Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.

Request for Proposal (RFP)

Government of India
Ministry of Road Transport & Highways

<National Highways Authority of India>

<June 26>

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Section I: Request for Proposal Letter (RFPL)

1. Request for Proposal Letter (RFPL)

The President of India, through Chairman NHAI in the NHAI (hereinafter referred to as 'the Authority', 'the Head of Procurement', 'the Procuring Entity' and 'the Procuring Organization' respectively), invites proposals (hereinafter referred as 'the Proposal(s)') from eligible consultants on the basis of International Competitive Bidding (please see Tender Information Summary (TIS) appended to this letter for reference), for entering into a contract for the delivery of Consultancy Services for engaging an DPR Consultant (hereinafter referred to as 'the Services'), using the selection method as specified in TIS. This Request for Proposal (RFP) Document, reference number, RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718(hereinafter referred to as 'the RFP Document'), gives further details.

2. The RFP Document

2.1. Consultants must read the complete 'RFP Document'.

This RFPL, an integral part of the RFP Document, serves the limited purpose of invitation and does not purport to contain all relevant details for submitting Proposals. 'Tender Information Summary' (TIS) appended to this letter gives a salient summary of the relevant information, including the Type of BPQ/ Contract, basic eligibility and Selection Method to evaluate RFP. Any generic reference to RFPL shall also imply a reference to TIS as well. However, Consultants must go through the complete RFP Document for details before submission of their Proposals.

2.2. Availability of the RFP Document The RFP Document shall be published on **on "INFRACON"** (www.infracon.nic.in) for download after the date and time of the start of availability till the deadline for availability as mentioned in TIS. The Consultant who download the RFP document from the website will be required to pay the non- refundable fee of Rs. 5,000/- towards cost of RFP at the time of the submission of the Bid proposal through **RTGS/NEFT/or any other online mode** in favour of NHAI. If the Procuring Entity happens to be closed on the deadline for the availability of the RFP Document, the deadline shall not be extended. The account details are as under:

Beneficiary	National Highways Authority of India
Bank	Canara Bank
Account Number	8598201005819
IFSC Code	CNRB0008598

As such before submitting the proposal the Consultant shall mandatorily register and enlist themselves (the firm and all key personnel), on the MoRTH portal "INFRACON" and furnish registration details along with its RFP. A copy of Infracon Operation Procedures also enclosed for bidder's reference. All the bidders registered on Infracon shall form a Team on Infracon and which would be assigned unique Infracon Team ID. Bidders while submitting the proposal shall quote the Infracon Team ID. Bid must be submitted online at e-tender portal of NHAI https://eprocure.gov.in

Any query/ clarification regarding downloading RFP Documents and uploading Proposals on the e-Procurement portal may be addressed to the Help Desk in the eProcurement Portal (please refer to TIS for details).

2.3. Clarifications

A Consultant may seek any clarification of the RFP Document through the eProcurement Portal before the date and time stipulated in TIS (or, if not mentioned, before 14 days of the deadline for the proposal submission). This deadline shall not be extended in case of any intervening holidays. No other means of submission of queries shall be entertained.

3. Eligibility and Qualification Criteria for Participation in this RFP

Consulting firms meeting the eligibility criteria as mentioned in Appendix -1 to Tender Information Summary (TIS) are only eligible for applying for this assignment.
Firms not meeting these criteria, need not apply.

4. Purchase Policies of the Government

4.1. Restriction for participation in tender

1) Central Government policies restrict the participation of entities from i) Certain countries sharing land borders with India and ii) Countries that restrict the participation of Bidders from India. Consulting firms shall submit the declaration regarding these restrictions as mentioned in Appendix- 1 to Tender Information Summary (TIS). They should ensure that they continue to comply with such declarations till completion of bidding process.
2) Notwithstanding 4.1 1) above, Bidders from only those countries shall be allowed to participate in bidding process which comply with the restrictions imposed under rule 144 (xi) of General Financial Rules (GFR) and/or any other restrictions imposed by Govt. of India through Ministry of Home Affairs or Ministry of External Affairs or Ministry of Finance.

5. Pre-Proposal Conference:

If indicated in TIS, Consultants are requested to attend a Pre-Proposal conference to clarify the RFP's technical requirements and commercial conditions at the time, date, and place mentioned therein.

6. Submission of Proposals:

1) Proposals must be uploaded by the submission deadline mentioned in TIS. If the office happens to be closed on that date, this deadline shall not be extended. Further details are given in ITC.
2) Integrity Pact: If indicated, in the TIS, all Consultants shall have to sign the Integrity Pact with the Procuring Entity as per 'Form T-13: Integrity Pact'. In such cases, Proposals without a signed Integrity Pact shall be rejected.

7. Proposal Opening

Proposals received shall be opened online on or after the specified date and time in TIS. If the office is closed on the specified date of opening of the Proposals, the opening shall be done on the next working day at the same time.

Note: For further details, please refer to appended TIS and the complete RFP Document.

Digitally Signed by Tender Inviting Authority (TIA)

(Dhan Veer Sahu)
General Manager(Tech)
J&K and HP Division.

Appendix: Tender Information Summary (TIS)

Appendix to RFPL: Tender Information Summary (TIS)

RFP Document No. RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718 ; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.

(Ref ITC-clause 1.4)

Tender Information Summary (TIS)			
1.0 Basic Tender Details			
Tender Title/ Name of Assignment	Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.		
Tender Reference Number	RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718	Nature of assignment: <Normal Highway/Standalone Bridge/Tunnel/Hilly Mountainous>	Hilly Mountaineous
Tender Type	International Competitive Bidding	Tender Category	Consultancy Services
No. of Covers	[Two Covers]	Product Category	Consultancy
Selection Method#	QBS	Appointing Authority For Arbitration	Chairman, NHAI
Organization:	NHAI	The Procuring Entity:	Procuring Entity
Authority on whose behalf RFP is invited	President of India	Through the	Chairman, NHAI
Tender Inviting Authority (TIA)	General Manager(Tech) J&K and HP Division	Address	G5&6 , Sector-10, Dwarka, New Delhi, Delhi - 110075

2.0 Critical Dates (ITC-clauses 6, 7; 8; 9, and 10)			
For the schedule of dates for the Pre-proposal Conference, if any, please refer to Section 7.0 below			
Published Date	30.06.2026	Proposal Validity (Days from the date of Proposal Opening) – ITC-clause 8.3	120 days
Document Download Start Date &Time	30.06.2026	Document Download End Date & Time	29.07.2026 (11:00 AM)
Clarification Start Date & Time	01.07.2026	Clarification End Date & Time	13.07.2026
Proposal Submission Start Date & Time	30.06.2026	Proposal Submission Closing Date & Time	29.07.2026 (11:00 AM)
Proposal Opening (techno-commercial Proposal) Date & Time		30.07.2026 (11:00 AM)	
Technical Proposal Presentation / Customers Testimonials	[To be intimated later]	Proposal Opening (Financial Proposal) Date & Time	[To be intimated later]
3.0 Terms of Reference (ITC-Clause 4)			
Consignee/ State:	UT of Jammu and Kashmir	GSTIN Code of Consignee	*[Fill]*
Period of Contract	9 months		
Service Details:	Consultancy Services for preparation of DPR for National Highway Projects		
4.0 Obtaining the RFP Document and clarifications (ITC-Clause 6)			
eProcurement and Procuring Entity's Portal and helpdesk	https://eprocure.gov.in/eprocure/app	[0120-4001 002; 0120-4001 005; 0120-6277 787 or support-eproc@nic.in]	

Cost of RFP Document (INR)	Rs 5000/-		
Office/ Contact Person/ email for clarifications	(Dhan Veer Sahu) General Manager(Tech) J&K and HP Division.		
5.0 Pre-Proposal Conference (ITC-clause 7)			
Is a Pre-Proposal Conference proposed to be held?	Yes		
Place, time, and date of the Pre-Proposal Conference	NHAI HQ , 14.07.2026 , 03:00 P.M.		
Place, time, and date before which Written queries for the Pre-Proposal conference must be received	NHAI HQ , 14.07.2026 , 03:00 P.M.		
Place, time, and date before which registration of participants for the Pre- Proposal conference must be received	NHAI HQ , 14.07.2026 , 03:00 P.M.		
6.0 Preparation and Submission and Opening of Proposals (ITC-clause 8, 9 and10)			
Proposals to be addressed to	President of India, Through Head of Procurement, Procuring Entity		
Instructions for Online	All the bidders registered on Infracon shall form a Team on Infracon and which would be assigned unique Infracon Team ID. Bidders while submitting the proposal shall quote the Infracon Team ID. All the bidders registered on Infracon shall form a Team on Infracon and which would be assigned unique Infracon Team ID. Bidders while submitting the proposal shall quote the Infracon Team ID. Bid must be submitted online at e-tender portal of NHAI https://eprocure.gov.in on or before 29.07.2026, 11:00 A.M.		
Proposal Submission			
Language of Submission	English	Bid Validity	120 days from opening date
Proposal Opening Place	On e-procurement portal(s) mentioned above		
7.0 Documents relating to Bid Security (ITC-clause 8.4) and Performance Security(ITC- clause 13.1.2)			

Bid Security (EMD) Amount in INR:		Is Bid Securing Declaration permitted in lieu of Bid Security	Yes

Performance Security	To be quoted by the bidders for QBS mode PBG shall be quoted by the bidders subject to a minimum value of 5%. However, in case quoted PBG is less than 5%, then such bids shall be rejected]	Bid/ Performance Security to be addressed/ in favour of	/Chairman, NHAI.
Form of Bid/ Performance Security	/Insurance Surety Bonds, Bank Guarantee from any of the Commercial Banks, payment online in an acceptable form]		
Note: The Performance Bank Guarantee shall be submitted by both the JV Partners separately and in same proportion as is the share of each member in the JV. Any deviation in above condition shall be considered as breach of Contract.			

[Selection Method#: The selection method shall be determined based on the Tentative Project Cost (Excluding GST and Excluding Land Cost): -

Tentative Project Cost >1000 Cr (Excluding GST and Excluding Land Cost)

i) Fixed Cost assessed by Tender Inviting Agency- No financial proposal to be submitted by biddersPBG to be quoted by Bidder

ii) Modified QCBS mode with 30 (Technical Score):30 (DPR Rating): 40 (PBG quote) weightages

iii) Only 1 JV partner allowed who should be an international firm of repute i.e. having experience of DPR of Highway Projects for multilateral agencies such as ADB/World Bank/JICA with aggregate length equal to or greater than DPR length under bidding besides meeting at least 40% minimum eligibility criteria. Lead Partner to meet 60% eligibility criteria.

Note: International firm shall be a foreign registered firm of repute or a 100% subsidiary of such an international firm, registered in India.

Appendix-1 to TIS: Eligibly Criteria

1.1 Consultants should meet the following eligibility criteria as of the date of their RFP submission and should continue to meet these until the subsequent RFP process and contract award. Consultants shall be required to demonstrate fulfilment of the Eligibility Criteria in Form

1.2 (Eligibility Declarations). Consultant unless otherwise stipulated in:

1) must be:

(a) a natural person (an individual Consultant), a private entity (a Consulting Company/ LLP /Partnership firm/ Society registered under an applicable Actin India), a public Entity (Government-owned enterprise or institution), Joint Venture/ Consortium (an association of several persons, firms, or companies - hereinafter referred to as JV/C).

(b) a Consultancy Services provider with valid registration regarding GSTIN, PAN, EPF, ESI, Labour, or equivalent registration certificate issued by the concerned authority/government as applicable to the subject Services.

2) must:

(a) not be insolvent, in receivership, bankrupt or being wound up, not have itsaffairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings forany of aforesaid reasons.

(b) (Including their affiliates, subsidiaries, or contractors/ sub-consultants forany part of the contract):

i) Not stand declared ineligible/ blacklisted/ banned/ debarred by the MoRTH/NHAI/NHIDCL/BRO/State PWD or its implementing agencies from participation inits procurement processes; and/ or

ii) Not be convicted (within three years preceding the last date of RFP submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of the Government of Indiafrom participation in procurement processes of all its entities, for:

- offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or
- offences under the Indian Penal Code or any other law for causingany loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or
- Suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.

iii) Not have changed its name or created a new “Allied Entity”, consequent to having declared ineligible/ suspended/ blacklisted/ banned/ debarredas above.

(c) Not have an association (as a consultant/ partner/ director/ employee in any capacity)

- of any retired employee (of Gazetted Rank) or any retired Gazetted Officer of the Central or State Government or its Public Sector Undertakings, if such a retired person has not completed the one- year cooling-off period (or any other period stipulated by their erstwhile Employer) after his retirement. However, this shall not apply if such employees/ officers have obtained a waiver of the cooling-off period from their former organization.
- of the near relations of executives of Procuring Entity involved/ likely to

be involved in this procurement process

(d) Not have a conflict of interest (as defined in clause 4.5 below), which substantially affects fair competition. No attempt should be made to induce any other consultant to submit or not to submit an RFP to restrict competition.

(e) must fulfil any other additional eligibility condition, if any, as may be prescribed in the RFP document.

3) from certain countries shall be eligible subject to certain conditions as detailed in Clause 1.2 below.

4) must provide such evidence of their continued eligibility to the Procuring Entity if requested.

1.3 Eligibility of Consultants from Restricted countries

1.3.1 Restrictions based on Reciprocity.

Entities from countries (if so, to be identified as Appendix to Section II) as not allowing Indian companies to participate in their Government procurement shall not be allowed to participate (directly or as a sub-consultant or as a member of a JV/C) on a reciprocalbasis in this RFP process under the "Public Procurement (Preference to Make in India)Order 2017[1]" (MII – para 10 -d) of Department for Promotion of Industry and InternalTrade, (DPIIT). Consultants must apprise themselves of the latest version of this order.

1.3.2 Restrictions Based on Land Borders

Order[2] (Public Procurement No. 1) issued by the Government of India (Ministry of Finance Department of Expenditure Public Procurement Division) restricting procurement from consultants from certain countries that share a land border with India shall apply to this procurement. Consultants must apprise themselves of the latest version of this order.

Any consultant from a country that shares a land border with India[3], excluding countries to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects (as listed on the website ofthe Ministry of External Affairs[4]), – hereinafter called 'Restricted Countries' shall be Eligible to participate in this RFP, only if the consultant is registered [5] with the Registration Committee constituted by the Department for Promotion of Industry andInternal Trade (DPIIT). Consultants shall enclose the certificate as per Form T-12.

1.3.3 Other Restrictions: Bidders from only those countries shall be allowed to participate in bidding process which comply with the restrictions imposed under rule 144 (xi) of General Financial Rules (GFR) and/or any other restrictions imposed by Govt. of India through Ministry of Home Affairs or Ministry of External Affairs or Ministry of Finance from time to time. **Further, individual key-personnel proposed in the bid by the bidders shall also have to comply with the provisions of clause 1.3.3. from national security perspective.**

1 No. P-45021/2/2017-PP (BE-II) dated 16th September 2020

2 F.N0.6/18/2019-PPD dated 23rd July, 2020

3 https://mea.gov.in/india-and-neighbours.htm

4 http://meadashboard.gov.in/indicators/92

5 https://dipp.gov.in/sites/default/files/Revised-Application-Format-for-Registration-of-Consultants-15Oct2020.pdf

1.4 Sub-consultants/ Sub-contracting

Consultants may propose to associate Sub-consultants for specialised parts of the Services provided their names and details are clearly stated in the RFP. Such Sub- consultants should not circumvent the eligibility condition laid down above. The value of such sub-contracts shall not exceed the limit specified of 10% of consultancy assignment cost . Sub-contracting can only be done for specialized survey & investigation works after prior approval of the Implementing Agency. Nevertheless, the consultant shall solely remain responsible for sub-contracted portions of the Services. Key and Non-key personnel, whether full-time employees or on contract, shall not be considered sub-consultants. Procurement of incidental goods, equipment hires, or labour engagement shall not be treated as sub-contracting.

1.5 Joint Venture/ Consortium (JV/C)[6]

1.5.1 The mode of bidding as well as JV provisions shall be categorized as under based on Tentative Project Cost of the Project as estimated by Authority: -

Only 1 JV partner allowed who should be an international firm of repute i.e. having experience of DPR of Highway Projects for multilateral agencies such as ADB/World Bank/JICA with aggregate length equal to or greater than DPR length under bidding besides meeting at least 40% minimum eligibility criteria. Lead Partner to meet 60% eligibility criteria.

Note: International firm shall be a foreign registered firm of repute or a 100% subsidiary of such an international firm, registered in India.

1.5.2 All the members shall be jointly and severally liable for the entire contract if selected in the RFP Process.

1.5.3 Failure to comply with requirement of clause 1.5 above shall result in the rejection of the JV/C's bid.

1.6 Conflict of Interest

1.6.1 Any consultant with a conflict of interest that substantially affects faircompetition shall not be eligible to participate in this procurement process. RFPs found to have a conflict of interest shall be rejected as nonresponsive. Consultant shall be required to declare the absence of such conflict of interest in para 2 regarding Eligibility Declarations of Form T1. A consultant in this procurement process shall be considered to have a conflict of interest if the consultant:

a) directly or indirectly controls, is controlled by or is under common control with another Consultant; or

b) receives or has received any direct or indirect subsidy/ financial stake from another consultant; or

c) has the same correspondence address or same legal representative/ agent as another consultant for purposes of this RFP; or

d) has a relationship with another consultant, directly or through common third parties, which puts it in a position to have access to information about or influence the RFP of another Consultant; or

e) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services that it provided (or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm) for the procurement planning (inter-alia preparation of feasibility/ cost estimates/ Detailed Project Report (DPR), design/ technical specifications, terms of reference (TOR)/ Activity Schedule/ schedule of requirements or the RFP Document etc) of this procurement process; or

6 the expressions "Joint Venture" or "JV" shall mean a joint venture, association, consortium, or other unincorporated grouping of two or more persons, whether in the form of a partnership or otherwise. Similarly, in the context of Joint Venture as the context permits, the word "leader, is synonymous with the words "representative" and "Lead Partner"; the word "member" is synonymous with the word with "partner".

f) has a close business or family relationship with a staff of the Procuring Organization who:

i) are directly or indirectly involved in the preparation of the RFP document or Terms of Reference of the procurement process and/or the evaluation in RFP process; or

ii) would be involved in the implementation or supervision of the resulting contract

Any conflict stemming from such a relationship must be reported and resolved in a manner acceptable to the Procuring Entity throughout the RFP processes and execution of the contract.

1.6.2 A Consultant can participate as a Lead/JV Member in only one bid. Bids submitted in violation of this procedure will be rejected. The bidders participating as JV must submit the MOU between Joint Venture Partners as per Format given in form T-18.

1.6.3 Participation of only One Entity from Affiliates: Only one entity from among a Consultant and its affiliates (that directly or indirectly control or are controlled by or are under common control with that firm) individually or as part of a joint venture or as a Sub-consultant shall be permitted to participate in RFP.

1.6.4 The consultant shall furnish information on commissions and gratuities, if any,paid or to be paid to agents or any other party relating to this RFP process.

1.7 **Qualification Criteria: -**

Minimum Eligibility Requirements

For Projects in Hilly Mountainous Terrain	
Minimum experience and performance of Preparation of DPR of Highways Projects in Hilly/Mountains Terrain in the last 10 years (NH/SH/Equivalent) (for past performance attach undertaking for any litigation history/ and arbitration).	**Annual average turnover**
Firm applying for a package should have Experience of preparation of Detailed Project Report of two/four/six lane / Feasibility of Two/ four/ six lane projects of aggregate length equal to 50 km in Hilly/Mountainous Terrain. Firm should have also prepared DPR for at least one project of 2/4/6laning of minimum 24.8 kms length of the package or Feasibility Study of two/four/six laning of minimum 37.2 km length of the package in Hilly/mountainous terrain. The applicant should have experience of at least 02 similar projects having atleast consultancy fee of Rs 50 lakhs each regarding Preparation of DPR including detailed Geological, Geotechnical and Topographical Surveys/Investigations and Design of Cost Effective and Suitable remedial measures for prevention of landslides/rockfall in the last 10 years. Similar work means: Preparation of detailed project report (DPR) for Highway/Airport/Railway /Irrigation works/Hill roads/Hydel projects for slope stabilization/landslide mitigation/rockfall protection/ bank protections/ river training/ flood mitigations. The Consultant must have done topographic survey, geological mapping, providing analysis and design of slope stabilization/Slope protection works/landslide mitigation/rock fall mitigation works in hilly terrain Note: 1. The experience of a firm in preparation of DPR for a private concessionaire/contractor shall not be considered. For project to be considered as hilly or mountain terrain more than 50% length of such project shall have hilly/mountainous terrain.	Annual average turnover for last 5 years of the firm should be equal to or more than **Rs.10.00 Crores.**

The sole applicant shall fulfil all the requirements tabulated in clause 1.7 above and :

(i) In case of JV, the Lead Partner should fulfil the eligibility as described in clause 1.5 above.

(ii) If the applicant firm has / have prepared the DPR/FS projects solely on its own, 100% weightage shall be given. If the applicant firm has prepared the DPR/FS projects as a lead/Other partner or associate in a JV, JV share shall only be corroborated as per MoU of JV or Client Certificate only.

(iii) Similar project means 2/4/6 lane as applicable for the project for which RFP is invited. For 2-lane projects experience of 4/6 lane also to be considered with a multiplication factor of 1.5. Experience of 4/6 lane shall be considered interchangeably for 4/6 laning projects. For 4/6 laning projects, experience of 2 lane will be considered with a multiplication factor of 0.4, but only for those 2 lane projects whose cost of consultancy services was more than Rs.1.0 crore

Note to Consultant: During RFP Process, while original documents/ certificates are called for to authenticate the qualification claimed, the following may be kept in mind:

1) When a joint venture submits the bid, in that case, all members in the JV must submit their financial statements in order of the member's share in the partnership, greatest to least. The figures of members of a JV shall be added to determine compliance with the minimum financial qualifying criteria. However, for JV to qualify, both JV partners must fulfil the requirement stipulated in clause 1.5 of Appendix-1 to TIS.

2) The weightage given for experience of a firm would depend on the role of the firm in the respective assignments. The firm's experience would get full credit if it was the sole firm in the respective assignment. If the applicant firm has completed projects as JV with some other firms, weightage shall be given as per the JV share***. In case of experience of Associate, the share as per MoU subject to Maximum 25% shall be considered. In case MoU does not specify the share the same can be considered as per certification of Statutory Auditors of the Associate Member.

*** For weightage of experience in any past Consultancy assignment, experience certificate from the client shall be submitted with clear demarcation of JV share in client certificate Annual turnover duly certified by Chartered Accountant shall be accepted. In case of non-availability of such documents no weightage of turnover/experience will be considered.

3) In case the financial figures and values of services provided are in foreign currency current market exchange rate (State Bank of India Bill Sell rate as on last date of submission of the bid) will be applied for the purpose of conversion of amount in foreign currency into Indian Rupees.

4) The consultant shall submit the audited balance sheet and/or banking reference along with their RFP proposal. An authorized representative of the consultant must -sign the statement.

1.8 In addition to meeting the qualification criteria stipulated in clause 1.7 above, the Residual DPR Bid Capacity viz., "R" of the participating consultants shall be more than the tentative length of the Project for which DPR assignment bids have been invited. The detailed methodology for calculation of the same has been stipulated in sub-clauses below.

1.8.1 For Normal Highway Projects

The Residual Bid Capacity "R" of the Bidder shall be evaluated in terms of Length as per methodology specified hereunder:

R= CL x TF - RP

Wherein:

Completed Length (CL) = Total Length of DPR/Feasibility completed for 2 lane with paved shoulder /4/6 laning of State Highways/National Highways/Expressways in the last 10 Financial Years.

Note:

1. For DPR of two laning projects, the length shall be considered after multiplication of factor of 0.50
2. For Feasibility Projects the length shall be considered after multiplication of factor of 0.60
3. Completed DPR/Feasibility projects shall be those for which either Completion Certification of the Consultancy Assignment has been issued by Executing Government Agency or the Tender of the Civil Work has been awarded by the Executing Government Agency
4. In case of experience as JV, weighted average based on their share in the JV shall be considered for experience.
5. In case of experience of Associate, the share as per MoU subject to Maximum 25% shall be considered. In case MoU does not specify the share the same can be considered as per certification of Statutory Auditors of

the Associate Member.
Turnover Factor (**TF**)= Multiplication factor based on Turnover*

*Note: The TF shall be decided as under:

Average Turnover of Last 5 Financial Years	Factor "TF"
Upto 50 Cr	1.00
50-250 Cr	1.25
>250 Cr	1.50

Running Projects (**RP**)= Length of DPR/Feasibility Projects for National Highways/Expressways in Hand wherein Completion Certificate has not been issued by Executing Government Agency or the Tender of the Civil Work has not been awarded by the Executing Government Agency. This length shall also include the projects for which the firm has emerged as the H-1 bidder but the LOA have not been issued. However, DPR which have not been put to tender since 5 years of signing of DPR Agreement shall not be considered as part of Running Projects nor as part of Competed Length.

Clarification: In case the DPR assignment is divided into packages for award of work, the length of the package for which civil work has been awarded by Government Agency should be considered in Completed Length (CL) and not is Running Project length.

R shall be calculated for each JV member who has bid for the consultancy assignment and the weighted average as per Share in JV shall be calculated.

Note: Consultant to submit the copy of corresponding schedule-B to corroborate the claim of SLF and SF.

Section II: Instructions to Consultants (ITC)

1. The RFP Document

1.1. Basic Tender Details

This 'RFP Document' Document (hereinafter referred to as 'the RFP Document') details the terms and conditions for entering a contract for delivery of the Consultancy Services (hereinafter called 'the Services') described in Section VI: "Terms of Reference". The 'Services' may include incidental Goods, Works, and other Services if so indicated. In this RFP Document, any generic reference to 'Services' shall be deemed to include such incidental Goods, Works, and other Services. Proposals are invited from the Consultants meeting the criteria (hereinafter called 'the Consultants') as mentioned RFPL.

1.2 Interpretations, Definitions, Abbreviations and Document Conventions

Section IV: General Conditions of Contract (GCC), details tenets of interpretation (GCC-clause 1.1), definitions (GCC-clause 1.2), document conventions (GCC-clause 1.3) and abbreviations (GCC-clause 1.4), which shall also apply to the rest of the RFP Document.

1.3 Overview of Contents

1) Unless otherwise stipulated in AITC, the Sections, Forms and Formats comprising this RFP Document are described in ITC-clauses 1.4, 1.5 and 1.6 below. A separate BOQ file for Financial Proposal on the eProcurement Portal is also part of this RFP Document. Any generic reference to RFP Document shall also imply a reference to any/ all the sections, Forms, Formats and the BOQ file or other files that comprise this RFP Document.
2) Consultants must submit the Proposal in the Forms/ Formats mentioned in ITC- clauses 1.5 and 1.6 below (as relevant).

1.4 Sections of the RFP Document

1.4.1 Sections of the RFP Document

Unless otherwise stipulated in AITC, the RFP Document contains the following sections,which are described in subsequent sub-clauses:

1) Section I: Request for Proposal Letter (RFPL) and its Appendix: Tender Information Summary (TIS)
2) Section II: Instructions to Consultants (ITC)
3) Section III: Appendix to Instructions to Consultants (AITC)
4) Section IV: General Conditions of Contract (GCC)
5) Section V: Special Conditions of Contract (SCC)
6) Section VI: Terms of Reference
    a) Section VI-A: List of Key Experts and Required Qualifications
7) Section VII: Evaluation/ Scoring Criteria

1.4.2 Section I: Request for Proposal Letter (RFPL) and its Appendix: Tender InformationSummary (TIS)

Section I – Request for Proposal Letter (RFPL) and its Appendix – Tender Information Summary (TIS) provides a synopsis of information relevant for a Consultant to decideon participating in the RFP. Consultants must fill up 'Form T-14: Terms and Conditions - Compliance' regarding any proposed deviations from this Section.

1.4.3 Section II: Instructions to Consultants (ITC) and Section III: Appendix to Instructions to Consultants (AITC)

Section II: "Instructions to Consultants" (ITC), along with Section III: "Appendix to Instructions to Consultants (AITC)", provides the relevant information as well as instructions to assist the Consultants in preparing their proposals. It also includes themode and procedure adopted for receipt/ opening, evaluation of Proposals, and contract award. In case of a conflict, provisions of AITC shall prevail over those in theITC. Any generic reference to ITC shall also imply a reference to AITC as well. Consultants must fill up 'Form T-14: Terms and Conditions - Compliance' regarding any proposed deviations from these Sections.

1.4.4 Section IV: General Conditions of Contract (GCC) and Section V: Special Conditions of Contract (SCC)

Section IV – General Conditions of Contract (GCC) and Section V – Special Conditionsof Contract (SCC) describe the conditions governing the resulting contract. In case of aconflict, provisions of the SCC shall prevail over those in the GCC. Any generic reference to GCC shall also imply a reference to SCC as well. In case of any conflict, provisions of GCC/ SCC shall prevail over those in ITC/ AITC. Consultants must fill up'Form T-14: Terms and Conditions - Compliance' regarding any proposed deviations from terms and conditions in these Sections.

1.4.5 Section VI: Terms of Reference (TOR) and Section VI-A: List of Key Experts and Required Qualifications

Section VI: Terms of Reference describe the background, purpose/ objectives,description/ scope, deliverables/ outcomes, timelines, Procuring Entity's inputs and counterpart personnel, statutory requirements of Services required etc. Section VI-A: 'Listof Key Experts and Required Qualifications' describes the team composition, expertise, experience and professional qualifications required for each Key Experts. Any generic reference to TOR shall imply a reference to Section VI-A: 'List of Key Experts and Required Qualifications' as well.

1.4.6 Section VII: Evaluation/ Scoring Criteria

1) Section VII – Evaluation/ Scoring Criteria stipulates the scoring scheme for evaluating various Technical criteria. These may cover scoring of criteria relating to the Consultant's experience, qualification and experience of Key Experts, transfer of knowledge etc. It may also lay down a minimum technical score to qualify for the next stage ofFinancial Evaluation.
2) Consultants must fill up the following Forms regarding this Section:
    a) Form T-2: Details of projects for which Technical Proposals have been submitted by a Consultant with a particular Team
    b) Form T-3: Firm's References: Relevant Services carried out in the last seven years
    c) Form T-5: The composition of the proposed Team and Task Assignment to individual personnel: Maximum three pages
    d) Form T-6: Proposed methodology and comments
    e) Form T-7: Material Testing lab facilities, survey investigations, equipment to be used by the Consultants for the project
    f) Form T-8: Experience in use of technology with related proof.
    g) Form T-9: Details of office equipment and software owned by the firm.
    h) Form T-10: CVs of all Key-Personnel along with self-evaluation.
    i) Form T-11: Format for submission of Residual DPR Bid Capacity "R".

1.5 **Forms (To be filled, digitally signed, and uploaded by Consultants)** Please refer to ITC-clause 1.4 above to relate the following forms to the corresponding Sections.

Technical Proposal: The technical proposal shall be submitted strictly in the Formats given in RFP and shall comprise of following documents:

i) Forwarding letter for technical proposal duly signed by the authorized person on behalf of the bidder, as in Form-T-1

ii) Details of projects for which Technical Proposals have been submitted by a Consultant with a particular Team as in Form-T-2

iii) Firm's references - Relevant Services carried out in the last seven years as per Form- T-3. This information submitted as part of Proof of Eligibility shall be evaluated and need not be submitted again as a part of the Technical proposal.

The above details are to be submitted through INFRACON only.

iv) Site Appreciation: limited to four A4 size pages in 1.5 space and 12 font including photographs, if any (Form-T-4).

v) The composition of the proposed Team and Task Assignment to individual personnel: Maximum three pages (Form-T-5).

vi) Proposed methodology for the execution of the services illustrated with bar charts of activities, including any change proposed in the methodology of services indicated in the TOR, and procedure for quality assurance: The proposed methodology should be accompanied by the consultants initial view, key challenges they foresee and potential solutions suggested regarding: a) proposed alignment and bypass required, b) land acquisition requirements, c)access control, rehabilitaton of existing road, drainage and utilities, d) adoption of superior technology along with proof: limited to six A4 size pages in 1.5 space and 12 font including photographs, if any for items a to c, (Form-T-6) and information in Form-T-8 (as covered in para viii below) for item d

vii) The proposal should clearly identify and mention the details of Material Testing lab facilities, survey investigations, equipment to be used by the Consultants for the project (Form-T-7). In this connection, the proposals of the Consultants to use in-house lab facilities up to a distance of maximum 400 km from the project site being feasible would be accepted. For all other cases suitable nearby material Testing Laboratory shall be proposed before Contract Agreement is executed.

viii) The proposal shall indicate as to whether the firm is having the facilities for carrying out the following field activities or these are proposed to be outsourced to specialized agencies in the Form- T-8.

(a). Pavement Investigation

(b). Geo-technical Investigation

In case the consultant envisages outsourcing any or all of the above services to the expert agencies, the details of the same indicating the arrangement made with the agencies need to be furnished. These agencies would however, be subject to approval of the client to ensure quality input by such agencies before award of the work. For out-sourced services, proposed firms/consultants should have such experience on similar projects

ix) Details of office equipment and software owned by the firm in Form-T9

x) CVs of all Key Personnel's shall be submitted only through Infracon in Form–T-10 at the time of bid submission. However, due to limited availability of Land Acquisition Expert and Utility Expert on Infracon Portal, for these 2 positions, CVs not on Infracon can also be submitted as part of the Technical Bid subject to the condition that the same CVs shall be uploaded on the Infracon portal before declaration of the Technical Bid

Evaluation Result. For all such CVs the experience certificates and degrees shall have to be attached with the CVs for corroborating the details of the CV. The responsibility of submission of correct details lies with the Bidding Firm as well as the Key-Personnel and submission of any fake documents shall be render the firm as well as Key-Personnel liable for debarment upto 2 years as well as action under relevant provisions of IPC/CrPC..

xi) Form T-11 Format for submission of Residual DPR Bid Capacity "R".

xii) Form T-12 Certificate regarding Compliance with Restrictions under Rule 144 (xi) of the General Financial Rules (GFR)

xiii) Form T-13 Integrity Pact

xiv) Form T-14 Terms and Conditions – Compliance

xv) Form T-15: Checklist for Consultants

Financial Proposal

The financial proposal is to be submitted in a separate file available on e-Procurement Portal. The Financial Proposal here refers to Financial Quote of the bidders in case of QCBS mode and to Amount of Performance Security Quote in QBS mode.

1.6 Other Formats

1) Format 1: Contract Form (Required after Letter of Award)
   a) Appendix A: Terms of Reference
   b) Appendix B: Key Experts
   c) Appendix C: Remuneration Cost Estimates
      i) Annex to Appendix C: Breakdown of Agreed Fixed Rates in Consultant's Contract
   d) Appendix D-1: Bank Guarantee Format for Performance Security
   e) Appendix D-2: Bank Guarantee Format for Advance Payment
2) Format 2: Authorization to Attend Pre-Proposal Conference. (To be filled up, if required, by consultant)

2. Procuring Entity - Rights and Disclaimers

2.1. The Procuring Entity

Proposals are to be addressed to the President of India through the Chairman of National Highway Authority of India. The Tender Inviting Authority (TIA) is the designated officer for uploading and clarifying this RFP Document. The contract may designate, as required, a counterpart Contract Manager (or Contract Management Team); and Paying authority who shall discharge the designated function during contract execution.

2.2. Right to Intellectual Property and confidentiality:

1) The RFP Document and associated correspondence are subject to copyright laws and shall always remain the property of the Procuring Entity and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent.
2) However, Consultants may share these to prepare and submit their Proposals with their employees, Sub-consultant(s) or holding Company after obtaining an undertaking of confidentiality similar to that imposed on the Consultant.

3) This condition shall also apply to Consultants who do not submit a Proposal after downloading it or are not awarded a contract.
4) The obligation of the Consultants under sub-clauses above, however, shall not apply to information that:
    a) now or hereafter is or enters the public domain through no fault of Consultant;
    b) is legally possessed by Consultant at the relevant time and was not previously obtained, directly or indirectly, from the Procuring Entity; or
    c) otherwise lawfully becomes available to Consultant from a third party with no obligation of confidentiality.
5) The provisions of this clause shall survive completion or termination for whatever reason of the Procurement Process or the contract.

2.3. Right to Reject any or all Proposals

The Procuring Entity reserves its right to accept or reject any or all Proposals, abandon/ cancel the Procurement Process, and issue another RFP for the same or similar Services before the award of the contract. It would have no liability to the affected Consultant(s) or any obligation to inform them of the grounds for such action(s).

2.4. Disclaimers

2.4.1 Regarding the Purpose of the RFP Document

The RFP Document is neither an agreement nor an offer to the prospective Consultant(s)or any other party. The purpose of the RFP Document is to provide the Consultant(s)with information to assist them in participation in this Procurement Process.

2.4.2 Regarding Documents/ guidelines

The RFP Document, ensuing communications, and Contracts shall determine the legal and commercial relationship between the Consultants and the Procuring Entity. No other Government or Procuring Entity's document/ guidelines/ Manuals, including its Procurement Manual (for internal and official use of its officers), notwithstanding any mention thereof in the RFP Document, shall have any locus-standii in such a relationship. Therefore, such documents/ guidelines/ Manuals shall not be admissible in legal or dispute resolution or grievance redressal proceedings.

2.4.3 Regarding Information Provided

Information contained in the RFP Document or subsequently provided to the Consultant(s) is on the terms and conditions set out in the RFP Document or subject to which that was provided. Similar terms apply to information provided verbally, in the documentary, or any other form, directly or indirectly, by the Procuring Entity, its employees, or associated agencies.

2.4.4 Regarding RFP Document:

1) The RFP Document does not purport to contain all the information Consultant(s) may require. It may not address the needs of all Consultants. They should conduct due diligence, investigation, and analysis, check the information's accuracy, reliability, and completeness, and obtain independent advice from appropriate sources. Information provided in the RFP Document to the Consultant(s) is on various matters, some of which may depend upon interpreting the law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Procuring Entity, its employees and other associated agencies accept no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

2) The Procuring Entity, its employees and other associated agencies make no representation or warranty for the accuracy, adequacy, correctness, completeness or reliability of any assessment, assumption, statement, or information in the RFPDocument. They have no legal liability, whether resulting from negligence or otherwise, for any loss, damages, cost, or expense arising from/ incurred/ suffered, howsoever caused, to any person, including any Consultant, on such account.

3. Consultants – Participation in this RFP process

3.1. Eligibility to Participate

Consulting firms meeting the eligibility criteria as mentioned in Appendix - 1 to Tender Information Summary (TIS) are only eligible for applying for this assignment. Firms not meeting these criteria, need not apply.

3) **Participation in only one Proposal:** The Consultant shall not participate in more than one Proposal in this RFP Process. Participation in any capacity by a Consultant (including the participation of a Consultant as a Sub-consultant or as a member of a JV/C or vice-versa) in more than one Proposal shall result in the disqualification of all Proposals in which he is a party. Unless otherwise stipulatedin TIS, this does not preclude a Sub-consultant or a Consultant's staff (if they are not submitting a proposal in their own name) from participating as Sub-consultant/ KeyExperts/ Non-Key Experts in more than one Proposal. A Consultant shall not be allowed to participate both as an individual Consultant and as a part of the joint venture or as a Sub-consultant.

4) **Sub-contracting:** The Consultant shall not subcontract the Services to sub-consultants. However, subject to the restrictions outlined in this RFP Document, a Consultant may propose sub-contracting a part of the contract for specialised items of services, provided such a sub-consultant does not circumvent the eligibility and qualification criteria based on which the Consultant was shortlisted in the RFP process and only sub-contracting for specialized survey & investigation works upto 10% of project cost is allowed with prior approval of the Implementing Agency. The names and details of the sub-consultants must be clearly stated in the proposal submitted by the Consultant. Despite any approval of the Procuring Entity for such arrangements, the Consultant shall be solely and directly responsible for executing sub-contracted portions of the contract. Sub-contracting by the Consultant without the approval of the Procuring Entity shall be a breach of contract.

3.2. Conflict of Interest

The Consultant must provide professional, objective, and impartial advice, holding the Procuring Organization's interests paramount at all times, and shall not try to get benefits beyond the legitimate payments and credentials in the contract. He should strictly avoid conflicts with other assignments or their corporate interests. Consultants must disclose to the Procuring Entity in Form T-1 'Proposal Form (Covering Letter)' any actual or potential conflict that impacts its capacity to serve the best interest of the Procuring Organization. Failure to disclose such situations shall be treated as a violation of the Code of Ethics (ITC-Clause 15) and shall attract penalties mentioned therein. Proposals found to have a conflict of interest shall be rejected as nonresponsive. Without limitation on the generality of the preceding, a Consultant in this Procurement Process shall be considered to have a conflict of interest if the Consultant:

1) Conflicting Associations:

   a) directly or indirectly controls, is controlled by or is under common control with another Consultant; or

b) receives or has received any direct or indirect subsidy/ financial stake from another Consultant; or

c) has the same correspondence address or same legal representative/ agentas another consultant for purposes of this proposal; or

d) has a relationship with another Consultant, directly or through common third parties, that puts it in a position to have access to information about or influence the Proposal of another Consultant or influence the decisions of the Procuring Entity regarding this Procurement Process; or

2) **Unfair Competitive Advantage and Conflicting Activities:** had (or any of its Affiliates) been engaged by the Procuring Entity to provide goods, works, or services for a project, shall be disqualified from providing consulting services resulting from or directly related to those goods, works, or services. Conversely, a firm (or any of its Affiliates) hired to provide consulting services for the preparation or implementation of a project shall be disqualified from subsequently providing goods or works or services resulting from or directly related to the consulting services for such preparation or implementation.

3) **Conflicting Assignments:** would (including its Experts and Sub-consultants) or any of its Affiliates) be or are providing consultancy services in another assignment for the same or another Procuring Entity that, by its nature, may conflict with this assignment.

4) **Commissions and Gratuities**: The Consultant shall disclose any commissions or fees that may have been paid or are to be paid to agents, representatives, or commission agents concerning the selection process or execution and performance of the resulting Contract. The information disclosed must include the name and address of the agent, representative, or commission agent, the amount and currency, and the purpose of the commission or fee.

5) **Conflicting Relationships:** has close business/ family relationship with a staff of the Procuring Organisation who are/ would be directly/ indirectly involved in any of the following activities:

a) preparation of the RFP document or TOR of the Procurement Process

b) evaluation of Proposals or award of Contract, or

c) implementation/ supervision of the resulting Contract

4. The Terms of Reference (TOR) and Form of Contract

4.1. Facilities to be provided by the Procuring Entity

Unless otherwise stipulated in the TOR, utilities or facilities (e.g., Rooms, Furniture, Transport, and Access to IT Services etc.) shall NOT be provided by the Procuring Entity to the Consultant.

4.2. Forms of BOQ/ Contract and Selection Methods

Evaluation of Proposals and the resulting Contract shall be based on the form of BOQ/Contract and the Selection method applicable for the RFP, as elaborated in ITC-Clause11 and 12 below.

(a) Output-Based (Output Admeasurement) form of BOQ/ Contract:

Unless otherwise stipulated in the TIS form of BOQ/ Contract shall be 'Output-Based (Output Admeasurement)'. In such contracts, the Consultant shall provide services on a deliverable basis according to the Terms of Reference. The Consultant's remuneration shall be determined based on the time spent by the Consultant in carrying out the Services based on (i) agreed-upon unit rates for the Consultant's experts multiplied by the actual time spent by the experts in executing the assignment and (ii) reimbursable expenses using actual expenses and/or agreed unit prices.

(b) Selection Method

1) Unless otherwise specified in TIS, the selection method applicable in this RFP shall be Quality and Cost Basis Selection (QCBS) or Quality Based Selection (QBS) based on the tentative project cost estimated by the Tender issuing Authority.

2) Please refer to ITC-Clause 11 and 12 for details.

4.3. Inputs of Key Experts

(a) Consultant shall not propose alternative Key Experts. Only one CV shall be submitted for each Key Expert position. Failure to comply with this requirement shall make the Proposal non-responsive.

(b) Procuring Entity shall indicate in the RFP Document the estimated Key Experts' time input (expressed in person-month).

5. Proposal Prices, Taxes and Duties

5.1. Prices

5.1.1 Competitive and Independent Prices For QCBS mode of tender

(a) The prices should be arrived at independently, without restricting competition, any consultation, communication, or agreement with any other Consultant or competitor relating to:

i) those prices; or

ii) the intention to submit an offer; or

iii) the methods or factors used to calculate the prices offered.

(b) The prices should not be knowingly disclosed by the Consultant, directly or indirectly, to any other Consultant or competitor before the Financial Proposal opening unless otherwise required by law.

(c) Fixed Cost for QBS mode of tender

For tendering on QBS mode, no separate BOQ has to be uploaded by the bidders and the fixed cost estimate as provided by the tender issuing authority as part of the RFP document shall be applicable for all bidders. All other incidental costs/items not mentioned in the BOQ shall be deemed to included in the total contract price and no separate payment for the same shall be made to the consultants. The Fixed Cost shall be considered to include all relevant financial implications, including inter-alia the scope of the Services to be delivered and the incidental goods/ works to be supplied, location of the Consultant, site(s) of the delivery of Services, terms of delivery, extant rules and regulations relating to taxes, duties, customs, transportation, environment, labour, Mining & Forest of the Consultant's country and in India.

(d) Price Components

In QCBS mode, Consultant shall indicate in the Price Schedule prices/ rates against all the specified components, including the unit prices and total Proposal prices.

(e) Price Schedule

For QCBS Mode:

1. Consultants are to upload only the downloaded BOQ (in excel format) after entering the relevant fields without any alteration/ deletion/ modification of other portions of the excel sheet. All the columns in the price schedule should be filled up as required. If any column does not apply to a Consultant, he should clarify the same.
2. Consultants shall fill in rates other than zero value in the specified cells without leaving

them blank.

3. The quoted price shall be considered to include all relevant financial implications, including inter-alia the scope of the Services to be delivered and the incidental goods/ works to be supplied, location of the Consultant, site(s) ofthe delivery of Services, terms of delivery, extant rules and regulations relating to taxes, duties, customs, transportation, environment, labour, Mining & Forest ofthe Consultant's country and in India.

For QBS mode: Refer clause 5.1.2 above.

5.1.5 Provisions of GST

1) Break up of different price elements, i.e., as per GST Act, shall be indicated separately, along with its associated HSN code and GST rate.

2) While quoting the basic rate, the Consultant should offset the input credit available as per the GST Act.

3) Please refer to ITC-Clause 5.3 for further details.

5.1.6 Currencies of Proposal and Payment

1) Unless otherwise stipulated in the AITC, the Consultant's currency of Proposal and payment shall be quoted entirely in Indian Rupees. All payments shall be made in Indian Rupees only.
2) Where the AITC permits quotations in different currencies, then, for Services performed in or sourced from India, prices shall be quoted in Indian rupees only, and for Services performed from foreign locations, prices shall be quoted in Indian rupees or the currency stipulated in the AITC. For evaluation, all quoted prices shall be converted into Indian Rupees as per the procedure mentioned in ITC-clause 11.4.2 below.

(f) Non-compliance

Tenders, where prices are quoted in any other way, shall be rejected as nonresponsive.

5.2. Firm/ Variable Price

5.2.1 Firm Price

Unless otherwise stipulated in the AITC, prices quoted by the Consultant shall remain firm and fixed during the currency of the contract and generally shall not be subject to variation except in case of increase in surveys & investigations (head IX. Of BOQ)/ supply and fixing of boundary pillars (head X. of BOQ).

5.2.2 Price Variation Clause:

1) In case the RFP Documents require/ permit offers on a variable price basis, the price quoted by the Consultants shall be subject to adjustment during the original delivery period to take care of the changes in the input cost of labour, material, and fuel/ power components under the price variation formula as stipulated in the RFP Document.
2) If a Consultant submits a firm price quotation against a variable price quotation requirement, that Proposal shall be prima-facie acceptable and considered further,taking the price variation asked for by Consultant as nil.

5.3. Taxes

The Consultant and its Sub-consultants and Experts are responsible for meeting all tax liabilities arising from the Contract.

5.3.1 GST Registration Status:

1) All the Consultants should ensure that they are GST compliant and that their quoted tax structure/ rates are as per GST Act/ Rules. Consultants should be registered under GST and furnish a GSTIN number and GST Registration Certificate in their offer unless they are specifically exempted from registration under a specific notification/ circular/ section/ rule issued by statutory authorities.
2) **GST Registration Number (15-digit GSTIN**). If the Consultant has multiple business verticals in a state and has separate registration for each vertical, the GSTIN of each vertical concerned with the service delivery shall be quoted. If the services providedare from multiple states, the Consultant should mention GST registration numbersfor each state separately.
3) **Composition scheme:** If the Consultant has opted for a composition levy under Section 10 of CGST, he should declare the fact while bidding along with GSTIN andGST registration certificate.
4) **Exemption from Registration**: If a Consultant is not liable to take GST registration,i.e., having turnover below threshold, he shall submit undertaking/ indemnificationagainst tax liability. Consultant claiming exemption in this respect shall submit a valid certificate from practicing Chartered Accountant (CA)/ Cost Accountant with Unique Document Identification Number (UDIN) to the effect that Consultant fulfilsall conditions prescribed in notification exempting him from registration. Such Consultant/ dealer shall not charge any GST and/ or GST Cess in the bill/ invoice.In such case, applicable GST shall be deposited under Reverse Charge Mechanism(RCM) or otherwise as per GST Act by the Procuring Entity directly to concerned authorities. The consultant should note that his offer would be loaded with the payable GST under the RCM. Further, the Consultant should notify and submit to the Procuring Entity within 15 days of becoming liable for registration under GST.

5.3.2 HSN Code and GST Rate:

1) If provided in this RFP Document, the HSN (Harmonized System of Nomenclature)code shall be only indicative. It shall be the responsibility of the Consultant to ensure that they quote the exact HSN Code and corresponding GST rate for each activityof the Services being offered by them
    a) As per the GST Act, the Proposal and contract must show the GST Tax Rates (and GST Cess if applicable) and GST Amount explicitly and separately from the Proposal/ contract price (exclusive of GST).
    b) If the price is stated to be inclusive of GST, the Consultant must declare thecurrent applicable rate included in the price. Consultants should quote 'GST'if payable extra on the total basic rate of each service and quoted GST in '%'inclusive of cess.
2) **Applicability to Imported Goods/ Services:** If imported into India, the supply of commodities, services, or both shall be considered as supply under inter-state commerce/ trade and shall attract integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

5.4 Payments

5.4.1 General

Payments shall be made as per the procedure laid down in GCC unless otherwise stipulated.

5.4.2 No Advance Payments

Unless otherwise stipulated in AITC, the Procuring Entity shall make no advance payment of any type (Mobilization, secured advances, etc.). If AITC does stipulate advance payments, these shall be subject to conditions stipulated therein.

6 Downloading the RFP Document; Corrigenda and Clarifications

6.1 Downloading the RFP Document

The RFP document can be downloaded as per the details given in RFPL clause 2.2.

6.2 Corrigenda/ Addenda to RFP Document

1) Before the deadline for submitting Proposals, the Procuring Entity may update, amend, modify, or supplement the information, assessment or assumptions contained in the RFP Document by issuing corrigenda and addenda. The corrigenda and addenda shall be published in the same manner as the original RFP Document. Without any liability or obligation, the Portal may send intimation of such corrigenda/ addenda to Consultants who have downloaded the document under their login. However, the Consultants must check the website(s) for any corrigenda/ addenda. Any corrigendum or addendum thus issued shall be considered a part of the RFP Document.
2) To give reasonable time to the prospective Consultants to take such corrigendum/ addendum into account in preparing their Proposals, the Procuring Entity may suitably extend the deadline for the Proposal submission as necessary. After the procuring entity makes such modifications, any Consultant who has submitted hisProposal in response to the original invitation shall have the opportunity to either withdraw his Proposal or re- submit his Proposal superseding the original Proposal within the extended time of submission as per ITC-clause 9.4.1 below.
3) The Procuring Entity may extend the deadline for the RFP submission by issuing an amendment. In this case, all rights and obligations of the Procuring Entity and the consultants previously subject to the original deadline shall then be subject to thenew deadline for the RFP submission.

6.3 Clarification of the RFP Document

As detailed in RFPL clause 2.3, a consultant requiring any clarification regarding the RFP Document may seek clarification through the eProcurement Portal. The Procuring Entity shall respond no later than seven days before the deadline for RFP submission. The query and clarification shall be shared with all Consultants on the portal without disclosing its source. If a modification of the RFP document is warranted due to such clarification, an addendum/ corrigendum shall be issued as per ITC-Clause 6.2 above.

7 Pre-Proposal Conference

1) If a Pre-Proposal conference is stipulated in the TIS, prospective Consultants interested in participating in this tender may attend a Pre-Proposal conference to clarify the techno-commercial conditions of the RFP at the venue, date and time specified therein.
2) Participation is not mandatory: However, if a Consultant chooses not to (or fails to) participate in the Pre-Proposal conference or does not submit a written query, it shall be assumed that they have no issues regarding the techno-commercial conditions.
3) The date and time by which the written queries for the Pre-Proposal must reach theauthority and the last date for registration for participation in the Pre-Proposal conference are also mentioned in the TIS. If the dates are not mentioned, such date and time shall be 7 days before the date and time of the pre-Proposal conference.

4) Delegates participating in the Pre-Proposal conference must provide a photo identity and an authorization letter as per Format 2: "Authorization to attend a Pre-Proposal Conference" from their Company/ principals; else, they shall not be allowed to participate. The pre- Proposal conference may also be held online at the discretion of the Procuring Entity.
5) After the Pre-Proposal Conference, Minutes of the Pre-Proposal conference shall be published on the Procuring Entity's portal within seven days from the Pre-Proposal Conference. If required, a clarification letter and corrigendum to RFP Document shall be issued, containing amendments to various provisions of the RFP Document. As per ITC- clause 6.2 above, to give reasonable time to the prospective Consultants to consider such clarifications in preparing their Proposals, the Procuring Entity may suitably extend, as necessary, the deadline for the Proposal submission.

8 Preparation of Proposals

8.1 The Proposal

8.1.1 Language of the Proposal

Unless otherwise stipulated in the AITC, the Proposal submitted by the Consultant and all subsequent correspondence and documents relating to the Proposal exchanged between the Consultant and the Procuring Entity shall be written in the language specified in the AITC /SCC (hereinafter referred to as the 'Proposal Language'. If nothing is specified, the language shall be English). However, the language of any printed literature furnished by the Consultant in connection with its Proposal may be written in any other language provided a certified translation accompanies it in the Proposal language. For purposes of interpretation of the Proposal, translation in the language of the Proposal shall prevail.

8.1.2 Acquaintance with Local Conditions and Factors

At his own cost, responsibility, and risk, the Consultant is encouraged to visit, examine, and familiarise himself with the local conditions and factors. The Consultant acknowledges that before the submission of the Proposal, he has, after a complete and careful examination, made an independent evaluation of the local conditions, infrastructure, logistics, communications, legal, environmental, and any other conditions or factors which would have any effect on the performance of the contract. Consultants shall be responsible for compliance with Rules, Regulations, Laws and Act sin force from time to time at relevant places. On such matters, the Procuring Entity shall have no responsibility and not entertain any request from the Consultants.

8.1.3 Cost of preparation and submission of Proposals

The Consultant(s) shall bear all direct or consequential costs, losses and expenditures associated with or relating to the preparation, submission, and subsequent processing of their Proposals, including but not limited to preparation, copying, postage, delivery fees, expenses associated with any submission of samples, demonstrations, or presentations which the Procuring Entity may require, or any other costs incurred in connection with or relating to their Proposals. All such costs, losses and expenses shall remain with the Consultant(s), and the Procuring Entity shall not be liable in any manner whatsoever for the same or any other costs, losses and expenses incurred by a Consultant(s) for participation in the Procurement Process, regardless of the conduct or outcome of the Procurement Process.

8.1.4 Interpretation of Provisions of the RFP Document

The RFP document's provisions must be interpreted in the context in which these appear. Any interpretation of these provisions far removed from such context, contrived, or between-the- lines interpretation is unacceptable.

8.1.5 Alternate Proposals are not allowed.

Unless otherwise stipulated in the AITC, conditional offers, alternative offers, and multiple Proposals by a Consultant shall not be considered. The Portal shall permit onlyone Proposal to be uploaded.

8.2 Documents comprising the Proposal:

8.2.1 Techno-commercial Proposal/ Cover

"Technical Proposal" shall include inter-alia the scanned copies of duly signed or digitally signed copies of forms as per ITC-Clause 1.5 in pdf format. *The Technical Proposal shall not include any financial information. A Technical Proposal containing material financial information shall be declared non-responsive*.

8.2.2 Financial Proposal/ Cover

"Financial Proposal" shall comprise the Price Schedule for the QCBS mode of tender (Submitted separately as an excel sheet) available on the eProcurement Portal. Any additional information may be uploaded as a pdf under "Additional Documents" in the "Proposal Cover Content." It should be filled considering all financially relevant details, including Taxes and Duties, as per ITC-clause 5.3. It shall list all costs associated with the assignment, including (a)remuneration for Key Experts and Non-Key Experts, (b) reimbursable expenses in the RFP Document. *No additional technical details which have not been brought out in the Technical Proposal shall be brought out in the Financial Proposal. A Financial Proposal containing material Technical Information not disclosed in the Technical Proposal shall be declared non-responsive*.

8.3 Proposal Validity

1) Unless specified to the contrary in the TIS, Proposals shall remain valid for a periodnot less than 120 days from the deadline for the Proposal submission stipulated in TIS. A Proposal valid for a shorter period shall be rejected as nonresponsive.
2) In case the day upto which the Proposals are to remain valid falls on/ subsequentlydeclared a holiday or closed day for the Procuring Entity, the Proposal validity shall automatically be deemed to be extended upto the next working day.
3) In exceptional circumstances, before the expiry of the original time limit, the Procuring Entity may request the Consultants to extend the validity period for a specified additional period. The request and the Consultants' responses shall be made in writing or electronically. However, after expiry of 150 days from bid due date the tender shall be deemed annulled automatically.

   a) The Consultant has the right to refuse to extend the validity of its Proposal,in which case such Proposal shall not be further evaluated.

   b) If the Consultant agrees to extend the validity of its Proposal, it shall be done without any change in the original Proposal and with the confirmation of theavailability of the Key Experts.

   c) If any Key Experts become unavailable for the extended validity period, the Consultant shall seek permission to substitute another Key Expert. The Consultant shall provide written justification and evidence to the Procuring Entity with the substitution request. In such case, a substitute KeyExpert shall have equal or better qualifications and experience than the originally proposed one. The technical evaluation score, however, shall remain based on the evaluation of the CV of the original Key Expert. The Consultant shall not be allowed to replace more than 50% of Key personal under this clause.

   d) If the Consultant fails to provide a substitute Key Expert with equal or better qualifications, or if the provided reasons for the replacement or justificationare unacceptable to the Procuring Entity, such Proposal shall be rejected

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8.4 Bid Security - Related Documents

1) EMD/ BSD as Bid Security: The Consultant shall provide Bid Security as Earnest Money Deposit (EMD) for the amount shown in the TIS (or if permitted in TIS, a Bid Securing Declaration as Form T-9B in lieu of EMD).
2) Modalities of EMD: Unless otherwise provided in TIS, the earnest money shall be denominated in Indian Rupees. Wherever relevant, it shall be in favour of the Account specified in TIS and shall be furnished in one of the following modalities valid for forty-five days beyond the validity of the proposal:
    a) E- Bank Guarantee
    b) Insurance Surety Bonds
    c) Deleted
    d) Deleted
    e) Deleted
    f) Bank Guarantee from/ confirmed by any of the commercial banks in the format specified in Form T-16, or
    g) Payment online in an acceptable form
3) Forfeiture of EMD (Enforcement of BSD): EMD shall be forfeited (or in case BSD is permitted, the declaration[2] shall be enforced from the date of such decision) if the Consultant breaches any of the following obligation(s) under the RFP:
    (a) withdraws or amends his Proposal or impairs or derogates from the Proposal in any respect within the period of validity of its Proposal; or
    (b) after having been notified within the period of Proposal validity of the acceptance of his Proposal by the Procuring Entity:
        i) refuses to or fails to submit the original documents for scrutiny or the required Performance Security within the stipulated time as per the RFP document's conditions.
        ii) fails or refuses to sign the contract.
4) Return of EMD (Expiry of BSD): Unsuccessful Consultants' EMD shall be returned to them without any interest (or if BSD is permitted, it shall stand expired) not later than thirty days after the conclusion of the resultant contract. Successful Consultant's EMD shall be returned without any interest (or if BSD is permitted, it shall stand expired) after receipt of performance security from them.

9 Signing and Uploading Proposals

9.1 Relationship between Consultant and eProcurement Portal

The Procuring Entity is neither a party nor a principal in the relationship between the Consultant and the organisation hosting the e-procurement portal (hereinafter called the Portal). Consultants must comply with the rules, regulations, procedures, and implied conditions/ agreements of the eProcurement portal, including registration, compatible Digital Signature Certificate (DSC) etc. Consultants shall settle clarifications and disputes, if any, regarding the Portal directly with them. In case of conflict between provisions of the Portal with the RFP Document, provisions of the Portal shall prevail. Consultants may study the resources provided by the Portal for Consultants.

2 The BSD provides for automatic suspension of the Consultant (all members individually and jointly incase of JV) from being eligible for bidding in any procurement in the Ministry/ Department of Procuring Organization for 2 years from the date of such enforcement

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9.2 Signing of Proposal

The individual signing/ digitally signing the Proposal or any other connected documents should submit an authenticated copy of the document(s), which authorizes the signatory to commit and submit Proposals on behalf of the Consultant along with Form T-1: Proposal Form (Covering Letter).

9.3 **Submission/ uploading of Proposals.**

9.3.1 Further to details mentioned in RFPL clause 6:

1) Proposals must be uploaded on the eProcurement Portal mentioned in the TIS until the deadline for the Proposal submission as notified therein. If the office happens to be closed on the deadline to submit the Proposal as specified above, this deadline shall not be extended. No manual Proposals shall be made available or accepted for submission. Proposals submitted through modalities other than those stipulated in TIS shall be liable to be rejected as nonresponsive.

2) In the case of downloaded documents, the Consultant must not make any changes to the contents of the documents while uploading, except for filling in the required information- otherwise, the Proposal shall be rejected as nonresponsive. Uploaded Pdf documents should not be password protected. Consultants should ensure the clarity/ legibility of the scanned documents uploaded by them.

3) The date and time of the e-Procurement server clock (also displayed on the dashboard of the consultants) shall be the reference time for deciding the closing time of the Proposal submission. Consultants are advised to ensure they submit their Proposal within the deadline of submission, taking the server clock as a reference, failing which the portal shall not accept the Proposal. No request on the account that the server clock was not showing the correct time and that a particular consultant could not submit their Proposal because of this shall be entertained. Failure or defects on the internet or heavy traffic at the server shall not be accepted as a reason for a complaint. The Procuring Entity shall not be responsible for any failure, malfunction or breakdown of the electronic system used during the e-Tender process.
4) Only one copy of the Proposal can be uploaded, and the Consultant shall digitally sign all statements, documents, and certificates uploaded by him, owning sole and complete responsibility for their correctness/ authenticity as per the IT Act 2000 as amended from time to time. A proposal submitted by a Joint Venture shall be digitally signed by an authorized representative with a written power of attorney signed by each member's authorized representative to legally bind all members.
5) Unless otherwise instructed in the RFP Document, the consultant need not sign orup-load the Sections in ITC-clause 1.4.1 above while uploading his Proposal. However, they must declare in his Proposal Form (Form T-1: Proposal Form) that they have read, understood, complied with, and stand bound by all requirements of these sections.
6) Unless otherwise specified, in TIS, originals of the EMD/ Bid Security instrument must be physically submitted sealed in double cover and acknowledgement be obtained before the bid submission deadline at the venue mentioned in TIS. Failure to do so is likely to result in the bid being rejected. If the office is closed on the deadline for such physical submission, the physical submission deadline shall stand extended to the next working day at the same time and venue.

7) The Procuring Entity reserves its right to call for verification, at any stage of evaluation, especially from the successful Consultant(s) before the issue of a Letter of Award (LoA), originals of uploaded scanned copies of documents (in the RFP stages). If a consultant fails at that stage to provide such originals or, in case of substantive discrepancies in such documents, it shall be construed as a breach of the Code of Integrity (see clause 15 below). Such RFP proposals shall be liable to be rejected as nonresponsive and other punitive actions for such a breach.
8) Regarding the protected Price Schedule (excel format) for QCBS mode as well as protected PBG Quote for QBS mode, the Consultant shall only enter his name in the space provided in the specified location. Consultant shall type rates in the figure only in the rate column of respective service(s) without any blank cell or Zero values in the rate column, without any alteration/ deletion/ modification of other portions of the excel sheet. If space is inadequate, the Consultant may upload additional documents under "Additional Documents" in the "Proposal Cover Content."
9) All Proposals uploaded by the Consultant to the portal shall get automatically encrypted. The encrypted Proposal can only be decrypted/ opened by the authorised persons on or after the due date and time. The Consultant should ensure the correctness of the Proposal before uploading and take a printout of the system- generated submission summary to confirm the successful Proposal upload.

9.3.2 Implied acceptance of procedures by Consultants

Submission of Proposal in response to the RFP Document is deemed to be acceptance of the procedures and conditions of e-Procurement and the RFP Document.

9.4 Modification, Resubmission and Withdrawal of Proposals

9.4.1 Modification & Resubmission

Once submitted in e-Procurement, the Consultant cannot view or modify his Proposal since it is locked by encryption. However, resubmission of the Proposal by the Consultants for any number of times superseding earlier Proposal(s) before the submission date and time is allowed. Resubmission of a Proposal shall require uploading all documents, including the financial Proposal, afresh. The system shall consider only the last Proposal submitted.

9.4.2 Withdrawal

1) The Consultant may withdraw his Proposal before the Proposal submission deadline, and it shall be marked as withdrawn and shall not get opened during the Proposal opening.
2) No Proposal should be withdrawn after the Proposal submission deadline and before the Proposal validity period expires. If a Consultant withdraws the Proposal during this period, the Procuring Entity shall be within its right to forfeit the Bid Security (or enforce the Bid Securing Declaration, if it was allowed in lieu of Bid Security), in addition to other punitive actions provided in the RFP Document for such misdemeanor as per clause 8.4 above.

10 Proposal Opening

The Proposals shall be opened on or after the date & time of the opening stipulated in TIS. Proposals cannot be opened before the specified date & time, even by the Tender Inviting Officer, the Procurement Officer, or the Publisher. If the specified date of Proposal opening falls on is subsequently declared a holiday or closed day for the Procuring Entity, the Proposals shall be opened at the appointed time on the next working day.

11 Evaluation of Proposals and Award of Contract

11.1 General norms

11.1.1 Evaluation is based only on declared criteria.

1) The evaluation shall be based upon scrutiny and examination of all relevant data and details submitted by the Consultant in its/ his Proposal and other allied information deemed appropriate by Procuring Entity. Evaluation of Proposals shall be based only on the criteria/ conditions included in the RFP Document. The Selection Method to be used for evaluation and the Type of Contract (Price Structure) is mentioned in the TIS.
2) The determination shall not consider the qualifications of other firms, such as the consultant's subsidiaries, parent entities, affiliates, or any other firm(s) different from the consultant.
3) Consultants planning to subcontract any Key Activities indicated in Section VI: terms of Reference and its sub-sections must ensure compliance with ITC-Clause 3 above.
4) Information relating to the evaluation of RFPs and evaluation results shall not be disclosed to any participant or any other persons not officially concerned with such process until the notification of shortlisting is made in accordance with clause 13.1 below.

11.1.2 Deviations/ Reservations/ Omissions - Substantive or Minor

1) During the evaluation of Proposals, the following definitions apply:
   a) "Deviation" is a departure from the requirements specified in the RFP Document;
   b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the RFP Document; and
   c) "Omission" is failing to submit part or all of the information or documentation required in the RFP Document.
2) A deviation/ reservation/ omission from the requirements of the RFP Document shall be considered a substantive deviation as per the following norm, and the rest shall be considered a Minor deviation:
   a) which affects in any substantive way the scope, quality, or performance standards of the Services;
   b) which limits in any substantive way, inconsistent with the RFP Document, the Procuring Entity's rights, or the Consultant's obligations under the contract;or
   c) Whose rectification would unfairly affect the competitive position of other Consultants presenting substantively responsive Proposals.
3) The decision of the Procuring Entity shall be final in this regard. Proposals with substantive deviations shall be rejected as nonresponsive.
4) Variations, deviations, and other offered benefits (Techno-commercial or Financial) above the scope/ quantum of Services stipulated in the RFP Document shall not influence evaluation Proposals. If the Proposal is otherwise successful, such benefits shall be availed by the Procuring Entity, which would become part of the contract.
5) The Procuring Entity reserves the right to accept or reject Proposals with minor deviations. Wherever necessary, the Procuring Entity shall convey its observation as per ITC-clause 11.1.3 below on such 'minor' issues to the Consultant by registered/ speed post/ electronically etc., asking Consultant to respond by a specified date. If the Consultant does not reply by the specified date or gives an evasive reply without clarifying the point at issue in clear terms, that Proposal shall be liable to be rejected as nonresponsive.

11.1.3 Clarification of Proposals and shortfall documents

1) During the evaluation of Techno commercial or Financial Proposals, the Procuring Entity may, at its discretion, but without any obligation to do so, ask the Consultant to clarify its Proposal by a specified date. The consultant should answer the clarification within that specified date (or, if not specified, 7 days from receiving such a request). The request for clarification shall be submitted in writing or electronically, and no change in prices or substance of the Proposal shall be sought, offered, or permitted that may grant any undue advantage to such Consultant. Any clarification submitted by a Consultant regarding its Proposal that is not in response to a request by the Purchasing Entity shall not be considered.
2) The Procuring Entity reserves its right to, but without any obligation to do so, seek any shortfall information/ documents only in case of historical documents which pre- existed at the time of the Proposal Opening and which have not undergone change since then and do not grant any undue advantage to any Consultant. There is a provision on the portal for requesting Short-fall documents from the Consultants. The system allows taking the shortfall documents from consultants only once after the technical Proposal opening.
3) If the consultant fails to provide satisfactory clarification and/or missing information, its RFP shall be evaluated based on available information and documents.

11.1.4 Contacting Procuring Entity during the evaluation

From Proposal submission to awarding of the contract, no Consultant shall contact the Procuring Entity on any matter relating to the submitted Proposal. If a Consultant needs to contact the Procuring Entity for any reason relating to this tender and/ or its Proposal, it should do so only in writing or electronically. Any effort by a Consultant to influence the Procuring Entity during the processing of Proposals, evaluation, Proposal comparison or award decisions shall be construed as a violation of the Code of Integrity, and the Proposal shall be liable to be rejected as nonresponsive in addition to other punitive actions for violation of Code of Integrity as per the RFP Document.

11.2 Evaluation of Proposals

11.2.1 Preliminary Examination of Proposals - Determining Responsiveness

A substantively responsive Proposal is complete and conforms to the RFP Document's essential terms, conditions, and requirements without substantive deviation, reservation, or omission. Proposals with substantive techno-commercial deviations or other essential aspects of the RFP shall be rejected as nonresponsive. Only substantively responsive Proposals shall be considered for further evaluation. Procuring entity reserves its rightto consider and allow minor deviations in technical and Commercial Conditions. Unless otherwise stipulated in the AITC, the following are some of the crucial aspects for which a Proposal shall be rejected as nonresponsive:

1) The Proposal is not in the prescribed format or is not submitted as per the stipulationsin the RFP Document.
2) Failure to provide and/ or comply with the required information, instructions etc., incorporated in the RFP Document or evasive information/ reply against any such stipulations.
3) Required Bid Security (EMD) (or Bid Securing Declaration BSD if permitted) has not been provided.
4) Consultant no longer complies with the eligibility criteria in the RFP;
5) The Services offered are not eligible as per the provision of this tender.
6) The consultant has quoted conditional Proposals or more than one Proposal or alternative Proposals unless permitted explicitly in the AITC.

7) The Proposal validity is shorter than the required period.
8) The Proposal departs from the essential requirements stipulated in the bidding document;
9) The consultant has quoted 'Nil' Service charges/ margin over the minimum wages in Personnel Deployment Schedule.
10) Non-submission or submission of illegible scanned copies of stipulated documents/ declarations
11) Furnishing wrong and/ or misguiding data, statement(s) etc. In such a situation, besides rejecting the Proposal as nonresponsive, it is liable to attract other punitive actions under relevant provisions of the RFP Document for violating the Code of Integrity.

11.2.2 The evaluation process

Unless otherwise stated, only the techno-commercial Proposals shall be opened on the stipulated date of opening of Proposals. After that, the techno-commercial evaluation shall ascertain whether these Proposals meet the requirements of the Terms of Reference, Technical Criteria and Minimum Score. Subsequent opening of financial Proposals and financial evaluation shall be done only of Proposals declared successful in techno-commercial evaluation as per clause 11.3.1 4) below. The evaluators of the Technical Proposals shall have no access to the Financial Proposals until the technical evaluation results are declared and Financial proposals are opened.

11.3 **Techno-commercial Evaluation**

11.3.1 Evaluation of Technical Proposals/ Score

1) Procuring Entity shall evaluate the technical proposal and assign scores as per the scheme of criteria and sub-criteria as laid down in 'Section VII: Evaluation/ Scoring Criteria'. This determination shall, inter-alia, consider the Consultant's (i) "Firm's Profile, turnover and professionals working with the firm"; ii) "Firm's relevant experience in last 10 years for DPR work"; iii) Material testing, survey & investigation, equipment and software proposed to be used for DPR work"; iv). "Experience in use of technology for road inspection in supervision work/quality/safety audit"; v)" Qualification and Relevant experience of the proposed key personnel".
2) In the case of JV, the evaluation of the Technical proposal shall include the credentials of all members.
3) If it is established that any Key Expert nominated in the Consultant's Proposal was included in the Proposal without his/her confirmation, such Proposal shall be disqualified and rejected for further evaluation and shall be treated as a violation ofthe Code of Ethics and would be liable for penalties thereunder.
4) The Financial Proposals/PBG Quotes of only those Bidders shall be opened who score 70% or more marks in technical score.
5) All Key Experts (including the Team Lead) must meet the minimum requirements specified in Section VI-A: List of Key Experts and Required Qualifications. If any KeyExpert fails to meet these minimum requirements, his score shall be evaluated asNil. In case the team leader of the bidders scores less than 70% marks, then such proposals shall be considered as technically non-responsive. If any other Key Expert of the successful consultant scores less than the 70% the maximum score, Procuring Entity shall be entitled to ask for a better replacement before the negotiations as per ITC-Clause 12 below.

11.3.2 Evaluation of Conformity to Commercial and Other Clauses

Consultants must comply with all the Commercial and other clauses of the RFP Document as per submissions in Form T-14: 'Terms and Conditions – Compliance'. TheProcuring Entity shall also evaluate the commercial conditions quoted by the Consultantto confirm that all essential terms and conditions stipulated in the RFP Document havebeen accepted without substantive omissions/ reservations/exceptions/ deviation by the Consultant. Deviations from or objections or reservations to critical provisions such as those concerning (but not limited to) Governing laws and Jurisdiction (GCC Clause 3),Consultant's Obligations and Restrictions of its Rights (GCC Clause 5), Performance Bond/ Security (GCC Clause 5.8), Force Majeure (GCC Clause 9.6), Taxes & Duties (GCC Clause 10.2), and Code of Integrity (GCC Clause 13) shall be deemed to be a substantive deviation and treated as unresponsive as per clause
11.1.2 (3) above.

11.3.3 Evaluation of Techno-commercially Suitable Consultants and Opening Financial Proposals

Each responsive Proposal shall be given a technical score applying the evaluation criteria, sub-criteria, and scoring system specified in Section VII: Evaluation/ Scoring Criteria. A Proposal shall be rejected if it fails to achieve the minimum technical score indicated therein
i.e. 70% or more marks in technical proposals for consultants with available DPR Rating and 60% or more marks for consultants without rating i.e. new entrants. Proposals that succeed in the above techno-commercial evaluation shall be considered techno-commercially suitable. The list of such techno-commercially suitable Consultants shall be declared on the Portal announcing a date/time and venue for opening their financial Proposals (for QCBS mode)/PBG Proposals (for QBS mode) by giving not less than 10 days from this declaration, in line with ITC- Clause 14 below. The Procuring Entity shall notify all Consultants whether their proposal was found responsive/ non-responsive to the RFP and TOR and whether they met the minimum qualifying technical score. Financial proposals (for QCBS mode)/PBG Proposals (for QBS mode) of successful Consultants only shall be opened online. The Financial proposals (for QCBS mode)/PBG Proposals (for QBS mode) of unsuccessful Consultants shall remain encrypted and unopened.

11.4 **Financial Proposal (for QCBS mode)/PBG Proposal (for QBS mode) Evaluation and Ranking of Proposals**

11.4.1 Financial Proposal (for QCBS mode)/PBG Proposal (for QBS mode) Evaluation

1) Financial Proposals/PBG Proposals of all Techno-commercially suitable Proposals are evaluated based on the selection method declared in the RFP Document (QCBS or QBS as the case may be) and ranked accordingly.
2) Unless otherwise stipulated, the evaluation of prices shall be on total outgo from the Procuring Entity's pocket, to be paid to the Consultant or any third party, including all elements of costs as per the terms of the proposed contract, duly delivered, as the case may be, including any taxes, duties, levies etc.
3) Deleted
4) As per policies of the Central Government, from time to time, the Procuring Entity reserves its option to give purchase preferences to eligible categories of Consultants as indicated in the RFP Document.
5) evaluation of Proposals shall include and consider the following taxes/ duties, as per ITC- clause 5.3 above:
    a) in the case of Services performed in India or incidental goods of foreign origin already located in India, GST & other similar duties shall be contractually payable

on the Services and incidental Goods if a contract is awarded to the Consultant;

b) The offers shall be evaluated based on the GST rate quoted by each Consultant, and the same shall be used for determining the inter-se ranking.

The Procuring Entity shall not be responsible for any misclassification of the HSN number or incorrect GST rate quoted by the Consultant. Any increase in GST rate due to misclassification of HSN number shall have to be absorbed by the supplier; and

c) If GST is quoted extra but with the provision that it shall be charged as applicable at the time of delivery, the offer shall be evaluated for comparison purposes by loading the maximum existing rate of GST for the product/ HSN code.

d) If a bidder enters "zero/blank" GST or an erroneous GST, the financial evaluation will be done considering the "Zero" or quoted GST rate, as the case may be. In cases where the successful bidder quotes the wrong GST rate for releasing the order, the following methodology will be followed:

i) If the actual GST rate applicable is lower than the quoted GST rate, the actual GST rate will be added to the quoted basic prices. The final cash outflow will be based on the actual GST rate.

ii) If the actual GST rate applicable is more than the quoted GST rate, the basic prices quoted will be reduced proportionately, keeping the final cash outflow the same as the overall quoted amount.

6) Correction Errors/ adjustments:

a) Loading for Deviations: Unless announced beforehand, the quoted price shall not be loaded based on deviations in commercial conditions. If it is so declared, such loading of a financial Proposal shall be done as per the relevant provisions;

b) Discrepancies between Technical and Financial Proposal:

i) Activities and items described in the Technical Proposal but not priced in the Financial Proposal shall be assumed to be included in the prices of other activities or items, and no corrections are made to the Financial Proposal.

ii) If a Lump-Sum contract selection method is declared in the RFP, the Consultant is deemed to have included all prices in the Financial Proposal, so neither arithmetical corrections nor price adjustments shall be made.

iii) If a Time-Based contract selection method is declared in the RFP, in case of discrepancy between the Technical and Financial Proposals in indicating quantities of input, any higher quantities in Technical Proposalshall prevail, and the quoted total prices shall be assumed to apply to this higher quantum. The unit rate for such activity shall be accordinglyadjusted. No such correction shall be done if quantities are lower in theTechnical proposal.

iv) For Fixed Cost based selections the BOQ quantities/rates as well as other provisions stipulated in the RFP by the tender issuing authority shall be final.

c) Discounts and Rebates: If any Consultant offers conditional discounts/ rebates in his Proposal or suo-motu discounts and rebates after the Proposal Opening (techno-commercial or financial), such rebates/ discounts shall not be considered for ranking the offer. But if such a Consultant gets selected as per the selection method, without discounts/ rebates, such discounts/ rebates shall be availed and incorporated in the contracts;

d) Price Variation: If the tenders have been invited on a variable price basis, the tenders shall be evaluated, compared, and ranked based on the position asprevailing on the last deadline for techno-commercial Proposal submission and not on any future date.

7) Ambiguous Financial Proposal: If the financial Proposal is ambiguous and leads totwo equally valid total price amounts, it shall be rejected as nonresponsive.

8) Output-Based (Output Admeasurement) Contracts: The Consultant's Proposal must include the Key Experts' time-input person-months as specified in Section VI-A: List of Key Experts and Required Qualifications.

   a) Minimum Time Inputs: if a Proposal includes less or more than the required minimum person-month time input, the proposal shall be considered as persub- clause 6. b)-iii) above for that key-position

   b) Deleted.

9) Least-Cost Selection: Deleted

10) Quality and Cost-Based Selection (QCBS): Deleted

11) Fixed Budget Selection (FBS): In the case of FBS, only the value of PBG shall have to be quoted by the bidder. However, PBG shall be quoted by the bidders subject to a minimum value of 5%. However, in case quoted PBG is less than 5%, then such bids shall be rejected. In the case of QBS, the final score is calculated by weighting the technical score, DPR rating score and score based on PBG Quote and adding them to obtain a combined final score, as explained in the sub-clauses below. The respective weightages for technical score, DPR rating done by NHAI/MoRTH as well as PBG quotes shall be 30 (Technical Score):30 (DPR Rating): 40 (PBG quote). The most preferred bidder (H-1) for each package would be determined on the basis of highest combined final score. The PBG Quote of the all technically qualified bidders (i.e. 70% or more marks in technical proposals for consultants with available DPR Rating and 60% or more marks for consultants without rating i.e. new entrants) shall be opened. In case two bidders get same final score, the bidder with higher residual bid capacity shall be awarded the project.

   a) The Technical Proposals are given an absolute technical score (Ta out of max 100) based on the evaluation criteria in Section VII: Evaluation/ Scoring Criteria. However, to normalise this w.r.t. PBG Score Sf below, a relative Technical Score (St) based on their relative ranking shall be calculated. The

      highest evaluated Technical Score (Ta-max) is assigned the maximum relative Technical Score (St) of 100 (Hundred). The formula for determining the relative Technical scores (St) of all other Proposals is as follows:

      St = 100 x Ta/ Ta-max,

      in which "Ta-max" is the highest evaluated absolute Technical Score, "St" is the relative Technical score calculated, and "Ta" is the absolute Technical Score of the proposal under consideration. This normalisation would avoid any unintended magnification of weightage to the financial score due to different scales of Technical Scores and Financial Scores.

   b) The Applicable DPR Rating as notified by NHAI/MoRTH (as on bid due date) shall be used to score the consultants out of 30 marks as per given criteria. This would be denoted as Sr.

   c) The PBG Quotes Proposals are given score based on the relative ranking of prices, with the highest quoted PBG Proposal (Fm) being assignedthe maximum PBG score (Sf) of 100(Hundred). The formula for determining the financial scores (Sf) of all other Proposals is as follows:

      Sf = 100 x F/Fm,

      in which "Fm" is the price of the highest offer, "Sf" is the financial score calculated,

and "F" is the price of the proposal under consideration.

d) The weights given to the Technical (T) and Financial (P) Proposals are specified in TIS/ AITC:

T (the weight given to the Technical Proposal) in %, and

P (the weight given to the Financial Proposal) in % (with T + P = 70%)

e) Proposals would be ranked according to their combined QCBS (weighted technical, St and financial, Sf) scores as follows:

$$S = (St \times T + Sf \times P)/100 + Sr.$$

in which "S" is the combined QCBS score, "St" is the relative technical score calculated as per sub-clause a) above and "Sf" is the financial score calculated as per sub-clause b) above.

f) All scores shall be calculated up to two decimal places only.

11.4.2 Global Tender Enquiry (GTE, International Competitive Bidding)

The following additional aspects of the evaluation of the financial offer shall also apply:

1) Currency of Tender

In GTE tenders, if permitted in AITC, the Proposal price may be in foreign currencies, except for expenditure incurred in India (including incidental Works/Goods/ Services delivered in India and agency commission, if any) should be stated in Indian Rupees.

2) Evaluation of Offers

For financial evaluation, all Proposals shall be converted to Indian Rupees based on the "Bill for Collection (BC) selling" exchange rate on the last deadline for the Proposal submission (Techno-commercial offer) from a source as specified (State Bank of India, if not so specified) in the tender document. The offers would be compared based on the principle of the total outgo from Procuring Entity's pockets, including all applicable taxes and duties (Customs duty, GST, and GST Cess). For Proposals with Letter of Credit (LC) payment, the likely LC charges (as ascertained from the Procuring Entity's bankers) should also be loaded. Import of Goods or services or both attract integrated tax (IGST). The IGST rate and GST Cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

The terms FOB, FAS, CIF, DDP etc., shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris.

12 Contract Negotiation

12.1 Invitation to Negotiate

The negotiations shall be held at the date and address announced after the selection ofthe successful Consultant with their representative(s), who must have written power ofattorney to negotiate and sign a contract on behalf of the Consultant. During the negotiations, it shall be ensured that no undue advantage accrues to the Consultant and that nothing shall vitiate the basis on which he has been declared successful. The minutes of negotiations shall be signed by the Procuring Entity and the Consultant's authorized representative.

12.2 Verification of Original Documents

Before issuing a Letter of Award (LoA) to the successful Consultant(s), the Procuring Entity may, at its discretion, ask the Consultant to present the originals of all such documents whose scanned copies were submitted online during shortlisting process and this RFP process. If so decided, the photocopies of such self-certified documents shall be verified and signed by the competent officer and kept in the records as part of the contract agreement. If the Consultant fails to provide such originals or in case of substantive discrepancies in such documents, it shall be construed as a violation of the Code of Integrity. Such Proposal shall be liable to be rejected as nonresponsive in addition to other punitive actions in the Code of Integrity.

12.3 Availability of Key Experts:

As a pre-requisite to the negotiations, the invited Consultant shall confirm the availability of all Key Experts included in the Proposal. Failure to confirm the Key Experts' availability may result in the Consultant's Proposal being declared non-responsive and the Procuring Entity proceeding to negotiate the Contract with the next-ranked responsive Consultant.

Notwithstanding the above, the substitution of Key Experts at the negotiations may be considered if due solely to circumstances outside the reasonable control of and not foreseeable by the Consultant, including but not limited to death or medical incapacity or as per the conditions specified in this RFP. In such case, the Consultant shall offer a substitute Key Expert within the period specified in the invitation letter to negotiate the Contract, who shall have equivalent or better qualifications and experience than the original candidate.

As per ITC-Clause 11.3.1-5), Procuring Entity reserves its right to seek during negotiations the replacement of the any Key Personnel who score below the minimum score if specified.

12.4 Technical Negotiations

The negotiations include discussions of the Terms of Reference (TORs), the proposed methodology, the Procuring Entity's inputs, the special conditions of the Contract, and finalizing the 'Appendix A: Terms of Reference' part of the Contract. These discussions shall not substantially alter the original scope of services under the TOR or the terms of the contract lest the quality of the final product, its price, or the initial evaluation be vitiated.

12.5 **Financial Negotiations**

Deleted

12.6 Conclusion of Negotiations

The negotiations are concluded with a review of the finalized draft Contract, which shall be initialed by the Procuring Entity and the Consultant's authorized representative.

If the negotiations fail, the Procuring Entity shall inform the Consultant in writing of all pending issues and disagreements and provide a final opportunity for the Consultant to respond. If disagreement persists, the Procuring Entity shall declare the proposal non- responsive, informing the Consultant of the reasons for doing so. The Procuring Entity shall invite the next-ranked responsive Consultant to negotiate a Contract. Once the Procuring Entity commences negotiations with the next-ranked Consultant, the Procuring Entity shall not reopen the earlier negotiations.

13 Award of Contract

13.1 **Letter of Award (Acceptance - LoA) and Signing of Contract**

13.1.1 Letter of Award (LoA)

After 10 days from the conclusion of negotiations (in line with ITC-Clause 14 below), the Consultant whose Proposal has been accepted shall be notified of the award by the Procuring Entity before the expiration of the Proposal validity period by written or electronic means. This notification (hereinafter and in the Conditions of Contract called the "Letter of Award - LoA") shall state the sum (hereinafter and in the contract called the "Contract Price") that the Procuring Entity shall pay the Consultant in consideration of delivery of Services. The Letter of Award (LoA) shall constitute the legal formation of the contract, subject only to the furnishing of performance security as per the provisions of the sub-clause below. The Procuring Entity, at its discretion, may directly issue the contract subject only to the furnishing of performance security, skipping the issue of LoA.

13.1.2 Performance Security

1) Within the number of days stipulated in AITC (or 21 days if not specified) of receipt of the Letter of Award (LoA, or the contract if LoA has been skipped), performance Security as per details in GCC-5.8 shall be submitted by the Consultant to the Procuring Entity.
2) If the Consultant, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and forfeit EMD (or enforce Bid Securing Declaration if it was permitted to be submitted in lieu of Bid Security),besides taking any other administrative punitive action like 'Removal from List of Registered Suppliers' etc.

13.1.3 Signing of Contract

1) Publication of Results: The Procuring Entity shall send to each techno-commercially suitable Consultant the Notification of Intention to Award the Contract to the successful Consultant.
   The Notification of Intention to Award shall contain, at a minimum, the following information:
   a) the name and address of the Consultant with whom the Procuring Entity successfully negotiated a contract;
   b) the contract price of the successful Proposal;
   c) the names of all Consultants included in the short list for RFP, indicating those that submitted Proposals;
   d) the final combined scores and the final ranking of the Consultants
   e) The name and address of the successful Consultant(s) receiving the contract(s) shall be published in the Portal and notice board/ bulletin/website of the Procuring Entity.
2) After the award notification, the Procuring Entity shall share a copy of the Contract Agreement (as per Format 1: Contract Form along with sub-formats) to a successful Consultant for review. The Consultant may point out to the Procuring Entity, in writing/ electronically, any anomalies noticed in the contract within seven days of receipt. The Contract Agreement shall be executed within 21 days after the date of issue of the Letter of Acceptance and after submission and verification of the Performance Security.
3) If asked by the Procuring Entity, the successful Consultant shall return the original copy of the contract, duly signed, and dated, within seven days from the date of receipt of the contract, to the Procuring Entity by registered/ speed post or by a suitable digital means.

14 Grievance Redressal/ Complaint Procedure

1) The consultant has the right to submit a complaint or seek de-briefing regarding the rejection of his proposal, in writing or electronically, within 10 days of the declaration of techno-commercial or financial evaluation results. The complaint shall be addressed to the Head of Procurement.
2) Within 5 working days of receipt of the complaint, the Tender Inviting Officer shall acknowledge the receipt in writing to the complainant, indicating that it has been received, and the response shall be sent in due course after a detailed examination.
3) The Tender Inviting Officer shall convey the final decision to the complainant within15 days of receiving the complaint. No response shall be given regarding the confidential process of evaluating Proposals and awarding the contract before the award is notified, although the complaint shall be kept in view during such a process. However, no response shall be given regarding the following topics explicitly excluded from such complaint process:
   a) Only a Consultant who has participated in the procurement process, i.e., pre-qualification, Consultant registration or bidding, as the case may be, can make such representation.
   b) Only a directly affected Consultant can represent in this regard.
   c) Deleted;
   d) Deleted.
4) No third-party information (RFPs, evaluation results) can be sought or included in the response.
5) The following decisions of the Procuring Entity shall not be subject to review:

a) Determination of the need for procurement.
b) Complaints against Terms of Reference except under the premise that they are either vague or too specific to limit competition
c) Selection of the mode of procurement or bidding system;
d) Choice of the selection procedure.
e) Provisions limiting the participation of Consultants in the Procurement Process, in terms of policies of the Government
f) Provisions regarding purchase preferences to specific categories of Consultants in terms of policies of the Central Government
g) Cancellation of the Procurement Process except where it is intended to subsequently re-tender the same Services.

15 **Code of Integrity in Public Procurement, Misdemeanors and Penalties.**

Procuring authorities, Consultants, suppliers, contractors, and consultants should observe the highest standard of integrity and not indulge in prohibited practices or other misdemeanors, either directly or indirectly, at any stage during the Procurement Process or the execution of resultant contracts. GCC- clause 13 (including the penalties prescribed therein) shall be considered part of this clause of ITC (even though it is not being reproduced here for brevity) and shall apply mutatis mutandis during the pre- award Procurement Process.

Section III: Appendix to Instructions to Consultants (AITC)

RFP Document No. RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718 ; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.

Note for Consultants: Following clauses (in column 1), wherever these appear in ITC,shall be taken to be negated or additional provisions be added to, or existing provisionsbe altered as per column 2. Whenever there is any conflict between the provision in the ITC and that in the AITC, the provision contained in the AITC shall prevail.

ITC-Clauses	To be read as
ITC 1: Contents of RFP	
ITC 1.3, 1.4, 1.5	Nil
ITC 3 Consultants - Eligibility and Preferential Policies	
ITC 3.2	shortlisted Consultants are not allowed to associate with other shortlisted/non-shortlisted Consultants
ITC 3.2	The participation of Sub-consultants, Key Experts and Non-Key Experts in more than one Proposal is not allowed
ITC 4 The Terms of Reference and Form of Contract	
ITC 4.1	[Nil]
ITC 5. Proposal Prices, Taxes and Duties	
ITC 5.1.6	Prices are permitted to be quoted in currencies other than INR also,as in the case of Global Tenders
ITC 5.2.2	Nil
ITC 5.4.1	Refer GCC Clause 10.5
ITC 5.4.2	Nil
ITC 6 to 10	Downloading, Preparation, Submission and Opening of Proposals
ITC 8.1.1	[Proposals are to be submitted in English Only]
ITC 8.2.1	Integrity Pact is to be Signed and Submitted along with Proposal by both JV Members The Name and Contact Details of the Independent External Monitor (IEM) for Integrity Pact are as under: a) Dr. Parvez Hayat, IPS (Retd.) (Mobile: +91-9810134469 , E-mail: phayatips@gmail.com) b) Sh. Rajvir Singh, Ex. Addl. Dy. CAG, Indian Audit & Accounts Service (Retd.) (Mobile: +91-8700466366 ,E-mail: singhrajvir@cag.gov.in) c) Sh. Arun Kumar Gupta, Ex-CMD, Shipping Corporation of India (Mobile: +91-9833880764, E-mail: guptaarun55@rediffmail.com)"

ITC 11 and 12 Evaluation of Proposals and Award of Contract	
ITC 11.2.1	Proposal should enclose proof of submission of Bid Document fee of Rs. 5000/-. Bidder (Sole/JV) should have required Residual DPR Bid Capacity
ITC 11.4.2	This is a Global Tender Enquiry(International Competitive Bidding) and the foreign currencies permitted are INR and USD only
ITC 13.1.2	Period for submission of Performance Security shall be 21 days from receipt of LOA subject to any relaxation in the same by the Competent Authority.

Section IV: General Conditions of Contract (GCC)

1. General

1.1. Tenets of Interpretation

Unless where the context requires otherwise, throughout the contract:

1) The headings of these conditions shall not affect the interpretation or construction thereof.
2) Writing or written includes matter either whole or in part, in digital communications, manuscript, typewritten, lithographed, cyclostyled, photographed, or printed under or over signature or seal or digitally acceptable authentication, as the case may be.
3) Words in the singular include the plural and vice-versa.
4) Words importing the masculine gender shall be taken to include other genders, and words importing persons shall include any company, association, or body of individuals, whether incorporated or not.
5) Terms and expressions not herein defined shall have the meanings assigned to them in the contract Act, 1872 (as amended) or the Sale of Goods Act, 1930 (as amended) or the General Clauses Act, 1897 (as amended) or of INCOTERMS, (current edition published by the International Chamber of Commerce, Paris) as the case may be.
6) Any reference to 'Services' shall also be deemed to include the incidental Works/Goods.
7) Any reference to any legal Act, Government Policies or orders shall be deemed to include all amendments to such instruments, from time to time, to date.

1.2. Definitions

In the contract, unless the context otherwise requires:

1) "Allied Firm" are all business entities that are within the 'controlling ownership interest' (ownership of or entitlement to more than twenty-five per cent of the company's shares or capital or profits) or 'control'(including the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or voting agreements) of the principal firm acting alone or together or through one or more juridical persons. All successor firms or assigns of the principal firm shall be considered allied firms;
2) "Bill of Quantities" (including the term Price Schedule or BOQ) means the priced and completed Bill of Quantities forming part of the Proposal;
3) "Commercial Bank" means a bank, defined as a scheduled bank under section 2(e)of the Reserve Bank of India Act, 1934;
4) "Contract" (including the terms 'Purchase Order' or 'Supply Order' or 'Withdrawal Order' or 'Work Order' or 'Consultancy Contract' or 'Contract for Services', 'rate contract' or 'framework contract' or 'Letter of Award – LoA' (letter or memorandum communicating to the Consultant the acceptance of his Proposal) or 'Agreement' ora 'repeat order' accepted/ acted upon by the Consultant in specific contexts), means formal legal agreement in writing relating to the subject matter of procurement, entered into between the Procuring Entity and the Consultant on mutually acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the country;
5) "Consultant" (as a participant in a Procurement Process - including the term 'contractor', 'bidder', 'tenderer', participant' or 'service provider' in specific contexts)means any person or firm or company, including any member of a consortium or joint venture, every artificial juridical person not falling in any of the descriptions of Consultants stated hereinbefore, including any agency branch or office controlled by such person, participating in a

Procurement Process;

6) “Consultant” (as a contract holder - including the terms ‘Supplier’ or ‘Service Provider’ or ‘Contractor’ or ‘Firm’ or ‘Vendor’ or ‘Successful Consultant’ in specific contexts) means the person, firm, company, or Joint Venture with whom the contracts entered into and shall be deemed to include the Consultant's successors (approved by the Procuring Entity), agents, Sub-consultant, representatives, heirs, executors, and administrators as the case may be unless excluded by the terms of the contract;
7) “Contract Manager” means (as distinct from Team Leader of the Consultant) the Procurement Officer or any other officer or a third-party agency who has been assigned the authority to take all actions on behalf of the Procuring Entity during the execution of the contract by the Consultant;
8) “Day”, “Month”, and “Year” shall mean respectively calendar day, month or year(unless reference to financial year is apparent from the context);
9) “Effective Date” means the date on which this Contract comes into force and effect as per the Contract;
10) “Experts” means, collectively, Key Experts, Non-Key Experts, or any other personnelof the Consultant, Sub-consultant or JV member(s) assigned by the Consultant toperform the Services or any part thereof under the Contract;
11) "Goods" (including the terms ‘Stores’, and ‘Material(s)’ in specific contexts) includes all articles, materials, commodities, livestock, medicines, furniture, fixtures, raw material, consumables, spare parts, instruments, machinery, equipment, industrial plant, vehicles, aircraft, ships, railway rolling stock assemblies, sub-assemblies, accessories, a group of machines comprising an integrated production process or such other categories of goods or intangible, products like technology transfer, licenses, patents or other intellectual properties (but excludes books, publications, periodicals, etc., for a library), in specific contexts, procured or otherwise acquiredby a Procuring Entity. Any reference to Goods shall be deemed to include small work or some services that are incidental or consequential to the supply of such goods;
12) “Government" means the Central Government or a State Government, as the case may be and includes agencies and Public Sector Enterprises under it in specific contexts;
13) “Intellectual Property Rights” (IPR) means the intellectual property owner's rights concerning possession/ exploitation of such property by others of tangible or intangible intellectual property, including rights to Patents, Copyrights, Trademarks, Industrial Designs, Geographical indications (GI);
14) “Joint Venture (JV or JV/C)” means an association or a Consortium with or without a legal personality distinct from that of its members, of more than one entity where one member has the authority to conduct all businesses for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Procuring Entity for the performance of the Contract.;
15) “Key Expert(s)” or “Key Personnel” or “Key Professional” means an individual professional (usually identified by name) whose skills, qualifications, knowledge, and experience are critical to the performance of the Services under the Contract and whose Curricula Vitae (CV) was considered in the technical evaluation of the Consultant’s proposal;
16) “Non-Key Expert(s)” means an individual professional (usually not identified by name) provided by the Consultant or its Sub-consultants to perform the Services or any part thereof under the Contract;
17) “Parties”: The parties to the contract are the "Consultant" and the “Procuring Entity”, as defined in GCC clause 2.4;
18) “Performance Security” (includes the terms ‘Security Deposit’ or ‘Performance Bond ’‘Performance Bank Guarantee’ or other specified financial instruments in specific contexts) means a monetary guarantee to be furnished by the successful Consultant or Contractor in the form prescribed for the due performance of the contract;

19) “Procurement” (in the context of Public/ Government ‘procurement’ or ‘Purchase’, or ‘Acquisition’ including an award of Public-Private Partnership projects, in specific contexts) means the acquisition of Goods/ Services/ works or a combination thereof by way of purchase, lease, license or otherwise, either using public funds or any other source of funds (e.g. grant, loans, gifts, private investment etc.) by a Procuring Entity, whether directly or through an agency with which a contract for procurement is entered into, but does not include any acquisition without consideration. The term “procure”/ “procured” or “purchase”/ “purchased” shall be construed accordingly;
20) “Procuring Entity” means the entity in The Procuring Organization procuring Goods, Works, or Services;
21) “Procurement Officer” means the officer signing the Letter of Award (LoA) and/or the contract on behalf of the Procuring Entity;
22) “Procurement Process” (or “Tender”; “RFP”; “RFP”, “Tender Enquiry” in specific contexts): ‘Procurement Process’ is the whole process from the publishing of the RFP Document to the resultant award of the contract. ‘RFP Document’ means the document (including all its sections, appendices, forms, formats, etc.) published by the Procuring Entity to invite Proposals in a Procurement Process. The RFP Document

    and Procurement Process may be generically and interchangeably referred to as “Bid Document”, “Tender" or " Tender Enquiry, " which would be clear from context without ambiguity;
23) "Proposal" (including the term ‘tender’, ‘offer’, ‘quotation’ or ‘bid’ in specific contexts) means an offer to supply goods, services or execution of works made as per the terms and conditions set out in a document inviting such offers;
24) “Services” means the activities to be performed by the Consultant under this Contract, as described in Appendix A thereto;
25) “Signed” means ink signed or digitally signed with a valid Digital Signature as per IT Act 2000 (amended from time to time). It also includes stamped, except in the case of a Letter of Award or amendment thereof;
26) “Sub-consultant” means a person or corporate body with an agreement with the Consultant to carry out a specific part of the ‘Services’ while the Consultant remains solely liable for the execution of the Contract;
27) “Variation” means an instruction given by the Contract Manager, which varies the scope, quantum or performance standards of the Service performed;
28) “Works” refer to any activity involving construction, fabrication, repair, overhaul, renovation, decoration, installation, erection, excavation, dredging, and so on, which make use of a combination of one or more engineering designs, architectural design, material and technology, labour, machinery, and equipment.

1.3. Document Conventions

All words and phrases defined in GCC-clause 1.2 are written as ‘Capitalised words’ and shall have the defined meaning. The rest of the words shall be as per grammar, inter-alia ‘Services’ shall indicate the definition given in the GCC, while ‘services’ shall have the usual dictionary meaning.

1.4. Abbreviations:

AITC	Appendix to Instructions To Consultants
BOQ	Bill of Quantities
BSD	Bid Securing Declaration
CV	Curriculum Vitae
EMD	Monetary guarantee to be furnished by a Consultant alongwith its proposal
FBS	Fixed Budget Selection
GCC	General Conditions of Contract
GST	Goods and Services Tax
GSTIN	GST Identification Number

GTE	Global Tender Enquiry (International Competitive Bidding) HSN
	Harmonized System of Nomenclature
IEM	Independent External Monitor
IPR	Intellectual Property Rights
ITC	Instructions To Consultants
JV/C	Joint Venture/ Consortium
LCS	Least Cost Selection
LoA	Letter of Award (Acceptance) QCBS
	Quality and Cost-Based Selection
RFP	Request for Proposal
RFPL	Request for Proposal Letter
SCC	Special Conditions of Contract
TIA	Tender Inviting Authority
TIS	Tender Information Summary
TOR	Terms of Reference

2. The Contract

2.1. Language of Contract

The contract and all subsequent correspondence documents, during its execution, between the consultant and the Procuring Entity shall be written in the Language (hereinafter called the contract's language) as stipulated in the Contract (or, if not so specified, in English). However, the language of any printed literature furnished by a Consultant may be written in any other language provided a certified translation accompanies the same in the contract's language. For purposes of interpretation, translation in the contract's language shall prevail.

2.2. The Entire Agreement

This Contract and its documents (referred to in GCC-clause 2.5 below) constitute the entire agreement between the Procuring Entity and the Consultant and supersede all other communications, negotiations, and agreements (whether written or oral) of the Parties made before the date of this Contract. No agent or representative of either Party has the authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not outlined in this Contract.

2.3. Severability

If any provision or condition of this Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of the Contract or any of its other provisions and conditions.

2.4. Relationship between Parties

1) The parties to the contract are the Consultant and the Procuring Entity, as nominated in the contract.
2) Nothing contained herein shall be construed as establishing a relationship in the nature of master and servant or principal and agent between the Procuring Entity and the Consultant. The Consultant, subject to this Contract, is legally the main principal/ master of the Experts and Sub-consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.
3) **Authority of Member in Charge:** In case the Consultant is a Joint Venture, the members hereby authorize the member specified in the contract to act on their behalf in exercising all the Consultant's rights and obligations towards the Procuring Entity under this Contract, including without limitation the receiving of instructions and payments from the Procuring Entity.

4) **Authorised Representative:** Any action required or permitted to be taken and any document required or permitted to be executed under this Contract by the Procuring Entity or the Consultant may be taken or executed by the officials specified in the contract.
5) **Good Faith:** The Parties shall act in good faith concerning each other's rights underthis Contract and adopt all reasonable measures to ensure the realization of the objectives of this Contract. The Consultant shall always act, in respect of any matter relating to this Contract or the Services, as a faithful adviser to the Procuring Entity and shall at all times support and safeguard the Procuring Entity's legitimate interests in any dealings with the third parties.

2.5. Contract Documents and their Precedence

The following conditions and documents in indicated order of precedence (higher to lower) shall be considered an integral part of the contract, irrespective of whether these are not appended/ referred to in it. Any generic reference to 'Contract' shall imply reference to all these documents as well:

1) Valid and authorized Amendments issued to the contract.
2) The Agreement consisting of the initial paragraphs, recitals, and other clauses, including the appendices annexed to it and signatures of Procuring Entity, set forth immediately before the GCC;
3) Appendix A: Terms of Reference;
4) Appendix B: Key Experts;
5) Appendix C – Remuneration Cost Estimates;
    a) Annex to Appendix C: Breakdown of Agreed Fixed Rates in Consultant's Contract;
6) Appendix D – Reimbursable Expenses Cost Estimates;
7) the Letter of Award (LoA), if issued
8) the SCC
9) the GCC
10) the Consultant's Proposal;
11) any other document listed in the contract as forming part of this Contract.
12) Integrity Pact, signed by both JV Members.

2.6. Modifications/ Amendments, Waivers and Forbearances

2.6.1 Modifications/ Amendments of Contract

1) After the contract documents have been signed, no modified provisions shall be applicable unless the Procuring Entity suo-moto or, on request from the Consultant,by written order, amend the contract, at any time during the currency of the contract,by making alterations and modifications within the general scope of the Contract. Requests for changes and modifications in the Contract may be submitted in writing by the Consultant to the Procuring Entity.
2) If the Consultant does not agree to the suo-moto modifications/ amendments made by the Procuring Entity, he shall convey his views within 14 days from the date of amendment/ modification. Otherwise, it shall be assumed that the Consultant has consented to the amendment.
3) Any verbal or written arrangement abandoning, modifying, extending, reducing, or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Procuring Entity unless and until the same is incorporated in a formal instrument and signed by the Procuring Entity, and till then the Procuring Entity shall have the right to repudiate such arrangements.

2.6.2 Waivers and Forbearance

The following shall apply concerning any waivers, forbearance, or similar action taken under this Contract:

1) Any waiver of a Procuring Entity's rights, powers, or remedies under this Contract must be in writing, dated, and signed by an authorized representative of the Procuring Entity granting such a waiver and must specify the terms under which the waiver is being granted.

2) No relaxation, forbearance, delay, or indulgence by Procuring Entity in enforcing any of the terms and conditions of this Contract or granting of an extension of time by Procuring Entity to the Consultant shall, in any way whatsoever, prejudice, affect, or restrict the rights of Procuring Entity under this Contract, neither shall any waiver by Procuring Entity of any breach of Contract operate as a waiver of any subsequent or continuing breach of Contract.

3. Governing Laws and Jurisdiction

3.1. Governing Laws and Jurisdiction

1) This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of India for the time being in force.
2) Irrespective of the place of delivery, the place of performance or the place of payments under the contract, the contract shall be deemed to have been made at the place from which the Letter of Award (LoA, or the contract Agreement, in the absence of LoA) has been issued. The courts of such Delhi shall alone have jurisdiction to decide any dispute arising out or in respect of the contract.

3.2. Changes in Laws and Regulations

Unless otherwise stipulated in the contract, if after the deadline for the Proposal submission (Techno-commercial), any law, regulation, ordinance, order or bye-law having the force of law is enacted, promulgated, abrogated, or changed in India (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/ or the contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased as per GCC clause 2.6, by agreement between the Parties hereto, to the extent that the Consultant has thereby been affected in the performance of any of its obligations under the contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the applicable price adjustment provisions.

4. Communications

4.1. Communications

1) All communications under the contract shall be served by the parties to each other in writing, in the contract's language, and served in a manner customary and acceptable in business and commercial transactions.

2) The effective date of such communications shall be either the date when delivered to the recipient or the effective date mentioned explicitly in the communication, whichever is later.

3) No communication shall amount to an amendment of the terms and conditions of the contract, except a formal letter of amendment of the Contract expressly so designated.

4) Such communications would be an instruction, a notification, an acceptance, a certificate from the Procuring Entity, or a submission or a notification from the Consultant. A notification or certificate required under the contract must be communicated separately from other communications.

4.2. Persons signing the Communications

For all purposes of the contract, including arbitration, thereunder all communications to the other party shall be signed by:

1) **On behalf of the Consultant:** The person who has signed the contract on behalf of the Consultant shall sign all correspondences. A person signing communication in respect of the contract or purported to be on behalf of the Consultant, without disclosing his authority to do so, shall be deemed to warrant that he has authority to bind the Consultant. If it is discovered at any time that the person so signing has no authority to do so, the Procuring Entity reserves its right, without prejudice to any other right or remedy, to terminate the contract for default in terms of the contract and/ or avail any or all the remedies thereunder and hold such person personally and/ or the Consultant liable to the Procuring Entity for all costs and damages arising from such misdemeanours.

2) **On behalf of the Procuring Entity:** Unless otherwise stipulated in the contract, the Contract Manager signing the contract shall administer the contract and sign communications on behalf of the Procuring Entity. Paying Authorities mentioned in the contract shall also administer respective functions during Contract Execution.

4.3. Address of the parties for sending communications by the other party.

For all purposes of the contract, including arbitration, thereunder, the address of parties to which the other party shall address all communications and notices shall be:

1) The Consultant's address as mentioned in the contract, unless the Consultant has notified change by a separate communication containing no other topic to the Procuring Entity. The Consultant shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid, and
2) The Procuring Entity's address shall be the one mentioned in the contract. The Consultant shall also send additional copies to officers of the Procuring Entity presently dealing with the contract.
3) In case of communications from the Consultant, copies of communications shall be marked to the Contract Manager and the Procuring Entity's officer signing the contract and as relevant to the Paying Authorities mentioned in the contract. Unless specified before the contract's start, the Procuring Entity and the Consultant shall notify each other if additional copies of communications are to be addressed to additional addresses.

5. Consultant's Obligations and restrictions on its Rights

5.1. Changes in Constitution/ financial stakes/ responsibilities Business and Contract's the Consultant must proactively keep the Procuring Entity informed of any changes in its constitution/ financial stakes/ responsibilities during the execution of the contract.

1) Where the Consultant is a partnership firm, the following restrictions shall apply to changes in the constitution during the execution of the contract:
    a) A new partner shall not be introduced in the firm except with the previous consent in writing of the Procuring Entity, which shall be granted only upon execution of a written undertaking by the new partner to perform the contract and accept all liabilities incurred by the firm under the contract before the date of such undertaking.
    b) On the death or retirement of any partner of the Consultant firm before the complete performance of the contract, the Procuring Entity may, at his option, terminate the contract for default as per the contract and/ or avail any or all remedies thereunder.
    c) If the contract is not terminated as provided in Sub-clause (b) above, notwithstanding the retirement of a partner from the firm, that partner shall continue to be liable under the contract for acts of the firm until a copy of the public notice given by him under Section 32 of the Partnership Act, has been sent by him to the Procuring Entity in writing or electronically.

5.2. Obligation to Maintain Eligibility and Qualifications

The contract has been awarded to the Consultant based on evaluation and scoring criteria stipulated in the RFP process based on eligibility and qualifications criteria stipulated therein. The Consultant is contractually bound to maintain compliance with all such criteria during the execution of the contract. Any change which would vitiate the basis on which the Consultant was shortlisted or awarded the contract should be pro-actively brought to the notice of the Procuring Entity within 7 days of it coming to the Consultant's knowledge.

5.3. Restriction on Potential Conflict of Interests

1) Neither the Consultant nor its Sub-consultants nor the Personnel shall engage, either directly or indirectly, in any of the following activities:
    a) During this Contract's term, any business or professional activities in India that would conflict with the activities assigned to them.
    b) After this Contract's termination, such other activities as may be stipulated in the contract.

2) Furthermore, if the Consultant, as part of the Services, has the responsibility of advising the Procuring Entity on the procurement of goods, works or services, the Consultant shall at all times exercise such responsibility in the best interest of the Procuring Entity. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of the Procuring Entity.

3) During the term of this Contract and after its termination, the Consultant and its affiliates, as well as any Sub-consultant and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the subject Service of this Contract and any continuation thereof) for any project resulting from or closely related to the subject Services of this Contract.

4) The payment of the Consultant according to (GCC Clause 10.5) shall constitute the Consultant's only payment in connection with this Contract. The Consultant shall not accept for its benefit any trade commission, discount, or similar payment in connection with activities under this Contract or the discharge of its obligations hereunder. The Consultant shall use its best efforts to ensure that any Sub- consultants and the Experts and agents of either shall not receive any additional payment.

5) The Consultant has an obligation and shall ensure that its Experts and Sub- consultants shall have an obligation to disclose any actual or potential conflict that impacts their capacity to serve the best interest of the Procuring Entity, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant and/ or the termination of the Contract.

5.4. Consequences of breach by Constituents of a Consultant

Should the Consultant or any of its partners, its Sub-consultants, any of its members in case of JV/C, or their Personnel commit a default or breach of GCC-clause 5.1 to 5.7, the Consultant (in case of JV, by the Lead Member, or in the case of the Lead Member being the defaulter, by the member nominated as Lead Member of the remaining JV/C)shall remedy such breaches within 21 days, keeping the Procuring Entity informed. Procuring Entity may call upon the Lead Member to assign the work of the defaulting member to any other equally competent party acceptable to the Procuring Entity. However, at its discretion, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder. The decision of the Procuring Entity as to any matter or thing concerning or arising out of GCC-clause 5.1 to 5.7 or on any question whether the Consultant or any partner of the Consultant firm has committed a default or breach of any of the conditions shall be final and binding on the Consultant.

5.5. Assignment and Sub-contracting

1) the Consultant shall not, save with the previous consent in writing of the Procuring Entity, sublet, transfer, or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever to any Sub-consultant.

2) The Consultant shall notify the Procuring Entity in writing of all such Sub-consultants, if not already stipulated in the contract, in its original Proposal or later. Such notification shall not relieve the Consultant from any of its liability or obligation under the terms and conditions of the contract. Sub-consultants must comply with and should not circumvent the Consultant's compliance with its obligations under GCC-clause 5.1 to 5.7.

3) If the Consultant sublets or assigns this Contract or any part thereof without such permission, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder.

4) Entering into a subcontract for the performance of any part of the Services is not permitted except for specific survey and investigation work after approval of Authority. Failure to comply with this provision shall lead to debarment of the DPR consultant for a minimum of 2 years apart from recovery of entire contract amount as penalty for the same;

5.6. Obligation to Indemnify Procuring Entity

5.6.1 For breach of IPR Rights

1) the Consultant shall indemnify and hold harmless, free of costs, the Procuring Entity and its employees and officers from and against all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which may arise in respect of the Services provided by the Consultant under this Contract, as a result of any infringement or alleged infringement of any patent, utility model, registered design, copyright, or
   other Intellectual Proprietary Rights (IPR) or trademarks, registered or otherwise existing on the date of the contract arising out of or in connection with:
   a) Any design, data, drawing, specification, or other documents or Services provided or designed by the Consultant for or on behalf of the Procuring Entity.
   b) The sale by the Procuring Entity in any country of the services/ products produced by the Services delivered by Consultant, and
   c) The delivery of the Services by the Consultant or the use of the Services at the Procuring Entity's Site
2) Such indemnity shall not cover any use of the Services or any part thereof other than for the purpose indicated by or to be reasonably inferred from the contract, neither any infringement resulting from the use of the Services or any part thereof, or any service/ products produced thereby in association or combination with any other service, equipment, plant, or materials not delivered by the Consultant.
3) If any proceedings are brought, or any claim is made against the Procuring Entity arising out of the matters referred above, the Procuring Entity shall promptly notify the Consultant. At its own expense and in the Procuring Entity's name, the Consultant may conduct such proceedings and negotiations to settle any such proceedings or claim, keeping the Procuring Entity informed.
4) If the Consultant fails to notify the Procuring Entity within twenty-eight (28) days after receiving such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its behalf at the risk and cost to the Consultant.
5) At the Consultant's request, the Procuring Entity shall afford all available assistance to the Consultant in conducting such proceedings or claims and shall be reimbursed by the Consultant for all reasonable expenses.

5.6.2 For Losses and Damages Caused by Consultant

1) the Consultant shall indemnify and keep harmless the Procuring Entity, from and against, all actions, suit proceedings, losses, costs, damages, charges, claims, and demands of every nature and description brought or recovered against the Procuring Entity because of any act or omission or default or negligence or trespass of the Consultant, his agents, or employees despite all reasonable and proper precautions may have been taken, during the execution of the Services. The
   Consultant shall make good at his own expense all resulting losses and/ or damages to:
   (a) the Services themselves or
   (b) any other property of the Procuring Entity or
   (c) the lives, persons, or property of others
2) In case the Procuring Entity is called upon to make good such costs, loss, or damages or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof, the amount of any costs or charges including costs and charges in connection with legal proceedings, which the Procuring Entity may incur about it, shall be charged to the Consultant. All sums payable by way of compensation under any of these conditions shall be considered reasonable compensation to be applied to the actual loss or damage sustained and whether or not any damage shall have been sustained.

3) The Procuring Entity shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings, or in anticipation of legal proceedings being instituted consequent on the action or default of the Consultant,to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Consultant, as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the Consultant.

5.7. Confidentiality, Secrecy and Property and IPR Rights

5.7.1 Property Rights

1) Physical assets, e.g., Equipment, vehicles and materials made available to the Consultant by the Procuring Entity or purchased by the Consultant wholly or partly with funds provided by the Procuring Entity, shall be the property of the Procuring Entity and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make an inventory of such equipment, vehicles, and materials available to the Procuring Entity and dispose of such equipment, vehicles, and materials in accordance with the Procuring Entity's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Procuring Entity in writing, shall insure them at the expense of the Procuring Entity in an amount equal to their total replacement value.

   Intangible assets, e.g., license agreements, Software Packages, and memberships for purposes of performance of this contract provided by the Procuring Entity or purchased by the Consultant wholly or partly with funds provided by the Procuring Entity, shall be the property of the Procuring Entity and shall be registered accordingly., These shall be obtained in the name of the Procuring entity after obtaining the Procuring Entity's prior written approval. The Procuring entity shall have an encumbered right to use such assets, even after the termination of the Contract. Any restrictions about the future use of these documents and software shall be specified in the Contract.

5.7.2 IPR Rights

All deliverables, outputs, plans, drawings, specifications, designs, reports, and other documents and software submitted by the Consultant under this Contract shall become and remain the property of the Procuring Entity and shall be subject to laws of copyright and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Procuring Entity, together with a detailed inventory thereof. The Consultant may retain a copy of such documents and software but shall not use it for commercial purposes.

5.7.3 Confidentiality

All documents, drawings, samples, data, associated correspondence or other information furnished by or on behalf of the Procuring Entity to the Consultant in connection with the contract, whether such information has been furnished before, during or following completion or termination of the contract, are confidential and shall remain the property of the Procuring Entity and shall, without the prior written consent of Procuring Entity neither be divulged by the Consultant to any third party, nor be used by him for any purpose other than the design, procurement, or other services and activities required for the performance of this Contract. If advised by the Procuring Entity,all copies of all such information in original shall be returned on completion of the Consultant's performance and obligations under this contract.

5.7.4 Secrecy

If the contract declares the subject matter of this Contract as coming under the Official Secrets Act, 1923 or if the contract is marked as "Secret", the Consultant shall take all reasonable steps necessary to ensure that all persons employed in any connection with the contract, have acknowledged their responsibilities and penalties for violations under the Official Secrets Act and any regulations framed thereunder.

5.7.5 Restrictions on the Use of Information

1) Without the Procuring Entity's prior written consent, the Consultant shall not use the information mentioned in the sub-clauses above except for performing this contract.
2) The Consultant shall treat and mark all information as confidential (or Secret – as the case may) and shall not, without the written consent of the Procuring Entity, divulge to any person other than the person(s) employed by the Consultant in the performance of the contract. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for such performance for this contract.
3) Notwithstanding the above, the Consultant may furnish to its holding company or its Sub-consultant(s) such documents, data, and other information it receives from

   the Procuring Entity to the extent required for performing the contract. In this event, the Consultant shall obtain from such holding company/ Sub-consultant(s) an undertaking of confidentiality (or secrecy – as the case may be) similar to that imposed on the Consultant under the above clauses.
4) The obligation of the Consultant under sub-clauses above, however, shall not apply to information that:
   a) the Consultant needs to share with the institution(s) participating in the financing of the contract;
   b) now or hereafter is or enters the public domain through no fault of Consultant;
   c) can be proven to have been possessed by the Consultant at the time of disclosure and which was not previously obtained, directly or indirectly, from the Procuring Entity; or
   d) otherwise lawfully becomes available to the Consultant from a third party with no obligation of confidentiality.
5) The above provisions shall not in any way modify any undertaking of confidentiality (or Secrecy – as the case may be) given by the Consultant before the contract date in respect of the contract, the RFP Document, or any part thereof.
6) The provisions of this clause shall survive completion or termination for whatever reason of the contract.

5.7.6 Protection and Security of Personal Data

1) Where the Consultant is processing Personal Data for the Procuring Entity (as part of Services), the Consultant shall:
   a) Process the Personal Data only as per instructions from Procuring Entity (which may be specific instructions or instructions of a general nature) as set out in this Contract or as otherwise notified by Procuring Entity;
   b) Comply with all applicable laws;

c) Process the Personal Data only to the extent and in such manner as is necessary for the discharge of the Consultant's obligations under this Contract or as is required by Law or any Regulatory Body;

d) Implement appropriate technical and organizational measures to protect Personal Data against unauthorized or unlawful Processing and accidental loss, destruction, damage, alteration, or disclosure. These measures shall be appropriate to the harm which might result from any unauthorized or unlawful Processing, accidental loss, destruction, or damage to the Personal Data and having regard to the nature of the Personal Data which is to be protected;

e) Take reasonable steps to ensure the reliability of its staff and agents who may have access to the Personal Data;

f) Obtain prior written consent from the Authority to transfer the Personal Data to any Sub-consultant for the provision of the Services;

g) Not cause or permit the Personal Data to be transferred, stored, accessed, viewed, or processed outside of India without the prior written consent of the Procuring Entity.

h) Ensure that all staff and agents required to access the Personal Data are informed of the confidential nature of the Personal Data and comply with the obligations set out in this clause.

i) Ensure that none of the staff and agents publishes or disclose any personal data to any third parties unless directed in writing to do so by the Procuring Entity.

j) Not disclose Personal Data to any third parties in any circumstances other than with the written consent of the Procuring Entity or compliance with a legal obligation imposed upon the Procuring Entity;

2) Notify the Procuring Entity (within five Working Days) if it receives the;

a) a request from an employee of Procuring Entity to have access to his or other employees' Personal Data; or

b) a complaint or request relating to the Procuring Entity's obligations under the law;

3) The provision of this clause shall apply during the contract period and indefinitely after its expiry.

5.8. Performance Bond/ Security

1) Within twenty-one days (or any other period mentioned in RFP Document or Contract) after the issue of the Letter of Award (LoA or the contract, if LoA is skipped)by the Procuring Entity, the Consultant shall furnish to the Procuring Entity performance security, valid up to sixty days (or any other period mentioned in RFP Document or Contract) after the date of completion of all contractual obligations by the Consultant.

2) The amount of Performance security shall be higher of 5% of the contract Price for QCBS mode or as equal to PBG quote in QBS mode, denominated in Indian Rupees or the currency of the contract and shall be in one of the following forms:

a) Unless otherwise stipulated in the RFP Document or the Contract, Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt from any commercial bank in India, or online payment in an acceptable form safeguarding the Procuring Entity's interest, or

b) Bank Guarantee (including an e-Bank Guarantee) issued by a commercial bank in India, in the prescribed form provided in Appendix D-1 to Format 1:Contract Form.

3) If the Consultant, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful forthe Procuring Entity at its discretion to annul the award and forfeit the EMD (or enforce Bid Securing Declaration, if that was submitted in lieu of Bid Security),

besides taking any other administrative punitive action like 'Removal from List of Registered Suppliers' etc.

4) If the Consultant fails to maintain the requisite Performance Security during the Contract's currency, it shall be lawful for the Procuring Entity at its discretion.
   (a) treat it as a breach of contract and avail any or all contractual remedies provided for breaches/ default, including termination of the Contract for Default, or
   (b) without terminating the Contract, recover from the Consultant the amount of such security deposit by deducting the amount from the pending bills of the Consultant under the contract or any other contract with the Procuring Entity or the Government or any person contracting through the Procuring Organisation or otherwise, howsoever as per GCC-clause 10.4.
5) If a contract is amended, the Consultant shall furnish amended Performance Security with revised value and validity within twenty-one days of the issue of such an amendment.
6) The Procuring Entity shall be entitled, and it shall be lawful on his part,
   (a) to deduct from the performance securities or to forfeit the said security in whole or in part in the event of:
      i) Any default, failure, or neglect on the part of the Consultant in the fulfilment or performance in all respect of this contract or any other contract with the Procuring Organisation or any part thereof
      ii) for any loss or damage recoverable from the Consultant which the Procuring Entity may suffer or be put to for reasons of or due to the above defaults/ failures/ neglect
   (b) and in either of the events aforesaid to call upon the Consultant to maintain the said performance security at its original limit by making further deposits, provided further that the Procuring Entity shall be entitled, and it shall be lawful on his part, to recover any such claim from any sum then due or which at anytime after that may become due to the Consultant for similar reasons.
7) Subject to the sub-clause above, the Procuring Entity shall release the performance security without any interest to the Consultant on completing all contractual obligations. Alternatively, upon the Consultant submitting a suitable separate Defect Liability Security for the duration of Defect Liability obligations, the original Performance Guarantee Security shall be released mutatis mutandis.
8) No claim shall lie against the Procuring Entity regarding interest on cash deposits, Government Securities, or depreciation thereof.

5.9. Permits, Approvals and Licenses

Whenever the Services and incidental Goods/ Works delivery requires the Consultant to obtain permits, approvals, and licenses from local public authorities or any third party, it shall be the Consultant's sole responsibility to obtain these and keep them current and valid. Such requirements may include but not be restricted to licences or environmental clearance if required. If requested by the Consultant, the Procuring Entity shall make its best effort to assist the Consultant in complying with such requirements in a timely and expeditious manner without diluting the Consultant's responsibility in this regard.

5.10. Insurances

The Consultant (s) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at its (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Procuring Entity, insurance against the risks, and for the coverage, as stipulated in the contract or any applicable law including Labour Codes; and at the Procuring Entity's request, shall provide evidence to the Procuring Entity showing that such insurance has been taken out and maintained and that the current premiums have been paid. The Consultant shall ensure that such insurances are in place before commencing the Services as stated in GCC clause 9.2. Alterations to the terms of insurance shall not be made without the approval of the Contract Manager.

5.10.1 Limitation of the Consultants' Liability towards the Client

(a) Except in case of negligence or willful misconduct on the part of the Consultants or on the part of any person or firm acting on behalf of the Consultants in carrying out the Services, the Consultants, with respect to damage caused by the Consultants to the Client's property, shall not be liable to the Client:

(i) for any indirect or consequential loss or damage; and

(ii) for any direct loss or damage that exceeds (A) the total payments for Professional Fees and Reimbursable Expenditure made or expected to be made to the Consultants hereunder, or (B) the proceeds the Consultants may be entitled to receive from any insurance maintained by the Consultants to cover such a liability, whichever of (A) or (B) is higher.

(b) This limitation of liability shall not affect the Consultants' liability, if any, for damage to Third Parties caused by the Consultants or any person or firm acting on behalf of the Consultants in carrying out the Services.

5.10.2 The risks and the coverage shall be as follows:

(a) Third Party motor vehicle liability insurance as required under Motor Vehicles Act, 1988 in respect of motor vehicles operated in India by the Consultants or their Personnel or any Sub consultants or their Personnel for the period of consultancy.

(b) Third Party liability insurance with a minimum coverage, for Rs.1.00 million for the period of consultancy.

(c) Insurance against loss of or damage to(i) equipment purchased in whole or in part with funds provided under this Contract, (ii) the Consultants' property used in the performance of the Services, and(iii)any documents prepared by the Consultants in the performance of the Services.

(d) (i) The Consultant shall provide to National Highway Authority of India Professional Liability Insurance (PLI) for a period of **Five years** beyond completion of Consultancy services or as per Applicable Law, whichever is higher.

(ii) The Consultant will maintain at its expense PLI including coverage for errors and omissions caused by Consultant's negligence in the performance of its duties under this agreement, **(A)** For the amount not exceeding total payments for Professional Fees and Reimbursable Expenditures made or expected to be made to the Consultants hereunder OR **(B)** the proceeds, the Consultants may be entitled to receive from any insurance maintained by the Consultants to cover such a liability, whichever of **(A) or (B) is higher**.

(iii) The policy should be issued only from an Insurance Company operating in India.

(iv) The policy must clearly indicate the limit of indemnity in terms of "Any One Accident" (AOA) and "Aggregate limit on the policy" (AOP) and in no case should be for an amount less than stated in the contract.

(v) If the Consultant enters into an agreement with National Highway Authority of India in a joint venture or 'in association', the policy must be procured and provided to National Highway Authority of India by the joint venture/in association entity and not by the individual partners of the joint venture/ association.

(vi) The contract may include a provision thereby the Consultant does not cancel the policy midterm without the consent of National Highway Authority of India .The insurance company may provide an undertaking in this regard.

(e) Employer's liability and workers' compensation insurance in respect of the Personnel of the Consultants and of any Sub consultant, in accordance with the relevant provisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate; and all insurances and policies should start from the date of commencement of services and remain effective as per relevant requirements of contract agreement.

5.11. Accounting, Inspection and Auditing

The Consultant shall keep and make all reasonable efforts to cause its Sub-consultants to keep accurate and systematic accounts and records in respect of the Services and in such form and detail as shall identify relevant time changes and costs and as per accounting principles prescribed in India.

The Consultants (i) shall keep accurate and systematic accounts and records in respect of the Services hereunder, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges and cost, and the bases thereof (including the bases of the Consultants' costs and charges), and (ii) shall permit the Client or its designated representative periodically, and up to one year from the expiration or termination of this Contact, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Client.

5.12. Book Examination Clause

Deleted.

5.13. Legal Compliance

The Consultant shall perform the Services in accordance with the Contract and the Applicable Law and shall take all practicable steps to ensure that any of its Experts and Sub-consultants comply with the Applicable Law.

5.14. Custody and Return of the Procuring Entity's Assets loaned to Consultant

1) The contractors shall sign accountable receipts for all documents and materials or other assets/ properties made over to them by the Contract Manager on behalf of the Procuring Entity. All such assets shall be deemed in good condition when received by the Consultant unless he has notified the Procuring Entity to the contrary within twenty-four hours of receipt. Otherwise, he shall be deemed to have waived the right to do so at any subsequent stage.
2) These assets shall remain the property of the Procuring Entity, and the Consultant shall take all reasonable care of all such assets. The Consultant shall be responsible for all damage or loss from whatever cause while assets are possessed or controlled by the Consultant, staff, workmen, or agents.
3) Where the Consultant insures such assets against loss or fire at the request of the Procuring Entity, such insurance shall be deemed to be by way of additional precaution and shall not prejudice the Consultant's liability as aforesaid.
4) The Consultant shall return all such assets in good order and repair, reasonable wear and tear excepted, before the completion/ closure/ termination of the contract and shall be responsible for any failure to account for the same or any damage done to that as assessed by the Procuring Entity whose decision shall be final and binding.

6. Procuring Entity's Obligations

6.1. Assistance by the Procuring Entity

Unless otherwise specified in the SC, the Client shall use its best efforts to ensure that the Government shall:

- provide the Consultants, Sub-consultants and Personnel with work permits and such other documents as shall be necessary to enable the Consultants, Sub-consultants or Personnel to perform the Services;
- assist for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in Government's country;
- Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Personnel and their - eligible dependents;
- Issue to officials, agents and representatives of the Government all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services;
- assist the Consultants and the Personnel and any Sub-consultants and or Associates employed by the Consultants for the Services from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity according to the Applicable Law;
- grant to the Consultants, any Sub-consultants and or Associates and the Personnel of either of them the privilege, pursuant to the Applicable Law, of bringing into Government's country reasonable amounts of foreign currency for the purposes of the Services or for the personal use of the Personnel and their dependents and of withdrawing any such amounts as may be earned therein by the Personnel in the execution of the Services: and
- Provide to the Consultants, Sub-consultants and or Associates and Personnel any such other assistance as may be specified in the SC.

2) Issue instructions and information to its officials, agents, and stakeholders for prompt and effective implementation of the Services.
3) Provide to the Consultant any other assistance as specified in the Contract.
4) Access to Project Site: The Procuring Entity warrants that the Consultant shall have, free of charge, unimpeded access to the project site if such access is required for the performance of the Services.

6.2. Facilities to be provided by the Procuring Entity

1) The Procuring Entity shall make available to the Consultant and the Experts, for the performance of the contract, free of any charge (unless otherwise stated therein), the services, facilities, and property described in the 'Terms of Reference' (Appendix A) as per terms and conditions and against appropriate safeguards (including Insurances, Bank Guarantee, Indemnity Bonds, Retention Money etc.) specified therein. The Consultant shall use such property for the execution of the contract and no other purpose whatsoever.

2) In case such services, facilities and property shall not be made available to the Consultant as and when specified in Appendix A, the Parties shall agree on (i) anytime extension that it may be appropriate to grant to the Consultant for the performance of the Services, (ii) how the Consultant shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any,to be made to the Consultant as a result thereof according to GCC clause 10.1.1.

6.3. Counterpart Personnel

1) The Procuring Entity shall make professional and support counterpart personnel available to the Consultant, as specified in Appendix A.
2) If counterpart personnel are not provided by the Procuring Entity to the Consultant as and when specified in Appendix A, the Procuring Entity and the Consultant shall agree on (i) how the affected part of the Services shall be carried out, and (ii) the additional payments, if any, to be made by the Procuring Entity to the Consultant as a result thereof.
3) Professional and support counterpart personnel, excluding Procuring Entity's Contract Management and liaison personnel, shall work under the exclusive direction of the Consultant. If any member of the counterpart personnel fails to perform any work assigned to such member by the Consultant that is adequately consistent with the position occupied by such member, the Consultant may request the replacement of such member, and the Procuring Entity shall not unreasonably refuse to act upon such request.

6.4. Payment Obligation

Considering the Services performed by the Consultant under this Contract, the Procuring Entity shall pay the Consultant for the deliverables specified in Appendix A and in such manner as is provided in the Contract.

7. Scope of Services and Performance Standards

7.1. Scope of Services

1) Services: This contract is for the performance/ delivery of Services of the description, scope/ quantum outlined in Appendix A: 'Terms of Reference' during the contract period specified therein.
2) Incidental Works/ Goods/ Other Services: If so stipulated, the Consultant shall be required to perform/ deliver specified incidental Works/ Goods/ other Services as an integral part of the Services in the contract.
3) Location: The Services shall be performed at such locations as are specified in Appendix A and, where the location of a particular task is not so specified, at such locations, whether in the Procuring Entity's country or elsewhere, as the Procuring Entity may approve.
4) Reporting Requirements: The Consultant shall deliver to the Procuring Entity the reports, deliverables, outputs, and documents specified in Appendix A: 'Terms of Reference', in the form, in the numbers and within the periods outlined in the saidAppendix, besides progress reports as per GCC Clause 9.3.
5) Standard Performance:
    a) The Consultant shall perform and carry out the Services with all due diligence, efficiency, and economy, in accordance with generally accepted professional standards and practices, observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods.

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b) Unless otherwise specified, the performance standards and quality of the Services shall conform to the Terms of Reference as stipulated in the contract or as per best standards in the market, where not so specified.

c) Defects in Services: The Procuring Entity shall promptly notify the Consultant of any identified defects, requesting the correction of the notified defect within a reasonable time. If the Consultant has not corrected notified defect within the time stipulated in the Procuring Entity's notice, the Procuring Entity may suspend payments as per GCC clause 10.6.

6) Consultants' Actions Requiring Client's Prior Approval;- The Consultants shall obtain the Client's prior approval in writing before taking any of the following actions:

(a) appointing such members of the Personnel as are listed in Appendix 'C' ("Consultants' Sub-consultants' Key Personnel") merely by title but not by name;

(b) entering into a subcontract for the performance of any part of the Services, it being understood (i) that the selection of the Sub-Consultant and the terms and conditions of the subcontract shall have been approved in writing by the Client prior to the execution of the subcontract, and (ii) that the Consultants shall remain fully liable for the performance of the Services by the Sub-Consultant and its Personnel pursuant to this Contract; and

(c) taking any action under a civil works contract designating the Consultants as "Authority's Engineer", for which action, pursuant to such civil works contract, the written approval of the Client as "Employer" is required".

7.2. Eligible Services

Unless otherwise stipulated in the Contract, the country of origin of 'Services' and related 'Goods' under the contract shall have their origin in India or other countries (if specified in the Contract). It must conform to the declaration made by the Consultant during regarding Central Government policies restricting the participation of entities from i) Certain countries sharing land borders with India and ii) Countries that restrict the participation of Bidders from India on a reciprocal basis. They should ensure that they continue to be free from such restrictions.

8. Deployment of Resources

8.1. Site and Assets thereon

8.1.1 Site of Service Delivery

1) The site for Service delivery shall be the lands, spaces, and other places on, under,in or through which the Services are to be carried out and any other lands or places provided by the Procuring Entity for the contract.

2) No land or building or any other asset belonging to or in possession of the Procuring Entity shall be occupied/ used by the Consultant without the permission of the Procuring Entity. The Consultant shall not use or allow the site to be used for any purposes other than executing or concerning the execution of the services.

Prohibition of Smoking and Intoxicants: The Consultant shall exercise influence and authority to the utmost extent to secure strict compliance by his staff or any labour employed through Sub-consultants or petty contractors with all the rules and regulations stipulated by the Procuring Entity relating to the access to the project site,including but not limited to

a) Prohibition of Smoking in 'No Smoking Zone' and in Public Places

b) Prohibition of the use of any intoxicating substances including, but not limited to, intoxicating beverages during the service period or on-site or near the site or in any of the facilities, sites, buildings, encampments, or tenements owned, occupied by or within the control of the Consultant or any of his employees.

c) Safety practices relating to Procuring Entity's staff, Public and third parties

d) Maintenance of peace and business-like ambience

8.1.2 Clearance of Site on Completion

1) On completion of the services, the Consultant shall hand over the whole project site to the procuring Entity on 'as it was' basis. No final payment in settlement of the accounts for the Services shall be paid to the Consultant till, in addition to any other condition necessary for final payment, site clearance shall have been affected by him.
2) In the event of failure on the part of the Consultant to comply with this provision within 7 days after receiving notice for clearance of Procuring Entity's site and lands, the Contract Manager shall cause them to be removed in such a way as deemed fit and convenient and cost as increased by supervision and other incidental charges shall be recovered from the Consultant. The Procuring Entity shall not be held liable for any loss or damage to the Consultant's property as may be on the site and due to such removal.

8.2. Key and Non-key Personnel

8.2.1 General Requirements

1) Restrictions on the Employment of Retired Staff or Officers or Managers of Procuring Entity within One Year of their Retirement: the Consultant shall not himself be a retired Government employee of Gazetted rank or engage any employee or associate who is a retired Government employee of Gazetted rank, if such persons have not completed one year (or any other period prescribed by the relevant authority) from the date of retirement, in connection with this Contract in any manner whatsoever without obtaining prior permission of the relevant authority. If the Consultant is found to have contravened this provision, it shall constitute a breach of contract, and Procuring Entity shall be entitled to terminate the contract and/ or avail any or all the remedies thereunder.
2) **Team Lead:** The Consultant, when he is not personally present on the workplace site, shall nominate a Team Lead during working hours, which shall, on receiving reasonable notice, present himself to the Contract Manager. Orders given by the Contract Manager or his representative to the Team Lead shall be deemed to have the same force as if given to the Consultant.
3) The Consultant shall employ and provide qualified and experienced Key and Non-key Experts and Sub-consultants as required to carry out the Services.
4) The Consultants shall be required to form a multi-disciplinary team for this assignment. The consultants' team shall be manned by adequate number of experts with relevant experience in the execution of similar detailed design assignments.
5) 2. List of suggested key personnel to be fielded by the consultant with appropriate man- month of consultancy services is given in Enclosure-A to Section-VI A as per client's assessment.
6) 3. A Manning Schedule for key personnel mentioned above is enclosed as Enclosure- A to Section-VI A along with broad job- description and qualification as Enclosure-B to Section-VI A . The information furnished in Enclosures-A & B to Section-VI A are to assist the Consultants to understand the client's perception about these requirements and shall be taken by the Consultants for the purpose of Financial Proposal and deployment schedule etc. in technical proposal to be submitted by them. Any deviation proposed may be recorded in the comments on TOR. All the key personnel mentioned will be evaluated at the time of evaluation of technical proposal. Consultants are advised in their own interest to frame the technical proposal in an objective manner as far as possible so that these could be properly assessed in respect of points to be given as part of evaluation criteria as mentioned in Data sheet. The bio-data of the key personnel should be signed on every sheet by the personnel concerned and the last sheet of each bio-data should also be signed by the authorized signatory of the Consultants.

7) 4. The Consultants shall establish an office at the project site manned by senior personnel during the course of the surveys and investigations. All the project related office work shall be carried out by the consultant in their site office unless there are special reasons for carrying out part of the office work elsewhere for which prior approval of NHAI shall be obtained. The address of the site office including the personnel manning it including their Telephone and FAX numbers will be intimated by the Consultant to NHAI before commencement of the services.

8) All key personnel and sub professional staff of the DPR Consultants shall use the fingerprint based (biometric) attendance system for marking their daily attendance. Attendance shall be marked at least once a day and anytime during the day. Biometric Attendance System shall be installed by the DPR Consultants at its own cost at the site office and design office in order to facilitate the attendance marking. A copy of attendance records shall be attached at the time of submission of their bills to the NHAI from time to time. Proper justification shall be provided for cases of absence of key personnel/ sub- professional staff which do not have prior approval from Project Director of Concerned stretch. If, Authority so desires, it shall facilitate electronic linking of the attendance system with the Central Monitoring System of Authority.

9) **Fake CV:-** If any case of fake/incorrect/inflated CV is found, it shall be dealt with very severely and would result in all possible penal action including blacklisting from future projects of National Highways Authority of India. This would also apply even when the consulting firm is not successful in getting the assignment. *In case CV of a person is turned out to be fake/incorrect/inflated during the assignment, the consultancy firms will have to refund the salary and perks drawnincluding interest @12% per annumin respect of the person apart from other consequences.* In addition to above, 10% of the salary and perks to be refunded shall be recovered from the Firm as penalty.

8.2.2 Key Personnel

1) The titles, job descriptions, minimum qualifications, and estimated periods of the Consultant's Key Personnel engagement in carrying out the Services are described in Appendix B to the Contract.

2) The Key Experts shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave except as specified in Appendix B, and the Consultant's remuneration shall be deemed to cover these items.

3) Working hours and holidays for Experts are outlined in Appendix B. Foreign Key Experts carrying out Services in India shall be deemed to have commenced or finished work in respect of the Services several days before their arrival in or after their departure from India, as is specified in Appendix B.

4) Any leave-taking by Key Experts shall be subject to the prior approval by the Consultant, who shall ensure that absence for leave purposes shall not delay the progress and or impact adequate supervision of the Services. If Key Experts are not deployed for significant periods, affecting the progress and quality of the assignment, payments may be suspended as per clause 10.6 below.

5) **Resident Team Leader and Coordinator:** The person designated as the Team Leader of the Consultant's Personnel shall be responsible for the coordinated, timely and efficient functioning of the Personnel. In addition, the Consultant shall designate a suitable person from its Head Office as Project Coordinator who shall be responsible for day to day performance of the Services.

6) Substitution of Key Experts:

   a) Unless the Procuring Entity may otherwise agree in writing, no changes shall be made in the Key Experts.

b) In case notice to commence services pursuant to Clause 9.2 of this Contract is not ordered by Client within 120 days of signing of contract the key personnel can excuse themselves on valid grounds, e.g., selection on some other assignment, health problem developed after signing of contract, etc. In such a case no penalty shall be levied on the Firm or on the person concerned. The firm shall however be asked to give a replacement by an equal or better scoring person, whenever mobilization is ordered.

c) In case notice to commence services is given within 120 days of signing of contract the, the Authority expects all the Key Personnel specified in the Proposal to be available during implementation of the Agreement. The Authority will not consider any substitution of Key Personnel except under compelling circumstances beyond the control of the Consultant and the concerned Key Personnel. Such substitution shall be limited to not more than three Key Personnel subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. Replacement of the Team Leader will not normally be considered and may lead to disqualification of the Applicant or termination of the Agreement. Replacement of one Key Personnel shall be permitted subject to reduction of remuneration equal to 5 % (five per cent) of the total remuneration specified for the Key Personnel who is proposed to be replaced. In case of second replacement the reduction in remuneration shall be equal to 10% (ten per cent) and for third and subsequent replacement, such reduction shall be equal to 15% (fifteen per cent). The maximum age limit of replaced key personnel shall be
65 years as on the date of submission of proposal for such replacement. The Consultant shall make all endevours to ensure that replacement of a Key Personnel is approved before the concerned Key Personnel leaves the consultancy assignment, in any case the Consultant shall submit replacement acceptable to Client not more than 3 weeks after the Key Personnel leaves the consultancy assignment, failing which Client may terminate the Contract in pursuance to Clause 12.1 of GC.

d) If the consultant finds that any of the personnel had made false representation regarding his qualification and experience, he may request the Employer for replacement of the personnel. There shall be no reduction in remuneration for such replacement. The replacement shall however be of equal or better score. The personnel so replaced shall be debarred from future projects for 2 years.

e) In case, person permanently employed with the firm is to be replaced, technical score of both the CVs shall be compared excluding the marks given for employment with firm. Replacement would be allowed when the Technical Score (excluding the marks given for employment with firm) of the new key person is equal or better than the existing key person's Technical Score excluding marks assigned for permanent employment with the firm. However, the remuneration of such replacement shall be reduced on proportionate basis in case the overall score of the replacement person is less than the overall score of original person.

f) **Replacement after original contract period is over:-** There shall be no limit on the replacements and no reduction in remunerations shall be made. The replacement shall however be of equal or better score.

g) If the Employer (i) finds that any of the Personnel has committed serious misconduct or has been charged with having committed a criminal action or (ii) has reasonable ground to be dissatisfied with the performance of any of the Personnel, then the consultant shall, at the Employer’s written request specifying the grounds therefore, forthwith provide a replacement with qualifications and experience acceptable to him. For such replacement there will be no reduction in remuneration.

h) If any member of the approved team of a consultant engaged by National Highways Authority of India leaves that consultant before completion of the job, he shall be barred for a period of 6 months to 24 months from being engaged as a team member of any other consultant working (or to be appointed) for any other National Highways Authority of India / MoRTH projects.

7) Additional Key Experts: If additional Key Experts are required to carry out the Services during the execution of the contract, the Consultant shall submit to the Procuring Entity for review and approval a copy of their Curricula Vitae (CVs). If the Procuring Entity does not object in writing (stating the reasons for the objection) within twenty-one (21) days from receiving such CVs, such additional Key Experts shall be deemed approved by the Procuring Entity. The rate of remuneration payable to such new additional Key Experts shall be based on the rates for other Key Experts' positions which require similar qualifications and experience.

8) Notwithstanding anything to the contrary stated in the GCC and SCC, it shall be mandatory to deploy the key personnel and sub-professional as per the Man- Months Input specified in the Terms of Reference.

8.2.3 Non-key Personnel

the Consultant must ensure the deployment of non-key Personnel as per Appendix-C,the Terms of Reference, and the approved Works plan as updated. Daily attendance records of such non-key personnel shall be maintained by the Consultant and shared with the Contract Manager. If the Contract Manager believes that the Consultant is not employing sufficient Non- key personnel as is specified or otherwise for the proper execution of the Services, he shall issue a notice to the Consultant for remedial measures. The Consultant shall forthwith, on receiving intimation to this effect, deploy the additional number of non-key personnel as specified by the Contract Manager immediately, and failure on the part of the Consultant to comply with such instructions shall entitle the Procuring Entity to suspend payments as per GCC clause 10.6 for the shortfall in performance or terminate the contract and/ or avail all the remedies thereunder. Such action shall be in addition to the deduction from the Consultant's payment cost of shortfall personnel as per Appendix-C.

8.2.4 Removal of Key and Non-key Experts or Sub-consultants on Orders Contract Manager

1) The Consultant shall, at the Procuring Entity's written request, provide the Replacement, if the Procuring Entity finds that any of the Experts or Sub-consultant: commits severe misconduct or has been charged with having committed a criminal act

   a) persists in any misconduct or lack of care;

   b) is found to be negligent, incompetent or incapable of discharging assigned duties;

   c) fails to comply with any provision of the Contract;

   d) based on reasonable evidence, is determined to have engaged breached the Code of Integrity (including Fraud and Corruption) during the execution of the Works;

2) Subject to the requirements in the sub-clause above, and notwithstanding any requirement from the Procuring Entity to request a replacement, the Consultant shall take immediate action as appropriate in response to any violation in the sub-para above. Such immediate action shall include removing (or causing to be removed) such Key/ Non-Key Expert or sub- consultant from carrying out the Services.

3) Any replacement of the removed Experts or Sub-consultants shall possess better qualifications and experience and be acceptable to the Procuring Entity.

4) The Consultant shall bear all costs from or incidental to any removal and/or replacement of such Experts.

8.3. Equipment and Tools of Trade

The Consultant must ensure the deployment of Equipment and Tools of Trade necessary to deliver services as per the Terms of Reference and approved Works plan as updated. If the Contract Manager believes that the Consultant is not employing on the Services sufficient Equipment/Tools of Trade as is specified or otherwise for the proper execution of the Services within the prescribed time, the Consultant shall forthwith on receiving intimation to this effect deploy the additional equipment/ tools of the trade as specified by the Contract Manager immediately and failure on the part of the Consultant to comply with such instructions shall entitle the Procuring Entity to suspend payments asper GCC clause 10.6 for the shortfall in performance or terminate the contract and/ oravail any or all the remedies thereunder for breach of contract.

9. Delivery of Services and delays

9.1. Works plan

1) Before the commencement of the Services, the Consultant shall submit for approval of the Contract Manager a Works plan showing the Methods, schedule of delivery of services, and deployment plans for Personnel, Equipment and Materials for the execution of the services. The programme of delivery of Services amended as necessary by discussions with the Contract Manager shall be treated as the agreed Works plan for this Contract. The Services shall be carried out and monitored as per the approved Program as updated.

   The Contract Manager shall direct the order in which the several components of the Services shall be provided, and the Consultant shall execute all orders the Contract Manager gives from time to time without delay. Still, the Consultant shall not be relieved thereby from responsibility for the due performance of the Services in all respects.

9.2. Commencement of Services

1) **Effective Date of Contract:** Consultant shall commence the Services and shall proceed with due expedition and without delay from the effective date of Contract (all dates of delivery shall be counted from such a date), which shall be the date mentioned as the effective date in the contract, or if not so mentioned:
   a) 15 days from the Procuring Entity's notice (unless specified otherwise) to the Consultant instructing him to begin carrying out the Services. This notice shall confirm that the effectiveness prerequisites listed in the contract have been met.
   b) If no such order is issued,15 days from the date of the Issue of the LOA or the signing of the Contract agreement, whichever is earlier.
2) **Commencement of Services:** Not later than the number of days after the Effective Date specified in the Contract or the Notice to proceed, the Consultant shall begin carrying out the Services after confirming the following:
   a) As required by the Contract, all JV members and key experts needed at the beginning of the assignment are effectively participating.
   b) That upon provision of Bank Guarantees, advance payments, if any, are implemented.
   c) That the Procuring Entity has provided facilities (including Data, Documents and Background Information) as per the Contract
   d) that all parties involved in the assignment (users, security team, and other relevant departments of the Procuring Entity and other third-party stakeholders) have been informed by the Procuring Entity
   e) that all permits, licences, and authorizations have been obtained.
3) **Termination of Contract for Failure to Become Effective**: If this Contract has not become effective (as per sub-clause 1) above) within such period after the date ofContract signature as specified in the Contract, either Party may, by not less thantwenty-one (21) days' written notice to the other Party, declare this Contract to benull and void, and in the event of such a declaration by either Party, neither Partyshall have any claim against the other Party with respect hereto.
4) **Expiration of Contract**

Unless terminated earlier pursuant to Clause GC 9.9 hereof, this Contract shall expire when services have been completed and all payments have been made at the end of such time period after the Effective Date as shall be specified in the SC.

5) **Entire Agreement**

   This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

6) **Modification**

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties. Pursuant to GCC Clause 2.6 hereof, however, each party shall give due consideration to any proposals for modification made by the other Party.

9.3. Contract Management

9.3.1 Consultancy Management Teams

The Procuring Entity shall nominate a Contract Manager (or a Consultancy Management Team), and the Consultant shall nominate a counterpart Team Lead to monitor the assignment so that the output is in line with the Procuring Entity's objectives of the Contract.

9.3.2 Review of Phases and Milestones

The Contract Manager and Consultant/ Team Lead shall hold progress meetings at various phases and Milestones into which the assignment is divided as per Appendix-A. Unless otherwise indicated in Appendix-A, the following actions would be taken during such progress meetings.

1) **Kick-off Meeting:** The contract Manager and the Consultant/ Team Lead shall meet at the start of the assignment to ensure that the Contract requirements are clearly understood by all concerned and that the Contract Management procedures are finalised.
2) **Inception Phase Review:** The inception meeting shall be held at a period (specified in Appendix-A or the Notice to Proceed) after the effective date of the contract or, if not so specified, within 21 days of the effective date. Before this meeting, the consultant must provide a draft Inception Report for discussion. The Consultant shall submit a final Inception Report within the specified time in the 'Terms of Reference' or as agreed in the Inception Meeting, or if not so specified, within 7 days of the Inception Meeting. Template for Inception Report may be agreed to beforehand in the Inception Meeting. It should, at the minimum, cover comments and suggestions on the following:
    a) Terms of Reference
    b) Work plan and staffing schedule
    c) Facilities to be provided by the Procuring Entity
    d) Working arrangements and liaison
3) **Periodic Reviews:** Unless otherwise decided by the Contract Manager and the Consultant's Team Lead, periodic review meetings (monthly if not otherwise stipulated) shall be held to review the pace of progress as compared to the Work Plan and remedial actions thereto.
4) **Deliverables Reviews**: The contract Manager and Consultant/ Team Lead may holdother meetings to review and approve specific deliverables or phases (including Interim and Final Reports) as specified in Appendix-A or as agreed between the parties.

9.4. Delivery of services, Time of Delivery and Extensions Thereof

9.4.1 Delivery of Services:

The Consultant shall deliver all Services and submit deliverables as per the approved work plan in the manner specified in the Contract.

9.4.2 Time of Delivery of Services is of Essence of the Contract:

1) The time for delivery of Services shall be deemed to be the essence of the contract. Subject to any requirement in the contract as to the completion of any portions or portions of the Services before completion of the whole, the Consultant shall fully and finally complete the whole of the services comprised in the contract as per the Delivery and Completion Schedule stipulated in Appendix-A: 'Terms of Reference'.
2) If at any time during the currency of the contract, the Consultant encounters conditions hindering the timely performance of services; the Consultant shall promptly inform the Procuring Entity in writing about the same and its likely duration.

3) He may request to the Procuring Entity for an extension of the delivery schedule not less than one month before the expiry of the date fixed for completion of the services.Procuring Entity may agree to extend the completion schedule, with or without liquidated damages and denial clause, by issuing an amendment to the contract interms of the following clauses.

9.4.3 Extension for Excusable Delay Not Due to Consultant

1) If in the opinion of the Consultant, the progress of Services has at any time been delayed due to the following reasons, then within 15 days of such happening causing delay, he shall give notice thereof in writing to the Contract Manager, but shall nevertheless do due diligence to bring down or make good the delays and to proceed with the services:
   a) proceedings taken or threatened by or dispute with external third parties arising otherwise than from the Consultant's own default etc. or
   b) delay due to circumstances beyond the control of either party
   c) delay authorized by the Contract Manager pending arbitration or d) Any act or neglect of Procuring Entity, e.g.:
      i) Delay or failure to issue notice to commence the services or
      ii) delay or failure to issue necessary instructions for which the Consultant had applied explicitly in writing.
      iii) Delay in or failure to handover of possession of the site or the necessary facilities/ documents/ data or instructions by the Procuring Entity to the Consultant
      iv) Delay caused by modification issued by the Contract Manager or
      v) any other delay caused by the Procuring Entity due to any other cause.
2) The Consultant may also indicate the period for which the Services are likely to be delayed and ask for a necessary extension of time. On receipt of such request from the Consultant, the Contract Manager shall consider the same and grant such extension of time as, in his opinion, is reasonable regarding the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for work carried forward to the extended period. The same rates, terms, and conditions as the original Contract shall apply during the extended period.

9.4.4 Extension of Time for Inexcusable Delay Due to Consultant

1) If the Consultant fails to deliver the Services within the fixed/ extended period for reasons other than those stipulated in GCC-clause 9.4.3 above, the Procuring Entity may, if satisfied that the service delivery can still be completed within a reasonable time, extend the period further.
2) On such extension, the Procuring Entity shall be entitled without prejudice to any other right and remedy available on that behalf to recover from the Consultant as agreed damages and not by way of penalty Liquidated Damages as per GCC- clause 9.5 below.
3) Provided further that if the Procuring Entity is not satisfied that the service can be completed by the Consultant or in the event of failure on the part of the Consultant to complete the service within the extension of time allowed further as aforesaid, the Procuring Entity shall be entitled without prejudice to any other right or remedy available in that behalf, treat the delay as a breach of contract and avail any or all the remedies thereunder, whether or not actual damage is caused by such default.
4) Inordinate Delays: Delays due to the Consultant of more than one-fourth (25%) of the total completion period shall be treated as inordinate delays. Such inordinate delays shall be noted as poor performance and be held against the Consultant in future procurements. A show-cause notice shall be issued to the Consultant before declaring it a poor performance. Such delays may be considered a breach of the contract at the option of the Procuring Entity.

9.4.5 Extension of Time for Concurrent Delay Due to Both Parties

If the Contract Manager determines that two or more events responsible for delay overlap each other. The delays may be concurrently attributable to both Procuring Entity and the Consultant. The proportion for extension of time as per GCC-Clause 9.4.3 or 9.4.4 above shall be determined by plotting each contributing concurrent delay on the critical path.

9.5. Damages and Deductions Thereof

9.5.1 **Right of the Procuring Entity to recover Damages.**

Procuring Entity shall be entitled to, and it shall be lawful to recover Liquidated damages as detailed in this clause from all payments due, any Performance Security, or any retention money.

9.5.2 Liquidated damages

1) For delays covered under clause 9.4.4 (Extension of Time for Inexcusable Delay Due to Consultant) above:
    a) The Procuring Entity shall, without prejudice to other rights and remedies available to the Procuring Entity under the contract, deduct from the contract price as liquidated damages for each week of delay or part thereof until actual delivery or performance, but not as a penalty, a sum equivalent to the 1/2% per cent (or any other percentage if prescribed) of the related monthly bill of the Services. Besides liquidated damages during such a delay, the denial clause as per GCC-clause 9.5.3 shall also apply. Total damages in the contract shall be limited as per clause 9.5.4 below.
    b) Any failure or delay by any Sub-consultant, though their employment may have been sanctioned, shall not be admitted as a ground for any extension of time or for exempting the Consultant from liability for any such loss or damage as aforesaid.

9.5.3 **Denial Clause:**

1) For delays covered under clause 9.4.4 (Extension of Time for Inexcusable Delay Due to Consultant) above:
    a) no increases in price on account of any statutory increase in or fresh Imposition of GST, or on account of any other taxes/ duty/ cess/ levy) leviable in respect of the Services and incidental goods/ works stipulated in the said Contract which takes place after the original delivery date shall be admissible on such of the said Services, as are delivered after the said date; and
    b) Notwithstanding any stipulation in the contract for an increase in price on any other ground, including the price variation clause, no such increase after the original delivery date shall be admissible on such Services delivered after the said date.
    c) Nevertheless, the Procuring Entity shall be entitled to the benefit of any decrease in price on account of reduction in or remission of GST or on account of any other tax or duty or any other ground as stipulated in the price variation clause, which takes place after the expiry of the original delivery date.

9.5.4 Limit on total Damages

However, deduction on account of damages for delays under this clause put together shall be subject to a maximum of 10% (or any other percentage if prescribed) of the entire value of the Contract of Services. Penalties/ liabilities outside this clause shall be covered by GCC clause 12.

9.6. Force Majeure

1) On the occurrence of any unforeseen event beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the affected Party shall, within a week from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof. Unless otherwise directed by the Procuring Entity in writing, the Consultant shall continue to perform its obligations under the contract as reasonably practicable and seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90

days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other except those which had occurred under any other clause of this Contract before such termination.

2) Notwithstanding the remedial provisions contained in GCC-clause 9.5 and 12, none of the Party shall seek any such remedies or damages for the other Party's delay and/ or failure in fulfilling its obligations under the contract if it is the result ofan event of Force Majeure.

9.7. Foreclosure

Without prejudice to any provision of this Agreement, the Client and Consultant may foreclose this Agreement by mutual consent in circumstances which does not constitute either party's default without any liability or consequential future liability for either party except as mentioned in this Clause. However, the Client has the right to foreclosure the agreement after completion of the components of feasibility study.

9.8. **Suspension**

The Client may, by written notice of suspension to the Consultants, suspend all payments to the Consultants hereunder if the Consultants fail to perform any of their obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultants to remedy such failure within a period not exceeding thirty (30) days after receipt by the Consultants of such notice of suspension.

9.9. Termination

9.9.1 **By the Client**

The Client may, by not less than thirty (30) days' written notice of termination to the Consultants (except in the event listed in paragraph (f) below, for which there shall be a written notice of not less than sixty (60) days), such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause 9.9.1, terminate this Contract:

(a) if the Consultants fail to remedy a failure in the performance of their obligations are under, as specified in a notice of suspension pursuant to Clause 9.8 hereinabove, within thirty (30) days of receipt of such notice of suspension or within such further period as the Client may have subsequently approved in writing;

(b) if the Consultants become (or, if the Consultants consist of more than one entity, if any of their Members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

if the Consultants fail to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 11 hereof;

(c) if the Consultants submit to the Client a statement which has a material effect on the rights, obligations or interests of the Client and which the Consultants know to be false;

(d) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or

(e) if the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.

9.9.2 **By the Consultants**

The Consultants may, by not less than thirty (30) day's written notice to the Client, such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause 9.9.2, terminate this Contract:

(a) if the Client fails to pay any money due to the Consultants pursuant to this contract and not subject to dispute pursuant to Clause 11 hereof within forty-five(45) days after receiving written notice from the Consultants that such payment is overdue;

(b) if the Client is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultants may have subsequently approved in writing) following the receipt by the Client of the Consultants' notice specifying such breach;

(c) if, as the result of Force Majeure, the Consultant are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or

(d) if the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause 11 hereof.

9.9.3 **Cessation of Rights and Obligations**

Upon termination of this Contract pursuant to Clauses 9.2 or 9.9 hereof, or upon expiration of this Contract pursuant to Clause 9 hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause 5.7.3 hereof, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause 5.11 (ii) hereof, and (iv) any right which a Party may have under the Applicable Law.

9.9.4 **Cessation of Services**

Upon termination of this Contract by notice of either Party to the other pursuant to Clauses 9.9.1 or 9.9.2 hereof, the Consultants shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultants and equipment and materials furnished by the Client, the Consultants shall proceed as provided, respectively, by Clauses 2.2 or 5.7.3 hereof.

9.9.5 **Payment upon Termination**

Upon termination of this Contract pursuant to Clauses 9.9.1 or 9.9.2 hereof, the Client shall make the following payments to the Consultants (after offsetting against these payments any amount that may be due from the Consultant to the Client):

(i) remuneration pursuant to Clause 10.5 hereof for Services satisfactorily performed prior to the effective date of termination.

(ii) reimbursable expenditures pursuant to Clause 10.5 hereof for expenditures actually incurred prior to the effective date of termination; and

(iii) except in the case of termination pursuant to paragraphs (a) through (d) of Clause 9.9.1 hereof, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract including the cost of the return travel of the Consultants' personnel and their eligible dependents.

9.9.6 Disputes about Events of Termination

If either Party disputes whether an event specified in paragraphs (a) through (e) of Clause 9.9.1 or in Clause 9.9.2 hereof has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Clause 8 hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

10. Prices and Payments

10.1. Prices

10.1.1 Contract Price

1) The Contract price is outlined in the Contract. The Contract price breakdown is provided in Appendix C, and the total payments under this Contract shall not exceed this Contract price subject to any variations as permissible under the contract.
2) Any change to the Contract price specified above also be made if the Parties have agreed to the revised scope of Services under GCC clause 2.6 and have amended the Terms of Reference in Appendix A in writing.

10.1.2 Firm Prices

Unless otherwise stipulated in the contract, Prices shall be fixed and firm. If the Price Variation Clause is included, such up and down, variations shall also be payable.

10.1.3 Variations

In case the Contract provides for a Price Variation Clause or variation on any other account, the price shall be subject to adjustment as per such clauses only during the original Delivery Period, subject to the following:

1) For Extension of Time, any increase due to such variations during the extended delivery period beyond the original delivery period shall not be paid by the Procuring Entity; however, it shall be entitled to any reduction under GCC clause- 9.5.3 (Denial Clause).
2) Taxes and duties, if any, chargeable and payable on the Services shall be charged on the net price after variations.
3) While claiming payments where such variations are applicable, the Consultant must submit its calculations for each invoice, even if the payment for these variations is nil. Any price reduction due to such variations must be passed to the Procuring Entity.
4) No Other Claim due to Variations: With the payment of such variations, no additional individual claim shall be admissible on account of fluctuations in market rates, increase in taxes/any other levies/tolls etc.
5) If the Price Variation clause is applicable as per the contract, the price shall be subject to adjustment to take care of the changes in the cost of labour, material,and fuel/ power components as per the price variation formula specified therein.
6) Base Month: Unless otherwise stipulated in the contract, the 'Base Month' for the 'Price Variation Clause' shall be taken as the month before the month of the last date of Proposal submission. Unless the contract has stipulated a different time lag for reckoning Price Variation, the month of reckoning the variated price shall be the month before the month in which delivery has been made. The Price Variation shall be based on the relevant Indices in the Base Month and Month ofreckoning.
7) Applicability: If the Contract provides for some inputs to be supplied by Procuring Entity free or at a fixed rate, the cost of such inputs shall be excluded from thevalue of the Goods supplied in the relevant month for payment/recovery Of price variation.

10.2. Taxes and Duties

1) The Consultant, Sub-consultants, and Experts shall be entirely responsible for all taxes, duties, fees, levies etc., incurred relating to the delivery of the Services. Further instruction, if any, shall be as provided in the Contract.
2) If applicable under relevant tax laws and rules, the Procuring Entity shall deductfrom all payments and deposit required taxes to respective authorities on account of GST Reverse Charge Mechanism; Tax Deducted at Source (TDS), and Tax Collected at Source (TCS) relating to Income Tax, labour cess, royalty etc.
3) Payment of GST Tax under the contract:

(a) The payment of GST and GST Cess to the Consultant shall be made only on the latter submitting a GST compliant Bill/ invoice indicating the appropriate HSN code and applicable GST rate duly supported with documentary evidence as per the provision of the relevant GST Act and the Rules made there under.The delivery of Services shall be shown as being made in the name, location/state, and GSTIN of the beneficiary of the Services only; the location of the procurement office of the procuring entity has no bearing on the invoicing.

(b) Provision w.r.t. E-Invoicing requirement as per GST laws: Consultant who is required to comply with the requirements of E-invoice as per the GST Law, allpayments shall be made against proper e-invoice(s) only. Invoices issued in violation shall not be processed for payment, as Procuring Entity shall not beallowed to avail of Input Tax Credit (ITC) against such invoices.

(c) Returns and details required to be filled under GST laws & rules regarding invoices (or e-invoices) should be filed promptly by the Consultant. If input tax credit (ITC) is not available to Procuring Entity for any reason attributable to the Consultant, then Procuring Entity shall not be liable to pay or reimburse GST (CGST & SGST/UTGST or IGST) claimed in the invoice(s) and shall be entitled to deduct / setoff/ recover such GST amounts (CGST & SGST/UTGST or IGST)together with penalties and interest, if any, by adjusting against any amounts paid or becomes payable in future to the Consultant under this contract or under any other contract.

(d) While claiming reimbursement of duties, taxes etc. (like GST) from the Procuring Entity, as and if permitted under the contract, the Consultant shall also certify that in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the Consultant) shall refund to the Procuring Entity,the Procuring Entity's share out of such refund received by the Consultant. The Consultant shall also refund the appropriate amount to the Procuring Entity immediately after receiving the same from the concerned authorities.

(e) All necessary adjustment vouchers, such as Credit Notes/ Debit Notes for any short/ excess delivery of Services or revision in prices or any other reason under the contract, shall be submitted to the Procuring Entity in compliance with GST provisions.

(f) GST shall be paid as per the rate at which it is liable to be assessed or has been assessed, provided the provision of Services is legally liable to such taxes and is payable as per the terms of the contract subject to the following conditions:

(i) The Procuring Entity shall not pay a higher GST rate if leviable due to any misclassification of the HSN number or incorrect GST rate incorporated in the contract due to the Consultant's fault. Wherever the Consultant invoices the Goods at GST rate or HSN number, which is different fromthat incorporated in the contract, payment shall be made as per GST rate, which is lower of the GST rates incorporated in the contract or billed.

(ii) However, the Procuring Entity shall not be responsible for the Consultant's tax payment or duty under a misapprehension of the law.

(iii) The consultant is informed that he shall be required to adjust his basic price to the extent required by a higher tax rate billed as per invoice to match the all- inclusive price mentioned in the contract.

(iv) In case of profiteering by the Consultant relating to GST tax, the Consultant shall treat it as a violation of the Code of Integrity in the contract and avail any or all punitive actions thereunder, in addition to recovery and action by the GST authorities under the Act.

(g) The Consultant should issue Receipt vouchers immediately on receipt of all types of payments along with tax invoices after adjusting advance payments, if any,as per Contractual terms and GST Provisions.

(h) Liquidated damages or any other recoveries should be shown as deductions on the invoice, and GST shall be applicable only on the net balance payment due.

4) **Statutory Variation Clause**: Unless otherwise stated in the contract, statutory increase in applicable GST rate only during the original delivery period shall be to Procuring Entity's account. Any increase in the rates of GST beyond the original completion date during the extended delivery period (excepting extension under GCC-Clause 9.4.3) shall be borne by the Consultant. The benefit of any reduction in the GST rate must be passed on to the Procuring Entity during the original and extended delivery period. However, GST rate amendments shall be considered for quoted HSN code only, against documentary evidence, provided such an increase of GST rates occurs after the last proposal submission date.

10.3. Terms and Mode of Payment

1) Payments shall be made as per the procedure laid down in GCC unless otherwise stipulated by the Procuring Entity after Consultant's production of all required documents.
2) The payments shall be made as per Procuring Entity's payment procedures. Unless otherwise stipulated in the contract, all payments to Consultants shall only be made through EFT (Electronic Funds Transfer). The Consultant shall consent in a mandate form for receipt of payment through NEFT (National Electronic Fund Transfer). In case of non-payment through EFT or where the EFT facility is unavailable, payment may be released through cheque.
3) In Domestic Contracts, payments shall only be made in Indian Rupees. In Global Tenders, payment to foreign Consultants shall be made in the currency/ currencies authorized in the contract. However, agency commission and local value addition shall be paid only in Indian Rupees.
4) The Consultant shall send its claim for payment in writing as per GST-compliant Invoice and documents, when contractually due, along with relevant documents etc., as stipulated in the Contract and as specified therein.
5) While claiming payment, the Consultant is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the Consultant's obligations for claiming that payment has been fulfilled as required.

10.4. Withholding and lien in respect of sums claimed:

1) Whenever any claim or claims for payment of a sum of money arises against the Consultant, out of or under the contract, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain such sum or sums, in whole or in part pending finalisation or adjudication of any such claim from
    a) any security or retention money, if any, deposited by the Consultant.
    b) Any sum(s) payable till now or hereafter to the Consultant under the sameContract or any other contract with the Procuring Entity if the security is insufficient or if no security has been taken from the Consultant.
2) Where the Consultant is a partnership firm or a limited company, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company, as the case may be, whether in his capacity or otherwise.
3) It is an agreed term of the contract that the sum(s) of money so withheld or retained under the lien referred above shall be kept withheld or retained till the claim arising out of or under the contract is determined under GCC clauses 11 and/ or 12. The Consultant shall have no claim for interest or damages whatsoever on any account regarding such withholding or retention under the supra lien and duly notified to the Consultant.
4) Lien in respect of Claims in other Contracts: Any sum of money due and payable to the Consultant (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Procuring Entity or Government against any claim of the Procuring Entity or Government in respect of payment of a sum of money arising out of or under any other contract made by the Consultant with the Procuring Entity or Government.

10.5. **Payments to Consultant**

10.5.1 General

1) All payments under this Contract shall be made to the Consultant's accounts specified in the contract.
2) Currency of Payment: Unless otherwise specified in the Contract, any payment shall be made in Indian Rupees (INR).

3) The Itemized Invoices: As soon as practicable and not later than fifteen (15) days after the end of each time interval stipulated in the Contract in this regard (if not stipulated, then after the end of each calendar month), the Consultant shall submit to the Procuring Entity, in duplicate, itemized invoices, accompanied by the receipts or other appropriate supporting documents, of the amounts payable for such an interval under GCC Clause 10.5. Separate invoices shall be submitted for expenses incurred in foreign and local currencies. Each invoice shall show remuneration and reimbursable expenses separately.

4) The Contract Manager shall cross-check all relevant records before passing the Consultant's bills. Upon verification of the records by Procuring Entity, payments can be released to the Consultant.

5) The Procuring Entity shall pay the Consultant's invoices within sixty (60) days after the receipt by the Procuring Entity of such itemized invoices with supporting documents. Only a portion of an invoice not satisfactorily supported may be withheld from the payment. Should any discrepancy exist between actual payment and costs authorized to be incurred by the Consultant, the Procuring Entity may add or subtract the difference from subsequent payments.

6) Except for the final payment under GCC Clause 10.5.5 below, payments do not constitute acceptance of the Services nor relieve the Consultant of any obligations.

7) Out-Based (Outputs admeasurement): Unless instructed in writing by the Procuring entity, payments shall not be made for any extra inputs deployed over and above Appendix-A, Appendix-B, or Appendix-C mentioned in the contract save as specified in the BOQ. Nevertheless, if such inputs are deployed less than those stipulated, deductions shall be made based on the rates indicated for the inputs listed in Appendix-C and D in the contract. DPR Consultant will make payment of salary to all key personnel in their respective bank accounts through electronic mode only. No cash transaction wrt salary will be made. Proof of salary transfer through electronic mode shall be submitted by the DPR Consultant with each Bill.

9) All payments shall be made in Indian Rupees and shall be subjected to applicable Indian laws withholding taxes if any.

10) The DPR Consultant will be paid stage-wise as a percentage of the contract value as per the schedule given below. The Performance Bank guarantee shall also be released in Stages defined below:

S. No.	Item	Payment % of Contract Price	% Release of PBG of 5% of Contract value	% Release of remaining PBG (quoted PBG-5% of Contract value)
	First Stage			
1	Submission of final QAP and Inception Report	2.5 %	-	
2	Approval of final Alignment Report, Traffic Study, Topographical Study and Submission of ToR for EAC	10%	-	
3	Submission of final feasibility Report#	7.5%	-	
	Second Stage			
4	Submission of complete Land Acquisition Proposal proposals in case of NHAI)	10%	-	
5	Submission Of 3a Notification, Draft 3 A and Publication of 3a, 3A notifications	5%	-	
6	Submission of all utilities shifting proposals to utility owning agencies and submission of utilities relocation plan to Authority	5%	-	

7	Submission of Bidding Documents and Technical Schedules	5%	-	
8	Final approval of utilities shifting estimates and submission of Utilities report, ROB GADs from Railway, Irrigation other concerned departments	5%	10%	
9	Submission of all stage I clearance (Forest, Wildlife, EC) proposals on Parivesh portal and acceptance by Nodal Officer	5%	-	
10	Submission and Approval of Final DPR Report, documents and drawings	5%	-	
11	Clearance of the project by NPG (if applicable) and Appraisal of Project by SFC (if applicable). In case none of above is applicable then payment shall be released on technical approval of Project by Competent Authority of the implementing agency.	5%	10%	
	Third Stage			
12	Administrative & Financial Approval of Project by the Competent Authority	5%	-	
13	Stage II clearance approval (Receiving approval of Forest, Wildlife, EC from Concerned agencies) and submission of final clearances II report	5%	10%	
14	3D publication for all land parcels identified in item 5 above and submission of Land Acquisition II report	5%	-	
15	Completion of award declaration (3G) for 90% of land parcels identified and submission of Land Award report	5%	-	
16	Receipt of land possession certificates (3H) for 90% of all land parcels identified in LAC report and submission of Land Possession report	5%	10%	
17	Completion of Condition Precedent on Part of Authority	4.5%	50%	
18	Completion of Mutation of Land Record and entry in Highway Land Register with the Highway Administration	1%	10%	
19	Amount to be released at earlier of project's COD or 3 years from start of civil work	4.5%	-	Balance PBG shall be released per the procedure give below
20	**Total:**	**100%**	**100%**	
	Bonus Provision			
21.	**In case Appointed Date is declared within the timeline of the contract/concession agreement**	**1.5%**	**-**	
22.	**In case the project is completed within SPCD provided in the contract/concession agreement without any EOT**	**1.5%**	**-**	
23.	**In case total COS in the project till issuance of Completion Certificate is within 1% of Estimated Civil Project Cost.**	**2%**	**-**	

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Process for release of Remaining PBG (quoted PBG – 5% of contract): - The additional PBG (Quoted PBG – 5% of contract price) (APBG) shall be released at earlier of project's COD or 3 years from start of civil work after deducted the BG amount, if any, as given below: -

a) Discrepancy in land observed within AD+240 days

Discrepancy in Land Acquisition % (of Total Land to be actually acquired)	**The value APBG withheld and encashed**
Upto 2%	5% of APBG Value
2-5%	10% of APBG Value
>5%	15% of APBG Value

For inaccuracies in survey/investigation/design work: -

S.No.	**Item**	**Penalty (%age of APBG Value)**
1.	**Geotechnical Surveys**	
	a) Incomplete Surveys	5%
	b) Data not analysed properly	7.5%
	c) The substrata substantially different from actual strata found during construction	10%
2.	Traffic data found to be varying by more than 25% on resurvey at a later date, unless there are justifiable reasons.	10%
3.	Axle load data found to be varying more than 25% on resurvey at a later date, unless there are justifiable reasons.	10%
4.	Discrepancies in investigations of RE wall, major structures, bridges, interchanges, Hydraulic calculations for major bridges for which has implication in contract/project implementation	10%
5.	Instance of raising of HT Towers/lines missed out, missing out of underground utilities/ pipelines such as Oil, natural gas, industrial pipelines	10%

Total cumulative amount of encashment from all discrepancies shall be limited to 100% of the APBG value.

Note:

(a) Consultants have to provide a certificate that all key personnel as envisaged in the Contract Agreement has been actually deployed in the project. They have to submit this certificate at the time of submission of bills to NHAI from time to time.

(b) The Concerned Project Director or his authorized representative shall ensure and certify at least 5% test check of all the data collected by the Consultant before releasing the payment to the Consultant.

(c) No payment shall become eligible till the consultant completes to the satisfaction of the client the work pertaining to that stage. The payment for the work of sub-soil investigation (Boring) will be as per plan approved by the client and will be paid as per actual at the rates quoted by the consultants. The payment for the quantity given by the client for boring will be deemed to be included in the above-mentioned payment schedule. Any Payment of additional sub-soil investigations shall be paid immediately after submission of test reports (with NABL uploaded Unique Laboratory Number) and samples to Authority.

(d) The Client shall cause the payment of the Consultants in clause 10.5 above as given in schedule of payment within thirty (30) days after the receipt by the Client of bills. Interests at the rate specified in the SC shall become payable as from the above due date on any amount due by, but not paid on, such due date.

(e) The final payment under this Clause shall be made only after the final report and a final statement, identified as such, shall have been submitted by the Consultants and approved as satisfactory by the Client. The Services shall be deemed completed and finally accepted by the Client and the final report and final statement shall be deemed approved by the Client as satisfactory one hundred and eighty (180) calendar days after receipt of the final report and final statement by the Client unless the Client,

within ninety (90) day period, gives written notice to the Consultants specifying in detailed deficiencies in the Services, the final report or final statement. The Consultants shall thereupon promptly make any necessary corrections, and upon completion of such corrections, the foregoing process shall be repeated. Any amount which the Client has paid or caused to be paid in accordance with this Clause in excess of the amounts actually payable in accordance with the provisions of this Contract shall be reimbursed by the Consultants to the Client within thirty (30) days after receipt by the Consultants of notice thereof. Any such claim by the Client for reimbursement must be made within twelve (12) calendar months after receipt by the Client of a final report and a final statement approved by the Client in accordance with the above.

(f) All payments under this Contract shall be made to the account of the Consultants specified in the SC.

(g) Efforts need to be made by the Consultant to submit the schedule reports of each road stretch / s of a package. However, due to reasons beyond the reasonable control of Consultant, if the schedule submission of reports / documents of each road stretch /s of a package is not done, the payment shall be made on pro-rata basis.

(h) Consultants will make payment of salary to all key personnel in their respective bank accounts through electronic mode only. No cash transaction wrt salary will be made. Proof of salary transfer through electronic mode shall be submitted by the consultants with each Bill.

(i) In case, no comments on any of the stages above are received from Authority within 15 days and thereafter major changes to that deliverable are proposed by the Authority then in such cases, repetition charges up to 50% of the original payment milestone shall be payable to the DPR consultant, except in case of traffic, topographical, geotechnical or other surveys for which payment shall be as per BOQ.

(j) The consultant shall give the engagement schedule of the Key-Personnel at site as well as at Design Office and the attendance of the Key-Personnel shall have to be recorded through biometric means and accordingly the 40% of payment of the deliverables would be made based on the record of attendance of the Key-Personnel.

(k) As far as possible the meetings with NHAI PIU/RO/HQ may be arranged through VC and all submissions be done through email as well.

(l) The DPR Consultants can raise bills once every two months for all completed stages.

(m) # In case, Authority decides to foreclose the consultancy assignment in first stage, payment of items completed in the first stage of the payment schedule above will be payable. In case Authority decides to foreclose the consultancy assignment in second stage, payment of items completed in the first stage as well as second stage of the payment schedule above will be payable, along with any payments for additional surveys and geotechnical investigations carried out by the DPR consultants using the rates given in the BOQ of the Financial form given in the RFP.

(n) The release of PBG with each corresponding stage as per provisions in 10.5.1 10) shall be for PBG submitted by each of the JV members in equal proportion as their Share in the JV. For eg. In case of JV of Two members with 60% and 40% share of each member respectively who have submitted PBG of 60 lakhs and 40 lakhs respectively, after approval of S No. 12 deliverable tabulated above, 10% PBG provisioned for release shall be released as under:

PBG release for Lead member shall be for amount of 6 lakhs and that for other member shall be 4 lakhs.

(o) In case the project highway awarded to the DPR consultant is divided into packages for purpose of administrative approvals and bidding, then the payment of any item of the payment schedule of any stage, may be released by the Authority for each package separately in proportion to the quantum of work for that particular package for the corresponding item w.r.t quantum of work in all packages.

11) Payment shall be released as per rates quoted by consultant (in QCBS)/ fixed by Authority (in QBS) in Appendix C

12) If any of the report is found to be misleading or containing incorrect information as determined by the Authority, 10% of payment linked to that report shall be deducted as penalty along with other applicable penalty provisions.

13) The rates for foreign and local Personnel are set forth in Appendix …….

10.5.2 Advance Payments

1) If the contract provides explicitly for Advance Payments to be made to the Consultant, then on the request of the Consultant, the Procuring Entity shall make the advance payment to the Consultant against submission of an unconditional Bank Guarantee from a Commercial bank acceptable to the Procuring Entity in amounts equal to 110% (one hundred ten per cent) of the amount of the advance payment being requested. Such Bank Guarantee shall be in the form outlined in Appendix D-2 or the other form the Procuring Entity shall have approved in writing. Advance payments shall be released in not less than two instalments commensurate with work progress.

2) The Bank Guarantee shall remain effective until the advance payment has been repaid, but the amounts repaid by the Consultant shall progressively reduce the guaranteed amount. Interest shall not be charged on the advance payment. However, if the contract is terminated due to the Consultant's default, the Advance payment shall be deemed an interest-bearing advance at the prevailing rate (MIBID - Mumbai Interbank Proposal Rate) on the date of such advance payment.

3) The Consultant is to use the advance payment only for the performance of Services. The Consultant shall demonstrate that the advance payment has been used by Utilization certificate enclosing copies of invoices or other documents to the Contract Manager. Further instalments shall be released after getting a satisfactory utilization certificate from the Consultant for the earlier instalment.

4) The advance payment shall be recovered in a time-based manner not linked with the work progress by deducting proportionate amounts from payments otherwise due to the Consultant for the Services performed. Any delayed recoveries due to the late submission of bills by the Consultant shall attract interest at the prevailing rate (MIBID - Mumbai Interbank Proposal Rate). No account of the advance payment or repayment shall be taken in assessing valuations of Services performed, variations, price adjustments, or liquidated damages.

10.5.3 **Remuneration and Reimbursable Expenses**

a) The Procuring Entity shall pay to the Consultant (i) remuneration that shall be determined based on time spent by each Expert in the performance of the Services after the date of commencing of Services or such other date as the Parties shall agree in writing; and (ii) reimbursable expenses that are actually and reasonably incurred by the Consultant in the performance of the Services.

b) All payments shall be at the rates outlined in Appendix C.

c) Unless the Contract provides for the price adjustment of the remuneration rates, said remuneration shall be fixed for the duration of the Contract.

d) The remuneration rates shall cover: (i) such salaries and allowances as the Consultant shall have agreed to pay to the Experts as well as factors for socialcharges and overheads (bonuses or other means of profit-sharing shall not be allowed as an element of overheads), (ii) the cost of backstopping (reinforcement/ support) by home office staff not included in the Experts' list in Appendix B, (iii) the Consultant's profit, and (iv) any other items as specified in the contract.

e) Any rates specified for Experts not yet appointed shall be provisional and be subject to revision, with the written approval of the Procuring Entity once the applicable remuneration rates and allowances are known.

10.5.4 Deleted.

10.5.5 Final Payment

1) The final payment under this Clause shall only be made after the final report/ deliverables and a final invoice, identified as such, shall have been submitted by theConsultant and approved as satisfactory by the Procuring Entity. Completion certificate/ Final payment shall be made only after ensuring that all facilities/ documents/ sites have been returned to the Procuring Entity as per GCC clause 5.14. The Services shall be deemed completed and finally accepted by the Procuring Entity.

2) The Consultant shall submit a final bill on the Contract Manager's acceptance certificate of final deliverables. The Final payment shall be made as per the following calculations after receiving a clear "No Claim Certificate" signed by the Consultant:

   a) necessary adjustment for any payments already made or retained

   b) any deduction which may be made under the contract,

   c) A complete account of all claims the Consultant may have on the Procuring Entity, and the Contract Manager gave a certificate in writing that such claims are correct,

3) The final report and final invoice shall be deemed approved by the Procuring Entity as satisfactory ninety (90) calendar days after receipt of the final report and final invoice by the Procuring Entity unless the Procuring Entity, within such ninety (90) calendar day period, gives written notice to the Consultant specifying in detail deficiencies in the Services, the final report or final invoice. The Consultant shall promptly make any necessary corrections, and the preceding process shall be repeated.

4) Any amount that the Procuring Entity has paid or has caused to be paid under this Clause more than the amounts payable under the provisions of this Contract shall
be reimbursed by the Consultant to the Procuring Entity within thirty (30) days after receipt by the Consultant of notice thereof. Any such claim by the Procuring Entity for reimbursement must be made within twelve (12) calendar months after receipt by the Procuring Entity of a final report and a final invoice approved by the Procuring Entity in accordance with the above.

10.5.6 No Claim Certificate and Release of Contract Securities

The Consultant shall submit a 'No-claim certificate' to the Procuring Entity in such form as shall be required by the Procuring Entity after the Services are finally accepted and before the final payment/ performance securities are released. The Procuring Entity shall release the contractual securities without any interest if no outstanding obligation, asset, or payments are due from the Consultant. The Consultant shall not be entitled to make any claim whatsoever against the Procuring Entity under or arising out of this Contract,nor shall the Procuring Entity entertain or consider any such claim, if made by the Consultant, after he shall have signed a "No Claim" Certificate in favour of the Procuring Entity. The Contactor shall be debarred from disputing the correctness of the items covered by the "No Claim" Certificate or demanding arbitration.

10.5.7 Post Payment Audit

Notwithstanding the issue of the Completion Certificate and release of final Payment, the Procuring Entity reserves the right to carry out within 180 days (unless otherwise stipulated in the contract) of such completion/ final payment, a post-payment audit and/ or technical examination of the Services and the final bill including all supporting vouchers, abstracts etc. If any over-payment to the Consultant is discovered due to such examination, the Procuring Entity shall claim such amount from the Consultant.

10.5.8 Signature on Receipts for Amounts

Every receipt for money, which may become payable, or for any security which may become transferable to the contractors under the contract, shall be signed by a person authorized to do so by the Consultant (or otherwise as per GCC-Clause 4.2), to be a suitable and sufficient discharge to the Procuring Entity in respect of the sums of money or security purported to be acknowledged thereby. In the event of the death of any Consultant or partner during the pendency of the contract, every receipt by anyone of the surviving constituents shall be suitable and sufficient discharge as aforesaid. Nothing in this Clause shall be deemed to prejudice or effect any claim that the Procuring Entity may have against the legal representative regarding any breach of any contract conditions by any Consultant partner/member so dying. Nothing in this clause shall be deemed to prejudice or affect the respective rights or obligations of the Consultant partners/ members and the legal representatives of any deceased Consultant partners/ members.

10.6. Suspension of Payments

The Procuring Entity may, by written notice of suspension to the Consultant, suspend part or all payments to the Consultant hereunder if the Consultant fails to deliver the Services as per the Terms of Reference, including the non-rectification of notified defects in the Services/ deliverables, provided that such notice of suspension (i) shall specify the nature of the failure, and
(ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Consultant of such notice of suspension. Such a suspension shall not entitle the Consultant to any extension of time for delivery of Service.

10.7. Payment Against Time-Barred Claims

In accordance with the Limitation Act 1963, all claims against the Procuring Entity shall be legally time-barred after three years calculated from when the payment falls due unless the payment claim has been under correspondence. The Procuring Entity is entitled to, and it shall be lawful to reject such claims.

10.8. Commissions and Fees

The Consultant shall disclose any commissions or fees that may have been paid or are to be paid to agents, representatives, or commission agents concerning the selection process or execution and performance of this Contract. The information disclosed must include the name and address of the agent, representative, or commission agent, the amount and currency, and the purpose of the commission or fee.

11. Resolution Disputes

11.1. Disputes and Excepted Matters

All disputes and differences between the parties hereto, as to the construction or operation of this Contract, or the respective rights and liabilities of the parties on any matter in question, or any other account whatsoever, but excluding the Excepted Matters(detailed in GCC-Clause 11.2 below); arising out of or in connection with the contract, within thirty (30) days from aggrieved Party notifying the other Party of such matters; whether before or after the completion/ termination of the contract, that cannot be resolved amicably between the Contract Manager and the Consultant, shall be hereinafter called the "Dispute". The aggrieved party shall give a 'Notice of Dispute 'indicating the Dispute and claims citing the relevant Contractual clause to the designated authority requesting invoking the following dispute resolution mechanism. Before any recourse to courts, the dispute shall be resolved through dispute resolution mechanisms detailed subsequently in the sequence mentioned below, and the next mechanism shall not be invoked unless the earlier mechanism has been invoked or has failed to resolve it within the deadline mentioned therein.

1) Adjudication
2) Conciliation
3) Arbitration

11.2. Excepted Matters

Matters for which provision has been made in any Clause of the contract shall be deemed as 'excepted matters' (matters not disputable/ arbitrable), and decisions of the Procuring Entity, thereon, shall be final and binding on the Consultant. The 'excepted
matters' shall stand expressly excluded from the purview of the sub-clauses below, including Arbitration. However, where the Procuring Entity has raised the dispute, this sub-clause shall not apply. Unless otherwise stipulated in the contract, excepted matters shall include but are not limited to:

1) Any controversies or claims brought by a third party for bodily injury, death, property damage or any indirect or consequential loss arising out of or in any way related to the performance of this Contract ("Third Party Claim"), including, but not limited to, a Party's right to seek contribution or indemnity from the other Party in respect of a Third-Party Claim.

2) Issues related to the pre-award Procurement Process or conditions
3) Issues related to ambiguity in Contract terms shall not be taken up after a Contract has been signed. All such issues should be highlighted before the signing of the contract by the Consultant.
4) Provisions incorporated in the contract which are beyond the purview of The Procurement Entity or are in pursuance of policies of Government, including but not limited to
    a) Provisions of restrictions in terms of the Make in India policy of the Government
    b) Provisions regarding restrictions on Entities from Countries having land borders with India in terms of the Central Government's policies in this regard.
    c) Relaxations stipulated for Startups etc.

11.3. Adjudication

After exhausting efforts to resolve the Dispute with the Contract Manager executing the contract on behalf of the Procuring Entity, the Consultant shall give a 'Notice of Adjudication' specifying the matters which are in question or subject of the dispute or difference indicating the relevant contractual clause, as also the amount of claim item-wise to Head of Procurement or any other authority mentioned in the contract (hereinafter called the "Adjudicator") for invoking resolution of the dispute through Adjudication. During his adjudication, the Adjudicator shall give adequate opportunity to the Consultant to present his case. Within 60 days after receiving the representation, the Adjudicator shall make and notify decisions in writing on all matters referred to him. During the adjudication proceedings, the parties shall not initiate any conciliation, arbitral, or judicial proceedings in respect of a dispute that is the subject matter of the adjudication proceedings. If not satisfied by the decision in adjudication, or if the adjudicator fails to notify his decision within the abovementioned time-frame, the Consultant may proceed to invoke the process of Conciliation as follows.

11.4. Conciliation of disputes

1) Parties may invoke Conciliation, in terms of the Arbitration and Conciliation Act 1996, by submitting a "Notice of Conciliation" to the other party with a request tothe Head of the Procuring Organisation to notify a Conciliator. Since conciliation is voluntary, within 30 days of "Notice of Conciliation", the Head of the Procuring Organisation shall notify a sole Conciliator if the other party is agreeable to entering Conciliation. If the other party is not agreeable to Conciliation, the aggrieved party may invoke Arbitration.
2) The Conciliator shall proactively assist the parties to reach an amicable settlement independently and impartially within the contract terms within 60 days from the appointment date.
3) If the parties agree on a dispute settlement, they shall draw up a written settlement agreement duly signed by the parties and conciliator. When the parties sign the settlement agreement, it shall be final and binding on the parties. The dispute shall be treated as resolved on the date of such agreement.
4) During the conciliation proceedings, the parties shall not initiate any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.
5) Termination of Conciliation: Disputes shall remain alive if the conciliation is terminated as follows:
    a) By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified on the date of such declaration; or

b) By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated on the date of such declaration; or

c) If the parties fail to reach an agreement on a settlement of the dispute within 60 days of the appointment of the Conciliator

6) On termination of Conciliation, the aggrieved party shall be free to invoke Arbitration if the dispute is still alive.

11.5. Arbitration Agreement

11.5.1 This Agreement

1) This Arbitration Agreement (hereinafter referred to as this "Agreement") relating to this Contract (hereinafter called the "Main Agreement" for this agreement) is madeunder the provisions of The Arbitration and Conciliation Act, 1996, as amended from time to time and the rules thereunder (hereinafter called The Arbitration Act).This Agreement shall continue to survive termination, completion, or closure of the Main Agreement for 120 days afterwards.

2) Subject to aforesaid provisions, relevant clauses of the contract shall apply to the appointment of arbitrators and arbitration proceedings under this Agreement.

3) The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006provides parties to a dispute (where one of the parties is a Micro or Small Enterprise) to be referred to the Micro and Small Enterprises Facilitation Council if the dispute is regarding any amount due under Section 17 of the MSMED Act, 2006. If a Micro or Small Enterprise, being a party to dispute, refers to the MSMED Act 2006, these provisions shall prevail over this Agreement. However, if an arbitrator has already been appointed under this agreement before the appointment of a conciliator/ arbitrator by the facilitation council, the arbitrator already appointed under this agreement shall continue to perform the duties including on matters related to delayed payments. Such an arbitrator shall be deemed to be the arbitrator appointed by the facilitation council. None of the parties shall approach the facilitation council to appoint an arbitrator once an arbitrator under this agreement has already been appointed.

11.5.2 Notice for Arbitration

1) Authority to Appoint Arbitrator(s): For this Arbitration Agreement, 'The Appointing Authority' to appoint the arbitrator shall be Head of the Procuring Organisation or any other authority or Arbitration Institution named in the contract and includes if there be no such authority, the officer who is for the time being discharging the functions of that authority, whether in addition to other functions or otherwise.

2) In the event of any dispute as per GCC-clause 11.1 above, if the Adjudicator fails to decide within 60 days (as referred in 11.3 above), or the Conciliation is terminated (as referred in sub-clause 11.4 above), then any party to the contract, after 60 days but within 120 days of 'Notice of Dispute" (clause 11.1 above) shall request the other party through a "Notice for Arbitration" in writing that the dispute or difference be referred to arbitration.

3) The "Notice for arbitration" shall specify the matters in question or the subject of thedispute or difference, indicating the relevant contractual clause and the amount ofclaim item-wise.

11.5.3 Reference to Arbitration

After appointing Arbitrator(s), the Appointing Authority shall refer the Dispute to them.Only such dispute or difference shall be referred to arbitration regarding which the demand has been made, with counter-claims or set off. Other matters shall be beyondthe jurisdiction of the Arbitrator(s)

11.5.4 Appointment of Arbitrator

1) Qualification of Arbitrators:
   a) In the case of retired officers of The Procuring organization, they shall have retired in the rank of Senior administrative grade (or equivalent) and shall have retired at least 1 year prior and must not be over 70 years of age on the date of Notice for arbitration.
   b) The arbitrator(s) shall be expert with extensive experience in relation to the matter in dispute.
   c) He/ they shall not have had an opportunity to deal with the matters to which the contract relates or who, in the course of his/ their duties as an officer ofthe Procuring Organisation, expressed views on any or all of the matters under dispute or differences. A certification to this effect shall be taken from Arbitrators. The proceedings of the Arbitral tribunal or the award made by such Tribunal shall, however, not be invalid merely for the reason that one or more arbitrators had, in the course of his service, an opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.
   d) An Arbitrator may be appointed notwithstanding the total number of arbitration cases in which he has been appointed.
   e) Not be other than the person appointed by The Appointing Authority, and if for any reason that is not possible, the matter shall not be referred to arbitration.

2) Replacement of Arbitrators

   If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or in the event of the arbitrator dying, neglecting/ unable or unwilling or refusing to act for any reason, or his award being set aside by the court for any reason, or in the opinion of The Appointing Authority fails to act without undue delay, the Appointing Authority shall appoint new arbitrator/ arbitrators to act in his/ their place in the same manner in which the

   earlier arbitrator/ arbitrators had been appointed. Such a re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).

3) Appointment of Arbitrator:
   a) In cases where the total value of all claims in question added together does not exceed Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of the sole Arbitrator. For this purpose, The Appointing Authority shall send to the Consultant, within 60 days from receipt of a written and valid notice for arbitration, a panel of at least four (4) names of proposed arbitrators from the empaneled list of Authority/ SAROD.
   b) The Consultant shall be asked to nominate at least two names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the sole arbitrator within 30 days from the receipt of the names of the Consultant's nominees.
   c) In cases where the total value of all claims in question added together exceeds Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of three (3) arbitrators. For this purpose, The Appointing Authority shall send a panel of at least four (4) names of empaneled arbitrator or from SAROD to work as Arbitrators to the Consultant within 60 days from the day when a written and The Appointing Authority receives valid demand for arbitration.

d) The Consultant shall be asked to nominate at least 2 names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one of them as the Consultant's nominee. It shall also simultaneously appoint the balance number of arbitrators from the panel or outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed within 30 days from the receipt of the names of the Consultant's nominees.

e) If the Consultant does not suggest his nominees for the arbitral tribunal within the prescribed timeframe, The Appointing Authority shall proceed to appoint the arbitral tribunal within 30 days of the expiry of such a time Provided to the Consultant.

11.5.5 Failure to appoint Arbitrators.

If The Appointing Authority fails to appoint an arbitrator within 60 (sixty) days, then the Appointment of the Arbitrator may be sought under the relevant provision of the Arbitration and Conciliation Act 1996, as amended.

11.5.6 The Arbitral Procedure

1) Effective Date of Entering Reference: The arbitral tribunal shall be deemed to have entered the reference on the date the arbitrator(s) received notice of their appointment. All subsequent time limits shall be counted from such date.
2) Seat and Venue of Arbitration: The seat of arbitration shall be where the Letter of Award or the contract is issued. The venue of arbitration shall be the same as the seat of arbitration. However, in section 20 of The Arbitration Act, the arbitrator, at his discretion, may determine a venue other than the seat of the arbitration without affecting the legal jurisdictional issues linked to the seat of the arbitration.
3) If the Adjudication and/ or Conciliation mechanisms had not been exhausted before such a reference to Arbitration, the Arbitrator should ask the aggrieved party to approach the designated authority for such mechanisms before the Arbitration proceedings are started.
4) The claimant shall submit to the Arbitrator(s) with copies to the respondent his claims stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within 30 days from the date of appointment of the Arbitral Tribunal unless otherwise extension has been granted by Arbitral Tribunal.
5) On receipt of such claims, the respondent shall submit its defence statement and counter-claim(s), if any, within 60 days of receipt of the copy of claims, unless otherwise extension has been granted by Arbitral Tribunal.
6) No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during arbitration proceedings subject to acceptance by the Tribunal due to the delay in making it.
7) Statement of claims, counterclaims and defence shall be completed within six months from the effective reference date.
8) Oral arguments to be held on a day-to-day basis: Oral arguments as far as possibleshall be heard by the arbitral tribunal daily, and no adjournments shall be grantedwithout sufficient cause. The arbitrator (s) may impose an exemplary cost on the party seeking adjournment without sufficient cause.

9) Award within 12 (twelve) months: The arbitral tribunal is statutorily bound to deliver an award within 12 (twelve) months from when the arbitral tribunal enters reference. The award can be delayed by a maximum of six months under exceptional circumstances where all parties consent to such an extension. The court's approval shall require further extension if the award is not made out within an extended period. When an application for an extension of time is awaiting before the court, the arbitrator's proceedings shall continue until the disposal of the application.

10) Fast Track Procedure: The parties to arbitration may choose to opt for a fast-track procedure either before or after the commencement of the arbitration. The award in fast- track arbitration is to be made within six months, and the arbitral tribunal shall be entitled to additional fees. The salient features of fast-track arbitration are:

    a) The dispute is to be decided based on written pleadings only.
    b) Arbitral Tribunal shall have the power to call for clarifications and the necessary written pleadings.
    c) An oral hearing may only be held if all the parties request or the arbitral tribunal considers it necessary.
    d) The parties are free to decide the fees of the arbitrator(s) for a fast-track procedure.

11) Powers of Arbitral Tribunal to grant Interim Relief: The parties to arbitration may approach the arbitral tribunal to seek interim relief on the grounds available undersection 9 of the act. The tribunal has the powers of a court while making interim awards in the proceedings before it.

12) Confidentiality: As provided in Section 42A of The Arbitration Act, all the details and particulars of the arbitration proceedings shall be kept confidential except in certain situations, like if the disclosure is necessary for the implementation or execution of the arbitral award.

13) Obligation During Pendency of Arbitration: Performance of the contract shall, unless otherwise directed by the Procuring Entity, continue during the arbitration proceedings, and no payment due or payable by the Procuring Entity shall be withheld on account of such proceedings, provided; however, it shall be open for Arbitral Tribunal to consider and decide whether or not the performance of the contract or payment therein should continue during arbitration proceedings.

11.5.7 The Arbitral Award

1) In the case of the Tribunal, comprising three members, any ruling on an award shall be made by a majority of members of the Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

2) The arbitral award shall state item-wise the sum and reasons it is based. The analysis and reasons shall be detailed enough to infer the award.

3) It is further a term of this arbitration agreement that where the arbitral award is for the payment of money, no interest shall be payable on the whole or any partof the money for any period till the date on which the award is made in terms ofSection 31 (7) (a) of The Arbitration Act.

4) The arbitrator's award shall be final and binding on the parties to this Contract.

5) A party may apply for corrections of any computational errors, typographical or clerical errors, or any other error of similar nature occurring in the award or interpretation of a specific point of the award to the Tribunal within 60 days of receipt of the award.

6) A party may apply to the Tribunal within 60 days of receiving the award to makean additional award for claims presented in the arbitral proceedings but omitted from the arbitral award.

11.5.8 Savings

The Arbitral Tribunal shall decide any matter related to Arbitration not covered underthis Arbitration Agreement as per the provisions of The Arbitration Act.

11.5.9 Cost of Arbitration and fees of the Arbitrator(s)

1) The concerned parties shall bear the arbitration cost as per section 31 (A) of The Arbitration Act. The cost shall inter-alia include fees of the Arbitrator. Further, the fees payable to the Arbitrator shall be governed by instructions issued on the subject by the Procuring Entity and/ or the Government from time to time, in line with the Arbitration and Conciliation Act, irrespective of the fact whether the Arbitrator is appointed by the Procuring Entity or the Government under this clause or by any court of law unless directed explicitly by Hon'ble court otherwise on the matter. A sole arbitrator shall be entitled to a 25% extra fee over such a prescribed fee.
2) The arbitrator shall be entitled to a 50 per cent extra fee if the award is made within6 months as per provisions in section 29(A) (2) of The Arbitration Act. The Arbitrator shall also be entitled to this extra fee in cases where the Fast-Track Procedure in section 29 (B) of The Arbitration Act is followed.

12. Defaults, Breaches, Termination, and closure of Contract

12.1. Termination due to Breach, Default, and Insolvency

12.1.1 Defaults and Breach of Contract

In case the Consultant undergoes insolvency or receivership, neglects or defaults or expresses inability or disinclination to honour his obligations relating to the performance of the contract or ethical standards or any other obligation that substantively affects the Procuring Entity's rights and benefits under the contract, it shall be treated as a breach of contract. Such defaults could include inter-alia:

1) Default in Performance and Obligations: if the Consultant fails to deliver any or all of the Services or fails to perform any other contractual obligations (including Code of Integrity or obligation to maintain eligibility and evaluation criteria based on which contract was awarded) within the period stipulated in the contract or within any extension thereof granted by the Procuring Entity. In the case of a Joint Venture/Consortium, If the performance of any JV/C member is persistently un-satisfactory by the Procuring Entity in respect of the responsibilities assigned to him as per the JV agreement, which is part of this Contract.
2) Insolvency: If the Consultant being an individual or if a firm, any partner thereof,shall at any time be adjudged insolvent or shall have a receiving order or order forthe administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or
3) Liquidation: if the Consultant is a company being wound up voluntarily, or by order of a Court or a Receiver, Liquidator or Manager on behalf of the Debenture-holdersis appointed, or

circumstances shall have arisen which entitle the Court orDebenture-holders to appoint a Receiver, Liquidator or Manager

12.1.2 Notice for Default:

As soon as a breach of contract is noticed, a show-cause 'Notice of Default' shall be issued to the Consultant, giving two weeks' notice, reserving the right to invoke contractual remedies. After such a show-cause notice, all payments to the Consultant would be suspended as per GCC clause 10.6 above to safeguard needed recoveries due to invoking contractual remedies.

12.1.3 Remedies for Breaches/ Default

In the event of an unsatisfactory resolution of 'Notice of Default' within two weeks of itsissue as per the sub-clause above, the Procuring Entity, if so decided, shall

1) take one; or more of the following contractual remedies.
   a) Recover liquidated damages and invoke a denial clause for delays.
   b) In the case of JV/C, Procuring Entity may call upon the Lead Member to assignthe work of the defaulting member to any other equally competent party acceptable to the Procuring Entity.
   c) Temporarily withhold payments due to the Consultant till recoveries due to invocation of other contractual remedies are complete.
   d) Call back any loaned property or payment advances with a levy of interest atthe prevailing rate (MIBID - Mumbai Interbank Proposal Rate).
   e) Encash and/ or Forfeit performance or other contractual securities.
   f) Prefer claims against the insurance, if any.
   g) Terminate the Contract for default, fully or partially, including its right for Risk-and-Cost Procurement as per the following sub-clause.
   h) Initiate proceedings in a court of law for the transgression of a law, tort, and loss not addressable by the other remedies above.
2) By written Notice of Termination for Default sent to the Consultant, terminate the contract in whole or in part, without compensation to the Consultant.
   a) Such termination shall not prejudice or affect the rights and remedies, including under the sub-clause below, which have accrued and/ or may accrue to the Procuring Entity after that.
   b) Unless otherwise instructed by the Procuring Entity, the Consultant shall continue to perform the contract to the extent not terminated.
   c) All Defect Liability obligations, if any, shall survive despite the termination.
3) Risk and Cost Procurement: In addition to termination for default, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Services similar to those terminated, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the Consultant. Such Risk and Cost Procurement must be contracted within nine months from the breach of contract. The Consultant shall be liable for any loss which the Procuring Entity may sustain on that account provided the procurement, or, if there is an agreement to procure, such agreement is made.The Consultant shall not be entitled to any gain on such procurement, and the manner and method of such procurement shall be at the discretion of the Procuring Entity. It shall not be necessary for the Procuring Entity to notify the Consultant of such procurement. It shall, however, be at the discretion of the Procuring Entity to collect or not the security deposit from the firm/ firms on whom the contract is placed at the risk and cost of the defaulted firm.

12.1.4 Limitation of Liability

Except in cases of criminal negligence or wilful misconduct, the aggregate liability of the Consultant to the Procuring Entity, whether under the contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply tothe cost of repairing or replacing defective equipment, or to any obligation of the Consultant to indemnify the Procuring Entity concerning IPR infringement.

12.2. Termination for Default/ Convenience of Procuring Entity or Frustration of Contract

12.2.1 Notice for Determination of Contract

1) The Procuring Entity reserves the right to terminate the contract, in whole or inpart, for its (the Procuring Entity's) convenience or frustration of Contract as per the sub-clause below, by serving written 'Notice for Determination of Contract'on the Consultant at any time during the currency of the contract. The notice shall specify that the termination is for the Procuring Entity's convenience or the contract's frustration. The notice shall also indicate inter-alia, the extent to which the Consultant's performance under the contract is terminated, and the date from which such termination shall become effective.
2) Such termination shall not prejudice or affect the rights and remedies accrued and/ or shall accrue after that to the Parties.
3) Unless otherwise instructed by the Procuring Entity, the Consultant shall continue to perform the contract to the extent not terminated.
4) All Defect Liability obligations, if any, shall survive despite the termination.
5) The Services and incidental goods/ works that can be delivered or performed within thirty days after the Consultant's receipt of the notice of termination shallbe accepted by the Procuring Entity as per the contract terms. For the remaining Services and incidental goods/ works, the Procuring Entity may decide:
   a) To get any portion of the balance completed and delivered at the contractterms, conditions, and prices; and/ or

      To cancel the remaining portion of the Services and incidental goods/ worksand compensate the Consultant by paying an agreed amount for the cost incurred by the Consultant, if any, towards the remaining portion of the Services and incidental goods/ works.

12.2.2 Frustration of Contract

1) **Notice of Frustration Event:** Upon a supervening cause occurring after the effective date of the contract, including a change in law, beyond the control of either party,whether as a result of the Force Majeure clause (GCC 9.6) or within the scope of section 56 of the Indian Contract Act, 1872, that makes it impossible to perform the contract within a reasonable timeframe, the affected party shall give a 'Notice of Frustration Event' to the other party giving justification. The parties shall use reasonable efforts to agree to amend the contract as necessary to complete its performance. However, if the parties cannot reach a mutual agreement within 60days of the initial notice, the Procuring Entity shall issue a 'Notice for Determining the contract' and terminate the contract due to its frustration, as in the sub- clause above.
2) However, the following shall not be considered as such a supervening cause
   a) Lack of commercial feasibility or viability or profitability or availability of funds
   b) if caused by either party's breach of obligations under this Contract or failure to act in good faith or use commercially reasonable due diligence to prevent such an event.

12.3. Closure of Contract

12.3.1 Unless terminated earlier under GCC clauses 12.1 and 12.2 above, this Contract shall expire:

1) At the end of such a period after the Effective Date as specified in the Contract.
2) Upon successful performance of all obligations by both parties, including completion of Defect Liability obligations and final payment
3) termination and settlements after that, if any, as per GCC clause 12.1 or 12.2 above.

12.3.2 Cessation of Rights and Obligations

Upon termination of this Contract under Clauses GCC 12.1 or 12.2 hereof or expiration of this Contract under GCC clause 12.3.1, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality outlined in GCC clause 5.7. (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records outlined in GCC clause 5 and to cooperate and assist in any inspection or investigation, and (iv) any right a Party may have under the Applicable Law.

12.3.3 Cessation of Services

Upon termination of this Contract by notice under Clauses GCC 12.1 or GCC 12.2,the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. Concerning documents prepared by the Consultant and equipment and materials furnished by the Procuring Entity, the Consultant shall proceed as provided by Clauses GCC 9.4 and GCC 5.14.

12.3.4 Payments upon Termination

Upon termination of this Contract, the Procuring Entity shall make the following payments to the Consultant:

(a) payment for Services satisfactorily performed before the effective date of termination; and

(b) in the case of termination under GCC clause 12.2, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract, including the cost of the return travel of the Experts.

13. Code of Integrity in Public Procurement; Misdemeanors and Penalties

13.1. Code of Integrity

Procuring authorities as well as Consultants, suppliers, contractors, and consultants - should observe the highest standard of ethics and should not indulge in following prohibited practices, either directly or indirectly, at any stage during the Procurement Process or during the execution of resultant contracts:

1) "Corrupt practice" - making an offer, solicitation or acceptance of a bribe, reward or gift or any material benefit in exchange for an unfair advantage in the Procurement Process or to otherwise influence the Procurement Process;

2) "Fraudulent practice" - any omission or misrepresentation that may mislead or attempt to mislead so that financial or other benefits may be obtained or an obligation avoided. Such practices include a false declaration or false information for participation in a Procurement Process or to secure a Contract, or in the execution of the contract;

3) "Anti-competitive practice" - any collusion, Proposal-rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more Consultants, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness, and the progress of the Procurement Process or to establish Proposal prices at artificial, non-competitive levels;

4) "Coercive practice" - harming or threatening to harm persons or their property to influence their participation in the Procurement Process or affect the execution of a contract;

5) "Conflict of interest" –participation by a bidding firm or any of its affiliates who are either involved in the Consultancy Contract to which this procurement is linked; if they are part of more than one Proposal in the procurement; or if their personnel have a relationship or financial or business transactions with any official of procuring entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) Consultant from the Procuring Entity with an intent to gain unfair advantage in the Procurement Processor for personal gain;

6) "Obstructive practice" - materially impede procuring entity's investigation into allegations of one or more of the above-mentioned prohibited practices either by deliberately destroying, falsifying, altering; or concealing evidence material to the investigation; or by making false statements to investigators and/ or by coercive practices mentioned above, to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or by impeding the Procuring Entity's rights of an audit or access to information;

13.2. Obligations for Proactive Disclosures:

1) Procuring authorities, Consultants, suppliers, contractors, and consultants are obliged under this Code of Integrity to *suo-moto* proactively declare any violation of the Code of Integrity (pre-existing or as and as soon as these arise at any stage) in any Procurement Process or execution of the contract. Failure to do so shall amount to a violation of this code of integrity.

2) Any Consultant must declare, whether asked or not in a Proposal-document, any previous transgressions of such code of integrity during the last three years or of being under any category of debarment by the Central Government or the Ministry/Department of the Procuring Organization from participation in Procurement Processes. Failure to do so shall amount to a violation of this code of integrity.

13.3. Misdemeanours

The following shall be considered misdemeanours - if a Consultant, either directly or indirectly, at any stage during the Procurement Process or during the execution of resultant contracts:

1) Commits any of the following misdemeanours:

   (a) Violates the code of Integrity mentioned in GCC-clause 13.1 or the Integrity Pact if included in the Tender/ Contract;

   (b) Any other misdemeanour, e.g., supply of sub-standard quality of material/ services/ work, non-performance or abandonment of contract, or violations of Bid/ performance Security conditions.

2) Commits any of the following misdemeanours:

(a) Has been convicted of an offence:

i) Under the Prevention of Corruption Act, 1988; or

ii) The Indian Penal Code or any other law is in force for causing any lossof life or property or causing a threat to public health as part of the execution of a public procurement contract.

(b) It is determined by the Government of India to have doubtful loyalty to the country or national security considerations.

(c) Employs a government servant who has been dismissed or removed on account of corruption or employs a non-official convicted for an offence involving corruption or abetment of such an offence in a position where he could corrupt government servants or employs a government officer within one year (or anyother period prescribed by the relevant authority) of his retirement, who has had business dealings with him in an official capacity before retirement.

13.4. Penalties for Misdemeanours

Without prejudice to and in addition to the rights of the Procuring Entity to other remedies as per the Tender-documents or the contract, If the Procuring Entity concludes that a (prospective) Consultant directly or through an agent has committed a misdemeanour in competing for the tender or in executing a contract, the Procuring Entity shall be entitled, and it shall be lawful on his part to take appropriate measures, including the following:

13.4.1 if his Proposals are under consideration in any procurement

1) Enforcement of Bid Securing Declaration in lieu of forfeiture or encashment of Bid Security.
2) calling off any pre-contract negotiations and;
3) rejection and exclusion of Consultants from the Procurement Process

13.4.2 if a contract has already been awarded

1) Termination of Contract for Default and availing all remedies prescribed thereunder;
2) Encashment and/ or Forfeiture of any contractual security or bond relating to the procurement;
3) Recovery of payments, including advance payments, if any, made by the Procuring Entity along with interest thereon at the prevailing rate (MIBID - Mumbai Interbank Proposal Rate);

13.4.3 Remedies in addition to the above:

In addition to the above penalties, the Procuring Entity shall be entitled, and it shall be lawful on his part, to:

1) File information against Consultant or any of its successors with the Competition Commission of India for further processing in case of anti-competitive practices;
2) Initiate proceedings in a court of law against Consultant or any of its successors under the Prevention of Corruption Act, 1988 or the Indian Penal Code or any other law for transgression not addressable by other remedies listed in this sub-clause.
3) Remove the Consultant or any of its successors from the list of registered suppliers for a period not exceeding two years. Suppliers removed from the list of registered vendors or their related entities may be allowed to apply afresh for registration after the expiry of the removal period.

4) Initiate suitable disciplinary or criminal proceedings against any individual or staff found responsible.

5) Debar, a Consultant, from participation in future procurements without prejudice to Procuring Entity's legal rights and remedies. Debarment shall automatically extend to all the allied firms of the debarred firm. In the case of a Joint Venture/ consortium, all its members shall also stand similarly debarred:

   a) A Ministry/ Department (or any of its CPSUs, attached offices, autonomous bodies) may debar a Consultant or any of its successors from participating in any Procurement Process undertaken by all its procuring entities for a period not exceeding two years commencing from the date of debarment for misdemeanours listed in GCC sub-clause 13.3 -1) above. The Ministry/Department shall maintain such a list which shall also be displayed on their website.

   b) Central Government (Department of Expenditure (DoE), Ministry of Finance) may debar a Consultant or any of its successors from participating in any Procurement Process undertaken by all its procuring entities for a period not exceeding three years commencing from the date of debarment for misdemeanours listed in GCC sub-clause 13.3 -2) above. DoE shall maintain such a list which shall be displayed on Central Public Procurement Portal (CPPP).

14. Responsibility for Accuracy of Project Documents

14.1 General

14.1.1 The Consultant shall be responsible for accuracy of the data collected, by him directly or procured from other agencies/authorities, the designs, drawings, estimates and all other details prepared by him as part of these services. He shall indemnify the Authority against any inaccuracy in the work which might surface during implementation of the project. The Consultant will also be responsible for correcting, at his own cost and risk, the drawings including any re-survey / investigations and correcting layout etc. if required during the execution of the Services.

14.1.2 The Consultant shall be fully responsible for the accuracy of design and drawings of the bridges and structures. All the designs and drawings for bridges and structures including all their components shall be fully checked by a Senior Engineer after completion of the designs. All drawings for bridges and structures shall be duly signed by the (a) Designer, (b) Senior Checking Engineer, and (c) Senior Bridge / Structure Expert. The designs and drawings not signed by the three persons mentioned above shall not be accepted. The Consultant shall indemnify the Client against any inaccuracy / deficiency in the designs and drawings of the bridges and structures noticed during the construction and even thereafter and the Client shall bear no responsibility for the accuracy of the designs and drawings submitted by the Consultants.

14.1.3 The survey control points established by the Consultant shall be protected by the Consultants till the completion of the Consultancy Services.

14.2. Deleted.

14.3. Penalty

14.3.1. Penalty for Error/Variation

i. If **variation in project** cost occurs due to Change of scope due to deficiencies in the design provided by the consultant (such as errors due to inadequate traffic survey, incorrect geotechnical investigations, variations in geotechnical parameters, variations in physical / geographical features at site, incorrect hydraulic data, calculation errors in design of pavement layers, incorrect geometric design considerations, calculation errors in cost estimates, incomplete scope of work in schedule- B/C, errors in estimation of payment weightages in Schedule-H), the penalties as tabulated under shall be levied on the DPR consultant. The penalty will be forfeited from the pending bills/retention money/PBG. This shall exclude any additional/deletion of items/works ordered by the client during the execution.

COS request as % of total project cost (excluding utility shifting estimates) as estimated by the DPR consultant	**Penalty on DPR Consultant**	
	Monetary Penalty	**Administrative Penalty**
Upto 2%	Nil	
2-5%	3.5% of PBG Value	-
5-10%	7.5% of PBG Value	-
10-20%	25 % of PBG Value	Debarment upto 1 Year
More Than 20%	25% of PBG Value	Debarment upto 3 Year

ii. If there is a **discrepancy in land** to be acquired during the execution of the project, the penalties as tabulated under shall be levied on the DPR consultant. The penalty will be forfeited from the pending bills/retention money/PBG. This shall exclude any additional/deletion of items/works ordered by the client during the execution.

Discrepancy in Land Acquisition % (of Total Land to be actually acquired)	**Penalty on DPR Consultant**	
	Monetary Penalty	**Administrative Penalty**
Upto 2%	3% of PBG Value	-
2-5%	5% of PBG Value	Debarment upto 6 Months
>5%	10% of PBG Value	Debarment upto 1 Year

iii. If any additional utility is observed for shifting from the project during the execution of the project besides that specified by the DPR consultant, the penalties as tabulated under shall be levied on the DPR consultant. The penalty will be forfeited from the pending bills/retention money/PBG. This shall exclude any additional/deletion of items/works ordered by the client during the execution.

COS on account of utility shifting as % of total estimated project cost by the DPR consultant	**Penalty on DPR Consultant**
Upto 0.5%	**Monetary Penalty**
0.5-1%	2.5% of PBG Value
2-3%	5% of PBG Value
More than 3%	10% of PBG Value
No. of Overhead Poles/Towers/Transformers/Sub-Station etc. (electricity utility/ telecom utility) missed by the DPR consultant as % of total Overhead Poles/Towers estimated in Technical Schedules.	**Penalty on DPR Consultant**
	Monetary Penalty
Upto 5%	2.5% of PBG Value
More than 5% but less than 15%	5% of PBG Value
More than 15% but less than 25%	7.5% of PBG Value

More than 25%	10% of PBG Value
Length of electricity line or pipelines (water/ waste/ gas/ petroleum/OFC) missed by the DPR consultant as % of total length of electricity line or pipelines estimated in Technical Schedules.	**Penalty on DPR Consultant** **Monetary Penalty**
Upto 5%	2.5% of PBG Value
More than 5% but less than 15%	5% of PBG Value
More than 15% but less than 25%	7.5% of PBG Value
More than 25%	10% of PBG Value

iv) For **inaccuracies in survey/investigation/design work** the penalties shall be imposed as per details given in Table below:

Sr. No.	**Item**		**Penalty (%age of PBG Value)**
1	Topographic Surveys		
	a) The horizontal alignment does not match with ground condition.	Upto 5% project length	2.5%
		more than 5% project length	5%
	b) The cross sections do not match with existing ground.	Upto 5% project length	2.5%
		more than 5% project length	5%
	c) The co-ordinates are defective as instruments of desired accuracy not used.	Upto 5% project length	2.5%
		more than 5% project length	5%
2	Geotechnical Surveys		
	a) Incomplete surveys		5%
	b) Data not analyzed properly		7.5%
	c) The substrata substantially different from the actual strata found uring construction.		10 %
3	Traffic data found to be varying by more than 25% on resurvey at a later date, unless there are justifiable reasons.		10%
4	Axle load data found to be varying by more than 25% on resurvey at a later date, unless there are justifiable reasons.		20%
5	Structural Designs found to be unsafe or grossly over designed		10%

Note: In case of any major deviations, Authority reserves the right to debar the DPR consultant for upto 3 years.

14.3.2 Penalty for delay

In case of delay in completion of services, a penalty equal to **0.05% of the contract price per day subject to a maximum 5%** of the contract value will be imposed and shall be recovered from payments due/performance security. However, in case of delay due to reasons beyond the control of the consultant, suitable extension of time will be granted on case to case basis.

14.3.3 Total cumulative amount of recovery from all penalties shall be limited to **100% of the PBG value.**

14.3.4 NHAI is in process of evolving performance-based rating system for DPR Consultants. Performance of Consultants shall be monitored by NHAI and will be taken into account in technical evaluation of future DPR projects. For this purpose, performance of consultant in the current project shall also be taken into account to create rating of consultant.

14.4 ACTION FOR DEFICIENCY IN SERVICES

14.4.1 Consultant's liability towards the Client

Consultant shall be liable to indemnify the client for any direct loss or damage accrued or likely to accrue due to deficiency in service rendered by him. Total cumulative amount of recovery from all penalties shall be limited to 100% of the PBG value.

14.4.2 Debarring / Non-Performing

In the case of major deficiencies in the Detailed Project Report involving time and cost overrun and adverse effect on reputation of NHAI, besides those mentioned in clause 7.3 above, the firm shall be declared as non-performing and the firm will not be eligible for participating in future projects of the Ministry (including NHAI, NHIDCL, BRO, etc.) for a period of upto 3 years.

15. Change of Scope

The change of Scope on account of variation of total length as well as 4 laned length of project Highway from the indicative length as given in Letter of Invitation of the RFP shall be dealt as follows

i) During the course of consultancy services in case it is considered necessary to increase/decrease the scope of services (of total length or 4 laned length as compared to indicative Length as given in the RFP) by the client the same shall be notified by Change of scope notice. Similarly, if the Consultant determines that change of scope is needed, he shall inform of the same to the Client. The Client will examine and shall either reject the proposal or issue change of scope notice.

ii) The Consultancy fee shall be revised on account of change of scope as below:

- In case the total length of project increase/ decrease up to 10% of indicative length given in the RFP**: No change in Consultancy Fees.**

  In case the increase/ decrease in total length of project is more than 10 % of the indicative length as given in the RFP**:** The consultancy fee shall be increased/ decreased in the same proportion in which the length of the project road is increased/ decreased beyond 10% .

iii) Increase/decrease in length on account of bypasses shall not be considered as change of scope. However, the total length of the project highway (including bypasses and realignment) along the finally approved alignment shall be compared with the indicative length in the RFP for the purpose of variation.

15.1 The Consultancy fee shall be increased on account of change of scope as below:

a) In case of increase in configuration of Lanes in the project after the submission of Final Report: 10% of the original consultancy charges

b) In case of change of mode of delivery is involved after submission of Final Report / due to revision of specifications / IRC Codes etc.

(i)	Revision of DPR after submission due to changes in IRC codes / specification etc.	2.5% of the original Consultancy charges.
(ii)	Revision of DPR due to changes in mode EPC / BOT / HAM etc	2.5% of the original Consultancy charges.

Section V: Special Conditions of Contract (SCC)

RFP Document No. RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718 ; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K

Note for Consultants:
Following Special Conditions of Contract (SCC) shall apply for this procurement. These Special Conditions shall modify/ substitute/ supplement the corresponding (GCC) clauses as indicated below. Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision in the SCC shallprevail.

GCC Clause No.	Topic	To be read as
GCC 1, 2, 3 and 4: General, The Contract, Governing Laws and Jurisdiction, Communications		
1.1, 1.2, 1.3, 1.4	General	No change
2.1	Language of Contract	English
3.1	Governing Laws and jurisdiction	The courts in Delhi shall have Jurisdiction
4.1, 4.3	Communications and notices	4.1 Notice will be deemed to be effective as follows: (a) in the case of personal delivery or registered mail, on delivery; (b) in the case of telexes, 24 hours following confirmed transmission; (c) in the case of telegrams, 24 hours following confirmed transmission; and (d) in the case of facsimiles, 24 hours following confirmed transmission. 4.3 The addresses are: **Client:- Address of Employer** Attention: - ..... Telex: - ..... Facsimile: - ..... **Consultant:- Address of consultant** Attention:- Cable Address: - ..... Telex: - ..... Facsimile:- ..... (Note:- Fill in the Blanks)
4.2	Persons Signing Communications	The Authorised Representative are: For the Client: .....

		For the Consultants: ……..
GCC 5 and 6: Consultant's and Procuring Entity's Obligations		
5.7.	Confidentiality and Secrecy of information	No change
5.7.1	Property Rights	No change
5.8	Performance Bond/ Security	*The performance security shall be 10% of contract Price for QCBS mode. For QBS mode performance security shall be as quoted by the selected consultant.* The Performance Bank Guarantee has to be submitted by both the JV Partners separately and in same proportion as is the share of each member in the JV. Any deviation in above condition shall be considered as breach of Contract.
6.1, 6.2, 6.3	Facilities, Utilities to be provided by Procuring Entity	Nil
GCC 7: Scope of Services and Performance Standards		
7.1	Scope of Services	As defined in TOR
7.2	Eligible Services	As per the Extant Guidelines of Govt of India from time to time
GCC 8: Deployment of Resources		
8.2.2	Key Personnel	No Replacement of Team Leader shall be allowed. In case of extension of bid validity, the consultants shall submit the replacement CV along with Extension request.
GCC 9: Delivery of Services and Delays		
9.1	Works plan	No Change
9.2	Commencement of Services	The time period shall be one month or such other time period as the Parties may agree in writing.
GCC 10: Prices and Payments		
10.1.3	Variations	No change
10.2	Taxes and Duties	No change
10.3	Terms and Mode of Payment	No change
10.5.2	Advance Payment to Consultants	No Advance Payment Shall be made..
GCC 11 Resolution of Disputes		

<table>
<tr><td>11.2</td><td>Excepted Matters</td><td>No change</td></tr>
<tr><td>11.5</td><td>Arbitration</td><td>
<table>
<tr><td>Sum in dispute</td><td>Model fee</td></tr>
<tr><td>Up to Rs.5,00,000(Five Lakh)</td><td>Rs. 45,000</td></tr>
<tr><td>Above Rs 5,00,000(Five Lakh) and upto Rs 20,00,000(Twenty Lakh)</td><td>Rs 45,000 plus 3.5 per cent of the claim amount over and above Rs 5,00,000 (Five Lakh</td></tr>
<tr><td>Above Rs 1,00,00,000 (One Crore) and up to Rs 10,00,00,000(Ten Crore)</td><td>Rs 3,37,500 plus 1 percent of the claim amount over and above Rs 1,00,00,000(One Crore)</td></tr>
<tr><td>Above 10,00,00,000 (Ten Crore) and up to Rs 20,00,00,000 (Twenty Crore)</td><td>Rs 12,37,500 plus 0.75 per cent of the claim amount over and above Rs</td></tr>
<tr><td>Above Rs 20,00,00,000 (Twenty Crore)</td><td>Rs 19,87,500 plus 0.5 per cent of the claim amount over and above Rs 20,00,00,000(Twenty Crore) with a ceiling of Rs 30,00,000 (Thirty Lakh)</td></tr>
<tr><td colspan="2">Note: For sole arbitrator, an additional amount of twenty five per cent on the fee set out above shall be paid. The above fee is to be shared equally by both the parties to the arbitration i.e. claimant and respondent, which is inclusive of fee of arbitrator for claim and counter claims i.e. total “Sum in Dispute”, reading charges, declaration/publishing of award. The expenses, such as stay and travelling charges will be paid as per Client’s guidelines</td></tr>
</table>
</td></tr>
<tr><td colspan="3">GCC 12 Defaults, Breaches, Termination and Closure of Contract</td></tr>
<tr><td>12.3.1</td><td>Period of Contract</td><td><u>The time period shall be ….. months</u></td></tr>
<tr><td>12.1.3-3)</td><td>Risk and Cost Procurement</td><td><u>No change</u></td></tr>
</table>

Section VI: Terms of Reference

RFP Document No. RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K M(Ref ITC-clause 1.4)

TERMS OF REFERENCE (TOR)

Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K

Terms of Reference for Consultancy Services (TOR)

1. General

1.1 The National Highways Authority of India has been entrusted with the assignment of Consultancy Services for Preparation of DPR for **Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K** and National Highways Authority of India now invites proposal from Technical consultants for carrying out detailed project report as per details given in **Appendix-A.**

1.2 National Highway Authority of India will be the employer and executing agency for the consultancy services and the standards of output required from the appointed consultants are of international level both in terms of quality and adherence to the agreed time schedule. The consultancy firm will solely be responsible for submission of quality work in stipulated period.

1.3 Ministry has recently awarded works of consultancy services for construction of ROBs for replacing level crossings in various states. In case a level crossing exists in a project reach, consultant is required to co-ordinate with those consultants and finalize the alignment & configuration of road accordingly. However, if the same is not covered in the above assignment of DPR/feasibility study awarded by Ministry, the consultant under this assignment shall be responsible for preparing DPR for such level crossings.

2. **Objective**

2.1 The main objective of the consultancy service is to establish the technical, economical, and financial viability of the project and prepare detailed project reports for development of **Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K** .

2.2 The viability of the project shall be established taking into account the requirements with regard to rehabilitation, upgrading and improvement based on highway design, pavement design, provision of service roads wherever necessary, type of intersections, rehabilitation and widening of existing and/or construction of new bridges and structures, road safety features, quantities of various items of works and cost estimates and economic analysis within the given time frame.

2.3 The Detailed Project Report (DPR) would inter-alia include detailed highway design, design of pavement and overlay with options for flexible or rigid pavements, design of bridges and cross drainage structures and grade separated structures, design of service roads, quantities of various items, detailed working drawings, detailed cost estimates, economic and financial viability analyses, environmental and social feasibility, social and environmental action plans as appropriate and documents required for tendering the project on commercial basis for international / local competitive bidding.

2.4 The DPR consultant should ensure detailed project preparation incorporating aspects of value engineering, quality audit and safety audit requirement in design and implementation. The Consultant shall ensure to carry out Road Safety Audit at various stages as per supplement-III (Additional Requirement for Safety Audit) of TOR.

2.5 The consultant should, along with Feasibility Report, clearly bring out through financial analysis the preferred mode of implementation on which the Civil Works for the stretches are to be taken up. The consultant should also give cost estimates along with feasibility report/ detailed Project Report.

2.6 If at inception stage or feasibility stage, employer desires to terminate the contract, the contract will be terminated after payment up to that stage.

3. Scope of Services

The general scope of services is given in the sections that follow. However, the entire scope of services would, inter-alia, include the items mentioned in the Letter of Invitation, terms of reference, general contract and any supplements and appendices to these documents.

3.1 RoW and Land related aspects

3.1.1 The Right of Way norms for National Highways should be as under:

(i)	Expressways	90 m
(ii)	Economic Corridors and major National Highways requiring provisions for Service Roads and planned for expansion to 8-lanes	70 m
(iii)	National Highways with planed capacity to 6-lane Configuration	60 m
(iv)	National Highways with planned capacity to 4-lane	45 m
(v)	NH with planned capacity to two-lane + PS configuration requiring provision of Service Roads	30 m

3.1.2 In case of upgradation of an existing two lane Highway to a 4/6/8 lane configuration, a comparative cost-benefit analysis shall necessarily be carried out while recommending development of existing route/alignment vis-a-vis alternate option of a green –field alignment. While carrying out the cost benefit analysis of both the options, the following factors shall be considered:

(i) Extant of land acquisition and the associated costs;

(ii) Number of structures required to be acquired along their extant and costs.

(iii) The quantum of utilities and costs required for their shifting.

(iv) The extent of tree –felling and the associated cost & time for obtaining the requisite permissions.

3.1.3 However, green-field option may not be resorted to in cases where growth of traffic is such that ultimate capacity does not require widening beyond 4 lanes in future.

3.1.4 In case the green field alignment option works out to be a preferred option, then-

(i) Entire ROW (60m -70m) may be acquired for a maximum capacity of 8 lane main carriage way with provision for service roads.

(ii) Initially 4 lane carriage-way with 4 lane structures shall be developed with additional land left in the median for future expansion.

(iii) The highway shall have provision for service roads in inhabited areas, preferably of 10 mtrs width, with maximum access –control for the main carriage way .

(iv) Access to the towns/cities/establishments located on the existing National Highway, may be provided through spurs from the green field route.

3.1.5 All efforts shall be made to avoid any road alignment through National Parks and Wildlife Sanctuaries, even if it requires taking a longer route / bypass. However, where it becomes absolutely unavoidable and necessary to keep the alignment through such reserve forest / restricted areas, land would be acquired with RoW of not more than 30 mtrs.

3.1.6 Similarly, though it may be difficult, while determining the alignment for any bypass, efforts be made to see if these could be along the revenue boundaries of two revenue estates thereby minimizing the compulsions of land owners / farmers for cross-overs to the other side. In case such an alignment is not found feasible, it should be ensured that access to common facilities for the local people (e.g. schools, Healthcare facilities etc.) is maintained only on one side of the alignment, thereby minimizing the need for cross-over for day-to-day life.

3.1.7 Protection of the acquired RoW against any possible encroachments is extremely important. Boundary stones be provided at the end of the RoW as per provisions of IRC:SP:84 and also supplemented as per {Circular dated 08.12.2015 issued by NHAI}
<relevant circular of agency to be mentioned> . The boundary pillars alone, which are subject to removal with passage of time, may not be enough to save against encroachments. As such, the typical cross-section of a Highway Road is being re-visited separately with the intention of providing permanent features in this behalf. For a typical RoW of 60 mtrs, starting from one end, these will require the following:

(a) Use barricading of the RoW with plantation of hedge-like species (Ficus / Poplars) within a 3m wide strip area, dug up to 0.6 to 0.9 mtrs, of which 2.0 mtrs to serve as a Utility Corridor.

(b) Provision of a Service Road (along the inhabited area) with its drainage slope towards the drain / area reserved for Strip Plantation, for a width of 9.0 mtrs.

(c) Earmark width of 1.5 mtrs for construction of a drain so as to be able to capture the rainwater flow from the Service Road (wherever provided) and the main carriageway.

(d) Three lane with paved shoulders: Main carriageway – 10.5 mtrs, paved shoulder – 2.5 mtr and earthen shoulder – 1.5 mtr.

(e) Median – 5.0 mtrs (effective width 4.5 m), and

(f) A Mirror Image on the other end.

3.1.8 With regard to land acquisition, tree felling, utility shifting across the alignment, Ministry's Guidelines issued vide letter no. NH -15017/21/2018-P&M dated 10th May, 2018, or any amendment thereof, may be adhered to.

3.2 Provisions of short bypasses, service roads, alignment corrections, improvement of intersections shall be made wherever considered necessary, practicable and cost effective. However, bypasses proposals should also be considered, wherever in urban areas, improvement to 6 laning of the existing road is not possible.

3.3 Role and Responsibilities at different stages of Land Acquisition

The Consultant in the process of his deliverables, is expected to:

(i) To delineate and propose the most optimal alignment and take care of geometrics of the road to meet safety parameters while finalizing the DPR;

(ii) Identify and avoid (to the extent feasible) all such structures (religious structures, public utilities cremation grounds, private structures) in the RoW of the road project that could become major hindrances at the time of project execution;

(iii) Procure or create digitized, geo referenced cadastral/land revenue maps for the purpose of land acquisition activities. Where state governments of local agencies have already digitize cadastral maps, the consultant shall arrange to procure such maps. The digitized map should exactly match the original map so that the dimensions and area of plots can be extracted from the map itself.

(iv) Co-ordinate collection of all relevant land revenue records (including Khasra maps, Khatiyan, Jamabandi etc.) from the local land revenue administration office required for preparation of Draft notification under Section 3A of the NH Act.

(v) Identify and list all land parcels that need to be acquired as part of project road. Conduct Joint measurement survey in conjunction with CALA, the Executing Agency and the Land Revenue Department to verify land records.

(vi) Assist the CALA and the Project Executing agency in preparation of statutory notification under Sections 3A, the CALA during hearing of objections received under Section 3C, recording of hearings and completion of this process, preparation of draft notification under Section 3D and completion of the LA process at every stage, timely publication of notifications and public notices in newspapers at every stage;

(vii) Clear identification and preparation of an inventory of the assets attached to the land under acquisition (e.g. Structures, trees, crops or any such assets which should be valued for payment of compensation);

(viii) Co-ordination with offices of various departments like Land Revenue Office (or Tehsil), Registrar office and other State departments (public works department, horticulture department, forest department etc.) for evaluation of assets (Structures, tree, crops etc.) attached to the land and liaison with respective State authority for authentication of the valuation.

(ix) Prepare and inventory of all the utilities (electrical/water supply lines/gas pipelines etc.–

(x) both linear and cross overs) and all such structures (religious structure, public utilities, cremation grounds, private structures) in the RoW of the road project that could become major hindrances at the time of project execution;

(xi) Carefully avoid location of any Flyover/VUP/elevated structure where a high tension electricity line (66/132/220/400 KV etc.) is crossing over so as to avoid raising of such line at such point, while designing the road projects;

(xii) Assist in demarcation of the acquired land and installation of the boundary stones/pillars/peg makings along the RoW of the alignment;

(xiii) Identification of land parcels missed out from acquisition in the first round and assist the Authority and the CALA in preparation of Draft Notification for acquisition of the land under missing plots.

(xiv) For Taking up land acquisition the DPR Consultant must possess the following experience and manpower:

(a) Total Experience of Land Acquisition for Any Central/State Government Agency in last 7 Financial Years: More than 500 Hectares.
(b) Total Experience of Land Acquisition for Any Central/State Government Agency under NH Act in last 7 Financial Years: More than 100 Hectares
(c) Experience in digitization of cadastral maps for land surveys in last 7 Financial Years
(d) Has atleast 5 on-roll Land Acquisition Experts with at least 10 years of experience in LA matters.
(e) Has defined LA sub-professional team on the regular roll of at least 25 people (Excluding Experts) in the last 3 Financial Years
(f) Should have average annual Turnover of Atleast 2.5 Crores in last 3 Financial Years.

(xv) Payment to such LA agencies if engaged by DPR Consultant would be made by the DPR consultants. Further, the responsibility of Deliverables shall be solely that of the DPR Consultant.

(xvi) Financial proposal/ Fixed cost estimate (as is relevant) is inclusive of the financial implications for support team for CALA.

Note: Till the Empanelment process of LA Agencies fulfilling the above requirements has been completed by NHAI/MoRTH/NHIDCL, the DPR consultant can utilise the services of such agencies (including itself) which fulfil the above said criteria which shall be verified by Authority before commencement of the consultancy assignment.

3.4 Approach to the provision and specifications for Structures:

3.4.1 The structures on roads viz. Bridges, ROBs (Road Over Bridges, and Flyovers), RUBs (Road Under Bridges) etc. are designed for more than 50 years. It is difficult to increase the width of the structures at a later date which may also have larger financial implications apart from construction related issues in running traffic. Therefore, it has been decided to keep provision for all the structures including approaches comprising of retaining structures as 6-lane (length of such approaches shall, in no case, be less than 30m on either side) on all the four-lane highways except in the following cases (i) Reserve Forest (ii) Wild life Areas (iii) Hilly Areas (iv) Urban Areas where site condition do not permit this. Wherever elevated sections are designed through any inhabited areas, these should be six-lane structures supported on single piers so that the road underneath serves as effective service roads on both sides.

3.4.2 Highway projects shall be designed for separation of local traffic especially for Vulnerable Road Users (VRUs), for longitudinal movements and crossing facilities through viaduct(s) located at convenient walking distance. Provision of PUPs and CUPs with size of 7.0m x 3.0m, as specified in para 2.10 of the IRC specifications, has proved to be insufficient keeping in view the increased use of mechanization in agriculture practices. These structures do not support the easy passage / crossing for the tractors with trolleys so often used for agricultural operations. As traffic on cross roads is increasing day-by-day, it has been decided to substitute the provision of Pedestrian Underpass (PUP) / Cattle Underpass (CUP) [for para 2.10 of IRC specifies the dimensions of 7.0m x 3.0m] with a LVUP with a minimum size of 12 (lateral clearance) x 4m (vertical clearance). Out of 12m lateral width, 2.5m width on one side shall be raised for pedestrian sidewalks with grills to make pedestrian movement convenient and safe. A third smaller dimension VUP-SVUP (4m*7m) for all cross roads carriageway width lesser than 5.5m may also be considered. Thus VUPs would be of three grades i.e.VUP-5.5mx20m; LVUP-4mx12m; and SVUP- 4mx7m These structures shall be located at the most preferred place of pedestrian / cattle
/ day-to-day crossings. Depending on the site conditions, feasibility of clubbing the crossing facilities through service roads shall also be explored. Further, the bed level of these crossings shall not be depressed as any such depression, in the absence of proper drainage facilities becomes water-logged rendering the same unusable. Ideally, the bed level of the crossings should be a bit higher with proper connectivity to a drain, which could serve the drainage requirements of the main carriageway, the underpass and the service road as well.

3.4.3 Wherever the alignment of 4-lane Highway Road project is retained in-situ while passing through inhabited areas (e.g. villages), it should be ensured that Service Roads are provided on both sides of the carriageway, connected underneath with a cross-over structure (VUP/ LVUP/SVUP). Thus each habitation should preferably have crossing facility at the highways with a vertical clearance of 4 mtrs.

3.4.4 To ensure that bypass once constructed serves the intended purpose during its life, all the bypasses shall be well designed and access controlled. The entry / exit from / to side roads shall be controlled such that they are grade separated at major roads or at spacing not less than 5 kms. Side roads at closer spacing shall be connected to the service roads on either side and taken to major roads for provision of grade separated interchange.

3.5 The provision of embankments shall be kept minimum so as to save land as well as earth which are scarce resources. This can be decided on case to case basis with due deliberations. However, economic considerations may also be given due weightage before deciding the issue.

3.6 The Consultant shall study the possible locations and design of toll plaza if applicable to the project. Wayside amenities Land (minimum 5 acres, length and depth preferably in the ratio of 3:2) shall also be acquired for establishment of Way-side amenities at suitable locations at distances varying between 30 to 50 kms on both sides of the Highway. The local and slow traffic may need segregation from the main traffic and provision of service roads and fencing may be considered, wherever necessary to improve efficiency and safety.

3.7 The Consultant will also make suitable proposals for widening/improvement of the existing road and strengthening of the carriageways, as required at the appropriate time to maintain the level of service over the design period. The Consultants shall prepare documents for EPC/PPP contracts for each DPR assignment.

3.8 All ready to implement 'good for construction' drawings shall be prepared incorporating all the details.

3.9 Environmental Impact Assessment, Environmental Management Plan and Rehabilitation and Resettlement Studies shall be carried out by the Consultant meeting the requirements of the lending agencies like ADB/ World Bank/JICA, etc.

3.10 Wherever required, consultant will liaise with concerned authorities and arrange all clarifications. Approval of all drawings including GAD and detail engineering drawings will be got done by the consultant from the Railways. However, if Railways require proof checking of the drawings prepared by the consultants, the same will be got done by
NHAI and payment to the proof consultant shall be made by NHAI directly. Consultant will also obtain final approval from Ministry of Environment and Forest for all applicable clearances. Consultant will also obtain approval for estimates for shifting of utilities of all types from the concerned authorities and NHAI. Consultant is also required to prepare all Land Acquisition papers (i.e. all necessary schedule and draft 3a, 3A, and 3D, 3G notification as per L.A. act) for acquisition of land either under NH Act or State Act. The Consultant will also obtain approval from the National Mission for Clean Ganga as per Ministry of Water Resources, River Development and Ganga Rejuvenation No-3187€ dated 07.10.2016.

3.11 The DPR consultant may be required to prepare the Bid Documents, based on the feasibility report, due to exigency of the project for execution if desired by NHAI.

3.12 Consultant shall obtain all types of necessary clearances including prior approval fom National Mission for Clean Ganga , if required for implementation of the project on the ground from the concerned agencies. The client shall provide the necessary supporting letters and any official fees as per the demand note issued by such concerned agencies from whom the clearances are being sought to enable implementation.

3.13 The consultant shall prepare separate documents for BoT as well as EPC contracts at Feasibility stage / DPR stage. The studies for financing options like BoT, Annuity, EPC will be undertaken in feasibility study stage.

3.14 The consultant shall be guided in its assignment by the Model Concession/ Contract Agreements for PPP/ EPC projects, as applicable and the Manual of Specifications and Standards for two/ four/ six laning of highways published by IRC (IRC:SP:73 or IRC:SP:84 or IRC:SP:87, as applicable) along with relevant IRC codes for design of long bridges).

3.15 The consultant shall prepare the bid documents including required schedules (as mentioned above) as per EPC/ PPP documents. For that it is suggested that consultant should also go through the EPC/PPP documents of ministry before bidding the project. The Consultant shall assist the NHAI and the Legal Adviser by furnishing clarifications as required for the financial appraisal and legal scrutiny of the Project Highway and Bid Documents.

3.16 Consultant shall be responsible for sharing the findings from the preparation stages during the bid process. During the bid process for a project, the consultant shall support the authority in responding to all technical queries, and shall ensure participation of senior team members of the consultant during all interaction with potential bidders including pre-bid conference, meetings, site visits etc. In addition, the consultant shall also support preparation of detailed responses to the written queries raised by the bidders.

3.17 The DPR Consultant shall identify the surplus land parcels available with the Authority on the approved project alignment and submit the detailed plan and profile and layout of such land parcels and propose a suitable plan of action for suitable utilisation of such land parcels. The DPR consultant shall also assist in mutation of ownership of such surplus land parcels in the name of the Central Government.

4. General

First, the Feasibility Study of the project shall have to be completed then only the consultancy assignment shall be taken to DPR stage after specific instructions from Authority based on the outcome of the feasibility study. The Duration of entire assignment shall be **09 MONTHS** which can be reduced only in compelling circumstances with approval of NHAI. The broad components of Feasibility Study and DPR Study are (but not limited to) the following:

Part-I: Components of Feasibility Study* (To be completed in 75 days>):

1. Traffic Study including axle load surveys
2. Alignment Options after verification through PMG Gati Shakti Portal
3. **Preliminary** Topographical Study
4. Broad Structural features including lane configuration
5. Lane Configuration and intersections/junctions/Service Roads
6. Utility Shifting Requirement along with Tentative Estimates
7. Applicable statutory clearances like Forest/Environment/CRZ /WL/TTZ/CEC etc and also Prior Approval from National Mission for Clean Ganga (if applicable as per notification No-3187 (E) dated 07.10.2016)
8. Tentative/Normative Cost estimate with reasonable accuracy
9. Land Acquisition Tentative cost assessment
10. Financial Feasibility of the Project for Authority from Socio-Economic Prospect and strictly in Financial Prospects (for both flexible & rigid pavements).

11. Proposing Mode of Contract Execution-EPC/HAM/BOT (Toll)/BOT (Annuity).

Note: In case feasibility study is not to be done, the activities relevant to the DPR should be added to the scope of work DPR i.e. Part-II below.

Part-II Components of DPR Study (To be started from 76th day onwards.>):

Note: These activities are to be started only after a separate Notice to Proceed to DPR stage has been issued by the Authority in this regard.

1. NSV and FWD testing of existing pavements of brownfield alignments
2. Detailed Geotechnical Investigations
3. Hydrological Investigations
4. Detailed Pavement & Embankment Design and Costing (showing different alternatives with cost comparison)
5. Detailed Structural Design
6. Detailed Designs of intersection
7. Road Furniture & Traffic Signage Plan
8. Drainage Plan
9. GIS mapping of ROW with sub-meter accuracy
10. Land Acquisition Activities (including laying of Row Boundary Stones)
11. Utility Shifting Estimates and relocation plan
12. Activities for obtaining Forest/Environmental/CRZ Clearance/Tree Cutting Permission.
13. Detailed Cost Estimation and comparison with normative costs
14. Tolling Scheme
15. ATMS scheme
16. Proofing of All Traffic Studies for the selected alignment
17. Financial Feasibility of the Project for Authority from Socio-Economic Prospect and strictly in Financial Prospects (with detailed cost analysis)
18. Proposing Mode of Contract Execution-EPC/HAM/BOT (Toll)/BOT (Annuity)

19. Detailed Topographical Study

4.1 Primary Tasks

General Scope of Services shall cover but be not limited to the following major tasks (additional requirements for Preparation of Detailed Project Report for Hill Roads , Major Bridges and Tunnels are given in **Supplement I , II** and **IV** respectively):

i. Review of all available reports and published information about the project road and the project influence area;

ii. Environmental and social impact assessment, including such as related to cultural properties, natural habitats, involuntary resettlement etc.

ii (a). Public consultation*, including consultation with Communities located along the road, NGOs working in the area, other stake-holders and relevant Government departments at all the different stages of assignment (such as inception stage, feasibility stage, preliminary design stage and once final designs are concretized).

Note :- *Public consultation means:-

a) for Brown Field Projects or mixed projects: - Consultation with Village Sarpanch, Mayor/ Chairman of Municipal Corporation, Deputy Commissioner/ District Magistrate and State PWD/ State Govt.

b) for Green Field Projects: - In addition to above, concerned MPs/MLAs of areas will also be consulted.

iii. Detailed Reconnaissance;

iv. Identification of possible improvements in the existing alignment and bypassing congested locations with alternatives, evaluation of different alternatives comparison on techno-economic and other considerations and recommendations regarding most appropriate option;

v. Traffic studies including traffic surveys and Axle load survey and demand forecasting for next thirty years;

vi. Inventory and condition surveys for road;

vii. Inventory and condition surveys for bridges, cross-drainage structures, other Structures, river Bank training/Protection works and drainage provisions;

viii. Detailed topographic surveys using LiDAR equipped with minimum engineering grade system or any other better technology having output accuracy not less than (a) specified in IRC SP 19 (b) Total Station (c) GPS/ DGPS. The use of conventional high precision instruments i.e Total Station or equivalent can be used at locations such as major bypasses, water bodies etc. where it may not be possible to survey using LiDAR. Use of mobile / Aerial LiDAR survey is preferable.

ix. Pavement investigations;

x. Sub-grade characteristics and strength: investigation of required sub-grade and sub-soil characteristics and strength for road and embankment design and sub soil investigation;

xi. Identification of sources of construction materials;

Detailed design of road, its x-sections, horizontal and vertical alignment and design of embankment of height more than 6m and also in poor soil conditions and where density consideration require, even lesser height embankment. Detailed design of structures preparation of GAD and construction drawings and cross-drainage structures and underpasses etc.

xii. Identification of the type and the design of intersections;

xiii. Design of complete drainage system and disposal point for storm water

xiv. Value analysis / value engineering and project costing;

xv. Economic and financial analyses;

xvi. Contract packaging and implementation schedule.

xviii Strip plan indicating the scheme for carriageway widening, location of all existing utility services (both over- and underground) and the scheme for their relocation, trees to be felled, transplanted and planted and land acquisition requirements including schedule for LA: reports documents and drawings arrangement of estimates for cutting/ transplanting of trees and shifting of utilities from the concerned department;

xix Develop 3D engineered models of terrain and elevation, as-is project highway, proposed and project highway along with all features, current and proposed structures, current and proposed utilities and land acquisition plans.

xx To find out financial viability of project for implementation and suggest the preferred mode on which the project is to be taken up.

xxi. Preparation of detailed project report, cost estimate, approved for construction Drawings, rate analysis, detailed bill of quantities, bid documents for execution of civil works through budgeting resources.

xxii. Design of toll plaza and identification of their numbers and location and office cum residential complex including working drawings

xxiii. Design of weighing stations, parking areas and rest areas.

xxiv. Any other user oriented facility en-route toll facility.

xxv. Tie-in of on-going/sanctioned works of MORT&H/ NHAI / other agencies.

xxvi. Preparation of social plans for the project affected people as per policy of the lending agencies/ Govt. of India R&R Policy.

4.2 While carrying out the field studies, investigations and design, the development plans being implemented or proposed for future implementation by the local bodies, should be taken into account. Such aspect should be clearly brought out in the reports and drawings. It must be noted that the DPR consultant shall get all the geotechnical investigations and testing done through the agencies satisfying the NABL accreditation Criteria attached with the RFP.

All samples are to be sealed and retained by the Geotechnical Agency as per relevant IRC/IS codal provisions and good industry practice, at the space provided by NHAI/MoRTH/ NHIDCL/ BRO PIU till approval of all designs by the AE/IE during the actual construction stage.

Alternatively, DPR Agencies can conduct geotechnical investigations and testing through agencies empanelled by Ministry of RT&H / NHIDCL/ NHAI.

4.3 The consultant shall study the possible locations and design of toll plaza, wayside amenities required and arboriculture along the highway shall also be planned.

4.4 The local and slow traffic may need segregation from the main traffic and provision of service roads and physical barrier including fencing may be considered, wherever necessary to improve efficiency and safety.

4.5 **Standards and Codes of Practices**

1. All activities related to field studies, design and documentation shall be done as per the latest guidelines/ circulars of MoRT&H and relevant publications of the Indian Roads Congress (IRC) and Bureau of Indian Standards (BIS). For aspects not covered by IRC and BIS, international standards practices, may be adopted. The Consultants, upon award of the Contract, may finalize this in consultation with NHAI and reflect the same in the inception report. The DPR consultant can also propose specifications and designs as per Euro (EN)/ASHTO codes with due comparison of the same with respect to IRC/BIS provisions.

2. All notations, abbreviations and symbols used in the reports, documents and drawings shall be as per IRC:71.

4.6 Quality Assurance Plan (QAP)

1. (i) The Consultants should have detailed Quality Assurance Plan (QAP) for all field studies including topographic surveys, traffic surveys, engineering surveys and investigations, design and documentation activities. The quality assurance plans/procedures for different field studies, engineering surveys and investigation, design and documentation activities should be presented as separate sections like engineering surveys and investigations, traffic surveys, material geo-technical and sub- soil investigations, road and pavement investigations, investigation and design of bridges & structures, environment and R&R assessment, economic & financial analysis, drawings and documentation, preparation, checking, approval and filing of calculations, identification and tractability of project documents etc. Further, additional information as per format shall be furnished regarding the details of personal who shall be responsible for carrying out/preparing and checking/verifying various activities forming part of feasibility study and project preparation, since inception to the completion of work. The detailed Draft QAP Document must be discussed and finalized with the concerned NHAI officers immediately upon the award of the Contract and submitted as part of the inception report.

   (ii) It is imperative that the QAP is approved by NHAI before the Consultants start the field work.

2. Data formats for report and investigation results

   i. Required data formats for some reports, investigations and documents are discussed in **Error! Reference source not found.**.

   ii. The consultants will need to propose data formats for use in all other field studies and investigations not covered in enclosure IV.

   iii. The proposed data forms will need to be submitted for the approval of NHAI after the commencement of services.

4.7 Review of Data and Documents

1. The Consultants shall collect the available data and information relevant for the Study. The data and documents of major interest shall include, but not be limited to, the following:

   i. Climate;

   ii. Road inventory

   Road condition, year of original construction, year and type of major maintenance/rehabilitation works;

iv. Condition of bridges and cross-drainage structures;

v. sub-surface and geo-technical data for existing bridges;

vi. Hydrological data, drawings and details of existing bridges;

vii Existing geological maps, catchment area maps, contour plans etc. for the project area

viii Condition of existing river bank / protection works, if any.

ix. Details of sanctioned / on-going works on the stretch sanctioned by MoRT&H/other agencies for Tie-in purposes

x. Survey and evaluation of locally available construction materials;

xi. Historical data on classified traffic volume (preferably for 5 years or more);

xii. Origin-destination and commodity movement characteristics; if available

xiii. Speed and delay characteristics; if available;

xiv. Commodity-wise traffic volume; if available;

xv. Accident statistics; and,

xvi. Vehicle loading behavior (axle load spectrum), if available.

xvii Type and location of existing utility services (e.g. Fibre Optical Cable, O/H and U/G Electric, Telephone line, Water mains, Sewer, Trees etc.)

xviii Environmental setting and social baseline of the project.

4.8. Social Analysis

The social analysis study shall be carried out in accordance with the MORT&H/World Bank/ADB Guidelines. The social analysis report will, among other things, provide a socio-economic profile of the project area and address in particular, indigenous people, communicable disease particularly HIV/AIDS poverty alleviation, gender, local population, industry, agriculture, employment, health, education, health, child labor, land acquisition and resettlement .

4.9 Traffic Surveys

All traffic surveys and studies will be completed in feasibility studies.

4.9.1 Number and Location of Survey Stations

1. The type of traffic surveys and the minimum number of survey stations shall normally be as under, unless otherwise specifically mentioned.

Sl. No.	Description	Number of Survey Stations
1.	Classified Traffic Volume Count	3
2.	Origin-Destination and Commodity Movement Characteristics	Minimum 2
3.	Axle Loading Characteristics	2
4.	Intersection Volume Count	All Major Intersections
5.	Speed-Delay Characteristics	Project Road Section
6.	Pedestrian/animal cross traffic count	All major inhabitations along the highway
7.	Turning movement surveys	For all major intersections

2. The number of survey locations indicated in the table above are indicative only for each road stretch under a package. The Consultants shall, immediately upon award of the work, submit to NHAI, proposals regarding the total number as well as the locations of the traffic survey stations as of inception report. Suitable maps and charts should accompany the proposals clearly indicating the rationale for selecting the location of survey Station.

3. The methodology of collection and analysis of data, number and location of traffic survey stations shall be finalized in consultation with NHAI prior to start of the traffic survey.

4.9.2. Classified Traffic Volume Count Survey

1. Consultant shall make use of traffic survey done by Indian Highways Management Company Limited (IHMCL) using ATCC systems. However in isolated locations where there are site constraints, manual counting can be done. If required, especially in cases where a particular stretch is not covered by IHMCL, DPR consultant should carry out classified traffic volume count survey using ATCC systems or latest modern technologies.

2. Consultant shall use ATCC systems that can meet the following accuracy levels after validation/ calibration:

(a) Classification of vehicles: better than 95%

(b) Counting of vehicles: better than 98%

Before validation and calibration, the ATCC system shall meet the following accuracy levels:

(a) Classification of vehicles: better than 90%

(b) Counting of vehicles: better than 95%

For verification of above accuracy levels, audit of raw ATCC shall be done by the consultant on a sampling basis and should submit a certificate in this regard.

3. ATCC systems such as Pneumatic Tube Detector, Inductive Detector Loop, Video Image Detection, and Infrared Sensor or latest technologies shall be adopted.

4. The classified traffic volume count surveys shall be carried out for 7 days (continuous, direction-wise) at the selected survey stations. The vehicle classification system as given in relevant IRC code may be followed. However, the following generalized classification system is suggested in view of the requirements of traffic demand estimates and economic analysis:

Motorised Traffic		Non-Motorised Traffic
2-Wheeler		Bi-Cycle
3-Wheeler		Cycle-Rickshaw
Passenger Car		Animal Drawn Vehicle (ADV)
Utility Vehicle (Jeep, Van etc.)		Hand Cart
		Other Non-Motorised Vehicle
Bus	Mini Bus Standard Bus	
LCV	LCV-Passenger	

	LCV-Freight		
Truck	MCV : 2-Axle Rigid Chassis		
	HCV : 3-Axle Rigid Chassis		
	MAV	Semi Articulated	
		Articulated	

5. All results shall be presented in tabular and graphical form. The survey data shall be analyzed to bring out the hourly and daily variations. The traffic volume count per day shall be averaged to show a weekly average daily traffic (ADT) by vehicle type. The annual average daily traffic (AADT) shall be worked out by applying seasonal factors.

6. The consultant shall compile the relevant traffic volume data from secondary sources also. The salient features of traffic volume characteristics shall be brought out and variations if any, from the traffic census carried out by the State PWD shall be suitably explained.

4.9.3. Origin Destination and Commodity Movements Surveys

1. The consultants shall carry out 1-day (24 hour, both directions) O-D and commodity movement surveys at locations finalized in consultation with NHAI. These will be essentially required around congested towns to delineate through traffic. The road side interviews shall be carried out on random sample basis and cover all four-wheeled vehicles. The location of the O-D survey and commodity movement surveys shall normally be same as for the classified traffic count.

2. The location of origin and destination zones shall be determined in relation to each individual station and the possibility of traffic diversion to the Project Road from/to other road routes including bypasses.

3. The trip matrices shall be worked out for each vehicle type information on weight for trucks should be summed up by commodity type and the results tabulated, giving total weight and average weight per truck for the various commodity types. The sample size for each vehicle type shall be indicated on the table and also in the graphical representations.

4. The data derived from surveys shall also be analyzed to bring out the lead and load characteristics and desire line diagrams. The data analysis should also bring out the requirement for the construction of bypasses.

5. The distribution of lead and load obtained from the surveys should be compared. The axle load surveys shall normally be done using axle load pads or other sophisticated instruments. The location(s) of count station(s) and the survey with those derived from the axle load studies.

6. The commodity movement data should be duly taken into consideration while making the traffic demand estimates.

4.9.4. Turning Movement Surveys

1. The turning movement surveys for estimation of peak hour traffic for the design of major and minor intersections shall be carried out for the Study. The details regarding composition and directional movement of traffic shall be furnished by the Consultant.

2. The methodology for the surveys shall be as per IRC: SP: 41-1994. The details including location and duration of surveys shall be finalized in consultation with NHAI officials. The proposal in response to this TOR shall clearly indicate the number of locations that the Consultants wish to conduct turning movement surveys and the rationale for the same.

3. The data derived from the survey should be analyzed to identify requirements of suitable remedial measures, such as construction of underpasses, fly-overs, interchanges, grade-separated intersections along the project road alignment. Intersections with high traffic volume requiring special treatments either presently or in future shall be identified.

4.9.5. Axle Load Surveys

1. Axle load surveys in both directions shall be carried out at suitable location(s) in the project road stretch on a random sample basis normally for trucks only (both empty and loaded trucks) for 2 normal days - (24 hours) at special count stations to be finalized in consultation with NHAI. However, a few buses may be weighed in order to get an idea about their loading behavior. While selecting the location(s) of axle load survey station(s), the locations of existing bridges with load restrictions, if any, should be taken into account and such sites should be avoided.

2. Axle load surveys shall normally be done using axle load pads or other sophisticated instruments. The location(s) of count station(s) and the survey methodology including the data formats and the instrument type to be used shall be finalized before taking up the axle load surveys

3. The axle load data should be collected axle configuration-wise. The number of equivalent standard axles per truck shall be calculated on the basis of results obtained. The results of the survey should bring out the VDF for each truck type (axle configuration, if the calculated VDF is found to be below the national average, then national average shall be used. Furthermore, the data from axle load surveys should be analyzed to bring out the Gross Vehicle Weight (GVW) and Single Axle Load (SAL) Distributions by truck type (axle configuration).

4. The Consultant shall ascertain from local enquiries about the exceptional live loads that have used the highway in the past in order to assess the suitability of existing bridges to carry such loads.

4.9.6. Speed-Delay Surveys

The Consultants shall carry out appropriate field studies such as moving car survey to determine running speed and journey speed. The data should be analyzed to identify sections with typical traffic flow problems and congestion. The objective of the survey would be to recommend suitable measures for segregation of local traffic, smooth flow of through traffic and traffic safety. These measures would include the provision of bypasses, under-passes, fly-overs, interchanges, grade-separated intersections and service roads.

4.9.7 Pedestrian / animal cross traffic surveys:

1. These shall be conducted to determine if provision of viaduct for pedestrians/animals is necessary to improve the traffic safety.

2. Consultant shall leverage information from local consultations, inputs from local governmental/ non-governmental agencies in selecting sites for checking pedestrian/ animal crossing traffic surveys.

3. Surveys for provision of pedestrian crossings shall minimum be conducted at all junctions being replaced by grade separators.

4.9.8 Truck Terminal Surveys

The data derived from the O-D, speed-delay, other surveys and also supplementary surveys should be analyzed to assess requirements for present and future development of truck terminals at suitable locations en route.

4.10. Traffic Demand Estimates

1. The consultants shall make traffic demand estimates and establish possible traffic growth rates in respect of all categories of vehicles, taking into account the past trends, annual population and real per capita growth rate, elasticity of transport demand in relation to income and estimated annual production increase. The other aspects including socio-economic development plans and the land use patterns of the region having impact on the traffic growth, the projections of vehicle manufacturing industry in the country, development plans for the other modes of transport, O-D and commodity movement behavior should also be taken into account while working out the traffic demand estimates.

2. The values of elasticity of transport demand shall be based on the prevailing practices in the country. The Consultants shall give complete background including references for selecting the value of transport demand elasticity.

3. It is envisaged that the project road sections covered under this TOR would be completed and opened to traffic after 3 years. The traffic demand estimates shall be done for a further period of 30 years from completion of two/four lane. The demand estimates shall be done assuming three scenarios, namely, optimistic, pessimistic and most likely traffic growth. The growth factors shall be worked out for five-yearly intervals.

4. Traffic projections should be based on sound and proven forecasting techniques. In case traffic demand estimated is to be made on the basis of a model, the application of the model in the similar situation with the validation of the results should be established. The traffic projections should also bring out the possible impact of implementation of any competing facility in the near future. The demand estimates should also take into account the freight and passenger traffic along the major corridors that may interconnect with the project. Impact of toll charges on the traffic estimates should be estimated.

5. The methodology for traffic demand estimates described in the preceding paragraphs is for normal traffic only. In addition to the estimates for normal traffic, the Consultants shall also work out the estimates for generated, induced and diverted traffic.

6. The traffic forecasts shall also be made for both diverted and generated traffic.

7. Overall traffic forecast thus made shall form the basis for the design of each pavement type and other facilities/ancillary works.

4.11. Engineering Surveys and Investigations

4.11.1. Reconnaissance and Alignment

1. The Consultants should make an in-depth study of the available land width (ROW) topographic maps, satellite imageries and air photographs of the project area, geological maps, catchment area maps, contour plans, flood flow data and seismological data and other available relevant information collected by them concerning the existing alignment. Consultant himself has to arrange the required maps and the information needed by him from the potential sources. Consultant should make efforts for minimizing land acquisition. Greater use of technology for LA be adopted by the consultant at the DPR stage so as to have a precise land acquisition process.

2. The detailed ground reconnaissance may be taken up immediately after the study of maps and other data. The primary tasks to be accomplished during the reconnaissance surveys include;

(i). Topographical features of the area;

typical physical features along the existing alignment within and outside ROW i.e. land use Pattern;

possible alignment alternatives, vis-a-vis, scheme for the construction of additional lanes parallel to the existing road;

realignment requirements including the provision of bypasses, ROBs / Flyovers and via-duct for pedestrian crossings with possible alignment alternatives;

preliminary identification of improvement requirements including treatments and measures needed for the cross-roads;

traffic pattern and preliminary identification of traffic homogenous links;

sections through congested areas;

inventory of major aspects including land width, terrain, pavement type, carriageway type, bridges and structures (type, size and location), intersections(type, cross-road category, location) urban areas (location, extent), geologically sensitive areas, environmental features:

critical areas requiring detailed investigations; and, Requirements

for carrying out supplementary investigations. soil (textural

classifications) and drainage conditions

Type and extent of existing utility services along the alignment (within ROW).

Typical physical features along the approach roads

Possible bridge locations, land acquisition problems, nature of crossings, likely length of approaches and bridge, firmness of banks, suitability of alignment of approach roads.

3. The data derived from the reconnaissance surveys are normally utilized for planning and programming the detailed surveys and investigations. All field studies including the traffic surveys should be taken up on the basis of information derived from the reconnaissance surveys.

4. The data and information obtained from the reconnaissance surveys should be documented. The data analysis and the recommendations concerning alignment and the field studies should be included in the Inception Report. The data obtained from the reconnaissance surveys should form the core of the database which would be supplemented and augmented using the data obtained from detailed field studies and investigations.

5. The data obtained from the reconnaissance surveys should be compiled in the tabular as well as graphical (chart) form indicating the major physical features and the proposed widening scheme for NHAI's comments. The data and the charts should also accompany the rationale for the selection of traffic survey stations.

4.11.2. Topographic Surveys

1. The basic objective of the topographic survey would be to capture the essential ground features along the alignment in order to consider improvements and for working out improvements, rehabilitation and upgrading costs. The detailed topographic surveys should normally be taken up after the completion of reconnaissance surveys.

2. The carrying out of topographic surveys will be one of the most important and crucial field tasks under the project. Technologies which can meet the following accuracy levels shall be adopted. For land based surveys (a) Fundamental horizontal accuracy of 5cm or better (b) Fundamental vertical accuracy of 5cm or better (c) More than 50 points shall be measured per sq. m and for aerial based surveys (a) Fundamental horizontal accuracy of 5 cm or better (b) Fundamental vertical accuracy of 5 cm or better (c) More than 10 points shall be measured per sq. m. To establish accuracy, a check point survey using DGPS (for horizontal accuracy) and Auto Level (for vertical accuracy) shall be carried out to establish the fundamental horizontal and vertical accuracy. A minimum of 25 check points, or check points once every 4 km should be established, and these should be strictly different from any geo-referencing or control network points.

3. The following are the set of deliverables which should be submitted after completion of survey:

(a). Raw DGPS data for the entire highway length and adjoining areas of interest

(b). Point cloud data or equivalent for the entire highway length and adjoining areas of interest in a format/ platform as per industry good practice which shall be amenable to operations by NHAI / Consultant. NHAI may decide about format/ platform of point cloud data

(c). Topographic map of scale 1:1000 of the entire highway length and adjoining areas of interest

(d). Contour map of 50 cm of entire highway length and adjoining areas of interest

(e). Cross section of the highway at every 50 m in drawing format.

(f). Develop a digital elevation/surface model (bare earth model from survey data) digital terrain model combining topographic data from LiDAR, road inventory and other available sources of data for use while modeling the road alignment and road and structure design.

(g). For land based surveys, Mobile LiDAR (Light Detection and Ranging) or better technology that can meet above requirements shall be adopted. For aerial based surveys, Aerial Mobile LiDAR (Light Detection and Ranging) or better technology that can meet above requirements shall be adopted. Where possible, mobile/terrestrial LiDAR and total station or better studies should be used to supplement aerial LiDAR for the final alignment chosen. Aerial based surveys shall be used as the primary source of topographical data only in cases where a new/green field alignment is being planned and/or major junctions are being planned where it is necessary to significantly increase the survey corridor beyond the capabilities of mobile LiDAR. In shadow areas such as invert levels below culverts, terrestrial LiDAR shall be used where LiDAR or better technologies cannot survey accurately, traditional methods of Total Station/ Auto Level shall be used to complete the study.

(h). In case of mobile LiDAR or better technology, 360 degree panoramic images of the entire highway length and adjoining areas of interest shall be submitted. In case of aerial LiDAR or better technology, ortho-images of the entire highway length and adjoining areas of interest shall be submitted.

(i). The detailed field surveys would essentially include the following activities:

(a) Topographic Surveys along the Existing Right of Way (ROW): Carrying out topographic survey using LiDAR or better technology along the existing road and realignments, wherever required and properly referencing the same with reference pillars fixed on either side of the centre-line at safe places within the ROW

(b) The detailed field surveys would essentially include the topographic surveys along the proposed location of bridge and alignment of approach road.

(c) The detailed topographic surveys should be carried out along the approach roads alignment and location of bridge approved by NHAI.

(d) Collection/ Extraction of details for all features such as structures (bridges, culverts etc.) utilities, existing roads, electric and telephone installations (both O/H as well as underground), huts, buildings, fencing and trees (with girth greater than 0.3metre) oil and gas lines etc. falling within the extent of survey.

4. The width of survey corridor will generally be as given under:

(i). The width of the survey corridor should take into account the layout of the existing alignment including the extent of embankment and cut slopes and the general ground profile. While carrying out the field surveys, the widening scheme (i.e. right, left or symmetrical to the centre line of the existing carriageway) should be taken into consideration so that the topographic surveys cover sufficient width beyond the centre line of the proposed divided carriageway. Normally the surveys should extend a minimum of 30 m beyond either side of the centre line of the proposed divided carriageway or land boundary whichever is more

(ii) In case the reconnaissance survey reveals the need for bypassing the congested locations, the traverse lines would be run along the possible alignments in order to identify and select the most suitable alignment for the bypass. The detailed topographic surveys should be carried out along the bypass alignment approved by NHAI. At locations where grade separated intersections could be the obvious choice, the survey area will be suitably increased. Field notes of the survey should be maintained which would also provide information about traffic, soil, drainage etc.

(iii) The width of the surveyed corridor will be widened appropriately where developments and / or encroachments have resulted in a requirement for adjustment in the alignment, or where it is felt that the existing alignment can be improved upon through minor adjustments.

(iv) Where existing roads cross the alignments, the survey will extend a minimum of100 m either side of the road centre line and will be of sufficient width to allow improvements, including at grade intersection to be designed.

5. The surveyed alignment shall be transferred on to the ground as under:

i. Reference Pillar and Bench Mark / Reference pillar of size 15 cm X 15 cm X 45cm shall be cast in RCC of grade M 15 with a nail fixed in the centre of the top surface. The reference pillar shall be embedded in concrete upto a depth of 30cm with CC M10 (5 cm wide all around). The balance 15 cm above ground shall be painted yellow. The spacing shall be 250m apart, incase Bench Mark Pillar coincides with Reference Pillar, only one of the two need be provided.

ii. Establishing Bench marks at site connected to GTS Bench marks at a interval of250 metres on Bench mark pillar made of RCC as mentioned above with RL and BM No. marked on it with red paint.

iii. **Boundary Pillars**- Wherever the proposed alignment follows the existing alignment, the boundary pillars shall be fixed by the DPR consultant at an interval of 200m on either side of proposed Right of Way. Wherever there is a proposal of realignment of the existing Highway and/or construction of New Bypasses, Consultant shall fix boundary pillars along the proposed alignment on the extreme boundary on either side of the project Highway at 50 m interval. Boundary pillars shall be strictly provided as per IRC:25:1967.

4.11.2.1 Longitudinal and Cross-Sections

The topographic surveys for longitudinal and cross-sections shall cover the following:

i. Longitudinal section levels along final centre line shall be taken at every 10 m interval. The levels shall be taken at closer intervals at the curve points, small streams, and intersections and at the locations of change in elevation. The interval shall also be modified as per IRC:SP-19 for rolling, mountainous & steep terrain.

ii. Cross sections at every 50 m interval in full extent of survey covering sufficient number of spot levels on existing carriageway and adjacent ground for profile correction course and earth work calculations. Cross sections shall be taken at closer interval at curves. The interval shall be modified as per IRC SP 19 for rolling, mountainous & steep terrain.

iii. Longitudinal section for cross roads for length adequate for design and quantity estimation purposes.

iv. Longitudinal and cross sections for major and minor streams shall cover Cross section of the channel at the site of proposed crossing and few cross sections at suitable distance both upstream and downstream, bed level upto top of banks and ground levels to a sufficient distance beyond the edges of channel, nature of existing surface soil in bed, banks & approaches, longitudinal section of channel showing site of bridge etc. These shall be as per recommendations contained in IRC Special Publication No. 13 (Guidelines for the Design of Small Bridges and Culverts) and provisions of IRC:5 ("Standard Specifications & Code of Practice for Road Bridges, Section 1 – General Features of Design").

2. At feasibility study stage cross sections at 50m interval may be taken.

3. Consultants shall also develop an as-is map of the road including:

i. Geo-referenced digital map of as-is project highway

ii. Earth surface, road layers, utilities, buildings and trees with feature data extracted and mapped in layers, marked on the map and tabulated data provided separately.

iii. All road, surface, sub surface inventory, pavement investigation and soil survey data to be super-imposed as layers using geo- referencing data

4.11.2.2 Details of utility Services and Other Physical Features

1. The Consultants shall collect details of all important physical features along the alignment. These features affect the project proposals and should normally include buildings and structures, monuments, burial grounds, cremation grounds, places of worship, railway lines, stream / river / canal, water mains, sewers, gas/oil pipes, crossings, trees, plantations, utility services such as electric, and telephone lines (O/H & U/G) and poles, optical fibre cables (OFC) etc. The survey would cover the entire right-of-way of the road on the adequate allowance for possible shifting of the central lines at some of the intersections locations.

2. Consultant shall also map out sub-surface utilities. Accurate mapping and resolution of all sub-surface utilities up to a depth of 4 m shall be carried out. Differentiation between sub-surface utilities such as live electric cables, metallic utilities and other utilities shall be indicated and sub-surface utilities radargrams further processed into utility maps in formats such as PDF, JPEG and AutoCAD shall be furnished. To meet the accuracy levels, consultant shall use Ground Penetrating Radar, Induction Locator or better technologies.

3. The information collected during reconnaissance and field surveys shall be shown on a strip plan so that the proposed improvements can be appreciated and the extent of land acquisition with LA schedule, utility removals of each type etc. assessed and suitable actions can be initiated. Separate strip plan for each of the services involved shall be prepared for submission to the concerned agency.

4.11.3. Road and Pavement Investigations

The Consultants shall carry out detailed field studies in respect of road and pavement. The data collected through road inventory and pavement investigations should be sufficient to meet the input requirements of HDM- IV.

4.11.3.1 Road Inventory Surveys

1. Detailed road inventory surveys shall be carried out to collect details of all existing road and pavement features along the existing road sections. The inventory data shall include but not limited to the following:

i. Terrain (flat, rolling, mountainous);

ii. Land-use (agricultural, commercial, forest, residential etc) @ every kilometre;

iii. Carriageway width, surfacing type @ every 500m and every change of feature whichever is earlier;

iv. Shoulder surfacing type and width @ every 500m and every change of feature whichever is earlier;

v. Sub-grade / local soil type (textural classification) @ every 500m and every change of feature whichever is earlier;

vi. Horizontal curve; vertical curve

vii. Road intersection type and details, at every occurrence;

viii. Retaining structures and details, at every occurrence;

ix. Location of water bodies (lakes and reservoirs), at every occurrence;

x. Height of embankment or depth of cut @ every 200m and every change of feature whichever is earlier.

xi. Land width i.e. ROW

xii. Culverts, bridges and other structures (type, size, span arrangement and location)

xiii. Roadside arboriculture

xiv. Existing utility services on either side within ROW. There shall be a provision of utility corridor for appropriate categories / combination of utilities in the construction of new 4/6 laning of National Highways. Such structures shall be located at appropriate location preferably as close to the extreme edge of Right of Way (RoW). In this connection, guidelines contained in IRC:98 shall be followed.

xv. General drainage conditions

xvi. Design speed of existing road

xvii. Details of all Hospitals with a distance of 500 m from the existing as well as the proposed alignment.

xviii. xviii. Details of all Educational Institutions along the existing as well as proposed alignment.

2. The data should be collected in sufficient detail. The data should be compiled and presented in tabular as well as graphical form. The inventory data would be stored in computer files using simple utility packages, such as EXCEL.

4.11.3.2 Pavement Investigation

1. Pavement Composition

i. The data concerning the pavement composition may be already available with the PWD. However, the consultants shall make trial pits to ascertain the pavement composition. The test pit interval will be as per Para 4 below.For each test pit, the following information shall be recorded:

- test pit reference (Identification number, location):
- pavement composition (material type and thickness); and
- subgrade type (textural classification) and condition (dry, wet)
- embankment (composition and geometry)

2. Road and Pavement Condition Surveys

i. Detailed field studies shall be carried out to collect road and pavement surface conditions. The data should generally cover:

- pavement condition (surface distress type and extent);
- shoulder condition;
- embankment condition; and
- drainage condition

Pavement Condition

- cracking (narrow and wide cracking), % of pavement area affected;
- raveling, % of pavement area affected;
- potholing, % of pavement area affected;
- edge break, length (m); and,
- rut depth, mm

Shoulder Condition

- Paved: Same as for pavement
- Unpaved: material loss, rut depth and corrugation,
- Edge drop, mm.

Embankment Condition

- general condition; and
- extent of slope erosion

ii. The objective of the road and pavement condition surveys shall be to identify defects and sections with similar characteristics. All defects shall be systematically referenced, recorded and quantified for the purpose of determining the mode of rehabilitation.

iii. In addition to visual means, the pavement condition surveys shall be carried out using Network Survey vehicles mounted with equipments such as high resolution cameras, digital laser profilometer, transverse profiler- the data from which should be geo-referenced using a DGPS receiver and in vehicle data processing software or equivalent technology to accurately measure the pavement surface properties covered earlier. This pavement condition survey shall also be used as a repository for civil work and shall be carried out as per the directions of NHAI.

iv. Supplemented by actual measurements and in accordance with the widely accepted methodology (AASHTO, IRC, OECD, TRL and World Bank Publications) adapted to meet the study requirements. The measurement of rut depth would be made using standard straight edges.

v. The shoulder and embankment conditions shall be evaluated by visual means and the existence of distress modes (cuts, erosion marks, failure, drops) and extent (none, moderate, frequent and very frequent) of such distress manifestations would be recorded.

vi. For sections with severe distresses, additional investigations as appropriate shall be carried out to determine the cause of such distresses.

vii. Middle 200m could be considered as representative sample for each one km. of road and incase all other things are considered similar.

Drainage Condition

- General condition
- Connectivity of drainage turnouts into the natural topography
- Condition in cut sections
- Condition at high embankments

The data obtained from the condition surveys should be analyzed and the road segments of more or less equal performance may be identified using the criteria given in IRC: 81-1997.

3. Pavement Roughness

i. The roughness surveys shall be carried out using a network survey vehicle mounted laser profilometer or better technology with specifications as described in para 2 above

i (a) In addition, the following criteria should be met by the process of defect detection:

- Roughness measurement with outputs of both raw longitudinal profiles and IRI calculation shall be reported at 100m referenced to the preceding LRP. The roughness must meet ASTM-E950 (equivalent to Class I road profiler).
- The IRI shall be determined for both wheelpaths over a minimum length of 250m for a minimum of 6 calibration sites with a roughness range between 2m/km and 8m/km. Calibration shall be made for speeds of 20, 30, 40, 50, 60 km/h.

ii. The surveys shall be carried out along the outer wheel paths. The surveys shall cover a minimum of two runs along the wheel paths for each direction.

iii. The results of the survey shall be expressed in terms of BI and IRI and shall be presented in tabular and graphical forms. The processed data shall be analyzed using the cumulative difference approach to identify road segments homogenous with respect to surface roughness.

4. Pavement Structural Strength

1. **The Consultants shall carry out structural strength surveys for existing pavements using** Falling Weight Deflectometer metre (FWD) in accordance with IRC 115 or IRC 117 as the case may be.

i. It is suggested that the deflection surveys may be carried out as per the scheme given below:

- mainline testing; and,
- Control section testing.

ii. The deflection tests for the mainline shall be carried out at every 500 m along the road sections covered under the study. The control section testing shall involve carrying out deflection testing for each 100 m long homogenous road segment along the road sections. The selection of homogenous segment shall be based on the data derived from pavement condition surveys. The total length of such homogenous segments shall not be less than 100 m per kilometre. The deflection measurements for the control section testing should be at an interval of not more than 10 m.

iii. Test pits shall be dug at every 500 m and also along each homogeneous road segment to obtain pavement composition details (pavement course, material type and thickness) so as to be able to study if a correlation exists between deflection and composition. If so, the relationship may be used while working out the overlay thickness for the existing pavement.

iv. Falling weight deflectometre_surveys may not be carried out for severely distressed sections of the road warranting reconstruction. The Consultants, immediately upon the award of the contract, shall submit to NHAI the scheme describing the testing schedule including the interval. The testing scheme shall be supported by data from detailed reconnaissance surveys.

v. It is mandatory for the consultant to use Falling weight deflectometre or alternative better technique for the evaluation of pavement strength, details of such methods or innovative features for deflection testing using Falling weight deflectometre along with the methodology for data analysis, interpretation and the use of such data for pavement overlay design purposes using IRC or any other widely used practices, such as AASHTO guidelines, should be got approved by NHAI. The sources of such methods should be properly referenced.

4.11.3.3 Subgrade Characteristics and Strength

1. Based on the data derived from condition (surface condition, roughness) and structural strength surveys, the project road section should be divided into segments homogenous with respect to pavement condition and strength. The delineation of segments homogenous with respect to roughness and strength should be done using the cumulative difference approach (AASHTO, 1993).

2. The data on soil classification and mechanical characteristics for soils along the existing alignments may already be available with the PWD. The testing scheme is, therefore, proposed as given under:

(i). For the widening (2-Laning) of existing road within the ROW, the Consultants shall test at least three sub-grade soil samples for each homogenous road segment or three samples for each soil type encountered, whichever is more.

For the roads along new alignments, the test pits for sub grade soil shall be @5km or for each soil type, whichever is more. A minimum of three samples should be tested corresponding to each homogenous segment.

3. The testing for subgrade soil shall include:

(i). in-situ density and moisture content at each test pit

(ii). Field CBR using DCP at each test pit

(iii). Characterization (grain size and Atterberg limits) at each test pit and,

(iv). Laboratory moisture-density characteristics (modified AASHTO compaction);

(v). Laboratory CBR (unsoaked and 4-day soak compacted at three energy levels) and swell.

4. For problematic soils, the testing shall be more rigorous. The characteristics with regard to permeability and consolidation shall also be determined for these soils. The frequency of sampling and testing of these soils shall be finalized in consultation with the NHAI officers after the problematic soil types are identified along the road sections.

5. The laboratory for testing of material should be got approved from NHAI before start of work.**4.11.4 Investigations for Bridges and Structure**

4.11.4.1 Inventory of Bridges, Culverts and Structures

The Consultants shall make an inventory of all the structures (bridges, viaducts, ROBs/RUB and other grade separated structures, culverts, etc.) along the road under the project. The inventory for the bridges, viaducts and ROBs shall include the parametres required as per the guidelines of IRC-SP:35. The inventory of culverts shall be presented in a tabular form covering relevant physical and hydraulic parametres.

4.11.4.2 Hydraulic and Hydrological Investigations

1. The hydrological and hydraulic studies shall be carried out in accordance with IRC Special Publication No. 13 (“Guidelines for the Design of Small Bridges and Culverts”) and IRC:5 (“Standard Specifications & Code of Practice for Road Bridges, Section I General Feature of Design”). These investigations shall be carried out for all existing drainage structures along the road sections under the study.

2. The consultant shall also collect information on observed maximum depth of scour.

3. In respect of major bridges, history of hydraulic functioning of existing bridge, if any, under flood situation, general direction of river course through structure, afflux, extent and magnitude of flood, effect of backwater, if any, aggradation/degradation of bed, evidence of scour etc. shall be used to augment the available hydrological data. The presence of flood control/ irrigation structures, if affecting the hydraulic characteristics like causing obliquity, concentration of flow, scour, silting of bed, change in flow levels, bed levels etc. shall be studied and considered in design of bridges. The details of any future planned work that may affect the river hydraulics shall be studied and considered.

4. The Consultants shall make a desk study of available data on topography (topographic maps, stereoscopic aerial photography), storm duration, rainfall statistics, top soil characteristics, vegetation cover etc. so as to assess the catchment areas and hydraulic parametres for all existing and proposed drainage provisions. The findings of the desk study would be further supplemented and augmented by a reconnaissance along the area. All-important hydrological features shall be noted during this field reconnaissance.

5. The Consultants shall collect information on high flood level (HFL), low water levels (LWL), high tide level (HTL), low tide level (LTL) where applicable, discharge velocity etc. from available past records, local inquiries and visible signs, if any, on the structural components and embankments. Local inquiries shall also be made with regard to the road sections getting overtopped during heavy rains.

6. Conducting Model studies for bridges is not covered in the scope of consultancy services. If Model study is envisaged for any bridge, requirement of the same shall be spelt out in the RPF documents separately indicating scope and time frame of such study. Salient features of the scope of services to be included for model study are given in the supplement- II Terms of Reference.

4.11.4.3 Condition Surveys for Bridges, Culverts and Structures

1. The Consultants shall thoroughly inspect the existing structures and shall prepare a report about their condition including all the parametres given in the Inspection pro-forma of IRC-SP:35. The condition and structural assessment survey of the bridges / culverts / structures shall be carried out by senior experts of the Consultants.

2. For the bridges identified to be in a distressed condition based upon the visual condition survey, supplementary testing shall be carried out as per IRC-SP:35 and IRC-SP:40. Selection of tests may be made based on the specific requirement of the structure.

3. The assessment of the load carrying capacity or rating of existing bridges shall be carried out under one or more of the following scenarios:

i. when the design live load is less than that of the statutory commercial vehicle plying or likely to ply on bridge;

ii. if during the condition assessment survey and supplementary testing the bridge is found to indicate distress of serious nature leading to doubt about structural and / or functional adequacy, and

iii. Design live load is not known nor are the records and drawings available.

4. The evaluation of the load carrying capacity of the bridge shall be carried out as per IRC-SP:37 ("Guidelines for Evaluation of Load Carrying Capacity of Bridges"). The analytical and correlation method shall be used for the evaluation of the load carrying capacity as far as possible. When it is not possible to determine the load carrying capacity of the bridge using analytical and correlation method, the same shall be carried out using load testing. The consultant has to exhaust all other methods of evaluation of strength of bridges before recommending to take up load testing of bridges. Road closure for testing if unavoidable shall be arranged by NHAI for limited duration say 12 hours or so.

5. Consultant shall carryout necessary surveys and investigations to establish the remaining service life of each retainable bridge or structure with and without the proposed strengthening and rehabilitation according to acceptable international practice in this regard.

4.11.4.4 Geo-technical Investigations and Sub-Soil Exploration

1. The Consultants shall carry out geo-technical investigations and sub-surface explorations for the proposed Bridges / Road over bridges/ tunnels/ viaducts/ interchanges/RE Wall locations etc., along high embankments and any other location as necessary for proper design of the works and conduct all relevant laboratory and field tests on soil and rock samples. The minimum scope of geo-technical investigations for bridge and structures shall be as under:

S. No.	Description	Location of Boring
1	Overall length = 6 – 30 m	One abutment location and at least one intermediate location between abutments for structures having more than one span
2	**Overall length = 30 – 60 m**	One abutment location and at least one intermediate location between abutments for structures having more than one span.
3	Overall length >60 m	Each abutment and each pier locations.

2. The deviation(s), if any, by the Consultants from the scheme presented above should be approved by NHAI.

3. However, where a study of geo-technical reports and information available from adjacent crossings over the same waterway (existing highway and railway bridges) indicates that subsurface variability is such that boring at the suggested spacing will be insufficient to adequately define the conditions for design purposes, the Consultants shall review and finalize the bore hole locations in consultation with the NHAI officers.

4. Geotechnical Investigations and Sub soil Exploration shall be carried out to determine the nature and properties of existing strata in bed, banks and approaches with trial pits and bore hole sections showing the levels, nature and properties of various strata to a sufficient depth below the level suitable for foundations, safe intensity of pressure on the foundation strata, proneness of site to artesian conditions, seismic disturbance and other engineering properties of soil etc. Geotechnical investigation and Sub-soil Exploration will be done as per IRC 78.

5. The scheme for the borings locations and the depth of boring shall be prepared by the Consultants and submitted to NHAI for approval. These may be finalized in consultation with NHAI.

6. The sub-soil exploration and testing should be carried out through the Geotechnical Consultants empanelled by NHAI>. The soil testing reports shall be in the format prescribed in relevant IRC Codes.

7. For the approach road pavement, bore holes at each major change in pavement condition or in deflection readings or at 2 km intervals whichever is less shall be carried out to a depth of at least 2 m below embankment base or to rock level and are to be fully logged. Appropriate tests to be carried out on samples collected from these bore holes to determine the suitability of various materials for use in widening of embankments or in parts of new pavement structure. The subsurface investigation for RE Wall locations shall be carried out as per Section 2 of the IS 18591:2024.

4.11.5. Material Investigations

1. The Consultants shall identify sources (including use of fly-ash/ slag), quarry sites and borrow areas, undertake field and laboratory testing of the materials to determine their suitability for various components of the work and establish quality and quantity of various construction materials and recommend their use on the basis of techno-economic principles. The Consultants shall prepare mass haul diagram for haulage purposes giving quarry charts indicating the location of selected borrow areas, quarries and the respective estimated quantities.

"Environment friendly materials"

"As per MORTH circular No. RW /NH-33044/53/2013-S&R(R) dated 20th November, 2013, alternative pavement materials and technologies for road construction shall be assessed and compared in the design stage. The alternative resulting in substantial reduction in GHG emission and with least life cycle cost shall be recommended for implementation.

Technical and economic feasibility of using industrial byproducts, recyclable and waste materials shall be assessed depending on their availability in the concerned region.

2. It is to be ensured that no material shall be used from the right-of-way except by way of leveling the ground as required from the construction point of view, or for landscaping and planting of trees etc. or from the cutting of existing ground for obtaining the required formation levels.

3. Environmental restrictions, if any, and feasibility of availability of these sites to prospective civil works contractors, should be duly taken into account while selecting new quarry locations.

4. The Consultants shall make suitable recommendations regarding making the borrow and quarry areas after the exploitation of materials for construction of works.

5. The Material Investigation aspect shall include preparation and testing of bituminous mixes for various layers and concrete mixes of different design mix grades using suitable materials (binders, aggregates, sand filler etc.) as identified during Material Investigation to conform to latest MoRT&H specification.

a. Detailed Design of Road and Pavements, Bridges, Structures

4.12.1. General

1. The Consultants are to carryout detailed designs and prepare working drawings for the following:

   i. High speed highway with divided carriageway configuration complete in all respects with service roads at appropriate locations;

ii. Design of pavement for the additional lanes and overlay for the existing road, paved shoulders, medians, verges;

iii. Bridges, viaduct/subways and other grade separated structures including ROBs/RUBs etc.

iv. At-grade and grade-separated intersections, interchanges (if required);

v. ROB for railway crossings as per the requirement and the standards of the Indian Railways; and,

vi. Prepare alignment plans, longitudinal sections and cross-sections@ 50mintervals;

vii. Designs for road furniture and road safety/traffic control features;

viii. Designs and drawings for service road/under passes/overpass / cattle passes tree planting/fencing at locations where necessary / required

ix. Toll plazas and office-cum-residential complex for NHAI (one for each civil contract package)

x. Short bypasses at congested locations

xi. Drainage design showing location of turnouts, out falling structures, separate drawings sheet for each 5 km. stretch.

xii. Bridges and structures rehabilitation plan with design and drawings

xiii. Traffic amenities (Parking Areas, Weighing Station and Rest Areas, etc.).

xiv. Design of pavement for approach road

xv. Design of river bank protection / training works. Innovative type of structures with minimum joints, aesthetically, pleasing and appropriate to the topography of the region shall be designed wherever feasible.

4.12.2. Design Standards

1. The Consultants shall evolve Design Standards and material specifications for the Study primarily based on IRC publications, MoRT&H Circulars and relevant recommendations of the international standards for approval by NHAI.

2. The Design Standards evolved for the project shall cover all aspects of detailed design including the design of geometric elements, pavement design, bridges and structures, traffic safety and materials.

4.12.3. Geometric Design

1. The design of geometric elements shall, therefore, take into account the essential requirements of such facilities.

2. Based on the data collected from reconnaissance and topographic surveys, the sections with geometric deficiencies, if any, should be identified and suitable measures for improvement should be suggested for implementation.

3. The data on accident statistics should be compiled and reported showing accident type and frequency so that black spots are identified along the project road section. The possible causes (such as poor geometric features, pavement condition etc.) of accidents should be investigated into and suitable cost-effective remedial measures suggested for implementation.

4. The detailed design for geometric elements shall cover, but not be limited to the following major aspects:

i. horizontal alignment;

ii. longitudinal profile;

iii. cross-sectional elements, including refuge lane (50m) at every 2kms.

iv. junctions, intersections and interchanges;

v. bypasses; and,

vi. service roads as and when require i.e built up area.

5. The alignment design shall be verified for available sight distances as per the standard norms. The provision of appropriate markings and signs shall be made wherever the existing site conditions do not permit the adherence to the sight distance requirements as per the standard norms.

6. The consultants shall make detailed analysis of traffic flow and level of service for the existing road and workout the traffic flow capacity for the improved project road. The analysis should clearly establish the widening requirements with respect to the different horizon periods taking into account special problems such as road segments with isolated steep gradients.

7. In the case of closely spaced cross roads the Consultant shall examine different options such as, providing grade separated structure for some of them with a view to reduce number of at-grade crossings, services roads connecting the cross-roads and closing access from some of the intersections and prepare and furnish appropriate proposals for this purpose keeping in view the cost of improvement, impact on traffic movement and accessibility to cross roads. The detailed drawings and cost estimate should include the provisions for realignments of the existing cross roads to allow such arrangements.

8. The Consultant shall also prepare design of grade separated pedestrian crossings (viaducts) for large cross traffic of pedestrians and / or animals on the basis of passenger and animal cross traffic surveys conducted.

9. The Consultant shall also prepare details for at-grade junctions, which may be adopted as alternative to the grade separated structures. The geometric design of interchanges shall take into account the site conditions, turning movement characteristics, level of service, overall economy and operational safety.

10. The Consultants shall prepare design and other details in respect of the parallel service roads in urbanized locations and other locations to cater to the local traffic, their effect of the viability of the project on commercial basis if service roads are constructed as part of the project and the implications of not providing the service roads.

11. The consultant shall prepare complete road and pavement design including drainage for new bypass option identified around congested town en-route.

4.12.4. Pavement Design

1. The detailed design of pavement shall involve:

i. strengthening of existing road pavement and design of the new pavement if any, if the findings of the traffic studies and life-cycle costing analysis confirm the requirement for widening of the road beyond 2lane undivided carriageway standard;;

ii. pavement design for bypasses; and,

iii. design of shoulders.

2. The design of pavement shall primarily be based on IRC publications.

3. The design of pavement shall be rigorous and shall make use of the latest Indian and International practices. The design alternatives shall include both rigid and flexible design options. The most appropriate design, option shall be established on life-cycle costing and techno-economic consideration.

4. For the design of pavement, each set of design input shall be decided on the basis of rigorous testing and evaluation of its suitability and relevance in respect of in-service performance of the pavement. The design methodology shall accompany the design proposals and shall clearly bring out the basic assumptions, values of the various design inputs, rationale behind the selection of the design inputs and the criteria for checking and control during the implementation of works. In other words, the design of pavement structure should take due account of the type, characteristics of materials used in the respective courses, variability of their properties and also the reliability of traffic predictions. Furthermore, the methodology adopted for the design of pavement shall be complete with flowcharts indicating the various steps in the design process, their interaction with one another and the input parametre required at each step.

5. For the design of overlays for the existing 2-lane pavement, the strengthening requirement shall duly take into account the strength of the existing pavement vis-à-vis the remaining life. The overlay thickness requirements shall be worked out for each road segment homogenous with respect to condition, strength and sub- grade characteristics. The rehabilitation provisions should also include the provision of regulating layer. For existing pavement with acceptable levels of cracking, provision of a crack inhibiting layer should also be included.

5 (a) For rehabilitation and strengthening, consultant shall consider the alternatives of rehabilitating the existing pavement, overlaying with the same or alternate pavement type (e.g. white/black topping) and also the option of removal and replacement of existing pavement layers and chose the best alternative basis lifecycle costing, and any local considerations such as material availability, time available for construction etc.

6. Latest techniques of pavement strengthening like provision of geo-synthetics and cold/hot pavement recycling should be duly considered by the consultant for achieving economy. The use of technology particularly environment friendly technology viz. recycling of bituminous mixes, warm mixes and soil stabilization etc. should be adopted wherever feasible. Clause 519 of the "Specifications for Road and Bridge Works" (Fifth Revision) covers specifications for recycling of existing bituminous pavement materials to upgrade the pavements. These provisions notwithstanding, recycling of existing bituminous materials is yet to be implemented in most of the NHAI projects. The reclaiming and reprocessing of pavement materials involve both design (how the pavement should be designed using reclaimed materials with the given properties) and technology (the methods to reclaim and reprocess, equipment, knowhow and quality) issues. After addressing these issues, the recycling of pavements will be environmentally and economically better option for rehabilitation, repair or reconstruction compared to the use of fresh or virgin materials. Indian Road Congress has published IRC: 120-2015 on "recommended practice for recycling of bituminous pavements" giving a detailed procedure for its implementation

7. The paved shoulders shall be designed as integral part of the pavement for the main carriageway. The design requirements for the carriageway pavement shall, therefore, be applicable for the design of shoulder pavements. The design of granular shoulder should take into account the drainage considerations besides the structural requirements.

8. The pavement design task shall also cover working out the maintenance and strengthening requirements and periodicity and timing of such treatments.

4.12.5. Design of Embankments

1. The embankments design should provide for maximum utilization of locally available materials consistent with economy. Use of fly ash wherever available with in economical leads must be considered. In accordance with Government instructions, **use of fly ash within 300 km from Thermal Power Stations is mandatory** as per extra ordinary Gazette Notification No. S.O. 254 (E) Part Section – III – Sub Section (ii) dated 25th January, 2016 and subsequent amendment, if any of Ministry of Environment, Forest and Climate change, New Delhi.

2. The Consultants shall carry out detailed analysis and design for all embankments of height greater than 6 m based on relevant IRC publications.

3. The design of embankments should include the requirements for protection works and traffic safety features.

4.12.6. Design of Bridges and Structures

1. The data collected and investigation results shall be analyzed to determine the following:

i. HFL

ii. LWL

iii. LBL

iv. Erodibility of bed/scour level

v. Design discharge

vi. Linear waterway and effective linear waterway

vii. Likely foundation depth

viii. Safe bearing capacity

ix. Engineering properties of sub soil

x. Artesian conditions

xi. Settlement characteristics

xii. Vertical clearance

xiii. Horizontal clearance

xiv. Free board for approach road

xv. Severity of environment with reference to corrosion

xvi. Data pertaining to seismic and wind load

xvii. Requirement of model study etc.

2. The Consultant shall prepare General Arrangement Drawing (GAD) and Alignment Plan showing the salient features of the bridges and structures proposed to be constructed / reconstructed along the road sections covered under the Study. These salient features such as alignment, overall length, span arrangement, cross section, deck level, founding level, type of bridge components(superstructure, substructure, foundations, bearings, expansion joint, return walls etc.) shall be finalized based upon hydraulic and geo-technical studies, cost effectiveness and ease of construction. The GAD shall be supplemented by Preliminary designs. In respect of span arrangement and type of bridge a few alternatives with cost-benefit implications should be submitted to enable NHAIto approve the best alternative. After approval of alignment and GAD the Consultant shall prepare detailed design as per IRC codes /guidelines and working drawings for all components of bridges and structures.

3. The location of all at-grade level crossings shall be identified falling across the existing level crossings for providing ROB at these locations. The Consultants shall prepare preliminary GAD for necessary construction separately to the Client. The Consultant shall pursue the Indian Railways Authorities or/and any statutory authority of State/Central Government for approval of the GAD from concerned Authorities.

4. GAD for bridges/structures across irrigation/water way channels shall be got approved from the concerned Irrigation/Water way Authorities. Subsequent to approval of GAD and alignment plan by NHAI, the Consultants shall prepare detailed design as per IRC codes/guidelines for all components of the bridges and structures.

5. Subsequent to the approval of the GAD and Alignment Plan by NHAI and Railways, the Consultant shall prepare detailed design as per IRC and Railways guidelines and working drawings for all components of the bridges and structures. The Consultant shall furnish the design and working drawings for suitable protection works and/or river training works wherever required.

6. Dismantling/ reconstruction of existing structures shall be avoided as far as possible except where considered essential in view of their poor structural conditions/ inadequacy of the provisions etc.

7. The existing structures having inadequate carriageway width shall be widened/reconstructed in part or fully as per the latest MoRT&H guidelines. The Consultant shall furnish the detailed design and working drawings for carrying out the above improvements.

8. Suitable repair / rehabilitation measures shall be suggested in respect of the existing structures as per IRC-SP:40 along with their specifications, drawings and cost estimate in the form of a report. The rehabilitation or reconstruction of the structures shall be suggested based on broad guidelines for rehabilitation and strengthening of existing bridges contained in IRC-SP:35 and IRC-SP:40.
9. Subsequent to the approval of the GAD and the alignment plan by NHAI, detailed design shall also be carried out for the proposed underpasses, overpasses and interchanges.
10. The Consultants shall also carry out the design and make suitable recommendations for protection works for bridges and drainage structures.
11. In case land available is not adequate for embankment slope, suitable design for RCC retaining wall shall be furnished. However, RES wall may also be considered depending upon techno-economic suitability to be approved by NHAI.
12. All the bridge structures having a length of 100 m or less can be used for tapping of water for serving dual purpose i.e., to cross the water body or to store water, if technically feasible. Therefore, such structures shall be designed as bridge cum barrage structures (bridge cum bandhara). Ministry's guidelines in this regard issued vide letter no. RW/NH- 34066/89/2015-S&R(B) dated 18.04.2017 may be referred.

4.12.7. Drainage System

1. The requirement of roadside drainage system and the integration of the same with proposed cross-drainage system shall be worked out for the entire length of the project road section.
2. In addition to the roadside drainage system, the Consultants shall design the special drainage provisions for sections with super-elevated carriageways, high embankments and for road segments passing through cuts. The drainage provisions shall also be worked out for road segments passing through urban areas.
3. The designed drainage system should show locations of turnouts/outfall points with details of outfall structures fitting into natural contours. A separate drawing sheet covering every 5 km. stretch of road shall be prepared.
4. The project highway shall be designed to have well designed efficient drainage system, which shall be subsurface, as far as possible. While constructing the underpasses, the finished road level shall be determined so as to ensure that the accumulation of rain water does not take place and run-off flows at the natural ground level. The drains, wherever constructed, shall be provided with proper gradient and connected to the existing outlets for final disposal.

5. The rain water harvesting requirements be assessed taking into consideration the Ministry of Environment & Forest Notification Dt. 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 06.11.2000). The construction of rainwater harvesting structure is mandatory in and around water scarce / crisis areas notified by the Central Ground Water Board. The provisions for rainwater harvesting be executed as per the requirements of IRC:SP:42-2014 (Guidelines for Road Drainage) and IRC:SP:50-2013 (Guidelines on Urban Drainage).

6. All the bridge structures having a length of 100m or less can be used for tapping of water for serving dual purpose i.e. to cross the water body and to store water, if technically feasible. Therefore, such structures should be designed as bridge cum barrage structures (bridge cum bandhara). Ministry's guidelines in this regard issued vide letter no. RW/NH-34066/59/2015-S&R(B) dated 18.04.2017 may be referred.

7. The locations of the culverts should be planned in such a way that the proposed culvert covers optimum catchment area & the location shall be decided on the basis of topographical survey, local rainfall data, gradient of natural ground and enquiry from the local habitants. All culverts should preferably be box culverts as pipe culverts get filled up with silt, which is rarely cleared.

4.12.8. Traffic Safety Features, Road Furniture and Road Markings

1. The Consultants shall design suitable traffic safety features and road furniture including traffic signals, signs, markings, overhead sign boards, crash barriers, delineators etc. The locations of these features shall be given in the reports and also shown in the drawings.

2. The Consultant should make the provisions for "the overhead (gantry-mounted) signs on roads with two or more lanes in the same direction" as per provisions of IRC-67. The minimum height of gantry mounted sign be 5.5 m above the highest point at the carriageway.

3. Road safety shall be the focus of design. The roads shall be forgiving, having self-explaining alignment, safe designed intersections / interchanges segregation and safe crossing facilities for VRUs with crash barriers at hazardous locations. The details of traffic signs and pavement markings with their locations, types and configuration shall be shown on the plan so that they are correctly provided.

4. DPR shall undergo the exercise of Road Safety Audit through the Road Safety Auditor (separate from design team) and recommendations mentioned be incorporated.

5. Road markings and proper signage constitute another important aspect of the Road safety. The DPR shall contain a detailed signage plan, indicating the places, directions, distances and other features, duly marked on the chainage plan. It shall specify the suitable places where FoBs are to be provided. Road marking and signage plan shall be included in DPR and shall be specifically approved by the NHAI.

6. Advanced Traffic Management System (ATMS) shall be in place for all 4/6 lane roads of NHAIbeing put to tolling. This would provide real time information, guidance and emergency assistance to users. ATMS would include outdoor equipment including emergency call boxes, variable message sign systems, meteorological data system, close circuit TV camera (CCTV) system in addition to any other equipment required to meet the objective. Indoor equipment would include large display board, central computer with Network Management System, CCTV monitor system and management of call boxes system with uninterrupted power supply, all housed in a central control centre. {In this connection, NHAI's policy circular no. 11.53/2023 dated 10.10.2023 may be referred} <relevant policy circular of agency to be mentioned>.

7. As availability of suitable sight distance has a large effect on road safety, the alignment of all the NHs should be finalized in such a way so as to have double the stopping sight distance available to the road users at all locations.

8. Cattle-Shelter

   (i) To enhance safety and minimize road accidents caused by stray animals on National Highways, the consultant is required to identify suitable locations for Cattle Shelter (for catering minimum 100 nos. of Cattle). Preference should be given to utilizing surplus available land within existing/proposed Right-of-Way. The General Arrangement & Layout of these Cattle-shelters should incorporate essential facilities, including:

      (a) Cattle Shed for housing the animals.

      (b) Fodder Storage for feed.

      (c) Medicine Room for veterinary supplies.

      (d) Paramedical Staff to care for the cattle.

      (e) Feeding Area for the cattle.

      (f) Water Source and Storage for drinking water.

      (g) Lighting Arrangements for safety during the night.

      (h) Basic Amenities for caretakers and staff (restrooms, accommodations, etc.).

      (i) Fencing to keep the cattle confined to the shelter area.

(ii) The consultant must ensure that these shelters are planned at intervals of approximately 50 km considering the adjoining project stretches of NHAI too, duly giving appropriate weightage/consideration to magnitude of such stray cattle movement in the vicinity of NH. These shelters should ideally be located near rural or urban areas where there is a significant cattle population and identified cattle movement routes/ crossings along the Project Highway.

(iii) In terms of construction, operation, and maintenance, the consultant shall identify and mention the relevant provisions of the guidelines issued by the Department of Animal Husbandry, Local Administration, or any other relevant authorities viz. The Cattle-Trespass Act, 1871; The Control of National Highways Act, 2002 and any other applicable regulations governing the management of cattle and prevention of accidents on National Highways, implementation of which shall be the obligation of the Concessionaire/Contractor and must be provisioned accordingly in the RFP of Civil Work.

(iv) The construction and associated services of the Cattle-shelters are to be kept within the Concessionaire/Contractor's scope but the cost of these activities shall not be included in the overall project cost for Civil Works. Instead, these services are to be carried out as part of the Corporate Social Responsibility (CSR) initiative by the Concessionaire/Contractor.

(v) Provisions for Injured Cattle - The consultant should also ensure that provisions are made for the care of injured cattle, which includes:

(a) Ramp Facilities for the safe loading and unloading of injured cattle into and off vehicles.

(b) A Cattle Ambulance service for transporting injured cattle to veterinary care centers.

4.12.9. Arboriculture and Landscaping

The Consultants shall work out appropriate plan for planting of trees (specifying type of plantation), horticulture, floriculture on the surplus land of the right-of way with a view to beautify the highway and making the environment along the highway pleasing. These activities should be included in the TOR for contractor/concessionaire and the cost of these activities shall also be added to the total project cost for civil works. The existing trees / plants shall be retained to the extent possible. The Transplantation of trees shall also be proposed wherever feasible.

4.12.10. Toll Plaza

1. The Consultants shall identify the possible toll plaza location(s) based on the data and information derived from the traffic studies and a study of the existing physical features including the availability of land. The location of the plaza should keep in view that the project road is to be developed as a partially access controlled highway facility and it is required to collect toll on rational basis from as much of the vehicular traffic as possible consistent with economy of collection and operations. The location of the toll plaza should be finalized in consultation with NHAI.

2. The minimum number of toll lanes at the toll plazas should be carefully designed taking into consideration the projected peak hour tollable traffic, permissible service time, adopted toll collection system and the capacity of service lanes. The number of lanes at any toll plaza would, however, be not less than four times the number of lanes for which the highway has been designed. Eventually, all the lanes have to be designed / equipped with Electronic Toll Collection (ETC) systems and one lane at the extreme outer side for Over Dimensioned Vehicles (ODV) should be earmarked in each direction.

3. Car lanes and lanes for commercial vehicles shall be earmarked at the toll plaza with outer lanes earmarked for the commercial vehicles. At least 50% of the total lanes on each side shall be equipped with weigh-in-motion facility for dedicated use by commercial vehicles followed by a static weigh bridge on either side. Number of lanes with weigh-in-motion facility may be suitably increased depending on proportion of commercial vehicles in total traffic Provision should be kept for acquisition and earmarking of about one acre area for parking of the overloaded vehicles.

4. Toll Plaza shall be designed as per IRC 84.

4.12.11. Weighing Station, Parking Areas and Rest Areas

1. The consultant shall select suitable sites for weighing stations, parking areas and rest areas and prepare suitable separate designs in this regard. The common facilities like petrol pump, first-aid medical facilities, police office, restaurant, vehicle parking etc. should be included in the general layout for planning. For petrol pump, the guidelines issued by OISD of Ministry of Petroleum shall be followed. The facilities should be planned to be at approximately 50 km interval. At least each facility (1 no.) is foreseen to be provided for this project stretch. Weighing stations can be located near toll plazas so that overloaded vehicles can be easily identified and suitably penalized and unloaded before being allowed to proceed further. The type of weighing system suitable for the project shall be brought out in the report giving merits of each type of the state-of-the art and basis of recommendations for the chosen system.

2. The Consultant should take into consideration the provisions for persons with disabilities (PwD) in way side amenity centres / rest areas and provide ramp facilities, exit / entrance door with minimum clear opening of 900 mm and special toilet facilities for use of handicapped persons. The consultant shall also take into consideration, the provisions for Pedestrians facilities as per IRC-103.

4.12.12 Miscellaneous Works

1. The Consultants shall make suitable designs and layout for miscellaneous works including rest areas, bus bays, vehicle parking areas, telecommunication facilities etc. wherever appropriate.

2. The Consultants shall prepare the detailed scheme and lay out plan for the works mentioned in Para 1.

3. The Consultants shall prepare detailed plan for the traffic management and safety during the construction period.

4.13 Environment Impact Assessment (EIA) and Social Impact Assessment (SIA)

The consultant shall under take the detailed environmental and social impact assessment in accordance with EIA Notification 14th September 2006 and its amendment from time to time, MoRTH Circulars, IRC Guidelines etc. for projects proposed to be funded by MORT&H/its implementing agencies and also compliance of the Report of the Expert Committee of MoEF&CC vide OM dated 19-07-2023 and Supplementary Report dated 01-04-2025 in compliance of the Order of Hon'ble Supreme Court dated 19.01.2021 in the matter SLP(C) No. 8665-8667 of 2020 titled as "The National Highways Authority of India Vs. Pandarinathan Govindarajulu & others.

Relevant Guidelines of ADB /World Bank/JICA are to be followed if the project is funded through their loan for implementation.

4.13.1 Environment Impact Assessment (EIA) and Environment Management Plan (EMP)

Environment impact assessment be carried out in accordance with EIA Notification 14th September 2006 and its amendment thereafter MoRTH Circulars, IRC Guidelines etc. for projects proposed to be funded by MORT&H/its implementing agencies and also compliance of the Report of the Expert Committee of MoEF&CC vide OM dated 19-07-2023 and Supplementary Report dated 01-04-2025 in compliance of the Order of Hon'ble Supreme Court dated 19.01.2021 in the matter SLP(C) No.8665-8667 of 2020 titled as "The National Highways Authority of India Vs. Pandarinathan Govindarajulu & others."

Relevant Guidelines of ADB /World Bank/JICA are to be followed if the project is funded through their loan for implementation.

1. The consultant should carry out the preliminary environmental screening to assess the direct and induced impacts due to the project on Land, Water, Air Environment, Flora & Fauna, Raw Material, Aesthetics, Socio-economic, Energy Conservation, Conservation of Eco-Fragile Areas, etc. as per the applicable Acts/Rules/ Guidelines of Govt. of India and concerned State Govt.
2. The consultant shall ensure to document baseline conditions relevant to the project with the objective to establish the benchmarks as per Primary Data, Secondary Data, Survey and Investigation and Modelling.
3. The consultant shall assess the potential impacts for all the environmental parameters and prepare the mitigation measures to address these impacts adequately for Land, Water & Air Environment, Flora & Fauna, Raw Material, Aesthetics, Socio-economic, Energy Conservation, Conservation of Eco-Fragile Areas, etc. in the EIA & EMP report.
4. The consultant shall do the analysis of alternatives incorporating Environmental concerns relating to Topography, Engineering, Administrative, Traffic, Financial, Carbon Foot Print, Socio-economic, aquatic and territorial ecology, CRZ areas, etc. This should include with and without scenario and modification incorporated in the proposed project due to Environmental and Social considerations.
5. The consultant shall give special attention on the environmental and social enhancement measures in the project for the following:

a. Cultural property enhancement along the highways.

b. Bus bays and bus shelters including a review of their location.

c. Road Safety aspects

d. Highway side landscape and enhancement of the road junctions,

e. Enhancement of highway side water bodies, and

f. Redevelopment of the borrow areas located

g. Conservation of Flora & Fauna and its habitats.

h. Site and Species-specific Wildlife Passages and Conservation Plan (if applicable) which is to be approved by the PCCF & CWLW.

i. Sound and Noise Barrier on all the structures in PA/Wildlife area/Animals Corridors/Sensitive area like Educational Institutes/Health/Cultural/Religious/Archaeological etc

j. Rejuvenation, Protection and Management of River Ganga and its tributaries to maintain the Ecological flow of water and Prevention, Control and abatement of environmental pollution for any activities on its Basin, Active Flood Plain, Water Courses, etc. as per National Mission for Clean Ganga (NMCG) Notification no. SO.3187 (E) dated 7th October 2016.

k. Green Belt Development Plan.

l. Protections on Slopes, Land Slides area etc.

m. Incorporation project specific issues in the design with approval of NHAI.

6. The consultant shall prepare the bill-of-quantities (BOQ) and technical specifications for all items of work in such a way that these may be readily integrated to the construction contracts.

7. The consultant shall establish a suitable monitoring network with regard to air, water, soil and noise pollution for preparation of EIA/EMP report. Air and Noise modelling should be carried out as per appropriate software. The consultant will also provide additional inputs in the areas of performance indicators and monitoring mechanisms for environmental components on the anticipated impacts during construction and operational phase of the project and its mitigation measures in the EIA & EMP which is to be followed by the contractor/concessionaire.

8. The consultant shall provide the detailed Environmental monitoring and management plan along with the budget of all the environmental monitoring parameters. Details of mitigation measures, issues raised during public hearing (if applicable), conservation of flora and fauna, greenbelt development, social awareness and training, provision of health and safety equipment to the project staff, etc. are to be included in the EMP.

9. The consultant shall prepare the documents as per the format/forms to obtain all the applicable statutory clearance's under respective Acts, Rules, Provisions of Government of India, IRC guidelines and local laws from the appropriate statutory authorities and it's the Quasi-Judicious bodies of MoEF&CC, Other Government Departments, State Government etc.

The consultants will prepare the project brief/report/document as per the respective formats, maps, site specific conservation plan, SIA, green belt development plan, disaster management plan, occupation, health & safety plan, 2D mathematical model (for construction of bridges in river Ganga & Yamuna and its tributaries), mangroves conservation plan (if CRZ-I A area), Muck disposal plan (for tunnelling and cutting), etc.

Consultant should present the project details before the respective Quasi Judicious bodies/Government as per applicable statutory clearances.

Consultant should have been accredited by National Accreditation Board for Education and Training (NABET). Consultant may engage/JV/MoU with the NABET accredited consultant, in case the DPR consultant does not have such type of accreditation.

There is a provision for engaging 1 full time retired Indian Forest Service (IFS) officer or State Forest Service (SFS) on regular payroll of DFO rank and above with over 15 years of experience in Forest & Wildlife Department as per Forest Clearance Consultants Organization (FCCO) scheme/guidelines of NABET.

Consultant should procure Permission/NOC of District Ganga Protection Committee, State Ganga Protection Committee and National Mission of Clean Ganga as per Notification No SO.3187 (E) 7th October 2016 for maintaining ecological flow of water in River Ganga, Yamuna and its tributary to be maintained for any activities on its Basin, Active Flood Plain, Water Courses, etc.

10. The consultant shall identify and plan for plantation and Transplantation of the suitable trees along the existing highway in accordance with IRC guidelines and amendments as well as in consultation with local forest department on the available RoW. Consultant shall prepare green belt plan with item wise specification, quantity, cost, maintenance etc.

11. The consultant shall provide appropriate input in preparation of relevant environment and social sections of DPR, feasibility reports, EIA & EMP and SIA report etc. as per EIA notification 2006 and its amendments thereafter and also the prevailing Acts/Guidelines of other Government Departments (if applicable).

12 Provision should be made for Noise and light Barriers wherever the project highway passes through dense habitation, sensitive areas like school, colleges, university, health centre, religious structures, archaeological structures, reserved forests, wildlife areas, WL corridors, etc. and also any recommendation of Wild Life Warden/Chief Wild Life Warden/State Board for Wild Life/National Board for Wild Life. Their location, dimension, type, material and shapes should be determined and defined in environment impact assessment studies forming part of DPR.

4.13.2 Social Assessment

1 The consultant would conduct base line socio-economic and census survey to assess the impacts on the people, properties and loss of livelihood. The socioeconomic survey will establish the benchmark for monitoring of R&R activities. A social assessment is conducted for the entire project to identify mechanisms to improve project designs to meet the needs of different stakeholders. A summary of stakeholder discussions, issue raised and how the project design was developed to meet stakeholders need would be prepared.

2 The consultant shall prepare Land Acquisition Plan and assist NHAI in acquisition of land under various Acts.

4.13.3 The consultant would prepare Resettlement and Rehabilitation Plan and assess feasibility and effectiveness of income restoration strategies and suitability and availability to relocation sites. The resettlement plan which accounts for land acquisition and resettlement impacts would be based on a 25% socio-economic survey and 100 % census survey of project affected people which provides the complete assessment of the number of affected households and persons, including common property resources. All untitled occupants are recorded at the initial stages and identify cards will be issued to ensure there is no further influx of people in to the project area. All consultations with affected persons (to include list of participants) should be fully documented and records made available to NHAI.

- Assessment on the impact of the project on the poor and vulnerable groups along the project road corridor.
- Based on the identified impacts, developing entitlement matrix for the project affected people.
- Assessment on social issues such as indigenous people, gender, HIV/AIDS, labourers including child labour.
- Implementation budgets, sources and timing of funding and schedule of tasks.
- Responsibility of tasks, institutional arrangements and personnel for delivering entitlement and plans to build institutional capacity.
- Internal and external monitoring plans, key monitoring indicators and grievance redress mechanism.
- Incorporating any other suggestions of the ADB/ World Bank/ NHAI, till the acceptance of the reports by the ADB/ World Bank/ NHAI

4.13.4 Reporting Requirements of EIA

The consultant would prepare the EIA & EMP report as per the EIA Notification 2006 of MoEF&CC and its amendments thereafter. The said report should be prepared as per the guidelines of ADB/WB if the project is implemented with the funding of ADB/World Bank/<Agency>. Contents of the EIA & EMP are as under:

- Executive Summery
- Description of the Project
- Description of the Environment
- Anticipated Environmental Impacts & Mitigation Measures
- Analysis of Alternatives
- Environmental Monitoring Program
- Additional Studies
- Project Benefits
- Environmental Cost Benefit Analysis
- Environment Management Plan
- Summary & Conclusion (This will constitute the summary of the EIA Report)
- Disclosure of Consultants engaged.

4.13.5 Reporting requirements of RAP

Analysis on the resettlement plan be conducted based on ADBs Hand Book on Resettlement, A Guide to Good practice 1998 as amended time to time/ World Bank Guidelines / Government of India Guidelines, as applicable.

- Executive summary
- Description of project
- Objectives of the project.
- The need for Resettlement in the Project and evaluation of measures to minimize resettlement.
- Description and results of public consultation and plans for continued participation of PAPs.
- Definition of PAPs and the eligibility criteria.
- Census and survey results-number affected, how are they affected and what impacts will they experience.
- Legal and entitlement policy framework-support principles for different categories of impact.
- Arrangements for monitoring and evaluation (internal and external)
- Implementation schedule for resettlement which is linked to the civil works contract
- A matrix of scheduled activities linked to land acquisition procedures to indicate clearly what steps and actions will be taken at different stages and the time frame
- The payment of compensation and resettlement during the acquisition process
- An itemized budget (replacement value for all assets) and unit costs for different assets

5.1 Land Acquisition

5.1.1 Overall program management of all activities pertaining to Land Acquisition

5.1.1.1 Coordinate all activities necessary for accurate and timely publication of notifications as per NH Act including but not limited to

i. Identify all land parcels that need to be acquired as part of project highway

ii. Conduct Joint Measurement Survey in conjunction with CALA, NHAI and state revenue department to verify land records

iii. Conduct valuation of land and associated assets (structures, trees, crops etc.) and liaison with authorities of State Government for authentication of the valuation

5.1.1.2 Liaison with relevant state departments throughout land acquisition process

i. Liaison with State Government departments including but not limited to Land Revenue Office (or Tehsil), Sub - Registrar office, Directorate of Surveys and with other State departments (like Public works department, horticulture department etc.) to expedite the land acquisition process

ii. Co-ordinate collection of all the necessary land record documents and information required to support CALA/CALA staff during the LA process

5.1.1.3 Facilitate communication between NHAI (PIU) and CALA throughout land acquisition process

i. Ensure prompt official communication (including delivery of documents and notifications) between the office of Competent Authority for Land Acquisition (CALA) and NHAI

5.1.1.4 Support CALA and PIU with manpower and resources CALA throughout land acquisition process

i. Ensure presence of adequate manpower like surveyors, revenue inspectors, assistants, peons, computer operators as required to support CALA, PIU, RO in the LA process corresponding to respective project

ii. Ensure comprehensive quality checks (4 Eye Checks) for all the notifications prepared before submission in the Bhoomi Rashi portal

5.1.2 Assist CALA and NHAI (PIU) in the publication of notifications

5.1.2.1 Provide copy of following documents to PIU - 1 soft copy (less than 3MB combined) + 1 hard copy, on finalization of alignment and approval of the alignment from the competent authority

i. Index Map: Document showing alignment of proposed highway overlaid on a detailed political map of the region

ii. Alignment plan: Engineering plan detailing relative position of Proposed Right of Way to existing road, bypasses, realignments significant structures, affected villages and chainage

iii. NHAI project sanction document detailing chainage, length, scheme code and land acquisition requirements (Total Land Required, Land available, land to be acquired etc.)

5.1.2.2 Conduct enquiry at Village Administrative Office along approved alignment to ensure inclusion of all villages

5.1.2.3 Ensure correct spelling of taluks and villages according to local revenue records (Jamabandi) or State Government land record website. The same should be done for English and Hindi

5.1.2.4 Obtain approval of taluk names, village names and other details mentioned in 3a from CALA office

5.1.2.5 Co-ordinate with PIU and District Collector/State Government in obtaining appointment order for CALA

5.1.2.6 Co-ordinate with NIC to ensure correct village names and spelling are included in Bhoomi Rashi portal

5.1.2.7 Assist PIU in creating 3a notification and preamble on Bhoomi Rashi along with all supporting documents in format prescribed to be sent for approval to NHAIHQ

5.1.3 Assist CALA and NHAI (PIU) in the publication of 3A notification

5.1.3.1 Co-ordinate collection of all village maps from state land revenue department

i. Ensure all village maps are collected from the Taluk Office/Regional Deputy Director of Survey and Land Records and bear a saleable copy mark.

5.1.3.2 Co-ordinate collection of all survey maps for all the affected survey numbers in the proposed right of way from state land revenue department

i. Ensure collection of digitized survey maps from the state revenue department prepared using CollabLand software of NIC for the purposes of land acquisition activities, wherever available

ii. Ensure all survey maps collected are scaled to 1:500, 1:1000 or 1:2000

iii. Ensure survey maps contain all necessary information including boundary dimensions, ladder diagrams, topographical details, sub division details and adjoining survey numbers as available, in line with the norms of the State Government

iv. Verify the level of accuracy in the maps and their suitability for the purposes of supporting the land acquisition effort for the project road in terms of both dimensional accuracy and details available

v. Ensure consistency between the revenue maps and other land records (Record of Rights, Tenancy and Crops /A-Register etc.) and correct the maps/records in case of inconsistency. Ensure, the corrected maps are vetted by the Village Administrative Officer

5.1.3.3 Ensure collection of geo referenced control points capable of being imported into appropriate GIS system

i. Conduct an alignment walk-through and ensure details of the ground control points include village stones, suitable land details and permanent geographical features are collected

ii. Ensure a minimum of 10 control points are identified and geo-referenced for every 1 km

iii. Ensure the Geo-location information from the control points are imported into the GIS system, to aid in superimposition of alignment map and the digitized village map. Suitable land details and features should also be added to the GIS system to enable review of individual land parcels.

5.1.3.4 Ensure accurate digitization and projection of village maps on GIS system

i. Consultant should ensure complete digitization of the area containing the Proposed Right of Way

ii. Where digitized revenue maps are unavailable or are deemed to be insufficient for the purposes of this project, the consultant shall digitize the survey maps of the area falling in and surrounding the existing and PROW, keeping the following in mind:

1. Create digitized maps of individual survey numbers using the procedure used by the land revenue department to recreate revenue maps such as using ladder diagrams, grid dimensions etc., using CollabLand software, wherever possible

2. Input numerical measurements mentioned in the ladder diagram/grid dimensions/survey boundaries in CollabLand or similar software to ensure accuracy of digital map

3. Stitch the digitized survey maps to recreate a scaled and digitized village map depicting all the survey numbers affected by the proposed right of way

iii. Ensure that the digitized map exactly matches the original map like a contact print and contain all information contained in the original survey map

iv. Ensure an accuracy of 1mm or higher in a 1:1000 scale, as this translates into an accuracy of 1 m or higher on ground

v. In digitization and feature addition, the consultant shall endeavor to follow any standards, requirements and formats laid down by the relevant state/ central government agency for land ownership and revenue management or that set by the authority involved in digitization of land records

1. Where applicable, the consultant shall share back the digitized cadastral maps in both soft and hard copy with the relevant local agency or state government

5.1.3.5 Ensure accurate projection of survey revenue maps on Google Earth or similar GIS software necessarily having the following layers

i. Alignment Map

ii. Digitized Village Map

iii. Topographical details as collected during topographical survey using LiDAR/Drone Imaging

iv. Geo-referenced control points imported into GIS software

5.1.3.6 Ensure proper superimposition of the alignment map, digitized village map by accurately matching the topographical details and geo-referenced ground control points on both the layers.

i. Divide the village maps at every 500 meters (in case of the same village) to ensure proper projection of the planar map on Google Earth or equivalent

ii. Adjust the digitized map to exactly match the ground situation using the geo-referenced ground control points identified

5.1.3.7 Accurately identify extent of area encroached by alignment in survey numbers/sub division numbers using appropriate software (ArcGIS/AutoCAD, etc) based on the superimposition of the alignment map on the digitized village map

5.1.3.8 Co-ordinate collection all the relevant revenue records from state revenue department required to ascertain type and nature of land

i. Collect the updated land revenue records with details on survey numbers, sub-division, land type, land nature and owner from the Taluk office

5.1.3.9 Prepare and submit 3A draft and LA plan in the format prescribed by NHAI

5.1.3.10 Co-ordinate submission of copies of LA plan and Alignment map to CALA offices through PIU required for verification of 3A draft in the format prescribed by the CALA Office

5.1.3.11 Facilitate CALA staff in verification of the draft 3A document

5.1.3.12 Assist CALA staff in preparation of 3A notification, preamble and forwarding letter to be forwarded to PIU

5.1.3.13 Assist PIU in uploading 3A notification (as declared by CALA) along with preamble on Bhoomi Rashi

i. Provide computer operators to upload 3A notification on Bhoomi Rashi

ii. Ensure the 3A submitted on Bhoomi Rashi matches the signed copy verbatim and no changes are made

5.1.3.14 Provide copy of 3A Gazette notification to the office of the CALA on publication in the Gazette

5.1.3.15 Prepare 3A notification in vernacular language to be sent to newspaper for 3A(3) notification

i. Ensure the translated 3A sent to the newspaper matches the 3A Gazette copy verbatim and no changes are made

5.1.3.16 Co-ordinate with the CALA to get a signed copy of the press ready version along with the file reference number needed for future reference at the CALA office

5.1.3.17 Assist PIU in coordinating with newspaper agency to ensure publication of 3A notification in 2 newspapers: 1 Vernacular + 1 Other

5.1.3.18 Provide copies of newspaper publication of 3A notification to the CALA and PIU

5.1.3.19 Ensure all activities are planned and adequate manpower is made available to ensure the prescribed timelines are adhered to

i. Ensure submission of 3A to the PIU in prescribed format within 30 days of 3a publication

ii. Ensure publishing of 3A in Gazette by pursuing the same with relevant stakeholder within 14 days of submission of final 3A to the PIU

iii. Provide adequate manpower including but not limited to AutoCAD draftsmen, liaison officers, computer operators, retired tahsildars, etc. to ensure mandated timelines are met

iv. Ensure adequate resources including but not limited to computers, software licenses, scanner, printer etc. are deployed to ensure mandated timelines are met

5.1.4 Assist CALA and NHAI **(PIU) in conduction of 3C enquiry and compilation of final orders**

5.1.4.1 Co-ordinate with CALA for scheduling public hearings as necessitated by section 3C of NH Act 1956

5.1.4.2 Assist CALA staff in sending notices to petitioners on respective hearing dates either through newspaper notifications to be published in 2 newspapers: 1 Vernacular + 1 other or through respective village administrative offices

5.1.4.3 Provide copies of newspaper publication/ notices of 3C notification to the office of the CALA

5.1.4.4 Assist CALA staff in receiving and compiling of objections

5.1.4.5 Assist CALA during objection hearings, recording of hearings, ensuring compliance of corresponding orders and notification of final CALA order to petitioners

5.1.4.6 Assist CALA staff in dispatching and ensuring delivery of final 3C orders to petitioners in a timely manner and obtain acknowledgement of receipt of 3C orders from the aggrieved parties

5.1.5 Assist CALA and NHAI **(PIU) in conducting Joint Measurement Survey**

5.1.5.1 Co-ordinate with the CALA office and state government departments and obtain all permissions necessary to conduct JMS and center line marking

5.1.5.2 Ensure laying of boundary pillars in an accurate and expedited manner

i. Ensure use of Differential GPS or Total Station systems to conduct center line marking

ii. Ensure placing of boundary pillars (left and right) and the center line peg (in case of brownfield sections), center line pillar (in case of greenfield sections) at 50-meter intervals, clearly demarcating the Proposed Right of Way.

iii. Ensure all boundary pillars are provided and planted as per IRC:25:1967

iv. Ensure that the boundary stones are secured at location

v. Provide daily reports to PIU and CALA office by mail indicating progress of boundary stone marking in terms of length and chainage covered

vi. Retain a Total Station system, controller and a prism holder for the entire duration of the JMS to ensure prompt assistance to the survey team

5.1.5.3 Ensure accurate and timely conduction of JMS for the complete length of the project

i. Provide scaled revenue maps, latest ownership records, village map and other revenue documents necessary for conducting JMS

ii. Arrange retired revenue sub inspectors of survey and chainmen to conduct Joint Measurement Survey at the consultant's cost

iii. Ensure accurate measurement of revenue survey plots with respect to PROW of project, by identifying physical features present on the ground & the survey sketches, measuring the distance of the PROW stone from the physical features and marking the distance on the survey sketch

iv. Ensure marking of PROW on scaled revenue maps indicating extent of encroachment into survey numbers/sub division numbers

v. Ensure surveyors collect details of structures and trees present in sub- divisions during JMS

vi. Ensure accurate calculation of area affected in each sub-division

vii. Ensure sub-division records are prepared as per the guidelines of the state revenue surveyor clearly indicating the name of the land owner as per latest ownership record

viii. Ensure sub-division records divide affected sub-divisions clearly indicating portion of land vested with the owner and portion of land acquired by NHAI

ix. Ensure submission of JMS records in format expected by the CALA office along with all supporting documents

x. Co-ordinate with local land revenue office in updating of all land records as per sub-division records submitted to CALA office, including vesting of acquired land in the name of Government of India, post publication of the 3D notification

xi. Provide daily reports to PIU and CALA office by mail indicating progress of JMS in terms of length, villages and number survey numbers covered

5.1.5.4 Assist land revenue department in conducting pre-scrutiny

i. Ensure all records are submitted at Taluk office in the correct format

ii. Facilitate creation of new sub-divisions based on the sub division records submitted by the survey team, including vesting of acquired land in the name of Government of India, post publication of the 3D notification

iii. Provide daily reports to PIU and CALA office by mail indicating progress of pre-scrutiny in terms of number of villages covered

5.1.5.5 Co-ordinate with CALA team and PIU to facilitate site inspection

5.1.6 Assist CALA and NHAI**(PIU) in the publication of 3D notification**

5.1.6.1 Prepare 3D draft based on 3A notification and scrutinized JMS statements in the format prescribed by NHAI

5.1.6.2 Co-ordinate submission of copies of 3D draft and scrutinized JMS Statements to the office of the CALA for verification

5.1.6.3 Facilitate CALA staff in verification of the draft 3D version

i. Ensure presence of surveyors to clarify/rectify any issue that may arise during verification, both during on-ground inspection as well as during the document verification

5.1.6.4 Assist CALA staff in preparation of 3D notification, preamble and forwarding letter to be forwarded to PIU

5.1.6.5 Assist PIU in uploading 3D notification (as declared by CALA) along with preamble on Bhoomirashi

i. Provide computer operators to upload 3D notification on Bhoomirashi

ii. Ensure the 3D submitted on Bhoomirashi matches the signed copy verbatim and no changes are made

5.1.6.6 Provide copy of 3D Gazette notification to the office of the CALA on publication in the Gazette

5.1.6.7 Prepare 3D notification in vernacular language to be sent to newspaper

i. Ensure the translated 3D sent to the newspaper matches the 3D Gazette copy verbatim and no changes are made

5.1.6.8 Co-ordinate with the CALA to get a signed copy of the press ready version along with the file reference number needed for future reference at the CALA office

5.1.6.9 Assist PIU in coordinating with newspaper agency to ensure publication of 3A notification in 2 newspapers: 1 Vernacular + 1 Other

5.1.6.10 Provide copies of newspaper publication of 3D notification to the CALA and PIU

5.1.6.11 Ensure all activities are planned and adequate manpower is made available to ensure the prescribed timelines are adhered to

i. Ensure submission of 3D statement along with sub-division records to the PIU in prescribed format within 45 days of 3A publication

ii. Ensure publishing of 3D in Gazette by pursuing the same with relevant stakeholder within 15 days of submission of final 3D to the PIU

iii. Provide adequate manpower including but not limited to surveyors, revenue inspectors, chain-men, liaison officers, computer operators, central line marking teams, helpers, etc. to ensure mandated timelines are met

iv. Ensure adequate resources including but not limited to computers, boundary pillars, Total Station/DGPS systems, vehicles etc. are deployed to ensure mandated timelines are met

5.1.7 Assist the CALA in the declaration of award (3G)

5.1.7.1 Assist CALA in drafting public notice inviting claims (under sub-section 3 of section 3G) from all persons interested in the land to be acquired and 3D notification to be published in 2 local newspaper - 1 vernacular and 1 other.

5.1.7.2 Co-ordinate with NHAI /CALA on publishing of claim invitation notification in 2 local newspapers - 1 vernacular and 1 other. The public notice inviting claims (under sub-section 3 of section 3G) from all persons interested in the land to be acquired can be issued along with the newspaper publication of 3D notification

5.1.7.3 Provide 1 copy of newspaper notification of 3D and claim invitation to CALA, Ward, Panchayat, Circle office, police station and Collector office.

5.1.7.4 Assist CALA during claim hearings, record hearings and compliance of corresponding orders

i. Collate ownership claims and the documents received during the claim hearings

ii. Assist the office of the CALA in verifying the claims and in finalizing the land owners

5.1.7.5 Assist CALA office in collection of sales statistics and market value (Guideline value/ Collector rates) from the relevant State Government department

i. Collect the sales statistics for 3 years prior to the date of the 3A notification from the Sub-Registrar's Office

ii. Assess the sales statistics to evaluate the nature of land for all the sale deeds based on the land records available with the State Government (Chitta/ A-Register, etc.)

iii. Compute the average of the top 50% of the sales statistics after eliminating the outliers, with proper justification

iv. Collect the Guideline Value/ Prevalent market rates, as issued by the order of the Competent Authority of the State Government for all the relevant villages

v. Collect the details of the sales of land for public purpose through private negotiation in the recent past for similar type of land

5.1.7.6 Compute land valuation for the all the affected survey numbers in line with RFCTLARR Act and the guidelines issued by MoRTH

5.1.7.7 Conduct valuation of land related assets (Structures, trees, crops etc.) and liaison with respective State authority including but not limited to State Public Works Department, Agriculture, Horticulture, Forest Department, etc. for authentication of the valuation.

5.1.7.8 Assist CALA in 3G award preparation and in drafting 3G award documents along with the required annexures including but not limited to preparation of field book which contains award by each beneficiary, list of sales statistics considered for finalizing the market value, etc.

5.1.8 Assist NHAI in obtaining possession of land

5.1.8.1 Co-ordinate delivery of confirmation letter of deposit from PIU to CALA

5.1.8.2 Assist CALA staff in drafting notification for beneficiaries for award collection and vacating the land within 60 days (under section 3E)

5.1.8.3 Co-ordinate serving of notice to all beneficiaries for collection of award and to vacate the land within 60 days (under section 3E)

5.1.8.4 Co-ordinate collection of certificate of possession from CALA

5.1.9 Publication of Gazette Notifications relating to Land Acquisition:

5.1.9.1 Cost for publication of Gazette Notifications relating to land acquisition in Newspapers shall be borne by the NHAI.

5.2 Utility shifting proposal and estimates

5.2.1 Identify type and location of all existing utilities within the proposed ROW

1. Consultant will review information available with all utilities agencies in the region, consult maps/plans available with NHAI, MoRTH and state road agencies, consult with locals and municipal bodies to ascertain the presence and location of utilities , including but not limited to water-mains, gas, telephone, electricity and fiber-optic installations in and around the project road

2. Deploy ground penetrating radar, inductor locators or better technology to accurately map the location, type and size of utilities in the ROW of the project road as required in the section of this TOR

3. Develop a detailed strip plan and digitized maps showing:

   i. type, size and current location of all the utilities identified

   ii. relative offset from the centerline

   iii. existing right of way

5.2.2 Plan for utilities in future road design

1. Consultants need to identify utilities that will require shifting to enable construction of the proposed project road

2. Incorporate space required for elevated and under-ground utilities corridors and utilities crossings as required for existing and future utilities in consultation with user departments

5.2.3 Develop a utilities relocation plan

1. Consultants need to develop and submit a utilities relocation plan in consultation with NHAI and user departments clearly identifying current utilities and suggested relocations along with crossings as required

2. Plan and conduct discussions, consultations and joint site visits required for the planning of utilities shifting and the development of required drawings and proposals

3. Prepare necessary details, documents and suggested relocation plan to be submitted to user department

4. Develop initial cost estimates based on suggested relocation plan and the latest available schedule of rates for inclusion in the cost of the project at the time of approval

5.2.4 Estimates and approvals

1. Consultants need to obtain draft utilities shifting proposal from user departments for all utilities identified for shifting along project road

2. Prepare utility shifting cost estimates using latest schedule of rates and obtain approval from user departments

3. Review final designs submitted, cost estimates, complete checklist, obtain required declarations and submit to NHAI for approval

4. Work with user department, NHAI as required to incorporate any changes requested in shifting proposal and cost estimate

5. Obtain all required utilities shifting proposal estimates and required approvals from both user departments and NHAI within the time stipulated in DPR contract

5.3 Estimation of Quantities and Project Costs

1. The Consultants shall prepare detailed estimates for quantities (considering designs and mass haul diagram) and project cost for the entire project (civil packages wise), including the cost of environmental and social safeguards proposed based on MoRT&H's Standard Data Book and market rate for the inputs. The estimation of quantities shall be based on detailed design of various components of the projects. The estimation of quantities and costs would have to be worked out separately for civil work Package as defined in this TOR.

2. The Consultants shall make detailed analysis for computing the unit rates for the different items of works. The unit rate analysis shall duly take into account the various inputs and their basic rates, suggested location of plants and respective lead distances for mechanized construction. The unit rate for each item of works shall be worked out in terms of manpower, machinery and materials.

3. The project cost estimates so prepared for NHAI/ADB/WB projects are to be checked against rates for similar on-going works in India under NHAI/World Bank/ ADB financed road sector projects.

4. The Consultant should work out the quantity of Bitumen, Steel and Cement likely to be used in the project and indicate in the summary sheet.

6. Viability and Financing Options and Bidding process

1. The Project Road should be divided into the traffic homogenous links based on the findings of the traffic studies. The homogenous links of the Project Road should be further subdivided into sections based on physical features of road and pavement, sub-grade and drainage characteristics etc. The economic and commercial analysis shall be carried out separately for each traffic homogenous link as well as for the Project Road.

2. The values of input parametres and the rationale for their selection for the economic and commercial analyses shall be clearly brought out and got approved by NHAI.

3. For models to be used for the economic and the commercial analyses, the calibration methodology and the basic parametres adapted to the local conditions shall be clearly brought out and got approved by NHAI.

4. The economic and commercial analyses should bring out the priority of the different homogenous links in terms of project implementation.

6.1. Economic Analysis

1. The Consultants shall carry out economic analysis for the project. The analysis should be for each of the sections covered under this TOR. The benefit and cost streams should be worked out for the project using HDM-IV or other internationally recognized life-cycle costing model.

2. The economic analysis shall cover but be not limited to be following aspects:

   i. assess the capacity of existing roads and the effects of capacity constraints on vehicle operating costs (VOC);

   ii. calculate VOCs for the existing road situation and those for the project;

   iii. quantify all economic benefits, including those from reduced congestion, travel distance, road maintenance cost savings and reduced incidence of road accidents; and,

   iv. estimate the economic internal rate of return (EIRR) for the project over a 30-year period. In calculating the EIRRs, identify the tradable and non- tradable components of projects costs and the border price value of the tradable components.

   v. Saving in time value.

3. Economic Internal Rate of Return (EIRR) and Net Present Value (NPV), "with "and "without time and accident savings" should be worked out based on these cost- benefit stream. Furthermore, sensitivity of EIRR and NPV worked out forth different scenarios as given under:

   Scenario – I Base Costs and Base Benefits

   Scenario - II Base Costs plus 15% and Base Benefits Scenario -

   III Base Costs and Base Benefits minus 15%

   Scenario – IV Base Costs plus 15% and Base Benefits minus 15%

   The sensitivity scenarios given above are only indicative. The Consultants shall select the sensitivity scenarios taking into account possible construction delays, construction costs overrun, traffic volume, revenue shortfalls, operating costs, exchange rate variations, convertibility of foreign exchange, interest rate volatility, non-compliance or default by contractors, political risks and force majeure.

4. The economic analysis shall take into account all on-going and future road and transport infrastructure projects and future development plans in the project area.

6.2 Financial Analysis

6.2.1 Need for financial analysis

1. It is envisaged that project stretches should be implemented in a commercial, PPP funded format

2. Therefore, the Consultant will need to study the financial viability of the project under various available commercial formats and suggest a mode of funding and execution that is most likely to be successful

3. The consultant shall study the financial viability of the project under several different traffic volume, user fee scenarios and funding options to arrive at the optimal execution mode and funding modalities

6.2.2 Financial analysis of the project

1. The Consultants shall in consultation with NHAI finalize the format for the analysis and the primary parameters and scenarios that should be taken into account while carrying out the commercial analysis

2. The Financial analysis for the project should cover financial internal rate of return, projected income statements, balance sheets and fund flow statements and should bring out all relevant assumptions.

3. The financial analysis should cover identification, assessment, and mitigating measures for all risks associated with the project. The analysis shall cover, but be not limited to, risks related to construction delays, construction costs overrun, traffic volume, revenue shortfalls, operating costs, exchange rate variations, convertibility of foreign exchange, interest rate volatility, non-compliance or default by contractors, political risks and force majeure.

4. The sensitivity analysis should be carried out for a number of probabilistic scenarios.

6.2.3 Outputs from financial analysis

1. The financial model so developed shall be handed over to and be the property of NHAI.

2. The consultant shall also suggest positive ways of enhancing the project viability and furnish different financial models for implementing on BOT format

6.3 Bidding process

6.3.1 Consultant shall assist the authority in preparing the required bid documents and support the authority through the bidding process

6.3.2 Preparation of documents

1. The consultant shall prepare all required bid documents and technical schedules required for the bidding of the project
2. The Consultants shall prepare separate documents for each type of contract (EPC/PPP) for each package of the DPR assignment
3. The consultant shall assist authority in reviewing bid documents and in making any changes required basis their findings or the and finalising bid documents
4. The consultant shall assist the authority in collecting and providing all required supporting documents for initiating bid as defined by the SOP for contracting
5. The DPR consultant may be required to prepare the Bid Documents, based on the feasibility report, due to exigency of the project for execution if desired by NHAI.
   a. To enable this, consultant should study the financial viability and financial options for the project for modes such as BOT Toll/ Annuity during the feasibility stage.
6. Provide any and all clarifications required by the authority or other functionaries such as the financial consultant and legal advisor as required for the financial appraisal and legal scrutiny of the Project Highway and Bid Documents.
7. The consultant shall be guided in its assignment by the Model Concession/ Contract Agreements for PPP/ EPC projects, as applicable and the Manual of Specifications and Standards for two/ four/ six laning of highways published by IRC (IRC:SP:73 or IRC:SP:84 or IRC:SP:87, as applicable) along with relevant IRC codes for design of long bridges.
   a. It is suggested that consultant should go through the EPC/ PPP documents of ministry before bidding the project.

6.3.3 Support during the bidding process

1. Consultant shall support NHAI through the entire bid process and shall be responsible for sharing the findings from the preparation stages during the bid process
2. The consultant shall ensure participation of senior team members of the consultant during all interaction with potential bidders including pre-bid conference, meetings, site visits etc.
3. During the bid process for a project, the consultant shall support the authority in:
   a. Responding to all pre-bid technical queries
   b. Preparation of detailed responses to the written queries raised by the bidders

4. The consultant shall assist NHAI and its functionaries as needed in the evaluation of technical bids

7. Time period for the service

1. Time period envisaged for the study of the project is indicated in **Annex-I to LOI.** The final reports, drawings and documentation shall be completed within this time schedule.

2. NHAI shall arrange to give approval on all sketches, drawings, reports and recommendations and other matters and proposals submitted for decision by the Consultant in such reasonable time so as not to delay or disrupt the performance of the Consultant's services.

8. Project Team and Project Office of the Consultant

1. The Consultants shall be required to form a multi-disciplinary team for this assignment. The consultants' team shall be manned by adequate number of experts with relevant experience in the execution of similar detailed design assignments.

2. List of suggested key personnel to be fielded by the consultant with appropriate man-month of consultancy services is given in Enclosure-I as per client's assessment.

3. A Manning Schedule for key personnel mentioned above is enclosed as Enclosure- I along with broad job- description and qualification as Enclosure-II. The information furnished in Enclosures-I & II are to assist the Consultants to understand the client's perception about these requirements and shall be taken by the Consultants for the purpose of Financial Proposal and deployment schedule etc. in technical proposal to be submitted by them. Any deviation proposed may be recorded in the comments on TOR. All the key personnel mentioned will be evaluated at the time of evaluation of technical proposal. Consultants are advised in their own interest to frame the technical proposal in an objective manner as far as possible so that these could be properly assessed in respect of points to be given as part of evaluation criteria as mentioned in Data sheet. The bio-data of the key personnel should be signed on every sheet by the personnel concerned and the last sheet of each bio-data should also be signed by the authorized signatory of the Consultants.

4. The Consultants shall establish an office at the project site manned by senior personnel during the course of the surveys and investigations. All the project related office work shall be carried out by the consultant in their site office unless there are special reasons for carrying out part of the office work elsewhere for which prior approval of NHAI shall be obtained. The address of the site office including the personnel manning it including their Telephone and FAX numbers will be intimated by the Consultant to NHAI before commencement of the services.

5. All key personnel and sub professional staff of the DPR Consultants shall use the fingerprint based (biometric) attendance system for marking their daily attendance. Attendance shall be marked at least once a day and anytime during the day. Biometric Attendance System shall be installed by the DPR Consultants at its own cost at the site office and design office in order to facilitate the attendance marking. A copy of attendance records shall be attached at the time of submission of their bills to the NHAI from time to time. Proper justification shall be provided for cases of absence of key personnel/ sub-professional staff which do not have prior approval from Project Director of Concerned stretch. If NHAI so desires, it shall facilitate electronic linking of the attendance system with the Central Monitoring System of NHAI.

9. Reports to be submitted by the Consultant to NHAI

9.1 All reports, documents and drawings are to be submitted separately for each of the traffic homogenous link of the Project Road. The analysis of data and the design proposals shall be based on the data derived from the primary surveys and investigations carried out during the period of assignment. The sources of data and model relationships used in the reports shall be indicated with complete details for easy reference.

9.2 Project preparation activities will be split into eight stages as brought out below.

No	Stage	Key activities	Report/deliverable submitted
1	Inception	Project planning and mobilization	Inception Report and QAP
2	Feasibility	Alignment finalization, preliminary surveys	Alignment Options Report and Feasibility Report
3	LA and Clearances I	LA, utilities identification; creation of draft notifications and proposals	Strip Plan, LA Report (3a, 3A), Clearances and Utility Shifting proposals
4	DPR	Detailed design of highway, preparation of detailed project report with drawings	Draft DPR Report, Final DPR Report, documents and drawings
5	Technical Schedules	Preparation of bid documents and technical schedules	Civil Works Contract Agreement and Schedules
6	(i) LA II (ii) Project Clearances	*Land acquisition process, obtaining final utilities estimates and required clearances*	JMS and *3D Report, Final Project Clearances and Utilities Report*
7	LA III- Award Determination	Land acquisition award determination	*3G Report*
8	LA IV- Possession	*Obtaining possession of land*	*Land Possession Report*

Preliminary design work should commence without waiting for feasibility study to be completed. Stage 3, 5 and 6 shall run in parallel with Stage 2 and 4

For stages 7 and 8 consultant will be required to submit a report at the completion of 90% of the activities for that stage. In addition, an updated report will need to be submitted at the completion of all land acquisition activities covering receipt of 100% of the land possession certificates for the land parcels pertaining to the project road.

9.3 Timelines for the submission of reports and documents

Consultant shall be required to complete, to the satisfaction of the client, all the different stages of study within the time frame indicated in the schedule of submission in para 10 pertaining to Reports and Documents for becoming eligible for payment for any part of the next stage.

10 Reports and Documents to be submitted by the Consultant to NHAI

1. The Consultant shall submit to the client the reports and documents in bound volumes (and not spiral binding form) after completion of each stage of work as per the schedule and in the number of copies as given in Enclosure-III. Further, the reports shall also be submitted in floppy diskettes / CD's in addition to the hardcopies as mentioned in Enclosure-III. Consultant shall submit all other reports mentioned specifically in the preceding paras of the TOR.

2. The time schedule for various submissions prescribed at Sl. No.1 above shall be strictly adhered to. No time overrun in respect of these submissions will normally be permitted. Consultant is advised to go through the entire terms of reference carefully and plan his work method in such a manner that various activities followed by respective submissions as brought out at Sl.No.1 above are completed as stipulated. Consultant is, therefore, advised to deploy sufficient number of supporting personnel, both technical and administrative, to undertake the project preparation activities in construction package (Section) simultaneously. As far as possible, the proposal should include complete information such as number of such persons, name, position, period of engagement, remuneration rate etc. The Consultant is also advised to start necessary survey works from the beginning so as to gain time in respect of various other activities in that stage.

3. DPR Deliverables in each stage of project

1. The key stages, activities and deliverables for the detailed project report are as described in these documents

2. The following section describes the detailed requirements for each report that needs to be submitted

3. Consultants are also advised to refer to **Error! Reference source not found.** to understand any additional format and content requirements

4. All reports must be submitted along with the relevant checklist form completed and signed off by the consultant

STAGE 1

10.1 Quality Assurance Plan (QAP) Document

1. Immediately upon the award, the Consultants shall submit four copies of the QAP document covering all aspects of field studies, investigations design and economic financial analysis. The quality assurance plans/procedures for different field studies, engineering surveys and investigation, design and documentation activities should be presented as separate sections like engineering surveys and investigations, traffic surveys, material geo-technical and sub-soil investigations, road and pavement investigations, investigation and design of bridges &structures, environment and R&R assessment, economic & financial analysis, drawings and documentation; preparation, checking, approval and filing of calculations, identification and traceability of project documents etc. Further, additional information as per format shall be furnished regarding the details of personnel who shall be responsible for carrying out/preparing and checking/verifying various activities forming part of feasibility study and project preparation, since inception to the completion of work. The field and design activities shall start after the QAP is approved by NHAI.

2. Data formats for report and investigation result submission

   i. Required data formats for some reports, investigations and documents are discussed in **Error! Reference source not found.**.

   ii. The consultants will need to propose data formats for use in all other field studies and investigations not covered in enclosure IV.

   iii. The proposed data forms will need to be submitted for the approval of NHAI after the commencement of services.

10.2 Inception Report (IR)

1. The report shall cover the following major aspects:

   i. Project appreciation;

   ii. Detailed methodology to meet the requirements of the TOR finalized in consultation with the NHAI officers; including scheduling of various sub activities to be carried out for completion of various stages of the work; stating out clearly their approach & methodology for project preparation after due inspection of the entire project stretch and collection/ collation of necessary information;

   iii. Task Assignment and Manning Schedule;

   iv. Work programme;

   v. Proforma for data collection;

   vi. Design standards and proposed cross-sections;

   vii. Key plan and Linear Plan;

   viii. Development plans being implemented and / or proposed for implementation in the near future by the local bodies and the possible impact of such development plans on the overall scheme for field work and design for the study;

   ix. Quality Assurance Plan (QAP) finalized in consultation with NHAI;

   x. Draft design standards; and

2. The requirements, if any, for the construction of bypasses should be identified on the basis of data derived from reconnaissance and traffic studies. The available alignment options should be worked out on the basis of available maps. The most appropriate alignment option for bypasses should be identified on the basis of site conditions and techno-economic considerations. Inception Report should include the details regarding these aspects concerning the construction of bypasses for approval by NHAI.

i. Bypasses should be identified on the basis of data derived from reconnaissance and initial traffic information/traffic studies

ii. The available alignment options should be worked out on the basis of available topographic maps, publicly available mapping services or remote sensing based topography and land use maps

iii. The most appropriate alignment option for bypasses should be identified on the basis of site conditions and techno-economic considerations

10.3 Alignment options report

1. Basis review of the existing project road, local traffic patterns and initial reconnaissance surveys, the consultant shall present possible alignment alternatives for the project road

2. Alignment options should include but not be limited to:

   (i) Greenfield sections of the road

   (ii) New alignments due to lack of RoW, opportunity to shorten road etc.

   (iii) New/Re-alignment to cater to local traffic and o-d points

   (iv) Re-alignment due to changes in local network and/or surrounding road network

   (v) Bypasses as suggested and approved in alignment report

   (vi) Re-alignment due to need to improve road geometry

   (vii) Provision of ROBs, flyovers and other structures

3. The alignment report shall contain:

   i. Drivers for re-alignment of road and re-alignment needed as discussed in para 2 above

   ii. Alignment alternatives for each section where re-alignment of road is needed

   iii. Analysis of alignment alternatives bringing out the pros and cons of each alternative including, but not limited to: new construction required, land acquisition requirements, environmental impact, utilities and structures affected, cost of construction, road geometry and road safety aspects, input from local consultation, NHAI views

   iv. For optimization and planning of Projects the DPR consultant shall follow the process flow stipulated in {NHAI policy circular no. 7.1.78/2023 dated 03.11.2023} <relevant policy circular of the Agency to be mentioned> without any additional cost to Authority.

   v. Recommendations from among the alignment options presented for the authority to consider

      a. Consultant will enable authority to visualize and compare alignment options by providing alignment options in a GIS environment that should include, but not be limited to:

         i. Road alignment alternative centerlines

         ii. Digital elevation model of the region

         iii. Land use / land cover information

         iv. Hydrology information

         v. Surrounding road network including key NH, SH, MDR and ODRs

         vi. Key O/D points and urban settlements

         vii. High resolution satellite/airborne imagery of the region

10.4 Feasibility Report

1. The consultant shall commence the Feasibility Study of the project in accordance with the accepted IR and the report shall contain the following:

i. Executive summary

ii. Overview of NHAI organization and activities, and project financing and cost recovery mechanisms

iii. Project description including possible alternative alignments/bypasses and technical/engineering alternatives

iv. Methodology adopted for the feasibility study

v. Socioeconomic profile of the project areas

vi. Indicative design standards, methodologies and specifications

vii. Traffic surveys and analysis

viii. Environmental screening and preliminary environmental assessment

ix. Initial social assessment and preliminary land acquisition/resettlement plan

x. Cost estimates based on preliminary rate analysis and bill of quantities,

xi. Cost analysis of all alternate identified alignments

xii. Economic and financial analysis

xiii. Conclusions and recommendations

2. In view of para 1 above the consultant has to submit the following documents in six sets:

i. **Technical Specifications:** The MORT&H's Technical Specifications for Road and Bridge works shall be followed for this study. However, Volume- IV: Technical Specifications shall contain the special technical specifications which are not covered by MORT&H Specifications for Roads and Bridges (latest edition / revision)and also specific quality control norms for the construction of works.

ii. **Rate Analysis:** This volume will present the analysis of rates for all items of works. The details of unit rate of materials at source, carriage charges, any other applicable charges, labour rates, and machine charges as considered in arriving at unit rates will be included in this volume.

iii. **Cost Estimates:** This volume will present the each item of work as well as a summary of total cost.

iv. **Bill of Quantities:** This volume shall contain the detailed Bill of Quantities for all items of works

3. The basic data obtained from the field studies and investigations shall be submitted in a separate volume as an Appendix to Feasibility Report.

4. The Final Feasibility Study Report incorporating comments, revisions and modifications suggested by NHAI shall be submitted within 15 days of receipt of comments from NHAI on draft feasibility study report.

STAGE 3:

10.5 Strip Plan and Clearances

1. The consultant shall submit the documents as per Guidelines of EIA Notification and its amendments:

    i. Details of the center line of the proposed widened NH along with the existing and proposed right-of-way limits to appreciate the requirements of land acquisition;

    ii. The information concerning the area including ownership of land to be acquired for the implementation of the project shall be collected from the revenue and other concerned authorities and presented along with the strip plans;

    iii. Strip plans showing the position of existing utilities and services indicating clearly the position of their relocation;

    iv. Details for all applicable clearances as per Laws of Central, State and Locals such as Environment, CRZ, Forest, Wildlife, TTZ, NMCG Namami Ganga, TTZ, CEC, RMB etc;

    v. Separate strip plan showing shifting / relocation of each utility services in consultation with the concerned local authorities;

    vi. The utility relocation plans should clearly show existing right-of-way and pertinent topographic details including buildings, major trees, fences and other installations such as water-mains, telephone, telegraph and electricity poles, and suggest relocation of the services along with their crossings the highway at designated locations as required and prepare necessary details for submission to the Service Departments;

    vii. Detail schedules for acquisition of additional land and additional properties in consultation with the revenue authorities; and

    viii. Land Acquisition Plan shall be prepared after digitization of cadastral / land revenue maps. The digitized map shall exactly match the original map, like a contact print, since the dimensions and area of plots, or the whole village is to be extracted from the map itself. An accuracy of 1mm or higher in a 1:1000 scale map shall be ensured, as this translates into an accuracy of 1 m or higher on ground.

    ix. Strip Plan showing details of Hospitals within 500 m of proposed alignment.

    x. Strip Plan showing details of Educational Institutions along the existing as well as proposed alignment.

2. The strip plans and land acquisition plan shall be prepared on the basis of data from reconnaissance and detailed topographic surveys.

3. The Report accompanying the strip plans should cover the essential aspects as given under:

    i. Kilometre-wise Land Acquisition Plan (LAP) and schedule of ownership thereof and Costs as per Revenue Authorities and also based on realistic rates.

    ii. Details of properties, such as buildings and structures falling within the right-of way and costs of acquisition based on realistic rates.

    iii. Kilometre-wise Utility Relocation Plan (URP) and costs for relocation per civil construction package as per concerned authorities.

    iv. Kilometre-wise account in regard to felling of trees of different type and girth and value estimate of such trees based on realistic rates obtainable from concerned District forest office.

4. The strip plans shall clearly indicate the scheme for widening. The views and suggestions of the concerned State PWDs should be duly taken into account while working out the widening scheme (left, right or symmetrical). The widening scheme shall be finalized in consultation with NHAI..

5. Kilometre-ise Strip Plans for section (Package) shall be prepared separately for each concerned agency and suggested by NHAI.

10.6 Land Acquisition Report

1. Consultant shall submit a detailed land acquisition plan that provides details on kilometre-wise land acquisition requirements, all required details and draft notifications made.

2. The Land acquisition plan and report shall be prepared and submitted for each section (package). Details shall also be submitted in land acquisition proforma to be supplied by NHAI, in both Hindi and English languages.

3. The Land Acquisition Plan shall be prepared after digitization of cadastral/land revenue maps as per clause of this TOR

   i. Land parcels identification should be verified by superimposing the proposed road corridor RoW on the geo-located cadastral map to ensure all affected land parcels have been accounted for and land area to be acquired is accurately determined

4. The land acquisition plan shall present details concerning the land area to be acquired in conjunction with the strip plan:

   i. Kilometer-wise existing and proposed RoW on either side of the proposed centreline

   ii. Detail schedules of additional land to be acquired, land ownership and other required details as per revenue records

   iii. Details of properties, such as buildings and structures falling within the right- of way

   iv. Costs of acquisition as per revenue authorities and also based on realistic market derived rates

   v. Detail schedules for acquisition of additional land and additional properties in consultation with the revenue authorities;

5. The land acquisition plan shall report the progress of the land acquisition process under the NH Land Acquisition act

   i. All required details on land parcels to be acquired

   ii. Copies draft 3a and 3A notifications and approvals from NHAI

   iii. Copies of published notifications, communication with CALAs and current status land acquisition process

   iv. Village, district and CALA wise summary of land to be acquired, current status of process and notifications published

6. The estimated cost of land acquisition shall invariably be worked out realistically for all projects before finalization of 3(D) notifications for publication so as enable taking a conscious decision regarding the feasibility of acquiring the land or exploring of other alternatives (such as following alternative alignments, etc.).

7. The land acquisition report should be prepared in consultation with affected persons, non-governmental organisations and concerned government agencies and should cover land acquisition and resettlement plan and estimated costs of resettlement and rehabilitation of affected persons.

10.7 Utility relocation plan

1. The consultant shall prepare a kilometre-wise Utility Relocation Plan (URP) and costs for relocation per civil construction package as per estimates from concerned authorities
2. The utility relocation shall contain details regarding:
    i. All utilities identified in the existing and proposed road RoW such as water-mains, telephone, telegraph and electricity poles
    ii. Those utilities that will require shifting to enable construction of the project road
    iii. All necessary details required for submission of utilities shifting proposals to the concerned user agencies
    iv. Copies of utilities shifting proposals made to the concerned user agencies along with suggested relocation of services along with their crossings across the project road at designated locations as required
    v. Details of consultations made with local people and user agencies
    vi. Preliminary scheme for shifting and cost estimates for shifting as per the concerned authorities
    vii. Separate strip plan showing shifting/relocation of each utility services prepared in consultation with the concerned local authorities
    viii. Draft map and plans showing road centerline, existing right of way, proposed right of way, pertinent topographic details and existing and proposed location of utilities

10.8 Clearances report

1. The consultant shall prepare a report regarding all other clearances required to enable the construction of the project road such as environment, forest, tree cutting , railways and Ganga clearances
2. The clearances report shall include kilometre-wise requirement of all clearances required presented along with the strip plan including, but not limited to:
    i. Requirements for environmental clearances along the project corridor
    ii. Requirements for forest clearances including type of forest affected, extent of land area needing diversion
    iii. Account of required felling of trees of different type and girth and value estimate of such trees based on realistic rates obtainable from concerned District forest office
    iv. Plan of compensating afforestation, its land requirement with specific locations and cost involved for undertaking all activities in this regard.
    v. Requirements for wildlife clearances
    vi. Requirements for CRZ clearances
    vii. ROB/RUBs along the project corridor to be constructed, widened or modified in any form requiring clearances from the railways
    viii. Clearances from Irrigation Authorities regarding Irrigation structures, etc.
    ix. Prior Approval from National Mission for Clean Ganga

3. The clearances report shall also include:

   i. Details of proposals made to concerned agencies and departmentsDate of submission of clearances proposals, Environmental impact assessment report to the competent authority

   ii. Copies of all actual clearance proposals made or drafts of proposals yet to be submitted

   iii. Information regarding points of contact, current status of proposals made, key issues raised and clear next steps to obtaining clearances

4. The consultant shall also assist in attending to queries raised/ furnishing of clarifications towards securing applicable clearances.

5. Further, for Environmental & Wildlife Clearances the firm should have been accredited by National Accreditation Board for Education and Training (NABET) for EIA. In case NABET accreditation is not available, the DPR consultant should have at least 1 retired or Ex Indian Forest Service officer and 2 retired or Ex State Forest Service officers on regular payroll each with over 15 years of service in Forest & Wildlife Department.

STAGE: 4

10.9 Draft Detailed Project Report (DPR)

1. The draft DPR Submission shall consist of construction package-wise Main Report, Design Report, Materials Report, Engineering Report, Drainage Design Report, Economic and Financial Analysis Report, Environmental Assessment Report including Resettlement Action Plan (RAP), Package-wise bid Documents and Drawings.

2. The Report volumes shall be submitted as tabulated in para 10 above.

3. The Documents and Drawings shall be submitted for the Package and shall be in the following format:

Reports

i. **Volume-I, Main Report:** This report will present the project background, social analysis of the project, details of surveys and investigations carried out, analysis and interpretation of survey and investigation data, traffic studies and demand forecasts designs, cost estimation, environmental aspects, economic and commercial analyses and conclusions. The report shall include Executive Summary giving brief accounts of the findings of the study and recommendations. A sample executive summary has been enclosed in Appendix VIII.

The Report shall also include maps, charts and diagrams showing locations and details of existing features and the essential features of improvement and upgrading. The Environmental Impact Assessment (EIA) Report for contract package shall be submitted as a part of the main report.

The basic data obtained from the field studies and investigations and input data used for the preliminary design shall be submitted in a separate volume as an Appendix to Main Report.

ii. **Volume - II, Design Report:** This volume shall contain design calculations, supported by computer printout of calculations wherever applicable. The Report shall clearly bring out the various features of design standards adopted for the study. The design report will be in two parts. Part-I shall primarily deal with the design of road features and pavement composition while Part-II shall deal with the design of bridges, tunnels and cross- drainage structures. The sub-soil exploration report including the complete details of boring done, analyses and interpretation of data and the selection of design parametres shall be included as an Appendix to the Design Report.

The detailed design for all features should be carried out as per the requirements of the Design Standards for the project. However, there may be situations wherein it has not been possible to strictly adhere to the design standards due to the existing site conditions, restrictions and other considerations. The report should clearly bring out the details of these aspect and the standards adopted.

iii. **Volume - III, Materials Report:** The Materials Report shall contain details concerning the proposed borrow areas and quarries for construction materials and possible sources of water for construction purposes. The report shall include details on locations of borrow areas and quarries shown on maps and charts and also the estimated quantities with mass haul diagram including possible end use with leads involved, the details of sampling and testing carried out and results in the form of important index values with possible end use thereof.

The materials Report shall also include details of sampling, testing and test results obtained in respect physical properties of subgrade soils. The information shall be presented in tabular as well as in graphical representations and schematic diagrams. The Report shall present soil profiles along the alignment.

The material Report should also clearly indicate the locations of areas with problematic soils. Recommendations concerning the improvement of such soils for use in the proposed construction works, such as stabilization (cement, lime, mechanical) should be included in the Report.

iv. **Volume - IV, Environmental Assessment Report including Environmental Management Plan (EMP) & Resettlement Action Plan (RAP):** The Report shall be prepared conforming to the Guidelines of the Government of India, State Government and World Bank / ADB as appropriate for construction package.

v. **Volume-V, Technical Specifications:** The MORT&H's Technical Specifications for Road and Bridge works shall be followed for this study. However, Volume IV: Technical Specifications shall contain the special technical specifications which are not covered by MOST Specifications for Roads and Bridges (latest edition / revision) and also specific quality control norms for the construction of works.

vi. **Volume - VI, Rate Analysis:** This volume will present the analysis of rates for all items of works. The details of unit rate of materials at source, carriage charges, any other applicable charges, labour rates, machine charges as considered in arriving at unit rates will be included in this volume.

vii. **Volume - VII, Cost Estimates:** This volume will present the contract package wise cost of each item of work as well as a summary of total cost.

viii. **Volume - VIII, Bill of Quantities:** This volume shall contain the package- wise detailed Bill of Quantities for all items of works.

ix. **Volume - IX, Drawing Volume:** All drawings forming part of this volume shall be 'good for construction' drawings. All plan and profile drawings will be prepared in scale 1:250V and 1:2500H scale to cover one km in one sheet. In addition this volume will contain 'good for construction' drawings for the following:

- Horizontal Alignment and Longitudinal Profile.
- Cross-section @ 50m interval along the alignment within ROW
- Typical Cross-Sections with details of pavement structure.
- Detailed Working Drawings for individual Culverts and Cross Drainage Structures.
- Detailed Working Drawings for individual Bridges, tunnels and Structures.
- Detailed Drawings for Improvement of At-Grade and Grade-Separated
- Intersections and Interchanges.
- Drawings for Road Sign, Markings, Toll Plazas, and other Facilities.
- Schematic Diagrams (linear chart) indicating but be not limited to be following:

- Widening scheme;
- Locations of median openings, intersections, interchanges, underpasses, overpasses, bypasses;
- Locations of service roads;
- Location of traffic signals, traffic signs, road markings, safety features; and,
- Locations of toll plaza, parking areas, weighing stations, bus bays, rest areas, if any.
- Drawings for toll plaza, Bus Bays, Parking areas, Rest areas, weighing stations etc. All drawings will be prepared in A2 size sheets. The format for plan, cross section and profile drawings shall be finalized in consultation with the concerned NHAI officers. The drawings shall also include details of all BM and reference pillars, HIP and VIP. The co-ordinates of all points should be referenced to a common datum, preferably GTS referencing system. The drawings shall also include the locations of all traffic safety features including traffic signals, signs, markings, crash barriers, delineators and rest areas, busbays, parking areas etc.
- The typical cross-section drawings should indicate the scheme for future widening of the carriageway. The proposed cross-sections of road segment passing through urban areas should indicate the provisions for pedestrian movements and suitable measures for surface and sub-surface drainage and lighting, as required.
- Digital drawings of proposed highway and features

x. **Volume X:Drainage Plan**

a. DPRs should be submitted for Main and drainage plan separately. The DPR should have proper drainage plan prepared on basis of contours of the area, outlet availability and discharge requirements including discharge at the outfall from drains of local bodies.

b. Preferably underground drains with well sized and well-spaced manholes any be provided to take care of cleaning. Wherever possible self-clearing cross-section of drains may be adopted.

c. Drainage Plan in DPR will go through Peer Review of Drainage Experts of Regional Officer. The Drainage plan will also be vetted by one Traffic Expert so that these drains do not hinder free flow of traffic.

d. Drainage Plan in DPR will be checked through a joint inspection with the engineers of local body/ Development Authority etc. so that Drainage Plan is totally integrated with the local body Drainage Plan.

e. The drain covers should be strong enough to withstand the weight of Light commercial vehicles, wherever required.

f. Stretch of the NH passing through a town can have multiple drainage plans/ sub plans due to different contours or due to having different outlets.

g. the cross- sections of drains being shown presently in Schedule-B (typical Cross Sections) & details of drains being mentioned in Schedule-C (length & type of drains) shall not be mentioned in future as it will vary from location to location based on drainage plan. The scope of drains in the project shall be on the basis of drainage plan drawn at each location and such Drainage Plan shall be made part of Scope of Project.

For the purpose above, {NHAI policy guideline no. 18.48 dated 08.07.2020} <relevant policy circular of Agency may be mentioned> may be taken into account.

a. The consultant shall deliver the final road alignment geometry, proposed road way model and all proposed structures in a 3D engineered model with all the required features as proposed in Enclosure IV

b. The consultant shall also provide digital versions of all drawings stated in para 1 above in the format proposed in Enclosure IV

6. The draft Detailed Project report of specialized projects will be scrutinized by the Peer Review consultant appointed by NHAI. The peer Review Consultant will be retired professional in the field, drawn from the various Central/State Highway/Road Work departments having adequate knowledge in the field. One professional will be earmarked from the standing panel of Peer Review consultant approved by NHAI for each DPR. The Peer Review consultant will scrutinize the draft DPR within 15 days of submission and the observations will be complied with and incorporated in the final DPR.

10.10 Final Detailed Project Report, Documents and Drawings (6 Sets)

1. The Final package-wise DPR consisting of Main Report, Design Report, Drainage Design Report and Materials Report, incorporating all revisions deemed relevant following receipt of the comments from NHAI on the draft DPR shall be submitted as per the schedule given in Enclosure-III.

STAGE: 5

10.11 Bid documents and Technical Schedules

1. Bid documents

a. The consultant shall prepare bid documents for EPC, PPP or other modes of contracting as suggested by NHAI

b. Individual bid documents will be submitted for each mode suggested and for each individual package or section identified for execution

c. Consultant shall assemble and provide all supporting documents from the DPR assignment that will be required for the bid, in the format required by the contracting SOP in force at the time of bidding or as maybe required by the authority

2. Technical Schedules

a. The consultant shall submit a Draft Contract/Concession Agreement derived from the Master Contract/Concession Agreement maintained by the authority with all required modifications and inclusions made with reference to the

b. The agreement submitted shall contain all required technical schedules updated with the pertinent project details and data required

c. Draft agreement and schedules shall be finalised in consultation with the authority and submitted for further processing and use with the contractor/concessionaire awarded the bid packages

STAGE: 6

10.12 LA & Clearances II Report

Land acquisition report II

1. The consultant shall prepare and submit a second report on Land Acquisition providing details of further land acquisition activity, relevant documentation and notifications until 3D and report the outcomes of the joint measurement survey

2. The land acquisition report shall contain:

   i. Current status of land acquisition at a village, district and CALA level

   ii. Dates and details of all land acquisition related notifications published, proceedings/hearings held and objections raised

   iii. Draft, final (as declared by CALA where applicable) and published 3a, 3A and 3D notifications

   iv. Date of joint measurement survey by village, key proceedings and outcomes

   v. Detailed schedule of information regarding land to be acquired with information on land area, land type, nature of land use, ownership status, and area to be acquired by survey number and list of structures by plot

   vi. The report shall also contain updated sketches of alignment, updated land parcels to be acquired

   vii. All relevant information in this report shall be verified by the consultant with the land revenue department, and CALA office

Clearances Report II

1. The consultant shall obtain all the necessary project related clearances such as environment, forest and wildlife clearance from MOEF, Railways in respect of ROB/ RUBs, Irrigation Deptt, CRZ clearances from concerned authorities, Prior Approval from National Mission for Clean Ganga and any other concerned agencies by the end of this stage.
2. The final approvals shall be obtained and submitted to NHAI so that project implementation can begin straight away
3. The accompanying report on clearances shall include:
    i. An updated list of all clearances required, current status, expected completion date in case the clearance is pending, key issues and suggested next steps
    ii. Details of all public hearings, consultations and meetings conducted in the process of obtaining the required clearances
    iii. Date/details of proposals submitted and estimated date for issue of clearances
    iv. Date and details of all joint measurement and site inspection surveys completed
    v. Date of final approval of clearances if any
    vi. Copies of all clearances obtained

Utilities Report II

1. Consultant shall obtain final utility clearances from the relevant user agencies to enable shifting of the utilities from project road
2. A report shall be submitted on the final completion status and costs of utilities shifting along with other final clearances and land acquisition II report
3. The final utilities clearances report shall contain a summary view of utilities shifting: type and extent of utility, length of road affected, chainage, user agency, point of contact and approver at agency, date of approval at agency and NHAI, shifting estimate, agency/super vision fees, executing agency – user agency or NHAI
4. In addition, for each utility to be shifted, the report shall contain:
    i. Copies of actual approvals granted at user agency and NHAI
    ii. Cost estimates and shifting plans approved, demand note from agency
    iii. Approved utilities shifting proposal including strip plan showing scheme of shifting
    iv. Map and design/engineering drawings of existing utility and shifting to be executed
    v. Details of approved contractors, schedule of rates for state and bank account/deposit details for agency
    vi. Finance pro-forma, utilities checklist, no upgradation certificate and other documentation as maybe required by NHAI at the time of approval

10.13 Submission of Award Determination Report

a. Consultant shall submit a a report on status of award upon approval by NHAIof award declared for 90% of area as per LA plan or as per the timeline as given in Enclosure III, whichever is earlier

b. The Consultant shall also submit an updated report containing all required details upon approval of award by NHAI of 100% of land required to be acquired

c. The Land award report shall contain details of:

i. Summary of compensation award status by village including:

1. total private and public land being acquired for the project (sq. m) - by village
2. date of 3A& 3D, final award by CALA, approval by NHAI by village
3. variation of land area and nature of land use against that notified in 3D with reasons
4. Total award declared by village, claims made by beneficiaries and status of disbursement

ii. In detail for each village:

1. Updated land acquisition tracker containing parcel-wise status of each notification, award and disbursement
2. Method used by CALA for arrival on market value
3. Valuation report and details of Award calculation
4. Claims report (received under sub-section 3 of 3G)
5. Copies of notifications published, certificates received
6. Deviations in area according to CALA from provisions under sec. 26- 30

iii. Key issues being faced in completing land acquisition and tentative timeline for completion

iv. A GIS map containing digitised details of land parcels shall be updated with all relevant land possession details and supplied in the agreed digital format

Stage 8: Land Possession

10.14 Submission of land possession report

a) The consultant shall submit a report on status of land possession upon receiving land possession certificates for 90% of area as per LA plan or as per the timeline as given in Enclosure III, whichever is earlier

b) The Consultant shall also submit an updated report containing all required details upon completion of 100% of land possession certificates

c) The land possession report shall contain

i. Summary of land possession status by village including:

- total private and public land being acquired for the project (sq. m) - by village
- date of final award by CALA, approval by NHAI, notification (3E) to owners and receipt of land possession certificates from CALA by village
- Status of disbursement on the date of receipt of land possession certificate

ii. Key issues being faced in completing land acquisition and tentative timeline for completion

iii. Land possession certificates as received from CALA by village

iv. Updated land acquisition tracker containing parcel-wise status of each notification and disbursement status

v. A GIS map containing digitised details of land parcels shall be updated with all relevant land possession details and supplied in the agreed digital format

11. Interaction with NHAI

1. During entire period of services, the Consultant shall interact continuously with NHAI and provide any clarification as regards methods being followed and carryout modification as suggested by NHAI. A programme of various activities shall be provided to NHAI and prior intimation shall be given to NHAI regarding start of key activities such as boring, survey etc. so that inspections of NHAI officials could be arranged in time.

2. The NHAI officers and other Government officers may visit the site at any time, individually or collectively to acquaint/ supervise the field investigation and survey works. NHAI may also appoint a Proof Consultant to supervise the work of the DPR consultant including inter-alia field investigation, survey work, Design work and preconstruction activities

3. The consultant shall be required to send 3 copies of concise monthly Progress Report by the 5th day of the following month to the designated officer at his Head Quarter so that progress could be monitored by the NHAI. These reports will indicate the dates of induction and de-induction of various key personnel and the activities performed by them. Frequent meetings with the consultant at site office or in Delhi are foreseen during the currency of project preparation.

4. All equipment, software and books etc. required for satisfactory services for this project shall be obtained by the Consultant at their own cost and shall be their property.

12. Payment Schedule

1. The Consultant will be paid consultancy fee as a percentage of the contract values as per the schedule given in the Draft Contract Agreement.

13. Data and Software

1. a. Consultants shall also deliver to NHAIall basic as well as the processed data from all field studies and investigations, report, appendices, annexure, documents and drawings in a digital format as described in Enclosure IV over the course of this assignment and at the submission of the final report in the form of a removable storage device (CD or USB pen drive) and hosted in a secure online file hosting platform

   b. If required by NHAI the consultant shall arrange at their own cost necessary software for viewing and measurement of imagery/ point cloud data.

      i. **Engineering Investigations and Traffic Studies:** Road Inventory, Condition, Roughness, Test Pit (Pavement composition), Falling Weight Deflectometer (FWD) Material Investigation including test results for subgrade soils, Traffic Studies(traffic surveys), axle load surveys, Sub- soil Exploration, Drainage Inventory, Inventory data for bridge and culverts indicating rehabilitation, new construction requirement etc. in MS EXCEL or any other format which could be imported to widely used utility packages.

      ii. **Topographic Surveys and Drawings:** All topographic data would be supplied in (x, y, z) format along with complete reference so that the data could be imported into any standard highway design software. The drawing files would be submitted in dxf or dwg format.

      iii. **Rate Analysis:** The Consultant shall submit the rate analysis for various works items including the data developed on computer in this relation so that it could be used by the Authority later for the purpose of updating the cost of the project.

      iv. Economic and Financial Analysis

2. **Software**: The Consultant shall also hand-over to NHAI floppies/CD's containing any general software including the financial model which has been specifically developed for the project.

3. The floppy diskettes/CD's should be properly indexed and a catalogue giving contents of all floppies/CD's and print-outs of the contents (data from field studies topographic data and drawings) should be handed over to NHAI at the time of submission of the Final Report.

4. Consultant shall include editable soft copies of the final versions of all documents, including but not limited to the strip plan, plan & profile drawings, cross sections of right of way and details of structures as well as any cost workings.

SUPPLEMENT-I

ADDITIONAL POINTS TO BE CONSIDERED FOR HILL ROADS IN ADDITION TO POINTS COVERED IN MAIN TOR

At feasibility stage –

-Geological map study (GSI map) & remote sensing images to identify geological features , fault lines other weakness,

-Also study contour map to identify vulnerable slopes etc

-Topography survey using Lidar of alternative alignments .

To capture geological & engineering property of slope bed soil/ rock

- visit of geologist & geotech specialist in all alignments under consideration & Accordingly do requisite test to capture engineering properties of soil/ rock (idea is to estimate cost intensive slope protection requirement or vulnerabilty maping of alternative alignments to arrive it cost effective sustainable alignment.

Sr. No.	Clause No. of TOR	Additional points
1.	2.2	a) Provisions of tunnels if required.
2.	2.3	a) Design of tunnels, if required b) Design of protective works, drainage works in hilly terrain, reinforced soil slopes/walls in hilly terrain, hill slope stabilization measures, erosion control measures, land slide control/protection measures snow drift control/snow clearance measures, avalanche protection measures, if required
3.	3	Feasibility study and preparation of detailed project report for hill roads shall be done in accordance with "IRC:SP:48 Hill Road Manual" and the best international practices and wherever practicable/feasible steep gradients and hair pin bends may be avoided by realignments by provision of structures and provision of tunnels if required. Proposal for Instrumentation and monitoring for detecting signs of impending instability and post-slide movements shall be included.
4.	4.1	a) Inventory and condition survey for tunnels, if required. b) Identification of faults in rock strata and impact of faults in design of tunnels, if required c) Detailed design of road considering and incorporating specific aspects related to hill region like terrain, topographic conditions, drainage issues, reinforced soil slopes and walls, slope stability and

Sr. No.	Clause No. of TOR	Additional points
		landslides, protective & erosion control, snow clearance and avalanche treatment, ecology and environment extreme weather conditions, altitude effects etc. d) Design of protective works, drainage works, reinforced soil slopes/walls, slope stabilization measures, erosion control measures, land slide control/protection measures, snow drift control/snow clearance measures, avalanche protection measures, if required e) Design of scenic overlooks/watering points etc.
5.	4.5 (1)	All activities related to field studies, design and documentation shall be done as per the latest guidelines/circulars of MORT&H and relevant publications of the Indian Roads Congress (IRC)/Bureau of Indian Standards (BIS) for hill roads including tunnels. For aspects not covered by IRC and BIS, international standard practices, such as, British and American Standards may be adopted.
6.	4.7	Review of data and documents pertaining to a) Terrain and soil/rock conditions b) Condition of tunnels, if required. c) Sub-surface and geo-technical data for existing tunnels, if required. d) Drawing and details of existing tunnels, if required. e) Existing protective works, reinforced soil structures, drainage works, erosion control and land slide control/protection works, slope stabilization measures, snow drift control measures, avalanche protection measures f) Existing land slide and snow clearance facilities g) Geological details of rock strata in the area in case of tunnels h) Past history of slope failure and land slides i) Existing approach paths/roads
7.	4.11.1(1)	The Consultant should make an in depth study of available geological and Meteorological maps of the area.
8.	4.11.1(2)	The primary tasks to be accomplished during the reconnaissance survey shall also include: a) details of terrain (steep or mountainous), cliffs and gorges, general elevation of the road including maximum heights negotiated by main ascents and descents, total number of ascents and descents, hair pin bends, vegetation etc. b) Climatic conditions i.e. temperature, rainfall data, snowfall data, fog conditions, unusual weather conditions etc. c) Realignment requirements including provision of tunnels, if required. d) Inventory of tunnels and geologically sensitive areas like slip

Sr. No.	Clause No. of TOR	Additional points
		prone areas, areas subject to landslides, rockfall, snow drifts, erosion, avalanche activity etc.
9.	4.11.2.1 (3.ii)	Cross sections shall be taken at every 25 m interval in case of hill roads which shall be reduced to 10m interval on sharp bends and at points of appreciable changes in soil & geological conditions. While taking cross sections, soil/geological conditions shall also be recorded.
10.	4.11.3.1 (1)	The inventory data shall also include: a) General elevation of road indicating maximum & minimum heights negotiated by main ascents & descents and total no. of ascents & descents. b) Details of road gradients, lengths of gentle & steep slopes, lengths & location of stretches in unstable areas, areas with cliffs, areas with loose rocks, land slide prone areas, snow drift prone areas, no. & location of hairpin bends etc. c) Details of tunnels d) Details & types of protective structures, erosion & land slide control/protection measures, snow drift control measures, avalanche protection/control measures etc. e) Details of existing drainage facilities and reinforced soil structures
11.	4.11.3.2 (2)	Pavement: a) Location of crust failures along with their causes b) Conditions of camber/cross falls/super elevations etc., whether affected by subsidence Embankment: Extent of slope erosion on hill and valley side
12.	--	Condition Surveys & Investigation for Slope Stabilization, Erosion Control, Landslide Correction/Protection & Avalanche Protection Measures: a) Inventory & Condition Surveys of Existing Protective/Control Measures including Condition surveys for existing drainage and reinforced soils structures: The consultant shall make an inventory of all the structures related to Slope Stabilization, Erosion Control, Landslide Control/protection, Avalanche Protection etc. This shall include details of effectiveness of control measures already done and condition of protective/control structures including existing drainage and reinforced soils structures. b) Landslide Investigation This shall be carried out to identify landslide prone areas, to suggest preventive measures or alternate routes that are less susceptible to landslide hazard. Further in existing slide areas this shall help to identify factors responsible for instability and to determine

Sr. No.	Clause No. of TOR	Additional points
		appropriate control measures needed to prevent or minimize recurring of instability problems. Initial preliminary studies shall be carried out using available contour maps, topographical maps, geological/geo-morphological maps, aerial photographs etc. for general understanding of existing slide area and to identify potential slide areas. This shall be followed by further investigations like geological/geotechnical/hydrological investigation to determine specific site conditions prevailing in the slide area as per relevant IRC specifications/publications, MORT&H circulars and relevant recommendations of the international standards for hill roads. The result of the investigations shall provide basis for engineering analysis and the design of protection/remedial measures.
13.	4.11.4.4	a) For tunnels if required, geotechnical and subsurface investigation shall be done as per IRC:SP:91. b) Geotechnical and subsurface investigation and testing for tunnels shall be carried out through the geotechnical Consultants who have the experience of geotechnical and subsurface investigation in similar project.
14.	4.12.1 (1)	The Consultant shall also carry out detailed designs and prepare working designs for the following: a) cross sections at every 25 m intervals which shall be reduced to 10m on sharp curves and locations with rapidly changing soil/geological conditions. b) Slope stabilization and erosion control measures c) Design of protection/control structures in areas subject to subsidence, landslides, rock fall, rock slide, snow drifts, icing, scour, avalanche activity etc. d) Design of protective structures in slip prone and unstable areas e) Design of scenic overlooks, watering points etc. f) Safety features specific to hill roads g) Drainage facilities specific to hill roads h) Reinforced soil slopes and walls specific to hill roads Note: While finalising investigations and mitigation measures for landslide prone areas in Hilly Regions DPR consultants shall use the guidelines/methodologies detailed in report of Expert Committee on Cost Effective Long-Term remedial Measures for landslide Prone areas in Hilly Regions circulated vide MoRTH Office Memorandum dated 28.11.2024.

Sr. No.	Clause No. of TOR	Additional points
15.	4.12.2 (1) 4.12.2 (2)	The Consultant shall evolve Design Standards and material specifications for the Study primarily based on IRC publications, MORT&H Circulars and relevant recommendations of the international standards for hill roads for approval by NHAI. The Design Standards evolved for the project shall cover all aspects of detailed design including the design of geometric elements, pavement design, bridges and structures, tunnels if required, traffic safety and materials.
16.	4.12.3	Wherever practicable/feasible hairpin bends and steep gradients shall be avoided by realignments, provision of structures or any other suitable provisions.
17.	4.12.4	While designing pavement for hill roads specific aspects relevant to hill regions like terrain & topographic conditions, weather conditions, altitude effects etc. shall be duly considered and suitably incorporated in design so that pavement is able to perform well for the design traffic and service life. Effects of factors like heavy rainfall, frost action, intensive snow and avalanche activity, thermal stresses due to temperature difference in day and night, damage by tracked vehicles during snow clearance operations etc. must also be considered along with traffic intensity, its growth, axle loads and design life.
18.	4.12.5(3)	The design of embankments should include the requirements for protection works, provision for drainage and traffic safety features including features specific to hill roads.
19.	4.12.6	Design and Drawing of Tunnels: The Consultant shall prepare design and drawings for tunnels, if required as per the results of feasibility study, as per the relevant specifications of IRC:SP:91/MORT&H and other international specifications.
20.	4.12.7	a) Topography of hills generates numerous water courses and this coupled with continuous gradients of roads in hills and high intensity of rainfall calls for effective drainage of roads. The drainage system shall be designed to ensure that the water flowing towards the road surface may be diverted and guided to follow a definite path by suitable provision of road side drains, catch water drains, interceptors etc. and flow on valley side is controlled so that stability is not affected. b) Further, adequate provision shall be made for sub-surface/subgrade drainage to take care of seepage through the adjacent hill face of the road & underground water flows.
21.	4.12.8	The Consultant shall design suitable traffic safety features and road furniture including traffic signals, signs, markings, overhead sign boards, crash barriers, delineators etc. including any feature specific to hill roads. The locations of these features shall be given in the reports and also shown in the drawings.
22.	4.12.11	The Consultant shall make suitable designs and layout for

Sr. No.	Clause No. of TOR	Additional points
		miscellaneous works including rest areas, bus bays, vehicle parking areas, telecommunication facilities, scenic overlooks, watering points etc. wherever appropriate.
23.	10.9.3	Volume II: Design Report: a) Inventory of protection measures and other structures b) Inventory of tunnels, if required. b) Proposed preliminary designs for tunnels, if required. c) Drainage facilities and reinforced soil structures specific to hilly region Volume III: Drawings a) Drawings for protection/control measures and other structures b) Drawings for tunnels, if required. c) Drawings for drainage and reinforced soil structures specific to hilly terrain
24.	10.9.3	Volume II: Design Report (Part II) Part II of Design Report shall also deal with design of tunnels, if required and design of other protection/control structures, drainage works and reinforced soil structures specific to hilly terrain. Volume IX: Drawing Volume This shall also include: a) Detailed working drawings for tunnels, if required. b) Detailed working drawings for protection/control structures c) Detailed working drawings for drainage works and reinforced soil structures specific to hilly terrain.

SUPPLEMENT-II ADDITIONAL REQUIREMENTS FOR BRIDGES

Sr. No.	Clause No. of TOR	*Additional points*
1	4.1	**For standalone bridge projects the scope of work shall include detailed design of approach road extending at least up to 2 km on either side of the bridge**
1.	4.11.4.2(6)	**Model Studies for Bridges** **1. Objective** Physical/ Mathematical Model study for detailed Hydraulic / Hydrologic investigations regarding the proposed bridge for hydraulic design of the bridge and assessment and hydraulic design of required river training works. **2. Methodology** Physical/Mathematical Model study shall be carried out at a reputed/recognized institution. The consultant will be responsible for identifying the institution, supplying Information /Documents /Data required for modal studies as indicated in para 4 below and coordinating the model study with the institution concerned **3. Scope of Work** **3.1 Physical Model study** Physical modeling with appropriate model scale for Hydraulic and Hydrologic Investigations to: i) Finalize span arrangement causing uniformity in flow distribution, and work out the alignment and orientation of river training works and bridge axis. ii) Provide information on estimated/observed maximum depth of scour. iii) Provide information on required river training works for proposed bridge iv) Provide hydraulic design for the bridge and the required river training works. v) Quantify the general direction of river course through bridge, afflux, extent and magnitude of flood, effect of backwater, if any, aggradation/degradation of bed, evidence of scour etc. shall be used to augment the available hydrological data. The presence of flood control/irrigation structures, if affecting the hydraulic characteristics like causing obliquity, concentration of flow, scour, silting of bed, change in flow levels, bed levels etc. shall be studied and considered in Hydraulic design of

Sr. No.	Clause No. of TOR	*Additional points*
		be studied and considered. vi) Analyze effects of Wind Load on the Structures. **3.2 Mathematical Model study** Mathematical modeling for detailed Hydraulic / Hydrologic investigations regarding the proposed new bridge to: i) Finalize the site/location of the proposed new bridge based on mathematical modeling. ii) Provide information on estimated/observed maximum depth of scour. iii) Provide information on required river training works for proposed bridge iv) Provide hydraulic design for the bridge and the required river training works. v) Quantify the general direction of river course through bridge, afflux, extent and magnitude of flood, effect of backwater, if any, aggradation/degradation of bed, evidence of scour etc. shall be used to augment the available hydrological data. The presence of flood control/irrigation structures, if affecting the hydraulic characteristics like causing obliquity, concentration of flow, scour, silting of bed, change in flow levels, bed levels etc. shall be studied and considered in Hydraulic design of proposed bridge. The details of any planned work in the immediate future that may affect the river hydraulics shall be studied and considered. vi) Analyze effects of Wind Load on the Structures **4. Information/Documents/Data required for Physical /Mathematical Model study** i) Plan layouts showing the locations of the proposed bridge as well as the existing bridges /barrages etc., in the vicinity of the proposed bridge with the chainages with respect to a standard reference marked on it. ii) High flood discharges and corresponding flood levels at the locations of the existing bridges in the vicinity of the proposed bridge. iii) General arrangement drawing (GAD) of the existing bridges showing number of spans, pier and well dimensions, founding levels, maximum scour level, the design discharge and the HFL, guide bund details. On this, the plan form of the river course with the bridge alignment may also be shown as far as possible. iv) General arrangement drawing (GAD) of the proposed new bridge showing number of spans, pier and foundation dimensions. On this, the plan form of the river course with

Sr. No.	Clause No. of TOR	*Additional points*
		the bridge alignment may also be shown as for as possible. v) River cross sections at 500m longitudinal spacing (maximum) up to a distance of 2 times the bridge total length on the upstream side and up to a distance equal to the bridge total length on the downstream with right bank and left bank clearly marked on it. At least one cross section to be provided at the location of the proposed bridge. At each cross section, the bed levels to be taken at a maximum lateral distance of 8 m in flow section and at 25 m in non-flow section respectively. The abrupt variations in the bed levels to be captured by taking measurements at closer locations both in longitudinal as well as lateral directions. vi) The cross sections, as for as possible, from high bank to high bank. vii) The longitudinal profile of the river along the length of the proposed alignment. viii) Size distribution of the river bed material and the bore log data at different locations at the site of the proposed bridge. ix) The series of annual peak rainfall and flood of the river for at least 30 years period

SUPPLEMENT-III

ADDITIONAL REQUIREMENT FOR SAFETY AUDIT

The use of checklists is highly recommended as they provide a useful "aide memoire" for the audit team to check that no important safety aspects are being overlooked. They also give to the project manager and the design engineer a sense of understanding of the place of safety audit in the design process. The following lists have been drawn up based on the experience of undertaking systematic safety audit procedures overseas. This experience indicates that extensive lists of technical details has encouraged their use as "tick" sheets without sufficient thought being given to the processes behind the actions. Accordingly, the checklists provide guidelines on the principal issues that need to be examined during the course of the safety audits.

Stage F-During Feasibility Study

1. The audit team should review the proposed design from a road safety perspective and heck the following aspects

CONTENTS	ITEMS
Aspects to be checked	A. Safety and operational implications of proposed alignment and junction strategy with particular references to expected road users and vehicle types likely to use the road. B. Width options considered for various sections. C. Departures from standards and action taken. D. Provision of pedestrians, cyclists and intermediate transport E. Safety implications of the scheme beyond its physical limits i.e. how the scheme fits into its environs and road Hierarchy
A1 : General	□ Departures from standards □ Cross-sectional variation □ Drainage □ Climatic conditions □ Landscaping Services □ apparatus Lay-byes □ Footpath □ Pedestrian crossings □ Access (minimize number of private accesses) Emergency □ vehicles □ Public Transport Future □ widening Staging of □ contracts □ Adjacent development
A2 : Local	□ Visibility

CONTENTS	ITEMS
Alignment	□ New/Existing road interface Safety □ Aids on steep hills
A3 : Junctions	□ Minimise potential conflicts Layout □ Visibility
A4 : Non-Motorised road users Provision	□ Adjacent land □ Pedestrians □ Cyclists □ Non-motorised vehicles
A5 : Signs and Lighting	□ Lighting Signs/Markings □
A6 : Construction and Operation	□ Build ability □ Operational □ Network Management

Stage 1 – Completion of Preliminary Design

1. The audit team should review the proposed check the following aspects design from a road safety perspective and check the following aspects	
CONTENTS	**ITEMS**
Aspects to be checked	A. Safety and operational implications of proposed alignment and junction strategy with particular references to expected road users and vehicle types likely to use the road. B. Width options considered for various sections. C. Departures from standards and action taken. D. Provision of pedestrians, cyclists and intermediate transport E. Safety implications of the scheme beyond its physical limits i.e. how the scheme fits into its environs and road hierarchy
B1 : General	□ Departures from standards □ Cross-sectional variation □ Drainage □ Climatic conditions □ Landscaping Services □ apparatus Lay-byes □ Footpaths □ Pedestrian crossings

	□ Access (minimize number of private accesses) Emergency □ vehicles □ Public Transport Future □ widening Staging of □ contracts □ Adjacent development
B2 : Local Alignment	□ Visibility □ New/Existing road interface Safety □ Aids on steep hills
B3 : Junctions	□ Minimise potential conflicts □ Layout □ Visibility
B4 : Non-Motorised road users Provision	□ Adjacent land □ Pedestrians □ Cyclists □ Non-motorised vehicles
B5 : Signs and Lighting	□ Lighting □ Signs/Markings
B6: Construction and Operation	□ Build ability □ Operational □ Network Management

Stage 2 – Completion of Detailed Design

1. The audit team should satisfy itself that all issues raised at Stage 1 have been resolved. Items may require further consideration where significant design changes have occurred.

2. If a scheme has not been subject to a stage 1 audit, the items listed in Checklists B1 to B6 should be considered together with the items listed below.

CONTENTS	ITEMS
Aspects to be checked	A. Any design changes since Stage 1. B. The detailed design from a road safety viewpoint, including the road safety implications of future maintenance (speed limits; road signs and markings; visibility; maintenance of street lighting and central reserves).
C1 : General	□ Departures from standards □ Drainage □ Climatic conditions □ Landscaping Services □ apparatus Lay-byes □ Access □ Skid-resistance □ Agriculture □ Safety Fences □ Adjacent development
C2 : Local Alignment	□ Visibility □ New/Existing road interface
C3 : Junctions	□ Layout □ Visibility □ Signing □ Lighting □ Road Marking □ T,X,Y-junctions □ All roundabouts □ Traffic signals
C4 : Non-Motorised road users Provision	□ Adjacent land □ Pedestrians □ Cyclists □ Non-motorised vehicles
C5 : Signs and Lighting	□ Advanced direction signs Local □ traffic signs

	□ Variable message signs □ Other traffic signs Lighting Network Management

SUPPLEMENT- IV
ADDITIONAL POINTS TO BE CONSIDERED FOR TUNNELS IN ADDITION TO POINTS COVERED IN MAIN ToR

1. Tunnel projects are capital-intensive and are associated with high risk due to uncertainties of the underlying strata. Therefore, proper planning and investigations are critical for the successful implementation of tunnel projects. Improper / deficient alignment of road tunnels can lead to time and cost overruns during the execution stages.
2. To ensure the proper selection of tunnel alignment, a Standard Operating Procedure (SOP) has been prepared to establish a comprehensive and systematic approach, considering all critical factors are taken into account before finalizing the tunnel alignment. The SOP is enclosed as Annexure.
3. The alignment of all long tunnels (length >1.5 km) on National Highways shall be finalized in accordance with the aforementioned SOP. It may be noted that tunnel portals are obligatory reference points in the alignment of a road corridor. Therefore, alignment proposals for all long tunnel projects shall be submitted to the Ministry through DG(RD)&SS for review, prior to the submission of alignment of a corridor or section of NH for approval by the Alignment Approval Committee in accordance with the Ministry's OM No. NH-14012/27/2014-P&M (Vol-IV) dated 20th September 2024 and its subsequent amendments. The alignment proposal must, inter-alia include all details and reports specified in the SOP.

Standard Operating Procedure for National Highway Tunnel Alignment Studies and approval

1. **Preamble**:
The purpose of this SoP is to provide a comprehensive, objective, and replicable methodology for identifying, evaluating, and selecting optimal tunnel alignment options in National Highway (NH) projects in India. Tunnel infrastructure plays a pivotal role in improving road connectivity, especially in mountainous, hilly, and ecologically sensitive regions. Tunnels facilitate direct, all-weather connectivity and help avoid terrain-related constraints such as steep gradients, unstable slopes, and landslide-prone areas. They reduce travel time, fuel consumption, vehicular emissions, and overall operating costs. From a strategic and economic perspective, tunnel development is essential for enhancing border connectivity, supporting tourism, enabling socio-economic integration of remote areas, and ensuring national security.

However, planning tunnel infrastructure is inherently complex and multi-disciplinary. It requires harmonization of topographical, geological, geotechnical, geophysical, hydrological, environmental, social, and financial dimensions. Without rigorous, standardized studies and data-backed alignment evaluations, tunnel projects may face delays, cost escalations, and stakeholder conflicts. This policy document provides an objective and structured Standard Operating Procedure (SOP) for conducting Tunnel Alignment Option Studies on National Highways. It prescribes the methodology for generating technically sound, environmentally sustainable, socially acceptable, and economically viable tunnel alignment options.

2. **Alignment Alternatives Objective**: Generate technically feasible, environmentally compatible, and economically justifiable alignment options.

- The goal is to evaluate at least 3 alternative alignments with clear differentiators: shortest path, geologically/geotechnically favorable, least social impact, and cost-optimized route.
- These alignments must avoid critical constraints like ESZs, heritage sites, fault lines, steep slopes (>45°), and existing urban settlements.
- All alignments should respect terrain geometry.
- Portal locations should be optimized for access, gradient, drainage, and minimal land acquisition.
- Portal selection considering stable slopes, drainage channels and land cover.

- Horizontal and vertical alignment designed for permissible gradient and minimum curve radius as per design speed [Clause 2.2 and Annexure-B of IRC:SP:91-2019].
- Classify tunnel type: Horseshoe, Circular, or Segmental [Clause 1.5 of IRC:SP:91-2019].
- Define excavation method: NATM, TBM, or Drill & Blast [Chapter 4 of IRC:SP:91-2019].

3. **Overall Process flow**: The overall methodology for tunnel alignment option study and approval includes:
    - Identification of a preliminary corridor for tunnel construction
    - Review of past investigation data and gap analysis
    - Collection of high-resolution base-line data across multiple disciplines
    - Development of technically viable alignment options
    - Stakeholder consultations
    - Gati Shakti Portal integration
    - Evaluation of options, optimisation and deciding the best available alternative

    Documentation and submission
4. **Procedure for Fixing Tunnel Alignment options**

Step 1: Define Project Objectives

Determine and document why a tunnel is needed:

- Reduce travel time
- Bypass steep terrain (e.g., ghat sections)
- Avoid wildlife sanctuaries or urban centers
- Improve road safety and geometric standards
- Ensure year-round connectivity in snowfall zones (e.g., J&K, Ladakh, Himachal Pradesh)

Step 2: Preliminary Corridor Identification

- Study existing maps, topography, and satellite images to define the broad corridor.
- Identify potential tunnel alignments within these corridors.
- Define control points such as entry/exit portals, road intersections, and geological boundaries.
- Use GIS and DEM (Digital Elevation Model) tools to understand elevation profiles and gradients.

Step 3: Reconnaissance Survey

- Conduct field visits and aerial drone surveys to:
- Validate topographical data
- Locate ridgelines, valleys, rivers, fault lines
- Identify settlements, existing roads, and utilities
- Produce a Reconnaissance Report with:
- Tunnel length options
- Broad geological zoning
- Access to portals (construction feasibility)
- Broad environmental sensitivities

Step 4 : Data Collection

(i) **Review of Existing Investigations and Data**

- Collect and review earlier literature on topographical, geological, geophysical, and hydrological investigations (if any) carried out in the project area by central or state agencies.

- Archive all earlier reports, maps, and borehole logs.
- Conduct a desk-based gap analysis to assess their relevance and sufficiency.

(ii) **Primary Topographic and Terrain Survey**

- Creation of High-resolution Digital Elevation Model (DEM) using high resolution satellite imagery, LiDAR or drone-based photogrammetry.
- Prepare longitudinal sections, contours, and 3D terrain models.
- Prepare terrain classification and slope stability maps (1:5000 or higher resolution).
- Mark proposed tunnel portals, access roads, muck disposal zones, safety areas.

(iii) **Traffic Studies**

- Traffic Studies: Conduct Classified Traffic Volume Count Survey, peak-hour analysis, and Origin-Destination (OD) surveys.

(iv) **Geological, Geotechnical, and Hydrogeological Investigations**

Develop a Geotechnical Investigation Interpretative Report (GIR) that synthesizes and interprets the geological, geotechnical, and hydrogeological data collected during field investigations. It must include:

- Corridor-wise geological synthesis including lithological and structural mapping
- Tunnel-specific geological interpretation based on core logging and surface mapping
- Geological mapping (rock types, discontinuities, weathering)
- Assessment of rock mass quality and classification (RQD, Q-System, RMR, GSI)
- Core logging to determine RQD, Unconfined Compressive Strength (UCS), and groundwater inflow
- Geophysical Investigation (e.g., Seismic and Electrical resistivity surveys) to detect weak zones and aquifers
- Assess tunnel rock classes using Q-System, RMR (Rock Mass Rating), and GSI (Geological Strength Index)
- Lithological logs and cross-sections
- RQD and core recovery values
- Unconfined Compressive Strength (UCS), Point load tests, Permeability tests, slake durability tests
- Geological discontinuity mapping (joints, faults, shear zones)
- Groundwater table depth and flow characteristics, permeability
- Identify high-risk zones for landslides, sinkholes, or fault crossings using remote sensing and historical data.

- Conduct borehole drilling and core logging as per IRC SP:91-2019:
- For tunnels >1500 m: minimum 2 boreholes at each portal, 1 borehole at 25%, 50%, and 75% of tunnel length

Develop a **Geological Reference Model (GRM)** that consolidates surface and subsurface data.

Tunneling implications based on expected geological conditions:

- Support system requirements (temporary/permanent)
- Anticipated water ingress or squeezing ground conditions
- Geo-hazard zones including landslide-prone slopes, seismically active faults, and karst features (if any)
- Recommendations for tunnel design and construction strategy including sequencing,

heading methods, and instrumentation
- Zoning of tunnel stretches by geological complexity and associated risk levels

(v) **Satellite and Remote Sensing Inputs** - To ensure centralized data management, spatial transparency, and inter-agency coordination, all tunnel alignment studies must be integrated with the PM Gati Shakti Portal, developed by BISAG-N (Bhaskaracharya National Institute for Space Applications and Geo-informatics). This integration facilitates standardization, concurrent reviews, and intelligent decision-making support). Key remote sensing inputs include:
- Satellite overlays for vegetation cover, forest boundaries, slope stability, and land use patterns.
- Thermal and moisture anomaly analysis using satellite-based data to assess geotechnical risks

Step 5 : Integration with PM Gati Shakti Portal

- Alignment Overlay: Use PM Gati Shakti portal to overlay tunnel alignments on infrastructure layers.
- Identify Conflicts: Highlight potential conflicts with utilities, transport corridors, and logistics zones.
- Ensure Synergy: Optimize alignment to support inter-modal connectivity (rail, road, port, airport).

Step 6 : Environmental and Forest Considerations

Use BISAG-N overlays and MoEF&CC databases to map:
- Forest areas, wildlife habitats, and eco-sensitive zones
- Water bodies, wetlands, CRZ if applicable
- Existing EIA database for regional biodiversity and species data

For each alignment option:
- Identify forest diversion needs (in ha) and applicable Forest (Conservation) Rules, 2022
- Map Schedule-I species habitats and corridors (if present)
- Overlay project footprint on Wildlife Institute of India maps
- Identify if tunnel falls in or near Protected Areas or Eco-Sensitive Areas

Conduct preliminary Environmental Screening as per MoEF EIA Notification, 2006:
- Determine applicability of Category A/B EIA
- Pre-scoping to estimate Terms of Reference (ToR)

Step 7 : Land Acquisition and Social Impact Analysis

Land acquisition (LA) and social impact considerations are integral to the tunnel alignment selection process. Alignment alternatives must minimize displacement, livelihood disruption, and acquisition of ecologically or culturally sensitive land. This section outlines the protocols to assess LA requirements and social impacts for each proposed alignment.

7.1 For each alignment option, the following assessments must be conducted:
Land Type Classification:
- Private, government, forest, revenue, defence, or institutional lands
- Agricultural vs. non-agricultural (barren/waste) classification

Ownership and Tenure Mapping:
- Geo-referenced cadastral overlays from district authorities

- Identification of tribal, tenancy, or leasehold lands

Built Environment Mapping:

- Households, shops, community assets (schools, temples, water sources)
- GIS-based asset inventory within 100 m corridor on either side of alignment

7.2 Integration into Alignment Selection

- Tabulate alignment-wise land requirement (hectares), cost and number of affected households
- Score alignments for LA impact using a weighted matrix in Multi-Criteria Decision Analysis (MCDA)
- Ensure alignment selection minimizes displacement and is socially acceptable

Step 8 : Cost Estimation and Financial Viability

8.1 Cost estimation and financial viability analysis are critical to assess the techno-economic feasibility of each tunnel alignment option. This includes a structured evaluation of capital and recurring costs, realistic risk buffers, and potential returns.

8.2 Life-Cycle Costing (LCC)
In addition to capital costs, prepare life-cycle cost analysis to assess financial sustainability over a 30-50 year design horizon. LCC must include:

- Annual maintenance cost of tunnel civil infrastructure and MEP
- Energy consumption for lighting, ventilation, and safety systems
- Periodic repair and rehabilitation cost assumptions
- Environmental cost internalization (e.g., muck transport, monitoring)

8.3 Economic and Financial Viability Assessment
Each alignment must be evaluated for economic feasibility under standard cost-benefit frameworks:

- Economic Internal Rate of Return (EIRR) and Benefit-Cost Ratio (BCR), including:
- Vehicle operating cost (VOC) savings
- Travel time savings
- Reduced accident risk
- Reduced GHG emissions and monetized carbon savings
- Financial Internal Rate of Return (FIRR)
- Revenue estimation from tolls (if applicable)
- O&M cost vs. revenue flow over concession period
- Sensitivity analysis for key risk parameters:
- Traffic growth rate, construction delays, cost overrun, inflation

Step 9: Stakeholder Consultation - Engaging with affected stakeholders ensures alignment with policy, regulations, and public interests.

- Engage all relevant stakeholders early and throughout the planning process
- Convene Interdepartmental Meetings: Involve Forest, PWD, Railways, Irrigation, and Disaster Management Departments.
- Community Consultation: Conduct public hearings, especially in tribal and eco-sensitive areas.

Step 10: Alignment Optimization

10.1 Finalize alignment considering:

- Least construction and operational risk

- Minimal environmental/social impact
- Favorable geological conditions

10.2 Apply design constraints:

- Tunnel grade: ≤ 4% (preferably ≤ 2.5%)
- Minimum radius: ≥ 250 m for 80 km/h design speed
- Tunnel cross-section: as per IRC Guidelines
  Iterate tunnel alignment design to reduce adverse impacts:
- Avoid ecologically sensitive areas
- Reduce tunnel length while maintaining safe geometry
- Minimize number of cross-passages/ventilation shafts
- Align tunnel with surface roads to minimize connector lengths
- Ensure proper portal orientation to reduce earthwork and construction effort

Step 11 : Decision Analysis Framework and Alignment Recommendation
The final selection of the preferred tunnel alignment must be based on an objective, transparent, and defensible Decision Analysis framework that aggregates technical, environmental, social, and economic performance across alignment options.

11.1 Structure of the decision analysis framework
Criteria Categories:

- Engineering and Geological Feasibility
- Environmental and Forest Impact
- Social and Land Acquisition Impact
- Financial Cost and Viability
- Connectivity and Strategic Importance

Indicators under each category shall be both qualitative and quantitative, such as:

- Geological risk score (based on GRM)
- Length of tunnel and excavation complexity
- Forest land (ha) and biodiversity hotspots affected
- Net Present Cost (NPC), IRR, and ERR
- Distance saved, regional accessibility, disaster resilience
  Suggested evaluation criteria are provided in Annexure A below for reference.

Step 12: Preparation and Submission of Alignment Option Study Report

- Compile findings from all study components into a consolidated Tunnel Alignment Option Study Report
- The report shall be structured in the following format:
- Executive Summary
- Introduction and Project Background
- Methodology Adopted
- Existing Data Review and Gap Analysis
- Topographical and Geological Inputs
- Environmental and Social Assessments
- Outcome of Public Consultation
- Risk analysis
- Cost Estimates and Financial Viability
- Decision Analysis Results
- Recommended Alignment Option with Justification
- Annexures: Maps, Reports, MCDA Tables, Satellite Images

5. **<u>Validation of Alignment Recommendation</u>**

The recommended tunnel alignment option shall be validated by:

- Reconfirming its compliance with technical feasibility, safety, environmental sustainability, and cost-efficiency parameters.
- Ensuring that statutory and regulatory prerequisites (e.g., forest clearance, wildlife clearance feasibility, land availability, seismic and hydrological stability) are reasonably addressed at the planning stage.
- Demonstrating alignment with national policy objectives and MoRTH Guidelines, IRC:SP:91-2019, and relevant codes.
- Risk Register: List risks like tunneling in poor geology, water ingress, R&R resistance, and clearance delays. Include mitigation strategies.

6. **Final Recommendation**

The final recommended alignment option shall be explicitly stated, with justification citing:

- Least environmental/social disruption
- Optimal tunnel length and gradient
- Engineering feasibility and constructability
- Compliance with MoRTH's guidelines and IRC codes.
- Stakeholder and inter-agency consultations (where applicable)

****

Annexure A to Supplement-IV

Suggested Alignment Evaluation Criteria

Use a Multi-Criteria Decision Analysis (MCDA) approach for decision-making considering the following aspects of each proposed alignment option.

1. **Geometric Design**
   - Grade (preferably <2.5%, max 4%)
   - Horizontal curves (minimum radius 250 m for 80 km/h)
   - Tunnel length and cross-sectional requirements
2. **Geological Conditions**
   - Stability of rock mass
   - Presence of fault zones or weak strata
   - Groundwater inflow risks
   - Possibility of NATM or TBM methods
3. **Construction** Feasibility
   - Access to portals
   - Construction logistics (supporting infrastructure)
   - Muck disposal and material transport
   - Tunnel method suitability (TBM vs. Drill & Blast)
4. **Environmental** & Forest Impact
   - Protected areas (Wildlife, Reserved Forests)
   - Need for forest/wildlife clearances
   - Biodiversity impacts and mitigation
5. **Cost Estimate**
   - Construction and operation costs
   - Mitigation and environmental costs
   - Long-term maintenance
6. **Socio-Economic Impact**
   - Land acquisition needs
   - Resettlement or rehabilitation issues
   - Impact on local communities and employment

Terms of Reference (ToR) for the DPR Consultant for Prevention and Mitigation of Road Tunnel Collapses

(vi) At the time of the alignment survey, the geological maps (1:50,000 scale) and National Landslide Susceptibility Mapping (1:50,000 scale) published by the Geological Survey of India (GSI) must be consulted. It will help in identifying the regional geological and structural setup of the area and also help in avoiding placing the tunnel portals close to a major landslide or on its flanks or even in the areas that are likely to be falling in the run-out trajectory of a major landslide. Furthermore, it will enable the project planners to identify the reaches/sections of tunnel alignment that may be faulting below major landslide zones potentially resulting in inadequate cover above the tunnel or triggering landslide activity due to blasting during construction.

(vii) Comprehensive geological investigations are indispensable for identifying the most suitable route, one that minimizes the potential for encountering adverse ground conditions. A key best practice in this regard is optimizing the tunnel's alignment based on a thorough understanding of prevailing ground conditions and their anticipated behavior during and after construction. By strategically selecting a route that avoids known geological hazards such as active faults or zones of weak rock, the initial planning can significantly mitigate the likelihood of collapse in later stages of the project.

(viii) Ministry vide Circular No. NH-12037/3/2025/Tunnel/Zone-I dated 02.09.2025 has issued the Standard Operating Procedure (SoP) for NH Tunnel Alignment Studies and Approval. Authority shall ensure its adherence in letter and spirit.

(ix) The ToR for DPR/PMC consultants shall mandate the preparation of a Geotechnical Baseline Report (GBR) and a Risk Register. The Risk Register should include the perceived hazards and associated risks for the project and indicate potential mitigation measures with comprehensive explanations for their basis, based on the DPR studies. The baseline report shall serve as a reference for determining expected efforts and

aim for the highest practical accuracy. The primary function of this baseline report is to minimize disputes by clearly defining anticipated conditions; significant deviations beyond permissible limits shall be treated as a change in scope (positive or negative). Geotechnical Baselines shall be based on apt and appropriate geological, geophysical and geotechnical investigations.

(x) Similarly, the Risk Register at the DPR stage serves as a preliminary framework. It is the responsibility of the execution team to regularly update and refine it. During the DPR llnalization process the Risk Register shall be reviewed by a larger team to incorporate diverse perspectives on risk assessment and mitigation strategies. Ultimately, maintaining the Risk Register as a dynamic, continuously updated document is the Authority's responsibility throughout the project lifecycle.

All the construction tenders shall be issued for bidding with the GBR and Risk Register as part of the information provided to bidders.

2.**Design**

2.1 Detailed design and its proper implementation are critical for any civil engineering project. However, for tunnel projects, it is even more crucial since the ground itself serves as part of the support system. Predicting ground properties based on a limited number of tests and investigations is an oversimplification, particularly in the Himalayas. Inadequate geological and geotechnical investigations lead to great variation between the ground conditions predicted in the DPR and those actually encountered during the construction stage. This, in tum, results in time and cost overruns in the project.

2.2 A thorough understanding of topography, geology, and hydrogeology is essential for designers. It is beneficial to consider as many different conditions as possible to ensure robust design solutions. It is important to note that during the DPR phase, thorough geological and hydrogeological investigations both surface and subsurface-shall be conducted to account for all anticipated variations in ground conditions along the tunnel alignment in the excavation methodology and the design of appropriate support systems. Tunnel design must account for varying ground conditions and anticipated behavior.

2.3 The tunnel shape shall be evaluated not only in terms of space requirements but also for structural stability. In weak ground conditions, the provision of an arched invert is essential, and achieving ring closure as early as possible shall be a priority.

2.4 It is essential to clearly define the support class associated with each ground type and expected behavior. This ensures that the execution team can apply the appropriate measures and make necessary modifications based on monitoring results. Furthermore, leaving excavated sections of the tunnel unsupported or inadequately supported beyond the stand-up time poses serious risks to worker safety and can lead to significant project delays in the event of a major collapse.

2.5 Effective management of groundwater is essential for ensuring the long term stability of the tunnel, and the design must include appropriate measures for waterproofing and drainage. The ingress of groundwater into the tunnel can weaken the tunnel linings and the surrounding ground, posing significant safety risks to both construction workers and future users. To mitigate these risks, the design often incorporates a system for proper drainage of groundwater, typically using drainage pipes installed around the tunnel perimeter. For tunnels constructed below the water table or in areas with high groundwater pressure, a systematic drainage system design is crucial to protect the tunnel invert (floor) and to maintain a stable and dry environment inside the tunnel.

2.6 Special ground conditions such as squeezing, swelling, rock bursts, shallow cover zones, sections beneath perennial streams/nalas, hot water ingress, and the presence of toxic or flammable gases (particularly in the case of long tunnels) require specific design and execution measures. Identifying these conditions early in the design phase is crucial.

2.7 In regions known for seismic activity the design of the tunnel must account for the potential stresses and strains caused by earthquakes. This may involve the use of specific design criteria that consider seismic loading" as well as the selection of materials and support systems that can withstand these dynamic traces.

2.8 The primary design principle for tunnel support must be flexible, allowing for real-time adjustments based on actual ground conditions encountered. Designers must be prepared to revise their designs if significant deviations from the initial assumptions arise. However, understanding the limitations of field and monitoring data is equally important. A well-conceived design strikes a responsible and safe balance between anticipated and actual ground conditions.

APPENDIX-VII

DPR Checklist – Stage 1 – Inception Report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Project Appreciation**	Yes ☐ No ☐ NA ☐	NA	
2.1	Location of site office	Yes ☐ No ☐ NA ☐		
2.2	Review of scope of ToR and gap identification	Yes ☐ No ☐ NA ☐	NA	
2.3	Key departments identified for various documents	Yes ☐ No ☐ NA ☐		
2.4	Start and end location of project verified with client (Mention details)	Yes ☐ No ☐ NA ☐		
2.5	Project description • Start and End Chainage • Village/District	Yes ☐ No ☐ NA ☐		
2.6	Project location map • On State Map • On District Map	Yes ☐ No ☐ NA ☐	NA	
2.7	Site photos and data of project alignment	Yes ☐ No ☐ NA ☐	NA	
2.8	Overview of land use plans	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
2.9	Overview of existing pavement conditions • Number of Lanes • Type of Pavement (Flexible/Rigid/Surfaced/ Unsurfaced)	Yes ☐ No ☐ NA ☐		
2.10	Existing right of way details	Yes ☐ No ☐ NA ☐		
2.11	Number/ Location of major and minor bridges	Yes ☐ No ☐ NA ☐		
2.12	Number/ Location of level crossings	Yes ☐ No ☐ NA ☐		
2.13	Number/ Location of ROB and RUB	Yes ☐ No ☐ NA ☐		
2.14	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
3	**Approach Methodology**	Yes ☐ No ☐ NA ☐	NA	
3.1	Engineering survey and investigations	Yes ☐ No ☐ NA ☐	NA	
3.2	Design of road, pavements and structures	Yes ☐ No ☐ NA ☐	NA	
3.3	Environment and social impact assessment	Yes ☐ No ☐ NA ☐	NA	
3.4	Estimation of project cost, viability and financing options	Yes ☐ No ☐ NA ☐	NA	
3.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
4	**Task Assignment and Manning Schedule**	Yes ☐ No ☐ NA ☐	NA	
4.1	Number of key personnel provided	Yes ☐ No ☐ NA ☐		
4.2	Specific tasks assigned to each key personnel	Yes ☐ No ☐ NA ☐	NA	
4.3	Manning schedule for key personnel	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
4.4	Number of key personnel deployed at site	Yes ☐ No ☐ NA ☐		
5	**Performa for data collection**	Yes ☐ No ☐ NA ☐	NA	
6	**Indicative design standards and cross sections**	Yes ☐ No ☐ NA ☐	NA	
7	**Development plans**	Yes ☐ No ☐ NA ☐	NA	
7.1	Overview of development plans being implemented/ proposed by local bodies	Yes ☐ No ☐ NA ☐	NA	
7.2	Overview of impact of such development plans	Yes ☐ No ☐ NA ☐	NA	
8	**Quality Assurance Plan**	Yes ☐ No ☐ NA ☐	NA	
8.1	Engineering surveys and investigation	Yes ☐ No ☐ NA ☐	NA	
8.2	Traffic surveys	Yes ☐ No ☐ NA ☐	NA	
8.3	Material geo-technical and sub-soil investigations	Yes ☐ No ☐ NA ☐	NA	
8.4	Road and pavement investigations	Yes ☐ No ☐ NA ☐	NA	
8.5	Investigation and design of bridges and structures	Yes ☐ No ☐ NA ☐	NA	
8.6	Environment and R&R assessment	Yes ☐ No ☐ NA ☐	NA	
8.7	Economic and financial analysis	Yes ☐ No ☐ NA ☐	NA	
8.8	Drawing and documentation	Yes ☐ No ☐ NA ☐	NA	
8.9	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
8.10	Discussion of draft QAP document with client	Yes ☐ No ☐ NA ☐	NA	
8.11	Approval of final QAP document by client	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
9	**Draft design Standards**	Yes ☐ No ☐ NA ☐	NA	
9.1	Geometric design standards of highway (Plain)	Yes ☐ No ☐ NA ☐	NA	
9.2	Geometric design standards of highway (Hilly)	Yes ☐ No ☐ NA ☐	NA	
10	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
10.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
10.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
10.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
10.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist – Stage 2 – Feasibility Report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Overview of client organization / activities**	Yes ☐ No ☐ NA ☐	NA	
3	**Methodology adopted for feasibility study**	Yes ☐ No ☐ NA ☐	NA	
4	**Socioeconomic profile of the project areas**	Yes ☐ No ☐ NA ☐	NA	
4.1	Regional economic profile basis last 10 years data as per IRC	Yes ☐ No ☐ NA ☐	NA	
4.2	Economic profile of project influence area basis last 10 years data as per IRC	Yes ☐ No ☐ NA ☐	NA	
4.3	Socio Economic status of project influence area	Yes ☐ No ☐ NA ☐	NA	
5	**Indicative design standards, methodologies, and specifications**	Yes ☐ No ☐ NA ☐	NA	
6	**Traffic surveys and analysis**	Yes ☐ No ☐ NA ☐	NA	
6.1	Classified traffic volume counts using IHMCL data (7 day data)	Yes ☐ No ☐ NA ☐	NA	
6.2	Traffic projection methodology as per IRC:108	Yes ☐ No ☐ NA ☐	NA	
6.3	Projected Traffic data for 20 years	Yes ☐ No ☐ NA ☐	NA	
6.4	Current and Projected PCU	Yes ☐ No ☐ NA ☐		
6.5	Current and Projected TVU	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
6.6	Origin destination surveys as per IRC: 102	Yes ☐ No ☐ NA ☐	NA	
6.7	Speed and delay studies as per IRC:102	Yes ☐ No ☐ NA ☐	NA	
6.8	Traffic surveys for the design of road junctions as per data in IRC: SP:41	Yes ☐ No ☐ NA ☐	NA	
6.9	Analysis for replacing railway level crossings with over bridges/ subways	Yes ☐ No ☐ NA ☐	NA	
6.10	Axle load survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
6.11	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
6.12	Traffic surveys monitored and reviewed by the client	Yes ☐ No ☐ NA ☐	NA	
7	**Reconnaissance survey**	Yes ☐ No ☐ NA ☐	NA	
7.1	Road Inventory Survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
7.2	Review of Road Inventory survey by client	Yes ☐ No ☐ NA ☐	NA	
7.3	Chainage wise details of pavement composition survey	Yes ☐ No ☐ NA ☐	NA	
7.4	Geological Survey • Geological Map of the Area • Seismicity	Yes ☐ No ☐ NA ☐	NA	
7.5	Climatic Conditions • Temperature • Rainfall • Wind	Yes ☐ No ☐ NA ☐	NA	
7.6	Pavement composition and condition survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
7.7	Review of pavement composition and condition survey by client	Yes ☐ No ☐ NA ☐	NA	
7.8	Pavement roughness survey as per IRC:SP:16	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
7.9	Review of pavement roughness survey by client	Yes ☐ No ☐ NA ☐	NA	
7.10	Pavement structural strength survey as per IRC:81	Yes ☐ No ☐ NA ☐	NA	
7.11	Review of pavement structural strength survey by client	Yes ☐ No ☐ NA ☐	NA	
7.12	Sub grade characteristics and strengths	Yes ☐ No ☐ NA ☐	NA	
7.13	Topographical survey as per IRC:SP:19 using LiDAR • Gradient • Terrain	Yes ☐ No ☐ NA ☐	NA	
7.14	Review of topographical survey by client	Yes ☐ No ☐ NA ☐	NA	
7.15	Inventory of bridges, culverts and structures	Yes ☐ No ☐ NA ☐	NA	
7.16	Condition survey for bridges, culverts and structures	Yes ☐ No ☐ NA ☐	NA	
7.17	Review of condition survey for bridges, culverts and structures by client	Yes ☐ No ☐ NA ☐	NA	
7.18	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
8	**Geotechnical Survey**	Yes ☐ No ☐ NA ☐	NA	
8.1	Geo-technical and sub-soil explorations as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
8.2	Bore holes dug for every pier and abutment	Yes ☐ No ☐ NA ☐	NA	
8.3	Review of geo-technical and sub- soil explorations by client	Yes ☐ No ☐ NA ☐	NA	
8.4	Field testing, soil sampling, laboratory testing in accordance with BIS/ AASHTO/ BS	Yes ☐ No ☐ NA ☐	NA	
8.5	Recommendation of Foundation Type and Depth	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
8.6	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
9	**Hydraulic and Hydrological Survey**	Yes ☐ No ☐ NA ☐	NA	
9.1	Hydraulic and hydrological investigations as per IRC:SP:13 and IRC:5	Yes ☐ No ☐ NA ☐	NA	
9.2	High Flood Level specified	Yes ☐ No ☐ NA ☐	NA	
9.3	Depth of Water Table specified	Yes ☐ No ☐ NA ☐	NA	
9.4	Ponded Water Level specified	Yes ☐ No ☐ NA ☐	NA	
9.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
9.6	Review of hydrological investigations by client	Yes ☐ No ☐ NA ☐	NA	
10	**Materials Survey**	Yes ☐ No ☐ NA ☐	NA	
10.1	Materials Survey conducted as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
10.2	Sources of Naturally Occurring Aggregates specified • Details of Borrow Pits with Distance from Project Site • Cost of Material/ Transportation	Yes ☐ No ☐ NA ☐		
10.3	Sources of Manufactured Items specified • Details of suppliers with distance from project site • Cost of material/ transportation	Yes ☐ No ☐ NA ☐	NA	
10.4	Sources of water for construction specified as per IS: 456	Yes ☐ No ☐ NA ☐	NA	
10.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
11	**Environmental screening/ preliminary environmental assessment**	Yes ☐ No ☐ NA ☐	NA	
11.1	Analysis basis Initial Environment Examination in IRC: SP: 19	Yes ☐ No ☐ NA ☐	NA	
11.2	Recommended feasible mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12	**Initial social assessment/ preliminary LA resettlement plan**	Yes ☐ No ☐ NA ☐	NA	
12.1	Analysis basis Initial Environment Examination in IRC: SP: 19	Yes ☐ No ☐ NA ☐	NA	
12.2	Details of consultation with potentially affected persons	Yes ☐ No ☐ NA ☐	NA	
12.3	Names/ Details of consultation with local NGOs	Yes ☐ No ☐ NA ☐		
12.4	Names/ Details of consultation with municipal authorities	Yes ☐ No ☐ NA ☐		
12.5	Preliminary resettlement plan	Yes ☐ No ☐ NA ☐	NA	
12.6	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
13	**Cost estimates**	Yes ☐ No ☐ NA ☐	NA	
13.1	Item rates and rate analysis	Yes ☐ No ☐ NA ☐	NA	
13.2	Escalation	Yes ☐ No ☐ NA ☐	NA	
14	**Economic and financial analysis**	Yes ☐ No ☐ NA ☐	NA	
14.1	Estimated cost details	Yes ☐ No ☐ NA ☐	NA	
14.2	Projected revenues details	Yes ☐ No ☐ NA ☐	NA	
14.3	Assumptions stated	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
14.4	Analysis and results (IRR, Sensitivity Analysis, Financial Viability)	Yes ☐ No ☐ NA ☐	NA	
15	**Strip plan and Alignment**	Yes ☐ No ☐ NA ☐	NA	
15.1	Details of center line of proposed highway	Yes ☐ No ☐ NA ☐	NA	
15.2	Details of existing RoW	Yes ☐ No ☐ NA ☐	NA	
15.3	Details of proposed RoW	Yes ☐ No ☐ NA ☐	NA	
15.4	Details about ownership of land to be acquired	Yes ☐ No ☐ NA ☐	NA	
15.5	Strip plan basis reconnaissance and topographic surveys	Yes ☐ No ☐ NA ☐	NA	
15.6	Strip plan reviewed and approved by the client	Yes ☐ No ☐ NA ☐	NA	
16	**Alignment Options Study**	Yes ☐ No ☐ NA ☐	NA	
16.1	At least two alignments proposed • Details of Alignments on Map	Yes ☐ No ☐ NA ☐	NA	
16.2	Review of options with client	Yes ☐ No ☐ NA ☐	NA	
16.2.1	Review of options with local authority	Yes ☐ No ☐ NA ☐	NA	
16.3	Length of the project along proposed alignment options	Yes ☐ No ☐ NA ☐		
16.4	Land Acquisition required along alignment options	Yes ☐ No ☐ NA ☐		
16.4.1	Environmental impact of each option	Yes ☐ No ☐ NA ☐		
16.4.2	Review of road geometry and safety for each option	Yes ☐ No ☐ NA ☐		
16.5	Cost Estimates of alternatives	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/ NO/ NA	Details / Specifications	Remarks
16.6	Recommended Alignment with Justification	Yes ☐ No ☐ NA ☐	NA	
16.7	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
17	**Technical Specifications**	Yes ☐ No ☐ NA ☐	NA	
17.1	MoRTH technical specifications for Roads and Bridge works followed	Yes ☐ No ☐ NA ☐	NA	
17.2	Details of technical specifications	Yes ☐ No ☐ NA ☐	NA	
18	**Rate Analysis**	Yes ☐ No ☐ NA ☐	NA	
18.1	Rate analysis for all relevant items as per latest SoR	Yes ☐ No ☐ NA ☐	NA	
19	**Cost Estimates**	Yes ☐ No ☐ NA ☐	NA	
19.1	Cost estimates for all relevant items as per latest SoR	Yes ☐ No ☐ NA ☐	NA	
20	**Bill of quantities**	Yes ☐ No ☐ NA ☐	NA	
21	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
21.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
21.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
21.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
21.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist - Stage 3 - LA and Clearances I Report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Strip plan- additional details added**	Yes ☐ No ☐ NA ☐	NA	
2.1	Details of centreline, existing structures, road furniture and other features	Yes ☐ No ☐ NA ☐	NA	
2.2	Widening scheme	Yes ☐ No ☐ NA ☐	NA	
2.3	New construction/ reconstruction of structures and amenities	Yes ☐ No ☐ NA ☐	NA	
2.4	Existing and proposed right of way	Yes ☐ No ☐ NA ☐	NA	
2.5	Clearances impacting each chainage	Yes ☐ No ☐ NA ☐	NA	
3	**Forest Clearance**	Yes ☐ No ☐ NA ☐	NA	
3.1	Requirement for forest clearance identified	Yes ☐ No ☐ NA ☐	NA	
3.2	Date/ Details of initial consultation with competent authority	Yes ☐ No ☐ NA ☐		
3.3	Details/cost of trees being felled basis concerned District Forest Office	Yes ☐ No ☐ NA ☐		
3.4	Date of submission of proposal for forest clearance	Yes ☐ No ☐ NA ☐	NA	
3.5	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
4	**Wildlife Clearance**	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.1	Requirement for wildlife clearance identified	Yes ☐ No ☐ NA ☐	NA	
4.2	Date/ Details of initial consultation with competent authority	Yes ☐ No ☐ NA ☐		
4.3	Details/cost of trees being felled basis concerned District Forest Office	Yes ☐ No ☐ NA ☐		
4.4	Date of submission of proposal for wildlife clearance	Yes ☐ No ☐ NA ☐		
4.5	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
5	**Utility Clearances (Electricity)**	Yes ☐ No ☐ NA ☐	NA	
5.1	Identification of overground utilities	Yes ☐ No ☐ NA ☐	NA	
5.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
5.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		
5.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
5.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
5.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
5.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
6	**Utility Clearances (Water)**	Yes ☐ No ☐ NA ☐	NA	
6.1	Identification of overground utilities in RoW	Yes ☐ No ☐ NA ☐	NA	
6.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
6.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
6.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
6.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
6.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐	NA	
6.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
7	**Utility Clearances (Others)**	Yes ☐ No ☐ NA ☐	NA	
7.1	Identification of overground utilities in RoW	Yes ☐ No ☐ NA ☐	NA	
7.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
7.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		
7.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
7.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
7.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
7.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
8	**Railway Clearances**	Yes ☐ No ☐ NA ☐	NA	
8.1	Identification of ROB/ RUB on project corridor	Yes ☐ No ☐ NA ☐	NA	
8.2	Initial consultation with competent authority	Yes ☐ No ☐ NA ☐	NA	
8.3	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
8.4	Review of GAD/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
9	**Other Clearances**	Yes ☐ No ☐ NA ☐	NA	
9.1	Requirement for other clearances identified	Yes ☐ No ☐ NA ☐	NA	
9.2	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
9.3	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
10	**Land Acquisition**	Yes ☐ No ☐ NA ☐	NA	
10.1	Detailed schedule about acquisition of landholdings as per land records	Yes ☐ No ☐ NA ☐	NA	
10.2	Consultation with affected persons	Yes ☐ No ☐ NA ☐	NA	
10.3	Name/ Details of consultation with NGOs	Yes ☐ No ☐ NA ☐		
10.4	Name/ Details of consultation with concerned government agencies	Yes ☐ No ☐ NA ☐		
10.5	Total land required, land area already available , land to be acquired identified	Yes ☐ No ☐ NA ☐		
10.6	Review of land acquisition using digital cadastral map by client	Yes ☐ No ☐ NA ☐	NA	
10.7	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐	NA	
10.8	Review of 3a notification by client	Yes ☐ No ☐ NA ☐	NA	
10.9	Date of 3a gazette notification	Yes ☐ No ☐ NA ☐		
10.10	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐	NA	
10.11	Review of 3A notification by client	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
10.12	Date of 3A gazette notification	Yes ☐ No ☐ NA ☐		
11	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
11.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
11.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
11.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
11.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist – Stage 4 – Detailed Project Report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
1	**Main Report**	Yes ☐ No ☐ NA ☐	NA	
2	**Introduction and project background**	Yes ☐ No ☐ NA ☐	NA	
2.1	Overview of project location, project objectives etc.	Yes ☐ No ☐ NA ☐	NA	
2.2	Overview of report structure, deliverables etc.	Yes ☐ No ☐ NA ☐	NA	
3	**Social analysis of the project**	Yes ☐ No ☐ NA ☐	NA	
3.1	Project impact on stakeholders such as local people	Yes ☐ No ☐ NA ☐	NA	
3.2	Project impact on residential, commercial and public properties	Yes ☐ No ☐ NA ☐	NA	
3.3	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
4	**Reconnaissance survey**	Yes ☐ No ☐ NA ☐	NA	
4.1	Geometric Features of the Existing Road Design Speed • Sight distance details • Horizontal Alignment Details • Vertical Alignment Details • Height of Embankment	Yes ☐ No ☐ NA ☐		
4.2	Topographical Survey using LiDAR (or equivalent technology) as per IRC:SP:19 • Gradient • Terrain	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
4.3	Pavement composition and condition survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
4.4	Pavement roughness survey as per IRC:SP:16	Yes ☐ No ☐ NA ☐	Na	
4.5	Pavement structural strength survey as per IRC:81	Yes ☐ No ☐ NA ☐	NA	
4.6	Geological Survey • Geological Map of the Area • Seismicity	Yes ☐ No ☐ NA ☐	NA	
4.7	Climatic Conditions • Temperature • Rainfall • Wind	Yes ☐ No ☐ NA ☐	NA	
4.8	Land Use along the existing alignment • Map of the Project Area depicting Agricultural/Habitation/Forest Area	Yes ☐ No ☐ NA ☐	NA	
4.9	Details of Existing Structures • Map of the Project Area depicting Hutments/Buildings/Temples/Public Building/Any Other Significant Structure	Yes ☐ No ☐ NA ☐	NA	
4.10	Inventory and condition survey of culverts	Yes ☐ No ☐ NA ☐	NA	
4.11	Geo-technical and sub-soil explorations as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
4.12	Number of Bore holes dug (holes for every pier and abutment)	Yes ☐ No ☐ NA ☐		
4.13	Field testing, soil sampling, laboratory testing as per IRC: 78	Yes ☐ No ☐ NA ☐	NA	
4.14	Recommendation of Foundation Type and Depth	Yes ☐ No ☐ NA ☐		
4.15	Hydrological investigations as per IRC:5	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
4.16	High Flood Level specified	Yes ☐ No ☐ NA ☐	NA	
4.17	Depth of Water Table specified	Yes ☐ No ☐ NA ☐	NA	
4.18	Ponded Water Level specified	Yes ☐ No ☐ NA ☐	NA	
4.19	Materials Survey conducted as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
4.20	Sources of Naturally Occurring Aggregates specified • Details of Borrow Pits with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐		
4.20.1	Sources of environmentally friendly construction materials identified as per MoRT&H circular	Yes ☐ No ☐ NA ☐	NA	
4.21	Sources of Manufactured Items specified • Details of Suppliers with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐	NA	
4.22	Source of Water for construction specified as per IS:456	Yes ☐ No ☐ NA ☐	NA	
4.23	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
5	**Traffic studies and demand forecast designs**	Yes ☐ No ☐ NA ☐	NA	
5.1	Classified traffic volume counts using IHMCL data (7 day data)	Yes ☐ No ☐ NA ☐	NA	
5.2	Traffic projection methodology as per IRC:108	Yes ☐ No ☐ NA ☐	NA	
5.3	Projected Traffic data for 20 years	Yes ☐ No ☐ NA ☐	NA	
5.4	Current and Projected PCU	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
5.5	Current and Projected TVU	Yes ☐ No ☐ NA ☐		
5.6	Origin destination surveys as per IRC: 102	Yes ☐ No ☐ NA ☐	NA	
5.7	Speed and delay studies as per IRC:102	Yes ☐ No ☐ NA ☐	NA	
5.8	Traffic surveys for the design of road junctions as per data in IRC: SP:41	Yes ☐ No ☐ NA ☐	NA	
5.9	Analysis for replacing railway level crossings with over bridges/ subways	Yes ☐ No ☐ NA ☐	NA	
5.10	Axle load survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
5.11	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
5.12	Traffic surveys monitored and reviewed by the client	Yes ☐ No ☐ NA ☐	NA	
6	**Cost estimates**	Yes ☐ No ☐ NA ☐	NA	
6.1	Project costing as per latest SoR	Yes ☐ No ☐ NA ☐	NA	
7	**Environmental aspects**	Yes ☐ No ☐ NA ☐	NA	
7.1	Environment profile of the project region	Yes ☐ No ☐ NA ☐	NA	
7.2	Details of Public consultation at residential and commercial settlements affected	Yes ☐ No ☐ NA ☐	NA	
7.3	Impact analysis and mitigation measures	Yes ☐ No ☐ NA ☐	NA	
8	**Economic and commercial analysis**	Yes ☐ No ☐ NA ☐	NA	
8.1	Estimated cost details	Yes ☐ No ☐ NA ☐	NA	
8.2	Projected revenues details	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
8.3	Assumptions stated	Yes ☐ No ☐ NA ☐	NA	
8.4	Analysis and results (IRR, Sensitivity Analysis, Financial Viability)	Yes ☐ No ☐ NA ☐	NA	
8.5	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
8.6	Financial model shared with client and reviewed	Yes ☐ No ☐ NA ☐	NA	
9	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
9.1	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
9.2	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
9.3	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	
10	**Design Report**	Yes ☐ No ☐ NA ☐	NA	
10.1	Highway improvement proposals	Yes ☐ No ☐ NA ☐	NA	
10.2	Highway geometric designs	Yes ☐ No ☐ NA ☐	NA	
10.3	Roadside drainage	Yes ☐ No ☐ NA ☐	NA	
10.4	Intersections	Yes ☐ No ☐ NA ☐	NA	
10.5	Urban service roads	Yes ☐ No ☐ NA ☐	NA	
10.6	Bus-stops	Yes ☐ No ☐ NA ☐	NA	
10.7	Toll plazas	Yes ☐ No ☐ NA ☐	NA	
10.8	Pedestrian crossings	Yes ☐ No ☐ NA ☐	NA	
10.9	Utility relocation	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
10.10	Pavement	Yes ☐ No ☐ NA ☐	NA	
10.11	Structures	Yes ☐ No ☐ NA ☐	NA	
10.12	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
10.13	Pavement deflection survey as per IRC 81-1997	Yes ☐ No ☐ NA ☐	NA	
10.14	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
11	**Materials Report**	Yes ☐ No ☐ NA ☐	NA	
11.1	Material investigations as per IRC:10	Yes ☐ No ☐ NA ☐	NA	
11.2	Review of material investigations by client	Yes ☐ No ☐ NA ☐	NA	
11.3	Multiple borrow areas identified	Yes ☐ No ☐ NA ☐	NA	
11.4	Material survey as per IRC: SP: 19	Yes ☐ No ☐ NA ☐	NA	
11.5	Review of material survey by client	Yes ☐ No ☐ NA ☐	NA	
11.6	Geo-technical and sub-soil explorations as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
11.7	Review of geo-technical and sub-soil explorations by client	Yes ☐ No ☐ NA ☐	NA	
11.8	Field testing, soil sampling, laboratory testing in accordance with BIS/ AASHTO/ BS	Yes ☐ No ☐ NA ☐	NA	
11.9	Pavement composition and condition survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
11.10	Review of pavement composition and condition survey by client	Yes ☐ No ☐ NA ☐	NA	
11.11	Pavement roughness survey as per IRC:SP:16	Yes ☐ No ☐ NA ☐	NA	
11.12	Review of pavement roughness survey by client	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
11.13	Pavement structural strength survey as per IRC:81	Yes ☐ No ☐ NA ☐	NA	
11.14	Review of pavement structural strength survey by client	Yes ☐ No ☐ NA ☐	NA	
11.15	Water sample tests as per MoRTH specifications	Yes ☐ No ☐ NA ☐	NA	
11.16	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
12	**Environmental Assessment Report/ Resettlement and Rehabilitation Plan**	Yes ☐ No ☐ NA ☐	NA	
12.1	Option for alignment alternatives considered and conclusions	Yes ☐ No ☐ NA ☐	NA	
12.2	Land environment data collection and details/ impact/ mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12.3	Air environment data collection and details/ impact/ mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12.4	Water resources details/ impact/ mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12.5	Noise environment details/ impact/ mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12.6	Biological environment details/ impact/ mitigation measures	Yes ☐ No ☐ NA ☐	NA	
12.7	Details of public consultation	Yes ☐ No ☐ NA ☐	NA	
12.8	Environment monitoring and management plan	Yes ☐ No ☐ NA ☐	NA	
12.9	Details of social impact assessment	Yes ☐ No ☐ NA ☐	NA	
12.10	Details of resettlement and rehabilitation action plan	Yes ☐ No ☐ NA ☐	NA	
12.11	Measures to minimize resettlement	Yes ☐ No ☐ NA ☐	NA	
12.12	Details of public consultation with stakeholders	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
12.13	Details of implementation arrangement / budget	Yes ☐ No ☐ NA ☐	NA	
12.14	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
13	**Technical Specifications**	Yes ☐ No ☐ NA ☐	NA	
13.1	MoRTH technical specifications for Roads and Bridge works followed	Yes ☐ No ☐ NA ☐	NA	
13.2	Details of technical specifications	Yes ☐ No ☐ NA ☐	NA	
14	**Rate Analysis**	Yes ☐ No ☐ NA ☐	NA	
14.1	Rate analysis for all relevant items as per latest SoR	Yes ☐ No ☐ NA ☐	NA	
15	**Cost Estimates**	Yes ☐ No ☐ NA ☐	NA	
15.1	Cost estimates for all relevant items as per latest SoR	Yes ☐ No ☐ NA ☐	NA	
16	**Bill of quantities**	Yes ☐ No ☐ NA ☐	NA	
17	**Drawing Volume**	Yes ☐ No ☐ NA ☐	NA	
18	**Digital drawings of road**			
18.1	Highway cross sections	Yes ☐ No ☐ NA ☐		
18.2	3D engineered models of: • Road alignment geometry • Proposed highway • Proposed structures	Yes ☐ No ☐ NA ☐		

DPR Checklist – Stage 5 – Technical Schedules (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details / Specifications	Remarks
1	**Bid documents- EPC**	Yes ☐ No ☐ NA ☐	NA	
2	**Bid documents- BOT/PPP**	Yes ☐ No ☐ NA ☐	NA	
3	**Bid documents- other, if any**	Yes ☐ No ☐ NA ☐	NA	
4	**Draft concession agreement**	Yes ☐ No ☐ NA ☐	NA	
4	**Schedule D - Specifications and standards**	Yes ☐ No ☐ NA ☐	NA	
5	**Any other relevant details**	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist – Stage 6 – LA and Clearances II Report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Environment Clearance**	Yes ☐ No ☐ NA ☐	NA	
2.1	Details of public hearings completed	Yes ☐ No ☐ NA ☐		
2.2	Date of final environment clearance by competent authority	Yes ☐ No ☐ NA ☐		
3	**Forest Clearance**	Yes ☐ No ☐ NA ☐	NA	
3.1	Date/ Details of Joint site inspection with DFO/ competent authority	Yes ☐ No ☐ NA ☐		
3.2	Date of Stage I forest clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
3.3	Date of final forest clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
4	**Wildlife Clearance**	Yes ☐ No ☐ NA ☐	NA	
4.1	Date/ Details of joint site inspection with DFO/ competent authority	Yes ☐ No ☐ NA ☐		
4.2	Date of final wildlife clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
5	**Utility Clearances (Electricity)**	Yes ☐ No ☐ NA ☐	NA	
5.1	Date/ Details of Joint site inspection with competent authority	Yes ☐ No ☐ NA ☐		
5.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
5.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
5.4	Approved utility shifting proposal including strip plan	Yes ☐ No ☐ NA ☐		
5.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
5.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
6.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		
6.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
6.4	Approved utility shifting proposal including strip plan	Yes ☐ No ☐ NA ☐		
6.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
6.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
7.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		
7.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
7.4	Approved utility shifting proposal including strip plan	Yes ☐ No ☐ NA ☐		
7.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
7.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
8.2	Date of final approval of GAD by competent authority	Yes ☐ No ☐ NA ☐		
9	**Other Clearances**	Yes ☐ No ☐ NA ☐	NA	
9.1	Date of final approval by competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
10	**Land Acquisition**	Yes ☐ No ☐ NA ☐	NA	
10.1	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐		
10.2	Review of 3a notification by client	Yes ☐ No ☐ NA ☐		
10.3	Date of 3a gazette notification	Yes ☐ No ☐ NA ☐		
10.4	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐		
10.5	Review of 3A notification by client	Yes ☐ No ☐ NA ☐		
10.6	Date of 3A gazette notification	Yes ☐ No ☐ NA ☐		
10.7	Date of Joint Measurement Survey with competent authority	Yes ☐ No ☐ NA ☐		
10.7.1	Date of survey - village wise	Yes ☐ No ☐ NA ☐	NA	
10.7.2	Land type –by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.3	Nature of Land –by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.4	Ownership status of plots- by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.5	Verification of area to be acquired – by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.6	List of structures on each plot	Yes ☐ No ☐ NA ☐	NA	
10.7.7	Sketches of updated alignment by village	Yes ☐ No ☐ NA ☐	NA	
10.7.8	Verification from Land revenue department	Yes ☐ No ☐ NA ☐	NA	
10.7.9	Verification by CALA office	Yes ☐ No ☐ NA ☐	NA	

1 DPR Checklist – Stage 7 – Award determination (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Village level summary**	Yes ☐ No ☐ NA ☐	NA	
2.1	Total private and public land being acquired	Yes ☐ No ☐ NA ☐	NA	
2.2	Variation in area and nature of land against 3D with justification	Yes ☐ No ☐ NA ☐	NA	
2.3	Method used by CALA to arrive at award	Yes ☐ No ☐ NA ☐	NA	
2.4	Date of award by CALA and approval by NHAI along with valuation report			
2.5	Total award calculated and deviation from RFCTLARR act	Yes ☐ No ☐ NA ☐	NA	
3	**In detail for each Village**	Yes ☐ No ☐ NA ☐	NA	
3.1	Updated land acquisition tracker with status of: • Notifications • Award • Disbursement	Yes ☐ No ☐ NA ☐	NA	
3.2	Valuation report and details of award calculation- verification by state authority to be included	Yes ☐ No ☐ NA ☐	NA	
3.3	Claims report	Yes ☐ No ☐ NA ☐	NA	
3.4	Copies of notifications published	Yes ☐ No ☐ NA ☐	NA	
3.5	Copies of land possession certificates received	Yes ☐ No ☐ NA ☐	NA	
4	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
4.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
4.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
4.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

2 DPR Checklist – Stage 8 – Land possession report (Pavements)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Village level summary**	Yes ☐ No ☐ NA ☐	NA	
2.1	Total private and public land being acquired	Yes ☐ No ☐ NA ☐	NA	
2.2	Date of final award by CALA and approval by NHAI			
2.3	Status of disbursement on date of receipt of Land possession certificate	Yes ☐ No ☐ NA ☐	NA	
2.4	Key issues being faced in completing land acquisition, if any	Yes ☐ No ☐ NA ☐	NA	
3	**In detail for each Village**	Yes ☐ No ☐ NA ☐	NA	
3.1	Updated land acquisition tracker with status of: • Notifications • Award • Disbursement	Yes ☐ No ☐ NA ☐	NA	
3.2	Final award and claims report	Yes ☐ No ☐ NA ☐	NA	
3.3	Copies of notifications published, land possession certificates received	Yes ☐ No ☐ NA ☐	NA	
4	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
4.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
4.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
4.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	
5	**GIS Map containing digitsed details of land parcels acquired with all relevant details**	**Yes ☐ No ☐ NA ☐**	**NA**	

Annexure III: Checklists for Structures such as ROB/ RUB

DPR Checklist – Stage 1 – Inception Report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Project Appreciation**	Yes ☐ No ☐ NA ☐	NA	
2.1	Location of site office	Yes ☐ No ☐ NA ☐		
2.2	Review of scope of ToR and gap identification	Yes ☐ No ☐ NA ☐	NA	
2.3	Details of key departments for documents	Yes ☐ No ☐ NA ☐		
2.4	Project description • Existing LC number • Start and End Chainage • Village/District	Yes ☐ No ☐ NA ☐		
2.5	Project location map • On State Map • On District Map • Latitude & Longitude Coordinates of the LC	Yes ☐ No ☐ NA ☐		
2.6	Details of Existing Level Crossing • Number of Railway Tracks • Type of Railway Tracks (Broad/Metre/Narrow) • No. of trains per day	Yes ☐ No ☐ NA ☐		
2.7	Justification for need of an ROB/RUB (on basis of TVU count)	Yes ☐ No ☐ NA ☐	NA	
2.8	Overview of land use plans	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
2.9	Overview of existing pavement conditions • Number of Lanes • Type of Pavement (Flexible/Rigid/Surfaced/Unsurfaced)	Yes ☐ No ☐ NA ☐		
2.10	Existing right of way details	Yes ☐ No ☐ NA ☐		
2.11	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
3	**Approach Methodology**	Yes ☐ No ☐ NA ☐	NA	
3.1	Engineering survey and investigations	Yes ☐ No ☐ NA ☐	NA	
3.2	Design of road, pavements and structures	Yes ☐ No ☐ NA ☐	NA	
3.3	Environment and social impact assessment	Yes ☐ No ☐ NA ☐	NA	
3.4	Estimation of project cost, viability and financing options	Yes ☐ No ☐ NA ☐	NA	
3.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
4	**Task Assignment and Manning Schedule**	Yes ☐ No ☐ NA ☐	NA	
4.1	Number of key personnel provided	Yes ☐ No ☐ NA ☐		
4.2	Specific tasks assigned to each key personnel	Yes ☐ No ☐ NA ☐	NA	
4.3	Manning schedule for key personnel	Yes ☐ No ☐ NA ☐	NA	
4.4	Number of key personnel deployed at site	Yes ☐ No ☐ NA ☐		
5	**Performa for data collection**	Yes ☐ No ☐ NA ☐	NA	
6	**Indicative Design standards and cross sections**	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
7	**Development plans**	Yes ☐ No ☐ NA ☐	NA	
7.1	Overview of development plans being implemented/ proposed by local bodies	Yes ☐ No ☐ NA ☐	NA	
7.2	Overview of impact of such development plans	Yes ☐ No ☐ NA ☐	NA	
8	**Quality Assurance Plan**	Yes ☐ No ☐ NA ☐	NA	
8.1	Engineering surveys and investigation	Yes ☐ No ☐ NA ☐	NA	
8.2	Traffic surveys	Yes ☐ No ☐ NA ☐	NA	
8.3	Material geo-technical and sub-soil investigations	Yes ☐ No ☐ NA ☐	NA	
8.4	Road and pavement investigations	Yes ☐ No ☐ NA ☐	NA	
8.5	Investigation and design of bridges and structures	Yes ☐ No ☐ NA ☐	NA	
8.6	Environment and R&R assessment	Yes ☐ No ☐ NA ☐	NA	
8.7	Economic and financial analysis	Yes ☐ No ☐ NA ☐	NA	
8.8	Drawing and documentation	Yes ☐ No ☐ NA ☐	NA	
8.9	Discussion of draft QAP document with client	Yes ☐ No ☐ NA ☐	NA	
8.10	Approval of final QAP document by client	Yes ☐ No ☐ NA ☐	NA	
8.11	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
9	**Draft design standards**	Yes ☐ No ☐ NA ☐	NA	
9.1	Geometric design standards of bridges (Plain)	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
9.2	Geometric design standards of bridges (Hilly)	Yes ☐ No ☐ NA ☐	NA	
9.3	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
10	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
10.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
10.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
10.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
10.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist – Stage 2 – Feasibility Report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Overview of client organization / activities**	Yes ☐ No ☐ NA ☐	NA	
3	**Methodology adopted for feasibility study**	Yes ☐ No ☐ NA ☐	NA	
4	**Socioeconomic profile of the project areas**	Yes ☐ No ☐ NA ☐	NA	
4.1	Regional economic profile basis last 10 years data as per IRC	Yes ☐ No ☐ NA ☐	NA	
4.2	Economic profile of project influence area basis last 10 years data as per IRC	Yes ☐ No ☐ NA ☐	NA	
4.3	Socio Economic status of project influence area	Yes ☐ No ☐ NA ☐	NA	
5	**Indicative design standards, methodologies, and specifications**	Yes ☐ No ☐ NA ☐	NA	
6	**Traffic surveys and analysis**	Yes ☐ No ☐ NA ☐	NA	
6.1	Classified traffic volume counts using IHMCL data (7 day)	Yes ☐ No ☐ NA ☐	NA	
6.2	Traffic projection methodology as per IRC:108	Yes ☐ No ☐ NA ☐	NA	
6.3	Projected Traffic data for 20 years	Yes ☐ No ☐ NA ☐	NA	
6.4	Current and Projected PCU	Yes ☐ No ☐ NA ☐		
6.5	Current and Projected TVU	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
6.6	Axle load survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
6.7	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
6.8	Traffic surveys monitored and reviewed by the client	Yes ☐ No ☐ NA ☐	NA	
7	**Reconnaissance survey**	Yes ☐ No ☐ NA ☐	NA	
7.1	Road Inventory as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
7.2	Review of Road Inventory Survey by client	Yes ☐ No ☐ NA ☐	NA	
7.3	Geometric Features of the Existing Road • Design Speed • Sight distance elements • Horizontal Alignment Details • Vertical Alignment Details • Height of Embankment	Yes ☐ No ☐ NA ☐	NA	
7.4	Topographical Survey as per IRC:SP:19 using LiDAR or equivalent technology • Gradient • Terrain	Yes ☐ No ☐ NA ☐	NA	
7.5	Review of topographical survey by client	Yes ☐ No ☐ NA ☐	NA	
7.6	Pavement composition and condition survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
7.7	Geological Survey • Geological Map of the Area • Seismicity	Yes ☐ No ☐ NA ☐	NA	
7.8	Climatic Conditions • Temperature • Rainfall • Wind	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
7.9	Land Use along the existing alignment • Map of the Project Area depicting Agricultural/Habitation/Forest Area	Yes ☐ No ☐ NA ☐	NA	
7.10	Details of Existing Structures • Map of the Project Area depicting Hutments/Buildings/Temples/Public Building/Any Other Significant Structure	Yes ☐ No ☐ NA ☐	NA	
7.11	Inventory and condition survey of culverts	Yes ☐ No ☐ NA ☐	NA	
7.12	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
8	**Geotechnical Survey**	Yes ☐ No ☐ NA ☐	NA	
8.1	Geo-technical and sub-soil explorations as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
8.2	Number of Bore holes dug (holds for every pier and abutment)	Yes ☐ No ☐ NA ☐		
8.3	Review of geo-technical and sub-soil explorations by client	Yes ☐ No ☐ NA ☐	NA	
8.4	Field testing, soil sampling, laboratory testing as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
8.5	Recommendation of Foundation Type and Depth	Yes ☐ No ☐ NA ☐		
8.6	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
9	**Hydraulic & Hydrological Survey**	Yes ☐ No ☐ NA ☐	NA	
9.1	Hydrological investigations as per IRC:5 and IRC: 13	Yes ☐ No ☐ NA ☐	NA	
9.2	High Flood Level specified	Yes ☐ No ☐ NA ☐	NA	
9.3	Depth of Water Table specified	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
9.4	Ponded Water Level specified	Yes ☐ No ☐ NA ☐	NA	
9.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
9.6	Review of Hydrological Survey by the client	Yes ☐ No ☐ NA ☐	NA	
10	**Materials Survey**	Yes ☐ No ☐ NA ☐	NA	
10.1	Materials Survey conducted as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
10.2	Sources of Naturally Occurring Aggregates specified • Details of Borrow Pits with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐		
10.3	Sources of Manufactured Items specified • Details of Suppliers with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐	NA	
10.4	Source of Water for construction specified as per IS:456	Yes ☐ No ☐ NA ☐	NA	
10.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
11	**Determination of whether ROB or RUB is appropriate**	Yes ☐ No ☐ NA ☐	NA	
11.1	Justification of whether ROB or RUB should be built	Yes ☐ No ☐ NA ☐	NA	
11.2	Review of justification by client	Yes ☐ No ☐ NA ☐	NA	
12	**Alignment Options Study**	Yes ☐ No ☐ NA ☐	NA	
12.1	At least two alignments proposed • Details of Alignments on Map	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
12.2	Review of options with client	Yes ☐ No ☐ NA ☐	NA	
12.2.1	Review of options with local authority	Yes ☐ No ☐ NA ☐	NA	
12.3	Length of the project along proposed alignment options	Yes ☐ No ☐ NA ☐	NA	
12.4	Land Acquisition required along alignment options	Yes ☐ No ☐ NA ☐	NA	
12.5	Cost Estimates of alternatives	Yes ☐ No ☐ NA ☐	NA	
12.6	Recommended Alignment with Justification	Yes ☐ No ☐ NA ☐		
12.7	Skew Angle of Proposed Alignment Specified	Yes ☐ No ☐ NA ☐		
12.7.1	Environmental impact of each option	Yes ☐ No ☐ NA ☐		
12.7.2	Review of road geometry and safety for each option	Yes ☐ No ☐ NA ☐	NA	
12.9	Traffic Diversion Route Specified	Yes ☐ No ☐ NA ☐	NA	
12.10	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
13	**Environmental screening/ preliminary environmental assessment**	Yes ☐ No ☐ NA ☐	NA	
13.1	Analysis basis Initial Environment Examination in IRC: SP: 19	Yes ☐ No ☐ NA ☐	NA	
13.2	Recommended feasible mitigation measures	Yes ☐ No ☐ NA ☐	NA	
14	**Initial social assessment/ preliminary LA resettlement plan**	Yes ☐ No ☐ NA ☐	NA	
14.1	Analysis basis Initial Environment Examination in IRC: SP: 19	Yes ☐ No ☐ NA ☐	NA	
14.2	Details of consultation with potentially affected persons	Yes ☐ No ☐ NA ☐	NA	
14.3	Details of consultation with local NGOs	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
14.4	Details of consultation with municipal authorities	Yes ☐ No ☐ NA ☐	NA	
14.5	Preliminary resettlement plan	Yes ☐ No ☐ NA ☐	NA	
14.6	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
15	**Cost estimates**	Yes ☐ No ☐ NA ☐	NA	
15.1	Item rates and rate analysis	Yes ☐ No ☐ NA ☐	NA	
15.2	Escalation	Yes ☐ No ☐ NA ☐	NA	
16	**Economic and financial analysis**	Yes ☐ No ☐ NA ☐	NA	
16.1	Estimated cost details	Yes ☐ No ☐ NA ☐	NA	
16.2	Projected revenues details	Yes ☐ No ☐ NA ☐	NA	
16.3	Assumptions stated	Yes ☐ No ☐ NA ☐	NA	
16.4	Analysis and results • IRR • Sensitivity Analysis • Financial Viability	Yes ☐ No ☐ NA ☐	NA	
16.5	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
17	**Strip Plan**		NA	
17.1	Details of center line of proposed structure	Yes ☐ No ☐ NA ☐	NA	
17.2	Details of existing RoW	Yes ☐ No ☐ NA ☐		
17.3	Details of proposed RoW	Yes ☐ No ☐ NA ☐		
17.4	Details about ownership of land to be acquired	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
17.5	Strip plan basis reconnaissance and topographic surveys	Yes ☐ No ☐ NA ☐	NA	
17.6	Strip plan reviewed and approved by the client	Yes ☐ No ☐ NA ☐	NA	
17.7	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
11	**Strip plan- additional details added**	Yes ☐ No ☐ NA ☐	NA	
11.1	Details of centreline, existing structures, road furniture and other features	Yes ☐ No ☐ NA ☐	NA	
11.2	Widening scheme	Yes ☐ No ☐ NA ☐	NA	
11.3	New construction/ reconstruction of structures and amenities	Yes ☐ No ☐ NA ☐	NA	
11.4	Existing and proposed right of way	Yes ☐ No ☐ NA ☐	NA	
11.5	Clearances impacting each chainage	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist - Stage 3 - LA and Clearances I Report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Environment Clearance**	Yes ☐ No ☐ NA ☐	NA	
2.1	Requirement for environment clearance identified	Yes ☐ No ☐ NA ☐	NA	
2.2	Date/ Details of Initial consultation with competent authority	Yes ☐ No ☐ NA ☐		
2.3	Date of submission of draft EIA report/ proposal for clearance	Yes ☐ No ☐ NA ☐	NA	
2.4	Review of proposal/ EIA report by client	Yes ☐ No ☐ NA ☐	NA	
3	**Forest Clearance**	Yes ☐ No ☐ NA ☐	NA	
3.1	Requirement for forest clearance identified	Yes ☐ No ☐ NA ☐	NA	
3.2	Date/ Details of initial consultation with competent authority	Yes ☐ No ☐ NA ☐		
3.3	Details/cost of trees being felled basis concerned District Forest Office	Yes ☐ No ☐ NA ☐		
3.4	Date of submission of proposal for forest clearance	Yes ☐ No ☐ NA ☐	NA	
3.5	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
4	**Wildlife Clearance**	Yes ☐ No ☐ NA ☐	NA	
4.1	Requirement for wildlife clearance identified	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.2	Date/ Details of initial consultation with competent authority	Yes ☐ No ☐ NA ☐		
4.3	Details/cost of trees being felled basis concerned District Forest Office	Yes ☐ No ☐ NA ☐		
4.4	Date of submission of proposal for wildlife clearance	Yes ☐ No ☐ NA ☐		
4.5	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
5	**Utility Clearances (Electricity)**	Yes ☐ No ☐ NA ☐	NA	
5.1	Identification of overground utilities	Yes ☐ No ☐ NA ☐	NA	
5.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
5.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		
5.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
5.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
5.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
5.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
6	**Utility Clearances (Water)**	Yes ☐ No ☐ NA ☐	NA	
6.1	Identification of overground utilities in RoW	Yes ☐ No ☐ NA ☐	NA	
6.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
6.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
6.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
6.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
6.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐	NA	
6.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
7	**Utility Clearances (Others)**	Yes ☐ No ☐ NA ☐	NA	
7.1	Identification of over ground utilities in RoW	Yes ☐ No ☐ NA ☐	NA	
7.2	Identification of underground utilities using GPR, Induction Locator or equivalent technologies	Yes ☐ No ☐ NA ☐	NA	
7.3	Name/ Details of consultation with local authority/ people	Yes ☐ No ☐ NA ☐		
7.4	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
7.5	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
7.6	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
7.7	Review of utility relocation plan/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
8	**Railway Clearances**	Yes ☐ No ☐ NA ☐	NA	
8.1	Identification of ROB/ RUB on project corridor	Yes ☐ No ☐ NA ☐	NA	
8.2	Initial consultation with competent authority	Yes ☐ No ☐ NA ☐	NA	
8.3	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
8.4	Review of GAD/ proposal by client	Yes ☐ No ☐ NA ☐	NA	
9	**Other Clearances**	Yes ☐ No ☐ NA ☐	NA	
9.1	Requirement for other clearances identified	Yes ☐ No ☐ NA ☐	NA	
9.2	Date of proposal submission to competent authority	Yes ☐ No ☐ NA ☐		
9.3	Review of proposal by client	Yes ☐ No ☐ NA ☐	NA	
10	**Land Acquisition**	Yes ☐ No ☐ NA ☐	NA	
10.1	Detailed schedule about acquisition of landholdings as per land records	Yes ☐ No ☐ NA ☐	NA	
10.2	Consultation with affected persons	Yes ☐ No ☐ NA ☐	NA	
10.3	Name/ Details of consultation with NGOs	Yes ☐ No ☐ NA ☐		
10.4	Name/ Details of consultation with concerned government agencies	Yes ☐ No ☐ NA ☐		
10.5	Total land required, land area already available , land to be acquired identified	Yes ☐ No ☐ NA ☐		
10.6	Review of land acquisition using digital cadastral map by client	Yes ☐ No ☐ NA ☐	NA	
11	**Strip plan- additional details added**	Yes ☐ No ☐ NA ☐	NA	11
11.1	Details of centreline, existing structures, road furniture and other features	Yes ☐ No ☐ NA ☐	NA	11.1
11.2	Widening scheme	Yes ☐ No ☐ NA ☐	NA	11.2
11.3	New construction/ reconstruction of structures and amenities	Yes ☐ No ☐ NA ☐	NA	11.3
11.4	Existing and proposed right of way	Yes ☐ No ☐ NA ☐	NA	11.4

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
11.5	Clearances impacting each chainage	Yes ☐ No ☐ NA ☐	NA	11.5
12	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
12.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
12.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
12.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
12.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist – Stage 4 – Detailed Project Report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Project background**	Yes ☐ No ☐ NA ☐	NA	
1.1	Project description • Existing LC number • Start and End Chainage • Village/District	Yes ☐ No ☐ NA ☐		
1.2	Project location map • On State Map • On District Map • Latitude & Longitude Coordinates of the LC	Yes ☐ No ☐ NA ☐		
1.3	Details of Existing Level Crossing • Number of Railway Tracks • Type of Railway Tracks (Broad/Metre/Narrow) • No. of trains per day	Yes ☐ No ☐ NA ☐		
1.4	Justification for need of an ROB/RUB (on basis of TVU count)	Yes ☐ No ☐ NA ☐	NA	
1.5	Overview of land use plans	Yes ☐ No ☐ NA ☐	NA	
1.6	Overview of existing pavement conditions • Number of Lanes • Type of Pavement (Flexible/Rigid/Surfaced/Unsurfaced)	Yes ☐ No ☐ NA ☐		
1.7	Existing right of way details	Yes ☐ No ☐ NA ☐		
1.8	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
2	**Social analysis of the project**	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
2.1	Project impact on stakeholders such as local people	Yes ☐ No ☐ NA ☐	NA	
2.2	Project impact on residential, commercial and public properties	Yes ☐ No ☐ NA ☐	NA	
2.3	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
3	**Reconnaissance survey**	Yes ☐ No ☐ NA ☐	NA	
3.1	Geometric Features of the Existing Road • Design Speed • Sight distance details • Horizontal Alignment Details • Vertical Alignment Details • Height of Embankment	Yes ☐ No ☐ NA ☐		
3.2	Topographical Survey using LiDAR or equivalent technology as per IRC:SP:19 • Gradient • Terrain	Yes ☐ No ☐ NA ☐	NA	
3.3	Pavement composition and condition survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
3.4	Geological Survey • Geological Map of the Area • Seismicity	Yes ☐ No ☐ NA ☐	NA	
3.5	Climatic Conditions • Temperature • Rainfall • Wind	Yes ☐ No ☐ NA ☐	NA	
3.6	Land Use along the existing alignment • Map of the Project Area depicting Agricultural/Habitation/Forest Area	Yes ☐ No ☐ NA ☐	NA	
3.7	Details of Existing Structures • Map of the Project Area depicting Hutments/Buildings/Temples/Public Building/Any Other Significant Structure	Yes ☐ No ☐ NA ☐	NA	
3.8	Inventory and condition survey of culverts	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
3.9	Geo-technical and sub-soil explorations as per IRC:78	Yes ☐ No ☐ NA ☐	NA	
3.10	Number of Bore holes dug (holds for every pier and abutment)	Yes ☐ No ☐ NA ☐		
3.11	Field testing, soil sampling, laboratory testing as per IRC: 78	Yes ☐ No ☐ NA ☐	NA	
3.12	Recommendation of Foundation Type and Depth	Yes ☐ No ☐ NA ☐		
3.13	Hydraulic and Hydrological investigations as per IRC:5	Yes ☐ No ☐ NA ☐	NA	
3.14	High Flood Level specified	Yes ☐ No ☐ NA ☐	NA	
3.15	Depth of Water Table specified	Yes ☐ No ☐ NA ☐	NA	
3.16	Ponded Water Level specified	Yes ☐ No ☐ NA ☐	NA	
3.17	Materials Survey conducted as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
3.18	Sources of Naturally Occurring Aggregates specified • Details of Borrow Pits with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐		
3.19	Sources of Manufactured Items specified • Details of Suppliers with Distance from Project Site • Cost of Material/Transportation	Yes ☐ No ☐ NA ☐	NA	
3.19.1	Sources of environmentally friendly construction materials identified as per MoRT&H circular	Yes ☐ No ☐ NA ☐	NA	
3.20	Source of Water for construction specified as per IS:456	Yes ☐ No ☐ NA ☐	NA	
3.21	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
4	**Traffic surveys and analysis**	Yes ☐ No ☐ NA ☐	NA	
4.1	Classified traffic volume counts using IHMCL data (7 day)	Yes ☐ No ☐ NA ☐	NA	
4.2	Traffic projection as per IRC:108	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.3	Projected Traffic data for 20 years	Yes ☐ No ☐ NA ☐	NA	
4.4	Current and Projected PCU	Yes ☐ No ☐ NA ☐		
4.5	Current and Projected TVU	Yes ☐ No ☐ NA ☐		
4.6	Axle load survey as per IRC:SP:19	Yes ☐ No ☐ NA ☐	NA	
4.7	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
5	**Determination of whether ROB or RUB is appropriate**	Yes ☐ No ☐ NA ☐	NA	
5.1	Justification of whether ROB or RUB should be built	Yes ☐ No ☐ NA ☐	NA	
6	**Alignment Options Study**	Yes ☐ No ☐ NA ☐	NA	
6.1	At least two alignments proposed • Details of Alignments on Map	Yes ☐ No ☐ NA ☐	NA	
6.2	Length of the project along proposed alignment options	Yes ☐ No ☐ NA ☐	NA	
6.3	Land Acquisition required along alignment options	Yes ☐ No ☐ NA ☐	NA	
6.4	Cost Estimates of alternatives	Yes ☐ No ☐ NA ☐	NA	
6.5	Recommended Alignment with Justification	Yes ☐ No ☐ NA ☐		
6.6	Skew Angle of Proposed Alignment Specified	Yes ☐ No ☐ NA ☐		
6.7	Traffic Diversion Route Specified	Yes ☐ No ☐ NA ☐	NA	
6.8	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
7	**Design Specifications**	Yes ☐ No ☐ NA ☐	NA	
7.1	Number of Lanes	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
7.2	Width of ROB • Width of Carriageway • Width of Safety Kerbs • Width of Footpath • Any other	Yes ☐ No ☐ NA ☐		
7.3	Proposed Number of Lanes on ROB in line with PCU as per latest MoRTH guidelines	Yes ☐ No ☐ NA ☐	NA	
7.4	Proposed Length of the Project • Length of ROB • Length of Viaduct • Length of RE Wall • Length of Approach Road • Length of Service Road	Yes ☐ No ☐ NA ☐		
7.5	Span Arrangement • Span Length • Number of Spans	Yes ☐ No ☐ NA ☐		
7.6	Are all spans of standardised length as per Railways standards (https://ircep.gov.in/RCApproval/https://ircep.gov.in/RCApproval/) • If non-standardised, suitable justification provided	Yes ☐ No ☐ NA ☐	NA	
7.7	Details of Proposed Superstructure Design • Type • Details of Material Use Proposed • Drawings of Cross-Sections	Yes ☐ No ☐ NA ☐	NA	
7.8	Details of Proposed Substructure Design Type • Details of Material Use Proposed • Drawings of Cross-Sections	Yes ☐ No ☐ NA ☐	NA	
7.9	Details of Proposed Pavement Design Type • Details of Material Use Proposed • Thickness • Design MSA • Drawings of Cross-Sections	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
7.10	Details of Drainage Structures Proposed	Yes ☐ No ☐ NA ☐	NA	
7.11	Any other details relevant to the project	Yes ☐ No ☐ NA ☐	NA	
8	**Cost estimates**	Yes ☐ No ☐ NA ☐	NA	
8.1	Summary of Cost Estimates (Refer following subsection)	Yes ☐ No ☐ NA ☐		
8.2	Detailed Abstract of Cost	Yes ☐ No ☐ NA ☐	NA	
8.3	Detailed Bills of Quantity	Yes ☐ No ☐ NA ☐	NA	
8.4	Detailed Rate Analysis	Yes ☐ No ☐ NA ☐	NA	
9	**Financial Viability**	Yes ☐ No ☐ NA ☐	NA	
9.1	Estimated cost details	Yes ☐ No ☐ NA ☐	NA	
9.2	Projected revenues details	Yes ☐ No ☐ NA ☐	NA	
9.3	Assumptions stated	Yes ☐ No ☐ NA ☐	NA	
9.4	Analysis and results • IRR • Sensitivity Analysis • Financial Viability	Yes ☐ No ☐ NA ☐		
10	**Land Acquisition Study**	Yes ☐ No ☐ NA ☐	NA	
10.1	Land Acquisition Details • Total Land Required • Land Area already available • Area of Land to be Acquired	Yes ☐ No ☐ NA ☐		
10.3	Details of LA Cost	Yes ☐ No ☐ NA ☐		
11	**Utility Shifting Study**	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
11.1	Results of GPR investigation	Yes ☐ No ☐ NA ☐	NA	
11.2	Utility relocation plan with existing / proposed location showing existing RoW and topographic details	Yes ☐ No ☐ NA ☐	NA	
11.3	Cost for relocation as per authority	Yes ☐ No ☐ NA ☐		
12	**General Arrangement Drawing**	Yes ☐ No ☐ NA ☐	NA	
12.1	Elevation of Railway Portion	Yes ☐ No ☐ NA ☐	NA	
12.2	Plan of Railway Portion	Yes ☐ No ☐ NA ☐	NA	
12.3	General Elevation	Yes ☐ No ☐ NA ☐	NA	
12.4	General Plan (showing complete ROB/RUB along with diversion)	Yes ☐ No ☐ NA ☐	NA	
12.5	Key Plan	Yes ☐ No ☐ NA ☐	NA	
12.6	Cross-Section of Railway Portion	Yes ☐ No ☐ NA ☐	NA	
12.7	3D engineered models of: • Existing structure, if any • Proposed structure • Utilities and other features in RoW	Yes ☐ No ☐ NA ☐		

Cost Summary Table

S.No.	Particulars	Cost Estimate(in '000)
1	*Cost of ROB Portion*	
	Foundation	
	Substructure	
	Superstructure	
	Total-ROB Portion	
2	*Cost of Viaduct*	
	Foundation	
	Substructure	
	Superstructure	
	Total-Viaduct	
3	*Cost of Approach Road*	
4	*Cost of RE Wall*	
5	*Cost of Service Road*	
6	*Miscellaneous Costs*	
	Cost of Subway	
	Cost of Toll Plaza	
	Cost of Culverts	
	Any Other Costs	
	Civil Cost of the Project	
7	*Contingencies @x%*	
	Total Civil Cost	
8	*Supervision Charges @x%*	
9	*Cost of Quality Control @x%*	
10	*Maintenance Charges @x%*	
11	*Escalation Costs @x%*	
12	*Land Acquisition Costs*	
13	*Utility Shifting Costs*	
14	*Any Other Costs*	

S.No.	Particulars	Cost Estimate(in '000)
	Total Cost of the Project	

DPR Checklist – Stage 5 – Technical Schedules (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	Bid documents- EPC	Yes ☐ No ☐ NA ☐	NA	
2	**Bid documents- Other, if any**	Yes ☐ No ☐ NA ☐	NA	
3	**Draft concession agreement**	Yes ☐ No ☐ NA ☐	NA	
3	**Schedule C - Project facilities**	Yes ☐ No ☐ NA ☐	NA	
4	**Schedule D - Specifications and standards**	Yes ☐ No ☐ NA ☐	NA	
5	**Any other relevant details**	Yes ☐ No ☐ NA ☐	NA	

DPR Checklist - Stage 6 - LA and Clearances II Report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Environment Clearance**	Yes ☐ No ☐ NA ☐	NA	
2.1	Details of public hearings completed	Yes ☐ No ☐ NA ☐		
2.2	Date of final environment clearance by competent authority	Yes ☐ No ☐ NA ☐		
3	**Forest Clearance**	Yes ☐ No ☐ NA ☐	NA	
3.1	Date/ Details of Joint site inspection with DFO/ competent authority	Yes ☐ No ☐ NA ☐		
3.2	Date of Stage I forest clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
3.3	Date of final forest clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
4	**Wildlife Clearance**	Yes ☐ No ☐ NA ☐	NA	
4.1	Date/ Details of joint site inspection with DFO/ competent authority	Yes ☐ No ☐ NA ☐		
4.2	Date of final wildlife clearance approval by competent authority	Yes ☐ No ☐ NA ☐		
5	**Utility Clearances (Electricity)**	Yes ☐ No ☐ NA ☐	NA	
5.1	Date/ Details of Joint site inspection with competent authority	Yes ☐ No ☐ NA ☐		
5.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
5.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
5.4	Approved utility shifting proposal	Yes ☐ No ☐ NA ☐		
5.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
5.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
6.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		
6.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
6.4	Approved utility shifting proposal	Yes ☐ No ☐ NA ☐		
6.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
6.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
7.2	Date of estimate submission by competent authority	Yes ☐ No ☐ NA ☐		
7.3	Date of estimate approval by competent authority	Yes ☐ No ☐ NA ☐		
7.4	Approved utility shifting proposal	Yes ☐ No ☐ NA ☐		
7.5	Details of approved contractors, SoR and deposit details for user agency	Yes ☐ No ☐ NA ☐	NA	
7.6	Utilities checklist, no upgradation certificate attached	Yes ☐ No ☐ NA ☐		
8.2	Date of final approval of GAD by competent authority	Yes ☐ No ☐ NA ☐		
9	**Other Clearances**	Yes ☐ No ☐ NA ☐	NA	
9.1	Date of final approval by competent authority	Yes ☐ No ☐ NA ☐		

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
10	**Land Acquisition**	Yes ☐ No ☐ NA ☐	NA	
10.1	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐	NA	
10.2	Review of 3a notification by client	Yes ☐ No ☐ NA ☐	NA	
10.3	Date of 3a gazette notification	Yes ☐ No ☐ NA ☐		
10.4	Draft 3a notification submitted	Yes ☐ No ☐ NA ☐	NA	
10.5	Review of 3A notification by client	Yes ☐ No ☐ NA ☐	NA	
10.6	Date of 3A gazette notification	Yes ☐ No ☐ NA ☐		
10.7	Date of Joint Measurement Survey with competent authority	Yes ☐ No ☐ NA ☐		
10.7.1	Date of survey	Yes ☐ No ☐ NA ☐	NA	
10.7.2	Land type –by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.3	Nature of Land –by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.4	Ownership status of plots- by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.5	Verification of area to be acquired – by survey number	Yes ☐ No ☐ NA ☐	NA	
10.7.6	List of structures on each plot	Yes ☐ No ☐ NA ☐	NA	
10.7.7	Sketches of updated alignment	Yes ☐ No ☐ NA ☐	NA	
10.7.8	Verification from Land revenue department	Yes ☐ No ☐ NA ☐	NA	
10.7.9	Verification by CALA office	Yes ☐ No ☐ NA ☐	NA	

3 DPR Checklist – Stage 7 – Award determination (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Village level summary**	Yes ☐ No ☐ NA ☐	NA	
2.1	Total private and public land being acquired	Yes ☐ No ☐ NA ☐	NA	
2.2	Variation in area and nature of land against 3D with justification	Yes ☐ No ☐ NA ☐	NA	
2.3	Method used by CALA to arrive at award	Yes ☐ No ☐ NA ☐	NA	
2.4	Date of award by CALA and approval by NHAI along with valuation report			
2.5	Total award calculated and details of deviation from RFCTLARR act	Yes ☐ No ☐ NA ☐	NA	
3	**In detail**	Yes ☐ No ☐ NA ☐	NA	
3.1	Updated land acquisition tracker with parcel-wise status of: • Notifications • Award • Disbursement	Yes ☐ No ☐ NA ☐	NA	
3.2	Valuation report and details of award calculation- verification by state authority to be included	Yes ☐ No ☐ NA ☐	NA	
3.3	Claims report	Yes ☐ No ☐ NA ☐	NA	
3.4	Copies of notifications published	Yes ☐ No ☐ NA ☐	NA	
3.5	Copies of land possession certificates received	Yes ☐ No ☐ NA ☐	NA	
4	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	
4.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
4.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
4.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	

4 DPR Checklist – Stage 8 – Land possession report (Structures)

General Details	
Project Name	
Consultant's Name	
Date of Review	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
1	**Executive Summary**	Yes ☐ No ☐ NA ☐	NA	
2	**Village level summary**	Yes ☐ No ☐ NA ☐	NA	
2.1	Total private and public land being acquired	Yes ☐ No ☐ NA ☐	NA	
2.2	Date of final award by CALA and approval by NHAI			
2.3	Status of disbursement on date of receipt of Land possession certificate	Yes ☐ No ☐ NA ☐	NA	
2.4	Key issues being faced in completing land acquisition, if any	Yes ☐ No ☐ NA ☐	NA	
3	**In detail**	Yes ☐ No ☐ NA ☐	NA	
3.1	Updated land acquisition tracker with status of: • Notifications • Award • Disbursement	Yes ☐ No ☐ NA ☐	NA	
3.2	Final award and claims report	Yes ☐ No ☐ NA ☐	NA	
3.3	Copies of notifications published, land possession certificates received	Yes ☐ No ☐ NA ☐	NA	
4	**Conclusions and recommendations**	Yes ☐ No ☐ NA ☐	NA	
4.1	Conclusions and recommendations	Yes ☐ No ☐ NA ☐	NA	

S.No	SECTION OF THE REPORT	YES/NO/NA	Details/ Specifications	Remarks
4.2	Report fulfils project objectives and scope as per RFP	Yes ☐ No ☐ NA ☐	NA	
4.3	Report reviewed for errors and omissions	Yes ☐ No ☐ NA ☐	NA	
4.4	Compliance report prepared on client observations	Yes ☐ No ☐ NA ☐	NA	
5	**GIS Map containing digitised details of land parcels acquired with all relevant details**	**Yes ☐ No ☐ NA ☐**	**NA**	

APPENDIX VIII

Sample Executive Summary of Detailed Project Report

<Name & Logo of the Agency> (Ministry of Road Transport & Highways)

Government of India

Executive summary of detailed project report for:

[Project name, stretch, state]

DPR Consultant

[Name and logo of consulting agency]

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Introduction

The NHAI proposes to implement the <re> the development, maintenance and management of the <NH- xx> stretch from <Origin> to <Destination> from chainage <aa km> to <bb km> into <proposed improvement, xx lane road/ expressway etc.> under the NHDP Phase V programme. The proposed project road has been selected to <primary reason for project- e.g. to improve connectivity and ease congestion between aa bb>

<Consultant> was appointed in <mm/yyyy> to prepare the detailed project report for the project road, and this executive summary covers is submitted along with the <draft/final> detailed project report to cover the key aspects of the project.

<Any special circumstances or requests made by the Authority for the project that affect the consultancy assignment e.g.: NHAI desired to restructure project into two packages, bifurcating the project road at Betulnagar, this report has been revised and resubmitted providing improvement proposals and bid documents separately for the two stretches>

2. Project overview

As described earlier the project road lies on NH xx (previously NH yy) and connects <orgin> with <destination>, passing through the states of <state 1, state 2>. The proposed project alignment passess through <towns/junctions a, b, c, d> for a total length of <xx km>.

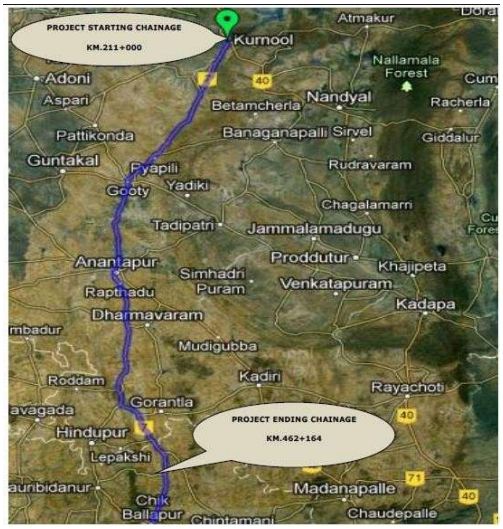

Figure 1: Location of project road

2.1. Key features of project

Table 1: Key features of project

Attributes	Details
NH No	Xx (old) Yy (new)
Origin- Destination	Origin-destination Origin point Lat/long – destination point lat/long
Via towns	Town 1, 2, 3, 4
Existing carriageway	2L (7.0m) over 80% of the road stretch with 4L (16.0m) in 20% of the stretch in some urban locations
Service lanes and slip roads	Service lanes of 2-4m width for 16 km, largely in urban areas
Shoulder	2L has paved shoulder of 1-2m width
Condition of existing pavement	Good to fair
Right of way	Typically 45 m along entire stretch
Land use along project road	Predominant land use in the area is agricultural (60% on LHS, 50% on RHS), with the rest being urban and forest area (20% on LHS, RHS)
Traffic on the stretch	Largely commercial, with trucks accounting for 80% of vehicle volume
Toll infrastructure	There are no toll plazas in the current stretch
Terrain	Primarily plain and rolling, passing through x settlements
Structures along stretch	69 structures- 3 ROBs, 7 major bridges, 2 flyovers, 9 minor bridges, 16 VUP/PUPs and 32 culverts
User amenities along stretch	32 bus shelters, 7 truck lay-byes, and 1 rest area
Key utilities in the proposed RoW	4 km 66 kV UG line with 3 crossings, 30in water main for 7.3 km
Forest Stretches along RoW	Xx km of road from <point a> to <point b> crosses <type of forest> <forest name>

Attributes	Details
Rail crossings along RoW	Railway LC no <x> at chainage yy on the <origin station> to <destination station> rail line at railway chainage zz
Other clearance related aspects	<please describe any other clearances that will be required for the project>

2.2. Key plan of existing project stretch

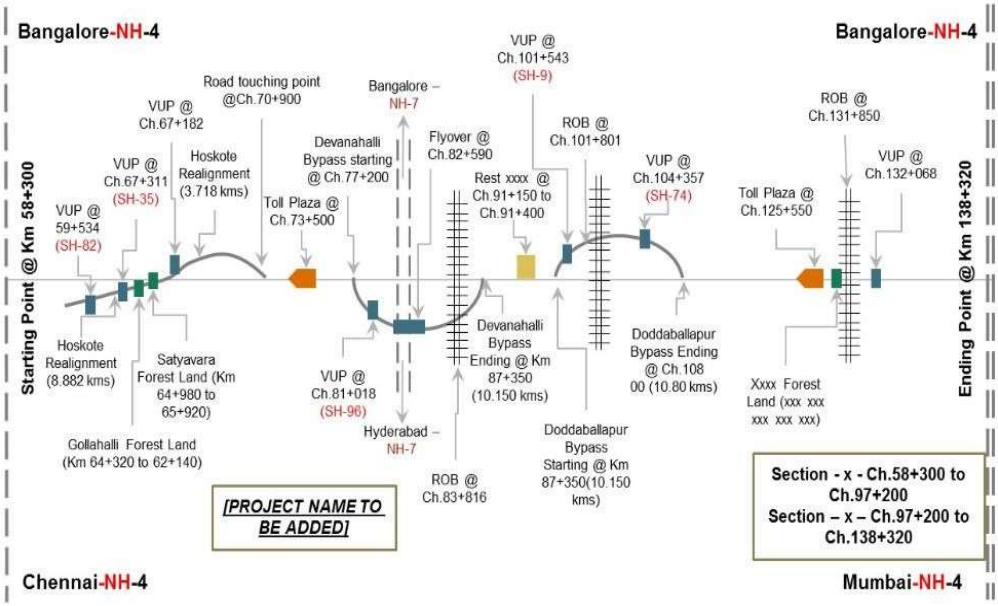

Figure 2: Key plan of existing project road

3. Traffic demands on project road

3.1. Traffic volume surveys

For the purposes of traffic projections and lane design, <xx> individual sections of road were considered:

Table 2: Traffic survey locations

Section	Chainages	Length (Kms)		Volume Count Locations	Remarks
1	Km 163.0 - 192.0	29.0		Km 177.0, 45.0	Kasia/Tonta mines near 192.000
2	Km 192.0 - 219.0	27.0		Km 201.50	End point of proposed Koida bypass at km 218.250

Traffic volume surveys for the project road were < available from IHMCL for x locations> and were carried out at <x> additional locations along the project road in the month of <mm/yyyy>. The results are as follows:

Table 3: Results of traffic surveys conducted

Homogenous section	1	1	2	
Chainage	45.00	177.00	201.50	
Source of data	IHMCL	Consultant	Consultant	
Bicycle	47	75	61	
2 Wheeler	3320	3288	2630	
3 Wheeler	32	47	30	
Tractor	24	18	22	
Tractor with Trailer	389	385	341	
2 Axle SCV	436	386	388	
LMV 2 axle	3561	3545	3327	
LCV 2 Axle	577	603	563	
2 Axle Truck or Bus	908	987	1014	
3 Axle Truck or Bus	1142	1062	1086	
Multi Axle Vehicles MAV	2033	1962	1994	
Oversized Vehicle OSV	2	1	3	
Cycle	0	0	0	
Earth Moving Equipment	0	0	0	
AADT (in vehicles)	12471	12359	11459	
AADT (in PCUs)	34000	xx	xx	

3.2. Axle load survey

Axle load surveys were conducted at <x> locations using <xxxx> to understand the actual load spectrum of commercial vehicles plying on the prject road. The results of the load survey, were converted to Vehicle Damage Factor (VDF) using equivalency factors from <IRC xx> for the purpose of MSA calculations

Table 4: Axle load survey results

Mode	Section 1		Section 2		Section 2	
	Observed- at chainage xx	Recommended	Observed- at chainage xx	Recommended	Observed- at chainage xx	Recommended
LCV	0.47	0.47	0.45	0.45		
2-axle	3.97	3.97	3.57	3.97		
3-axle	3.63	3.63	3.26	3.26		
MAV	4.92	4.92	4.07	4.07		
Bus	0.78	0.82	0.82	0.82		

3.3. Traffic volume forecast

Traffic volume forecast was developed using the <xx> method and converted to Million Standard Axles (MSA) for the purposes of pavement design. The cumulative load in MSA for each section is given as under for various horizon years:

Table 5: Projected traffic load on project road in MSA

MSA	In x+15		In x+30	
Section	LHS	RHS	LHS	RHS
1	23.31	22		
2	33	40		

3.4. Turning movement surveys

SL. No.	Existing Chainage	Location	Total Volume PCU	Peak Hour Volume PCU	Peak Hour	Intersection type	Grade separator proposed
1	0.300	xxx	30988	1915	17:00 - 18:00	3 arm	No
2	6.200	xxx	28077	1962	09:00 - 10:00	4 arm	No
3	10.200	xxx	53333	3599	15:00 - 16:00	5 arm	Yes
4	28.000	xxx	64315	3884	10:00 - 11:00	4 arm	Yes

Classified direction wise turning movement surveys were conducted at <x> intersections to determine the need for re-design and addition of structure at the intersection

Table 6: Turning movement survey results

4. Pavement and corridor surveys

4.1. Pavement condition and distress seen

The overall pavement condition <description of overall pavement condition- e.g. from poor to very poor, with high roughness and significant presence of potholes and raveling>

Table 7: Condition survey of existing pavement

Type of distress	Length affected, in Kms				
	Area <=10 %	Area 10 %-25 %	Area 25 %-50 %	Area 50 %-75%	Area >75 %
Total Cracking	36	70	0	0	0
Potholes	28	23	55	0	0
Patching	44	61	1	0	0
Raveling	80	4	22	0	0
<other categories seen>					
Total	106	106	106	106	106

4.2. Pavement composition

The existing pavement structure is a <rigid/flexible/inverted etc.> pavement consisting of sub-grade and <x> additional layers. The summary of pavement composition seen is as follows

Table 8: Composition of existing pavement

Section	Bituminous course (mm)		Granular course (mm)		Xx (mm)	
	Min	Max	Min	Max	Min	Max
1	50	350	100	600		
2	40	300	80	500		
X						

4.3. Pavement strength

<xxx FWD/BBD> was carried out to test the strength of the existing pavement, and the characteristic deflection values have been calculated for each homogeneous section of road to enable design of an overlay for the road.

Table 9: Strength of existing pavement

Section	Chainage		Distance	Characteristic deflection
	Start	End	Km	Mm
1	0.400	2.400	2.000	1.6
2	2.400	10.000	7.600	1.3
X				

4.4. Sub-grade soil survey

Extensive review of available soil information and testing was done to understand the sub-grade characteristics. Summary of soil investigation surveys is as follows:

Table 10: Soil investigation survey results

Attribute	Results	Comments
Sub-grade CBR range (%)	0.6%-14%	Low over large lengths of section
Degree of compaction (% of MDD)	~95%	Sufficient as per MoRTH guidelines
Swelling ratio (%)	2.5 to 32%	Significant variation seen across stretch
<other attributes>		

Table 11: Soil types observed

Soil type	% of length	Plasticity index	Comments
Clayey sand (SC)	34%	3 to 15	Poorly graded sand clay mixture
Silty sand (SM)	9%	Non-plastic	Poorly graded
Clayey gravel (GC)	9%	11 to 13	Mixture of gravel, sand and silt

5. Improvement proposals

5.1. Proposed alignment

The final alignment chosen for the project in consultation with <xx, yy> will <be along current project road/ pass through xx, yy new towns- short description of alignment with changes if any>.

Figure 3: Map showing proposed alignment of project road

5.2. Bypasses proposed

Given increasing urban traffic and congestion and the lack of available RoW in urban areas through the project route, <x> urban areas are proosed to be by-passed in the proposed project alignment

Table 12: Proposed by-passes along project length

Urban area to be bypassed	Bypass plan			Key driver for by-pass
	Start chainage	End chainage	Length proposed	
Nagar 1	45.000	52.000	21.000	Heavy local traffic of ~10,000 PCUs in town limits
Xxxx				

5.3. Road geometry

The project road has been re-designed to accommodate speeds of <xx>, adopted as per <standard or consultation with NHAI >. Enabling this higher speed will require re-design and re-alignemnt of the road in certain sections given their <description of poor geometry>.

5.4. Widening scheme

Basis traffic information available, level of service requirements and consultation with <NHAI , local authorities etc.>, the following lane configuration is adopted for the project road:

Table 13: Lane configuration planned for project road

Section	Chainage		Traffic forecast k PCUs in 20xx	Lane config.	Service lanes	Comments
	Start	End				
1	0.00	2.400	43.5	6	Yes	High urban traffic influx
2	2.400	60.400	16.4	4	No	
3						
xx						

Basis availability of RoW and land acquisition constraints, a widening scheme has been proposed that makes optimum use of existing ROW and minimizes need for land acquisition in urban areas, a summary of which is given below:

Table 14: Summary of widening type proposed

Sl no	Type of widening	Length, Km
1	Concentric	2.400
2	Eccentric, Right	34.600
3	Eccentric, Left	33.800
4	Green field	16.000

5.5. Pavement design

5.5.1. Design period, loading and pavement type

Using the projected traffic, VDF values,lane and directional distribution factors, the design traffic loading used for the project is <xx to yy> MSA.

Through preliminary design and lifecycle comparisons, the <flexible/rigid/inverted> type of pavement was chosen for construction with a design life of <xx> years as per <IRC/MoRTH/NHAI standards/request> has been considered for design.

5.5.2. Design sub-grade strength

Considering the soil investigations conducted in the prject road area, and the availability of suitable soil in the region, the following sub-grade strength has been assumed to vary from <xx%> to <yy%> for various sections of the highway

5.5.3. Pavement composition for new carriageway

The proposed pavement composition for the new sections carriageway basis <standards>, subgrade strength and design traffic is:

Table 15: Proposed pavement composition

Section	Design Chainage		Sub-grade strength	Pavement loading	Layer thickness (mm)				
	Start	End	Min % CBR	MSA	GSB	WMM	DBM	BC	xx
1	0.400	2.400	10%	40	200	250	95-125	40	
2	2.400	10.000	8%						
X									

5.5.4. Strengthening of existing pavement

The strengthening requirements for the existing pavement have been estimated fromt eh deflection measurements and estimated traffic loadings. The designed overlay proposed is as below:

Table 16: Overlay thickness required

Section	Chainage		Distance	Characteristic deflection	Overlay thickness (mm)	
	Start	End	Km	Mm	DBM	Xx
1	0.400	2.400	2.000	1.6	95	40
2	2.400	10.000	7.600	1.3	50	40
X						

5.5.5. Pavement design for service lanes

Pavement for service lanes is designed for MSA of xx-yy with a design CBR of ~xx%. The composition for the <flexible/rigid> service lane pavement along the project corridor is as follows:

Table 17: Pavement composition for service road

Layer	Layer Thickness in mm
SDBC	25
DBM	50
WMM	250
GSB	150

5.6. Design of structures

Along the project stretch, there are several bridges, culverts, under/overpasses and flyovers. A summary of the total number and proposed additions is given in the table below

Table 18: Proposed improvement to structures along project road

Sl No	Structure	Existing	Dismantle	Widen	Reconstruct	Construct in parallel	New construction	Total
1	Major bridge	4	1	-	1	2	3	7
2	Minor bridge							
3	Flyover							
4	Vehicle overpass							
5	Vehicle underpass							
6	Passenger under pass							
7	Culverts							

8	xxx							

5.7. Intersections and grade separators

Based on the traffic and turning movement surveys conducted, <xx> junctions have been identified for redesign or grade separation, the details of which are given below

Table 19: Proposed intersection improvement

SL. No.	Existing Chainage	Location	Est total vol (k PCU)	Est Peak Hour Vol (k PCU)	Improvement proposed
1	10.200	xxx	53333	3599	Grade separator
2	28.000	xxx	64315	3884	Grade separator
3					
4					

5.8. Toll plazas

Based on the traffic surveys, O-D surveys and layout of project road, <xx> toll plazas are proposed along the project road:

Table 20: Location of current and proposed toll plazas

Sl No	Existing chainage	Design chainage	Location	Existing no of lanes	Proposed no of lanes
1	20.400	22.600	Near origin	2	6
2	95.000	101.500	Near via-nagar junction	New	6
x	xx	xx			

5.9. Wayside amenities proposed

<local discussions, discussions with authority, demand modelling etc.> was conducted to locate various way- side amenities across the project road. A summary of the improvements proposed is given below:

Table 21: Proposed user amenities along project stretch

Sl no	Amenity type	Current	Proposed	Comments
1	Passenger rest stops	0	2	
2	Truck lay-byes	5	15	High demand due to urban areas along stretch
3	Bus bays	4	10	Limited increase due to scarcity of land
4	Bus shelters	2	34	Proposed in lieu of bus-bays
5	Petrol bunks	1	5	Severe shortage along stretch
6				

6. Environmental impact assessment

6.1. Impact and clearances needed

A environmental impact study was undertaken during the process of creating the detailed project report to understand impact of the project road on the surrounding ecology and environment. The project road is categorized as a category <xx> project by the MoEF and as it is <xx km> in length, it <will/will not> require environmental clearances.

The proposed project <involves/does not involve> the acquisition of forest/ecologically sensitive land, felling of trees and will impact wildlife habitat and will hence require individual clearances for each. A summary of the environmental impact and clearances required is provided below

Table 22: Environmental impact and clearances required

Sl No	Impact type	Description	Clearance status
1	Environmental clearance	Required due to nature of project, category 'A'	Form 1 submitted dd/mm/yyyy and environmental clearance obtained on dd/mmm/yyyy
2	Diversion of forest land	27.72 ha of land in <xx> district will need to be acquired	Stage II clearance in progress
3	Trees in RoW	28,460 trees need to be enable road expansion	To be taken

6.2. Cost of environmental mitigation

The Environmental Mitigation and Management Costs were developed based on the estimation of resources required to implement the mitigation measures proposed and also number of places where intervention is required. Environmental mitigation cost for the proposed project is Rs. <xx> cr.

7. Social impact assessment and Land acquisition

7.1. Social impact assessment

The existing RoW (x-y m) is <adequate/ in adequate> for the proposed widening and RoW requirements as required by NHAI. This will lead to the additional acquisition of <xx>Ha across the states of <states1, 2>, affecting a total of <yy> villages in <zz> districts. In addition to structures found to be encroaching the current Row, the required acquisition is poised to affect <xx> residential and <yy> other structures.

Preliminary interactions have been held with locals to understand their issues and concerns and help communicate the project plan and its impact on them. The key concerns of title and non-title holders centered around:

- <Key issues expressed over and above land being acquired, and compensation norms>

7.2. Land acquisition requirements

The state and district wise details and status of land acquisition as on the date of publishing of this report is as follows:

Table 23: Districtwise land acquisition requirements and status

State	Village and Chainage	Total land required (Ha)	Private land to be acquired (Ha)	3A pending (Ha)	3A done, 3D pending (Ha)	3D completed
Maharashtra	Thane (xx to yy)	137	90	10	70	10
Gujarat	<aaa>	454	400	20	300	80
Gujarat	<bbb>	588	588	60	500	28
Gujarat	<ccc>	688	320	80	160	80

A total of <xx cr> is expected to be awarded for the acquisition of land required for this project. The land acquisition process is underway with a total of <xx> CALAs appointed, and 90% of land is expected to be in possession by <xx, 20xx>.

7.3. Key risks envisaged in land acquisition

Despite the best efforts of the consultant and various lad acquisition teams working to complete land acquisition, it is envisaged that acquiring possession of the RoW for some specific sections of the project road may prove to be difficult or be delayed inordinately. Such potential risks are highlighted below:

- <Highlight any risks foreseen along with chainage and ha affected>

8. Utilities shifting and clearances

Utilities belonging to <x> user agencies have been identified that fall within the project road ROW and will need to be shifted to enable road construction. Shifting proposals have been submitted to the user agencies and initial estimates have been received from the concerned agencies. The process of site inspection, review and revision of the proposals for utilities shifting is in process.

<To enable better management of utilities and installation going forward, all utilities are being shifted underground/into a utilitiy corridor/out of the road RoW/ utilities trench is being planned as part of construction>

8.1. Utilities shifting estimates

Table 24: Key utilities shifting requirements

Sl No	Utility	Chainage affected	Agency	Shifting required	Estimated cost (INR cr)	Supervision %	Current status
1	66kV powerline	123.00-145.00	UPVVNL	19km of overhead cable, 4 road crossings	~140 cr	15%	Final approval obtained

8.2. Total cost of utilities shifting

The total cost of utilities shifting for all the utilities identified in the road RoW is estimated to be <xx cr> with supervision charges of <yy cr> being paid as supervision charges to the <z> concerned agencies.

9. Project cost estimates

The cost estimates for the project has been carried out based on detailed design, bill of quantities, and the schedule of rates for <state/district/authority> of year <xx-yy>.

Table 25: Summary of project cost

No	Item	Amount in Cr	Amount in %
	Civil construction cost		
1	Site clearance and dismantling	60	2%
2	Earth Work		
3	Base courses		
4	Paving courses		
5a	Repair and rehabilitation of structures		
5b	Bridges		
5c	Culverts		
5d	PUP/VUP		
5e	Flyover and overpass		
5f	Drainage, protective works and other services		
5g	RE/toe walls		
6	Junctions and interchanges		
7	Toll plazas		
8	User amenities		
9	Traffic signs, road markings, other appurtenences		
10	Miscellaneous		
11	Maintenance of road during construction		
A	Total civil cost		
12	Add contingencies @ x% on Z		
B	Estimated project cost		
13	Construction supervision @ x% on Z		
14	Agency charges @ x% on Z		
15	Quality control changes @ x% on Z		
16	Road safety cell audit charges @ x% on Z		
17	Maintenance costs @ x% on Z		
18	Escalation @ x% on Z		
C	Total project cost		
19	R&R cost		

20	Environment cost		
21	Cost of shifting utilities		
22	LA compensation cost		
D	Total capital cost		

10. Material investigation

Material investigations were carried out to explore the availability and identify sources of suitable material for the construction of the road.

<retain only relevant sections>

10.1. Borrow pits for soil

Material investigation of <xxx> locations indicates that soil suitable for embankment (of CBR>xx% and density yy g/cc) and for sub-grade (CBR>xx% and density yy g/cc) is available at an average lead of aa to bb km for the project stretch.

<include details on additional material sources like construction rubble, moorum etc>

10.2. Sand

Sand is available in <close proximity> of the project site. Test results show that xx of yy sand sources satisfy the minimum requirement for use in the project.

<Include details of additional potential for sources such as pond bed desilting, other excavation happening>

10.3. Gravel

Several quarries were identified for sourcing aggregates in the project zone. Xx of yy quarries were found to be suitable for use in the construction of the road. <further details on gravel available and suitability for construction>

10.4. Fly ash

Fly ash is available in close proximity of the project road due to the presence of <xx steel plant/power plant>. Test results show that the available fly ash <satisfies/does not satisfy> the minimum requirement of <specification> to use as <material for embankment/cement mixture/other layers>. The fly ash available has density greater than xx g/cc and shows an OCM of xx-yy%. <the fly ash located isnon plastic>

10.5. Bitumen

Bulk bitumen of the <required grades> is available <closest sources> with an average lead of <xx km>. For the project road <grade> of bitumen has been proposed for <yy layer> due to <reason> and <grade of bitumen> has been proposed for <zz layer> due to <reason>.

10.6. Cement

Bulk bitumen of the <required grades> is available <closest sources> with an average lead of <xx km>. For the project road <grade> of bitumen has been proposed for <yy layer> due to <reason> and <grade of bitumen> has been proposed for <zz layer> due to <reason>.

10.7. Other local material available

Details of other local material available for construction

Table 26: Locally available and alternative materials

Sl No	Material	Source
1	Hume pipes	Local hume pipe factory in xx yy
2	xx	xxxx

10.8. Key risks

Despite the best efforts of the consultant, there continue to be some materials and sections of the project road where material will have to brought from significant leads.

Table 27: Key risks envisaged in material procurement

Sl No	Chainage	Material	Closest source
1	Entire project	Bitument	Closest available source is Mumbai at a lead of 900 km
2	223.00+	Soil of CBR >10%	No borrow pit in vicinity, minimum lead of 40 km

10.9. Location of material sources

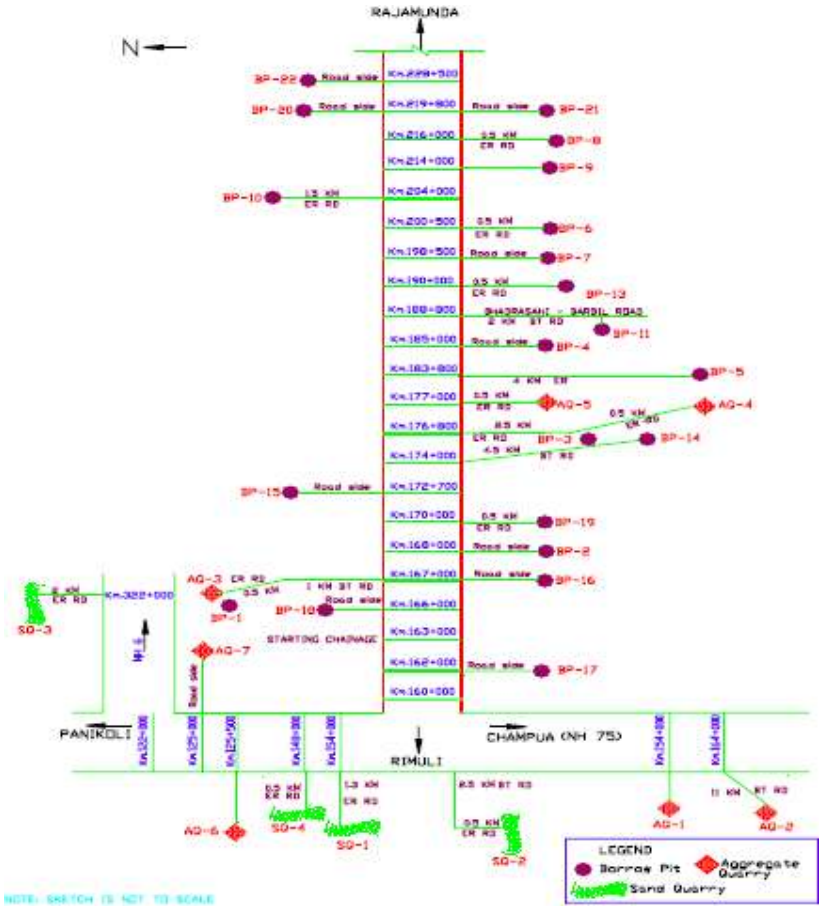

Figure 4: Key plan showing location of potential borrow pits tested

11. Potential for value engineering and innovative technologies

Throughout the detailed design of the project, several opportunities for value engineering and introduction of new technology were explored that will help in reducing the cost of the project or increase quality and longevity of project road. Approval of these elements as part of the construction design and suitable instructions to all stakeholders of the project can help significantly lower the projected cost of construction.

A summary of these opportunities is provided here.

Table 28: Key value engineering opportunities identified

Sl No	Value engineering opportunity	Potential impact
1	Use of inverted pavement with a cement stabilized based and granular material in the base layer	40% reduction in layer thickness and ~15% reduction in TPC

12. Economic and financial analysis

12.1. Economic analysis of the project

The EIRR and NPV of the project has been carried out using <model/software> under multiple scenarios, and the project returns <justify/do not justify> construction given an EIRR of xx in the best case and yy in the worst case.

The various sensitivity scenarios considered were as follows:

0. Base case: Base cost and base benefits
1. Sensitivity 1: Base cost plus xx% and base benefits
2. Sensitivity 2: Xx
3. Sensitivity 3: Xx

The results of the base case and sensitivity analysis are presented below:

Table 29: Economic return analysis

Option	Sensitivity Case	RUCS		HDM 4	
		NPV (in million Rs.)	EIRR (in %)	NPV (in million Rs.)	EIRR (in %)
With time	Base Case 0	19199	30.31	2788.5	14.1
	Sensitivity 1	18041	27.51	1362.6	12.9
	Sensitivity 2	15147	27.1	943.3	12.8
	Sensitivity 3	13989	24.56	-ve	11.7
Without time	Base Case 0	19199	30.31	2788.5	14.1
	Sensitivity 1	18041	27.51	1362.6	12.9
	Sensitivity 2	15147	27.1	943.3	12.8
	Sensitivity 3	13989	24.56	-ve	11.7

12.2. Financial analysis

12.2.1. Potential for toll revenue

The projected tollable traffic basis traffic survey and forecasts at the <xx> toll plazas suggested in year <xx> is given below

Table 30: Tollable traffic on project stretch

Toll Plaza	1 @ Chainage 45.000 1		2	
Traffic type	Total	Tollable		
Bicycle	47	0		
2 Wheeler	3320	0		
3 Wheeler	32	0		
Tractor	24	0		
Tractor with Trailer	389	385		
2 Axle SCV	436	386		

LMV 2 axle	3561	3545		
LCV 2 Axle	577	603		
2 Axle Truck or Bus	908	800		
3 Axle Truck or Bus	1142	1062		
Multi Axle Vehicles MAV	2033	1962		
Oversized Vehicle OSV	2	1		
Earth Moving Equipment	0	0		
AADT (in vehicles)	12471	6500		

12.2.2. Results of financial analysis

With the most likely traffic scenario and assumed costs of construction, maintenance, financing and tolling over the period of the project, the return on equity at various periods of concession was calculated. Equity IRR for this project will pass <15%> in year <x> of this project, hence it <is/is not> possible to bid the project

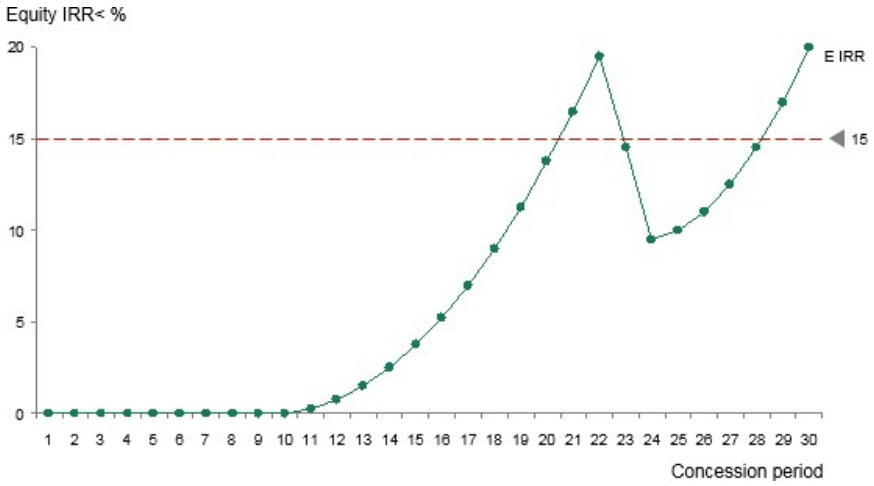

Figure 5: Equity IRR with increasing concession period for project road

13. Execution plan

In consultation with NHAI , it is proposed to complete the proosed project road in a period of <xx> months. Planning for the project packaging, bidding process and construction was conducted as a part of this project.

13.1. Packaging

Given the length of the project, the entire project is planned to be bid out in <xx> packages with <yy> packages.

<include table of package details if more than 1 package>

13.2. Bidding mode and timelines

The authority has proposed to initiate bidding of the project under <bot/epc/ham> mode <with a grant/premium of xx %>. The tentative timeline for this is:

- Submission of bid documents to authority dd/mmm/yyyy
- Review and finalization of documents dd/mmm/yyyy
- Launch of tender dd/mmm/yyyy
- Tender close date dd/mmm/yyyy
- Tentative date for award of project dd/mmm/yyyy

13.3. Construction time and planning

Upon reviewing the improvements planned and various conditions like Height of embankment, number of Structures, quantity of earth work both in cut and fill, monsoon/ snow season, terrain, tunnels etc as part of this DPR and in consultation with <Agency> , the design and construction period for this project has been arrived at <xx> months from the date of appointment of the contractor/concessionaire. To enable this construction schedule, a detailed construction plan, timeline and resources required has been included in the detailed project report. This also includes a traffic management and lane closure plan for the period of construction.

13.4. Feedback on various Standards/Circulars

DPR Consultant is required to identify critical gaps/ discrepancies/ contradictions in MoRTH specifications, relevant IRC Codes and circulars issued by Ministry/NHAI/NHIDCL, so as to avoid litigation during implementation and afterwards related to projects execution.

14. Conclusions and recommendation

The <expansion/rehabilitation> of the project road from <source> to <destination>, chainage <a> to <b> on NH <x> in the states of <state 1, state 2> to <n> lane configuration is recommended for implementation by NHAI as the project is likely to <1 line justification/ need of project: provide much needed connectivity/improve connectivity/provide higher level of service/rehabilitate the road etc, is needed urgently>.

The project as envisaged is economically viable with an estimated EIRR >12%. The project with a 30 year concession period is expected to return an equity IRR of <xx%> with <yy%> <grant/premium> and is hence recommended for implementation in the <BOT/EPC/HAM> mode.

Table 31: Salient features and key financial aspects of the project road a

Project road		
Project road length		Xx km
Connecting		<origin>- <destination>
On national highway		NH No
Proposed features	Current road	Proposed
Lanes	2	4
Bypasses proposed	-	5
Major junctions	5	5
Minor Junctions	18	18
Grade separated interchanges	1	4
Major Bridges	4	6
Minor Bridges	19	21
ROBs	1	3
Culverts	120	200
Vehicle/Pedestrian under/overpasses	16	25
Service roads (kms)	14	32
Slip roads (kms)	8	9
Toll plazas (no)	-	2
Bus bays (no)	4	15
Truck lay-byes (no)	2	8
Rest areas (no)	2	6
Financial implications		INR Cr/%
Total capital cost		1595
Total project cost		1486
Civil construction cost (incl. contingency)		1249
Preconstruction expenses		110
Land acquisition		40
Utilities shifting		30
Rehabilitiation and resettlement costs		20
Other pre-construction expenses		20
Implementation mode proposed		BOT (Toll)

Total project cost	1486
Concession period	18 years
<Authority> support (Grant/Premium)	18%
Estimated NPV	50
Project IRR	12%
Equity IRR	15%

Section VI-A: List of Key Experts and Required Qualifications:

RFP Document No. RFP No./ JKDIV/14/2026-NHAI- RO Jammu/E 292718; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.

(Ref ITC-clause 1.4)

Enclosure-A

MAN MONTHS INPUT FOR KEY PROFESSIONAL STAFF

Sr. No	Key Personnel	Total Project Assignment: **9 Months.**		
		At site (% of man month)*	At design office (% of man month)*	Total Time (man month)*
1	Team Leader Cum Senior Highway Engineer	50%	50%	**9**
2	Senior Bridge Design Engineer	30%	70%	3
3	Highway Design Engineer	40%	60%	4
4	Senior Geomatics Expert	70%	30%	4
5	Senior Survey Engineer	70%	30%	5
6	Traffic and Road Safety expert	50%	50%	2
7	Environmental Specialist	70%	30%	3
8	Quantity Surveyor / Documentation Expert	40%	60%	2
9	Land Acquisition Expert	80%	20%	7
10	Senior Hydrology and Hydraulics Expert	80%	20%	4
11	Tunnel Design Expert	50%	50%	4
12	Senior Geophysicist	50%	50%	4
	Total			**51**

1. Consultants have to provide a certificate that all the key personnel as envisaged in the Contract Agreement have been actually deployed in the projects. They have to furnish the certificate at the time of submission of their bills to NHAI from time to time.

2. The requirement of tunnel/s is to be assessed strictly as per site requirement during the detailed study after mobilisation of Consultant on site.

3. The Consultant shall provide allied team and supporting logistic for each district alongwith Land Acquisition Expert for man months as defined in BOQ.

If delay in LA process occurs beyond the reasonable control of consultant, the extension of LA team staff/s along with logistic support/transportation shall be granted by Nodal Project Director and beyond further 6 months, Regional Officer, NHAI/MoRTH/NHIDCL is empowered to grant extension to LA team staff/s.

Enclosure-B

The minimum Qualification of the Key-Personnel shall be such that each key-personal shall score at least 70 points as per criteria stipulated in Section-VII. The consultant shall also submit the self-evaluation of the key-personnel along with referencing of the details on their respective Infracon CVs.

All the Key-Experts should have completed the following tabulated courses to be considered eligible for technical evaluation:

Position	Mandatory Course
Team Leader cum Senior Highway Engineer	"It is mandatory for the key personnel to have attended training course on "Preparation of Feasibility Study and DPR for Highway Projects" conducted by Indian Academy of Highway Engineers (IAHE) or any other institute specifically approved by MoRTH for minimum 6 days duration"
Senior Bridge Design Engineer	
Highway Design Engineer	
Environmental Specialist	
Senior Geomatics Expert	
Senior Survey Engineer	
Quantity Surveyor/Documentation Expert	
Tunnel Design Expert	
Senior Geotechnical Engineer	
Traffic/Road Signage/Marking and Safety Expert	"It is mandatory to have completed at least 15 days' certification course on Road Safety Audit from IAHE or any other institute specifically approved by MoRTH. The CV of the proposed key personnel not having completed minimum 15 days certification course shall not be evaluated"

Section VII: Evaluation/ Scoring Criteria

RFP Document No. RFP No. JKDIV/14/2026-NHAI- RO Jammu/E 292718; Tender Title: Consultancy Services for Preparation of Detailed Project Report for Development of Samba-Mansar-Udhampur road to four/six lane NH standards in the UT of J&K.

Consultants *must fill up the self-evaluation as per marking scheme given below along with referencing of supporting document for each of their claim.*

Detailed Marking and Evaluation Scheme for Technical Proposal

S. No.	Description	Proposed Points
A1	Firm's Profile, turnover and professionals working with thefirm	**5**
A2	Firm's relevant experience in last 10 years for DPR work	**30**
B1	Material testing, survey & investigation, equipment and software proposed to be used for DPR work	**2.5**
B2	Experience in use of technology for road inspection in supervision work/quality/safety audit	**2.5**
C	Qualification and Relevant experience of the proposed keypersonnel	**60**
	Total	**100**
Note: Overseas experience (firm/equipment/key personnel) shall only be considered in technical evaluation, if Apostille certificates supporting the overseas experience are attached in the technical proposal.		

Further break-up of each criteria has been detailed out below:

A1. Firm's Profile, turnover and professionals working with the firm (5)

For standard highways, the following is the break-up:

S. No.	Description	Max Points	Sub-Points
1	**Nos. of Key Professionals with the firm for more than 1 years***	**3**	
1.1	<10		**0**
1.2	>10 but ≤20		**1.5**
1.3	>20 but ≤30		**2**
1.4	>30 but ≤40		**2.5**
1.5	>40		**3**

	Note* 1. The key professionals who possess degree in Civil Engineering/Transport Planning /Transport Economics/Traffic Management / Geology/ Environment Science or Engineering and 8 years' experience in highway/bridge /tunnel with employment in the firm for more than one year. The current Employment Certificate shall be uploaded by Key Personnel on INFRACON. These Key-Personnel should be inclusive of at least 3 Sr Highway Design Engineer , 2 Senior Pavement/material Specialist, 2 Senior Bridge design Engineer, 2 geotechnical Engineer and 2 Traffic/Road Safety Expert on employee roll at Head Office or Site Office of the Consultant to be eligible for marks in this criteria. 2. The current Employment Certificate (not issued prior to the six months from the bid due date) shall be uploaded by Key Personnel on INFRACON. 3. The applicants shall submit copies of Form-26 AS/ TDS Certificate for last 12 months (starting from the month immediately preceding the month of bid due date) in the proposal in order to certify their permanent key Professionals.		
2	**Specific experience of firms in terms of turnover in last five Financial Years (from civil engineering project consultancy only)**	**2**	
2.1	Firm's Average Turnover of last 5 years >100		2
2.2	Firm's Average Turnover of last 5 years >60 & <=100 crore		1.75
2.3	Firm Average Turnover of last 5 years >30 & <=60 crore		1.25
2.4	Firm Average Turnover of last 5 years >=10 & <=30 crore		0.75
	Total	**5**	

A2. Firm's relevant experience in last 10 years for DPR work (30)

the following is the break-up:

S.No.	Description	Max Points	Sub-Points
1	**Specific experience of the DPR consultancy related to the assignment for eligibility in last 10 Financial Years.**	**20**	
1.1	**Aggregate Length of DPR / Feasibility study of 2/4/ 6 lane NH/SH/Expressway projects** Note: For Projects in Hill/mountainous terrain- only Aggregate Length of DPR / Feasibility study of 2/4/ 6 lane NH/SH/Expressway projects in Hill/mountainous terrain shall be considered for evaluation.		
1.1.1	More than the indicative Length of the package applied for		8
1.1.2	More than 2 times the indicative length of the package applied for		10
1.1.3	More than 3 times the indicative length of the package applied for		12
1.1.4	More than 4 times the indicative length of the package applied for		15
1.1.5	More than 5 times the indicative length of the package applied for		18
1.1.6	More than 6 times the indicative length of the package applied for		20
1.2	**DPR for 2/4/6 laning NH/SH/Expressway projects each equal**	**5**	

S.No.	Description	Max Points	Sub-Points
	to or more than 40 % of indicative length of a package applied for (or Feasibility Study for 2/4/6 laning NH/SH/Expressway projects each equal to or more than 60 % of indicative length of a package applied for Note: For Projects in Hill/mountainous terrain- only Aggregate Length of DPR / Feasibility study of 2/4/ 6 lane NH/SH/Expressway projects in Hill/mountainous terrain shall be considered for evaluation.		
1.2.1	1 project		1
1.2.2	2 projects		2
1.2.3	3 projects		3
1.2.4	4 projects		4
1.2.5	>=5 projects		5
2	**DPR of Major Bridges/ROBs/Viaducts having length more than 1000 m (excluding approaches)**	**5**	
2.1	2 bridge		2
2.2	3 bridges		3
2.3	4 bridges		4
2.4	≥5 bridges		5

Note: 1. In case feasibility study is a part of DPR services the experience shall be counted in DPR only.

2. In case bridge is included as part of DPR of highway the experience will be counted in both Sl No. (1) and (2).

3. For Projects of Cost <=500 CR and upto 1000 Cr (Excluding GST and Excluding Land Cost), Only 1 JV partner allowed meeting at least 40% minimum eligibility criteria. Lead Partner to meet 60% eligibility criteria.

4. For Projects of Cost >1000 Cr (Excluding Land Cost), Only 1 JV partner allowed who should be an international firm of repute i.e. having experience of DPR of Highway for multilateral agencies such as ADB/World Bank/JICA with aggregate length equal to or greater than DPR length under bidding besides meeting at least 40% minimum eligibility criteria. Lead Partner to meet 60% eligibility criteria.

5. Width of Carriageway shall be considered for assessing the equivalence of overseas projects to 2/4/6 lane NH/SH/Expressways. However, Projects within municipal limits/city roads shall not be considered.

6. Experience of Feasibility Studies for projects foreclosed at feasibility stage due to no fault of consultants shall be considered in experience with a weightage factor of 0.6.

7. In case of experience of bridges of Metro/Railway Projects, equivalence to 2 lane NH projects shall be considered.

Note: International firm shall be a foreign registered firm of repute or a 100% subsidiary of such an international firm, registered in India.

B1. Material testing, survey and investigation, equipment and software proposed to be used (2.5)

S. No.	Description	Max Points	Sub-Points
1	**Availability of minimum Material Testing Facilities with persons/resources having operational skills of the equipment – (as per details given below the table)**	**0.5**	
1.1	Owned* (Available In House) or Outsourced (Hire basis/Through Associate) supported by MOU / lease Agreement		0.5
1.2	Not available		0
*** Shall be ascertained through the ownership evidence uploaded on INFRACON in regard to major equipment required for testing of materials to be used for construction of Highway Project.**			
2	**Availability of minimum Field Investigation Facilities with persons/resources having operational skills of the equipment (as per details given below the table)**	**0.50**	
2.1	Owned** (Available In House) or Outsourced (Hire basis/Through Associate) supported by MOU / lease Agreement		0.50
2.2	Not available		0
**** Shall be ascertained through ownership evidence uploaded on INFRACON for construction of Highway Project.**			
3	**Availability of minimum Office Equipment and Software with persons/resources having operational skills of the equipment (as per details given below the table)**	**0.5**	
3.1	Owned*** (Available In House) or Outsourced (Hire basis/Through Associate) supported by MOU / lease Agreement		0.5
3.2	Not available		0
***** Shall be ascertained through ownership evidence uploaded on INFRACON for key hardware/software required for Highway consultancy assignment.**			
4	**Experience in use of LiDAR or better technology for topographic survey (Infrastructure sector) in last 7 Financial Years**	**0.5**	
4.1	1project		0.10
4.2	2 projects		0.20
4.3	3 projects		0.30
4.4	4 projects		0.40
4.5	≥ 5 projects		0.50
5	**Experience in using GPR and Induction Locator or better technologies for detection of sub-surface utilities (Infrastructure sector) in last 7 Financial Years**	**0.50**	
5.1	1project		0.1
5.2	2 projects		0.20
5.3	3 projects		0.30
5.4	≥ 4 projects		0.50
6	**Experience in digitization of cadastral maps for land surveys in last 7 Financial Years**	**0.50**	
6.1	Area upto 100 ha		0.15
6.2	Area between 100-500 ha		0.35
6.3	Area > 500 ha		0.50

List of minimum essential equipment which the firm must possess for securing marks in respective categories:

Material Testing Facilities (All should be available to be eligible for full marks)
a. Aggregate testing facility including flakiness index, elongation index, abrasion, impact, crushing, stripping value, unconfined compressive strength, setting time.
b. Soil testing facility including Atterrberg limits, soil classifications, moisture content, density, CBR value.
Field Investigation Facilities (All should be available to be eligible for full marks)
a. **Falling Weight Deflectometer** or equivalent / better
b. **Laser Profilometer** or equivalent / better
c. DGPS and Total station with appropriate software or equivalent / better
Office Equipment and Software (All should be available to be eligible for full marks)
a. Office equipment setup including Computer, plotter, A0 printer etc.
b. MX/ MOSS or equivalent / better software for road design
c. AutoCAD
d. STAAD or equivalent / better

Note: The experience of firm in Lidar or equivalent technology, GPR and Induction Locator or equivalent technologies and Experience in digitization of cadastral maps for land acquisition shall be supported by experience certificate. The experience of a firm in Lidar or equivalent technology, GPR and Induction Locator or equivalent technologies and Experience in Digitization of cadastral maps for land acquisition for a private concessionaire/contractor shall be considered only if the experience certificate is authenticated by the concerned competent Government department/authority. In case of overseas experience the weightage to be assigned to the certificate for experience in use of the equipment, a self-certificate followed by the client certificate with Apostille Certificate may be accepted.

B2: Experience in use of technology (2.5)

S. No	Description	Max Marks	Sub-Points
1	**Experience of Aerial LiDAR or equivalent technology for topographic survey (Infrastructure sector) with persons/resources having operational skills of the equipment with the firm Experience through owned or outsourced equipment supported by MOU / lease Agreement**	**0.75**	
(i)	1 project		0.25
(ii)	2 projects		0.50
(iii)	>2 projects		0.75
2	**Experience of using Geo Physical Survey Equipment (Seismic Reflection / Seismic Refraction / Electrical Resistivity / AEM etc.) for subsurface investigation with the firm through owned or outsourced equipment supported by MOU / lease Agreement**	**0.50**	
(i)	1 Project		0.25
(ii)	>1 Projects		0.50

3	**Experience of use of advanced structural health monitoring systems which consists of accelerometers, Sensors, inclinometers, anemometer, Load measuring pin etc. with software to analyze the data and infer the structural health and residual life . The experience can be through owned or outsourced equipment & software supported by MOU / lease Agreement.**	**0.75**	
(i)	1-2 Major Bridges		0.25
(ii)	3-5 Major Bridges		0.50
(iii)	> 5 Major Bridges		0.75
4	**Availability and experience in Processing of satellite imagery for the creation of Digital Elevation Model (DEM) and Digital Terrain Model (DTM) with the firm through owned or outsourced equipment supported by MOU / lease Agreement**	**0.50**	
(i)	1 Project		0.25
(ii)	>1 Projects		0.50
	Total	**2.5**	

*** Ownership Shall be ascertained through the ownership evidence.**

Notes:

(i) The Consultants owning the equipment shall be required to submit proof of ownership (such as vehicle registration certificate for vehicles and Tax invoice for equipment).

(ii) The experience of firm/sub-consultant in use of technology shall be supported by experience certificate. The experience of a firm/sub-consultant for a private concessionaire/ contractor (client) shall be considered on self-certification along with the client certificate of Government agencies not below the rank of EE/PD/GM or equivalent officer. In case of overseas experience the weightage to be assigned to the certificate for experience in use of the equipment, a self-certificate followed by the client certificate with Apostille Certificate may be accepted. Any false certification shall attract provisions of Clause 1.5(x) of Section-II (ITC) read with Clause 9.9.1 (d) of GCC.

C. In case, ownership/experience document of equipment Consultancy/sub-consultant firm is found to be false, (i) The consultancy/sub-consultant firm, as the case may be, shall be put on holiday listing (temporary debarment) for a period of 12 months.

D. Qualification and relevant experience of the proposed key personnel (60)

The weightage for various key staff is as under:

S.No.	Key personnel	Proposed Points
1	Team Leader cum Senior Highway Engineer	**12**
2	Senior Bridge Design Engineer	**10**
3	Highway Design Engineer	**7.5**
4	Traffic / Road Signage / Marking and Safety Expert	**7**
5	Environmental Specialist	**4**
6	Senior Geomatics Expert	**4.5**
7	Senior Survey Engineer	**4.5**
8	Quantity Surveyor / Documentation Expert	**2.5**
9	Land Acquisition Expert	**4**
10	Senior Hydrology and Hydraulics Expert	**2**
11	Tunnel Design Expert	**1**
12	Geophysicist	**1**
	Total	**60**

Note:

1. In case tunnels are proposed in the final alignment approved by the Authority then only the deployment of Tunnel Design Expert and Geophysicist would be done along with start of any tunnel specific geotechnical investigations by the DPR Consultant only on written instructions of the Authority for the same. The site/design office duration of the same shall also be approved by Authority based on its requirements. Further, the cost of DPR is exclusive of the cost of tunnel specific key-personnel as well as the tunnel specific geotechnical investigations. The same shall be reimbursed as per rates given below:

- **Additional Cost for Tunnel Design Expert@ Rs. 5,00,000 per month for 4 months**
- **Additional Cost for Senior Geophysicist @ Rs. 3,50,000 per month for 4 months**
- **Payment for geophysical investigation shall be made at the rate of Rs. 20 lakh for each 500 m length of tunnel.**

Marking Scheme for Key-Personnel (60 marks)

The evaluation criteria for each of the Key-Position is out of 100 Points and the same needs to be reduced in proportion to their weightage in the over-all weightage for each of the Key-positions as tabulated for different project types tabulated above.

1 . Team Leader cum Senior Highway Engineer:

S. No.	Description		Max. Points
I	**Desirable Qualification**		**25**
i)	Full/Part Time Graduation in Civil Engineering or Equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
ii)	Post-Graduation		
	Full/Part Time/ Regular Post-Graduationin Construction Management / Transportation/ Highway Engineering from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 7.5 marks. For other AICTE approved colleges give 50% marks i.e. 5 marks]		10
II	**Relevant Experience & Adequacy for the Project**		**70**
a)	Total Professional Experience		15
	<15years	0	
	15-18 years	11	
	>18-21 years	13	
	>21 years	15	

(b)	Experience in Highway Projects-Experience in Planning, project preparation and design of Highway Projects or Construction Supervision of major highway projects i.e. 2/4/6 laning of NH/SH/Expressways (2/4/6 laning of NH/SH/Expressways)		15
	<12 years	0	
	12-15 years	10	
	>15-18 years	12.5	
	>18 years	15	
c)	Experience in Similar Capacity		40
(i)	In Feasibility of 2/4/6 laning works or DPR of major highway projects i.e. 2/4/6 laning of NH/SH/Expressways in Similar Capacity (Minimum Aggregate length of 80 km)		30
	< 80km	0	
	80 km-150km	17	
	>150km-250km	20	
	> 250km -300km	23	
	> 300km -400km	26	
	Add 1 point for each additional 50 km subject to max 4 points		
(ii)	In Feasibility of 2/4/6 laning works or DPR of major highway projects i.e. 2/4/6 laning of NH/SH/Expressways in Similar Capacity- Number of Projects (Minimum length 40km)		10
	< 1 project	0	
	1 project	4	
	2- 3 projects	6	
	4-6 projects	8	
	More than 6 projects	10	
III	**Employment with Firm**		**5**
	< 1 Year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
	Total		100

2. **Senior Bridge Design Engineer**

S. No	Description	Max. Points	Max. Points
I	**Desirable Qualification**		**30**
i)	Full/Part Time Graduation in Civil Engineering or Equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
ii)	Post-Graduation		

	Full/Part Time/Regular Post-Graduation in Structural/Bridge/Earthquake Engineering from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
II	**Relevant Experience & Adequacy for the Project**		**65**
a)	Deleted		
b)	Total Experience in Bridge Projects		
(i)	Experience in Design/Construction of bridge projects on NH/SH/Expressways		15
	<8 years	0	
	8-10 years	5	
	>10-12 years	8	
	12-15years	10	
	For each additional year add 1 marks subject to a maximum additional 5 marks		
(ii)	Experience of Design 2/4 lane configuration bridges on NH/SH/Expressways		15
	<2 Projects	0	
	2-4 Projects	3	
	5-7 projects	6	
	8-10 Projects	9	
	11-13 Projects	12	
	For each additional project add 0.5 marks subject to a maximum additional 3 marks		
c)	Experience as Senior Bridge Design Engineer or Similar Capacity in Highway Design Consultancy Projects (2/4/6 laning of NH/SH/Expressways) involving design of Major Bridges (minimum 2 nos. of length more than 100m each)		35
	<2 numbers	0	
	2-4 numbers	10	
	5-6 numbers	15	
	7-8 numbers	20	
	9-10 numbers	25	
	For design of each additional project add 1 mark subject to a maximum additional 10 marks		
III	**Employment with Firm**		**5**
	< 1 Year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
			100

3. Highway Design Engineer:

SL NO.	Despcription		
	Desirable Qualificaiton		
i)	Full/Part Time Graduation in Civil Engineering or Equivalent IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks]		**15**
ii)	**Post-Graduation**		
	Full/Part Time/Regular Post-Graduation in Transportation/Highway Engineering from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 7.5 marks. For other AICTE approved colleges give 50% marks i.e. 5 marks]		**10**
II	**Relevant Experience & Adequacy for the Project**		**70**
a)	Deleted		
(b)	Experience in Design/ Pavement Design of Highway Projects (2/4/6 laning of NH/SH/Expressways)		
	<6 years	0	
	6-10years	10	
	>10-15 years	15	
	>15years	20	
c)			**50**
(i)	In Design/ Pavement Design of Highway Projects (2/4/6 laning of NH/SH/ Expressways) in Similar Capacity (Minimum aggregate length 120 km)		**30**
	<120km	0	
	120km-200km	10	
	>200km-300km	12.5	
	>300km-400km	15	
	>400km-500km	17.5	
	>500km-600km	20	
	>600-700km	22.5	
	>700-800km	25	
	Add 2.5 marks for each additional 100 km length subject to max 5 additional marks.		
(ii)	In Design/Pavement Design of Highway Projects (2/4/6 laning of NH/SH/ Expressways) in Similar Capacity – Number of Projects (Minimum length 25km)		20
	2 projects	8	
	3- 5 projects	10	
	> 5 -8 projects	12.5	
	>8 – 10 projects	15	
	>10-15 projects	20	

III	**Employment with Firm**		5
	<1 year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
			100

4. Traffic/Road Signage/Marking and Safety Expert

S. No.	Description	Max. Points	
I	**Desirable Qualification**		25
i)	Full/Part Time Graduation in Civil Engineering or Equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
ii)	**Post-Graduation**		
	Full/Part Time/Regular Post-Graduation in Traffic/ Transportation/ Safety Engineering or equivalent. Post-Graduation in Transportation planning will also be considered provided it is obtained after Graduation in Civil Engineering. For PG from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 7.5 marks. For other AICTE approved colleges give 50% marks i.e. 5 marks.		10
II			
a)	**Total Professional Experience**		10
	<6 years	0	
	6-10years	5	
	>10-15 years	7.5	
	>15years	10	
b)	Experience on Similar Projects (2/4/6 laning of NH/SH/ Expressways) in Similar Capacity		30
	<5years	0	
	5-8years	15	
	>8-10 years	18	
	>10-12 years	20	
	>12-15 years	25	
	>15-18 years	28	
	>18 years	30	
c)	Experience as Traffic and Safety Expert / Traffic Engineer or in Similar Capacity in Highway Projects (2/4/6 laning of NH/SH/Expressways) (Minimum aggregate length 120 km)		30
	<120km	0	
	120km-200km	10	
	>200km -300km	15	

	>300km-400km	20	
	>400km-500km	25	
	>500km-600km	27.5	
	>600km	30	
III	**Employment with Firm**		5
	<1 Year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 additional marks		
			100

5. Environmental Specialist:

S. No.	Description		Max. Points
I	**Desirable Qualification**		
i)	Full/Part Time Graduation Graduate in Civil Engineering / Environment Engineering / Masters in Environment Science from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks.		15
ii)	**Post-Graduation**		
	Full/Part Time/Regular Post-Graduation or Doctorate in Environmental Engineering/Environment Management or equivalent. For PG from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 7.5 marks. For other colleges give 50% marks i.e. 5 marks		10
II	**Relevant Experience & Adequacy for the Project**		70
a)	Total Professional Experience		15
	<6 years	0	
	6-8 years	11	
	>8-10 years	13	
	>10 years	15	
b)	Experience in Highway Projects- Experience in Environment impact assessment of Highway Projects (2/4/6 laning of NH/SH/Expressways)		25
	<5 years	0	
	5 -7 years	19	
	>7-10 years	22	
	>10 years	25	
	Experience as Environmental Specialist or in similar capacity in Highway Projects (2/4/6 laning of NH/SH/Expressways)		15
	<2 projects	0	
	2- 4 projects	12	
	5-7 projects	14	
	>7 projects	15	
d)	Experience as Environmental Specialist or in Similar Capacity in Highway Projects(2/4/6 laning of NH/SH/Expressways)		15

	<5 years	0	
	5 -7 years	12	
	>7-10 years	14	
	>10 years	15	
III	**Employment with Firm**		5
	<1 year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 additional marks		
			100

6. Senior Geomatics Expert:

S. No.	Description		Max. Points
I	**Desirable Qualification**		30
i)	Full Time Graduation in Civil Engineering or Equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
ii)	**Post-Graduation**		15
	Full Time/Regular Post-Graduation in Civil Engineering (Geomatics/Geoinformation Technology/Geodesy and Geoinformatics/Geospatial Information Sciences) from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks]		15
II	**Relevant Experience & Adequacy for the Project**		65
a)	**Total Professional Experience**		15
	<12years	0	
	12-15 years	11	
	>15-18 years	13	
	>18 years	15	
(b)	Experience in Geomatics Assignments (Handling Aerial/Mobile LiDAR data, Drone (UAV) surveys, and GIS platforms like ArcGIS/QGIS, etc) for Planning, surveying, remote sensing, GIS, project preparation on Highways/Airports/Railways/Irrigation/Hill Roads/Hydel Projects		20
	<12 years	0	
	12-15 years	14	
	>15-18 years	17	
	>18 years	20	
c)	**Experience in Similar Capacity**		30
(i)	Experience as Geomatics Expert (or Equivalent Position) in Geomatics Assignments for landslides/rockfall on Highways/Airports/Railways/Irrigation/Hill Roads/Hydel Projects		20
	<5 years	0	
	5-8 years	10	
	>8-12 years	14	
	>12-15 years	17	
	>15 years	20	

(ii)	Expierence in LiDAR (Mobile/Aerial) data processing, Drone (UAV) surveys, or GIS-based Alignment in at least 2 major Infrastructure Project DPRs.		10
	< 2 projects	0	
	2-5 projects	7	
	> 5 Projects	10	
III	**Employment with Firm**		5
	< 1 Year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
	Total		**100**

7. Senior Survey Engineer:

S. No.	**Description**		**Max. Points**
I	**Desirable Qualification**		25
i)	For Full/Part Time Diploma in Civil Engg or Diploma in Surveying or equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks . for institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 13.5 marks. For other govt. approved colleges give 50% marks i.e. 9 marks.		18
ii)	Full/Part Time/Part Time Graduation or Post Graduation in Civil Engineering from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 18.75 marks. For other AICTE approved colleges give 50% marks i.e. 12.5 marks.		25
II	**Relevant Experience & Adequacy for the Project**		70
a)	**Total Professional Experience**		15
	<10 years	0	
	10-12 years	11	
	>12-15 years	13	
	>15 years	15	
b)	**Experience in Highway Projects**		25
i)	Experience in Similar Projects(2/4/6 laning of NH / SH / Expressways) in project preparation/ Construction / Construction Supervision		20
	<8years	0	
	8 -10 years	15	
	>10-12 years	17	
	>12 years	20	
ii)	Knowledge and understanding of modern Computer based method of Surveying such as LIDAR Survey (ground or aerial), remote sensing, GIS mapping etc. Certification from an accredited institute to be submitted for validation.		5
	Yes	5	
	No	0	

c)	Experience as Survey Engineer or in Similar Capacity for project preparation of highway project (2/4/6 laning of NH/SH/Expressways) (Minimum Aggregate Length of 120km)		30
	<120km	0	
	120km-200km	10	
	>200km-300km	15	
	>300km-400km	20	
	>400km-500km	25	
	>500km	30	
III	**Employment with Firm**		5
	<1 year	0	
	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 additional marks		
			100

8. QUANTITY SURVEYOR/DOCUMENTATION EXPERT

S. No.	**Description**		**Max. Points**
I	**Desirable Qualification**		**25**
i)	Full/Part Time Graduation in Civil Engineering. For Graduation from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other colleges give 50% marks i.e. 7.50 marks		15
ii)	Full/Part Time Post-Graduate Degree or Diploma in Quantity Surveying [AICTE/UGC Approved]		10
II	**Relevant Experience & Adequacy for the Project**		70
a)	**Total Professional Experience**		15
	<10 years	0	
	10-12 years	11	
	>12-15 years	13	
	>15 years	15	
b)	**Experience in Highway Projects- Experience in preparation of Bill of Quantities, Contract documents and documentation for major highway projects (2/4/6 laning of NH/SH/Expressways) in Assistant Quantity Surveyor capacity or Higher Designation**		25
	<8 years	0	
	8 -10 years	12.5	
	>10-12 years	15	
	>12-15 years	17.5	
	>15-18 years	20	
	>18-20 years	22.5	
	>20 years	25	
c)	**Experience as Quantity Surveyor or in Similar Capacity in Highway Projects (2/4/6 laning of NH/SH/Expressways) (Minimum Aggregate length of 120 km) Consider full**		30

	length experience in Quantity Surveyor or in Similar Capacity and consider 2/3 length experience in case of Assistant Quantity Surveyor or in Similar Capacity		
	<120km	0	
	120km-200km	15	
	>200km – 300km	17.5	
	>300km -400km	20	
	>400km -500km	22.5	
	>500km -600km	25	
	>600km add 2.5 marks for each additional 100 km experience subject maximum 5 additional marks		
III	**Employment with Firm**		**5**
	<1 year		0
	1 year		2
	Add 1 marks for each subsequent year subject to maximum of 3 additional marks		
			100

9. Land Acquisition Expert:

S.No	**Description**		**Max. Points**
I	**General Qualification**		25
i)	Graduation or equivalent in any discipline from Top 50 ranked universities as per NIRF ranking released by Ministry of Education (available as on bid due date) or Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 15 marks. For Other Colleges give 50% marks i.e. 10 marks.		20
ii)	**Post-Graduation in Law**		5
II	Relevant Experience & Adequacy for the Project		70
a)	**Total Professional Experience**		15
	<15 years	0	
	15-17 years	11	
	>17-20 years	13	
	>20 years	15	
b)	**Experience in Land Acquisition works of Government/Authority**		20
	<10 years	0	
	10 -12 years	15	
	>12-15 years	17	
	>15 years	20	
c)	**Experience in Land Acquisition works in Highway/road sector**		25
	Nil project	0	
	1 project	19	
	2 projects	22	
	3 projects	25	
d)	Retired Revenue officer at the level of ADM/SDM / Tehsildar		10
III	**Employment with Firm**		5
	<1 year		0

	1 year	2
	Add 1 marks for each subsequent year subject to maximum of 3 additional marks	
		100

10 . Senior Hydrology and Hydraulics Expert:

S. No.	Description		Max. Points
I	**Desirable Qualification**		30
i)	Full Time Graduation in Civil Engineering or Equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks		15
ii)	**Post-Graduation**		15
	Full Time/Regular Post-Graduation in Civil Engineering (Hydrology/Hydrogeology/Water Resources/Water Technology) from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For other AICTE approved colleges give 50% marks i.e. 7.5 marks]		15
II	**Relevant Experience & Adequacy for the Project**		65
a)	**Total Professional Experience**		15
	<12years	0	
	12-15 years	11	
	>15-18 years	13	
	>18 years	15	
(b)	Experience in Hydrology and Hydraulics Assignments (Hydraulic modelling by software such as HEC-RAS, MIKE 11/21, or SWMM. Experience in calculating Scour Depth for bridge foundations etc) for landslides/rockfall/river training/bank protection works on Highways/Airport/Railways/Irrigation/Hill Roads/Hydel Projects		20
	<10 years	0	
	10-12 years	14	
	>12-15 years	17	
	>15 years	20	
c)	**Experience in Similar Capacity**		30
(i)	Experience as Hydrology and Hydraulics Expert (or Equivalent Position) in Hydrology and Hydraulics Assignments for landslides/rockfall/river training/bank protection works on Highways/Airport/Railways/Irrigation/Hill Roads/Hydel Projects		20
	<5 years	0	
	5-8 years	10	
	>8-12 years	14	
	>12-15 years	17	
	>15 years	20	
(ii)	Experience in 2D Hydraulic Modelling (HEC-RAS/MIKE/TUFLOW) and design of Urban Drainage / Stormwater Systems in at least 2 infrastructure DPR Projects.		10
	<2 Projects	0	
	2-5 Projects	7	
	>5 Projects	10	
III	**Employment with Firm**		5
	< 1 Year	0	

	1 year	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
	Total		**100**

11 . Tunnel Design Expert:

Sr. No.	Description		Max. Points
I	**General Qualification**		30
i)	Full/Part Time Graduation in Civil Engineering/ Tunnel Engineering / Mining Engineering from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
ii)	**Post-Graduation** Full/Part Time/Regular Post-Graduation in Tunnel Engineering/Mining Engineering or equivalent For PG from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks		15
II	**Relevant Experience & Adequacy for the Project**		65
a)	**Total Professional Experience**		
	<15 years	0	
	15-20 years	8	
	>20 -25years	9	
	>25years	10	
b)	**Experience in Tunnel Projects**		24
	(i) Professional Experience in handling major tunnel projects (Road/Rail/Metro)		8
	<10 years	0	
	>=10-12 years	6	
	>12 -14 years	7	
	>14 years	8	
	(ii) Experience of major tunnel construction/construction supervision projects (Road/Rail/Metro)		
	<10 years	0	
	>=10-12 years	6	
	>12 -14 years	7	
	>14 years	8	
	(iii) Experience in preparation of DPR or Feasibility report of major tunnel projects (Road/Rail/Metro)		
	<10 years	0	
	>=10-12 years	6	
	>12 -14 years	7	
	>14 years	8	
c)	**Experience in Similar Capacity**		31

	(i) Professional Experience as Tunnel Design Engineer (Structural)		
	<8 years	0	
	>=8-10 years	6	
	>10 – 12 years	7	
	>12 years	8	
	(ii) Experience as Tunnel Design Engineer (Structural) of major tunnel construction/construction supervision projects (Road/Rail/Metro)		
	<8 years	0	
	>=8 – 10 years	6	
	>10-12 years	7	
	>12 years	8	
	(iii) Experience as Tunnel Design Engineer (Structural) of major tunnel for preparation of DPR projects (Road/Rail/Metro)		
	<8 years	0	
	>=8 – 10 years	6	
	>10-12 years	7	
	>12 years	8	
	(iv)Experience as Tunnel Design Engineer (Structural) in preparation of DPR/ Feasibility report of major tunnel projects (Road/Rail/Metro) using NATM		
	< 3 projects	0	
	>=3-5 projects	6	
	5 or more projects	7	
III	**Employment with Firm**		5
	Less than 1 Year	0	
	1-2 years	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
	Total		**100**

12. Senior Geophysist

Sr. No.	Description	Max. Points
I	**General Qualification**	30
i)	Full/Part Time Graduation in Geophysics/Geo science/ Earth science or equivalent from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks	15
(ii)	**Post-Graduation**	15
	Full/Part Time/Regular Post-Graduation in Geophysics/Geo science/ Earth Science or equivalent For PG from any IIT/NIT/IISC or Top 50 ranked engineering institutes as per NIRF ranking released by Ministry of Education (available as on bid due date) or Engineering Colleges of repute of Foreign Countries give full marks. For institutes ranked between 51-100 as per NIRF ranking released by Ministry of Education (available as on bid due date) give 75% marks i.e. 11.25 marks. For other AICTE approved colleges give 50% marks i.e. 7.5 marks	
II	Relevant Experience & Adequacy for the Project	

a)	**Total Professional Experience**	15	
	<15 years	0	
	15-20 years	10	
	>20 -25years	13	
	>25years	15	
b)	**Experience in Relevant works**		50
	(i) Professional Experience in handling tunnel/ mineral and oil exploration projects		
	<10 years	0	
	>=10-12 years	9	
	>12 -14 years	11	
	>14 years	12	
	(ii) Experience of carrying out AEM survey for tunneling/ mineral and oil exploration or any other similar work for area of more than 2.7 sq km		
	< 2 projects	0	
	2 projects	9	
	3 projects	11	
	4 or more projects	12	
	(iii) Processing, Interpreting, generating 3D resistivity model of AEM survey's raw data for tunneling/ mineral and oil exploration or any other similar work for area of more than 2.7 sq km		
	< 2 projects	0	
	2 projects	9	
	3 projects	11	
	4 or more projects	12	
	iv) Experience in carrying out AEM survey, processing, interpreting, generating 3D resistivity of AEM survey's raw data for major tunnel work (Rail/Road/Metro)		
	< 3 projects	0	
	3 projects	9	
	4 projects	12	
	5 or more projects	14	
II	**Employment with Firm**		5
	Less than 1 Year	0	
	1-2 years	2	
	Add 1 marks for each subsequent year subject to maximum of 3 marks		
	Total		**100**

For all the above Key-Positions the following shall be noted:

1. AICTE (Major/Core Branch of Engineering/Technology and their relevant/ appropriate course leading to degree in Engineering/Technology), 2017 shall be considered for equivalence of disciplines.

2. For gaps not addressed in the above notification, the same shall be decided by a committee of the Authority with atleast one educationalist as a committee member.

Note:

1. **Self-Certified Undertakings on INFRACON if not supplemented with Client Issued Certificates**, shall not be considered for Evaluation.

2. **Retired Govt. Officers shall upload the promotion orders** to equivalent/similar capacity posts on INFRACON.

Marking Scheme for Current DPR Rating (30 points)

	Current DPR Rating for Normal Highway projects as on bid due date	Max Points
1	100-90	30
2	90-80	20
3	80-70	15
4	70-60	10
5	Less than 60	0

The rating shall be calculated for both JV Members and weighted average shall be used for calculating the marks of the JV for the purposes of tender evaluation as under: Share of Lead Partner in JV = S1
Share of Other Partner in JV = S2 Rating
of Lead Partner = R1 Rating of Other JV
Partner = R2
Weighted Average Rating of both JV Partners = S1 x R1 + S2 x R2
Note: For projects with tentative project <= 500 Cr, in case of new entrants as part of JV
i.e. JV members with no historical rating, the rating of only the other partner shall be considered as the weighted Average Rating of both JV Partners.

Assumptions to be made regarding Similar Capacity for various positions

1. Team Leader cum Senior Highway Engineer

i) On behalf of Consultant / Contractor: Team Leader/Senior Highway Engineer.

ii) In Government Organizations: Superintending Engineer (or equivalent) and above

2. Senior Bridge Design Engineer

i) On behalf of Consultant: Senior Bridge Design Engineer/Bridge Engineer/ Bridge Design Engineer

ii) In Government Organizations: Executive Engineer (or equivalent) and above

3. Highway Design Engineer

i) On behalf of Consultant: Highway Engineer/Highway Design Engineer/Pavement Engineer.

ii) In Government Organizations: Executive Engineer (or equivalent) and above

4. Senior Geomatics Expert

Entity	Equivalent Position / Designation	Working in
Government/PSU	Executive Engineer / Sr Manager / DGM	GIS-based alignment/LiDAR
Contractor	Manager (Geomatics)	Looking after Execution of LiDAR/GIS surveys
Consultant	Survey & Geomatics Engineer or GIS Expert	Validation of topographical data, LiDAR point cloud processing, and ensuring sub-meter accuracy in ROW mapping.

5. Traffic / Road Signage / Marking and Safety Expert

i) On behalf of Consultant: Traffic Engineer/Transportation Engineer/Road Safety Expert

ii) In Government Organizations: Executive Engineer (or equivalent) and above

iii) On behalf of Contractor: Traffic Engineer/Transportation Engineer/ Road Safety Expert

6. Senior Survey Engineer

i) On behalf of Consultant: Senior Survey Engineer/ Survey Engineer/ Senior Surveyor

ii) In Government Organizations: Surveyor/Engineer (or equivalent)

iii) On behalf of Contractor: Senior Survey Engineer/Survey Engineer/ Senior Surveyor

7. Environmental Specialist

i) On behalf of Consultant /Contractor: Environmental Engineer/ Environmental Specialist/ Environmental Expert

ii) In Government Organization: Officers who has dealt environment/forest matter.

8. Quantity Surveyor/Documentation Expert

i) On behalf of Consultant /Contractor: Quantity Surveyor

ii) In Government Organizations: Assistant Engineer (or equivalent)

9. Land Acquisition Expert

i) On behalf of Consultant /Contractor: Land Acquisition Expert

ii) In Government Organizations: ADM, SDM, Tehsildar,

10. Senior Hydrology and Hydraulics Expert

Entity	Equivalent Position / Designation	Working in
Government/PSU	Executive Engineer (Design) or Director (Hydrology/Water Resources)	Approval of HFL (Highest Flood Level) data, waterway Clearances for bridges and GAD approvals
Contractor	Design Manager (Hydraulics & Drainage) or Senior Drainage Engineer	Finalizing the sizing of cross-drainage (CD) structures and designing the longitudinal drainage system.
Consultant	Hydrology Expert or Senior Water Resources Engineer	Review of rainfall data, catchment area analysis, and hydraulic modelling (using software like HEC-RAS or MIKE)

Note: While carrying out evaluation of key personnel, the experience in similar capacity is also a criteria of evaluation and assumptions to be made regarding similar capacity have been mentioned above. However, if a key personnel has worked in next lower category to the similar capacity, the marks allotted to key personnel in the category 'experience in similar capacity' shall be reduced to two thirds of marks in this category.This shall be applicable for evaluation of all key personnel.

BIDDING FORMS

Technical Proposal

(Form-T1)

TECHNICAL PROPOSAL

Form T-1: Proposal Form (Covering Letter)

(Ref ITC-clause 9.2)

(To be submitted as part of Technical Proposal, along with supporting documents, ifany) (on Consultant's Letter-head)

(Strike out alternative phrases not relevant to you)

Consultant's Name_____

[Address and Contact Details]

Consultant's Reference No._____ Date…….

To

The President of India, through Head

of Procurement Procuring Organisation

[Complete address of the Procuring Entity]

Ref: Your RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services Sir/ Madam

1. We, the undersigned, offer to provide consulting services in accordance with your above-referenced Request for Proposals (RFP) and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal and a separately uploaded Financial Proposal (for QCBS)/PBG Quote (for QBS). Commercial information about our organization is enclosed in Form T-1A.

   ☐ We are submitting our Proposal without any Sub-consultants or JV.

   Or

   ☐ We are submitting our Proposal with the following firms as Sub-consultants:
   {Insert a list with each Sub-consultant's full name and address.}

   Or

   ☐ We are submitting our proposal as a joint venture with *{Insert a list with eachmember's full name and legal address and indicate the lead member}*. We have attached a copy of the following document signed by every participating member, which details the (likely) legal structure and the confirmation of jointand severable liability of the members of the said joint venture.

      ☐ our letter of intent to form a joint venture

      ☐ the JV agreement

2) Our Eligibility and Qualifications to participate

   a) We confirm that we continue to comply with all the eligibility (including theabsence of conflict of interest and debarment) and qualification criteria stipulated in this RFP. We shall be dutybound to proactively inform you of any change in our compliance with these criteria as soon as it occurs.

   b) We confirm that we don't have any Conflict of Interest as stipulated in this RFP. We shall be duty bound to proactively inform you of any change in ourcompliance with Conflict-of-Interest stipulations as soon as it occurs.

   c) We confirm that all information provided in the Proposal uploaded on INFRACON and in the Appendices is true and correct and all documents accompanying such Proposal are true copies of their respective originals. The INFRACON Team I.D no._____.

3) Our Proposal to deliver Services:

We offer to deliver the subject Services of requisite Performance Standards and within Delivery Schedules in conformity with the RFP Document. The relevant details are submitted in Form T-2 to Form T-15.

4) Prices:

We hereby offer to perform the Services at our lowest prices and rates mentioned in the separately uploaded Financial Proposal (in QCBS mode)/ Cost Estimate Provided by the Authority (in QBS mode). It is hereby confirmed that the prices quoted therein by us/ are:

(a) Based on the terms of delivery and delivery schedule confirmed by us; and

(b) Cost break-up of the quoted cost, showing inter-alia costs (including taxes andduties thereon) of all the included incidental Goods/ Works considered necessaryto make the proposal self-contained and complete, has been indicated therein,and

(c) based on the terms and mode of payment as stipulated in the RFP Document. We have understood that if we quote any deviation from the terms and mode of payment, our Proposal is liable to be rejected as nonresponsive, and

(d) have been arrived at independently, without restricting competition, any consultation, communication, or agreement with any other Consultant orcompetitor relating to:

   i) those prices; or

   ii) the intention to submit an offer; or

   iii) the methods or factors used to calculate the prices offered.

(e) Have neither been nor shall be knowingly disclosed by us, directly or indirectly,to any other Consultant or competitor before the Proposal opening unless otherwise required by law.

5) We declare regarding commissions or fees paid or are to be paid to agents, representatives, or commission agents concerning the selection process or execution and performance of this Contract, that:

☐ No such commissions or gratuities or fees have been paid are to be paid by usto any third party

Or

☐ We have paid/ are due to pay the following commissions/ gratuities/ fees:

----------.

(indicate the name and address of the agent, representative, or commission agent, theamount

and currency, and the purpose of the commission or fee.)

6) No change in the Key Experts

Except as stated in the RFP Document, we undertake to negotiate a Contract basedon the proposed Key Experts. We accept that substituting Key Experts for reasonsother than those stated in ITC-Clause 12.3 may lead to the termination of contractnegotiations.

7) Affirmation of terms and conditions of the RFP Document:

We have understood the complete terms and conditions of the RFP Document. Weaccept and comply with these terms and conditions without reservations, although we are not signing and submitting some of the RFP document's sections. Deviations,if any, are submitted by us in Form T-14: 'Terms and Conditions - Compliance'. We also explicitly confirm acceptance of the Arbitration Agreement as given in the RFPDocument.

8) Bid Security: We have submitted the Bid Security as

a) Earnest Money Deposit (EMD) for the amount of Rs. (Rupees……) valid upto ----------in favour of …..... in the form of Insurance Surety Bonds/ Payment online/ Bank Guarantee in Form T-16, with reference number……dated ..... , issued by… .....as per the RFP Documents. or

b) Bid Securing Declaration (BSD, in lieu of Bid Security, if permitted in TIS) in stipulated format vide Form T-17.

9) Abiding by the Proposal's Validity

We agree to keep our Proposal valid for acceptance for a period upto---------- , as required in the RFP Document, or for a subsequently extended period, if any, agreedto by us, and are aware of penalties in this regard stipulated in the RFP Document incase we fail to do so.

10) Non-tempering of Downloaded RFP Documents and Uploaded Scanned Copies We confirm that we have not changed/ edited the contents of the downloaded RFPDocument. We realise that any change noticed at any stage, including after thecontract award, shall be liable to punitive action in this regard stipulated in the RFP Document. We also confirm that scanned copies of documents/ affidavits/undertakings uploaded during the shortlisting process and this RFP are valid, true, and correct to the best of our knowledge and belief. We shall be responsible if any dispute arises regarding the validity and truthfulness of such documents/ affidavits/ undertakings. We undertake to submit for scrutiny, on-demand by the Procuring Entity, originals and self-certified copies of all such certificates, documents, affidavits/ undertakings.

11) A Binding Contract:

We further confirm that if our proposal is accepted, all such terms and conditions shall continue to be acceptable and applicable to the resultant contract, even thoughsome of these documents may not be included in the contract Documents submittedby us. We do hereby undertake that until a formal contract is signed or issued, thisProposal and your written Letter of Award shall constitute a binding contract between us.

12) Performance Guarantee and Signing the contract

We further confirm that if our proposal is accepted, we shall provide you with performance security of the required amount stipulated in the RFP Document for thedue performance of the contract. We are fully aware that in the event of our failureto deposit the required security amount and/ or execute the agreement, the Procuring Entity has the right to avail of any or all punitive actions stipulated in the RFP Document.

13) Penalties for misinterpretation or misrepresentation:

We hereby confirm that the particulars given above are factually correct and nothing is concealed and undertake to advise any future changes to the above details. We understand that any misinterpretation or misrepresentation would violate the Codeof Integrity and attract penalties, as this RFP Document mentions.

14) Consultant's Authorized Signatory:

a) Full Name: _____

b) Designation: _____

c) Signing as:

☐ A sole proprietorship firm. The person signing the Proposal is the sole proprietor/ constituted attorney of the sole proprietor,

☐ A partnership firm. The person signing the Proposal is duly authorised being a partner to do so under the partnership agreement or the general power of attorney,

☐ A company. The person signing the Proposal is the constituted attorney by a resolution passed by the Board of Directors or in pursuance of the Authority conferred by the Memorandum of Association.

☐ A Society. The person signing the Proposal is the constituted attorney.

We confirm that we are duly authorized to submit this Proposal and make commitments on behalf of the Consultant. We acknowledge that our digital/digitizedsignature is valid and legally binding. Supporting documents are submitted herewith.

Documents to be submitted: Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution

15) Rights of the Procuring Entity to Reject Proposal(s):

We further understand that you are not bound to accept the highest scoring proposal or any Proposal you may receive against your above-referred RFP Document.

…….. (Signature with date)

…….. (Name and designation)

Duly authorized to sign Proposal for and on behalf of

[name, address, and seal of Consultant]

Form T-1A: Consultant's Commercial Information

Note: Consultant shall fill in the following information and enclose certified copies of the documentary proof/ evidence to substantiate the corresponding statement wherever necessary and applicable.

(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you) 1) Consultant particulars:

a) Name of the Consultant:…….
b) Corporate Identity No. (CIN): ……..
c) Registration, if any, with The Procuring Entity: ……..
d) Place of Registration/ Principal place of business" ……..
e) Complete Postal Address: ……..
f) Pin code/ ZIP code: ……
g) Telephone nos. (with country/ area codes): ……
h) Mobile Nos.: (with country/ area codes): ……..
i) Contact persons/ Designation: ……
j) Email IDs: ……

Submit a self-certified copy of the registration certificate – in case of a partnership firm – Deed of Partnership; in case of a Company – Notarized and certified copy of its Registration; and in case of Society – its Byelaws and registration certificate of the firm.All these documents should be Notarized.

2) Taxation:

a) PAN number: …….
b) Type of GST Registration as per the Act (Normal Taxpayer, Composition, Casual Taxable Person, SEZ, etc.): ……
c) GSTIN number..... in Consultant and Service Site States
d) Registered/ Certified Offices from where the Services would be supported and Place of Service Site for GST Purpose: ……
e) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts): ……
f) Comments on Tax liability and the breakup of CGST, SGST, IGST and Cess inthis assignment:

Documents to be submitted: Self-attested Copies of PAN card and GSTIN Registration.

3) Trade Registrations and Licences

We have the following registrations/ licences required for the performance of thisService (tick as applicable). Authenticated copies of these are enclosed herewith:

☐ EPF
☐ ESI
☐ Labour Licence
☐ Any other required ----------.

4) Consultant's Authorized Representative Information Name:

a) Address:
b)

c) Telephone/ Mobile numbers: d) Email Address:

(Signature with date)

…….. (Name and designation)

Duly authorized to sign Proposal for and on behalf of

[name, address and seal of Consultant]

DA: As above

(Form-T-2)

Details of projects for which Technical Proposals have been submitted

Sl. No.	Name of Project	Consultancy Package No.	Names of Proposed Key Personnel	Infracon Team ID
1				
2				
3				
4				

Form-T3

FIRM'S REFERENCES

Relevant Services Carried out in the Last Seven Years Which Best Illustrate Qualifications

The following information should be provided in the format below for each reference assignment for which your firm, either individually as a corporate entity or as one of the major companies within a consortium, was legally contracted by the client:

<table>
<tr><td colspan="2">Assignment Name:</td><td>Country:</td></tr>
<tr><td colspan="2">Location within Country :</td><td>Professional Staff Provided by your firm:</td></tr>
<tr><td colspan="2">Name of Client :</td><td>No. of Staff :</td></tr>
<tr><td colspan="2">Address :</td><td>No. of Staff Months :</td></tr>
<tr><td>Start Date
(Month / Year)</td><td>Completion Date
(Month / Year)</td><td>Approx. Value of Services : (in INR/current USD) :</td></tr>
<tr><td colspan="2">Name of JV/Association Firm(s) if any :</td><td>No. of Months of Professional Staff provided by Associated Firm(s)</td></tr>
<tr><td colspan="3">Status of your Company in the Assignment i.e., Sole/Lead Member/Other Member/Associate</td></tr>
<tr><td colspan="3">Narrative Description of Project :</td></tr>
<tr><td colspan="3">Description of Actual Services Provided by your Company:</td></tr>
</table>

Signature of Authorised Representative

(Certificate from Employer regarding experience should be furnished

Form- T4

SITE APPRECIATION

Shall give details of site as per actual site visit and data provided in RFP and collected from site supported by photographs to demonstrate that responsible personnel of the Consultant have actually visited the site and familiarized with the salient details/complexities and scope of services.

Form- T5

Composition of the Team Personnel and the task Which would be assigned to each Team Member

I. Technical/Managerial Staff

Sr .No.	Name	Position	Task Assignment 1.
2.			
3.			
4.			
…….			

II. Support Staff

Sr. No.	Name	Position	Task Assignment
1.			
2.			
3.			
4.			
….			
….			

Form- T6

APPROACH PAPER ON METHODOLOGY PROPOSED FOR PERFORMING THE ASSIGNMENT

The approach and methodology will be detailed precisely under the following topics.

1) Methodology for services, surveying, data collection[not more than 2 pages] and analysis

2) Quality Assurance system for consultancy assignment [not more than 1 page]

3) The key challenges foreseen and proposed solutions will be detailed precisely under the following topics

   a) proposed alignment and bypass required

   b) land acquisition requirements

   c) access control, rehabilitation of existing road, drainage and utilities

   d) adoption of superior technology along with proof (to be submitted in Form T9)

Replies to items 3) a) to c) should be limited to six A4 size pages in 1.5 space and 12 font including photographs, if any

Form- T7

Details of Material Testing Facility

1. State whether the Applicant has in-house Material Testing Facility Available / Outsourced / Not Available
2. In case answer to 1 is Available, attach a list of Lab equipment and facility for testing of materials and location of laboratory
3. In case laboratory is located at a distance of more than 400 km from the project site, state arrangements made / proposed to be made for testing of materials
4. In case answer to 1 is Outsourced / Not Available state arrangements made / proposed to be made for testing of materials.

Form- T8

Facility for Field investigation and Testing

1. State whether the Applicant has in-house Facility for

   a) Geo-technical investigation Available (created in-house at site)/ Outsourced/ Not Available

   b) Pavement investigation Available (created in-house at site)/ Outsourced/ Not Available

2. In case answer to 1 is Available (created in-house at site) a list of field investigation and testing equipments available in-house

3. In case answer to 1 is Outsourced/ Not Available arrangements made/proposed to be made for each of above Field investigation and testing

4. For experience in LIDAR or better technology for topographic survey, GPR and Induction Locator or better technologies for detection of sub-surface utilities and digitization of cadastral maps for land acquisition, references need to be provided in following format:

REFERENCES

Relevant Services Carried Out Which Best Illustrate Qualifications

The following information should be provided in the format below for each reference assignment for which your firm, either individually as a corporate entity or as one of the major companies within a consortium, was legally contracted by the client:

<table>
<tr><td colspan="2">Assignment Name:</td><td>Country:</td></tr>
<tr><td colspan="2">Location within Country :</td><td>Professional Staff Provided by your firm:</td></tr>
<tr><td colspan="2">Name of Client :</td><td>No. of Staff :</td></tr>
<tr><td colspan="2">Address :</td><td>No. of Staff Months :</td></tr>
<tr><td colspan="3">Technology Used:</td></tr>
<tr><td>Start Date
(Month / Year)</td><td>Completion Date
(Month / Year)</td><td>Approx. Value of Services : (in INR/current USD) :</td></tr>
<tr><td colspan="2">Name of JV/Association Firm(s) if any :</td><td>No. of Months of Professional Staff provided by Associated Firm(s)</td></tr>
<tr><td colspan="3">Status of your Company in the Assignment i.e., Sole/Lead Member/Other Member/Associate</td></tr>
<tr><td colspan="3">Narrative Description of Project :</td></tr>
<tr><td colspan="3">Description of Actual Services Provided by your Company:</td></tr>
</table>

Signature of Authorised Representative

(Certificate from Employer regarding experience should be furnished)

Form- T9

Office Equipment and software

Attach a list of office equipment and software owned by the Applicant

Form- T10

(Curriculum Vitae as per INFRACON)

CVs of the Key Personnel should be uploaded on INFRACON and the hard copies of the CVs as uploaded on the INFRACON is to be submitted along with the Technical Proposals. The self evaluation of each of the CVs also to be submitted as part of Technical Proposal.

Form-T11: Format for submission of Residual DPR Bid Capacity "R" (TO BE FILLED BY THE SOLE CONSULTANT & IN CASE OF JV, SEPARATELY BY JV PARTNERS BIDDING FOR THE ASSIGNMENT)
For Normal Highway Projects

(i) Details of Total Length of DPR/Feasibility completed for 2 lane with paved shoulder/4/6 laning of State Highways/National Highways/Expressways in the last 10 Financial Years.

Sl No.	Project Description along with Client Department	Lane Configuration of planned highway	Length of the Final Alignment (in KM)	Date of Completion Certificate of DPR assignment/ Date of issuance of LOA of Civil Work (attach copy of completion certificate/copy of LOA as applicable)	Project Type (DPR/ Feasibility)	In case of JV, share of Contract Fee (%)	Completed Length (CL) calculation * *To be calculated after considering factors given in Note 1-4 given at point (iii) below
1	2	3	4	5	6	7	8

Format for undertaking by the firm for completed DPR /Feasibility Projects:

The undersigned on behalf of ..... (name of Consulting firm) certify that the above are correct and true and the consulting firm/JV was not at default on these project assignments. It is also agreed that any misrepresentation of facts and false information shall make the firm/JV liable for penal action as stipulated in the RFP.

Date..... (dd/mm/yyyy)

[Signature of authorized representative of the Firm]

(ii) Length of DPR/Feasibility Projects in Hand wherein Completion Certificate has not been issued by Executing Government Agency or the Tender of the Civil Work has not been awarded by the Executing Government Agency. This length shall also include the projects for which the firm has emerged as the H-1 bidder but the LOA have not been issued.

Sl No.	Project Description along with Client Department	Lane Configuration of planned highway	Lane Configuration of planned highway	Date of issuance of LOA for consultancy assignment (attach copy of LOA as applicable)	Project Type (DPR/Feasibility)	In case of JV, share of Contract Fee (%)	Running Projects (RP) calculation* *To be calcuated after considering factors given in Note1-4 given at point (iii)

							below
1	2	3	4	5	6	7	8

Format for undertaking by the firm for under implementation/running DPR/Feasibility Projects:

The Undersigned on behalf of (name of Consulting firm) certify that the firm details given above are correct and true and the consulting firm/JV was not at default on these project assignments. It is also agreed that any misrepresentation of facts and false information shall make the firm/JV liable for penal action as stipulated in the RFP.

(iii) Notes:

1. **For DPR of two laning projects, the length shall be considered after multiplication of factor of 0.50**

2. **For Feasibility Projects the length shall be considered after multiplication of factor of 0.60**

3. **In case of experience as JV, weighted average based on their share in the JV shall be considered for experience. JV share shall only be corroborated as per MoU of JV or Client Certificate only.**

4. **In case of experience of Associate, the share as per MoU subject to Maximum 25% shall be considered. In case MoU does not specify the share the same can be considered as per certification of Statutory Auditors of the Associate Member.**

(iv) Turnover Factor (TF)= Multiplication factor based on Turnover

Average Turnover of Last 5 Financial Years	Factor "B"
Upto 50 Cr	1.00
50-250 Cr	1.25
>250 Cr	1.50

(v) Residual DPR Bid Capacity requirements "R" shall be calculated for each JV member who has bid for the consultancy assignment and the weighted average as per Share in JV shall be calculated using formula as under:

R= CL x TF - RP

Where

CL= Details of Total Length of DPR/Feasibility completed for 2 lane with paved shoulder /4/6 laning of State Highways/ National Highway/Expressway in the last 10 FY.

RP= Length of DPR/Feasibility Projects in Hand wherein Completion Certificate has not been issued by Executing Government Agency or the Tender of the Civil Work has not been awarded by the Executing Government Agency. This length shall also include the projects for which the firm has emerged as the H-1 bidder but the LOA have not been issued.

Clarification: In case the DPR assignment is divided into packages foraward of work, the length of the package for which civil work has been awarded by Government Agency should be considered in Completed Length (CL) and not is Running Project length.

TF=Turnover Factor

Self- Assessment of Residual DPR Bid Capacity "R" by the consultancy firm (in case of JV, separately by the JV partners) on eligibility as per technical capacity provisions shall be submitted:

(a) Residual DPR Bid Capacity of Sole Bidder

Total value of CL assessed by Sole Bidder (in KM)= CL0 Total value

of RP assessed by Sole Bidder (in KM)= RP0

Turnover factor (TF) assessed by Sole Bidder (as per point iv above)= TF0

Assessed Residual DPR Bid Capacity assessed by Sole Bidder (in KM)= R0 = CL0 x TF0 - RP0

(b) Residual DPR Bid Capacity of Joint Ventures

Total value of CL assessed by Lead Member (in KM)= CL1 Total value

of RP assessed by Lead Member (in KM)= RP1

Turnover factor (TF) assessed by Lead Member (as per point iv above)= TF1 Share of

Lead Member in instant bid proposal (in %) = S1

Assessed Residual DPR Bid Capacity assessed by Lead Member (in KM)= R1 = {CL1 x TF1 – RP1} x S1

Total value of CL assessed by Other Member (in KM)= CL2 Total

value of RP assessed by Other Member (in KM)= RP2

Share of Lead Member in instant bid proposal (in %) = S1

Turnover factor (TF) assessed by Other Member (as per point iv above)= TF2

Assessed Residual DPR Bid Capacity assessed by Other Member (in KM)= R2 = {CL2 x TF2 – RP2} x S2

Share of in **Assessed Residual DPR Bid Capacity of Joint Venture(in KM)= R1 + R2** <u>**For**</u>

<u>**Standalone Tunnel Projects**</u>

(i) Total Length of DPR/Feasibility completed for 2/4/6 laning of Highway/Railway Tunnels in the last 10 Financial Years.

Sl . No.	Project Description along with Client Department	Specify Lanes and Tubes i.e. single tube 2 lane tunnel/ twin tube single lane/ twin tube two or more lanes/ more than 2 tubes	Length of the Final Alignment of Tunnel (in meters) Mention Chainage also.	Date of Completion Certificate of DPR assignment/ Date of issuance of LOA of Civil Work (Attach copy of completion certificate/ copy of LOA as applicable)	Project Type (DPR/ Feasibility)	In case of JV, share of Contract Fee (%)	Special Tunnel i.e. Underwater/Under River/ Immersed Tube Tunnels/ Multi Deck Tunnel, if any (State Yes or No. If Yes, specify the type of tunnel)
1	2	3	4	5	6	7	8=
Consultant to submit the copy of corresponding schedule-B of tender document to corroborate the claim of LF and SF.							

Notes:

- The Residual Bid Capacity "R" of the Bidder shall be calculated for each JV member who has bid for the consultancy assignment and the weighted average as per Share in JV shall be calculated in terms of Length as per methodology specified hereunder:

R= CL x TF x LF x SF
Wherein:

- Completed Length (CL) = Total Length of DPR/Feasibility completed for 2/4/6 laning of Highway/Railway Tunnels in the last 10 Financial Years.

1. Completed DPR/Feasibility projects shall be those for which either Completion Certification of the Consultancy Assignment has been issued by Executing Government Agency or the Tender of the Civil Work has been awarded by the Executing Government Agency. This length would also include the individual tunnels planned as part of normal highway projects.

2. In case of experience as JV, weighted average based on their share in the JV shall be considered for experience. JV share shall only be corroborated as per MoU of JV or Client Certificate only.

3. In case of experience of Associate, the share as per MoU subject to Maximum 25% shall be considered. In case MoU does not specify the share the same can be considered as per certification of Statutory Auditors of the Associate Member.

- Turnover Factor (TF)= Multiplication factor based on Turnover shall be decided as under:

Average Turnover of Last 5 Financial Years	Factor "TF"
Upto 50 Cr	1.00

50-100 Cr	1.1
100-200 Cr	1.2
>>200 Cr	1.25

- Lane Factor (LF): wherein lane Factor will be considered based on the completed projects for which DPR experience is considered

Single tube two lane: 1.0 Twin
Tube single lane: 1.50
Twin Tube Two or more lane: 1.75
More than 2 tubes: 2.0

LF= (LST2L x1.0 + LTTSL x1.5 + LTTML x1.75 + LMT x2.0) / (LST2L + LTTSL+ LTTML+ LMT)
LST2L=Total Length of single tube 2 lane tunnel in completed DPR projects (in meters)
LTTSL=Total Length of twin tube single lane tunnel in completed DPR projects (in meters)
LTTML=Total Length of twin tube two or more lanes in completed DPR projects (in meters)
LMT=Total Length of tunnels with more than 2 tubes in completed DPR projects (in meters)

- Special Factor: it will be considered only for those projects where the bidder has experience of Special Tunnel like Underwater/Under River/Immersed Tube Tunnels/Multi Deck Tunnel otherwise its value to be taken as 1.0 only.

SF: 2.0

- Self- Assessment of Residual DPR Bid Capacity "R" by the consultancy firm (in case of JV, separately by the JV partners) on eligibility as per technical capacity provisions shall be submitted.

<u>For Standalone Bridge Projects</u>

(i) Total Length of DPR/Feasibility completed for 2/4/6 laning of Highway Bridges (NH/SH/Expressways) in the last 10 Financial Years.

Sl. No.	Project Description along with Client Department	Specify no. of Bridges (one bridge with multiple span arrangement must be counted only in single category based on the maximum span of the bridge)				Date of Completion Certificate of DPR assignment/ Date of issuance of LOA of Civil Work (Attach copy of completion certificate/ copy of LOA as applicable)	Project Type (DPR/ Feasibility)	In case of JV, share of Contract Fee (%)	Special Bridge i.e. extra dozed Bridges/cable stayed bridges/Suspension Bridges, if any (State Yes or No. If Yes, specify the type of Bridge)
		With max span less than 50 m	With max Span more than 50 m upto 100 m	With max Span more than 100 m upto 200 m	With max Span more than 200 m				
1	2	3a	3b	3c	3d	5	6	7	8

Consultant to submit the copy of corresponding schedule-B to corroborate the claim of SLF and SF.

Notes

- The Residual Bid Capacity "R" of the Bidder shall be calculated for each JV member who has bid for the consultancy assignment and the weighted average as per Share in JV shall be calculated in terms of Length as per methodology specified hereunder:

R= CL x TF x SLF x SF

Wherein:

- **Completed Length (CL)** = Total Length of DPR/Feasibility completed for 2/4/6 laning of Highway Bridges (NH/SH/Expressways) in the last 10 Financial Years.

1. Completed DPR/Feasibility projects shall be those for which either Completion Certification of the Consultancy Assignment has been issued by Executing Government Agency or the Tender of the Civil Work has been awarded by the Executing Government Agency. This length would also include the individual bridges planned as part of normal highway projects.

2. In case of experience as JV, weighted average based on their share in the JV shall be considered for experience. **JV share shall only be corroborated as per MoU of JV or Client Certificate only.**

3. In case of experience of Associate, the share as per MoU subject to Maximum 25% shall be considered. In case MoU does not specify the share the same can be considered as per certification of Statutory Auditors of the Associate Member.

- **Turnover Factor (TF)**= Multiplication factor based on Turnover*

*Note: The TF shall be decided as under:

Average Turnover of Last 5 Financial Years	Factor "TF"
Upto 50 Cr	1.00
50-100 Cr	1.1
100-200 Cr	1.2
>>200 Cr	1.25

- **Span Length Factor (SLF):** wherein span lane Factor will be considered based on the completed projects for which DPR experience is considered

Maximum Span length upto 50 m: 1.0
Maximum Span length more than 50 m upto 100 m: 1.50 Maximum
Span length more than 100 m upto 200 m: 1.75 Maximum Span
length more than 200 m: 2.00

SLF= ($N_{span\ max\leq 50}$ x1.0 + $N_{50<span\ max\leq 100}$ x1.5 + $N_{100<span\ max\leq 200}$ x1.75 + $N_{span\ max>200}$ x2.0) / ($N_{span\ max\leq 50}$ + $N_{50<span\ max\leq 100}$ + $N_{100<span\ max\leq 200}$ + $N_{span\ max>200}$)

$N_{span\ max\leq 50}$ =Total No. of Bridges in completed DPR projects where maximum span is less than equal to 50 metres
$N_{50<span\ max\leq 100}$ =Total No. of Bridges in completed DPR projects where maximum span is more than 50 meters but less than equal to 100 metres.
$N_{100<span\ max\leq 200}$ =Total No. of Bridges in completed DPR projects where maximum span is more than 100 meters but less than equal to 200 metres.
$N_{span\ max>200}$ =Total No. of Bridges in completed DPR projects where maximum span is more than 200 metres.

- **Special Factor (SF):** it will be considered only for those projects where the bidder has experience of Special Bridges i.e. extra dozed Bridges/cable stayed bridges/Suspension Bridges.

SF: 1.5

Form T -12

(To be on the letter head of the Bidder/ Each Member of the JV/Associates)

Certificate regarding Compliance with Restrictions under Rule 144 (xi) of the General Financial Rules (GFR)

The Tendering Issuing Authority

(Name of Concerned Officer along with Office Address)

Sub: BID for "Name of work ..... "

Dear Sir,

With reference to your RFP document dated *** **$, I, having examined the Bidding Documents and understood their contents, hereby undertake and confirm as follows:

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors/Consultant from such countries; I certify that this Bidder is not from such a country or, if from such a country, has been registered with the Competent Authority, specified in Annexure-I of Order (Public Procurement No. 1) issued by Ministry of Finance, Department of Expenditure Public Procurement Division vide F. No. 6/18/2019-PPD, dated 23rd July 2020 and will not subcontract any work to a contractor/Consultant from such countries unless such contractor/Consultant is registered with the said Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered.

Yours faithfully,

Date:

Place:

(Signature of the Authorised signatory)

(Name and designation of the of the Authorised signatory) Name and

seal of Bidder/Each Member of the Consortium

Notes:

{Where applicable, evidence of valid registration by the Competent Authority shall be attached}

In case the above certification is found to be false, this would be a ground for immediate rejection of Bid/termination and further legal action in accordance with law.

OM F. No. 6/18/2019-PPD, dated 23rd July 2020 is enclosed herewith for ready reference.

Form T-13

INTEGRITY PACT FORMAT

Integrity pact

(Ref Clause 1.5 of ITC)(To be signed on Plain Paper by both JV Members) (To be submitted as part of Technical Proposal)

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services

This Agreement (hereinafter called the Integrity Pact) is made on_____day of the monthof _____202____at_____, India.

BETWEEN

Procuring Organisation, ---------- through Head of the Procuring Organisation, for and on behalf of President of India (hereinafter called the "The Principal", which expression shall mean and include unless the context otherwise requires, his successors in office and assigns) of the First Part

AND

M/ s._____(hereinafter called the "The Consultant",which expression shall mean and include unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

PREAMBLE

'The Principal' intends to award, under laid down organizational procedures, contract/s for_, 'The Principal' values full compliance with all relevantlaws of the land, rules, regulations, economical use of resources and fairness/ transparency in its relations with its Consultant(s) and/ or Consultant(s).

In order to achieve these goals, the Principal shall appoint Independent External Monitors (IEMs) who shall monitor the Procurement Process and the execution of the contract for compliance with the abovementioned principles.

Section 1 - Commitments of the 'The Principal'

(1) 'The Principal' commits itself to take all measures necessary to prevent corruptionand to observe the following principles: -

a. No employee of the Principal, personally or through family members, shall, in connection with the tender for, or the execution of a contract, demand, take a promisefor or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal shall, during the Procurement Process, treat all Consultant(s) withequity and reason. The Principal shall, in particular, before and during the Procurement Process, provide to all Consultant(s) the same information and shall not provide to anyConsultant(s) confidential/ additional information through which the Consultant(s) could obtain an advantage in relation to the Procurement Process or the contract execution.

c. The Principal shall exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees, whichis a criminal offence under the IPC/ PC Act, or if there be a substantive suspicion in this regard, the Principal shall inform the Chief Vigilance Officer and in addition, can initiatedisciplinary actions.

Section 2 - Commitments of the 'Consultant'

(1) The 'Consultant' commit themselves to take all measures necessary to prevent corruption. The 'Consultant' commit themselves to observe the following principles during

participation in the Procurement Process and during the contract execution.

a. The 'Consultant' shall not, directly or through any other person or firm, offer,promise, or give to any of the Principal's employees involved in the Procurement Processor the execution of the contract or to any third person any material or other benefit whichhe is not legally entitled to, in order to obtain in exchange any advantage of any kindwhatsoever during the Procurement Process or during the execution of the contract.

b. The 'Consultant' shall not enter any undisclosed agreement or understanding with other Consultants, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of Proposals or any other actions to restrict competitiveness or to introduce cartelisation in the Procurement Process.

c. The 'Consultant' shall not commit any offence under the relevant IPC/ PC Act;further, the 'Consultant' shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals, andbusiness details, including information contained or transmitted electronically.

d. The 'Consultant' of foreign origin shall disclose the name and address of the Agents/ representatives in India, if any. Similarly, the Consultant/ Contractors of IndianNationality shall furnish the name and address of the foreign principals, if any. Furtherdetails, as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers", shallbe disclosed by the Consultant. Further, as mentioned in the Guidelines, all the payments made to the Indian agent/ representative must be in Indian Rupees only. Acopy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed in the Appendix to this agreement.

e. The 'Consultant' shall, when presenting their Proposal, disclose any and all payments made, are committed to, or intends to make to agents, brokers, or any otherintermediaries in connection with the contract award.

f. Consultant who has signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The 'Consultant' shall not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from Procurement Process and exclusion from future contracts

If the 'Consultant', before award or during execution, has committed a transgressionthrough a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the 'Consultant' from the

Procurement Process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings".

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the 'Consultant' from the Procurement Processprior to the award according to Section 3, the Principal is entitled to demand and recover from the 'Consultant' the damages equivalent to Earnest Money Deposit/ Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shallbe entitled to demand and recover from the Consultant liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

(1) Consultant declares that no previous transgressions occurred in the last three years

with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the Procurement Process.

(2) If the Consultant makes an incorrect statement on this subject, he can be disqualified from the Procurement Process, or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6 - Equal treatment of all Consultants/ Contractors/ Subcontractors

(1) In the case of Sub-contracting, the Principal Consultant shall take responsibility or the adoption of the Integrity Pact by the Sub-contractor.

(2) The Principal shall enter into agreements with identical conditions as this one withall Consultants and Contractors.

(3) The Principal shall disqualify from the Procurement Process all Consultants whodo not sign this Pact or violate its provisions.

Section 7 - Criminal charges against violating Consultant(s)/ Consultant(s)/ Subcontractor(s) If the Principal obtains knowledge of the conduct of a Consultant, Consultant or Subcontractor, or of an employee or a representative or an associate of a Consultant, Consultant or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal shall inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

(1) The Principal appoints a competent and credible Independent External Monitorfor this Pact after approval by Central Vigilance Commission. The task of the Monitor isto review independently and objectively whether and to what extent the parties complywith the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties andperforms his functions neutrally and independently. The Monitor would have access to all Contract documents whenever required. It shall be obligatory for him/ her to treat the information and documents of the Consultants/ Contractors as confidential. He/ shereports to the Head of the Procuring Organisation.

(3) The Consultant(s)/ Consultant(s) accepts that the Monitor has the right to access, without restriction, all Project documentation of the Principal, including that provided by the Consultant. The Consultant shall also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

(4) The Monitor is under contractual obligation to treat the information anddocuments of the Consultant(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information' and ofAbsence of Conflict of Interest. In case of any conflict of interest arising at a later date,the IEM shall inform the Head of the Procuring Organisation and recuse himself/ herselffrom that case.

(5) The Principal shall provide to the Monitor sufficient information about all meetings among the parties related to the Project, provided such meetings could havean impact on the contractual relations between the Principal and the Consultant. The parties offer the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to have noticed, a violation of this agreement, he shall so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action.The monitor can, in this regard, submit non-binding recommendations. Beyond this, the Monitor has no right to demand

from the parties that they act in a specific manner, refrain from action, or tolerate action.

(7) The Monitor shall submit a written report to the Head of the ProcuringOrganisation within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematicsituations.

(8) If the Monitor has reported to the Head of the Procuring Organisation a substantiated suspicion of an offence under the relevant IPC/ PC Act, and the Head of the Procuring Organisation has not, within the reasonable time, taken visible action toproceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Consultant12 months after the last payment under the contract and for all other Consultants 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the Consultants and exclusion from future business dealings.

If any claim is made/ lodged during this time, the same shall be binding and continueto be valid despite the lapse of this pact as specified above unless it is discharged/ determined by the Head of the Procuring Organisation.

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. The place of performance and jurisdiction is the Registered Office of the Principal, i.e., New Delhi.

(2) Changes and supplements, as well as termination notices, need to be made in writing. Side agreements have not been made.

(3) If the Consultant is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties shall strive to cometo an agreement with their original intentions.

(5) Issues like Warranty/ Guarantee etc., shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Appendix, the Clause in the Integrity Pact shall prevail.

For and Behalf of the Principal (Name of the Officer and Designation) Official Seal	For and Behalf of the Consultant (Name of the Authorized Representative of Lead JV Member with Designation) Official Seal (Name of the Authorized Representative of Other JV Member with Designation) Official Seal
Witness 1: (Name & Address)	Witness 1: (Name & Address)
Witness 2 (Name & Address)	Witness 2 (Name & Address)

Appendix to Integrity Pact

Guidelines for Indian Agents of Foreign Suppliers

1.1 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with 'The Principal' shall apply for registration in the registration form withthe appropriate unit.

1.2 Registered agents shall file an authenticated Photostat copy duly attested by a Notary Public/ Original certificate of the Principal confirming the agency agreement. It should cover - the precise relationship,services to be rendered, and mutual interests in business - generally and/ or specifically for the tender.Any commission/ remuneration/ salary/ retainership, which the agent or associate receives in India or abroad from the Principal, whether should be brought on record in the Agreement and be made explicit.

1.3 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary, or a retainer, a written declaration to this effect shouldbe submitted by the party (i.e., Principal) before finalizing the order.

2.1 Disclosure of particulars of agents/ representatives in India, if any.

2.2 Consultants of Foreign nationality shall furnish the following details in their offers:

2.2.1 The 'Consultant' of foreign origin shall disclose the name and address of the agents/ representativesin India, if any and the extent of authorization and authority given to commit the Principals. In case theagent/ representative be a foreign Company, it shall be confirmed whether it is an existing Company anddetails of the same shall be furnished.

2.2.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.

2.2.3 Confirmation of Consultant that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by 'The Principal' in Indian Rupees only.

2.3 Consultants of Indian Nationality shall furnish the following details in their offers:

2.3.1 The 'Consultant' of Indian Nationality shall furnish the name and address of the foreign principals,if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal authorizing the agent specifically to make an offer in India in response to tender either directly or through the agents/ representatives.

2.3.2 The amount of commission/ remuneration included in the price (s) quoted by Consultant for himself.

2.3.3 Confirmation of the foreign principals of Consultant that the commission/ remuneration, if any, reserved for Consultant in the quoted price(s), may be paid by 'The Principal' in India in equivalent IndianRupees on satisfactory completion of the Project or supplies of Services.

2.4 In either case, in the event of contract materializing, the terms of payment shall provide for paymentof the commission/ remuneration, if any, payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.

2.5 Failure to furnish correct and detailed information as called for in clauses above shall render the concerned Proposal liable to rejection or, in the event of a contract materializing, the same liable to termination by 'The Principal'. Besides this, there would be a penalty of banning business dealings with'The Principal' or damage or payment of a named sum.

Form T-14: Terms and Conditions - Compliance

(Ref ITC-clause 1.5) (To be submitted as part of Technical Proposal)(on Consultant's Letter-head)

Consultant's Name_____

[Address and Contact Details]

Consultant's Reference No._____ Date…….

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services

Note to Consultants: Fill up this Form regarding Terms and Conditions in the RFP Document, maintaining the same numbering and structure. Add additional details not covered elsewhere in your Proposal in this regard.

Sl. No.	Ref of RFP Document Section, Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservationall terms and conditions of the RFP Document, except those mentioned above. If mentioned elsewhere in our Proposal, contrary terms and conditions shall not be recognised and shall be null and void.

…….. (Signature with date)

…….. (Name and designation)

Duly authorized to sign Proposal for and on behalf of

.....

…… [name, address, and seal of Consultant] DA: If any, at the option of the Consultant.

Form T-15: Checklist for Consultants

(Ref ITC-clause 1.5)

(To be submitted as part of Technical Proposal)(on Consultant's Letter-head)

Consultant's Name_____

[Address and Contact Details]

Consultant's Reference No._____ Date…….

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services

Note to Consultants: This checklist is merely to help the Consultants prepare their Proposals; it does not override or modify the tender requirement. Consultants must dotheir own due diligence also.

Sr	Documents submitted, duly filled, signed	Yes/ No/ NA
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		

Form T-16: Bank Guarantee Format for Earnest Money Deposit

(The Bank Guarantee shall be on a Stamp Paper of appropriate value in accordancewith Stamp Act and shall be purchased in the name of the guarantee issuing Bank orthe Party on whose behalf the BG is being issued.)

(Ref ITC-clause 8.4)

Ref Bank Guarantee No……

Date……

...

To

The President of India, through Head

of Procurement Procuring Organisation

[Complete address of the Procuring Entity]

Whereas M/s……with its Registered/ Head Office at……. (name and address of the Consultant, hereinafter called "the Consultant", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) has undertaken to submit a proposal, in pursuance of Tender no …….. date…….

(hereinafter called "the Tender").

And Whereas you (unless repugnant to the context or meaning thereof, including your successors, administrators, executors, and assigns) have stipulated in the said Tenderthat the Consultant shall furnish you with a bank guarantee by a Commercial bank forthe sum specified therein as Earnest Money Deposit for compliance with its obligationsas per the Tender;

And Whereas we …… with our Head Office at……. (name and address of the Bank, hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) have agreed to give the Consultant such a bankguarantee.

Now, Therefore, we hereby affirm that we are guarantors and responsible to you, on behalf of the Consultant, up to a total of

……(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the Consultant to be in default under the Tender and without cavil or argument, any sum orsums within the limits of (amount of guarantee) as aforesaid, without your needing toprove or to show grounds or reasons for your demand or the sum specified therein, notwithstanding any difference between you and the Consultant or any dispute pending before any Court, Tribunal, Arbitrator or any other authority.

We hereby waive the necessity of your demanding the said debt from the Consultant before presenting us with the demand.

The Bank undertakes not to revoke this guarantee during its currency without your previous consent and further agrees that the guarantee herein contained shall continueto be enforceable till you discharge this guarantee. This guarantee will not be discharged due to a change in the constitution of the Bank or the Consultant's.

We further agree that no change or addition to or other modification of the terms of theTender made by you 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 the ……day of ……20……

Our……branch at……*(Name & Address of the … .....*(branch) is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our .....* branch a written claim or demand and received by us at our ……..* branch on or before Dt ..... otherwise, the bank shall be discharged of all liabilities under this guarantee after that.

The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to be designated bank of <Name of Implementing Agency> after obtaining details thereof from <Name of Implementing Agency>.

(Signature of the authorized officer of the Bank)

.....

…….. Name and designation of the officer

…… Seal, name & address of the Bank and address of the Branch

*Preferably at the authority's headquarters competent to sanction the expenditure for procurement of goods/services or at the concerned district headquarters or the state headquarters.

Form T-17: Bid Securing Declaration

Consultants exempted from submission of Bid Security are also required to submit this.

(on Consultant's Letter-head)

Consultant's Name_____

[Address and Contact Details]

Consultant's Reference No._____

To

The President of India, throughHead of Procurement Procuring Organisation

[Complete address of the Procuring Entity]

Date…….

Ref: RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services Sir/ Madam

We, the undersigned, solemnly declare that:

We understand that according to this RFP document's conditions, the Proposal must besupported by a Bid Securing Declaration in lieu of Bid Security.

We unconditionally accept the conditions of this Bid Securing Declaration. We understand we (all members individually and jointly in case of JV/C) shall stand automatically suspended from being eligible for bidding in any tender in Procuring Organisation for 2 years from the date of opening of this Proposal if we breach our obligation(s) under the tender conditions if we:

1) Withdraw/ amend/ impair/ derogate, in any respect, from our Proposal, withinthe Proposal validity; or
2) Being notified within the Proposal validity of the acceptance of our Proposal bythe Procuring Entity:
    (a) Refused or failed to produce the original documents for scrutiny or therequired Performance Security within the stipulated time under the RFP document's conditions.
    (b) Fail or refuse to sign the contract.

We know that this Proposal-Securing Declaration shall expire

1) If the contract is not decided - forty-five days after the expiration of the Proposal validity, any extension to it.
2) If the contract is not awarded to us - not later than thirty days after the conclusion of the resultant contract, or If the contract is awarded to us - after receipt of performance security from them

(Signature with date)

…….. (Name and designation)

Duly authorized to sign Proposal for and on behalf of……. [name, address, and seal of Consultant]

Dated on ……. day of.....[insert date of signing]

Place .....[insert place of signing]

DA:.....

UNDERTAKING FROM THE PROFESSIONAL

(For all Key Experts separately)(Ref ITC-clause 1.5)

(To be submitted as part of Technical Proposal)(Along with supporting documents, if any) (on

Consultant's Letter-head)

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy ServicesConsultant's Name_____

[Address and Contact Details]

Consultant's Reference No._ Date…….

Proposed Position ..... Photograph

Name of Firm:.....

Name of Staff :.....

Profession :.....

Date of Birth :

Years with Firm/Entity: .....Nationality:.....

Membership of Professional Societies :.....

Detailed Task Assigned : Please attach printout of CV along with all the relevant detailsuploaded on infracon portal.

Certification by the Candidate

I, the undersigned,(Name and Address) undertake that this CV correctly describes myself, my qualifications and my experience and Employer would be at liberty to debar me if any information given in the CV, in particular the Summary of Qualification & Experience vis-à-vis the requirements as per TOR is found incorrect. I further undertake that I have neither been debarred by NHAI or any other central/stage government organization nor left any assignment with the consultants engaged by Employer / contracting firm (firm to be supervised now) for any continuing work of Employer without completing my assignment. I will be available for the entire duration of the current project (named…).If I leave this assignment in the middle of the work, Employer would be at liberty to debar me from taking any assignment in any of the Employer works for an appropriate period of time to be decid ed by the Employer. I have no objection if my services are extended by the Employer for this work in future.

I further undertake that my CV is being proposed for this project by (the applicant firm) and I have not given consent to any other consultant(s) to propose my CV for any position forthis project.

I further undertake that if due to my inability to work on this project due to unavoidable circumstances, due to which consultant's firm is forced to seek replacement. In such unavoidable circumstances, I shall not undertake any employment in Employer projects during the period of assignment of this project and

Employer shall consider my CV invalid till such time.

I undertake that I have no objection in uploading/hosting of my credentials by Employer in public domain. For

Key Personnel having intermittent inputs, add the following:

I further certify that I am associated with the following assignments as on date (as on 7 days prior to due date for submission of proposal) including those for which LOA has been receivedby the firm and the inputs in these assignments shall not effect the work of the current assignment.

Name of Assignment	Client	Date of LOA	Likely start (Month / Year)	Likely end (Month / Year)	Total input of the person (man-months)

Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
{List all deliverables/tasks as in FORM T-5 in which the Expert shall be involved)	

Expert's contact information: (e-mail ……., phone .....)

Date(Signature of Key Personnel) (Day/Month/Year)

The Consultant should carryout self-evaluation based on the evaluation criteria at Appendix-EC and furnish the same here. While submitting the self-evaluation along with bid, Authority's Engineer shall make references to the documents which have been relied upon in his self-evaluation.

Certification by the firm

The undersigned on behalf of ----------(name of consulting firm) certify that Shri (name of proposed personnel) to the best of our knowledge has neither been debarred by NHAI or any other Central/State Government organization nor left his assignment with any other consulting firm engaged by the Employer /Contracting firm(firm to be supervised now) for theongoing projects. We understand that if the information about leaving the past assignment is known to the Employer, Employer would be at liberty to remove the personnel from the present assignment and debar him for an appropriate period to be decided by the Employer.

……..Date (Day/Month/Year)

[Signature of authorized representative of the Firm]

_____

UNDERTAKING FROM CONSULTING FIRM

Name of Work:

The undersigned on behalf of ……..(Name of Consulting Firm) with … .....(INFRACON ID) certify that none of the Key Personnel included in our team to the best of our knowledge has left his/her assignment with any consulting/ contracting firm engaged by MoRT&H /NHAI/NHIDCL/ IAHE/BRO/ State PWD or any other MoRTH implementing agency. We also confirm the truthfulness of the credentials uploaded by our firm/JV Member/Sub-Consultant and all the Key Personnel proposed in our team on INFRACON.

We understand that if any information about our firm/JV Member/Sub-Consultant / Key Personnel is found contrary to what has been uploaded on INFRACON, the Client would be at liberty to remove the concerned personnel from the present assignment and debar our firm/JV Member/Sub-Consultant / Key Personnel for an appropriate period to be decided by the Client.

Date:

Place:

Signature

(Name of Authorized Signatory)

Form T-18: Format of MOU between Joint Venture Partners

Memorandum of Understanding between

_____

And

_____

Where as the NHAI/ (the **'Employer'**) has invited proposal for appointment of DPR Consultant for_____(Name of project) herein after called the Project.

And Whereas_____(Lead Partner) and_____JV partner/shave Agreed to form a Joint Venture to provide the said services to the Employer as DPR Consultant; and

Now, therefore, it is hereby agreed by and on behalf of the partners as follows:

(i) _____will be the lead partner and_____will be the other JV partner/s and percentage share* will be as under:-

Lead Partner - _____% (in words)
Other JV Partner- _____% (in words)

(ii) _____(lead partner) shall be the incharge of overall administration of contract and shall be authorized representative of all JV partners for conducting all business for and on behalf of the JV during the bidding process and subsequently, represent the joint venture for and on behalf of the JV for all contractual matters for dealing with the Employer if Consultancy work is awarded to JV.

(iii) All JV partners do hereby undertake to be jointly and severely responsible for all the obligation and liabilities relating to the consultancy work and in accordance with the Terms of Reference of the Request for Proposal for the Consultancy Services.

(iv) Subsequently, if the JV is selected to provide the desired consultancy services, a detailed MOU indicating the specific project inputs and role of each partner/s along with percentage sharing of cost of services shall be submitted to the Employer (Consultant may submit the detailed MOU along with percentage sharing of cost at the time of bidding also).

For_____(Name of Lead partner)

_____
Managing Director/Head of the Firm
Address

For_____(Name of JV partner/s)

_____
Managing Director/Head of the Firm
Address

Note: * The bidder cannot revised their share among Lead/JV partner which was declared at the time of bidding of respective consultancy assignments.

DISCLAIMER

The Applicant must read all the instructions in the RFP and submit the same accordingly.

FORMATS

Format 1: Contract Form

(Ref ITC-clause 13)

The President of India, throughHead of Procurement Procuring Organisation
[Complete address of the Procuring Entity]
Contract No……. dated……. To

Consultant [Write Name]

[Complete address of the Consultant]

Subject: ----------

Ref: *1. This office's Letter of Award No……..…… dated ……..*

2. This office RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services, dated……. and subsequent AmendmentNo……., dated (If any). (Hereinafter referred to as 'the RFP Document')

3. Your Tender No…… dated…….. and subsequent communication(s)/ Revised Offer No…… dated (If any), exchangedbetween you and this office in connection with this tender. (Hereinafter referred to as 'Your Offer')

Dear Sir/ Madam,

Your Proposal referred above, read with subsequent letters mentioned above, for the Services stipulated in the Schedules annexedherewith, have been accepted. Terms and conditions in this Contract and the documents listed in the clause below shall apply.

Note: The words, expressions, definitions, and abbreviations used in this Contract shall have the same meanings as those assigned inthe General Condition of Contract enclosed.

2) The following documents attached hereto shall be deemed to form an integral part of this Contract:

   a) The General Conditions of the Contract;

   b) The Special Conditions of the Contract;

   c) Appendices:

      i) Appendix A: Terms of Reference
      ii) Appendix B: Key Experts
      iii) Appendix C: Remuneration Cost Estimates
      iv) Appendix D-1: Bank Guarantee Format for Performance Security
      v) Appendix D-2: Bank Guarantee Format for Advance Payments

In the event of any inconsistency between the documents, the following order of precedence shall prevail: this Contract Form; the Special Conditions of Contract; the General Conditions of Contract; Appendix A; Appendix B; Appendix C; Appendix D-1; and Appendix D-2. Any reference to this Contract shall include, where the context permits, a reference to its Appendices.

3) Key Information

   a) Summary of Costs

Name of Work: Tender No.: Name of bidder/bidding firm/Company:		
S. No.	**Description**	**Amount (LC)* (INR)**

I	**Local Consultants** Remuneration for Local Staff (inclusive of per diem allowance)	
II	Support Staff (inclusive of per diem Allowance)	
III	Transportation	
IV	Duty Travel to Site	
V	Office Rent	
VI	Office Supplies, Utilities and Communication	
VII	Office Furniture and Equipment (Rental)	
VIII	Report and Document Printing	
IX	Surveys & Investigation	
A	Topographic Survey**	
B	Investigation**	
C	Network Survey and GPR**	
X	Cost of supply and fixing of boundary pillars**	
XI	Land acquisition team including support staff and logistics/transportation	
	Subtotal Local Consultant:	
	Foreign Consultant	
	Total Cost Net of Tax:	
	Total cost net of Goods and Services Tax* **	
	Total Project Length Considered for Analysis	
	Additional Cost for Tunnel Design Expert for 4 months	
	Additional Cost for Senior Geophysicist for 4 months	
	Payment for geophysical investigation shall be for each tunnel of 500m length.	
	Total cost including Tunnel net of Goods and Services Tax	
	Goods and Service Tax	
	TOTAL COST with Tunnel (Including Goods and Services Tax)	
	Per km DPR cost for projects with tunnels (without GST)	
	Per km DPR cost for projects with tunnels (with GST)	
LC* Local Currency		
** This is an approximate estimate based on estimated input for the project. However, the payment shall be done as per actual survey/investigation done subject to condition that positive variation of upto 10% variation would be borne by the consultant.		
Note: No escalation will be payable during the services.		
Insurances shall not be allowed separately. These will be incidental to main items. All costs are inclusive of consultants' profits and overheads.		

b) Timelines

Stage No.	Activity	**Time Period in days from date of commencement (as per total project duration)**
	Total Project Duration	
1	Monthly Reports	
2	Inception Report (i) Draft Inception Report including QAP document (ii) Inception Report including QAP document	
3	F.S. REPORT i) Draft Feasibility Study Report including option study report including draft 3(a) report ii) Comments of client iii) Final Feasibility Study Report incorporating compliance of comments of Client	
4	LA & Clearances I Report i) Draft LA & Clearances I Report including draft 3(A) report ii) Comments of client iii) Final LA & Clearances I Report incorporating compliance of comments of Client	
5	Detailed Project Report i) Draft DPR ii) Comments of client iii) Final DPR incorporating compliance of comments of Client	
6	Technical Schedules i) Draft Technical Schedules ii) Comments of client iii) Final technical schedule	
7	Land Acquisition II Submission of draft 3D publication report	
8	Land Acquisition III, Award determination (3G)	
9	Project Clearances & LA IV Report Approval of Project clearances from Concerned agencies e.g. from MOEF; Rly for approval of GAD and detail engineering drawing of ROB/RUB; Irrigation Dept., Utility Report and Possession of Land	

i) Effective Date of The Contract is ……

ii) Completion Date of the Services is ……

4) The mutual rights and obligations of the Procuring Entity and the Consultant shall be as outlined in the Contract, in particular:

a) the Consultant shall carry out the Services in accordance with the provisions of the Contract; and

b) the Procuring Entity shall make payments to the Consultant in accordance with the provisions of the Contract.

(Signature, name and address of [Procuring Entity]'s authorized, official) For and

on behalf of the President of India

Received and accepted this Contract ……..

(Signature, name, and address of the Consultant's executive duly authorized to sign on behalf of the Consultant. For a joint venture,either all members shall sign or only the lead member, in which case a power of attorney to sign on behalf of all members shall be attached.)

For and on behalf of …… (Name and address of the Consultant)

……

(Seal of the Consultant) Place:_____Date:

Appendix A: Description of Services

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services Contract No_____
_____; Date_____

Consultant's Name_____

[This Appendix shall include the final Terms of Reference (TORs), Approach, Methodology and Work Schedule and Planning of Deliverables, worked out by the Procuring Entity and the Consultant during the negotiations; dates for completion of various tasks; location of performance for different tasks; detailed reporting requirements; Procuring Entity's input, including counterpart personnel assigned by theProcuring Entity to work on the Consultant's team; specific tasks that require prior approval by the Procuring Entity.]

1. Terms Reference

Insert the text based on Section VI (Terms of Reference) of the RFP

2. Approach and Methodology

Insert the text based on Form T-6 in the Consultant's Proposal as negotiated between the Procuring Entity and the Consultant.

3. Schedule for submission of Reports and Documents:

{Specify as per duration of the services approved by Component Authority as per costing guidelines}

Stage No.	Activity	
	Total Project Duration	**09 months**
1	Monthly Reports	
2	Inception Report (i) Draft Inception Report including QAP document (ii) Inception Report including QAP document	15 25
3	F.S. REPORT i) Draft Feasibility Study Report including option study report including draft 3(a) report ii) Comments of client iii) Final Feasibility Study Report incorporating compliance of comments of Client	45 55 75
4	LA & Clearances I Report i) Draft LA & Clearances I Report including draft 3(A) report ii) Comments of client iii) Final LA & Clearances I Report incorporating compliance of comments of Client	85 95 110
5	Detailed Project Report i) Draft DPR ii) Comments of client iii) Final DPR incorporating compliance of comments of Client	135 145 160
6	Technical Schedules i) Draft Technical Schedules ii) Comments of client iii) Final technical schedule	135 145 160
7	Land Acquisition II Submission of draft 3D publication report	135
8	Land Acquisition III, Award determination (3G)	195
9	Project Clearances & LA IV Report Approval of Project clearances from Concerned agencies e.g. from MOEF; Rly for approval of GAD and detail engineering drawing of ROB/RUB; Irrigation Dept., Utility Report and Possession of Land	270

Appendix B: Key Experts

RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services Contract No_____
_____; Date_____

Consultant's Name_____

[Insert a table based on Form T-6 of the Consultant's Technical Proposal and finalizedat the Contract's negotiations. Attach the CVs (updated and signed by the respective Key Experts) demonstrating the qualifications of Key Experts.]

[Specify Hours of Work for Key Experts: List here the hours of work for Key Experts; traveltime to/ from the Assignment Site; entitlement, if any, to leave pay; public holidays in the Procuring Entity that may affect Consultant's work; etc. Make sure there is consistencywith Form T-6. In particular: one month equals twenty-two (22) working (billable) days.One working (billable) day shall be not less than eight (8) working (billable) hours.]

Appendix C – Remuneration Cost Estimates

RFP Document No. RFP No./ xxxx; Tender Title:

Consultancy Services Contract No_____;

Date_____

Consultant's Name_____

Cost Estimate by Tender Issuing Authority (QBS mode) –

Cost Estimate by Tender Issuing Authority		
Summary of Cost in Local Currency		
	Name of Firm	
S.No	Description	Amount (LC)* (INR)
I	Local Consultants Remuneration for Local Staff (inclusive of per diem allowance)	2,32,27,500
II	Support Staff (inclusive of per diem Allowance)	10,35,000
III	Transportation	20,25,000
IV	Duty Travel to Site	5,25,000
V	Office Rent	2,25,000
VI	Office Supplies, Utilities and Communication	2,70,000
VII	Office Furniture and Equipment (Rental)	10,00,000
VIII	Report and Document Printing	77,500
IX	Surveys & Investigation	
A	Topographic Survey**	18,60,000
B	Investigation**	83,42,000
C	Network Survey and GPR**	2,48,000
X	Cost of supply and fixing of boundary pillars**	21,70,000
XI	Land acquisition team including support staff and logistics/transportation	37,50,000
XII	Provisional Sum towards Environment Clearance/ Wildlife Clearance	7,50,000
	Subtotal Local Consultant:	4,55,05,000
	Foreign Consultant	
	Total cost net of Goods and Services Tax	4,55,05,000
	Goods and Services Tax	81,90,900
	Total Cost (incl GST)	5,36,95,900
	Total Project Length Considered for Analysis	62
	Per km DPR cost (without GST)	7,33,952
	Per km DPR cost s (with GST)	8,66,063
LC* Local Currency		
** This is an approximate estimate based on estimated input for the project. However, the payment shall be done as per actual survey/investigation done subject to condition that positive variation of upto 10% variation would be borne by the consultant.		
Note: No escalation will be payable during the services.		
Insurances shall not be allowed separately. These will be incidental to main items. All costs are inclusive of consultants' profits and overheads.		

Estimate of Local Currency Costs (all rates are inclusive of consultant's profits and overheads)					
I. Remuneration for Local Staff (including per diem allowance)					
I(a)					
S. No.	**Position**	**Name**	**Rate (INR)**	**SM**	**Amt. (INR)**
	Professional Staff				
1	Team Leader Cum Senior Highway Engineer		500000	9	4500000
2	Bridge Design Engineer		500000	3	1500000
3	Highway Design Engineer		350000	4	1400000
4	Traffic and Road Safety expert		350000	2	700000
5	Environmental Specialist		150000	3	450000
6	Senior Geomatics Expert		350000	4	1400000
7	Senior Survey Engineer		200000	5	1000000
8	Quantity Surveyor / Documentation Expert		150000	2	300000
9	Land Acquisition Expert		150000	7	1050000
10	Senior Hydrology and Hydraulics Expert		350000	4	1400000
	Sub-Total			43	**13700000**
	Sub-Professional Staff	(To be assessed by Consultant as per requirement of Assignment subject to minimum below and one sub-professional be a fresh graduate)			
1	Assistant Highway Engineer	(one every 50 km)	85,000	18	1530000
2	Assistant Bridge Engineer		1,00,000	5	500000
3	Assistant Quantity Surveyor	(one every 50 km)	85,000	5	425000
4	Assistant Survey Engineer	(one every 50 km)	85,000	18	1530000
5	LA Team Member	(5 Sub KP every 50 km with 5 man months each with one Sub- Key dedicated for Forest Enviornment Clearance)	85000	50	4250000
6	Assistant Material and Quality Engineer		85000	5	425000
7	GIS expert		85,000	3	255000
8	CAD Draftsman		50,000	6	300000
9	Hydrologist		2,00,000	1	200000
10	Social Expert		1,50,000	0.5	75000
11	ATMS and Toll Expert		1,50,000	0.25	37500
	Sub-Total:				**9527500**
	TOTAL				**23227500**
II. Support Staff					
S. No.	**Position**	**Name**	**Staff Months**	**Billing Rate (INR)**	**Amount (INR)**
1	Office Manager		9	50000	450000
2	Typist		9	25000	225000
3	Office Boy		9	20000	180000
4	Night Watchman		9	20000	180000

				Total	**1035000**
III. Transportation					
S. No.	**Description**	**Qty.**	**Nos. of Months**	**Rate/Months (INR)**	**Amount (INCR)**
1	The vehicles provided by the Consultants shall include the cost for rental, drivers, operation, maintenance, repairs, insurance, etc. A. For use of Consultants	3	9	75000	2025000
	Total				**2025000**
IV. Duty Travel to Site (Fixed Costs)					
	Trips	**No.**		**Rate (INR)**	**Amount (INR)**
	trips of each KP to site 10x6	60		5000	300000
	Guest House Stay	9		25000	225000
			Total		**525000**
V. Office Rent Fixed Costs)					
S. No.	**Description**	**No. of Month**		**Monthly Rate (INR)**	**Amount (INR)**
1	The rent cost includes maintenance, cleaning, repairs, etc.	9		25000	225000
			Total		**225000**
VI. Office Supplies, Utilities and Communication (Fixed Costs)					
S. No.	**Item**	**Months**		**Monthly Rate (INR)**	**Amount In INR**
1	Office Supplies Drafting	9		10000	90000
2	Supplies Computer	9		5000	45000
3	Running Costs	9		10000	90000
4	Domestic and International Communication	9		5000	45000
			TOTAL		**270000**
VII. Office Furniture and Equipment (Rental)					
S. No.	**Description**	**Unit**	**Quantity**	**Rate (INR)**	**Amount (INR)**
1	Office Furniture and Equipment	1		1000000	1000000
			TOTAL		**1000000**
VIII. Report and document Printing.					
No.	**Description**				
1	Monthly report (3 Per month)				
2	Inception Report & QAP				
3	Submission of Preliminary Alignment report including preliminary cost estimate for preferred alignment along with cost of land acquisition, traffic study and outcome	Lumpsum amount of Rs 77,500/-			77500
4	Environment and Social Impact				

	Screening Report					
5	Draft Feasibility Report					
6	Final Feasibility Report					
7	Strip Plan with L.A. reports					
8	Draft LA & Clearances 1 Report					
9	Final LA & Clearances 1 Report					
10	Draft Environmental Assessment Report and RAP					
11	Final Environmental Assessment Report and RAP					
	Draft Detailed Design Report and Drawing etc.					
12	Draft EMP					
13	Draft Bidding Documents					
14	Final Detailed Project Report with Bill of Quantities, Cost Estimates, Updated Drawings etc. Final EMP.					
15	Final Bidding Documents					
16	Draft 3(a), 3(A) and 3(D) notification for land acquisition (3 copies each)					
17	LA and Clearances II reports					
				Total		**77500**

IX. Survey and Investigation

A. Topographic Survey and sub-surface utilities detection Survey (Fixed Rate)

	Item	km	Rate per km (INR)	Amount (INR)	
	Detailed topographic surveys using Mobile/Aerial LIDAR or better Technology. Topographic Survey including hire charges for equipment and supplies of survey teams comprising of project survey filed staff etc. inclusive of cost of materials, labourer.	62	30000	1860000	To paid as per actual survey subject to condition that positive variation of upto 10% variation would be borne by the Consultant.
	Total			**1860000**	

B. Investigation (Fixed Cost)

S.No.	Description	Quantity	Amount (INR)	
1	Road and bridge Inventory (through 3D NSV and MBIU)	124 lane km @Rs 1500 lane km	1,86,000	To paid as per actual survey subject to condition that positive variation of upto 10% variation would be borne by the Consultant.
2	FWD Test and Pavement Evaluation	124 lane km @Rs 1500 lane km	1,86,000	
3	Roughness survey	NA	-	
4	Axle Load Survey	NA	-	

5	Material Survey and Investigation		For two quarry location one test for coarse aggregate and one for fine aggregates @Rs, 25,000 per Test	1,00,000	To paid as per actual testing subject to condition that positive variation of upto 10% variation would be borne by the consultant
6	Sub-grade Investigation		one sample for CBR or K value at every sub-grade/ embankment source say 1 test for every 5 km depending upon topography @ Rs 10000 per test	1,20,000	To paid as per actual testing subject to condition that positive variation of upto 10% variation would be borne by the consultant
7	Socio Economic & Cencus Survey/Studies			5,00,000	
8	Traffic Survey (including all sub-surveys such as axle load Surveys, O&D survey etc. as per TOR)		For all proposed alignments	30,00,000	
9	Special Investigation for Hill Roads for slope stabilisation		LS	5,00,000	
10	Land Acquisition Studies including GIS Mapping		LS	7,50,000	
11	Hydrological Models for Major Bridges		LS	5,00,000	This BOQ item is for mathematical modelling based on CWC data. Physical Model Study to be done through IITs/CWPRS on specific instructions of Authority as per recommendation of DPR Consultants, for which payments shall directly be done by NHAI to that organisation separately.
12	***Geotechnical Investigation**	**Rate/m**	**Qty (in m)**	**Amount (INR.)**	
	To be done as per frequency and rates as per Annexure- I of RFP. Note: Payment shall be made on the actual quantity of boring at rates given in Enclosure-V subject to condition that positive variation of upto 10% variation would be borne by the consultant.			25,00,000	
	Total			83,42,000	

Note: * Quantities of boring shall be taken from Annexure-A to Annexure-I However, Payment shall be made on the actual quantity of boring at rates provided in Annexure-I.

C. GPR

No.	Description	Unit	Quantity	Rate (INR)	Amount (INR)
	GPR Survey for detection of underground utilities Note: To paid as per actual survey subject to condition that positive variation of upto 10% variation would be borne by the consultant	Job	for 10% of project length @INR 10000 per lane km. To be paid only on actual survey	2,48,000	2,48,000
				Total	2,48,000

X. Cost of Supply & Fixing Boundary pillars

	Item	Amount	Amount (INR.)	
	Procuring and fixing boundary pillars and its installation, complete in all respect as per IRC 25:1967: Wherever the proposed alignment follows the existing alignment, the boundary pillars shall be fixed at an interval of 200m on either side of proposed Right of Way. Wherever there is a proposal of realignment of the existing Highway and/or construction of New Bypasses, Consultant shall fix boundary pillars along the proposed alignment on the extreme boundary on either side of the project Highway at 50 m interval. (on lumpsum basis)	21,70,000	21,70,000	
	Assumed that 25% length in urban area, new bypassess and realignment of existing highways with Rs. 2000 per boundary pillar			

XI Land acquisition team including support staff and logistics		
S. No.	**Item**	**Amount (INR)**
1	Land acquisition support staff and logistics for land acquisition team as detailed below @Rs 2,50,000 per month for 5 months for each district. (Samba , Mansar and Udhampur District)	**3750000**
Details of land acquisition teams including support staff, logistics support for land acquisition teams to be deployed by the consultant for each CALA as detailed below. The requirements is minimum. However, the consultant has to ensure adequate manpower given to CALA in terms of area under acquisition in the jurisdiction of each CALA in consultation with NHAI, to ensure completion of land acquisition proceedings in time frame stipulated in contract agreement. Cost variation in this regard is not admissible.		

(A) Land acquisition team including support staff (Each for Samba , Mansar and Udhampur District)				
S. No.	Position	Name	Number	Man months
1	Ex-land Revenue Inspector/Officer or equivalent	TBN	1	5
2	Ex Kanoogo/Girdwar or equivalent	TBN	1	5
3	Ex-Patwari or equivalent	TBN	1	5
4	Typist	TBN	2	5
5	Peon	TBN	1	5

(B) Logistics for land acquisition teams			
S. No.	Position	Number	Months
1	Computer including necessary peripherals	2	5
2	Printers	2	5
3	Vehicles (Bolero or equivalent) with monthly running limit of 4000 km	1	5

Note: The Consultant shall provide allied team and supporting logistic for each district along with Land Acquisition Expert for man months as defined in BOQ.

S.No.	Description	Quantity	Amount (INR)	Remarks
XII	Provisional Sum towards Environment Clearance/ Wildlife Clearance	LS	7,50,000	To be paid only if Environment/ Wildlife Clearance is required in the approved alignment.

Annexure-I

Empanelment Criteria for Geotechnical Investigation Agencies

A. For Normal Highway Projects the testing agency should have the following:

1. NABL Accreditation: In-situ & Laboratory Testing

(i) Site & Laboratory testing agency shall in-house equipment's & testing laboratory holding valid NABL accreditation under ISO 17025: 2017 for the following:

Discipline	Product/Material of test	Specific Test Performed	Test method
In-Situ	Soil	Drilling in Soil Standard Penetration Test (SPT) by Automatic and Manual method	IS 2131: 1981

(ii) Site & Laboratory testing agency shall in-house equipment's & testing laboratory **holding** valid NABL accreditation under ISO 17025: 2017 for at least 80% (i.e 19 no.s out of 23) testing parameters of soil & rock as mentioned below:

S No.	Discipline	Product/Material of test	Specific Test Performed	Test method
1	Mechanical	Soil	Atterberg's Limit	IS 2720 (Part 5) 1985 RA: 2020 & 2021
2	Mechanical	Soil	California Bearing Ratio (CBR)	IS 2720 (Part 16) 1987 RA: 2021
3	Mechanical	Soil	Triaxial Shear test	IS 2720 (Part 12) 1981 RA: 2021
4	Mechanical	Soil	Direct Shear Test	IS 2720 (Part 13) 1986 RA: 2021
5	Mechanical	Soil	Consolidation Test	IS 2720 (Part 15) 1965 RA:2021
6	Mechanical	Soil	Free Swell Index	IS 2720 (Part 40) 1977 RA:2021
7	Mechanical	Soil	Grain Size Analysis (Hydrometer)	IS 2720 (Part 4) 1985 RA: 2020
8	Mechanical	Soil	Grain Size Analysis/Sieve Analysis	IS 2720 (Part 4) 1985 RA: 2020
9	Mechanical	Soil	Standard/ Modified Proctor Compaction (OMC/MDD)	IS 2720 (Part 7) 1980 RA: 2021 /IS 2720 (Part 8) 1983 RA: 2020
10	Mechanical	Soil	Permeability test	IS 2720 (Part 17) 1986 RA:2021
11	Mechanical	Soil	Specific Gravity	IS 2720 (Part 3) 1980 RA: 2021
12	Mechanical	Soil	Swelling Pressure	IS 2720 (Part 41) 1977 RA:2021
13	Mechanical	Soil	Unconfined Compressive Strength	IS 2720 (Part X) 1991 RA: 2020
14	Mechanical	Soil	Water Content	IS 2720 (Part 2) 1973 RA: 2020
15	Mechanical	Rock	Bulk Density of Rock	IS 13030 1991 RA: 2016
16	Mechanical	Rock	Modulus of Elasticity	IS 9221 1979 RA: 2016

17	Mechanical	Rock	Point Load Strength Index	IS 8764 1998 RA: 2019
18	Mechanical	Rock	Poisson's Ratio	IS 9221 1979 RA: 2016
19	Mechanical	Rock	Porosity	IS 13030 1991 RA: 2016
20	Mechanical	Rock	Relative Density	IS 13030 1991 RA: 2016
21	Mechanical	Rock	Unconfined Compressive Strength	IS 9143 1979 RA: 2016
22	Mechanical	Rock	Water Content/Absorption	IS 13030 1991 RA: 2016
23	Mechanical	Rock	Slake Durability Test	IS 10050 1981 RA: 2016

2. Ownership of field-testing equipment's:

II. Ownership of field-testing equipment's:

Bidder shall have ownership of minimum 5 Nos. in-house Hydraulic/ Rotary drilling rigs, 5 Nos. power winch/shell & auger drilling rigs.

In case where bidders manufacture equipment on their own, they need to list all the parts used in the equipment and submit bills of purchase of all those parts as evidence of ownership along with photograph of the finally assembled equipment.

3. Technical Manpower on-roll:

S. No.	Position	Minimum Qualification	Nos.	Minimum Experience
1	Team Leader	M.Tech (Geotech)	1	5 years in geotechnical investigation work, testing and recommendations /advisory services.
2	Lab In charge	Graduate in Civil Engg or Diploma/ITI in Civil Engg	1	5 years in geotechnical investigation works for Graduate in Civil Engg 10 years in geotechnical investigation works for Diploma/ITI Holders in Civil Engg
3	Site-In charge (Project Manager)	Graduate in Civil Engg or Geologist (MSc Geology) or Diploma in Civil Engg	1	10 years in geotechnical investigation works. or 12 years in geotechnical investigation works for MSc Geology and Diploma Holders in Civil Engg.

4	Civil Engineer/ Site Supervisor/Geologis ts	Graduate/Diploma/ITI in Civil Engg/M.sc in Geology (for Geologists)	3	2 years in geotechnical investigation work.

B. For Highway Projects in Hilly/Mountainous Area the testing agency should fulfil the following requirements in addition to all eligibility requirement for Normal Highway Projects:

1. NABL Accreditation: In-situ & Laboratory Testing

(i) In addition to requirement for normal highway projects the Site & Laboratory testing agency shall in-house equipment's & testing laboratory **holding** valid NABL accreditation under ISO 17025: 2017 for at least 80% (8 No.s out of 10) of the following tests:

S No.	Discipline	Product/ Material of test	Specific Test Performed	Test method
1.	Mechanical	Rock	Bulk Density of Rock	IS 13030 1991 RA: 2016
2.	Mechanical	Rock	Modulus of Elasticity	IS 9221 1979 RA: 2016
3.	Mechanical	Rock	Point Load Strength Index	IS 8764 1998 RA: 2019
4.	Mechanical	Rock	Poisson's Ratio	IS 9221 1979 RA: 2016
5.	Mechanical	Rock	Porosity	IS 13030 1991 RA: 2016
6.	Mechanical	Rock	Relative Density	IS 13030 1991 RA: 2016
7.	Mechanical	Rock	Unconfined Compressive Strength	IS 9143 1979 RA: 2016
8.	Mechanical	Rock	Water Content/Absorption	IS 13030 1991 RA: 2016
9.	Mechanical	Rock	Slake Durability Test	IS 10050 1981 RA: 2016
10.	Mechanical	Rock	Brazilian Tensile Test	IS 10082 1981 RA: 2016

2. Work Experience: The testing agency should have carried out geotechnical investigation for a cumulative of 10 kms of Highway/Railway projects in hilly/mountainous areas.

3. Technical Manpower on-roll:

Position	Minimum Qualification	Nos.	Minimum Experience
Geologist	M.sc in Geology	1	5 years in geotechnical investigation work (To oversee investigation work with suitable geological description & strata details).

C. For Highway Projects in Tunnel Projects the testing agency should fulfil the following requirements in addition to all eligibility requirement for Highway Projects in Hilly/Mountainous Area:

1. NABL Accreditation: In-situ & Laboratory Testing

(i) NABL Accreditation: In-situ & Laboratory Testing: In addition to requirement for normal highway projects and projects in hilly/mountainous area

the Site & Laboratory testing agency shall in-house equipment's & testing laboratory holding valid NABL accreditation under ISO 17025: 2017 for at least 80% (i.e 7 no.s out of 9) testing parameters of soil & rock as mentioned below:

S No.	Discipline	Product/ Material of test	Specific Test Performed	Test method
1.	Mechanical	Rock	Cerchar Abrasivity Index test	ASTM-D (7625): 2010
2.	Mechanical	Rock	Pressure Meter Test (Menard Method)	IS 1892
3.	Mechanical	Rock	Pressure Meter test (OYO Method)	IS 12955 (Part 2)
4.	Mechanical	Rock	Insitu Permeability Test in Rock	IS 5529 (Part 2)
5.	Mechanical	Soil & Rock	Seismic Refraction Test	IS 15681
6.	Mechanical	Soil & Rock	2D Electrical Resistivity Tomography (ERT)	ASTM D6431-99 / IS 1892
7.	Mechanical	Rock	Petrography	BS EN 12407
8.	Mechanical	Soil & Rock	Cross Hole Seismic Test	ASTM D4428M
9.	Mechanical	Soil & Rock	Down Hole Seismic Test	ASTM D4428M

2. Work Experience: The testing agency should have carried out geotechnical investigation for a cumulative of at least 500 m of tunnels for Highway/Railway/Metro/ Hydropower Projects with minimum tunnel length of 100m of individual project.

3. Ownership of field-testing equipment's: Bidder shall have ownership of minimum 1 Multi-Point Bore Hole Extensometer, 1 Pillar Strain Meter, 1 Vibrating Wire Load Cell, 1 Shotcrete Stress Gauge, 1 Convergence indicator.

D. The scope of work for geotechnical investigation agencies:

1. Mobilization and de-mobilization of Drilling Rigs and all other required equipments, tools & tackles for carrying out investigation work on-land/in- water investigations.

2. Drilling in Soil, Standard Penetration Test (SPT-NABL accredited) and UDS according to the respective Indian Standard Code. Drilling in rock to be done only by either double/Triple tube core barrel.

3. Shifting from one structure/borehole to other and set up of rigs and manpower along with other tools.

4. Conducting All 18 NABL accredited Laboratory test of soil listed in eligibility according to the respective Indian Standard Code.

5. Conducting All 10 NABL accredited Laboratory test of rock listed in eligibility according to the respective Indian Standard Code. For hill/mountain projects Brazilian Tensile Test shall also be conducted. For tunnel projects Cerchar Abrasivity Index test, Pressure Meter Test (Menard Method), Pressure Meter test (OYO Method) & Insitu Permeability Test in Rock shall also be conducted.

6. All tests are to be conducted in frequency as specified in the RFP.

7. All Preparation and Submission of report with recommendation of type of foundation and allowable bearing pressures for the soil/rock at various depths.

8. It should be ensured that at least 90% of all the mechanical tests for soils and rocks are conducted by the empaneled Agency themselves.

9. All remaining mechanical and chemical tests, if any, are to be conducted through labs accredited by NABL for those tests.

10. Reports of all Tests conducted by the Agency directly or through other NBAL accredited labs must contain the Unique Laboratory Report (ULR) Number as per NABL guidelines and all the reports must mandatorily be uploaded on NABL Portal for the same.

11. The bore log/core log for testing in tunnels should mention all the parameters for determination of RMR and Q value used for tunnel design as per IRC SP:91 2019 (or latest edition published at the time of testing)

12. The minimum man-power as described in the eligibility clause 2 of NIT, shall have to be deployed by the agency during field and lab testing, as the case may be.

E. The BOQ are as under (Rates to be revised every 2 years to compete with market rates)

S.No.	Item	Unit	Quantity	Rate* (INR.)
1	Sub-Soil Investigation (Boring)			
a	Drilling of borehole in all type of soil up to required depth from EGL and conducting Standard Penetration test at 1.50 mtr interval or every change of strata as per IS: 2131-1981 including collection of disturbed / undisturbed soil samples at every 3.0 mtr Intervals and Recording depth of ground water table.	Per Meter	To be decided as per Annexure-A	2000
b	Drilling of NX size borehole using Double/Triple tube core barrel with diamond core bit in all type of Rock (CR>0%)	Per Meter	To be decided as per Annexure-A	4000
2.	Sub-Soil Investigation (Boring) in Hilly & Mountainous Terrain or Tunnels			
a.	Drilling of borehole in all type of soil up to required depth from EGL and conducting Standard Penetration test at 1.50 mtr interval or every change of strata as per IS: 2131-1981 including collection of disturbed / undisturbed soil samples at every 3.0 mtr Intervals and Recording depth of ground water table.	Per Meter	To be decided as per Annexure-A	3000
b.	Drilling of NX size borehole using Double/Triple tube core barrel with diamond core bit in all type of Rock (CR>0%)	Per Meter	To be decided as per Annexure-A	6000

Additional investigation for Hill Roads are as under:

S No.	Item	Unit	Quantity	Rate* (INR.)

1.	**Field test according to the Indian standards codes/ASTM**			
a	Conducting Petrography of rock	Nos.	To be decided as per Annexure-A to Annexure-I	5,000
b	Geological Mapping (SRT): 1 test at 115 m length	Nos.	To be decided as per Annexure-A to Annexure-I	75,000
3.	Slope stability analysis	lumpsum		5,00,000

Additional investigation for Tunnel Projects are as under:

S No.	Item	Unit	Quantity	Rate* (INR.)
1.	**Field test according to the Indian standards codes/ASTM**			
a	Conducting Pressure meter test in soil (Menard type)	Nos.	To be decided as per Annexure-A to Annexure-I	15,000
b	Conducting Pressure meter test in rock (OYO type)	Nos.	To be decided as per Annexure-A to Annexure-I	20,000
c	Conducting Petrography of rock	Nos.	To be decided as per Annexure-A to Annexure-I	5,000
d	Conducting Cerchar Abrasivity test	Nos.	To be decided as per Annexure-A to Annexure-I	1,000
e	**Geophysical Investigation**			
i	Seismic Refraction test (SRT): 1 test at 115 m length	Nos.	To be decided as per Annexure-A to Annexure-I	75,000
ii	Cross hole seismic test (CHST): up to 30 m including drilling of 3 bore holes	Nos.	To be decided as per Annexure-A to Annexure-I	3,50,000
f	Insitu Permeability test	Nos.	To be decided as per Annexure-A to Annexure-I	7,500
3	Slope stability analysis	lumpsum		5,00,000

Note*: All rates to be reviewed by Technical Divisions before issue of tender

Quantity Estimation for testing

(I) For Normal Highway Projects as well as Projects in Hilly/Mountainous Regions

Type of Structure	Span length	Guideline for No of Boreholes	No. of Boreholes		Termination Criteria (m)						
					Case 1	Case 2	Rock Strata			Maximum Combined Bore Hole Depth not to Exceed	
			Abutment / Approach Location	Intermediate / Pier Location	Soil Open Foundation (Refusal Encountered at shallow depth upto 10 m)	Soil Pile Foundation	Soft Rock Open Foundation	Soft Rock Pile Foundation	Hard Rock (RQD>75 %)	Open Foundation	Pile Foundation
MJBR / MNBR	15-30m	one borehole on one abutment location	1	-	20	40	5	15	3	20	40
	30m-60m	one borehole on one abutment location and one borehole on one intermediate pier location	1	1	-	40	-	15	3	-	40
	Greater than 60m	borehole on each abutment and each pier location.	2	1*	-	40	-	15	3	-	40
Flyover / ROB / RUB	15-30m	one borehole on intermediate section	-	1	20	40	5	15	3	20	40
		two borehole on each approach side	4	-	20	-	5	-	3	20	-
	30m-60m	one borehole on one abutment location and one borehole on one intermediate pier location	1	1	20	40	5	15	3	20	40
		two borehole on each approach side	4	-	20	-	5	-	3	20	-
	Greater than 60m	borehole on each abutment and each pier location.	2	1*	-	40	-	15	3	-	40
		two borehole on each approach side	4	-	20	-	5	-	3	20	-

VUP	1*12*4.5	one borehole on intermediate section	-	1	20	-	5	-	3	20	-
	1*12*5.5	one borehole on intermediate section	-	1	20	-	5	-	3	20	-
		one borehole on each approach side	2	-	20	-	5	-	3	20	-
	1*20*4.5	one borehole on intermediate section	-	1	20	30	5	-	3	20	30
		one borehole on each	2	-	20 405	-	5	-	3	20	-

		approach side									
	1.20*5..5	one borehole on intermediate section	-	1	20	30	5	-	3	20	30
		two borehole on each approach side	4	-	20	-	5	-	3	20	-
Culvert	Size as per IRC SP 13:2004	one trial pit	Trial pit 1 / culvert		15	20	5		3	15	-
Embankment along road portion	height<6 m	Trial Pit at each km	1 Trial Pit / km		1.5 x Embankment height or up to the rock strata which is earlier						
	height>6 m	1 Bore hole at each km	1 Bore hole / km								

NOTE:- 1). * depends on the number of piers in the structure

2). Refusal in soil strata as N>100.

3). Case 1:-In case, only soil Strata encountered and open foundation recommended.

4). Case 2 :- In case, only soil Strata encountered and pile foundation recommended.

5). Maximum Borehole depth in case of Open foundation: -Depth of soil + 5 m in soft rock or 3m in hard rock or limiting to maximum borehole depth as mentioned in case 1.

6). Maximum Borehole depth in case of Pile foundation:-Depth of soil + 15 m in soft rock or 3m in hard rock or limiting to maximum borehole depth as mentioned in case 2.

7). Above guidelines as per clause no. 3.2 of IRC-78:2014 & clause no. 1102.1 of MORTH 5th revision

Strata Classification	
Soil	Drilling in all type of soils, Core Recovery upto 0%
Soft Rock	Drilling in weathered rock, Core Recovery > 0%; and 0<RQD<75%
Hard Rock	Drilling in rock - RQD >75%

(II) For tunnels:

S No.	Type of tunnel	Nos.	Depth of Bore hole
1	Length < 1 km	1 borehole at each portal and 1 bore hole in center	1.5 times of the diameter belowtunnel invert level
2	Length > 1 km	1 borehole at each portal, 1 borehole in center and Intermediate boreholes at every 1 km	

Appendix D-1: Bank Guarantee Format for PerformanceSecurity

(The Bank Guarantee shall be on a Stamp Paper of appropriate value in accordancewith Stamp Act and shall be purchased in the name of the guarantee issuing Bank orthe Party on whose behalf the BG is being issued.)

(Ref ITC-clause 13.1.2 and GCC-clause 5.8)

Ref Bank Guarantee No……

Date……..

To
The President of India, throughHead of Procurement Procuring Organisation [Complete address of the Procuring Entity]

In consideration of {Tender Issuing Authority} (hereinafter referred as the "Client", which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s……having its office at …….. (Hereinafter referred to as the "Consultant" which expression shall repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a contract by issue of client's Contract Agreement no. / Letter of Acceptance No. …….. dated …… and the same having been unequivocally accepted by the Consultant, resulting in a Contract valued at Rs……../- (Rupees….....) excluding Goods & service tax for "Consultancy Services for Preparation of DPR for development of .....in the State of …… **(Total Length .....km)** (Hereinafter called the "Contract"), and the Consultant having agreed to furnish a Bank Guarantee to the Client as "Performance Security as stipulated by the Client in the said contract for performance of the above Contract amounting to Rs……../- (Rupees… .....).

We, ……..having registered office at ……., a body registered/constituted under the ……(hereinafter referred to as the Bank), which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the client immediately on demand any or, all money payable by the Consultant to the extent of Rs. ……..(Rupees…..) as aforesaid at any time up to ……..without any demur, reservation, contest, recourse or protest and/or without any reference to the consultant. Any such demand made by the client on the bank shall be conclusive and binding notwithstanding any difference between the Client and the Consultant or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Client discharges this guarantee.

The Client shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time to vary or to extend the time for performance of the contract by the Consultant. The Client shall have the fullest liberty without affecting this

guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the consultant and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Client and the Consultant any other course or remedy or security available to the Client. The client shall also have the fullest liberty to release the liability of the Bank Guarantee in parts or full as per the conditions of the contract agreement of the said consultancy assignment through written request to the bank. The bank shall not be relieved of its obligations under these presents by any exercise by the Client of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Client or any other indulgence shown by the Client or by any other matter or thing whatsoever which under law would but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Client at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Consultant and notwithstanding any security or other guarantee that the Client may have in relation to the Consultant's liabilities.

Notwithstanding anything contained herein,

a) Our liability under this Bank Guarantee is limited to Rs. ……(Rupees……) and it shall remain in force up to and including ……and shall be extended from time to time for such period as may be desired by M/s… , on whose behalf this guarantee has been given.

b) This Bank Guarantee shall be valid up to ……..

c) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before..... (date of expiry of Guarantee).

d) The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to be designated bank of <Name of Implementing Agency> after obtaining details thereof from <Name of Implementing Agency>

(Signature of the Authorized Official) (Name &

Designation with Bank Stamp)

NOTE:

(i) The bank guarantee(s) contains the name, designation and code number of the officer(s) signing the guarantee(s).

(ii) The address, telephone no. and other details of the Head Office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing Branch.
(iii) The bank guarantee for Rs 10,000 and above is signed by at least two officials (or as per the norms prescribed by the RBI in this regard).

Appendix D-2: Bank Guarantee Format for Advance Payment

(The Bank Guarantee shall be on a Stamp Paper of appropriate value in accordancewith Stamp Act and shall be purchased in the name of the guarantee issuing Bank orthe Party on whose behalf the BG is being issued.)

(Ref GCC-clause 10.5.2)

Ref Bank Guarantee No……

Date……..

To

The President of India, throughHead of Procurement Procuring Organisation

[Complete address of the Procuring Entity]

Whereas M/s……with its Registered/ Head Office at ..... (name and address of the Consultant, hereinafter called "the Consultant", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) has undertaken, in pursuance of contract no …….. date……. to delivery … .....(description of Services) (hereinafter called "the contract").

And Whereas you (unless repugnant to the context or meaning thereof, including yoursuccessors, administrators, executors, and assigns) have agreed in pursuance of the said terms and conditions of the contract to make an advance payment of Rs.....

(Rupees.....only) to the Contractor on the Contractor furnishing a Bank Guarantee in the manner herein contained.;

And Whereas we …… with our Head Office at…….

(name and address of the Bank, hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby affirm that we are guarantors and responsible to you, on behalf of the Consultant, up to a total of ……(amount of the

guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the Consultant to be in default under the contract and without cavil or argument, any sumor sums within the limits of (amount of guarantee) as aforesaid, without your needingto prove or to show grounds or reasons for your demand or the sum specified therein,notwithstanding any difference between you and the Consultant or any dispute pending before any Court, Tribunal, Arbitrator or any other authority.

We hereby waive the necessity of your demanding the said debt from the Consultant before presenting us with the demand.

The Bank undertakes not to revoke this guarantee during its currency without your previous consent and further agrees that the guarantee herein contained shall continueto be enforceable till you discharge this guarantee. This guarantee will not be discharged due to a change in the constitution of the Bank or the Consultant's.

We further agree that no change or addition to or other modification of the terms of thecontract to be performed thereunder or of any of the contract documents which may be made between you and the Consultant 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 the …… day of ……20…… Our……. branch at ..... *(Name & Address of the.....*(branch) is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our * branch a written claim or demand and received by

us at our ……..* branch on or before Dt… otherwise, the bank shall be discharged of all liabilities under this guarantee after that.

The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to be designated bank of <Name of Implementing Agency> after obtaining details thereof from <Name of Implementing Agency>

(Signature of the authorized officer of the Bank)

.....

……. Name and

designation of the officer

…… Seal, name &

address of the Bank and address of the Branch

*Preferably at the authority's headquarters competent to sanction the expenditure forprocurement of goods/services or at the concerned district headquarters or the state headquarters.

Format 2: Authorization To attend Pre-Proposal

(Refer to ITC-clause 7)

(on Company Official Letter Head)

Consultant's Name_____

[Address and Contact Details]

Consultant's Reference No._____

To

Head of Procurement Procuring Organisation [Complete address of the Procuring Entity]

Date…….

Ref: RFP Document No. RFP No./ xxxx; Tender Title: Consultancy Services

Subject: Authorization to attend Pre-Proposal Conference on_____(date). Following persons are hereby authorized to attend the Pre-Proposal Conference for the tendermentioned above on behalf of_(Consultant)in the order of preference given below.

Sr.	Name	Government Photo ID Type/Number
I.		
II.		
Alternate Representative		

Note:

1. Maximum of two representatives (carrying valid Government photo IDs) shall be permittedto attend the Pre-Proposal opening. An alternate representative shall be permitted when regular representatives cannot attend.

2. Permission to enter the hall where the pre-Proposal conference is conducted may be refusedif authorization as prescribed above is not submitted.

Signatures of Consultantor

The officer authorized to sign the Proposal.

Documents on behalf of the Consultant

[name & address of Consultant and seal of company]

Format 3: Format of Insurance Surety Bond

FORM OF SURETY BOND

[Performance Security]

To,

NHAI

WHEREAS:

(A) I (the "**Consultant**") and The President of India, through the Secretary (RT&H)/ Chairman NHAI/ MD NHIDCL, in the MoRTH/NHAI/NHIDCL (the "**Authority**") have to execute and enter into a consultancy agreement (the "**Agreement**") in pursuance of the LOA issued to the Consultant *vide* ref no. dated ___ whereby the Authority has agreed to the Consultant rendering consultancy services for _____[2], subject to and in accordance with the provision of the Agreement.

(B) The Consultant is required to furnish a performance security to the Authority for a sum of Rs. _____/- (Rupees _____only) (the "**Surety Bond Amount**") as security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Agreement Period (as defined in the Agreement).

(C) We, [3] having registered office at _____[4] through our branch at _____[5] (hereinafter referred to as the 'Surety Insurer'), which expression shall, unless repugnant to the context **or** meaning thereof, include its successors, administrators, executors and assigns) have agreed to furnish this Surety Bond by way of performance security.

NOW, THEREFORE, the Surety Insurer hereby, unconditionally and irrevocably guarantees and affirms as follows:

1. The Surety Insurer hereby unconditionally and irrevocably guarantees the due and faithful performance of the Consultant's obligations during the Agreement Period under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Consultant, such sum or sums up to an aggregate sum of the Surety Bond Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/ or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager/Superintending Engineer in the NHAI, that the Consultant has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Surety Insurer. The Surety Insurer further agrees that the Authority shall be the sole judge as to whether the Consultant is in default in due and faithful performance of its obligations during the Agreement Period under the Agreement and its decision that the Consultant is in default shall be final, and binding on the Surety Insurer, notwithstanding any differences between the Authority and the Consultant, or any dispute between them pending before any court. tribunal, arbitrators or any other authority or body, or by the discharge of the Consultant for any reason whatsoever.

1 Name and registered address of the Consultant to be mentioned.

2 Name of the project to be mentioned.

3 Name of the Surety Insurer to be mentioned.

4 Registered Address of the Surety Insurer to be provided.

f the Surety Insurer to be mentioned.

3. In order to give effect to this Surety Bond, the Authority shall be entitled to act as if the Surety Insurer were the principal debtor and any change in the constitution or winding up of the Consultant or the Surety insurer, whether by their absorption, merger or amalgamation with any other entity or otherwise, shall not in any way or manner affect the liability or obligation of the Surety Insurer under this Surety Bond.

4. It shall not be necessary, and the Surety Insurer hereby waives any necessity, for the Authority to proceed against the Consultant before presenting to the Surety Insurer its demand under this Surety Bond.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Surety Insurer under this Surety Bond, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Consultant contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Consultant, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Surety Insurer shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Consultant or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Surety Insurer from its liability and obligation under this Surety Bond and the Surety Insurer hereby waives all of its rights under any such law.

6. This Surety bond is issued by the Insurer and held by the Authority towards performance security of the Consultant as required under clause _____of the Agreement[6] and is in addition to and not in substitution of any other surety bond or security which may hereafter be held by the Authority in respect of or relating to this Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Surety Insurer under the Surety Bond is restricted to the Surety Bond Amount, and this Surety Bond will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Surety Insurer under this Surety Bond, all rights of the Authority under this Surety Bond shall be forfeited, and the Surety Insurer shall be relieved from its liabilities hereunder.

8. The Surety Bond shall cease to be in force and effect on "_____"[7]. Unless a demand or claim under this Surety Bond is made in writing before the expiry of the Surety Bond, the Surety insurer shall be discharged from its liabilities hereunder.

9. The Surety Insurer undertakes not to revoke this Surety Bond during its currency, except with the previous express consent of the Authority in writing and declares and warrants that it has the power to issue this Surety Bond and the undersigned is duly authorised and has full powers to do so on behalf of the Surety Insurer.

10. The Surety Insurer agrees that it will not assign its obligation under this Surety Bond without the prior written consent of the Authority. The Authority will not unreasonably withhold its consent if the proposed assignee is of at least equal financial standing to the Surety Insurer and the assignee assumes in writing the obligations of the Surety Insurer under this Surety Bond at the same time or before the assignment.

[6] Reference of RFP clause can be mentioned here as the issuance of Insurance Surety Bond is a pre-condition for execution of the Agreement.
[7] (Date of issue)+ _____] months (As per Agreement)

11. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Surety Insurer at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

12. The Surety Bond shall cover all the liabilities arising out of the Agreement from the date of its commencement and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

13. This Surety Bond is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision. ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

14. This Surety Bond shall also be operatable at our _____[8] Branch at New Delhi, from whom, confirmation regarding the issue of this bond or extension/ renewal thereof shall be made available on demand. In the contingency of this bond being invoked and payment thereunder claimed, the said branch shall also accept such invocation on letter and make payment of amounts so demanded under the said invocation.

15. The Insurance Surety Bond shall be verified from the specific portal created for this purpose.

Signed and Sealed this _____Day of

SIGNED, SEALED AND DELIVERD

For and on behalf of the Surety insurer by:

(Signature)

(Name) _____

(Designation) _____

(Code Number)_____

(Address) _____

[8] If Surety Bond is being issued from any other branch, any branch from New Delhi to be mentioned for operational purpose.