scheduled under PM works for a bituminous overlay, all regulation works shall be completed a minimum of 1 month prior to the execution of PM works.

(b) Repair of Minor Digouts and Failed Sections

Applicable for areas > 5 m^2, at one location

Specification – Section B3, MoRTH Clause 406, 503, 504,508, 304, and 305.4.3. Minor dig-outs and failed sections are to be treated in accordance with Section B3 of this specification. The depth of all digouts shall be a minimum 200mm and all excavated material shall be removed from the site. Where full depth excavation is required, the limit of excavation shall be 25mm below the existing sub-grade level.

Work shall include the supply, placement and compaction of Base course material non-bituminous/bituminous as applicable and the construction of a surfacing layer of 25mm SDBC/30 mm BC, including tack coat.

(c) Light Surface Sealing

Applicable for areas > 10 m^2, at one location

A light seal of bitumen emulsion and 7mm aggregate shall be applied to areas of badly cracked pavement, provided the pavement is sound.

Where the section of the road being repaired is scheduled under PM works for a bituminous overlay, all crack repair works shall be completed a minimum of 1 month prior to the execution of any PM works.

(d) Slurry Seal

Applicable for areas >50 m^2, in single isolated area

A premixed bitumen emulsion and coarse sand (3mm), raked and compacted, shall be applied to seal cracks, fill voids, minor depressions and distressed seal, provided the pavement is sound.

Where the section of the road being repaired is scheduled under Periodic Maintenance or Minor Improvement works for a bituminous overlay, all slurry sealing works shall be completed a minimum of 1 month prior to the execution of any bituminous overlay.

(e) Edge Repair with edge break> 100mm in width

Applicable for lengths > 5 m at one location

Specification –Applicable as per existing crust

(f) Any additional activity necessary to achieve the service level objectives.

6.2 Item No: 2.2

(a) Material for roadside repairs

Applicable for volume > 30 m^3 per km (any km)

Specification - MORTH Clause 305

Construct earthen shoulders as per MORTH Specification for road side repairs as directed by the Engineer-in-charge.

(b) Removal of Land Slip Material/Debris/unsuitable material

Applicable for volume > 5m^3 at one location

(c) Earth work excavation in all soils

Applicable for volume > 5m^3 at one location

Specification - MORTH Clause 304

Excavation shall be done as directed by the Engineer-in-charge

Payment shall be made at the scheduled rate for the volume of work in cubic meter as measured and agreed on Site with the Employer or delegated representative.

Where directed by the Engineer-in-Charge under Emergency Works, material from major land slips/Debris/unsuitable material shall be removed and carted to a spoil site approved by the Engineer-in-Charge. Work shall include clearing all debris and material from the site, loading, cartage to spoil and disposal.

(d) Non-bituminous hard shoulder/ footpath

Item to be repaired/ replaced as per existing material specification in the shoulder.

6.3 Item No:2.3

Clearing and Grubbing Scrub/Light Jungle/Heavy Jungle

Applicable for formation width.

Specification – as directed by Engineer-in-charge

The Jungle shall be cleared and the roots shall be uprooted as per specification and such cleared jungle shall be burned to ashes.

6.4 Item No:2.5

Sign boards, KM stone, and Guard /Guide/Boundary pillar / Tree guard

MORTH Specification

Providing and fixing of sign boards, KM stone, HM stone and Guard, Guide, Boundary pillar on the road as directed by Engineer-in-charge.

6.5 Item No:2.6

(a) Thermoplastic road marking

As per MoRTH Specification No.803

Providing and applying thermoplastic road marking paint on the pavement surface as directed by Engineer-in-Charge.

(b) Fixing Road Studs (Urban Areas as mentioned in Appendix and as per direction of Engineer-in-Charge).

As per MoRTH Specification No.804

Providing and fixing of road studs on the urban roads as mentioned in Appendix and as directed by Engineer-in-charge.

6.6 Item No:2.7

(a) Repair of divider, road kerbs, islands, parapets and RCC/Brick drains as directed by Engineer-in-charge.

(b) Painting of trees up-to 1.2m heights above the road surface/ flank by alternate white washing and colour washing of 0.3m bandwidth as directed by Engineer-in-charge.

(c) Painting of poles up-to 1.2m height above the road surface/ flank by synthetic enamel paint in alternate band width of black and yellow starting with black as directed by Engineer-in-charge.

(d) Painting of road dividers, island, parapets, kerbs etc. as directed by Engineer-in-charge.

Note:
Work of quantity less than applicable area shall be treated as, being covered in OM responsibilities.

E Section 5E: Specifications for Periodic Maintenance

1 Periodic Maintenance Works

(a) Periodic Maintenance works are the pavement resurfacing activities (BC 30mm/40mm, as applicable, overlay) that are beyond Ordinary Maintenance Activities. On completion of the Initial Rectification Works to get the road to the desired Service Level, the Contractor shall commence applying surface treatment (BC asphalt overlay) including application of road marking. To those roads/ road segment which has completed a period of 48 months after last surface renewal within the Contract period, the Contractor shall apply the surface treatment, if indicated in Maintenance Plan, over the entire road which has completed surface renewal period of 48 months defined except for the road sections under defect liability defined in Clause 7 of Section 5A of Technical Specification. The application of surface renewal by bituminous cold mix, if required to be done under the Contract, shall be done as per the MORTH Specifications and direction of Engineer-in-charge.

The Contractor is to make an independent estimate of the Periodic Maintenance Works which in his view are necessary to bring the roads to the required service level (Roughness Index) at the required milestones, and include the cost for those works in the item for Periodic Maintenance Works. The Lump Sum is to include allowance for the application of not less than 30 mm BC wearing course for the Structural Overlay sections defined in Section 5F Minor Improvement (including Strengthening) Works. The Wearing Course activity shall be paid on a unit lane kilometres.

The Contractor shall conduct all necessary corrective works under Initial Rectification or Ordinary Maintenance in preparation of the resurfacing. Prior to commencement of an overlay, the Contractor is to notify the Employer of the impending commencement of the Works for inspection in accordance with Clause 20 of the General Conditions. In addition to the specified minimum depth, the Contractor is to ensure Camber Correction is made for a crossfall of 2.5% on the finished surface.

The Contractor shall engage such additional resources necessary to complete the specified Periodic Maintenance works. The Contractor shall not utilize resources specified in this Contract as being committed to Ordinary Maintenance activities.

(b) Re-Application of Road Marking Works at the interval of minimum 2 years from the previous application of Road Marking. The Works shall conform to the MORTH Specifications.

2 Periodic Maintenance Works under Lump Sum (Schedule 3(a) & 3(b))

(a) All Periodic Maintenance Works shall be completed Year-Wise of the Contract Period. The Works shall be divided throughout the Contract Period as per approved Maintenance Plan.

(b) Re-Application of Road Marking shall be completed Year-Wise of the Contract Period. The re-application shall be divided throughout the Contract Period such that after an interval of 24 months, the road marking is re-applied.

As a guide to assist the Contractor in Bid, the Employer's Estimate of the length in km for Bituminous Wearing Course anticipated for each year of the Periodic Maintenance is given in Appendix-E.

3 Performance Criteria

The Performance Criteria for the Periodic Maintenance is Roughness. Roughness Service Levels compliance is to be assessed using a Bump Integrator or similar equipment.

4 Service Levels

The Contractor is responsible for ensuring that the road roughness is below the threshold values given in the table below:

Item	Service Level	Measurement/ Detection	Time allowed for repairs or tolerance permitted
Maximum IRI for any 1 km Section of Existing Pavement	Average Value for any 1 km Road Section must be less than the threshold value of 3500 (in IRI average)	Measured with calibrated equipment (Bump Integrator)	No tolerance allowed.
Average Pavement Roughness for Entire Road	Average Value for entire Road or Road Section must be less than the threshold value of 3000 (in IRI average)	Measured with calibrated equipment (Bump Integrator)	No tolerance allowed.
Maximum IRI for any length of a pavement upon receiving periodical renewal and up-to 1 year of DLP	Average Value for any 1 km Road Section must be less than the threshold value of 2500 (in IRI average)	Measured with calibrated equipment (Bump Integrator)	No tolerance allowed.
Maximum IRI for any 1 km Section of Existing Pavement Completion Report (Exit Criteria)	Average Value for any 1 km Road Section must be less than the threshold value of 3500 (in IRI average)	Measured with calibrated equipment (Bump Integrator)	No tolerance allowed.

5 Procedures for Inspection and Payment

The Roughness is to be measured at the beginning of the Contract as part of the Initial Road Condition Report to confirm the sections that do not meet these Service Level criteria. On completion of the Initial Rectification, Periodic Maintenance Works and Minor Improvement (including Strengthening) Works at the end of year 1 (one) the roughness shall be taken as part of the Milestone Report and subsequently at the end of year 2, 3, 4, 5, 6 & 7 (first 6 months) of Periodic Maintenance Works including 1 year of DLP for the same.

If the measurement reveals that the road roughness is above the Service Level, the Employer will establish a time frame for the Contractor to take the measures necessary to correct the non-conformance. That time frame should normally ensure that the corresponding works are completed within four weeks. The Employer may however grant a longer period if, in the opinion of the Employer the circumstances warrant such longer period. Upon completion of the non-conforming section the relevant section roughness shall be measured again to confirm compliance. Liquidated damages shall apply after the granted date until the non-conformance has been corrected.

The Contractor will be required to correct any non-conformances and re-measure prior to the Completion of the Contract. If the any section of the road does not meet the Service Level prior to the end of the Contract, Liquidated damages shall apply in accordance to Clause 40.3 for the General Conditions/ Particular Conditions.

The Quoted Rate based on assuming per kilometre carpet areas, accordingly, the payment shall be proportionately increased or decreased as per the actual area of the kilometre.

6 Payment Reduction and Liquidated Damages

For failure to complete the work in the specified time period in accordance with GC Clause 39 the Liquidated Damages shall be imposed in accordance to Clause 39.3 of the Particular Conditions.

For non-compliance with the Performance Requirement on road roughness and layer thickness at the measurement in accordance to Clause 40 of the General Conditions, the contractor can correct the non-compliance at his own cost for retesting within the timeframe agreed with the Employer or pay Liquidated Damages as detailed in Clause 40.3 of the Particular Conditions.

7 Amendments to the MORTH Specifications

For Periodic Maintenance:

Item No: 3(a)1.1 & to 3(a)3.2.2

Tack Coat as per MORTH Specification No. 503

Applying Tack Coat for BC as directed by Engineer-in-charge.

Bituminous Concrete as per MORTH Specification No. 507, No. 519

Bituminous Cold Mix as per MORTH Specifications No. 518

Thermoplastic Road marking (as per IRC-35/latest code)

MoRTH Specification No.803

Providing and applying thermoplastic road marking paint on the pavement surface as directed by Engineer-in-charge.

Fixing Road Studs (Urban Areas as mentioned in Appendix and as directed by Engineer-in-charge).

MoRTH Specification No. 804

Providing and fixing of road studs on the urban road as mentioned in appendix and as directed by Engineer-in-charge.

Repair of shoulder (Paved and Unpaved)

Specification - MORTH Clause 305

Repair shoulders as per MORT&H Specification for road side repairs as directed by the Engineer-in-charge.

Painting of parapet, kerbs, islands, dividers

Painting of parapet, kerbs, islands, dividers as per MORTH Specification as directed by the Engineer-in-charge.

Amendment to Material Specifications

The following changes are noted to the MORTH Specifications:

Use of Bitumen Emulsion

An emulsified bitumen mix compatible with the existing layer shall be used as the top surfacing of deep pothole or for complete shallow potholes.

The bituminous mixture used for such patch repairs shall be in accordance with MORTH Section 3004.

The Contractor shall use only bitumen emulsion in carrying out any crack sealing or light surface sealing. A hand or electric emulsion pump shall be used to evenly distribute or spray the emulsion.

Drummed bitumen or drummed cutback bitumen will not be an acceptable substitute unless for the production of storable premix or bituminous or approved by the Engineer-in-charge.

F Section 5F: Specifications for Minor Improvement

1 Minor Improvement (including Strengthening) Works.

Minor Improvement (including Strengthening) works are required and will consist of a set of interventions that adds new characteristics to the roads in response to new traffic and safety or other conditions. MI Works quantities are offered at approved prices included in the Contract. The execution of MI Works shall be requested by the Employer to be carried out by the Contractor. The issued work order shall specify the activities to be carried out and the corresponding price.

Description of Minor Improvement Works:

(a) Improvement Works

- Major dig-out repair of failed pavement section which could not be covered under OM responsibilities;
- Structural overlay at failed pavement sections;
- Re-construction/ extension of culverts, drains;
- Junction development in response to safety requirement;
- Speed calming measures near junctions;
- PQC/ Mastic Asphalt work at consistent water-ponding section of the road in Bazar portion

(b) Strengthening Works

- Strengthening of failed road sections as per the direction of Engineer-in-charge

2 Description of Minor Improvement (incl. Strengthening) Works

The Contractor will have to carry out the Minor Improvement (including Strengthening) Works as indicated in Appendix-F and shall be used for conformity for assessing the Bid. Where requested by the Employer, the Contractor must verify both in quantity & quality that the quantities of works stated in Appendix-F have been completed.

These Minor Improvement (including Strengthening) Works indicated above should not be interpreted as to be sufficient in order to initiate compliance with any of the Service Levels required by the Contract. The Contractor will need to assess the current road conditions and determine what works are needed to meet the timetables for service level compliance.

The minimum thickness of layer shall not be less than 30mm for BC, 50mm for DBM & 25mm for Mastic Works.

3 List of Documents for Approval/Review

The following documents related to Minor Improvement (including Strengthening) Works for Approval or Review are specified in accordance with Sub-Clause 8.4.1 of the GC:

For Approval: Any recommended or innovative treatments that differ from the standards included in the General Specification.

For Review

- Quality of Materials to be used in the works;
- Design for Bituminous Concrete;
- Linear diagrams of all completed road surfacing and minor improvement works;
- Drawings & as built plans for structures, culverts, retaining and breast walls, parapets, etc.;
- Details and location of all new road signs, distance markers or other road utilities.

4 Payment for Minor Improvement (including Strengthening) Works

The Minor Improvement (including Strengthening) Works indicated above will be remunerated based on the unit prices shown in the Schedule of Prices. The Contractor will invoice Minor Improvement (including Strengthening) Works as part of the Monthly Statements and in accordance with the Minor Improvement (including Strengthening) Works actually carried out as approved by the Employer and measured by unit price as stated in the Schedule of Prices.

5 Measurement

Where material is to be measured by volume it shall be measured in cubic meters. The Contractor shall measure and document the volume of all materials supplied under the Contract in accordance with the Technical Specification and the Contractor's Contract Quality Plan.

Further, the Contractor shall, on request by the Employer, provide objective evidence to the ongoing verification of the accuracy of the thickness of items of works executed under Minor Improvements/ Strengthening Works/ Bituminous overlay.

Payment under this item will include full compensation for all labour, plant, and materials used in meeting the specified requirements. Failure to carry out the works in the time specified will result in the Contractor being liable for liquidated damages further leading to debarment and termination of the Contract.

Payment for works under Minor Improvement (including Strengthening) is to cover all necessary preparation, prime coat, tack coat, ancillary works, building up the shoulders to match the new pavement edge level, sign poles and any other works not specially mentioned necessary to carry out the works.

6 Quality Requirements

Sub-Standard works are not permitted in the Contract. If at stage, during construction or after completion, any sub-standard work is identified by the Contractor or the Employer during inspection, action will be taken by the Contractor to correct/ replace the sub-standard work in accordance with Clause 20.6 of the General Conditions. Failure to correct the work shall result in non-payment /recovery as the case may be for the identified item.

7 Service Level performance

To ensure that the new pavement meet final Roughness Index requirements. Roughness Index Service Levels compliance is to be assessed using a Bump Integrator or similar equipment

The Employer owns a Bump Integrator and survey vehicle suitable for carrying out the Roughness Survey. The Contractor is encouraged to arrange to hire the vehicle with driver, as necessary, to undertake the survey under the supervision of the Employer.

The Contractor is responsible for ensuring that the road roughness is below the threshold values given in the table below.

The threshold value is the maximum allowed average for any new pavement constructed as part of the major dig outs works and any structural overlayed pavement sections defined under Minor Improvement (including Strengthening) Works.

The tighter measurements are to ensure that the roughness measurement is within the overall limits at the end of the Contract.

Item	Service Level	Measurement/ Detection	Time allowed for repairs or tolerance permitted
Maximum IRI for any length of pavement under Minor Improvement (including Strengthening)	Average Value for any 1 km Road Section must be less than the threshold value of 2000 (in IRI average)	Measured with calibrated equipment (Bump Integrator)	4 Weeks and No tolerance in IRI Threshold Value allowed.

On completion of the Minor Improvement (including Strengthening) Works and 1st year Periodic Maintenance Works defined in Section 5E of Technical Specifications/ Appendix E, the roughness shall be measured as a part of the Milestone Report.

If the measurement reveals that the road roughness is above the Service Level criterion, the Employer will establish a time frame for the Contractor to take the measures necessary to correct the non-conformance. That time frame should normally ensure that the corresponding works are completed within 4 (four) weeks. The Employer may however grant a longer period if, in the opinion of the Employer, the circumstances warrant such longer period. Upon completion of the non-conforming

section the relevant section roughness shall be measured again to confirm compliance. Liquidated Damages shall apply after the granted date until the non-conformance has been corrected.

8 Payment Reduction and Liquidated Damages

For failure to complete the work in the specified time period, the Liquidated Damages shall be imposed in accordance to Clause 39 of the General Conditions/ Particular Conditions. The Contractor shall further liable to debarment and termination thereupon.

For Non-Compliances with the Performance Requirement on road roughness at the Milestone measurement in accordance to Clause 40.3, the Contractor can correct the non-compliances at his own cost for retesting within the timeframe agreed with the Employer or pay Liquidated Damages as indicated in GC/PC Clause 40.3 of the Contract.

G Section 5G: Specifications for Emergency/Contingency

1 Definition of "Unforeseen Natural Phenomena /Emergency"

Emergency Works are designed to repair those damages to the roads under Contract which are caused directly by Unforeseen Natural Phenomena with imponderable consequences, due to the reasons beyond the control of the Contractor occurring either in the area of the roads or elsewhere, but with a direct impact on the roads. "Unforeseen Natural Phenomena" are defined as follows:

(a) Flooding where water levels rise above the crown level of the road resulting in complete or partial washout of the Culvert or Road Embankment causing disruption of traffic. Any damage which results from insufficient maintenance of drainage structures will not be considered as "Emergency" and will need to be repaired from within the Ordinary Maintenance Services.

(b) Major landslides (greater than 50 m^3/ km) occurred by natural calamity or by heavy rains or earthquakes, which block the road carriageway and drains, encroach onto the road surface and interrupts the flow of traffic or is unsafe. Landslides within the right-of–way caused by overflow of poorly maintained cut-off drains or catch dams will not be considered as an "Emergency" and will need to be removed as part of Ordinary Maintenance Services.

(c) Traffic accidents which interrupts traffic and causes insurmountable damage to the road. Nevertheless, the Contractor will be responsible to provide full support to the police and road users and arrange signing and cleanup of site or sanding as necessary is part of Ordinary Maintenance Services.

(d) Due to the reasons beyond the control of Contractor in Routine Maintenance of road under Contract Conditions like excessive/ incessant rains, other events listed in the Clause 38 .1 of General Conditions, etc.

1.1 Procedure for requesting works under Emergency Conditions

(a) Pursuant to Clause 29.1 of General Conditions, the need of execution of Emergency Works shall be jointly decided by the Engineer-in-charge and the Contractor. The starting of the execution of Emergency Works shall require 'Work Order' beforehand shall be issued by the Engineer-in-charge.

(b) Protection Works

Protection/ Damaged Repair Works arises In case of natural phenomena like flood, incessant rain where road crust and flank approaches started eroding or endanger of damage/ breaching, the Contractor must report immediately to Engineer-in-charge with real time GPS based photographs and prepare himself Protection Works by collecting bamboos/ salballah / sand bags/ boulders/ nylon and metal crates at sites and submit an estimate for Protection Works in excess of their OM responsibilities. Engineer-in-charge, after getting proposal or itself, pursuant to the delegations of power for approvals of emergency works, shall issue Work Order in Form OM-11 to proceed with the works. All efforts should be there for protecting flank or road crust as the primary duty.

(c) Damage Repair Works

On the basis of losses or damages occurred as a result of natural phenomena (such as strong storms, flooding or earthquakes) with imponderable consequences, or on the possibility of damages or losses occurring, or the safety of individuals, works, services or equipment being at risk as result of the natural phenomena, the Contractor shall request the Engineer-in-charge with a detailed report for execution of Emergency Works and categorising the situations.

The detailed report must contain the estimate, supporting documents, facts recorded supported by real time GPS based photographs.

Only 1 (One) Estimate for entire affected roads under package is allowed for an event (repair of damaged flank, crust, approaches of culverts, cross drainage works).

On the basis of the submitted report, the Engineer-in-charge shall inspect the site of occurrence of emergency and verify the estimate and of his own judgment of the situation, Engineer-in-charge, pursuant to GC/PC Clause 47.4 the delegations of power for approvals of Emergency Works, shall issue Work Order in Form OM 11 to proceed with the works.

1.2 Payment – 'Only in Case of excess of Contractor's OM Responsibility'

(a) Engineer-in-charge, pursuant to GC/PC Clause 47.4 the delegations of power for approvals of Emergency Works, shall issue Work Order in Form OM-11 along with Payment Schedule to proceed with the works

(b) The Contractor shall issue necessarily Request for Inspection (RFI) for every stage of work before further execution. On approval of RFI by the Employer, the Contractor shall proceed with the work During and before completion of Emergency Work, the Contractor shall request the Engineer-in-Charge and/or it's representatives for inspection.

(c) As per Payment Schedule, when the Stage Payment Schedule arrives, the completed works shall be measured by the Engineer-in-Charge and/or it's representatives.

1.3 Permanent Restoration

Repair of damaged flank, crust, approaches, culverts, cross drainage works in case of flood, earthquake etc. may require use of financial arrangement other than non-plan head and the Employer shall not be under any obligation to get the works executed by the OPRMC Contactor. In such case, Employer shall be free to suspend OM service obligation of the OPRMC Contractor and the works shall be got executed through another Agency under FDR or other financial head. After restoration to service level, the suspended stretch shall be taken over by OPRMC Contractor for Ordinary Maintenance and other obligations under the Contract.

2 Definition of "Contingent Works"

(a) Contingent Works refer to those proposed special works to the roads under Contract which arises during visit of VVIPs as; Hon'ble President of India, Hon'ble Prime Minister of India, Hon'ble Chief Minister of the States & Other such Dignitaries as decided by the Employer.

(b) Such Specific Works during the State Level Festival of National/ International importance viz. Republic Day, Independence Day, Rajgir Mahotsav, Vaishali Mahotsav and any other such congregation as decided by the Employer.

(c) All damages occurred to the road due to works taken by other Departments/ Agencies.

3 Remuneration of Emergency and Contingent Works

Emergency and Contingent works are remunerated by the Engineer-in-charge for each Work Order established on the basis of executed quantities at the unit prices covered under Schedule 4 for similar items and for other items the unit prices shall be based on the current Schedule of Rates of Road Construction Department, Bihar available just before the execution of work arrived as per GC/PC Clause 61 & 63 of the Contract.

In the event of unforeseen events, works shall be conducted as Emergency Works. These Works shall be undertaken under Emergency works only where formally approved by the Employer. Works carried out under Emergency works shall be for minor items of works which are not within the scope of Schedule 1, 2, 3 or 4 activities.

In Emergency incidents, where the Emergency/Contingent Works is beyond the Scope of Ordinary Maintenance Responsibilities and not listed in any of the Schedule/s, the Contractor shall provide the Employer a full listing of costs in accordance with the rates tendered in work Schedule 4. Once the site has been made safe, the Contractor is not to proceed with remedial works until the approval of the Employer is received.

4 Provision of Provisional Sum for Emergency & Contingency Works

Administrative Approval of each Package has a provision of Provisional Sum for execution of emergency & contingent works during the entire contract period and the actual payments for emergency & contingent works shall be made on the basis of actual quantities of executed works.

H Section 5H: Environmental Requirement

1 General

1.1 The "Environmental Management Framework" (EMF) has been prepared for Contracts under OPRMC. Section 5H is to be read in conjunction with the EMF, which is available at the Employer's Office. The Contractor's checklist is also prepared and given in Form OM-14, which is to be submitted to the Employer and serves as the basis for complying with safeguard measures to be implemented by the Contractor and monitored by the Employer. The Environmental Management Action Plan (EMAP) of EMF is also given in Appendix G(a), which shall be read in conjunction with the environmental specifications. Appendix G(b) gives Environmental Sensitive Areas through which works shall not proceed without clearance from the Engineer-in-charge.

1.2 The Contractor shall take all necessary measures, precautions and otherwise ensure that the execution of the works and all associated operations on-site or off-site are carried out in conformity with the statutory and regulatory environmental requirements including those prescribed in the EMF and elsewhere in this document.

1.3 The Contractor shall take all the measures and precautions to avoid any nuisance or disturbance arising from the execution of the works. This shall, wherever possible be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated. The provisions of this sub-clause shall however, be disregarded in respect of emergencies required for saving life or for the safety of the works.

1.4 In the event of any spoil or debris or silt from the sites being deposited on adjacent lands, the Contractor shall immediately remove such spoils, debris or silt and restore the affected area to its original state to the satisfaction of the Engineer-in-charge.

1.5 Surplus excavation materials and topsoil shall, wherever possible, be used to reinstate quarries or borrow pits or other areas as may be approved by the Engineer-in-charge. Such materials should be spread in such a manner as to limit subsequent erosion and shall be re-vegetated as existing ground cover dictates. Restoration of borrow pits and quarries shall be undertaken in an appropriate time frame to avoid formation of cess pools and other environmental hazards.

1.6 The Contractor shall comply with the requirements of various environmental statutes, as may be applicable, some of which are mentioned below:

- Environment (Protection) Act, 1986, and as amended;
- Water (Prevention and Control of Pollution) Act, 1974, and as amended;
- Air (Prevention and Control of Pollution) Act, 1981, and as amended;
- Noise Pollution (Control and Regulation) Rules, 2000, and as amended;
- Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and amendments of 1994, 2000 and 2002;

- Hazardous Waste (Management and Handling) Rules;
- The Wildlife (Protection) Act, 1972, and as amended;
- Forest Conservation Act, 1980, and as amended;
- Motor Vehicle Rules, 1989, and as amended;
- Public Liability Insurance Act, 1991, and as amended;
- National Environmental Tribunal Act, 1995, and as amended;
- National Environment Appellate Authority Act, 1997, and as amended;
- Contract Labour (Regulation and Abolition) Act 1970, and as amended;
- Workmen Compensation Act 1923, and as amended;
- The Factories Act 1948,and as amended;
- The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996, and as amended;
- Child Labour (Prohibition and Regulation) Act 1986, and as amended;
- Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act 1979.

2 Construction Camp and Workers Camp

2.1 Unless otherwise specified, the Contractor is at liberty to make his own arrangements with landowners to establish construction camps and worker's camp. Prior to the development of such camps the Contractor shall submit to the Engineer-in-charge the signed authority of the landowner for the Contractor to establish the construction camp on any land. Location of such camp shall be 1.5 km from boundaries of designated Reserved Forests, Sanctuary or National Park, 1.5 km from river, stream and lake and 500 m from ponds, 250 m from the boundary of State and National highways and 1.5 km from the nearest habitation. The Contractor shall also submit to the Engineer-in-Charge the following information signed by the landowner and the Contractor:

- Present land use category;
- details of compensation to be paid;
- agreed period of tenure;
- any specific requirements of the landowner;
- photographs of the site in its original condition; and
- details of proposed and agreed site restoration plan after completion of the project works.

2.2 The Contractor shall provide and maintain proper sanitation and adequate water supply facilities including potable drinking water at his own cost to the workers. All

camp facilities shall be maintained in a safe clean and or appropriate condition throughout the construction period.

2.3 The Contractor shall provide and maintain adequate first aid facilities and erect conspicuous notice boards directing where these are situated and provide all required transport. The Contractor shall comply with the government medical or labour requirements at all times and provide, equip and maintain first aid centre, where directed and at all times have experienced first aid personnel available throughout the works for attending injuries.

2.4 At the completion of construction, all construction camp facilities shall be dismantled and removed from the site. The site shall be restored to a condition in no way inferior to the condition prior to commencement of the works. Various activities to be carried out for site rehabilitation include:

- Oil and fuel contaminated soil shall be disposed of in a deep trench as given in EMAP (Appendix G(a));
- Soak Pits, Septic Tanks shall be covered and effectively sealed-off;
- Debris (rejected material) should be disposed-off suitably (refer Appendix 11 of EMF for detailed guideline);
- Ramps created should be levelled.
- Underground water tank in a barren/non-agricultural land can be covered. However, in an agriculture land, the tank shall be removed;
- If the construction camp site is on an agricultural land, top soil can be spread so as to aid faster rejuvenation. Proper documentation of rehabilitation site is necessary and this shall include the following:
    - Photographs of rehabilitated site;
    - Land Owner consent letter for satisfaction in measures taken for rehabilitation of site;
    - Certification from Engineer-in-Charge or delegated Representative.

2.5 In the cases, where the construction camps site is located on a private land holding, the Contractor would still have to restore the campsite as per this guideline. The rehabilitation is mandatory and should be included in the agreement with the landowner by the Contractor. Also, Contractor would have to obtain a certificate for satisfaction from the landowner. If such a statement is not submitted, the Engineer-in-Charge may withhold payment as per the payment deduction summary for Contract given in Section 5C Clause 7 of the Technical Specifications.

3 Establishing construction plants (Hot mix plant, Crusher, DG sets etc.)

All materials for bituminous works shall be sourced from Hot Mix Plants (HMP), road side pan boiling of bitumen shall not be carried out. If absolutely necessary, with the prior approval the Engineer-in-Chage, Mobile Hot Mixer with hood may be used which

should be far from at least 1.5 km from the nearest habitation in the cross wind direction.

During the establishment of the construction plant the Contractor shall submit the Consent For Establishment (CFE) from Bihar State Pollution Control Board (BSPCB) to the Engineer-in-Charge. Location of construction plant shall be at-least 1.5 km away from the settlements, schools, hospitals on downwind directions and 1.5 km away from any archaeological site/ ecologically sensitive areas i.e. forest, national park, sanctuary etc./ rivers/ streams and lakes, at-least 500m away from ponds/ National Highway, at-least 250m away from State Highway, at-least 100m away from District roads and other roads (the distance are to be measured from edge of the road to the Boundary of site). The construction plant should be away from agricultural land and preference to barren land, complying all relevant provisions of the Factories Act, 1948 and the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.

4 Quarry Operations

4.1 The Contractor shall obtain materials from licensed and Government approved quarries. In case of opening new quarry, the Contractor shall obtain materials only after obtaining necessary license and lease deed from the Mining Department, District Administration and Forest Department etc., as shall be applicable. Copy of such permission shall be submitted to the Employer. The quarry operation shall be undertaken within the purview of the rules and regulations in force.

4.2 Quarry Operations and Management (if new quarries are opened):

- New quarry should be at least 1.5 km away from the settlements, forest and other ecologically sensitive areas;
- Quarry shall be away from water body;
- Contractor shall estimate water requirement for dust suppression at quarry sites during operation and for water spraying on kutcha (non-metal) haul road and ensure availability of water by identifying sources and obtaining necessary permission;
- Contractor shall prepare quarry sites operation and redevelopment plan considering surrounding land uses, local needs and agreement with the landowner;
- Only licensed blaster i.e. shotfirer certificate holder will be responsible for quarry blasting;
- Permits for transportation, storage and use of explosive, as will be required, shall be obtained from the Controller of Explosive;
- Overburden shall be removed and disposed as per Appendix 10 of EMF;
- In case of blasting, the procedure and safety measures shall be taken as per The Explosive Rules, 1983;

- The Contractor shall ensure that all workers related safety measures shall be taken Quarry operation will be undertaken in stages with adequate benching; and
- Redeveloping the area within 2 weeks (or as will be agreed upon) of completion of quarry material collection.

4.3 Use of Explosive for Blasting

The Contractor shall adopt any method or methods of blasting consistent with the safety and job requirements. Prior to starting any phase of the operation the Contractor shall provide information describing pertinent blasting procedures, dimension and notes.

The magazine for the storage of explosives shall be built as per national/ international standards and located at the approved site. No unauthorized person shall be admitted into the magazine which when not in use shall be kept securely locked. No matches or inflammable material shall be allowed in the magazine. The magazine shall have an effective lightning conductor. The following shall be displayed in the lobby of the magazine:

- A copy of the relevant rules regarding safe storage in English and in the language with which the workers concerned are familiar.
- A statement of up-to-date stock in the magazine.
- A certificate showing the last date of testing of the lightning conductor.
- A notice that smoking is strictly prohibited.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided to the satisfaction of the Engineer in charge and in general not closer than 300 m from the road or from any building or camping area or place of human occupancy. In addition to these, the Contractor shall also observe the following instructions and any further additional instructions which may be given by the Employer and shall be responsible for damage to property and any accident which may occur to workmen or the public on account of any operations connected with the storage, handling or use of explosives and blasting.

4.4 Blasting Operations

The blasting shall be carried out during fixed hours of the day preferably during the midday luncheon hour or at the close of the work as ordered in writing by the Employer. The hours shall be made known to the people in the vicinity. All the charges shall be prepared by the man in charge only.

The Contractor shall notify each public utility company having structures in proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury. In advance of any blasting work within 50 m of any railway track or structures, the Contractor shall notify the concerned

Railway Authority of the location, date, time and approximate duration of such blasting operations.

Red danger flags shall be displayed prominently in all directions during the blasting operations. The flags shall be planted 200m and 500m from the blasting site in all directions for blasting at work site and quarry, respectively. People, except those who actually light the fuse, shall be prohibited from entering this area, and all persons including workmen shall be excluded from the flagged area at least 10 minutes before the firing, a warning siren being sounded for the purpose.

5 Borrowing of Earth (in case of opening of new borrow areas)

5.1 Borrow Area Selection

Borrowing within the ROW is prohibited under this contract. However, earth available from excavation for roadside drains as per design, may be used as embankment material (if necessary and applicable), subject to approval of the Employer, with respect to acceptability of material.

5.2 Borrowing to be avoided on the following areas:

- For land close to toe line, the minimum distance shall be 30m distance from ROW and 5 m from toe of embankment, whichever is higher;
- Irrigated agricultural lands (In case of necessity for borrowing from such lands, the topsoil shall be preserved in stockpiles;
- Land within 1km of settlements;
- Environmentally sensitive areas such as Reserve Forests, Protected Forests, Sanctuary, wetlands. Minimum distance of 1.5 km should be maintained from such areas;
- Unstable hillsides;
- Water-bodies (only if permitted by the local authority, and with specific re-development plans approved by the Employer);
- Areas known to support rare plant/ animal species;
- Adequate drainage system shall be provided to prevent the flooding of the excavated area;
- At the stockpiling locations, the Contractor shall construct sediment barriers to prevent the erosion of excavated material due to runoff;
- During excavation slopes shall be 1:1 or 2H:1V to prevent their sliding.

5.3 Documentation of Borrow Pit

The Contractor must ensure that following data base must be documented for each identified borrow areas before commencing the borrowing activity that provide the basis of the redevelopment plan:

- Chainage along with offset distance;
- Area (sqm);
- Photograph and borrow pit from all sides;
- Type of access/width/kutcha/pucca etc from the carriageway;
- Soil type, Slope/drainage characteristics;
- Water table of the area or identify from the nearest well, etc;
- Existing land use, for example barren/agricultural/grazing land;
- Location/name/population of the nearest settlement from borrow area;
- Quantity excavated (likely and actual) and its use;
- Copy of agreement with owner/government;

Borrow areas shall be redeveloped based on terrain, surrounding land use and local needs, such as agriculture land, water tank, plantation etc. Rehabilitation certificate from the land owner along with at least four photograph of the rehabilitated site from different angles.

6 Soil Erosion and Sedimentation Control

The Contractor shall carry out the works in such a manner that soil erosion is fully controlled, and sedimentation and pollution of natural watercourses, ponds, tanks and reservoirs is avoided. The stipulations in Clause 308 of the Technical Specification of MoRTH (for Roads and Bridges) shall govern.

7 Substances Hazardous to Health

The Contractor shall not use or generate any materials in the works, which are hazardous to the health of persons, animal or vegetation. Where it is necessary to use some substances, which can cause injury to the health of workers, the Contractor shall provide protective clothing or appliances to his workers.

All workers employed on mixing bituminous material, cement, lime mortars, concrete etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, would be provided with welder's protective eye shields. Stone breakers will be provided with protective goggles and clothing and will be seated at sufficiently safe intervals.

8 Fuel and Chemical Storage

All fuel and chemical storage shall be sited on an impervious base within an embanked area and secured by fencing. Location of fuel storage and refilling areas at least 500m from all cross drainage structures and important water bodies and storing of fuel and lubricants on a sand flooring of at least 6” thick, done on brick edge flooring and polyethylene sheet. The base and walls of the embankment shall be impermeable and of capacity to contain 125 % of the volume of tanks (i.e. 25 % of spare capacity).

Filling and refuelling shall be strictly controlled and subjected to formal procedures. All valves and trigger guns shall be resistant to unauthorised interference and vandalism and be turned off and securely locked when not in use. The contents of any tank or drum shall be clearly marked. Measures shall be taken to ensure that no contamination happens or discharges enter any drain or watercourse.

9 Water Quality

Arrangement for construction water shall be the sole responsibility of the Contractor. Contractor can use pond, natural water source or identified to fill up for the project, but in that case, before using contractor shall obtain written consent from the owner / community and submit them to the Employer. To avoid disruption/disturbance to other water users, the contractor shall extract water from fixed locations and obtain approval from the Employer before finalizing the locations.

The Contractor shall prevent any interference to water supply or water abstraction sources (including underground percolating water) as a result of execution of the works. Areas where water is regularly or repetitively used for dust suppression purposes shall be laid to fall to specially constructed settlement tanks to permit sedimentation of particulate matter. After sedimentation, the water may be re-used for dust suppression.

All water and liquid waste products arising on the sites shall be collected and disposed of at location onsite or off site and in a manner that shall not cause nuisance or pollution. The Contractor shall not discharge or deposit any matter arising from the execution of the works into any place except with the permission of the Employer and the regulatory authorities concerned.

The Contractor shall protect all water courses, water ways, ditches, canals, drains, lakes and the like from pollution, silting, flooding or erosion as a result of the execution of the works.

The Contractor shall submit the details of his temporary drainage work system (including all surface channels, sediment traps, washing basins and discharge pits) to the Employer for approval prior to commencing works on its construction.

10 Air Quality

The Contractor shall devise and arrange methods of working to minimize dust, gaseous or other air borne emissions and carry out the works in such a manner as to minimize adverse impacts on air quality.

Bituminous Hot Mix Plants and Concrete Batching Plants shall be located sufficiently away from habitation, agricultural operations or commercial establishments as stipulated in H3. The Contractor shall submit a detailed layout plan for all such sites and approval of the Employer shall be necessary prior to their establishment. Specifications of crushers, hot mix plants and batching plants shall comply with the requirements of the relevant current emission control legislations and Consent/NOC for all such plants shall be submitted to the Employer. The Contractor shall not initiate plant/s operation till the required regulatory clearances are obtained and submitted.

The Contractor shall utilize effective water sprays during the crushing, delivery, handling and mixing of materials when dust is generated and dampen stored material during dry weather. All crushers used in construction shall confirm to relevant dust emissions control as shall be stipulated as per BSPCB's CFO.

Stockpiles of materials should be sited in sheltered areas or within hoarding, away from sensitive areas. Stockpiles of finer materials shall be covered with clean tarpaulins with application of sprayed water during dry and windy weather. Stockpiles of debris shall be dampened prior to their movement, except where this is contrary to the specifications.

Any vehicle with an open load carrying area used for transport of potentially dust producing materials shall have properly fitting side and tailboards. Materials having potential to produce dust shall not be loaded to a level higher than the side and tail boards and shall be covered with clean tarpaulin in good condition. The tarpaulin should be properly secured and extended to at least 300 mm over the edges of the sideboard and tailboard.

During high wind, no dust generating operations shall be permitted within 200m of residential areas having regard to the prevailing direction of the wind.

Construction vehicles and machinery shall be kept in good working order and engines turned off when not in use. Appropriate measures shall be taken to limit exhaust emissions from construction vehicles, machinery and plant and the Contractor shall include details of such proposed measures in the mitigation and monitoring plan to be submitted to the Employer.

The waste disposal and sewerage system for the camp shall be properly designed, built and operated so that no odour is generated. Compliance with the Factory Act, the Building and other construction workers (regulation of employment and conditions of service) Act, 1996 and all other relevant legislation shall be strictly adhered to.

In residential areas or other sensitive areas, such as nurseries, schools, hospitals, etc., advance warning shall be given to potentially affected persons before commencement of the works.

All the construction equipment vehicles shall have valid Pollution under Control (PUC) certificates and working reverse horn as per Motor Vehicles Rules.

11 Noise

The Contractor shall consider noise as an environmental concern in his planning and during execution of the works.

The Contractor shall use plant and equipment conforming to international/ national standards and directives on noise, vibrations and emissions shall include the details of measures for abating noise at source in the mitigation and the monitoring plan to be submitted to the Employer.

The Contractor shall take all necessary measures to ensure that operation of all mechanical equipment and construction processes on and off the site shall not cause

any unnecessary or excessive noise, taking into account all applicable environmental requirements. The Contractor shall use all necessary measures and shall maintain all plant and silencing equipment in good condition so as to minimize the noise emissions during construction works.

Workers in vicinity of strong noise, and workers working with or in crushing, compaction, batching or concrete mixing operations shall wear earplugs.

Construction activities generating noise level more than 75 dB(A) shall be avoided between 10PM and 6AM within 200m of residential areas. When operating within 200m of sensitive areas such as nursery, school or medical facilities, working hours shall be limited to 8 A.M. to 6 P.M. The noise level should not exceed 75 dB (A) at 1m from source while working near sensitive and residential areas.

12 Flora and Fauna

12.1 Loss or Damage of Vegetation

(a) All works shall be carried out in such a fashion that the damage or disruption to the flora is kept at a minimum. Trees or shrubs will only be felled or removed that impinge directly on the permanent works or necessary temporary works with prior approval from the Employer.

(b) The Employer shall approve such felling, only when the Employer secures receives a "clearance" for such felling from the Department of Forest, as applicable.

(c) Any maintenance works in national parks/sanctuaries shall be carried out only after the Employer secures prior permission from competent authorities.

12.2 Loss, Damage or Disruption to Fauna

(a) All works shall be carried out in such a fashion that the damage or disruption to the fauna is kept at a minimum.

(b) Construction workers shall be instructed to protect natural resources and fauna, including wild animals and aquatic life,

(c) Hunting and unauthorized fishing shall be strictly prohibited.

13 First Aid Facilities

First Aid facilities shall be provided to the labour at each camp site. A separate room for first aid facilities should be built with one bed. Emergency Response System with Action Tree shall be displayed at the facilities. The site first aid room should display awareness posters on safety facilitation hygiene and HIV/AIDS awareness.

First Aid Box will be provided at every maintenance campsite and under the charge of a responsible person who shall always be readily available during working hours. He shall be adequately trained in administering first aid treatment. The first aid box shall contain the following:

- 6 small sterilized dressings

- 3 medium size sterilized dressings
- 3 large size sterilized dressings
- 3 large sterilized burns dressings
- 1 (30 ml) bottle containing 2 % alcoholic solution of iodine
- 1 (30 ml) bottle containing salvolatile
- 1 snakebite lancet
- 1 (30 gm) bottle of potassium permanganate crystals
- 1 pair scissors
- Ointment for burns
- A bottle of suitable surgical antiseptic solution

In case, the number of labour exceeds 50, the items in the first aid box shall be doubled.

Malarial Risk - The Contractor shall, at his own expense, conform to all antimalarial instructions given to him by the Employer and District Health Director.

14 Transmission of Diseases

The Contractor shall create awareness among his workforce to prevent transmission of diseases between the local inhabitants and the labourers engaged for the works, especially with regard to sexually transmitted diseases.

15 Conservation of Religious Structures and Shrines

All necessary and adequate care shall be taken to minimize impact on cultural properties which includes cultural sites and remains, places of worship including temples, mosques, churches and shrines, etc., graveyards, monuments and any other important structures as identified during design and all properties / sites / remains notified under the Ancient Sites and Remains Act). No work shall spillover to these properties, premises and precincts. Access to such properties from the road shall be maintained clear and clean.

16 Preservation of Archaeological Assets and Antiquities

The Contractor shall take all necessary measures to protect any archaeological finds or antiquities as required.

During earth excavation, if any property is unearthed and seems to be culturally significant or likely to have archaeological significance, the same shall be intimated to the Employer. Work shall be suspended until further orders from the Employer. The State Archaeological Department shall be intimated of the chance find and the Employer shall carry out a joint inspection with the department. Actions as appropriate shall be intimated to the Contractor along with the probable date for resuming the work.

All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on the site shall be the property of the Government and shall be dealt with as per provisions of the relevant legislation.

The contractor shall take reasonable precautions to prevent his workmen or any other persons from removing and damaging any such article or thing. He shall, immediately upon discovery thereof and before removal acquaint the Employer of such discovery and carry out the instructions for dealing with the same by the Employer waiting while all work shall be stopped.

The Employer shall seek direction from the Archaeological Survey of India (ASI) before instructing the Contractor to recommence the work in the site.

17 Environment Enhancement

All existing highways and roads used by vehicles of the Contractor or any of his suppliers of materials or plant, and similarly any new roads which are part of the works and which are being used by traffic, shall be kept clean and clear of all dust/mud or other extraneous materials dropped by the said vehicles or their tyres. Similarly, all dust/mud or other extraneous materials from the works spreading on these highways shall be immediately cleared by the Contractor.

Clearance shall be effected immediately by manual sweeping and removal of debris, or, if so directed by the Employer, by mechanical sweeping and clearing equipment, and all dust, mud and other debris shall be removed entirely from the road surface. Additionally, if so directed by the Employer, the road surface shall be sprinkled or watered using suitable equipment.

Any structural damage caused to the existing roads by the Contractor's construction equipment shall be made good without any extra cost. On completion of the works, the Contractor shall reinstate all areas with natural vegetation to the satisfaction of the Employer.

The Contractor shall remove all old tyres and internal tubes from within the limits of site and subject to the agreement of adjacent landowners, area of 20 m on either side of the road centre line. The Contractor shall dispose of all materials in a manner approved by the Employer.

Where directed by the Employer, the Contractor shall improve and reinstate the land on which informal roadside service area have been established by removing all debris and contaminated soils, regrading to natural ground levels and reestablishing the natural vegetation where appropriate. All debris and contaminated materials shall be disposed off from site as approved by the Employer .

18 Management of Waste Materials

Drainage spoil, unwanted shoulder material, dig out material and other non-recyclable road making material is not to be deposited on the roadside except where previously agreed with the Employer. The Contractor shall dispose of any unauthorised construction debris and /or Municipal solid waste deposited by either the Contractor or Public within the Road Reserve Corridor (particularly just on the outskirts of the urban areas).

Disposal Areas:

The Contractor shall explore the opportunity of disposing construction debris at nearby municipal disposal sites for construction debris with prior permission of the local authorities. The new disposal areas shall be identified based on following criteria:

- No residential areas are located downwind side of these locations;
- Dumping sites are located at least 1000 m away from sensitive locations such as all notified forest lands, all water bodies, and productive lands
- Available waste lands are given preference.
- In case of bituminous wastes, dumping shall be carried out over a 30 cm thick layer of rammed clay so as to eliminate any chances of leaching. Care should be taken not to dispose these wastes near farmland.
- In case of filling of low lying areas with wastes, it needs to be ensured that the level matches with the surrounding areas. In this case care should be taken that these low lying areas are not used for rainwater storage
- In case oil and grease are trapped for reuse in a lined pit, care shall be taken to ensure that the pit should be located at the lowest end of the site and away from the residential areas.
- All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary will be planned and implemented as approved and directed by the Employer.

All material removed away from the maintenance corridor shall be disposed of in a manner and location as approved by the Employer. No-objection Certificate (NOC) from land owner / Revenue authorities, as may be applicable, shall be obtained and submitted to Employer.

19 Road Encroachments

Where the Contractor observes that any new illegal structure has been built or placed on the road reserve, or any other unauthorised damage to the road surface i.e. vehicle repair damage, he is to immediately report the infringement to the Employer. If any existing encroachment prevents the Contractor completing work at a particular location, the Contractor shall notify the Employer and await further instruction to proceed.

20 Labour

- The contractor shall, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.
- The contractor shall, if required by the Employer, deliver a written in detail, such form and at such intervals as maybe prescribed, showing the staff and the numbers of the several classes of labour from time to time employed by the contractor on the site.
- During continuance of the Contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under,

regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or Central Government or the local authority.

- The payment of wages should be as per the Minimum Wages Act, Department of Labour, Government of India for both male and female workers.
- Display of the minimum wages board at camps and major construction sites should be done in local languages at the construction and labour camp sites.
- Contractor is required to maintain register for payment of labour wages with entry of every labour working for him. Also, he has to produce it for verification if and when asked by Employer
- In case there are sub-contractors, the main contractor shall be responsible for ensuring that the payment of wages to labourers is as per the Minimum Wages Act. Sub-contractor has to follow the same procedure as the main contractor.

21 Workers' Accident Risks

Risk from Operations:

The Contractor is required to comply with all the precautions as required for the safety of the workmen as per the International Labour Organization (ILO) convention No. 62 as far as those are applicable to this contract. The contractor shall supply all necessary safety appliances such as safety goggles, helmets, masks, books, etc., to the workers and staff.

The contractor has to comply with all regulation regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.

Risk from Electrical Equipment:

Adequate precautions will be taken to prevent danger from electrical equipment. No materials on any of the sites will be so stacked or placed as to cause danger or inconvenience to any person or the public. All necessary fencing and lights will be provided to protect the public. All machines to be used in the construction will conform to the relevant Indian Standards (IS) codes, will be free from patent defect, will be kept in good working order, will be regularly inspected and properly maintained as per IS provisions and to the satisfaction of the Employer .

22 Reinstate the land

The Contractor shall improve and reinstate the land on which informal roadside service area have been established by removing all debris and contaminated soils, re-grading to natural ground levels and re-establishing the natural vegetation as per relevant Specification and as directed by the Employer. All debris and contaminated materials shall be disposed-off from site as approved by the Employer

23 Contractor's Checklist

A Contractor Checklist is provided in Appendix F.1. The Contractor is required to fill up this checklist giving the specific details of environmental safeguard measures proposed by him, in accordance with EMF requirement. This checklist shall serve as the basis for implementing safeguard measures by the Contractor and monitoring the same by the Employer.

24 Legislative Permits/Approvals

Compliance to environmental approvals as detailed below is required when the Contractor establishes a new HMP/WMM Plant, Batching Plant, Crusher, Camp Site, Labor Camp, exploring new borrow pit areas quarry sites, bore wells and other water sources. Failure to meet the relevant requirement will be reported to the relevant Government Department.

S. No.	Environmental Parameter	Specification
1	Explosives	Authorization from Explosive's Directorate for storage and handling.
2	Extraction of Ground and/or Surface water from new unexplored locations	Approval/authorization under Bihar Water, Land and Trees Act, and/or competent authority.
3	Quarry Operations including stone, aggregates, and sand	Quarry lease from Mines & Geology Department for as per Bihar (Mineral Rights) Tax Act, if new quarries are expected to be opened.
4	Hot Mix Plant (New)	Consent to Establish and Operate (CFE and CFO) for HMP.
5	Wet Mix Macadam (New)	Consent to Establish and Operate (CFE and CFO) for WMM Plant.
6	Batching Plant (New)	Consent to Establish and Operate (CFE and CFO) for Batching Plants.
7	Crushers (New)	Consent to Establish & Operate (CFE & CFO) for Crushers
8	Vehicular Emissions	PUC from PCB & FC (for vehicles >15 yrs.) from RTO
9	Camp sites/ Labor Camp (New)	Permit from land owner and/or local authorities/revenue department. Authorization from labour commissioner.
10	Borrow Areas (New)	Authorization from Mines & Geology Department for as per Bihar (Mineral Rights) Tax Act, and/or local authorities/revenue dept. if new borrow areas are expected to be opened.

Table H.1 Environmental and Social Legislative Approvals/Authorities

Note: For new sources, the Contractor shall provide a copy of evidence of compliance of this requirement to the Employer. For existing sources, the Contractor shall procure material from approved sources which are authorised by the concerned department as per the legislative requirements.

I OM FOMRS

FORM OM-01

1 FORM OM-01: Monthly Progress Report for IR

Monthly Progress Report for Initial Rectification Works						
Name of Road:						
Length (in km)		**Chainage (from-to):**				
Month/Year_____/_____						
1. Pavements Repairs such as Pothole Patching, Ruts & Depressions Stripping, Crack Sealing and Crocodile Cracking Delamination, Edge Repair, Digouts etc.,						
Description	**Unit**	**Quantity**			**Chainage details in which Works executed in Current Month**	**Remarks**
		up-to previous month	**in Current month**	**Cumulative till date**		
Tack Coat	m^2					
BM/DBM	m^2					
SDBC/BC	m^2					
Minor Digouts	m^2					
Light Surface Seal	m^2					
Slurry Seal	m^2					
Edge Repair	lm					
Any Other Activity						
2. **Shoulder**						
Repairs to Earthen Shoulders	m^3					
Repairs to Non-Bituminous Hard Shoulders	m^3					
Any other activity						
3. **Removal of Jungle**						
Light Jungle	m^2					
Shrub Jungle	m^2					
Heavy Jungle	m^2					
Plantation/ New Plantation in median & Islands not maintained by Other Department	No.					
Any Other Activity						
4. **Cross Drainage Structure**						
Concrete	m^3					
Brick Masonry	m^3					
Random Rubble Masonry	m^3					
Plastering with Cement Mortar	m^2					

Pointing with Cement Mortar	m^2					
Clearing of Vents	No./ m^3					
Grouted Pitching	m^3					
White Washing	m^2					
Synthetic Enamel Painting	m^2					
Any Other activity						
5. **Road Safety and Informatory Items**						
KM Stones	No.					
Guide/ Guard Stone	No.					
Sign/ Caution Boards	No.					
Object Hazard Markers/ Delineators/ Median Markers & Bollards	No.					
Rumble Strips/ Speed Breakers	No.					
Tree Guards	No.					
Any other activity						
6. **Road Marking Items**						
Centre Line Marking	m^2					
Edge Marking	m^2					
Lane Marking	m^2					
Zebra Crossings	m^2					
Pavement Markers (Road Studs) for Urban Roads	No.					
Any other activities						
7. Repair & Painting of Road Side Assets including of Trees & Poles on Formation Width						
Repair of Divider, Roads Kerbs etc.	m^3					
Painting of Trees	No.					
Painting of Poles	No.					
Painting of Road Dividers, Kerbs etc.	Lm					
Any other activity						

(*Signature, Name & Designation of Officer/s*)

FORM OM-02

2 FORM OM-02: Service Level Compliance Sheet for IR

Initial Rectification Service Level Compliance Sheet				
Name of Road:				
Length (in km)		**Chainage (from-to)**		
			Date: ____/___/_____	
S. No.	**Items**	**Non-Compliance Chainage**	**Non-Compliance Total km**	**Remarks**
1	Bituminous Pavement Repairs			
2	(a) Unsealed Shoulder Repair/ Footpaths			
	(b) Non-Bituminous Hard Shoulder			
3	Maintenance of Trees & Shrubs			
4	Cross Drainage Works-Culverts			
5	Road Safety, Informatory & Road Furniture			
6	Road Marking Items			
7	Repair & Painting of Road Side Assets including Painting of Trees & Poles on Formation Width.			

(*Signature, Name & Designation of Officer/s*)

FORM OM-03

3 FORM OM-03: Routine Maintenance Inspection

Routine Maintenance Inspection Report						
Name of Road:					**Inspection Date:____/____/____**	
Length (in km):			**Inspected Chainage:**			
Name & designation of Inspecting Officer:						
Ref.	**Standard Job Description**	**Unit**	**Non-Compliance Chainage**	**Non-Compliance Total km**	**Response Time**	**Remarks/ Comments**
OM 101	(a) Pothole Patching	km				
	(b) Edge Repair	km				
	(c) Digout Repair	km				
OM 102	(a) Surface Depressions & Rut Patching	km				
	(b) Crack Sealing	km				
	(c) Other surface defects	km				
	(d) Pavement Clearance	km				
	(e) Repair of Concrete Pavement	km				
OM 201	(a) Unsealed Shoulder Repair	km				
	(b) High shoulder cutting in proper camber	km				
	(c) Repair to Non-bituminous Hard Shoulder/ Footpath	km				
OM 301	(a) Surface Drains Cleaning	km				
	(b) Culverts Vent Cleaning	km				
	(c) Repair of Damaged or missing drainage pits/ grates	km				
OM 401	(a) Grass Control Clearing & Grubbing	km				
	(b) Tree and Shrub Management	km				
	(c) Maintenance of island & median plantation	km				
	(d) Maintenance of painted trees	km				

OM 501	(a) Sign Maintenance	km				
	(b) Guard Stones/Boundary Stones/ Guard Rails	km				
	(c) Distance Markers, Guideposts	km				
	(d) Painting of Electric poles/ Telephone poles	km				
	(e) Road Marking	km				
	(f) Cats eye/ Road Studs/ Bollards (Spring post)	km				
OM 601	(a) Culverts Surface Drainage Maintenance	km				
	(b) Repair of Damaged Concrete work/Brick work of parapet of all Culvert, Dividers, kerbs, Drains	km				
	(c) Painting of Railings/ Parapets of all culverts/ Medians/ Kerbs	km				
	(d) Lime/ Cement washing of exposed concrete masonry areas of culverts.	km				
OM 701	(a) Removing/ Cleaning of fallen debris/ slippery substance on pavement	km				
	(b) Ponding of water on pavement	km				
	(c) Fallen tree on formation width	km				
	(d) Leaning, Dead Animal or Dying trees in ROW	km				
	(e) Land slip clearing	km				
	(f) Co-ordination with identified Authority for removal of Stray Animals.	km				

(*Signature, Name & Designation of Officer/s*)

FORM OM-04

4 FORM OM-04: Weekly Hazard Inspection Report

Weekly Hazard Inspection Report					
Name of Road:			**Inspection Date:____/____/____**		
Length (in km):		**Inspected Chainage:**			
Name & designation of Inspecting Officer:					
OM Standard Job Description	**Unit**	**Non-Compliance Chainage**	**Non-Compliance Total km**	**Response Time**	**Remarks/ Comments**

(*Signature, Name & Designation of Officer/s*)

FORM OM-05

5 FORM OM-05: Emergency Works Inspection

Emergency Works Inspection Report		
Name of Road:		**Inspection Date:____/____/____**
Length (in km):	**Inspected Chainage:**	
Name & designation of Inspecting Officer:		
Description of Emergency Events		
Required Treatment (Estimated Works Items & Quantity)		

(*Signature, Name & Designation of Officer/s*)

FORM OM-06

6 FORM OM-06: Monthly Works Program

Monthly Works Program					
Name of Road:					**Date:____/____/____**
Length (in km):				**Chainage:**	
S. No.	**Location/ Chainage**	**Standard Works Item/ Description of Works**	**Unit**	**Quantity**	**Remarks/ Comments**

(*Signature, Name & Designation of Officer/s*)

FORM OM-07

7 FORM OM-07: Monthly Progress Report

Monthly Progress Report						
Name of Road:					**Date:____/____/____**	
Length (in km):			**Chainage:**			
Name & designation of Inspecting Officer:						
Ref.	**Standard Job Description**	**Unit**	**Quantity (previous month)**	**Quantity (current month)**	**Quantity (total)**	**Remarks/ Comments**
OM 101	(a) Pothole Patching	m^2				
	(b) Edge Repair	m^2				
	(c) Digout Repair	lm				
OM 102	(a) Surface Depressions & Rut Patching	m^2				
	(b) Crack Sealing	m^2				
	(c) Other surface defects	m^2				
	(d) Pavement Clearance	m^2				
	(e) Repair of Concrete Pavement	m^3				
OM 201	(a) Unsealed Shoulder Repair	lm				
	(b) High shoulder cutting in proper camber	lm				
	(c) Repair to Non-bituminous Hard Shoulder/ Footpath	lm				
OM 301	(a) Surface Drains Cleaning	lm				
	(b) Culverts Vent Cleaning	lm				
	(c) Repair of Damaged or missing drainage pits/ grates	lm				
OM 401	(a) Grass Control Clearing & Grubbing	Ha				
	(b) Tree and Shrub Management	Ha				
	(c) Maintenance of island & median plantation	Ha				
	(d) Maintenance of painted trees	Ha				
	(a) Sign Maintenance	No.				

OM 501	(b)	Guard Stones/Boundary Stones/ Guard Rails	No.				
	(c)	Distance Markers, Guideposts	No.				
	(d)	Painting of Electric poles/ Telephone poles	No.				
	(e)	Road Marking	lm				
	(f)	Cats eye/ Road Studs/ Bollards (Spring post)	No.				
OM 601	(a)	Culverts Surface Drainage Maintenance	No.				
	(b)	Repair of Damaged Concrete work/Brick work of parapet of all Culvert, Dividers, kerbs, Drains	m^3				
	(c)	Painting of Railings/ Parapets of all culverts/ Medians/ Kerbs	m^2				
	(d)	Lime/ Cement washing of exposed concrete masonry areas of culverts.	m^2				
OM 701	(a)	Removing/ Cleaning of fallen debris/ slippery substance on pavement	lm				
	(b)	Ponding of water on pavement	lm				
	(c)	Fallen tree on formation width	No.				
	(d)	Leaning, Dead Animal or Dying trees in ROW	No.				
	(e)	Land slip clearing	m^3				
	(f)	Co-ordination with identified Authority for removal of Stray Animals.	No.				

(*Signature, Name & Designation of Officer/s*)

FORM OM-08A

8 FORM OM-08A: Maintenance Program Compliance Sheet

Maintenance Program Compliance Sheet					
Name of Road:				**Inspection Date:____/____/____**	
Length (in km):			**Inspected Chainage:**		
Name & designation of Inspecting Officer:					
Ref.	**Standard Job Description**	**Unit**	**Non-Compliance Chainage**	**Non-Compliance Total km**	**Remarks/ Comments**
OM 101	(a) Pothole Patching	km			
	(b) Edge Repair	km			
	(c) Digout Repair	km			
OM 102	(a) Surface Depressions & Rut Patching	km			
	(b) Crack Sealing	km			
	(c) Other surface defects	km			
	(d) Pavement Clearance	km			
	(e) Repair of Concrete Pavement	km			
OM 201	(a) Unsealed Shoulder Repair	km			
	(b) High shoulder cutting in proper camber	km			
	(c) Repair to Non-bituminous Hard Shoulder/ Footpath	km			
OM 301	(a) Surface Drains Cleaning	km			
	(b) Culverts Vent Cleaning	km			
	(c) Repair of Damaged or missing drainage pits/ grates	km			
OM 401	(a) Grass Control Clearing & Grubbing	km			
	(b) Tree and Shrub Management	km			
	(c) Maintenance of island & median plantation	km			
	(d) Maintenance of painted trees	km			

OM 501	(a) Sign Maintenance	km			
	(b) Guard Stones/Boundary Stones/ Guard Rails	km			
	(c) Distance Markers, Guideposts	km			
	(d) Painting of Electric poles/ Telephone poles	km			
	(e) Road Marking	km			
	(f) Cats eye/ Road Studs/ Bollards (Spring post)	km			
OM 601	(a) Culverts Surface Drainage Maintenance	km			
	(b) Repair of Damaged Concrete work/Brick work of parapet of all Culvert, Dividers, kerbs, Drains	km			
	(c) Painting of Railings/ Parapets of all culverts/ Medians/ Kerbs	km			
	(d) Lime/ Cement washing of exposed concrete masonry areas of culverts.	km			
OM 701	(a) Removing/ Cleaning of fallen debris/ slippery substance on pavement	km			
	(b) Ponding of water on pavement	km			
	(c) Fallen tree on formation width	km			
	(d) Leaning, Dead Animal or Dying trees in ROW	km			
	(e) Land slip clearing	km			
	(f) Co-ordination with identified Authority for removal of Stray Animals.	km			

(*Signature, Name & Designation of Officer/s*)

FORM OM-08B

9 FORM OM-08B: Maintenance Program Compliance Sheet

Maintenance Program Compliance Sheet		
S. No.	**Management Requirements**	**Details (Compliance/ Non-Compliance)**
1.	**Initial Condition Survey Report**	
2.	**Milestone Completion Report**	
3.	**As-Built Drawings for Culverts & Improvement Works**	
4.	**Maintenance Program/ Bar Chart for Re-Surfacing Works**	
5.	**Environmental Compliance**	
6.	**Ordinary Maintenance Inspection Reports**	
7.	**Weekly Hazard Inspection Reports**	
8.	**Culvert Inspection Reports**	
9.	**Night Inspection Reports**	
10.	**Monthly Works Program**	
11.	**Maintenance Program Compliance Report**	
12.	**Any Other Reports required as per Contract**	

(*Signature, Name & Designation of Officer/s*)

FORM OM-09

10 FORM OM-09: Non-Conformance Report

Non-Conformance Report	
Name of Road:	**Inspection Date:____/____/____**
Length (in km):	**Inspected Chainage:**
Name & designation of Inspecting Officer:	
Description of Non-Conformance	
Corrective Action	
Anticipated Date of Completion	

(*Signature, Name & Designation of Officer/s*)

FORM OM-10

11 FORM OM-10: Initial Condition Survey

Initial Condition Survey Report (Field Data Collection)					
Name of Road:				**Inspection Date:____/____/____**	
Length (in km):			**Inspected Chainage:**		
Name & designation of Inspecting Officer:					
S. No.	**Standard Wok Item**	**Unit**	**Affected Chainage**	**Affected Length (in km)**	**Remarks**
1.	**Pothole**	**m^2**			
2.	**Pothole**	**No.**			
3.	**Digout Repair**	**m^2**			
4.	**Surface Depression & Rut Patching**	**m^2**			
5.	**Crack Sealing**	**lm**			
6.	**Stripping & Ravelling**	**m^2**			
7.	**Bleeding**	**m^2**			
8.	**Crocodile Cracking**	**m^2**			
9.	**Edge Break>100mm**	**lm**			
10.	**Low Shoulder**	**lm**			
11.	**High Shoulder**	**lm**			
12.	**Spot Shoulder**	**m^2**			
13.	**Shrubs on Shoulder**	**lm**			
14.	**Trench Filling**	**lm**			
15.	**Culvert Cleaning**	**No.**			
16.	**Culvert Parapet, Median Painting**	**No.**			

17.	**Culvert Repair**	**No.**			
18.	**Parapet Repair**	**No.**			
19.	**Parapet Repair**	**m^3**			
20.	**Earthen Drain Repair**	**lm**			
21.	**RCC/Brick Drain Repairing**	**lm**			
22.	**Guard Stone Paint**	**No.**			
23.	**Guard Stone Replacement**	**No.**			
24.	**Distance Markers Paint**	**No.**			
25.	**Distance Markers Replacement/Repair**	**No.**			
26.	**Inclined Signage**	**No.**			
27.	**Damaged Signage**	**No.**			
28.	**Missing Signage**	**No.**			
29.	**Tree Painting**	**No.**			
30.	**Leaning Tree**	**No.**			

Submitted by Contractor
(*Signature, Name & Designation of Officer/s*)

Approved by Employer
(*Signature, Name & Designation of Officer/s*)

FORM OM-11

12 FORM OM-11: Work Order Format

Work Order Format	
Contractor Name:	**Contract No._____**
Name of Road:	**Date:____/____/____**
Length (in km):	**Location Chainage:**
Subject:	
Start Date:	**Completion Date:**
Description and details of Works	

(Issued by Employer)
(*Signature, Name & Designation of Officer/s*)

(Received by Contractor)
(*Signature, Name & Designation of Officer/s*)

FORM OM-12

13 FORM OM-12: Culvert Inspection Report

Culvert Inspection Report				
Name of Road:				**Inspection Date:____/____/____**
Culvert No.:		**Inspected Chainage:**		
Name & designation of Inspecting Officer:				
S. No.	**Standard Job Description**	**Non-Compliance Chainage with Culvert No.**	**Response Time**	**Remarks/ Comments**
1.	**Surface Drains and Verges**			
	Surface Drain Cleaning			
	Unlined Drain Debris Removal			
	Unlined Drain Repair			
	Lined Drain Debris Removal			
	Lined Drain Repair			
2.	**Culverts & Pit Cleaning and Storm Water Drains**			
	Culvert & Pits Cleaning			
	Culvert Entrance Debris			
	Culvert Barrel Debris			
	Drainage Pit Debris			
3.	**Culvert & Pit Repair**			
	Culvert Pit Repair			
	Culvert Wing Wall Repair			
	Culvert Apron Repair			
	Culvert Barrel Repair			
	Drainage Pit Repair			
	Earthwork/backfill Repair			
Details of Other Inspected Items, if any.				
Details of Urgent Works Required, if any.				
Is Higher Level Inspection Required				

(*Signature, Name & Designation of Officer/s*)

FORM OM-13

14 FORM OM-13: Night Inspection Report

Night Inspection Report						
Name of Road:					**Inspection Date:____/____/____**	
Length (in km):			**Inspected Chainage:**			
Name & designation of Inspecting Officer:						
Standard Job Description	**Unit**	**Qty.**	**Non-Compliance Chainage**	**Non-Compliance Total km**	**Response Time**	**Remarks/ Comments**
Longitudinal Road Marking						
Zebra Crossing						
Road Studs						
Object Hazard Marker						
Delineators						
Bollards/ Spring Posts						
Signages						
Tree Guards						
Median Markers						
Work Zone						
Any Other						

Submitted by Contractor
(*Signature, Name & Designation of Officer/s*)

Approved by Employer
(*Signature, Name & Designation of Officer/s*)

FORM OM-14

15 FORM OM-14: Checklist on Environmental Issues

Checklist on Environmental Issues		
Name of Work:		**Date:____/____/____**
Contractor Details:		
S. No.	**Checklist Activities**	**Response[1]**
1.	List the activities you will be undertaking during the Works such as; Rock Breaking, Blasting, Laying Bitumen, Establishing Camp & Plants etc.	
2.	Do you have any Qualified/ Experienced person on Environmental Management? If not, how are you going to manage the Environmental Aspects?	
3.	What base materials will you transport to the Site? (Stone/Soil/ Diesel/ Lubricants)	
4.	Where will you source these materials from (non-manufactured material such as sand, soil, stone)?	
5.	Where will you store these materials?	
6.	How will you ensure that the materials brought to site will be stored and handled with care to avoid contamination of soil and water, reduce dust, and minimize disruption of traffic, not impairing public safety?	
7.	How will you ensure that any Construction Materials & Works will: • Not restrict access to properties and carriageways. • Not damage existing trees. • Be protected from rain to reduce the loss of soil and materials washing down roads and entering drains and waterways. • Be stored to reduce leaks (such as Diesel) into the soil or waterways. • Not generate dust or cause nuisance air emissions	
8.	How will you ensure proper drainage from the works so that water does not pond and become a hazard to health?	
9.	How will you reduce sediment from the construction activities?	
10.	How many trees will you have to remove to undertake the works?	
11.	What will you do with any trees that are removed?	
12.	How will you protect existing trees from construction activities?	

[1] *The Contractor Shall fill this Checklist based on Environmental & Social Management Framework (ESMF) and Contract Stipulations. This Checklist shall serve as Contractor's Road Specific Environmental Management Plan and also serves as basis for subsequent implementation of the safeguard measures by the Contractor and monitoring the same by the Employer. This Checklist should be filled up during initial road inventory by the Contractor i.e. before the start of any physical works.*

13.	How do you plan to store and dispose of: • Construction debris? • Workers refuse and effluent? • General litter?	
14.	Will you be using any noisy equipment that may cause nuisance?	
15.	Are your works close to a school, or hospital or other place where people may be affected by noise?	
16.	What will you do to reduce noise and vibration impacts?	
17.	What will be your working hours?	
18.	Where you are planning to set up construction and workers camp?	
19.	Does it meet the stipulated siting criteria?	
20.	How you are going to control pollution from contraction plan and equipment?	
21.	What facilities you will provide at camp for workers?	
22.	How will you keep owners and occupants of shops and residences and other people of the adjoining villages and road users, who are affected, informed about the works?	
23.	How will you ensure all the sub-contractors, supervisor and others on the site, are aware of these environmental aspects?	
24.	How will you co-ordinate with utility works (such as electricity, telephone, cable)?	
25.	Can you satisfy the special regulations or environmental conditions identified in the contract for this project?	
26.	Have you attended any training course on environment, health and safety for similar construction project?	
27.	What steps will be taken to ensure that all the personnel, supervisors, workers and others on the site , are aware of the causes for spread of HIV / AIDS and how to prevent its occurrence?	
28.	What activities could cause harm to people or property?	
29.	How will you reduce the risk of impact on people or their property?	
30.	How will you reduce potential injury to your workers and personnel?	
31.	Any others as required by the Concerned Department.	

Section 6. General Conditions of Contract

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A General

1	**Definitions**	1.1 **Schedule of Prices:** means the priced and completed Schedule of Prices forming part of the Contractor's Bid. 1.2 **Certificate of Completion:** is a document issued by the Employer upon completion of Initial Rectification Works, Periodic Maintenance Works, Minor Improvement (including Strengthening) Works and Emergency/ Contingent Works, or parts thereof, as applicable, and in accordance with GC Clause 54.1. 1.3 **Completion Date:** is the date of completion of the Services and Works as certified by the Employer, in accordance with GC Sub-Clause 10.2. 1.4 **Contract:** is the Contract between the Employer and the Contractor to perform the services to be provided by the Contractor, and to execute, complete, and maintain the Works. It consists of the documents listed in GC Clause 3. 1.5 **Contractor:** is a person or corporate body who's bid to carry out the Works and Services has been accepted by the Employer. 1.6 **Contractor's Bid:** is the complete bidding document submitted by the Contractor to the Employer. 1.7 **Contract Price:** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract. 1.8 **Days:** are calendar days. 1.9 **Months:** are calendar months. 1.10 **Defect:** is any part of the Works and Services not completed in accordance with the Contract. 1.11 **Defects Liability Certificate:** is the certificate issued by Employer upon correction of defects by the Contractor. 1.12 **Defects Liability Period:** is the period specified in the Contract and is applicable for Periodic Maintenance (including re-application of Road Marking) and Minor Improvement (including Strengthening) Works, with exclusions identified in the PC, if any. 1.13 **Drawings:** include calculations and other information provided by the Contractor for the execution of the Contract. 1.14 **Emergency Works:** is a set of necessary and sufficient activities to reinstate the Road and reconstruct its structure or right of way strip damaged as a result of natural phenomena with imponderable consequences, such as strong storms,

	flooding and earthquakes. The need for execution of Emergency Works is jointly identified by the Employer and the Contractor and for starting of execution of Emergency Works the Employer shall issue a Work Order. 1.15 **Employer:** is the party who employs the Contractor to carry out the Works and Services. The Executive Engineer of the concerned Road Division is the Employer. 1.16 **Equipment:** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works and to carry out the Services. 1.17 **Minor Improvement (including Strengthening) Works:** consists of a set of interventions that add new characteristics to the road in response to existing or new traffic, safety or other conditions, as defined in the specifications. 1.18 **Periodic Maintenance (including re-application of road marking) Works:** are specific and clearly defined civil works the Contractor is required to carry out under the conditions of the Contract, as defined in the Specifications. Periodic Maintenance (including re-application of road marking) Works quantities are estimated by the Contractor to achieve the performance standards defined by the Service Levels and offered at a Lump-Sum price. However, Employer may indicate PM work with program of execution which shall not relieve Contractor to achieve the Performance Standards. 1.19 **Initial Rectification Works:** consist of additional rectification works required in the initial stage of the Contract to allow the Contractor to bring the road up to the required Service Level Criteria. 1.20 **Intended Completion Date:** is the date on which it is intended that the Contractor shall complete the Works and Services. The Intended Completion Date is specified in the Particular Conditions (PC). The Intended Completion Date may be revised only by the Employer by issuing an extension of time. 1.21 **Materials:** are all supplies, including consumables, used by the Contractor for incorporation in the Works and for provision of Services. 1.22 **Engineer-in-charge:** is the Executive Engineer of the concerned Road Division, Road Construction Department, Bihar. 1.23 **Road:** means the road or network of roads for which the Works and Services are contracted under the Contract. 1.24 **Road Management Office:** is the location indicated by the Contractor from which the Road Manager operates, and where

		the Contractor shall receive notices/ communications/ correspondences.
	1.25	**Road Manager:** is a person appointed by the Contractor who is in charge of managing all activities of the Contractor under the Contract. He is also the Contractor's Representative for the purposes of this contract.
	1.26	**Services:** means all interventions on the Road under the Contract and all activities related to the management and evaluation of the Road which shall be carried out by the Contractor in order to achieve and keep the Road Performance Standards as defined by the Service Levels, and to receive full payment of the monthly fee under the Contract.
	1.27	**Service Levels:** are the minimum performance standards for the level of quality of conditions of the Road defined in the Specifications which the Contractor shall comply with.
	1.28	**Site:** is the area defined as such in the GC/PC.
	1.29	**Site Investigation Reports:** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
	1.30	**Start Date:** is the date when the Contractor has started the physical execution of the Works and Services on the site. It does not necessarily coincide with any of the Site Possession Dates.
	1.31	**Sub-Contractor:** is a person or corporate body who has a Contractual Agreement with the Contractor to carry out certain activities related to the services to be provided under the Contract, which may include work on the Site.
	1.32	**Specifications:** means the Specifications of the Works and Services included in the Contract and any modification or addition made or approved by the Employer.
	1.33	**Variation:** is an instruction given by the Employer which varies the Works or Services.
	1.34	**Works:** are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as covered under Initial Rectification Works, Periodic Maintenance Works, Minor Improvement (Strengthening) Works and Emergency Works.
	1.35	**Work Order:** is an order issued by the Employer to the Contractor authorizing the execution of Improvement Works and Emergency Works, as provided for in GC Clause 27.
2 Interpretation	2.1	In interpreting these General Conditions (GC), singular also means plural, male also means female or neuter, and vice

			versa. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Employer will provide instructions clarifying queries about these General Conditions (GC).
3	**Documents forming the Contract**	3.1	The documents forming the Contract shall be interpreted in the following Order of Priority: i) the Contract Agreement, ii) the Letter of Acceptance, iii) the Letter of Bid, iv) the Bidding Forms; v) the Corrigendum/Addendum/s, if any, vi) the Particular Conditions of Contract (PC) and, the Contract Forms in Annexures, vii) the General Conditions of Contract (GC), viii) the Specifications, ix) the Drawings, x) the completed Schedules of Prices, xi) the Appendices
4	**Language & Law**	4.1	The language of the Contract and the law governing the Contract are stated in the Particular Conditions.
5	**Notices**	5.1	Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing, and shall be sent by personal delivery, airmail post, special courier, fax, e-mail, electronically, oral (voice) or any other means to the address of the relevant party set out in the GC/PC, with the following provisions: Any notice sent by fax or e-mail shall be confirmed within two (2) days after dispatch by notice sent by airmail post or special courier, except as otherwise specified in the Contract. Any Notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

		The Employer may issue user id and password for Online Project Management & Monitoring System authorising the Contractor to access a particular section of information contained. If such information requires intervention/ action by the Contractor, it shall deem to be communicated to the Contractor. Employer may not communicate further by other means to give effect to and communication shall be deemed as completed. Any Notice delivered personally or sent by fax, e-mail or electronically shall be deemed to have been delivered on date of its dispatch. Either party may change its postal, fax or e-mail address or addressee for receipt of such notices by ten (10) days' notice to the other party in writing. 5.2 Notices shall be deemed to include any approvals, consents, instructions, orders, demands and certificates to be given under the Contract. 5.3 The Contractor shall provide at its own cost, and maintain in operation permanently during the duration of the Contract, such communications equipment which ensures that both written (fax or e-mail) and oral (voice) communications can be established at all times between the Road Manager and his senior field staff; between the Employer and the Road Manager; between the public telephone system and the Road Manager; The equipment to be provided and maintained includes the equipment located at the Employer Office. 5.4 At the Start Date of the Contract, the Contractor must communicate to the Employer the address of his office, including the postal, fax and e-mail address, which for the purposes of this contact is called the Road Management Office, where Notices will be addressed to. The Employer may require that the physical location of the Road Management Office is within the close geographical area of the Road. If the Contractor fails to communicate the address of his Road Management Office, and the Employer is otherwise unable to locate the Road Manager, all notifications to the Contractor shall be valid if a copy is sent to the Contractor's legal address.
6	**Settlement of Dispute**	6.1 As indicated in PC If any dispute of any kind whatsoever shall arise between the Employer and the Contractor in connection with or

	arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Works and Services, whether during the progress of the execution or after completion and whether before or after the termination, abandonment or breach of the Contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the matter in dispute shall, in the first place, be referred in writing by either party to the arbitration, with a copy to the other party. 6.2 Arbitration If any dispute of any kind whatsoever shall arise between the Employer and the Contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Works and Services, whether during the progress of the execution or after completion and whether before or after the termination, abandonment or breach of the Contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the matter in dispute shall, in the first place, be referred to Arbitration in a manner specified in PC. Any dispute in respect of which a Notice of Intention to commence arbitration has been given, in accordance with GC Sub-Clause 6.1, shall be finally settled by arbitration. Arbitration proceedings shall be conducted in accordance with the rules of procedure designated in the PC. 6.3 Where neither the Employer nor the Contractor has given Notice of Intention to commence arbitration of a dispute within the period stated in GC Sub-Clause 6.1(d) and the related recommendation has become final and binding, either party may, if the other party fails to comply with such recommendation and without prejudice to any other right it may have, refer the failure to arbitration in accordance with GC Sub-Clause 6.2. The provisions of GC Sub-Clause 6.1 shall not apply to any such reference.

	6.4	Notwithstanding any reference to the Arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Employer shall pay the Contractor any monies due the Contractor.

B Assignment of Responsibilities

7	**Scope of Works & Services**	7.1	Unless otherwise expressly limited in the Specifications, the Contractor's obligations cover the design, the carrying out of all works and the performance of all services required for keeping the Roads in accordance with the Service Levels defined in the Specifications, while at the same time respecting the plans, procedures, specifications, drawings, codes and any other documents as identified in the specifications. Such specifications include, but not limited to, the provision of supervision and engineering services; the supply of labour, materials, equipment; Contractor's Equipment; construction utilities and supplies; temporary materials, structures and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works and services that will be provided or performed by the Employer, if any, as set forth in the corresponding Specifications.
		7.2	The Contractor shall, unless specifically excluded in the Contract, perform all such work, services and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining the Performance Standards (as specified in GC Clause 24) as if such work, services and/or items and materials were expressly mentioned in the Contract.
8	**Design Responsibility**	8.1	The Contractor shall be responsible for the design and programming of the works and services, and for the accuracy and completeness of the information used for that design and programming in accordance with the requirements established in the specifications.
		8.2	Specifications and Drawings The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract and the specifications, or where not so specified in accordance with good engineering practice and as per direction of Engineer-in-Charge.

The Contractor shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Engineer-in-charge or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer.

The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof, provided or designated by, or on behalf of, the Employer, by giving a notice of such disclaimer to the Employer.

8.3 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of bid submission shall apply unless otherwise specified. During Contract execution period, any changes in such codes and standards shall be applied after approval by the Employer and shall be treated in accordance with GC Clause 63.

8.4 Approval/ Review of Technical Documents by Employer

For those Works specified in the PC, the Contractor shall prepare (or cause its Sub-Contractors to prepare) and furnish to the Employer the documents listed in the Specifications (List of Documents for Approval or Review) for its approval or review.

Unless otherwise specified in the PC, the Contractor shall not be required to submit, for the Employer's approval, the design or other technical documents concerning the Ordinary Maintenance Services remunerated through monthly lump-sum payments.

Any part of the works covered by or related to the documents to be approved by the Employer shall be executed only after the Employer's approval thereof.

GC Sub-Clauses 8.4(b) through 8.4(g) shall apply only to those documents requiring the Employer's approval, but not to those furnished to the Employer for his information or review only.

Within fourteen (14) days after receipt by the Employer of any document requiring the Employer's approval in

	accordance with GC Sub-Clause 8.4(a), the Employer shall either return one copy thereof to the Contractor with its approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefore and the modifications that the Employer proposes. If the Employer fails to take such action within the said fourteen (14) days, then the said document shall be deemed to have been approved by the Employer. The Engineer-in-Charge shall not disapprove any document, except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good engineering practice. If the Employer disapproves the document, the Contractor shall modify the document and resubmit it for the Employer's approval in accordance with GC Sub-Clause 8.4(b). If the Employer approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved. If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Employer of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference shall be referred to the arbitration in accordance with GC Sub-Clause 6.2. The Employer's approval, with or without modification of the document furnished by the Contractor, shall not relieve the Contractor of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Employer. The Contractor shall not depart from any approved document unless the Contractor has first submitted to the Employer an amended document and obtained the Employer's approval thereof, pursuant to the provisions of this GC Sub-Clause 8.4. If the Employer requests any change in any already approved document and/or in any document based thereon, the provisions of GC Clause 63.2 shall apply to such request.

9	**Copyright**	9.1	The copyright in all drawings, documents and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the Employer directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
10	**Start Date and Completion**	10.1	The Contractor shall start the Works and Services within the period specified in the PC. Upon request from the Contractor, the Employer shall confirm in writing the Start Date, after verifying that works and services have started on the Site.
		10.2	The Contractor shall attain the required Service Levels and the Completion of the Initial Rectification, Periodic Maintenance (including re-application of Road Marking) and Minor Improvement (including Strengthening) Works (or of a part where a separate time for Completion of such part is specified in the Contract) within the time schedules included in the PC and the Specifications, or within such extended time to which the Contractor shall be entitled under GC Clause 64 hereof.
11	**Contractor's Responsibilities**	11.1	The Contractor shall design and carry out the Works and Services (including associated purchases) necessary to comply with the requirements established in the Specifications with due care and diligence in accordance with the Contract.
		11.2	The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Works and Services required, including any data and tests provided by the Employer, and on the basis of information that the Contractor could have obtained from a visual inspection of the Site and of other data readily available to it relating to the Road as of the date twenty-eight (28) days prior to bid submission. The Contractor acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Works and Services.
		11.3	The Contractor shall acquire in its name all permits, approvals and/or licenses from all local, state or central government authorities or public service undertakings in the country of the Employer that are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment (if any). The Contractor shall also acquire all other permits, approvals and/or licenses that are necessary for the performance of the Contract.

		11.4 The Contractor shall comply with all laws in force in the country of the Employer and where the Works and Services are carried out. The laws will include all local, state, central or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel, but without prejudice to GC Sub-Clause 14.1 hereof.
12	**Subcontracting**	12.1 The Contractor may sub-contract activities listed in the PC. Any other activity under the Contract may be sub-contracted only when approved by the Employer. The Contractor may not assign the entire Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations nor relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen. 12.2 Notwithstanding GC Sub-Clause 12.1, the Contractor may sub-contract under his own responsibility and without prior approval of the Employer the small Works and Services also listed in the PC.
13	**Assignment of Contract**	13.1 Neither the Employer nor the Contractor shall, without the express prior written consent of the other party (which consent shall not be unreasonably withheld), assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Contractor shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.
14	**Employer's Responsibilities**	14.1 The Employer shall apply due diligence to ensure the accuracy of all information and/or data to be supplied to the Contractor as described in the specifications, except when otherwise expressly stated in the Contract. 14.2 The Employer shall assist the Contractor to acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the site is located, when such authorities or undertakings require the Employer to obtain them in the Employer's name, are necessary for the execution of the Contract, and are specified in the corresponding

	specifications. 14.3 If requested by the Contractor, the Employer shall use its endeavours to assist the Contractor in obtaining in a timely and expeditious manner all permits, approvals and/or licenses necessary for the execution of the Contract from all local, state or central government authorities or public service undertakings that such authorities or undertakings require the Contractor or Subcontractors or the personnel of the Contractor or Subcontractors, as the case may be, to obtained. 14.4 The Employer shall be responsible for the continued operation of the road after Completion, in accordance with GC Clause 28, and shall be responsible for facilitating the Guarantee Test(s) for the Road, in accordance with GC Clause 20. 14.5 All Cost involved in the performance of the obligations under this GC Clause 14 shall be the responsibility of the Contractor.
15 Confidential Information	15.1 The Employer and the Contractor shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this GC Clause 15. 15.2 The Employer shall not use such documents, data and other information received from the Contractor for any purpose other than the operation and maintenance of the Road. Similarly, the Contractor shall not use such documents, data and other information received from the Employer for any purpose other than the design, procurement of Plant and Equipment, construction or such Works and Services as are required for the performance of the Contract. 15.3 The obligation of a party under GC Sub-Clauses 15.1 and 15.2 above, however, shall not apply to that information which: now or hereafter enters the public domain through no fault of that party; can be proven to have been possessed by that party at the time of disclosure and which was not previously

	obtained, directly or indirectly, from the other party hereto; otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality. 15.4 The above provisions of this GC Clause 15 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Works and Services or any part thereof. 15.5 The provisions of this GC Clause 15 shall survive termination, for whatever reason, of the Contract.

C Execution of Works and Services

16 Representative	16.1 Engineer-in-charge The Engineer-in-charge shall represent and act on behalf of the Employer at all times during the period of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Engineer-in-charge, except as herein otherwise provided. 16.2 Road Manager The Contractor shall appoint the Road Manager within 15 days of signing the agreement and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within fourteen (14) days, the Road Manager shall be deemed to have been approved. If the Employer objects to the appointment within fourteen (14) days giving the reason therefore, then the Contractor shall appoint a replacement within fourteen (14) days of such objection, and the foregoing provisions of this GC Sub-Clause 16.2(a) shall apply thereto. The Road Manager shall represent and act for the Contractor at all times during the period of the Contract and shall give to the Employer all the Contractor's notices, instructions, information and all other communications under the Contract. The Road Manager shall be in charge of the day-to-day management of the works and services to be provided under the contract on behalf of the Contractor, and shall have legal and all other faculties to take all necessary decisions related to the execution of the Contract. All notices, advices, information and all other communications given by the Employer to the Contractor

	under the Contract shall be given to the Road Manager or, in its absence, its deputy, except as herein otherwise provided. The Contractor shall not revoke the appointment of the Road Manager without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Road Manager, pursuant to the procedure set out in GC Sub-Clause 16.2(a). The Road Manager may, subject to the approval of the Employer (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice to the Employer signed by the Road Manager, and shall specify the powers, functions and authorities thereby delegated or revoked. Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GC Sub-Clause 16.2(c) shall be deemed to be an act or exercise by the Road Manager. From the Start Date until Completion, the Road Manager shall supervise all work and services done at the Site by the Contractor and shall be present at the Site throughout normal working hours except when on leave, sick or absent for reasons connected with the proper performance of the Contract. Whenever the Road Manager is absent from the Site, a suitable person shall be appointed to act as his or her deputy. The Employer may by notice to the Contractor object to any representative or person employed by the Contractor in the execution of the Contract who, in the reasonable opinion of the Employer, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the Site regulations provided under the Specifications. The Employer shall provide evidence of the same, whereupon the Contractor shall remove such person from the Site. If any representative or person employed by the Contractor is removed in accordance with GC Sub-Clause 16.2(e), the Contractor shall, where required, promptly appoint a replacement.
17 Work Program	17.1 Contractor’s Organization

	The Contractor shall supply to the Employer a chart showing the proposed organization to be established by the Contractor for carrying out the Works and Services. The chart shall include the identities of the key personnel together with the curricula vitae of such key personnel to be employed as included in the Contractor's Bid. The Contractor shall promptly inform the Employer in writing of any revision or alteration of such an organization chart. 17.2 Program of Performance Not later than the Start Date, the Contractor shall prepare and supply to the Employer a program of performance of the Contract, made in the form specified in the Specifications and showing the sequence in which it proposes to design and carry out the Works and Services, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the program and to achieve Completion in accordance with the Contract. The Contractor shall update and revise the program as and when appropriate, but without modification in the Time of Completion given in the PC and any extension granted in accordance with GC Clause 64, and shall supply all such revisions to the Employer. 17.3 Progress Report The Contractor shall monitor progress of all the activities specified in the program referred to in GC Sub-Clause 17.2 above, and supply a progress report to the Employer every month together with his Monthly Statement. The progress report shall be in a form acceptable to the Employer in accordance with the Specifications. 17.4 Progress of Execution If at any time the Contractor's actual progress falls behind the program referred to in GC Sub-Clause 17.2, or it becomes apparent that it will so fall behind, the Contractor shall prepare and supply to the Employer a revised program, taking into account the prevailing circumstances, and shall notify the Employer of the steps being taken to expedite progress so as to attain Completion of the Works and Execution of Services activities within the Time for Completion under GC Sub-Clause 10.2, any extension thereof entitled under GC Clause 64. 17.5 Work Procedures The Contract shall be executed in accordance with the Contract Documents and the procedures given in the

	Specifications.
18 Execution of Works	18.1 Setting Out/Supervision/Labor Bench Mark: The Contractor shall be responsible for the true and proper setting-out of the Works in relation to bench marks, reference marks and lines provided to it in writing by or on behalf of the Employer. If, at any time during the progress of execution of the Works, any error shall appear in the position, level or alignment of the Works, the Contractor shall forthwith notify the Employer of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Employer. If such error is based on incorrect data provided in writing by or on behalf of the Employer, the expense of rectifying the same shall be borne by the Employer. Contractor's Supervision: The Contractor shall give or provide all necessary supervision during the execution of the Works, and the Road Manager or its deputy shall be on the Site to provide full-time supervision of the execution. The Contractor shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand. 18.2 Contractor's Equipment All Contractor's Equipment brought by the Contractor onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Contractor shall not remove the same from the Site without approval of the Employer. Unless otherwise specified in the Contract, upon completion of the Works and Services, the Contractor shall remove from the Site all Equipment brought by the Contractor onto the Site and any surplus materials remaining thereon. The Employer will, if requested, use its best endeavours to assist the Contractor in obtaining any local, state or central government permission required by the Contractor for the export of the Contractor's Equipment imported by the Contractor for use in the execution of

	the Contract that is no longer required for the execution of the Contract. 18.3 Site Regulations and Safety The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Employer, proposed Site regulations for the Employer's approval, which approval shall not be unreasonably withheld. Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety, traffic control, accident response, gate control, sanitation, medical care, and fire prevention. 18.4 Access to site for Other Contractors The Contractor shall, upon written request from the Employer, give site access to other contractors employed by the Employer on or near the site. 18.5 Site Clearance Site Clearance in Course of Execution: In the course of carrying out the Contract, the Contractor shall keep the Site reasonably free from all unnecessary obstruction, store or remove any surplus materials, clear away any wreckage, rubbish or temporary works from the Site, and remove any Contractor's Equipment no longer required for execution of the Contract. Clearance of Site after Completion: After Completion of all parts of the Works and Services, the Contractor shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site and the Road clean and safe. 18.6 Watching and Lighting The Contractor shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Works and Services, for the protection of his own installations and his equipment, for the safety of the owners and occupiers of adjacent property and for the safety of the public. 18.7 Access to the Site The Contractor shall allow the Employer and any person authorized by the Employer access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

	18.8 Management Meetings The Engineer-in-charge shall convene the management meeting and Contractor shall attend the same. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised by either the Contractor or the Engineer-in-charge. The Employer shall record the business of management meetings and provide copies of the record to those attending the meeting. The responsibility of the parties for actions to be taken shall be decided by the Employer either during or after the management meeting and stated in writing to all who attended the meeting.
19 Staff & Labour	19.1 The Contractor shall employ the key personnel named in the Contractor's Bid, to carry out the functions stated in the Specifications or other personnel approved by the Employer. The Employer will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Contractor's Bid. 19.2 Labour The Contractor shall provide and employ on the Site for the execution of the Works and Services such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labour that has the necessary skills. Unless otherwise provided in the Contract, the Contractor shall be responsible for the recruitment, transportation, accommodation and catering of all labour, local or expatriate, required for the execution of the Contract and for all payments in connection therewith. The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labour and personnel to be employed on the Site into the country where the Site is located. The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the

		date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor. The Contractor shall at all times during the progress of the Contract use its best endeavours to prevent any unlawful, riotous or disorderly conduct or behaviour by or amongst its employees and the labour of its Subcontractors. The Contractor shall provide lodging, medical assistance, alimentation and sanitary installations for the employees living in the contractor's base camps to comply with the Social, Sanitary and Health Conditions of Labor requirements established in the Specifications. The Contractor shall, in all dealings with its labour and the labour of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labour. HIV-AIDS Prevention. If so indicated in the PC, the Contractor shall conduct an HIV-AIDS awareness programme via an approved service provider or specialized NGO, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals. The Contractor shall throughout the contract: i Conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, and Consultants' employees working on the Site, and truck drivers and crew making deliveries to the Site for Works and Services executed under the contract, and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to of Sexually Transmitted Diseases (STD) or Sexually

	Transmitted Infections (STI) in general and HIV/AIDS in particular; ii provide male or female condoms for all Site staff and labour as appropriate; and iii provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour. If so indicated in the PC, the Contractor shall include in the program to be submitted for the execution of the Works and Services under GC Clause 17 a program for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose. 19.3 Removal of staff If the Employer asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract. 19.4 Work at Night and on Holidays Unless otherwise provided in the Contract, if and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Service Levels and the Time for Completion, and requests the Employer's consent thereto (if such consent is needed), the Employer shall not unreasonably withhold such consent.

20	**Test and Inspection**	20.1 The Contractor shall at its own expense carry out on the Site all such tests and/or inspections as are specified in the Specifications and in accordance with the procedures described in the Specifications. 20.2 The Engineer-in-charge their designated representatives shall be entitled to attend the aforesaid test and/or inspection. 20.3 For tests to be carried out on the initiative of the Contractor whenever the Contractor is ready to carry out any such test and/or inspection, he shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Engineer-in-charge. The Contractor shall provide the Engineer-in-charge with a signed report of the results of any such test and/or inspection. 20.4 If the Engineer-in-charge fails to attend a scheduled test and/or inspection, or if it is agreed between the parties that such persons shall not attend, then the Contractor may proceed with the test and/or inspection in the absence of such persons, and may provide the Engineer-in-charge/ Employer with a signed report of the results thereof. 20.5 The Engineer-in-charge may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impede the progress of the works and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected. 20.6 If Initial Rectification Works, Periodic Maintenance (including re-application Road Marking) of Works, Minor Improvement (including Strengthening) Works or Emergency Works fail to pass any test and/or inspection, the Contractor shall either rectify or replace such works and shall repeat the test and/or inspection upon giving a notice under GC Sub-Clause 20.3. 20.7 If any dispute or difference of opinion shall arise between the parties in connection with or arising out of the test and/or inspection of the Works and Services, or part of them, that cannot be settled between the parties within a reasonable period of time, it may be referred to the arbitration for determination and decision in accordance with GC Sub-Clause 6.2. 20.8 The Contractor agrees that neither the execution of a test and/or inspection of the Works and Services or any part of them, nor the attendance by the Engineer-in-charge, nor the

		issue of any test certificate pursuant to GC Sub-Clause 20.4, shall release the Contractor from any other responsibilities under the Contract. 20.9 No part or foundations shall be covered up on the Site without the Contractor carrying out any test and/or inspection required under the Contract. The Contractor shall give a reasonable notice to the Engineer-in-charge whenever any such part or foundations are ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract. 20.10 The Contractor shall uncover any part of the works or foundations, or shall make openings in or through the same as the Engineer-in-charge may from time to time require at the Site, and shall reinstate and make good such part or parts. 20.11 If any parts of the works or foundations have been covered up at the Site after compliance with the requirement of GC Sub-Clause 20.9 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Engineer-in-charge, and the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been delayed or impeded in the performance of any of its obligations under the Contract.
21	**Initial Rectification & Periodic Maintenance incl. Re-Application of Road Marking**	21.1 Initial Rectification Works Specific Initial Rectification Works shall be carried out explicitly in accordance with the Specifications and as specified in the bidding documents & in the Contractor's Bid. Input quantities for Initial Rectification Works is to be estimated by the Contractor to achieve the performance criteria stipulated in the Specifications for Initial Rectification Works. The specific Initial Rectification Works are offered by the Contractor at a Lump-Sum price. The Contractor shall carry out the Initial Rectification Works, which are detailed in the Specifications/ Appendix. To assist the Contractor a list of Quantities of Initial Rectification Works has been included in Section 5D of the Technical Specifications/ Appendix as a guide. The estimated quantities indicated in Section 5D are the minimum quantities which the Contractor will have to execute mandatorily during the Initial Rectification Period. However, the Contractor will need to assess the

		current road conditions and determine what works are needed to meet the service level criteria. The Contractor shall maintain the records of quantities of Initial Rectifications before and after execution. The record shall be duly certified by the Engineer-in-charge. The payment of Initial Rectification Works shall be made as per the schedule only after the certification of executed quantities. 21.2 Periodic Maintenance (including re-application of Road Marking) Works Specific Periodic Maintenance (including re-application of Road Marking) Works shall be carried out explicitly in accordance with the Specifications / Appendix and as specified in the bidding documents and in the Contractor's Bid. Input quantities for Periodic Maintenance (including re-application of Road Marking) Works is to be estimated by the Contractor to achieve the performance criteria stipulated in the Specifications for Periodic Maintenance (including re-application of Road Marking) Works. The specific Periodic Maintenance (including re-application of Road Marking) Works are offered by the Contractor at a Lump-Sum price. The Contractor shall carry out the Periodic Maintenance Works including re-application of Road Marking, which are detailed in the Specifications/Appendix. To assist the Contractor a list of Quantities of Periodic Maintenance Works including re-application of Road Marking has been included in Section 5E of the Technical Specifications/ Appendix as a guide. The estimated quantities indicated in Section 5E are the minimum quantities which the Contractor will have to execute mandatorily. However, the Contractor will need to assess the current road conditions and determine what works are needed to meet the Service level Criteria.
22	**Minor Improvement (including Strengthening) Works**	22.1 Minor Improvement (including Strengthening) Works will consist of a set of interventions that add new characteristics to the roads in response to new traffic & safety or other conditions. 22.2 Minor Improvement (including Strengthening) Works quantities are offered at unit prices included in the Schedule of Prices and to be executed as per the Section 5F, Technical Specifications/Appendix F.

		22.3 The execution of Minor Improvement (including Strengthening) Works shall be requested by the Engineer-in-charge, who will issue a Work Order defining the Works to be carried out by the Contractor, based on the activities priced in the Schedule of Prices. The Work Order shall specify the description of Works to be carried out along with the corresponding prices. The Engineer-in-charge shall confirm the acceptance by signing the Work Order.
23	**Ordinary Maintenance Services**	23.1 Ordinary Maintenance Services are those activities necessary to maintain the Service Level of Roads with the Performance Standards pursuant to GC Clause 24. 23.2 Ordinary Maintenance Services shall include all activities required to achieve & keep the Roads at Performance Standards and stipulated Service Levels. The Ordinary Maintenance Services shall also include the Management Requirement as stipulated in the Section 5C of Technical Specifications . These Services will be remunerated by Lump-Sum amount to be paid on monthly basis for the entire Contract Period.
24	**Performance Standards**	24.1 The Contractor shall carry out the Ordinary Maintenance Services to achieve and keep the Road complying with the Service Levels defined in the Specifications. The Contractor will carry out all Works in accordance with the Performance Standards indicated in the Specifications.
25	**Contractor's Self Control Unit of Quality and Safety**	25.1 The Contractor shall, throughout, during the execution and after completion of the Works and Services, up-to defect liability period, maintain a system which ensure that the Works shall be executed as per the approved methodology & procedures, adequate and safe at all times and do not pose any avoidable risks and dangers to the health, safety and property of the workers and agents employed by him or any of his subcontractors, road users, persons living in the vicinity of the roads under the contract, and any other person who happens to be on or along the roads under the contract. 25.2 The Contractor shall establish Self Control Unit, within his own organizational structure, a specific Unit staffed with qualified personnel, whose task is to verify continuously the degree of compliances by the Contractor with the required Service Levels. That Unit will also be responsible for the generation and presentation of the information needed by the contractor for the documentation required as defined in the Specifications. The Unit will be responsible for maintaining a detailed and complete knowledge of road condition and

		provide the Road Manager all the information needed in order to efficiently manage and maintain the Road. The Unit shall also carry out, in close collaboration with the Engineer-in-charge, the verifications on the Service Levels. 25.3 The Contractor's Self-Control Unit mentioned in GC Sub-Clause 25.2 shall report the level of compliance with the required Service Levels in the standard format presented in the Specifications.
26	**Environmental & Safety Requirements**	26.1 The Contractor shall, throughout the design, execution and completion of the Works and Services, and the remedying of any defects therein: have full regard for the safety of all persons employed by him and his subcontractors and keep the Site (so far as the same is under his control) in an orderly state appropriate to the avoidance of danger to such persons; provide and maintain at his own cost all guardrails, fencing, warning signs and watching, when and where necessary or required by Sub-Clause 18.3 of the Contract or by any duly constituted authority, for the protection of the Works and Services or for the safety and convenience of his workers and road users, the public or others; and take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.
27	**Work Order for Minor Improvement (incl. Strengthening) & Emergency Works**	27.1 Minor Improvement (including Strengthening) Works and Emergency Works shall be executed by the Contractor on the basis of Work Order(s) issued by the Engineer-in-charge. 27.2 Work Order shall be issued in writing and shall include the date on which the Work Order was issued and the signature of the Employer. Two copies of the Work Order shall be transmitted by the Engineer-in-charge to the Contractor, who shall immediately countersign one copy, including the date of acceptance, and return it to the Engineer-in-charge. 27.3 If the Contractor has any objection to a Work Order, the Road Manager shall notify the Engineer-in-charge of his reasons for such objection within ten (10) days) of the date of issuing the Work Order. Engineer-in-charge, within five (5) days of the objection of Road Manager, shall cancel/ modify or confirm the Work Order in writing.

28	**Taking Over Procedures**	28.1 When the whole of the Works and Services have been substantially completed and have passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer-in-charge, accompanied by a written undertaking to finish with due expedition any outstanding Works during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer-in-charge to issue a Taking-Over Certificate in respect of the Works and Services. The Engineer-in-charge shall, within twenty-one (21) days of the date of delivery of such notice, either issue to the Contractor a Taking-Over Certificate, stating the date on which the Works and Services were substantially completed in accordance with the Contract, or give instructions in writing to the Contractor specifying all the conditions to be complied with and all the works which is required to be done by the Contractor before the issue of such Certificate. The Engineer-in-charge shall also notify the Contractor of any defects in the Works and Services affecting substantial completion that may appear after such instruction and before completion of Taking-Over Certificate within twenty-one (21) days of completion, to the satisfaction of the Engineer-in-charge, of the Works and Services so specified and remedying any defects so notified. 28.2 Similarly, in accordance with the procedure set out in GC Sub-Clause 28.1, the Contractor may request and the Engineer-in-charge shall issue a Taking-Over Certificate in respect of: any Section in respect of which a separate Time for Completion is provided in the contract; any substantial part of the Works and Services which has been both completed to the satisfaction of the Engineer-in-charge and, otherwise than as provided for in the Contract, occupied or used by the Engineer-in-charge; or any part of the Works and Services which the Engineer-in-charge has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure)
29	**Emergency Works**	29.1 The need for execution of Emergency Works is jointly identified by the Engineer-in-charge and the Contractor and the starting of the execution of Emergency Works shall always require a Work Order issued by the Engineer-in-charge. 29.2 The execution of Emergency Works shall be requested by the Contractor based on losses or damages occurred as a result of

		natural phenomena (such as strong storms, flooding or earthquakes) with imponderable consequences, or on the possibility of damages or losses occurring, or the safety of individuals, works, services or equipment being at risk as result of the natural phenomena. In order to characterize the Emergency Works, the Contractor shall forward a Technical Report to the Engineer-in-charge requesting for execution of Emergency Works and characterizing the situation. On the basis of the said report, and of his own judgment of the situation, the Engineer-in-charge may issue a Work Order to the Contractor. 29.3 The Engineer-in-charge or even Government authorities may declare an Emergency Situation on the basis of local legislation. In those cases, the Engineer-in-charge may issue a Work Order for Emergency Works to the Contractor even without a request by the Contractor. 29.4 If the Contractor is unable or unwilling to do such works immediately, the Engineer-in-charge may do or cause such works to be done necessary in order to prevent damage to the Road. In such event the Engineer-in-charge shall, as soon as practicable after the occurrence of any such events, notify the Contractor in writing of such emergency, the works to be done and the reasons therefore. 29.5 If the work done or caused to be done by the Engineer-in-charge is that the Contractor was liable to do at its own expense under the Contract, the twice of reasonable costs incurred by the Engineer-in-charge in connection therewith shall be paid by the Contractor to the Engineer-in-charge as damage, or otherwise, such damage shall be recovered/ charged from the OPRMC Contractor from the payments due from its running bills/ any due payments/Performance Security by the Engineer-in-charge.
30	**Quality of Materials used by the Contractor**	30.1 The quality of materials used by the Contractor for the execution of the Contract shall be in compliance with the requirements of the Specifications. If the Contractor is of the opinion that materials of higher quality than those stated in the Specifications need to be used in order to ensure compliance with the Contract, Contractor may use such better materials, subject to approval (material & source both) of Engineer-in-charge, carrying from any source without being entitled to higher prices or any remunerations. 30.2 Under no circumstances the Contractor shall liable to make any claim/s based on the insufficient quality of materials used in the Works & Services, even if, the source & materials verified

		& approved by the Engineer-in-charge. 30.3 The Contractor shall, at its own cost, establish the laboratory and carry out all the tests required as per the Specifications in presence of representative Engineer-in-charge. The Contractor shall keep all records of such tests and on request, shall hand over the test results to the Engineer-in-charge.
31	**Signalling and Demarcation of Work Zones & Bypass**	31.1 To ensure the safety of road users, including non-motorized road users and pedestrians, the Contractor is responsible to install and maintain at its own cost the adequate signalling and demarcation of working sites, which in addition must comply with the applicable legislation. 31.2 If the execution of Works and Services under the contract is likely to interfere with traffic, the Contractor shall take at its own cost the measures necessary to limit such interference to the strict minimum, or any danger to the workers or others. For that purpose, the Contractor is entitled to install, within the right-of-way of the road, temporary bypasses, structures or other modifications to be used by traffic during the execution of works and services. The Contractor shall notify the Engineer-in-charge of any such temporary installations. 31.3 If the execution of Works and Services by the Contractor makes it necessary to temporarily close a road section, and a traffic detour has to be implemented over other public roads or streets, the Contractor shall be responsible for the adequate signalling of the detour, under the same conditions as stated in GC Sub-Clause 31.1 and 31.2. 31.4 The Contractor shall inform the local authorities and the local police about such activities to be carried out by him which may cause any significant interruptions or changes to the normal traffic patterns. Such information shall be made in writing and at least seven (7) days before the beginning of such activities. Upon request from the Contractor, the Engineer-in-charge shall assist the Contractor in the coordination with the local authorities and the local police.

D Allocation of Risks

32	**Employer's Risks**	32.1 From Start Date to issuance of Defects Correction Certificate, the followings, in so far as they directly affect the execution of the Works and Services included in this Contract, are the Employer's risks: war, hostilities (whether war be declared or not), invasion, act of foreign enemies;

		rebellion, revolution, insurrection, military or usurped power, or civil war; riot, commotion or disorder, unless solely restricted to employees of the Contractor or of his Subcontractors and arising from the conduct of the Works and Services; loss or damage due to the use or occupation by the Employer of any unfinished Section or part of the Works, except as may be provided for in the Contract; any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions
33	**Contractor's Risks**	33.1 The Employer carries the risks wherever this Contract states, are the Employer's risks, and the remaining risks are the Contractor's risks. 33.2 Risk and Cost In the event, if the Contractor fails to discharge it's responsibility with regard to the Works under Schedule 1 to Schedule 4 and Emergency & Contingent Works as mentioned in BDS, the Employer shall be entitled for debarment of the Contractor and get the Works executed by the other Agency. The Engineer-in-charge shall, on due approval, proceed for execution of Works and Services with the Other Agency after giving 7 day Notice along with approximate Cost of the Works and Services to the OPMRC Contractor and the Works and Services shall be treated as Risk & Cost to the OPRMC Contractor. The final cost incurred in the execution of Works and Services under Risk & Cost shall be finalized after the completion of Works by the Other Agency and 3 (three) times of the incurred cost shall be charged from the OPRMC Contractor from the payments due from its running bills/ any due payments/ Performance Security. In case the recovery of Risk & Cost Payment (3 times of cost incurred by the Other Agency) falls short from any due payments/ performance security, the Employer shall proceed for recovery as per the Law of Recovery under Public Demand Recovery Act. Further, for damage of image of Bihar State due to non-performance of OPRMC Contractor's for maintenance of roads & fulfilling other maintenance obligations the Employer shall have the right to impose additional cost as a damage on the OPRMC Contractor and the act of Contractor shall be treated as Criminal Negligence and Wilful Mis-Conduct. The Employer shall have the rights to

		execute the actions against the OPRMC Contractor in accordance with the Norms/ Orders/ Guidelines enshrined in the Bihar Contractor Registration Rules including debarring/ blacklisting the Contractor from the participation in future tenders. 33.3 Debarment The Employer, at any stage during the operation and defect liability period of the Contract, shall be entitled for the debarment of the Contractor, if the Contractor, fails to meet the Performance Standards and Maintain the desired Service Levels of roads under the Contract as per the specifications, which results into liquidated damage pursuant to GC Sub-Clause 40.4 and deductions, pursuant to GC Sub-Clause 51.4, exceeding the threshold criteria as mentioned in GC/PC Clause 40.4 and 51.4 respectively.
34	**Loss of or Damage to Property; Accident or Injury to Workers; Indemnification**	34.1 Subject to GC Sub-Clause 34.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property arising in connection with the execution and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Employer, its contractors, employees, officers or agents. 34.2 If any proceedings are brought or any claim is made against the Employer that might subject the Contractor to liability under GC Sub-Clause 34.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Contractor fails to notify the Employer within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defence of any such proceedings or claim. The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such

		proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing. 34.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers and Subcontractors from any liability for loss of or damage to property of the Employer, other than the Works not yet taken over, that is caused by fire, explosion or any other perils, in excess of the amount recoverable from insurances procured under GC Clause 35, provided that such fire, explosion or other perils were not caused by any act or failure of the Contractor. 34.4 The party entitled to the benefit of an indemnity under this GC Clause 34 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.
35	**Insurance**	35.1 The Contractor shall ensure All Risk Policy with a Value equivalent to Accepted Contract Price in accordance with the Insurance Company requirements applicable as per the Law of State/Union. The Contractor shall deliver to the Employer Certificates of Insurance (or copies of the Insurance policies) as evidence that the required policies are in full force & effect. The Insurers should give a notice to the Employer not less than twenty-one (21) days prior to cancellation or material modification of a policy. The Contractor shall ensure that, where applicable, its Sub-Contractor/s shall take out & maintain in effect adequate insurance policies for their personnel & vehicles and works executed by them under the Contract, unless such sub-contractors are covered by the policies taken out by the Contractor.
36	**Unforeseen Conditions**	36.1 If, during the execution of the Contract, the Contractor shall encounter on the Site any physical conditions (other than climatic conditions) or artificial obstructions that could not have been reasonably foreseen prior to the date of the Contract Agreement by an experienced contractor on the basis of reasonable examination of the data relating to the Road (including any data and tests provided by the Engineer-in-charge), and on the basis of information that it could have obtained from a visual inspection of the Site or other data readily available to it relating to the Road, and if the Contractor determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Contractor shall promptly, and before performing

		additional work or using additional Plant & Equipment or Contractor's Equipment, notify the Engineer-in-charge in writing of: the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen; the additional work and/or Plant and Equipment and/or Contractor's Equipment required, including the steps which the Contractor will or proposes to take to overcome such conditions or obstructions; the extent of the anticipated delay; the additional cost and expense that the Contractor is likely to incur. On receiving any notice from the Contractor under this GC Sub-Clause 36.1, the Engineer-in-charge decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Engineer-in-charge shall instruct the Contractor of the actions to be taken.
		36.2 Any reasonable additional cost and expense incurred by the Contractor in following the instructions from the Employer to overcome such physical conditions or artificial obstructions referred to in GC Sub-Clause 36.1 shall be paid by the Employer to the Contractor as an addition to the Contract Price.
		36.3 If the Contractor is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GC Sub-Clause 36.1, the Time for Completion shall be extended in accordance with GC Clause 64.
37	**Change in Laws and Regulations**	37.1 If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the cost of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance

	with the PC.
38 Force Majeure	38.1 "Force Majeure" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, insofar as they directly affect the execution of the Services and Works included in this Contract and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following: war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war; rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts; confiscation, nationalization, mobilization, commandeering, requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority; strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague; earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster; shortage of labour, materials or utilities where caused by circumstances that are themselves Force Majeure. 38.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event. 38.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GC Clause 64. 38.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon

	its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GC Sub-Clause 38.6. 38.5 No delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall constitute a default or breach of the Contract; give rise to any claim for damages or additional cost or expense occasioned thereby; if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure. 38.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GC Clause 59. 38.7 In the event of termination pursuant to GC Sub-Clause 38.6, the rights and obligations of the Employer and the Contractor shall be as specified in GC Sub-Clauses 59.1(b) and 59.1(c). 38.8 Notwithstanding GC Sub-Clause 38.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.

E Guarantees and Liabilities

39	**Completion Time Guarantee and Liability**	39.1 The Contractor guarantees that it shall attain specified Service Levels and the Completion of Initial Rectification, Periodic Maintenance including re-application of Road Marking and Minor Improvement including Strengthening (or a part for which a separate time for completion is specified in the PC) within the time schedules specified in the PC and the Specifications, pursuant to GC Sub-Clause 10.2, or within such extended time to which the Contractor shall be entitled under GC Clause 64 hereof. 39.2 If the Contractor fails to attain specified Service Levels within the contractually agreed time schedules as given in the Specifications, the Contractor shall receive reduced payments for Ordinary Maintenance Services, for such default and not as a penalty, in accordance with the Specifications.

		39.3 If the Contractor fails to attain the Completion of Initial Rectification, Periodic Maintenance including re-application of Road Marking and Minor Improvement including Strengthening Works (or a part for which a separate time for completion is specified in the PC Clause 39.1) within the contractually required time schedules, the Contractor shall pay to the Employer liquidated damages for such default and not as a penalty, in accordance with the PC and the Specifications. 39.4 The payment reductions and liquidated damages indicated in GC Sub-Clause 39.2 and 39.3 shall be the only monies due from the Contractor for such defaults, and they will be applied for every day of delay, in accordance with the PC and the Specifications. The aggregate amount of such liquidated damages and payment reductions shall in no event exceed the "aggregate liability" in accordance with GC Clause 42. The payment or deduction of such sums shall not relieve the Contractor from his obligation to complete the Works and Services, or from any other of his obligations and liabilities under the Contract
40	**Performance Guarantee and Liability**	40.1 The Contractor guarantees that during the Performance Tests or Inspections for Initial Rectification, Periodic Maintenance including re-application of Road Marking and Minor Improvement (including Strengthening) Works, and for Emergency/Contingent Works, the Road and all parts thereof shall attain the Performance Standards specified in the corresponding Specifications. 40.2 If, for reasons attributable to the Contractor, the minimum level of the Performance Standards specified in the corresponding Specifications are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications and/or additions to the Road or any part thereof as may be necessary to meet at least the minimum level of such Standards. The Contractor shall notify the Engineer-in-charge upon completion of the necessary changes, modifications and/or additions, and shall request the Engineer-in-charge to repeat the Test or Inspection until the minimum level of the Standards has been met. If the Contractor eventually fails to meet the minimum level of Performance Standard, the Employer may consider debarment of the Contract pursuant to GC Sub-Clause 33.2 & 33.3 and lead to termination of the Contract, pursuant to GC Sub-Clause 59.2(b). 40.3 If, for reasons attributable to the Contractor, the Performance Standards relating to Initial Rectification, Periodic

	Maintenance including re-application of Road Marking and Minor Improvement including Strengthening Works specified in the corresponding Specifications are not attained either in whole or in part, the Contractor shall, at the Contractor's choice, either make such changes, modifications and/or additions to the Works and Services or any part thereof that are necessary to attain the Performance Standards at its cost and expense, and shall request the Employer to repeat the Test, or pay liquidated damages to the Employer in respect of the Works and Services which fail to meet the Performance Standards in accordance with the provisions in the corresponding Specifications. 40.4 The payment of liquidated damages under GC Sub-Clause 40.3, up to the limitation of liability specified in the PC, shall completely satisfy the Contractor's guarantees under GC Sub-Clause 40.1, and the Contractor shall have no further liability whatsoever to the Engineer-in-charge in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Engineer-in-charge shall issue the Certificate of Completion for the Works or any part thereof in respect of which the liquidated damages have been so paid.
41 Defect Liability	41.1 The Contractor warrants that the Works and Services or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Works and Services executed. The Defect Liability Period for the Works (or any part thereof) shall be twelve (12) months from the date of Certificate of Completion of the Works. If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Works and Services executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its own cost, repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Road caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect of any damage to the Road arising out of or resulting from improper operation or maintenance of the Road by the Employer after taking over. 41.2 The Contractor's obligations under this GC Clause 41 shall not apply to

	any works or materials that have a normal life shorter than the Defect Liability Period stated herein; any designs, specifications or other data designed, supplied or specified by or on behalf of the Employer or any matters for which the Contractor has disclaimed responsibility herein; any other materials supplied or any other work executed by or on behalf of the Employer, except for the work executed by the Employer under GC Sub-Clause 41.5. 41.3 The Engineer-in-charge shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall afford all reasonable opportunity for the Contractor to inspect any such defect. 41.4 The Engineer-in-charge shall afford the Contractor all necessary access to the Site to enable the Contractor to perform its obligations under this GC Clause 41. The Contractor may remove from the Site any Plant and Equipment that are defective if the nature of the defect is such that repairs cannot be expeditiously carried out at the Site. 41.5 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Road caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the Engineer-in-charge may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the Engineer-in-charge from any monies due the Contractor or claimed under the Performance Security. The Employer shall be the final authority to decide the quantity and its estimation regarding remedy of defects under DLP. 41.6 If the Road or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Road or such part, as the case may be, shall be extended by a period equal to the period during which the Road or such part cannot be used because of any of the aforesaid reasons. The defect also includes the Works identified to be executed to bring the road service below intervention criteria. 41.7 Except as provided in GC Clauses 40 and 41, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Road or any part thereof, the Plant and Equipment,

		design or engineering or work executed that appear after Completion of the Works and Services, except where such defects are the result of the gross negligence, fraud, criminal or wilful action of the Contractor.
42	**Limitation of Liability**	42.1 Except in cases of criminal negligence or wilful misconduct, the Contractor shall not be liable to the Employer, whether in Contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer and the aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed the limit specified in the PC.
43	**Liability for Damages through Traffic Accidents and Traffic Interruptions**	43.1 The Contractor cannot be held liable for losses or damages of any kind arising out of traffic accidents on the roads included in the Contract, unless those traffic accidents have been caused directly by potholes or other major defects of the Road covered by the Contract he failed to repair in a timely manner, criminal acts, wilful misconduct or gross negligence of the Contractor. 43.2 Under no circumstances can the Contractor be held liable for losses or damages of any kind and to anyone arising out of interruptions of traffic or traffic delays on the road included in the Contract, including any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs.

F Payment

44	**Contract Price**	44.1 The Contract Price shall be as specified in the Form of Contract Agreement to be paid in the currencies Indian rupees. 44.2 Unless indicated otherwise in the PC, and except in the event of a Change as provided for in the Contract, the Contract Price shall be: For Ordinary Maintenance Services, a firm lump sum to be paid in monthly instalments; For Initial Rectification Works, a firm lump sum, to be paid according to work progress; For Periodic Maintenance including re-application of Road Marking Works, a firm lump sum, to be paid according to work progress;

	For Minor Improvement including Strengthening Works, the total price stated in the Schedule of Prices for this item; 44.3 The Contractor shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.
45 Advance Payment	45.1 The Employer shall make an interest-bearing advance payment (the "Advance Payment") @ "Bank Rate + 3%", equal to 10% (ten percent) of the Contract Price, exclusively for mobilisation expenses. The Advance Payment for mobilisation expenses shall be made in two instalments each equal to 5% (five percent) of the Contract Price. The second 5% (five percent) mobilization advance would be released after submission of utilization certificate by the Contractor for the first 5% (five per cent) advance already released earlier. 45.2 The Contractor may apply to the Employer for the first instalment of the Advance Payment at any time after the Commencement Date, along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, substantially in the form provided at Annexure-4, to remain effective till the complete and full repayment thereof. 45.3 At any time, after 60 (sixty) days from the Commencement Date of Works and Services, the Contractor may apply to the Employer for the second instalment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, substantially in the form provided at Annexure-4 to remain effective till the complete and full repayment thereof. The Contractor has the option of splitting the Bank Guarantee against Advance Payment for mobilization expenses into parts, each not less than 2.75% (two point seven five per cent) of the Contract Price. Each part of the guarantee shall remain effective till full repayment of such part advance corresponding to this bank guarantee. Such part of Bank Guarantee shall be returned to the Contractor on recovery under the Agreement of the full amount of such part guarantee within 30 (thirty) days of the said recovery. 45.4 The Advance Payment shall be paid by the Engineer-in-charge to the Contractor within 15 (fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 45.

	45.5 The Advance Payment shall be repaid through percentage deductions from the payments otherwise due to the Contractor, as follows: deductions shall commence in the first Payment; deductions shall be made at the rate of 15% (fifteen percent) of each certified Payments until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 80% (eighty percent) of the Schedule Contract Period is over; if total certified payments (excluding the Advance Payment and deductions and repayments of retention) does not exceed 20% (twenty percent) of the Contract Price within 50% of the Scheduled Contract Period from the Date of Commencement of Works and Services then the Advance Payment including interest shall be recovered by encashment of the Bank Guarantee for the Advance Payment. 45.6 If the Advance Payment has not been fully repaid prior to Termination under GC Clause 38 or GC Clause 59, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer. Without prejudice to the provisions of GC Clause 45.6, in the event of Termination for Contractor Default, the Advance Payment shall be deemed to carry interest @ "Bank Rate+5%" per annum from the date of Advance Payment to the date of recovery by encashment of the Bank Guarantee for the Advance Payment. For the avoidance of doubt, the aforesaid interest shall be payable on the unrecovered balance.
46 Schedule of Prices	46.1 The Schedule of Prices shall contain items for Groups of Activities which include the provision of Services (measured by Performance Standards) and Works (measured by unit of outputs or of products). The Schedule of Prices for Works and Services shall include, where applicable, the lump-sum and unit price for Initial Rectification and Periodic Maintenance (including re-application of Road Marking) Works, and unit rates for Minor Improvement (including Strengthening) Works. 46.2 Ordinary Maintenance Services shall be measured and billed separately and will be remunerated by lump-sum amount for the period of the contract, and paid in fixed monthly payments during the entire Contract period. The values for remuneration of the Ordinary Maintenance Services are those stated in the Schedule of Prices.

	46.3 Initial Rectification and Periodic Maintenance (including re-application of Road Marking) Works will be remunerated by Lump-Sum amount for the period of the Contract, however, indicating the quantities of measurable outputs to be executed in order that the Road achieves the performance standards specified in the bidding documents. Payments will be made in accordance with the execution of those measured outputs paid by executed works output. The prices shall be those stated in the Schedule of Prices. 46.4 Minor Improvement (including Strengthening) Works will be remunerated after acceptance by the Engineer-in-charge and shall be paid according to the product unit price using the prices included in the Schedule of Prices. 46.5 Emergency Work Order shall be issued by Engineer-in-charge. Pursuant to GC Clauses 29 and 61, the lumpsum price for the Emergency Works will be submitted by the Contractor to the Engineer-in-charge in case of each Emergency Works. The lumpsum price shall be based on the Specifications and on the unit prices included in the Work Schedule 4 for similar items and for other items not covered under Schedule 4, shall be determined as per GC Clause 61 and 63. 46.6 The Schedule of Prices shall be used to calculate the Contract Price. The amounts for Ordinary Maintenance Services, Initial Rectification and Periodic Maintenance (including re-application of Road Marking) Works are the Lump-Sum prices offered in the Contractor's Bid. The Minor Improvement (including Strengthening) Works amount included in the Contract is an estimate on the basis of the unit prices included in the Contractor's Bid. The Provisional Sum included in the Administrative Approval of each Contract for use in Emergency and Contingent Works. That shall not be a part of Contract Price.
47 Measurement	47.1 Ordinary Maintenance Services shall not be measured in volume; however, its payment will be affected by compliance with the Performance Standards pursuant to GC Clause 24. Ordinary Maintenance Services shall be billed in fixed monthly lumpsum amounts as per the Schedule of Prices subject to price adjustment as applicable under the Contract. Ordinary Maintenance Services, shall be start from Date of Commencement and Payments shall be made with deductions if the Performance Standards are not achieved as defined in the Specifications. The Reductions for non-compliance with the Performance Standards will be applied on a daily basis for the period under which the Road does not achieve the Performance Standards, in accordance with the methodology

		specified in the Specifications. 47.2 Initial Rectification and Periodic Maintenance (including re-application of Road Marking) Works will be measured on the basis of as indicated in the PC, based on the quantity of actual work outputs as defined in the Specifications, concluded by the Contractor and approved by the Engineer-in-charge. The prices shall be those stated in the Schedule of Prices. 47.3 Minor Improvement (including Strengthening) Works will be measured on the basis of as indicated in the PC and in accordance with the unit of measurement used for product unit price included in the Schedule of Prices. The prices shall be those stated in the Schedule of Prices. 47.4 Emergency & Contingent Works may not be quantified beforehand and shall be executed & billed in accordance with the Schedule of Payments for each specific Emergency/ Contingent Works as approved by the Employer.
48	**Price Adjustment**	48.1 Payments under the Contract shall be adjusted for increase or decrease in rates and prices in accordance with the principles and procedures and as per formula given in the Particular Conditions of Contract (PC). 48.2 To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other clauses in the Contract, the rates and prices included in the Contract shall be deemed to include amounts to cover the contingency of such other rise and fall in costs.
49	**Monthly Statements and Payments**	49.1 The Contractor shall submit to Engineer-in-charge Monthly Statements, as stated in the PC in the format indicated in the Specifications, of the Estimated Value completed Works and Services under Ordinary Maintenance Services, Initial Rectification Works, Periodic Maintenance (including re-application of Road Marking) Works, Minor Improvement (including Strengthening) Works, and Emergency/Contingent Works in separated items covering the Works and Services for the corresponding month. 49.2 The Engineer-in-charge shall verify the Contractor's Monthly Statement and Certify within fourteen (14) days the amount to be paid to the Contractor considering the followings: The Value of Services executed shall be certified by the Engineer-in-charge taking into account the monthly amount included in the Schedule of Prices for Ordinary Maintenance Services and the achievement of the Performance Standards for the Ordinary Maintenance

		Services adjusted for any payment reductions in accordance with GC Sub-Clause 47.1; The Value of Works executed shall be certified by the Engineer-in-charge taking into account the Value of the quantities of products executed and the prices in the Schedule of Prices; and The Engineer-in-charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
50	**Payments**	50.1 Payments shall be adjusted as per the deductions for advance payments, retention, and reductions for not achieving the Performance Standards and Management Requirements under Ordinary Maintenance Services. The Engineer-in-charge shall pay the Contractor the amount certified in accordance with GC Clause 49, within twenty-eight (28) days of the date of each certificate. 50.2 Unless otherwise stated, all payments and deductions will be paid or charged in the proportions of currencies comprising the Contract Price. 50.3 Items of the Works and Services for which no rate or price has been entered in the Schedule of Prices will not be paid for by the Engineer-in-charge and shall be deemed covered by other rates and prices in the Contract.
51	**Retention and Reductions**	51.1 The Engineer-in-charge shall retain the percentage indicated in the PC from each payment due to the Contractor for Initial Rectification, Periodic Maintenance (including re-application of Road Marking) Works and Minor Improvement (including Strengthening) Works, except for the types of works specified in the PC. The regular monthly lump-sum payments for performance-based Ordinary Maintenance Services will not be subject to retentions, unless indicated in the PC. 51.2 On completion of the Initial Rectification, Periodic Maintenance (including re-application of Road Marking) and Minor Improvement (including Strengthening) Works, half the total amount retained shall be repaid to the Contractor and the other half after twelve (12) months or end of Defect Liability Period, whichever is later, and the Engineer-in-charge has certified that all defects notified to the Contractor have been corrected before the end of this period. 51.3 On completion of the whole Works and Services, the Contractor may substitute retention money with an "on demand" Bank guarantee.

	51.4 Reduction of monthly payments for Ordinary Maintenance Services due to non-compliance with the Service Levels will be made as indicated in GC Sub-Clause 47.1. The amount of Reduction for the days in which the Road was not complying with the Performance Standards will not be paid or repaid, even after the Contractor re-establishes the quality levels to the standards required by the contract, indicated in GC Sub-Clause 47.1. The amount of Reduction for the days in which the Road was not complying with the Performance Standards will not be paid or repaid, even after the Contractor re-establishes.
52 Taxes and Duties	52.1 Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Sub-Contractors or their employees by all municipal, state or national government authorities in connection with the Works and Services in and outside of the country where the Site is located. 52.2 If any tax exemptions, reductions, allowances or privileges may be available to the Contractor in the country where the Site is located, the Employer shall use its best endeavours to enable the Contractor to benefit from any such tax savings to the maximum allowable extent. 52.3 For the purpose of the Contract, it is agreed that the Contract Price specified in the Form of Contract Agreement is based on the taxes, duties, levies and charges prevailing at the date twenty-eight (28) days prior to the date of bid submission in the country where the Site is located (hereinafter called "Tax"). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Contractor, Sub-Contractors or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be, in accordance with GC Clause 37 hereof.

53 Securities	53.1 The Contractor shall provide the securities specified below in favour of the Employer at the times, and in the amount, manner and form specified. 53.2 Advance Payment Security The Contractor shall, after Commencement Date, may provide a security in an amount equal to the advance payment calculated in accordance with the GC Clause 45 of the Contract Agreement. The security shall be in the form provided in the bidding documents or in another form acceptable to the Employer. The amount of the security shall be reduced in proportion to the value of the Works and Services executed by and paid to the Contractor from time to time, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer & on request, the security shall be returned to the Contractor. 53.3 Performance Security The Contractor shall, within twenty-one (21) days of the Notification of Award of Contract, provide a Security along with Additional Security (if any) for the due performance of the Contract and in accordance with the conditions specified in the PC. The security shall be in one of the forms of guarantees provided in the bidding documents, as stipulated by the Employer in the PC, or in another form acceptable to the Employer. The security shall automatically become null and void, twelve (12) months after Completion of all Works and Services under the Contract, provided however, that if the Defects Liability Period has been extended on any part of the Works pursuant to GC Sub-Clause 41.7 hereof, the Contractor shall submit an additional Performance Security in an amount proportionate to the Contract Price of that part.
54 Completion Certificate	54.1 The Contractor shall request the Engineer-in-charge to issue a Completion Certificate for the Initial Rectification Works, Periodic Maintenance (including re-application of Road Marking) Works, Minor Improvement (including Strengthening) Works and Emergency/Contingent Works, or parts thereof, as applicable, and the Engineer-in-charge shall issue the Completion Certificate upon deciding that the Work and Services, full or parts thereof, as applicable is completed.

55	**Final Statement**	55.1	The Contractor shall submit the Employer a detailed accounts of the total amount that he considers payable under the Contract before the end of the Defects Liability Period. The Employer shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within fifty-six (56) days of receiving the Contractor's accounts subject to its correctness and completeness. If it is not, the Engineer-in-charge shall issue within fifty-six (56) days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been re-submitted, the Employer shall decide on the amount payable to the Contractor and issue a payment certificate.
56	**Discharge**	56.1	Upon submission of the Final Statement, the Contractor shall provide the Employer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Payment Certificate issued pursuant to GC Clause 55 has been made and the performance security referred to in GC Sub Clause 53.3, if any, has been returned to the Contractor.
57	**As Built Drawings and Manuals**	57.1	If "As-Built" Drawings and/or Manuals are required, the Contractor shall submit by the dates as stated in the PC.
		57.2	If the Contractor does not submit the Drawings and/or Manuals by the dates stated in the PC, or they do not seek the approval of Engineer-in-charge, the Engineer-in-charge shall deduct the amount stated in the PC from payments due to the Contractor.

G Remedies

58	**Suspension**	58.1	The Employer may request by notice to the Contractor, to suspend performance of any or all of its obligations under the Contract. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons thereof. The Contractor shall thereupon suspend performance of such obligation (except those obligations necessary for the care or preservation of the Site and Works) until ordered in writing to resume such performance by the Employer. If, by virtue of a suspension order given by the Employer, other than by reason of the Contractor's default or breach of the Contract, the Contractor's performance of any of its obligations is suspended for an aggregate period of more than ninety (90) days, then at any time thereafter and provided that

at that time such performance is still suspended, the Contractor may give a notice to the Employer that the Employer, within twenty-eight (28) days of receipt of the notice, order the resumption of such performance or request and subsequently order a change in accordance with GC Sub-Clause 63.1, excluding the performance of the suspended obligations from the Contract.

If the Employer fails to do so within such period, the Contractor may, by a further notice to the Employer, elect to treat the suspension as termination of the Contract under GC Sub-Clause 59.1.

58.2 If:-

the Employer, has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the Contract, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GC Sub-Clause 50.1, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, if fails to approve such invoice or supporting documents or give its reasons for withholding such approval, or fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice; or

the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site, or failure to obtain any Government permit under the Employer's responsibility and necessary for the execution and/or completion of the Works and Services.

the Contractor may by fourteen (14) days' notice to the Employer suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.

58.3 If the Contractor's performance of its obligations is suspended or the rate of progress is reduced pursuant to this GC Clause 58, then the Time for Completion shall be extended in accordance with GC Sub-Clause 64, and any and all additional costs or expenses incurred by the Contractor as a result of such suspension or reduction shall be paid by the Employer to the

	Contractor in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Contractor's default or breach of the Contract. 58.4 During the period of suspension, the Contractor shall not remove from the Site any Plant and Equipment or any Contractor's Equipment, without the prior written consent of the Employer.
59 Termination	59.1 Termination for Employer's Convenience The Employer may at any time terminate the Contract for any reason by giving the Contractor a notice of termination that refers to this GC Sub-Clause 59.1. Upon receipt of the notice of termination under GC Clause 59.1(a), the Contractor shall either immediately or upon the date specified in the notice of termination: i cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Works and Services already executed, or any work required to leave the Site in a clean and safe condition, ii terminate all sub-contracts, except those to be assigned to the Employer pursuant to paragraph (iv) (b) below, iii remove all Contractor's Equipment from the Site, repatriate the Contractor's and its Sub-contractors' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition. iv In addition, the Contractor, subject to the payment specified in GC Clause 59.1(c), shall (a) deliver to the Employer the parts of the Works executed by the Contractor up to the date of termination, (b) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Works and Services and to the Plant and Equipment as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors

	(c) deliver to the Employer all non-proprietary drawings, specifications & other documents prepared by the Contractor or its Sub-contractors as at the date of termination in connection with the Works. In the event of termination of the Contract under GC Sub-Clause 59.1(a), the Employer shall pay to the Contractor the following amounts: v the Contract Price, properly attributable to the parts of the Works and Services executed by the Contractor as of the date of termination, vi the costs reasonably incurred by the Contractor in the removal of the Contractor's Equipment from the Site and in the repatriation of the Contractor's and its Sub-contractors' personnel, vii any amounts to be paid by the Contractor to its Sub-contractors in connection with the termination of any subcontracts, including any cancellation charges, viii the costs incurred by the Contractor in protecting and leaving the Site in a clean and safe condition pursuant to GC Clause 59.1(b)(i), ix the cost of satisfying all other obligations, commitments and claims that the Contractor may in good faith have undertaken with third parties in connection with the Contract and that are not covered by paragraphs (i) through (iv) above. 59.2 Termination for Contractor's Default The Employer, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefore to the Contractor, referring to this GC Sub-Clause 59.2: i if the Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Contractor is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Contractor takes or suffers any other analogous action in consequence of debt;

	ii	if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of GC Clause 13;
	iii	if the Contractor, in the judgment of the Employer has engaged in corrupt, fraudulent, collusive or coercive practices in competing for or in executing the Contract. For the purpose of this Sub-Clause: **"corrupt practice"** means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. **"fraudulent practice"** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition. **"collusive practice"** means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels. **"coercive practice"** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.
	If the Contractor	
	iv	has abandoned or repudiated the Contract;
	v	has without valid reason failed to commence work on the Road promptly or has suspended (other than pursuant to GC Sub-Clause 58.2) the progress of Contract performance for more than twenty-eight (28) days after receiving a written instruction from the Employer to proceed;
	vi	persistently fails to execute the Contract in accordance with the Contract, such failure being defined in the PC, or persistently neglects

	otherwise to carry out its obligations under the Contract without just cause; vii refuses or is unable to provide sufficient materials, services or labour to execute and complete the Works and Services in the manner specified in the program furnished under GC Clause 17 at rates of progress that give reasonable assurance to the Employer that the Contractor can attain completion of the works and services by the Time for Completion as extended. then the Employer may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Employer may terminate the Contract forthwith by giving a notice of termination to the Contractor that refers to this GC Sub-Clause 59.2. Upon receipt of the notice of termination under GC Sub-Clauses 59.2(a) or 59.2(b), the Contractor shall, either immediately or upon such date as is specified in the notice of termination: viii cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Works and Services already executed, or any work required to leave the Site in a clean and safe condition; ix terminate all subcontracts, except those to be assigned to the Employer based on the Employer's written request; x deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Sub-contractors as of the date of termination in connection with the Works and Services. The Contractor shall be entitled to be paid the Contract Price attributable to the Works and Services executed as of the date of termination, and the costs, if any, incurred in protecting and in leaving the Site in a clean and safe condition pursuant to paragraph (i) of GC Clause 59.2(c). Any sums due the Employer from the Contractor accruing prior to the date of termination shall be deducted from

	the amount to be paid to the Contractor under this Contract. 59.3 Termination by Contractor If: i the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to GC Clause 50, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GC Clause 50.2, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice; or ii the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas or failure to obtain any governmental permit under the Employer's responsibility and necessary for the execution and/or completion of the Works and Services; then the Contractor may give a notice to the Employer thereof, and if the Employer has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Contractor is still unable to carry out any of its obligations under the Contract for any reason attributable to the Employer within twenty-eight (28) days of the said notice, the Contractor may by a further notice to the Employer referring to this GC Clause 59.3(a), forthwith terminate the Contract.

	The Contractor may terminate the Contract forthwith by giving a notice to the Employer to that effect, referring to this GC Clause 59.3(b), if the Employer becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Employer takes or suffers any other analogous action in consequence of debt. If the Contract is terminated under GC Clauses 59.3(a) or 59.3(b), then the Contractor shall immediately iii cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Road already executed, or any work required to leave the Site in a clean and safe condition; iv terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (iv) (ii), v remove all Contractor's Equipment from the Site and repatriate the Contractor's and its Sub-contractors' personnel from the Site; vi In addition, the Contractor, subject to the payment specified in GC Clause 59.3(d), shall (i) deliver to the Employer the parts of the Road executed by the Contractor up to the date of termination; (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Road and to the Plant and Equipment as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Sub-contractors; (iii) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Works and Services.

	If the Contract is terminated under GC Sub-Clauses 59.3.(a) or 59.3.(b), the Employer shall pay to the Contractor all payments specified in GC Sub-Clause 59.1.(c), and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Contractor arising out of, in connection with or in consequence of such termination. Termination by the Contractor pursuant to this GC Sub-Clause 59.3 is without prejudice to any other rights or remedies of the Contractor that may be exercised in lieu of or in addition to rights conferred by GC Sub-Clause 59.3. 59.4 In this GC Clause 59, in calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to the Contract.

H Provisional Sum

60	**Provisional Sum**	60.1 "Provisional Sum" means a Sum for use when approved by the Employer for Emergency/ Contingent Works and for Unforeseeable Conditions, which sum may be used, in whole or in part, or not at all, on the instructions of the Employer. The Contractor shall be entitled to only such amounts in respect of the works, supply or contingencies to which such Provisional Sums relate as the Employer shall determine in accordance with this Clause.
61	**Use of Provisional Sum for Emergency Works**	61.1 After detecting a situation which in the opinion of the Contractor justifies the execution of Emergency Works or otherwise as defined in GC Clause 29, the Contractor shall submit a Technical Report to the Engineer-in-charge characterizing the situation. The Emergency Works shall be executed as per the Specification on the unit prices included in the Works Schedule 4 for similar items and for other items not covered under Schedule 4, shall be determined on the basis of RCD Current Schedule of Rates and as per GC Sub-Clause 61.2 and GC Clause 63. 61.2 If the execution of the Emergency Works require any activity not priced in the Schedule of Prices/ RCD Current Schedule of Rates, the Contractor will use the price breakdowns included in the Contractor's Bid in order to form the unit prices of the unpriced items to be included in the Price Quotation of the Emergency Works, all in accordance with agreed methodology for approving new prices.

		61.3 Upon receiving the request for Emergency Works including a Price estimate based on GC Sub-Clause 61.1 & 61.2 the Employer may issue a Work Order in accordance with GC Sub-Clause 29.2 for execution of the Emergency Works with a payment Schedule agreed with the Contractor. The Cost of these Works shall be covered by the amounts included in the Provisional Sum.
62	**Use of Provisional Sum for Contingency**	62.1 The use of the Provisional Sum to cover for Contingencies will be done under the control and initiative of the Employer in accordance with the conditions of the Contract.

I Change in Contract Element

63	**Change in Assignments to Contractor**	63.1 Introducing a Change If so indicated in the PC, the Employer shall have the right to propose and subsequently require, that he order the Contractor from time to time during the performance of the Contract to make any change, modification, addition or deletion to, in or from the assignments to the Contractor (hereinafter called "Change"), provided that such Change falls within the General Scope of the assignment and does not constitute unrelated works and that it is technically practicable, taking into account both the state of advancement of the Works and Services and the technical compatibility of the Change envisaged with the nature of the Works and Services as specified in the Contract. If so indicated in the PC, the Contractor may from time to time during its performance of the Contract propose to the Employer any Changes that the Contractor considers necessary or desirable to improve the quality, efficiency or safety of the Works and Services. The Employer may at its discretion approve or reject any Change proposed by the Contractor. Notwithstanding GC Sub-Clauses 63.1(a) and 63.1(b), no change made necessary because of any default of the Contractor in the performance of its obligations under the Contract shall be deemed to be a Change, and such Change shall not result in any adjustment of the Contract Price or the Time for Completion. The procedure on how to proceed with and execute Changes is specified in GC Sub-Clauses 63.2 and 63.3, further details and sample forms are provided in the

	Sample Forms and Procedures section in the bidding documents. 63.2 Changes Originating from the Employer If the Employer proposes a Change pursuant to GC Sub-Clause 63.1(a), it shall send to the Contractor a "Request for Change Proposal," requiring the Contractor to prepare and furnish to the Employer, as soon as reasonably practicable, a "Change Proposal," which shall include the following: i brief description of the Change; ii effect on the Time for Completion; iii estimated cost of the Change; iv effect on Functional Guarantees (if any); v effect on any other provisions of the Contract. Prior to preparing and submitting the "Change Proposal", the Contractor shall submit to the Employer an "Estimate for Change Proposal," which shall be an estimate of the cost of preparing and submitting the Change Proposal. Upon receipt of the Contractor's Estimate for Change Proposal, the Employer shall do one of the following: vi accept the Contractor's estimate with instructions to the Contractor to proceed with the preparation of the Change Proposal; vii advise the Contractor of any part of its Estimate for Change Proposal that is unacceptable and request the Contractor to review its estimate; viii advise the Contractor that the Employer does not intend to proceed with the Change. Upon receipt of the Employer's instruction to proceed under GC Sub-Clause 63.2(b)(i), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GC Sub-Clause 63.2(a). The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If such rates and prices are inequitable, the parties thereto shall agree on specific rates for the valuation of the Change. Upon receipt of the Change Proposal, the Employer and the Contractor shall mutually agree upon all matters therein contained. Within fourteen (14) days after such

	agreement, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order. If the Employer is unable to reach upon a decision within fourteen (14) days, the Contractor shall be notified with the details thereof whenever, the Contractor expect a decision. If the Employer decides not to proceed with the Change proposal for whatever the reasons, the Contractor shall be notified within the said period of fourteen (14) days. If the Employer and the Contractor cannot reach an agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a "Pending Agreement Change Order." Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal. If the parties cannot reach agreement within sixty (60) days from the date of issue of the Pending Agreement Change Order, then the matter may be referred to the arbitration in accordance with GC Sub-Clause 6.2. 63.3 Changes Originating from the Contractor If the Contractor proposes a Change pursuant to GC Clause 63.1(b), the Contractor shall submit to the Engineer-in-charge a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GC Clause 63.2(a). Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GC Clauses 63.2(f). However, should the Employer choose not to proceed, the Contractor shall not be entitled to recover the costs of preparing the Application for Change Proposal.
64 Extension Time for Completion	64.1 The Time for Completion specified in the PC shall be extended by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Contractor, if the Contractor is delayed or impeded in the performance of any of its obligations

		under the Contract by reason of any of the following: change in the Works and Services as provided in GC Clause 63; any occurrence of Force Majeure as provided in GC Clause 38 and unforeseen conditions as provided in GC Clause 36; any suspension order given by the Employer under GC Clause 58; any changes in laws and regulations as provided in GC Clause 37; or any default or breach of the Contract by the Employer, or any activity, act or omission of any other Contractors employed by the Employer; or any other matter specifically mentioned in the Contract. 64.2 Except where otherwise specifically provided in the Contract, the Contractor shall submit to the Employer notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance but not later than 28 days of the occurrence of the event or circumstances. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to conciliation / arbitration, pursuant to GC Clause 6. 64.3 The Contractor shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.
65	**Release from Performance**	65.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Employer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
66	**Inspections and Audits**	66.1 The Contractor shall permit the Employer and/or persons appointed by the Employer to inspect the Site and/or the accounts and records of the Contractor and its sub-contractors

		relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Employer if required by the Employer. The Contractor's attention is drawn to GC Clause 67.1 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the Employer's inspection and audit rights provided for under this GC Clause 66 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility under the Procurement Guidelines).
67	**Corrupt or Fraudulent Practices**	67.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of GC Clause 59 shall apply. 67.2 Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works and Services, then that employee shall be removed in accordance with GC Sub-Clause 19.3. 67.3 For the purposes of this Clause: "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party; "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party; "obstructive practice" is i deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an

		Employer investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
	ii	acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under GC Clause 66 [Inspections and Audits].

Section 7. Particular Conditions of Contract

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A Contract and Interpretation

GC Clause Ref.		Particular Conditions of Contract	
1	GC Sub Clause 1.20	Intended Completion Date is 7 years from the Commencement Date of Works and Services.	
2	GC Sub Clause 1.29	Site is the Area encompasses Right of Way (ROW) of the Roads and Road Assets under the Package.	
3	GC Clause 4	The language of Contract is English/Hindi and the Law governing the Contract is the Law of Union of India.	
4	GC Clause 5	Address of the Employer is: City: _____ Pin Code: _____ Telephone: _____ Fax Number: _____ e-mail address: _____	Address of the Contractor is: City: _____ Pin Code: _____ Telephone: _____ Fax Number: _____ e-mail address: _____
5	GC Sub Clause 6.1, 6.2	Arbitration proceeding shall be conducted in accordance with the Bihar Public Works Contracts Disputes Arbitration Tribunal Act 2008 (Bihar Act 21, 2008). Notwithstanding anything contained in this contract or any applicable law in force, no interest shall be paid by the employer to the contractor on any amount of claim/s. The Contractor shall not be entitled to Interest on any claims arising out of or in connection with any delay in the settlement of disputes or the issuance of an award in their favour. Further, in the event of any dispute being arbitrated, Arbitrator/ Arbitration Tribunal will have no jurisdiction to award interest even if claim is awarded in favour of contractor.	

B Assignment of Responsibilities

GC Clause Ref.		Particular Conditions of Contract
6	GC Sub Clause 8.4(a)	The Contractor is obliged to prepare and to furnish to the Employer for approval, the documents: as detailed in Section 5A Clause 14 of the Technical Specifications. The Technical Specifications of Ordinary Maintenance Works and Services shall be as per the Technical Specifications and MORTH Guidelines.
7	GC Sub Clause 10.1	Start Date /Commencement Date shall be the Date of Agreement.
8	GC Sub Clause 10.2	Time Schedule for the achievement of specific Service Level is as per Section 5C and Section 5D of the Technical Specifications.
9	GC Sub Clause 12.1	The sub-contracting is allowed, except the activities of Patrol Maintenance Unit and Ordinary Maintenance Services, upto 10% of Contract Value only to those Contractor who are domicile of Bihar.

10 GC Sub Clause 12.2	The Contractor may sub-contract the Works up-to 10% of Contract Value without prior approval of Employer, under its responsibility except Patrol Maintenance Unit activities and Ordinary Maintenance Services.

C Execution of Works and Services

GC Clause Ref.	Particular Conditions of Contract
11 GC Sub Clause 19.2 (h) & (i)	The Provision and Govt. norms concerning prevention of HIV-AIDS shall apply.

D Allocation of Risks

ITB Cl. Ref.	Bid Data
12 GC Sub-Clause 33.3	1. The Contractor will be debarred, if Liquidated Damage, pursuant to GC Sub-Clause 40.4, exceeds 5% of the Value of Initial Rectifications, Periodic Maintenance including re-application of Road Marking, Minor Improvement including strengthening, respectively. *Note: if the Contractor recovers the missed milestones again within a reasonable time to the satisfaction of Employer, the Engineer-in-Charge may take a decision to revoke the debarment on judicious logistical grounds.* and/or; 2. The Contractor will be debarred, if the payment reductions for non-compliance of Ordinary Maintenance, pursuant to GC Sub-Clause 51.4 exceeds: 15% or more of the possible monthly lumpsum payment for: i any 03 consecutive months; or ii any 06 months during the Contract Period or; 40% or more of the possible monthly lumpsum payment for any one month. *Note: if the Contractor recovers the missed milestones again within a reasonable time to the satisfaction of Employer, the Engineer-in-Charge may take a decision to revoke the debarment on judicious logistical grounds.* and/or; 3. The Contractor will be debarred, if the non-compliances of Ordinary Maintenance are not corrected in successive 2 months as per Section 5C Clause 7 of Technical Specifications.

	Note: If the contractor is debarred on the basis of failure in achieving distress free same chainage resulting in non-compliances till 2nd month for the same defective chainage, and if the Contractor amends his wrongdoings for another next 02 months (consecutively or otherwise) by ensuring defect free chainages in all roads within response time so that no deduction could be made, then the Engineer-in-Charge may revoke his debarment on judicious logistical grounds. and/or; 4. The Contractor will be debarred, if the deductions under Ordinary Maintenance exceeds the monthly Lumpsum Payment for OM in any month, and the Contractor may be prohibited in future participations in biddings.

E Guarantees and Liabilities

ITB Cl. Ref.	Bid Data
13 GC Sub-Clause 39.1	**Time for Completion for the Whole Works and Services is 7 years from the Start Date.** Milestone 1 (at the end of 6 months) The Contractor shall bring all defects below the Intervention Standards within the time specified in the Work Schedule from the Start Date by completing all Initial Rectification Works. Milestone 2 (at the end of Year 1) The Contractor shall carry out all 1st year Periodic Maintenance Works including re-application of Road Marking, and all 1st year Minor Improvement Works including Strengthening as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 3 (at the end of Year 2) The Contractor shall carry out all 2nd year Periodic Maintenance Works including re-application of Road Marking, and all 2nd year Minor Improvement Works including Strengthening as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 4 (at the end of Year 3) The Contractor shall carry out all 3rd year Periodic Maintenance Works including re-application of Road Marking as necessary to bring the road roughness to the required performance standard & service level criteria.

	Milestone 5 (at the end of Year 4) The Contractor shall carry out all 4th year Periodic Maintenance Works including re-application of Road Marking as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 6 (at the end of Year 5) The Contractor shall carry out all 5th year Periodic Maintenance Works including re-application of Road Marking as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 7 (at the end of Year 6) The Contractor shall carry out all 6th Periodic Maintenance Works including re-application of Road Marking as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 8 (at the end of 6.5 years) The Contractor shall carry out the remaining Periodic Maintenance Works including re-application of Road Marking as necessary to bring the road roughness to the required performance standard & service level criteria. Milestone 9 Contract close out performance criteria.
14 GC Sub-Clause 39.3	**For Initial Rectification Works (Milestone 1)** the liquidated damages shall be 1/500th (a five hundredth) of the Quoted Price of corresponding Scheduled activity per calendar day of delay, of the payment normally due for the specific Works for which completion is delayed. **For Periodic Maintenance Works including re-application of Road Marking (Milestone 2 to 8) and Minor Improvement Works including Strengthening (Milestone 2 and 3)** the liquidated damages shall be 1/500th (a five hundredth) of the Quoted Price of corresponding Scheduled activity per calendar day of delay, of the payment normally due for the specific Works for which completion is delayed.
15 GC Sub-Clause 40.3	For non-compliance with the performance Standards on road roughness at the Milestone measurement in accordance to Clause 40.3, the Contractor can either:- a) correct the non-compliance at his own cost for retesting within the timeframe agreed with the Engineer-in-charge or

	b) pay Liquidated Damages for non- complying sections at ₹1000 per 200m lane section for calendar day of non-compliance. In the event that the Contractor agrees to correct the non-compliance but fails to do so in the agreed timeframe, Liquidated Damages shall be imposed.
16 GC Sub-Clause 40.4	The Maximum amount of Liquidated Damages shall be not more than 10% of the value of Initial Rectification, Periodic Maintenance including re-application of Road Marking, Minor Improvement including Strengthening, respectively.
17 GC Sub-Clause 42.1	The aggregate liability of the Contractor to the Employer shall not exceed 20% of the Contract Price, excluding payment reductions defined in GC Sub-Clause 47.1.

F Payment

18 GC Sub-Clause 47.2	Periodic Maintenance Works including re-application of Road Marking shall be measured on the basis of Works Output as detailed in Item No. 3(a) & 3(b) of Schedule 3, Section 4 subject to proportionately increased or decreased as per the actual area of the kilometre.
19 GC Sub-Clause 47.3	Minor Improvement Works including Strengthening shall be measured on the basis of Works Inputs.
20 GC Sub-Clause 47.4	Emergency and Contingent Works shall be approved by the Employer as per the guidelines issued by the Road Construction Department Bihar.
21 GC Clause 48	Price adjustment applies with indices as on 28 days prior to the Bid Due Date. Price Adjustments shall be made on the following basis. (a) Price Adjustment shall apply for Ordinary Maintenance, Initial Rectification, Minor Improvement including Strengthening, Periodic Maintenance including re-application of Road Marking, Emergency/ Day Works, from the Start Date up to the Completion Date as certified by the Employer. Price Adjustment shall not be applicable for work completed outside of stipulated timeframes (i.e. after the Intended Completion Date for PM/MI, inclusive of any approved extensions); (b) Price adjustment shall not be applied to work valued on the basis of Current Cost / current prices/Current SOR.

(c) Monthly Contract payments due to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates shall be adjusted for increase or decrease in cost of Labour, Materials, Fuels and, Local Materials in accordance with the formulae given below:

Ordinary Maintenance (Schedule 1) & Initial Rectification (Schedule 2):

$$A_n = a + b \times \frac{WPI_n}{WPIo} + c \times \frac{Bi_n}{Bi_o} + d \times \frac{Ce_n}{Ce_o}$$

Periodic Maintenance Work (Schedule 3)

$$B_n = a + b \times \frac{WPI_n}{WPIo} + c \times \frac{Bi_n}{Bi_o} + e \times \frac{L_n}{L_o} + f \times \frac{F_n}{F_o}$$

Minor Improvement (Schedule 4):

$$C_n = a + b \times \frac{WPI_n}{WPIo} + c \times \frac{Bi_n}{Bi_o} + d \times \frac{Ce_n}{Ce_o} + e \times \frac{L_n}{L_o} + f \times \frac{F_n}{F_o}$$

Provisional Sum (Emergency/Contingency Works)

$$D_n = a + b \times \frac{WPI_n}{WPI_o}$$

Where:

"An", "Bn" ,"Cn" and "Dn" are the adjustment multipliers to be applied to the Value of the Works carried out in month number "n", for Ordinary Maintenance & Initial Rectification, Periodic Maintenance including re-application of Road Marking, Minor Improvements including Strengthening and Emergency/ Contingency Works (Provisional Sum) respectively;

"a" is a fixed coefficient, representing the non-adjustable portion in contractual payments;

"b", "c", "d", "e" and "f" are coefficients representing the estimated proportion of each cost element related to the execution of the Works (i.e. WPI, bitumen, cement, labour, and fuel).

The value of coefficients is as stated in the table below:

Work Type	Coefficient	% Value	Cost Index Applicable to
Ordinary Maintenance (OM) & Initial rectification (IR)	a	15%	Non-adjustable portion of payments
	b	45%	Wholesale Price Index (WPI)
	c	35%	Bitumen
	d	5%	Cement
Periodic Maintenance including re-application of Road Marking (PM)	a	15%	Non-adjustable portion of payments
	b	15%	WPI
	c	40%	Bitumen
	e	15%	Labour
	f	15%	Fuel
Minor Improvements including Strengthening (MI)	a	15%	Non-adjustable portion of payments
	b	15%	WPI
	c	35%	Bitumen
	d	5%	Cement
	e	15%	Labour
	f	15%	Fuel
Emergency/ Day Works	a	15%	Non-adjustable portion of Payments
	b	85%	WPI

"Ln", "Bin", "Cen", "Fn" and "WPIn" are the prevailing indices or reference prices for Labour, Bitumen, Cement, Fuel and Wholesale Price Index respectively for the period "n" on the day 28 days prior to the last day of the period, being invoiced; and

"LO ", "BiO"," Ceo" ,"FO" and "WPIO" are the base cost indices or reference prices for Labour, Bitumen, Cement, Fuel and Wholesale Price Index respectively and shall be the indices prevailing 28 days before Bid opening.

The intended sources of indices detailed above shall be as outlined below. If the source for any of the indices is in doubt, it shall be determined by the Engineer in charge .

Labour (L): Consumer Price Index for industrial workers for Jamalpur centre as published by Labour Bureau, Ministry Of Labour, Government Of India, New Delhi.

	Bitumen (Bi): Official retail price of bitumen at the IOCL Barauni. Fuel (F): Official retail price of High Speed Diesel (HSD) at the existing consumer pumps of BPCL /IOCL /HPCL at Divisional Head Quarter town of the concerned road Division. WPI: All India Wholesale Price Index (All Commodities) as published by the Office of the Economic Adviser to the Government of India, Ministry of Commerce and Industry. Cement(Ce): The Whole Sale Price Index for Grey Cement as published by the Office of the Economic Adviser to the Government of India, Ministry of Commerce and Industry. The total amount payable to the Contractor each month shall be: Amount Payable = An x (ROM + RIR) + Bn x RPM + Cn x RMI + Dn X RD Where, ROM= OM value payable for the month RIR = IR value payable for the month RPM = PM value payable for the month RMI = MI value payable for the month RD = Day works value payable for the month **The value of R above shall be exclusive of seigniorage, GST and other statutory taxes.** **Payments not subject to Price Escalation:** Payments made to the Contractor in respect of the following items will not be adjusted in accordance with Price Escalation: (a) variations ordered by the Engineer in charge except where the variations so ordered are valued at rates lodged in Schedule 1, 2, 3 and 4 with the tender;

		(b) payments made in regard to the return of retention money or security deposit (c) net procurement cost for the purchase of the Patrol Maintenance Unit.
22	**GC Sub-Clause 49.1**	The stipulated time period for submission of Monthly Statement is by 10th day of every month.
23	**GC Sub-Clause 51.1**	The Retention for all Works, other than Ordinary Maintenance Services, is fixed at 8% (eight).
24	**GC Sub-Clause 51.2**	On completion of the Initial Rectification, Periodic Maintenance (including re-application of Road Marking) and Minor Improvement (including Strengthening) Works, 40% of the total amount retained shall be repaid to the Contractor and the 50% after twelve (12) months or end of Defect Liability Period, whichever is later, and the Engineer-in-charge has certified that all defects notified to the Contractor have been corrected before the end of this period. The last balance of 10% shall be repaid after completion of 7 years or end date of defect liability period, whichever is later.
25	**GC Sub-Clause 51.4**	For any particular Month, the total Payment reduction for non-compliance of Ordinary Maintenance shall not exceed the amount of the Monthly Lumpsum Payment for OM. If the Contractor incurs a deduction to the Monthly Lumpsum payment for OM as applicable under Section 5C Clause 7 of Technical Specification of: 25% or more of the possible monthly Lumpsum payment for i any three consecutive months; or ii for any six months during the period of the Contract; or 50% or more of the possible monthly Lumpsum payment for any one month. then, the Employer considers the above a fundamental breach of Contract and may terminate the Contract in accordance with GC Clause 59 & PC Clause 59.2.b(iii) and all due amounts to the Contractor shall be retained.
26	**GC Sub-Clause 53.3.(a)**	Performance Security Value shall be 2% of the Contract Price. Additional Performance Security Value shall be calculated as per similar guidelines mentioned in RCD letter no. 447 (s) dt. 16.01.2020.
27	**GC Sub-Clause 53.3(b)**	The Form of Performance Guarantee is as per Section 8.

G Remedies

28	**GC Sub-Clause 57.1**	As Built Drawings for Culverts and Improvement Worls – 60 days Bar Charts for Resurfacing Works – 30 days after Completion.
29	**GC Sub-Clause 57.2**	If the "As-Built" Drawings and/or Manuals are not submitted as per the stipulated time in GC Sub-Clause 57.1, the amount of ₹10000/-per event per month shall be deducted from the due payment to the Contractor. The amount shall be non-refundable and payment reduction for non-conformance for successive months shall be made as per the Conditions and Clause 7 of Section 5C; Technical Specifications.
30	**GC Sub-Clause 59.2.b(iii)**	The condition of persistent failure to execute the Contract is – if and when, the Contractor breaches the conditions & criteria of GC/ PC Sub Clause 40.4 and/or GC/PC Sub Clause 51.4 and/or Clause 7 of Section 5C; Technical Specifications.

H Change in Contract Element

31	**GC Sub-Clause 63.1(a)**	Employer's Right to propose a Change : Yes
32	**GC Sub-Clause 63.1(b)**	Contractor's Right to propose a Change : Yes
33	**GC Sub-Clause 63.2(d)**	The pricing of any change shall, as far as practicable, be calculated in accordance with the Equitable Rates as per RCD letter no. 2189(E) dt. 04.03.2020.
34	**GC Sub-Clause 63.2(e)**	There shall be no limit of Addition or Deletion under Change of Scope. The Contractor has to accept the Employer's decision for Change of Scope.

Section 8 Contract Forms

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ANNEXURE-1

LETTER OF ACCEPTANCE

(letterhead paper of the Employer)

_____[date]

To: _____

[*Name and Address of the Contractor*]

Dear Sir/s,

This is to notify you that your Bid dated _____ for execution of the _____

_____ [*name of the contract and identification number, as given in the Instructions to Bidders*] for the Contract Price of rupees_____

(_____) [*amount in words and figures*], as corrected and modified in accordance with the Instructions to Bidders1[1] is hereby accepted by our Agency.

It is hereby requested to furnish the Performance Security including an Additional Performance Security for unbalanced bid in terms of ITB Clause 27.4, for an amount of ₹ _____ within 21 days in accordance with the GC/PC Conditions of Contract using for that purpose form in Section 8 Annexure 2 and sign the Contract, failing which action as stated in Para 34.2 of ITB will be taken.

Yours faithfully,

Authorized Signature
Name and Title of Signatory
Name of Agency

[1] Delete "corrected and" or "and modified" if only one of these actions applies. Delete "as corrected and modified in accordance with the Instructions to Bidders" if corrections or modifications have not been affected.

ANNEXURE-2

PERFORMANCE BANK GUARANTEE

To:

_____ [*name of employer*]
_____ [*address of employer*]

WHEREAS; _____ [*name and address of contractor*] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute_____ [*name of contract and brief description of works*] (hereinafter called "the Contract");

AND WHEREAS; it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS; we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of ₹_____ [amount of guarantee][1] _____[*in words*], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee][1] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor: _____

Name of Bank: _____

Address: _____

Date: _____

[1] An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

ANNEXURE-3

CONTRACT AGREEMENT

This Agreement made on _____ day of _____, _____ Between the _____ [name & address of the employer], (*"The Employer"*) of the One Part, and _____ [name & address of Contractor] ("The Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute the Output & Performance based Road Assets Maintenance Contract for the Maintenance of Roads mentioned in table under Package No. _____ (hereinafter called "The Works") and the Employer has accepted the Bid by the Contractor for the execution of such Works and the remedying of any defects therein, on a Contract Price of ₹ _____ [in words]:

S. No.	Road Name	Road Type	Chainage (km)		Length
			From	To	

NOW THIS AGREEMENT WITNESSETH and the Parties hereto agree as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the General condition hereafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

4. The following documents shall be deemed to form and be read and construed as part of this Agreement and this Agreement shall prevail over all other Contract documents:

   i) the Contract Agreement;

   ii) the Letter of Acceptance;

   iii) the Letter of Bid;

   iv) the Bidding Forms;

   v) the Corrigendum/Addendum/s, if any;

   vi) the Particular Conditions of Contract (PC) and, the Contract Forms in Annexures'

   vii) the General Conditions of Contract (GC);

   viii) the Specifications;

   ix) the Drawings;

   x) the completed Schedules including Bill of Quantities;

   xi) the Appendices.

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

The Common Seal of _____ was here unto affixed in the presence of :

Signed, sealed and delivered by the said _____in the presence of:

Binding Signature of Employer

Binding Signature of Contractor

ANNEXURE-4

BANK GUARANTEE FOR ADVANCE PAYMENT

To:

_____ [*name of Employer*]
_____ [*address of Employer*]
_____ [*name of Contract*]

Gentlemen:

In accordance with the provisions of the General Conditions/ Particular Conditions, Clause 45 ("Advance Payment") of the above-mentioned Contract, _____ [*name and address of Contractor*] (hereinafter called "the Contractor") shall deposit with _____ [*name of Employer*] a unconditional Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of ₹_____ [*amount of guarantee*][1]1_____ [in words].

We, the _____ [*bank*], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ [*name of Employer*] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding ₹_____ [*amount of guarantee*][1] _____[in words].

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed there under or of any of the Contract documents which may be made between _____ [*name of Employer*] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ [*name of Employer*] receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and Seal: _____

Name of Bank: _____

Address: _____

Date: _____

[1] An amount shall be inserted by the bank representing the amount of the Advance Payment, & denominated in Indian Rupees

ANNEXURE-5

RETENTION MONEY SECURITY

(Demand Guarantee)

[*bank name & address of issuing branch or office*]

Beneficiary: _____ [*address of Employer*]

Date: _____

Retention Money Guarantee No.: _____

We have been informed that _____ [*name & address of contractor*] (hereinafter called "the Contractor" has entered into Contractor No. _____ [*reference number of the contract*] dated: _____ [*date*] with you, for the execution of _____ [*name of contract & brief description of works & services*] (hereinafter called "the Contract").

Furthermore, we understand that, according to Conditions of the Contract, when the Completion Certificate has been issued for Work/s and the part Retention Money has been certified for payment, the payment of the balance amount of Retention Money or when the Completion Certificate is issued and if the amount guaranteed under the Performance Guarantee is less than the balance amount of Retention Money, the difference between balance of the Retention Money and the amount guaranteed under the Performance Security, as the case may be, a Retention Money Guarantee is required.

At the request of the Contractor, we, _____ [*bank name & address of issuing branch or office*] hereby irrevocably undertake to pay _____ [*name & address of the Employer*] any sum or sums not exceeding in total an amount of ₹ _____ [*amount in words*] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, at least 21 days after the date when the employer issue the Performance Certificate. Consequently, any demand for payment under this guarantee must be received by us at this office on or before _____ [*date*].

Yours truly,

Signature and Seal: _____

Name of Bank: _____

Address: _____

Date: _____