



**Border Roads Organisation
CHIEF ENGINEER PROJECT DANTAK
(Ministry of Defence)
Government of India**

Request For Proposal

For

PROJECT MANAGEMENT CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR DESIGN, SELECTION OF SITE, TYPE OF BRIDGE, SUB SOIL INVESTIGATION, ESTIMATION, PREPARATION OF TENDER DOCUMENTS, SUPERVISION DURING CONSTRUCTION PERIOD AND MAINTENANCE OF 266 MTR SPAN (INDICATIVE LENGTH) ICONIC BRIDGE INCLUDING APPROACHES AT KM 1.275 ON DAMCHU-HAA LINK ROAD UNDER 60 RCC/ 19 BRTF PROJECT DANTAK IN BHUTAN

May 2026

**Border Roads Organisation
CHIEF ENGINEER PROJECT DANTAK
(Ministry of Defence)**

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PART-I
Ministry of Defence
Government of India
NOTICE INVITING TENDER (NIT)

1. Ministry of Defence, Government of India has delegated the work of “Project Management Consultancy Services for feasibility study, preparation of Detailed Project Report (DPR) For Design, selection of site, type of bridge, sub soil investigation, estimation, preparation of tender documents, Supervision during construction period and maintenance of 266 mtr span (indicative length) iconic bridge including approaches at Km 1.275 On Damchu-Haa Link Road under 60 RCC/ 19 BRTF Project Dantak in Bhutan” to Chief Engineer Project Dantak, Border Roads Organisation(As per Annexure-I).
2. Proposals are hereby invited from eligible PMC for preparation of Detailed Project Report and Project supervision of 266 mtr span (indicative length) iconic bridge including approaches at Km 1.275 on Damchu-Haa Link Road under 60 RCC/ 19 BRTF Project Dantak in Bhutan. The Letter of Invitation (LOI) and Terms of Reference (ToR) including Request for Proposal (RFP) is available online on e-tender portal of <http://eprocure.gov.in/epublish/app>, BRO website www.bro.gov.in and CAB website www.cab.org.bt. Please note that technical and financial bid will be received by the Accepting Officer through offline mode only at the Office of the Chief Engineer (P) Dantak c/o 99 APO, Semtokha, Thimphu or at Pioneer company, 19 BRTF, Jaigaon, West Bengal Pin-736182, Ph 8145087696/9970889254 upto 1700 hrs (BST) on ___ May 2026 and part-I of the tender documents will be opened at 1100 hrs (BST) on ___ May 2026. Tender received after the due date and time will not be considered. Cost of the Document in the form of a Non-refundable document fee of Rs.5,000 (Rupees Five Thousand only) in the form of Demand Draft favoring Chief Engineer Project Dantak and payable at SBI Hasimara must be furnished in a separate envelop while submitting the proposal. The application form without proof of payment of application fee will be rejected without any intimation. Brief particulars of the work are as follows:

Country	Name of the River	Tentative length of bridge in mtr	Estimate PMC cost (in Rs. Cr.)	Assignment period
Bhutan	Wangchu	266	2.96	162 months

3. Before submitting the proposal the PMC 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. Registration of Firm on INFRACON should be applicable for Indian Firms and Indian Key Personnel only. Bid must be submitted offline at the Office of the Chief Engineer (P) Dantak c/o 99 APO, Semtokha, Thimphu or at Pioneer company, 19 BRTF, Jaigaon, West Bengal Pin-736182, Ph 8145087696/9970889254 upto 1700 hrs (BST) on or before ___ Apr 2026.
4. The following schedule is to be followed for this assignment:
 - i) Deadline for downloading of bid: **May 2026**
 - ii) Last date for submission of queries: **May 2026**
 - iii) Pre bid meeting: **May 2026**
 - iv) Deadline for Submission of bids: **May 2026**

Yours Sincerely,

SW(EPC)

For Chief Engineer

Letter of Invitation (LOI)

Bid No.: CE(P) DTK/EPC/01/2026-27

Date: .05.2026

Sub: Project Management Consultancy for feasibility study, preparation of Detailed Project Report (DPR) For Design, selection of site, type of bridge, sub soil investigation, estimation, preparation of tender documents, Supervision during construction period and maintenance of 266 mtr span (indicative length) iconic bridge including approaches at Km 1.275 On Damchu-Haa Link Road under 60 RCC/ 19 BRTF Project Dantak in Bhutan

- 1.1 Ministry of Defence, Government of India has delegated the work of “Project Management Consultancy Services for feasibility study, preparation of Detailed Project Report (DPR) For Design, selection of site, type of bridge, sub soil investigation, estimation, preparation of tender documents, Supervision during construction period and maintenance of 266 mtr span (indicative length) iconic bridge including approaches at Km 1.275 On Damchu-Haa Link Road under 60 RCC/ 19 BRTF Project Dantak in Bhutan” to Chief Engineer Project Dantak, Border Roads Organisation(As per Annexure-I).
- 1.2 A brief description of the assignment and its objectives are given in the Appendix-I, “*Terms of Reference*”.
- 1.3 BRO Project Dantak invites Proposals (the “**Proposals**”) *through e-tender* (offline bid submission) for selection of Technical Consultant (the “Consultant”) who shall prepare detailed project report (DPR) and performs construction supervision. The consultant should have expertise in carrying out similar kind of job, in similar geographical location (particularly for hill road projects). Consultants are hereby invited to submit proposal in the manner as prescribed in the RFP document.
- 1.4 Financial proposal is to be submitted separately. Financial proposal are only to be submitted in hard copy in separate envelope. The most preferred bidder (H-1) would be determined on the basis of Quality and Costs mentioned in the RFP.
- 1.4.1 The consultant (s) shall meet the requirement of available bid capacity i.e. at least equal to the estimated PMC cost (as indicated in NIT). The available bid capacity will be calculated as under:

$$\text{Available bid capacity} = (A * N * 2.5) - B$$

Where,

A = Average Annual turnover (year means Financial year) during the last five years updated to the price level of the the year based on factors indicated in table below: **Form**

T3-A of Appendix-III.

Year	Year-1	Year-2	Year -3	Year-4	Year-5
Up-dation factor	1.00	1.05	1.10	1.15	1.20

N = Number of years prescribed for completion of the PMC consultancy for which these

bids are being invited

B = Value of existing commitments (only allotted works) on the last date of submission of bids as per bidding document and on-going works to be completed during the period of completion of the consultancy for which these bids are being invited.

Note: **The statement (Form T3-A of Appendix-III)** showing the value of existing commitments and on-going consultancy works as well as the stipulated period of completion remaining for each of the works listed should be attached along with certificates duly signed by the Engineer-in-Charge, not below the rank of Executive Engineer or equivalent OR the fees received statement certified by CA can also be submitted as a certificate for ongoing works.

- 1.4 **No MoU/JV is allowed** . Any entity which has been barred by BRO/the Ministry of Road Transport and Highways (MORTH) or its implementing agencies for the works of Expressways, National Highways, ISC and EI Works and the bar subsists as on the date of application, would not be eligible to submit the bid.
- 1.5 To obtain first-hand information on the assignment and on the local conditions, the consultants are encouraged to pay a visit to the BRO Project Dantak, DoST/RGoB and the project site before submitting a proposal and attend a pre-proposal conference. They must fully inform themselves of local and site conditions and take them into account in preparing the proposal.
- 1.6 Financial Proposals will be opened only for the firms found to be eligible and scoring qualifying marks in accordance with Para 5 hereof. The consultancy services will be awarded to the highest ranking consultant on the basis of Quality and Cost.
- 1.7 Please note that(i) costs of preparing the proposal and of negotiating the contract, including visits to the BRO Project Dantak, etc., are not reimbursable as a direct cost of the assignment; and (ii) BRO Project Dantak is not bound to accept any of the proposals submitted and reserve the right to reject any or all proposals without assigning any reasons.
- 1.8 The proposals must be properly ~~digitally~~ signed as detailed below
 - 1.8.1
 - i. by the proprietor in case of a proprietary firm
 - ii. by the partner holding the Power of Attorney in case of a firm in partnership (A certified copy of the Power of Attorney on a stamp paper of Rs. 100 and duly notarized shall accompany the Proposal).
 - iii. by a duly authorized person holding the Power of Attorney in case of a Limited Company or a corporation (A certified copy of the Power of Attorney on a stamp paper of Rs. 100 and duly notarized shall accompany the proposal).

- 1.9 Pre-proposal conference shall be held on the date, time and venue given in Data Sheet.
- 1.10 The Applicant, by submitting its Application pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to the BRO Project Dantak any other right or remedy hereunder or in law or otherwise, the Applicant shall be debarred from participating in the future projects of the BRO Project Dantak in the following situations:
- (a) If an Applicant withdraws its Proposal during the period of its validity as specified in this RFP and as extended by the Applicant from time to time.
 - (b) In the case of a Selected Applicant, if the Applicant fails to sign the Agreement.

2. Documents

- 2.1 To enable you to prepare a proposal, please find and use the attached documents listed in the Data Sheet.
- 2.2 Consultants requiring a clarification of the documents must notify the Client, in writing, by **Hrs on May 2026** .Any request for clarification in writing or by telefax/e-mail must be sent to the BRO Project Dantak address indicated in the Data Sheet. BRO Project Dantak will upload replies to pre-bid queries on its website.

At any time before the submission of proposals, BRO Project Dantak may, for any reason, whether at its own initiative or in response to a clarification requested by a Consulting firm, modify the Documents by amendment or corrigendum. <http://eprocure.gov.in/epublish/app>, BRO website www.bro.gov.in and CAB website www.cab.org.bt website. The Client may at its discretion extend the deadline for the submission of proposals and the same shall also be uploaded on <http://eprocure.gov.in/epublish/app> website.

3. Preparation of Proposal

The proposal must be prepared in three parts viz.

Part 1: Proof of eligibility

Part 2: Technical Proposal

Part 3: Financial Proposal

3.1 Document in support of proof of eligibility

3.1.1 The minimum essential requirement in respect of eligibility has been indicated in the Data Sheet. The proposal found deficient in any respect of these requirements will not be considered for further evaluation. The following documents must be furnished in support of proof of eligibility as per Formats given in Appendix-II:

- (i) **Forwarding letter for Proof of Eligibility in the Form-E1.**
- (ii) **Firm's relevant experience and performance for the last 7 years:** Project sheets in support of relevant experience as per Form-E2/T3 supported by the experience certificates from clients in support of experience as specified in data sheet for the project size preferably in terrain of similar nature as that of proposed project. Certificate should indicate clearly the firms Design/DPR experience/Supervision/ Authority Engineer, in 2/4- laning of highway structures like bridges. Scope of services rendered by the firm should be clearly indicated in the certificate obtained from the client. The information given in Form E2/T3 shall also be considered as part of Technical Proposal and shall be evaluated accordingly. The Consultants are therefore advised to see carefully the evaluation criteria for Technical Proposal and submit the Project Sheets accordingly.
- (iii) **Firm's turnover for the last 5 years:** A tabular statement as in Form E3 showing the turnover of the applicant firm(s) for the last five years beginning with the last financial year certified by the Chartered Account along with certified copies of the audit reports shall be submitted in support of the turnover shall be submitted.
- (i) **Document fee:** Cost of the Document must be furnished in the form of a non refundable fee of INR 5,000 (Rupees Five Thousand only) in the form of Deposit at call Receipt/Term Deposit Receipt/Special Term Deposit Receipt issued in favour of Chief Engineer (P) Dantak, C/O 99 APO payable at SBI Hasimara (WB) by Nationalized/Scheduled Bank. The application form without proof of payment of application fee will be rejected without any intimation.
- (iv) **BID Security:-** The bidder has to sign a Bid securing declaration accepting that if the bidder withdraw or modify its bid during the period of validity i. e. not less than bid validity as mentioned in data sheet from the bid due date or if the bidder is awarded the contract and fail to sign the contract or to submit a performance security before the deadline defined in the request for bid documents, the bidder will be suspended for participation in the tendering

process for the works of BRO/MoRTH/NHAI/NHIDCL and works under other Centrally Sponsored Schemes, for a period of two year from the bid due date of this work and shall be declared non-performing. The bid securing declaration shall be submitted as per the format at Appendix-III-Form -T-12 (Format for Bid Securing Declaration)".

- (v) Power of Attorney on a stamp paper of Rs.100 and duly notarized authorizing to submit the proposal.

- 3.1.2 The minimum essential requirement in respect of eligibility has been indicated in the data sheet, the proposal found deficient in any respect of these requirements will not be considered for further evaluation.

3.2 Technical Proposal

- 3.2.1 You are expected to examine all terms and instructions included in the Documents. Failure to provide all requested information will be at your own risk and may result in rejection of your proposal.

- 3.2.2 During preparation of the technical proposal, you must give particular attention to the following:

*Total assignment period is as indicated in the enclosed TOR. **A manning schedule in respect of requirement of key personnel is also furnished in the TOR which shall be the basis of the financial proposal.** You shall make your own assessment of support personnel both technical and administrative to undertake the assignment. Additional support and administrative staff need to be provided for timely completion of the project within the total estimated cost. **It is stressed that the time period for the assignment indicated in the TOR should be strictly adhered to.***

- 3.2.3 The technical proposal shall be submitted strictly in the Formats given in Appendix-III 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 and Financial Proposals have been submitted by the PMC 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- E2/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.

- 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) adoption of superior technology along with proof c) Quality control and assurance d) Faster execution of the project: limited to six A4 size pages in 1.5 space and 12 font including photographs, if any.
- vii) The proposal should clearly identify and mention the details of Material Testing lab facilities to be used by the PMC 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). A 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

Viii). B Proposed Quality Audit Methodology including Quality Assurance Plan

- ix) Details of office equipment and software owned by the firm in Form-T9
- x) a CVs of following 4 (four) Key Personnels may be submitted
 - [i) Team Leader cum Senior Bridge Engineer,
 - ii) Highway cum Pavement Engineer,
 - iii) Senior Bridge Engineer &
 - iv) Material cum Geo-Technical Engineer-Geologist

For remaining key personnels during the DPR/ Pre construction activity, the CVs need to be submitted for approval prior to signing of contract. Moreover, other key personnel to be deployed during supervision phase, their CVs also need to

be submitted for approval prior to start of construction/supervision. **The CV of the all Key Personnels who is proposed to be engaged at any stage of the consultancy should score at least 75 % marks**

- x(b) It would be preferred that the team leader cum senior Bridge Engineer shall continue during all the Phase 1, 2 of the agreement. Authority also expects all the key personnel specified in the proposal to be available during implementation of Phase 1 (DPR).

During phase 2 the team leader shall be equal or better qualification in case the replacement is necessitated. Moreover, the combined technical score of these 3 key personnel

- (i) Team leader cum Senior Bridge construction Engineer/ Resident Engineer
- (ii) Highway cum Pavement Engineer
- (iii) Bridge/ Structural Engineer

to be deployed during phase 2 (Construction, Supervision & Maintenance) should be equal or more then the Technical score of 3 key personnels(except team leader) as assessed during the technical evaluation. This would ensure that the evaluated preferred bidder during the evaluation stage remain the preferred bidders even in the phase 2 stage (Construction, Supervision & Maintenance).

- xi) INTEGRITY PACT (Form -T-11)
- xii) BID SECURING DECLARATION(Form-T-12)

3.2.4 CVs of Key Persons:

- i) The CVs of the four key personnel as mentioned in para 3.2.3 (x) above in the format as per Form T-10 will be verified from Infracon portal (For Indian Consultants only). It may please be ensured that the format is strictly followed and the information furnished therein is true and correct. The CV must indicate the work in hand and the duration till which the person will be required to be engaged in that assignment. The Firm shall ensure that details furnished in the CV by the personnel are correct. If any information is found incorrect, at any stage, action including termination and debarment from future BRO projects for a minimum period of 2 years may be taken by BRO on the personnel and the Firm.
- ii. The minimum requirements of Qualification and Experience of all key personnel are listed in Enclosure-II of TOR. CV of a person who does not meet the minimum experience requirement as given at enclosure-II of TOR shall be evaluated and the marks obtained shall be taken into consideration during evaluation of Technical Proposal (except Team leader). However, if a firm with such key personnel is declared the “most preferred bidder” for a particular package, such key personnel should be replaced before signing of contract with a person meeting requirements of Qualification and Experience as given at enclosure-II of TOR and whose CV secures 75 % marks and above. If a proposed key personnel does not possess the minimum (essential) educational qualification as given at

enclosure-II of TOR, Zero marks shall be assigned to such CV and such CV shall not be evaluated further. **The CV of the proposed Team Leader should score at least 75 % marks otherwise the entire proposal shall be considered to have failed in the evaluation of Technical Proposals** and shall not be considered for opening of Financial Proposals.

- iii. Team Leader cum Senior Bridge Engineer, Highway cum Pavement Engineer, Material cum Geo-technical engineer, Senior Survey Engineer should be available from beginning of the project. Other Key Personnel with intermittent input are allowed to be deployed/proposed in 3 teams at a time. Further the key personnel required during supervision should also be available as per the requirement/manning schedule. **If same CV is submitted by two or more firms, zero marks shall be given for such CV for all the firms.**
- iv. The availability of key personnel must be ensured for the duration of project as per proposed work programme. If a firm claims that a key personnel proposed by them is a permanent employee of the firm (the personnel should have worked in the firm continuously for a period of at least 1 year), a certificate to the effect be furnished by the firm.
- v. The age limit for key personnel is 65 years as on the date of bid submission. The proof of age and qualification of the key personnel must be furnished in the technical proposal.
- vi. An undertaking from the key personnel must be furnished that he/she will be available for entire duration of the project assignment and will not engage himself/herself in any other assignment during the period of his/her assignment on the project. After the award of work, in case of non-availability of key personnel in spite of his/her declaration, he/she shall be debarred for a period of two years for all projects of BRO.
- vii. Age limit for supporting staff to be deployed on project is 65 years as on the date of bid submission.
- viii. A good working knowledge of English Language is essential for key professional staff on this assignment. Study reports must be in English Language.
- ix. Photo, contact address and phone/mobile number of key personnel should be furnished in the CV.
- x. Availability of key personnel engaged for the phase of construction supervision shall also be ensured by the consultant.
- xi. It may please be noted that in case the requirement of the 'Experience' of the firm/consortium as mentioned in the "Proof of Eligibility' is met by any foreign company, their real involvement for the intended project shall be mandatory. This can be achieved either by including certain man-months input of key experts belonging to the parent foreign company, or by submitting at least the draft feasibility report and draft DPR duly reviewed by the parent firm and their paying

visit to the site and interacting with BRO. In case of key personnel proposed by the foreign company, they should be on its pay roll for at least last six months (from the date of submission).

- xii. In case a firm is proposing key personnel from educational/research institutions, a '**No Objection Certificate**' from the concerned institution should be enclosed with the CV of the proposed key personnel committing his services for the instant project.

3.2.5 The technical proposal must not include any financial information.

3.3 Financial Proposal

3.3.1 The Financial proposal should include the costs associated with the assignment. These shall normally cover: remuneration for staff (foreign and local, in the field, office etc.), accommodation, transportation, equipment, printing of documents, surveys, geotechnical investigations etc. This cost should be broken down into foreign and local costs. Your financial proposal should be prepared strictly using the formats attached in **Appendix - IV**. Your financial proposal should clearly indicate the amount asked for by you without any assumptions of conditions attached to such amounts. Conditional offer or the proposal not furnished in the format attached in *Appendix-IV* shall be considered non-responsive and is liable to be rejected.

3.3.2 The financial proposal shall take into account all types of the tax liabilities and cost of insurance specified in the Data Sheet.

3.3.3 **Costs shall be expressed in Indian Rupees in case of domestic as well as for foreign Consultant.** The payments shall be made in Indian Rupees by the BRO and the Consultant themselves would be required to obtain foreign currency to the extent quoted and accepted by BRO. Rate for foreign exchange for payment shall be at the rate established by RBI applicable at the time of making each payment installment on items involving actual transaction in foreign currency. No compensation done to fluctuation of currency exchange rate shall be made.

3.3.4 Consultants are required to charge only rental of equipments/ software(s) use so as to economize in their financial bid.

3.3.5 Goods & Service tax as applicable shall be paid to the Consultant while making payment for services rendered. The consultants shall then deposit the same with the tax authorities and provide a proof of having done so within next 90 days in line with policy circulars issued by Employer. Employer shall pay only the Goods & service tax.

3.3.6 Beginning 13th months from the bid due date, billing rates shall be increased to cover all items of contract i.e. remuneration, vehicle hire, office rent, consumables, furniture etc. @ 5% every 12 months. However, for evaluation and award of the Bid proposals, the quoted initial rate (as applicable for first 12 months from last date of submission of bid) shall be multiplied by the total time input for each position on this contract, i.e. without considering the increase in the billing rates.

4. Submission of Proposals

- 4.1 The Applicants shall submit the proposal (Proof of Eligibility and Technical Proposal) comprising the documents as mentioned under clause 3.1.1 and 3.2.3 respectively to meet the requirements of 'Proof of Eligibility' and 'Technical Proposal' online. **However, documents listed in para 3.1.1(iv), (v) (vi) & (vii) shall be submitted in original by the successful bidder before issue of LOA in case of non compliance the bidder shall be debarred for** two year from the bid due date of this work and shall be declared nonperforming. The document listed in para 3.1.1 (iv),(v) (vi), (vii) shall be digitally submitted by all the bidders to the Authority while submitting the proposal.
- 4.2 The proposal must be ~~digitally~~ signed by the authorized representative of the consultants. The letter of authorization must be confirmed by a written power of attorney accompanying the proposals. All pages of the Proof of Eligibility and Technical Proposal must be initialed by the person or persons signing the proposal.
- 4.3 The proposal must contain no interlineations or overwriting except as necessary to correct errors made by the Consultants themselves, in which cases such corrections must be initialed by the person or persons signing the proposal.
- 4.4 Your proposal must be valid for the number of days stated in the Data Sheet from the closing date of submission of proposal.

5. Proposal Evaluation

5.1 Stage I- Proof of Eligibility

The proposals would be evaluated by a Committee constituted by BRO Project Dantak. A three-stage procedure will be adopted in evaluating the proposal. In the first stage- Proof of Eligibility, it will be examined as to whether:

- i) The proposal is accompanied by Document fee
- ii) The proposal is accompanied by Bid Security declaration form as per Form-T-12 of Annexure-III.
- iii) The firms(s) have required experience
- iv) The firms(s) have required turnover
- v) The documents are properly signed by the authorized signatories and whether the proposal contains proper POA
- vi) The proposals have been received on or before the dead line of submission.

In case answers to any of the above items is 'No' the bid shall be declared as non-responsive and shall not be evaluated further.

A Consultant satisfying the minimum Eligibility Criteria as mentioned in the Data sheet and who had submitted the above-mentioned documents shall be declared “pass” in Proof of Eligibility and the Technical Proposals of only those consultants shall be opened and evaluated further.

5.2 Stage II- Technical evaluation

In the second stage the Technical proposal shall be evaluated as per the detailed evaluation criteria given in Data Sheet.

A proposal securing 75 marks shall be declared pass in the evaluation

Technical Proposal: **The technical proposal should score at least 75 marks out of 100 to be considered for financial evaluation. The CV of the proposed Team Leader should score at least 75 % marks otherwise the entire proposal shall be considered to have failed in the evaluation of Technical Proposals** and shall not be considered for opening of Financial Proposals.

5.3 Stage III-Evaluation of Financial Proposal

- 5.3.1 In case for a particular package, only one firm is eligible for opening of Financial Proposals, the Financial Proposal shall not be opened, the bids for that package shall be cancelled and fresh bids for this package shall be invited. For financial evaluation, total cost of financial proposal excluding Goods & Service tax shall be considered. Goods & Service tax shall be payable extra.
- 5.3.2 The evaluation committee will determine whether the financial proposals are complete(i.e. whether they have included cost of all items of the corresponding proposals; if not, then their cost will be considered as NIL but the consultant shall however be required to carry out such obligations without any compensation. In case, if BRO feels that the work cannot be carried out within overall cost of financial proposal, the proposal can be rejected. The client shall correct any computational errors and correct prices in various currencies to the single currency specified in Data Sheet. The evaluation shall exclude those taxes, duties, fees, levies and other charges imposed under the applicable law & applied to foreign components/ resident consultants.
- 5.3.3 **For a package in which 2 firms are eligible for opening of Financial proposals**, the procedure as mentioned at Clauses 5.3.4, 5.4 and, 5.5 as mentioned below shall be followed for determining the “most preferred bidder (H-1 bidder)” for this package.
- 5.3.4 The lowest financial proposal (FM) will be given a financial score (SF) of 100 points. The financial scores of other proposals will be computed as follows:
 $SF = 100 \times FM / F$
(SF = Financial Score, FM= Amount of lowest bid, F= Amount of financial proposal converted in the common currency)

5.4 Combined evaluation of Technical and Financial Proposals.

Proposals will finally be ranked according to their combined technical (ST) and Financial

(SF) scores using the weights indicated in the Data Sheet:

$$S = ST \times T + SF \times f$$

Where,

S=Combined Score,

ST=Technical Score out of 100

SF= Financial Score out of 100

T(80) and f (20) are values of weightage for technical and financial proposals respectively.

5.5 Most Preferred Bidder (H-1).

For a particular package, a Consultant with a “particular Team” having the Maximum Combined score (S) shall be declared as the **most preferred bidder**(H-1).

6. Performance Security

- 6.1 The consultant will furnish within 15 days of the issue of Letter of Acceptance (LOA), an unconditional Bank Guarantee equivalent to 2.0% of the total contract value from a Nationalized Bank, IDBI or ICICI/ICICI Bank/Foreign Bank/EXIM Bank / Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs.1000 crore as per latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a Branch in India) the net worth in respect of Indian operations shall only be taken into account. In case of Foreign Bank, the BG issued by Foreign Bank should be counter guaranteed by any Nationalized Bank in India. **The Bank Guarantee will be released by BRO Project Dantak upon expiry of contract. However, if contract is foreclosed / terminated by BRO Project Dantak at any Stage, with no fault of Consultant, Performance Security shall be released within three months from date of foreclosure / termination.**

6.2 In the event the PMC fails to provide the security within 15 days of date of LOA, it may seek extension of time for a period of 15 (Fifteen) days on payment of damages for such extended period in a sum of calculated at the rate of 0.05% (Zero Point Zero Five Percent) of the Bid price for each day until the performance security is provided. For the avoidance of doubt the agreement shall be deemed to be terminated on expiry of additional 15 days time period.

6.3 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the PMC to provide the Performance Security in accordance with the provisions of Clause 6.1 within the time specified therein or such extended period as may be provided by the Authority, in accordance with the provisions of Clause 6.2, all rights, privileges, claims and entitlements of the Consultant under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Consultant and the LoA shall be deemed to have been withdrawn by mutual agreement of the Parties. Authority may take action to debar such firms for future projects for a period of 2 years.

7. Penalty

The consultant will indemnify for any direct loss or damage that accrue due to deficiency in services. Penalty shall be imposed on the consultants for poor performance/deficiency in service as expected from the consultant and as stated in General Conditions of Contract.

8. Deleted.

9. Signing of Contract Agreement

After having received the performance security and verified it, the Client shall invite the selected bidder for signing of Contract Agreement on a date and time convenient to both parties within 15 days of receipt of valid Performance Security.

10. The Client shall keep the bidders informed during the entire bidding process and shall host the following information on its website:

- i) Notice Inviting Tender (NIT)
- ii) Request For Proposal (RFP)
- iii) Amendments/corrigendum to RFP

11. It is the BRO Project Dantak policy that the consultants observe the highest standard of ethics during the selection and execution of such contracts. In pursuance of this policy, BRO Project Dantak

(a) Defines, for the purpose of this paragraph, the terms set forth below as follows:

- (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in contract execution;
- (ii) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a selection process or the execution of a contract;

- (iii) "collusive practices" means a scheme or arrangement between two or more consultants with or without the knowledge of the Client, designed to establish prices at artificial, non-competitive levels;
 - (iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.
- (b) will reject a proposal for award if it determines that the Consultant recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the contract in question;
 - (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract; and
 - (d) Will have the right to require that a provision be included requiring consultants to permit the Employer to inspect their account and records relating to the performance of the contract and to have them audited by authorized representatives of Employer."
 - (e) Any defaulting bidder who fails to sign the agreement after issuance of LOA or found practicing fraudulent activity may be declared non-performer for a period of 2 years, which will not be allowed to bid in project/tenders called by Ministry and its agencies.

12. **Confirmation**

We would appreciate you informing us by facsimile/e-mail *whether or not you will submit a proposal.*

Thanking you.

Yours Sincerely,

SW(EPC)

For chief Engineer

Encl. as above

ANNEXURE-I

Country	Name of the River	Tentative length of bridge in mtr	Estimate PMC cost (in Rs. Cr.)	Assignment period
Bhutan	Wangchu	266	2.96	163 months

DATA SHEET

I (References to corresponding paragraphs of LOI are mentioned alongside)

1. **The Name of the Assignment and description of project as mentioned in Annexure-I**
2. **The name of the Client is :BRO Project Dantak**
3. **Duration of the Project:163 months. However if after finalisation of DPR, if the project has not been awarded within 2.5 years then the consultant is free to exit from the PMC work .**
4. **Date, Time and Venue of Pre-Proposal Conference**

Date: May 2026

Time:

Venue: [Headquarters Chief Engineer Project Dantak, Semtokha, Thimphu, Bhutan](#)

- 5 **The Documents are:**

PART-I

- | | | |
|------|---------------|--|
| i. | Appendix-IA: | Manning Schedule for Project (Phase I, II) |
| ii. | Appendix-IB: | Qualification and Experience requirement (Phase I, II) |
| iii. | Appendix-II: | Formats for Proof of Eligibility |
| iv. | Appendix-III: | Formats for Technical Proposal |
| v. | Appendix-IV: | Formats for Financial Proposal |
| vi. | Appendix-V: | Detailed Evaluation Criteria |

PART-II

- | | | |
|------|-----------------|--------------------------|
| i. | Appendix-VI: | Terms of Reference |
| ii. | Appendix -VII: | Draft Contract Agreement |
| iii. | Appendix -VIII: | DPR Checklist |
| iv. | Appendix -IX: | Sample Executive Summary |

(Ref. Para 2.1)

6. **Tax and Insurance** (Ref. Para 3.3.2)

(i). The Consultants and their personnel shall pay all taxes (including Goods & service tax), custom duties, fees, levies and other impositions levied under the laws prevailing seven days before the last date of submission of the bids. The effects of any increase / decrease of any type of taxes levied by the Government shall be borne by the Client / Consultant, as appropriate.

(ii). Limitations of the Consultant's Liability towards the Client shall be as Per Clause 3.4 of Draft Contract Agreement

(iii). The risk and coverage shall be as per Clause 3.5 of Draft Contract Agreement.

7. Deleted

8. Deleted

9. The date, time and Address of proposal submission are

Date **May 2026**

Time

Address [Office of the Chief Engineer \(P\) Dantak c/o 99 APO, Semtokha, Thimphu or at Pioneer company, 19 BRTF, Jaigaon, West Bengal Pin-736182](#)

10. Proposal Validity period (Number of days): 120 days (Ref. Para 4.4)

11. Evaluation criteria: (Ref. Para 3 & 5)

11.1 First stage evaluation – eligibility requirement. (Ref. Para 3.1 & 5.1)

Table-1: Minimum Eligibility Requirements

Sr. No.	Minimum experience and performance of Preparation of DPR/Supervision of construction of Highways / Bridges in the last 7 years (NH/SH/Equivalent) (for past performance attach undertaking for any litigation history/ and arbitration).	Annual average turnover
1	A Firm applying for a package should have Experience of preparation of Detailed Project Report of two/four lane / Feasibility of Two/ fourlane projects of aggregate length equal to the indicative length of the bridge (i.e. 266 m Firm should have also prepared DPR for at least one project of 2/4 lane of minimum 40% of the indicative length of the bridge (i.e. 266 m or Feasibility Study of two/four lane of minimum 60% of the indicative length of the bridge (i.e. 266 m) Note: The experience of a firm in preparation of DPR for a private concessionaire/contractor shall not be considered unless certified by the client (Road owning authority).	Annual average turnover for last 5 years of the firm should be equal to or more than Rs.5.00 Crores.
2	The firm should have minimum experience of Authority Engineer/Independent Engineer /Construction supervision/PMC of 2/4- lane bridge project of aggregate length equal to the indicative length of bridge (i.e. 266 m for which RFP is invited. Firm should also have experience of Authority Engineer/Independent Engineer /Construction supervision/PMC of at least one project of similar category of 2/4 lane bridge work of minimum 40% of the indicative length of the bridge (i.e. 266 m).	(Updated to the factor as per clause 1.3.2 of LOI)

- (i) The sole applicant shall fulfill all the requirements given in Table-1.
- (ii) For weightage of experience in any past Consultancy assignment, experience certificate from the client shall be submitted.
- (iii) Similar project means 2/4 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.

11.2 Second stage technical evaluation (Refer 5.2)

S.No.	Description	Marks
A1	Firm's Profile, turnover and professionals working with the firm	20
A2	Firm's relevant experience in last 7 years for DPR work	20
A3	Firm's relevant experience in last 7 years for Supervision work	20
B1	Material testing, survey & investigation, equipment and software proposed to be used for DPR work	10
C	Qualification and Relevant experience of the proposed key personnel	30
	Total	100

- 11.3 Detailed evaluation criteria which is to be used for evaluation of technical bids is as indicated at Appendix-V.

The Consultant should carryout self-evaluation based on the evaluation criteria at Appendix-V. While submitting the self-evaluation along with bid, Consultant shall make references to the documents submitted in their proposal which have been relied upon in self-evaluation Result of technical evaluation shall be made available on the website giving opportunity to the bidders to respond within 7 days in case they have any objection

- 11.4 Third stage – Evaluation of Financial proposal

Financial Proposals of all Qualified Consultants in accordance with clause 5.2 and 5.3 of Letter of Invitation shall be opened.

The consultancy services will be awarded to the consultant scoring highest marks in combined evaluation of Technical and Financial proposals in accordance with clause 1.3 and 5.4 hereof.

The Factors are:

The weight given to Technical Proposal (T) =0.80.The weight given to Financial Proposal (f) =0.20

12. The common currency is “**Indian Rupee**”. (Ref. Para 3.3.3)

Consultant have to quote in Rupees both for domestic Consultant as well as Foreign Consultants

13. Commencement of Assignment (Date, Location): The Consultants shall commence the Services within fifteen days of the date of effectiveness of the contract at locations as required for the project stretch stated in TOR. (Ref. Para 1.2 of LOI and 2.3 of GCC/SC)

APPENDIX-IA

MANNING SCHEDULE for phase 1 (project preparation).

A. Standalone Bridge Projects

Sr. No	Key Personnel	Total Project Assignment 180 days		
		At site (man month)	At design office (man month)	Total Time Period (man month)
1	Team Leader cum Sr. Bridge Engineer	4	2	6
2	Highway cum Pavement Engineer	2	4	6
3	Senior Bridge Engineer	3	1	4
4	Material-cum-Geo-technical Engineer-Geologist	2	4	6
5	Senior Survey Engineer	1	2	3
6	Senior Geologist	2	2	4
7	Environmental Specialist	1	1	2
8	Quantity surveyor /Documentation Expert	1	1	2
	Total	16	17	33

MANNING SCHEDULE for phase 2 (Construction supervision and maintenance work).

A. Standalone Bridge Project

S. No.	Key Personnel	Man-month in Construction Period of 36 months	Man-month in Defect Liability Period of 120 months
A: Key Personnel			
1	Team Leader Cum Senior Bridge Engineer	36	4
2	Resident cum Pavement Specialist	12	2
3	Senior Bridge Engineer	36	4
4	Senior Contract Specialist	6	1
5	Senior Quality cum Material Expert	36	1
	Sub Total	126	12
	Total for Construction and Maintenance	138	
B: Sub Professional Staff			
A			
B			
C			
	Sub Total		
	Total for Construction and Maintenance		
Grand Total			

Note: The number of key personnel may be modified as per the requirement with the approval of Competent Authority.

Qualification and Experience Requirement of Key Personnel for Phase 1**SENIOR BRIDGE ENGINEER**

i)	Educational Qualification	
	Essential	Graduate in Civil Engineering or equivalent
	Desirable	Masters in Bridge Engineering / Structural Engineering
ii)	Essential Experience	
	a) Total Professional Experience	Min. 10years
	b) Experience in Bridge projects	Min. 08 years in project preparation and design of bridge projects.
	c) Experience in similar capacity	Bridge Engineer in highway design consultancy projects (2/4 lane NH/SH/ Bridge in hilly terrain) involving design of minimum two major bridges (length more than 200 m)
iii)	Age Limit	65 years on the date of submission of Proposal

HIGHWAY CUM PAVEMENT ENGINEER

i)	Educational Qualification	
	Essential	Degree in Civil Engineering
	Desirable	Masters in highway engineering/ Transportation Engineering
ii)	Experience	
	a) Total Professional Experience	Min.08years
	b) Experience in Highway projects	Minimum 06years' experience in pavement design and maintenance of NH/SH/Hill roads.
	c) Experience in similar capacity	Pavement design for major highway projects (2/4 lane NH/SH/hill roads) of minimum aggregate length of 80 km.
iii)	Age Limit	65 years on the date of submission of Proposal

MATERIAL ENGINEER – CUM – GEOTECHNICAL ENGINEER CUM GEOLOGIST

i)	Educational Qualification	
	Essential	Graduate in Civil Engineering or M.Sc. Geology
	Desirable	Masters in Foundation Engineering / Soil Mechanics / Phd in Geology /Geo Tech Engineering
ii)	Essential Experience	
	a) Total Professional Experience	Min. 10years
	b) Experience in Highway Projects	Min.7 years on similar projects in design and/or construction
	c) Experience in similar capacity	Material cum Geo-technical Engineer on highway projects (2/4 lane NH/SH/Hill roads) of minimum aggregate length of 80 km roads or 200 m bridge
iii)	Age Limit	65 years on the date of submission of Proposal

SENIOR SURVEY ENGINEER

i)	Educational Qualification	
	Essential	Graduate or equivalent in Civil Engineering or Diploma in Civil Engg or Diploma in Surveying
	Desirable	Masters in Survey Engineering/ Surveying / Remote Sensing
ii)	Essential Experience	
	a) Total Professional Experience	Min. 10years
	b) Experience in Highway projects	Min. 8 years on similar projects in project preparation and construction & thorough understanding of modern computer based methods of surveying
	c) Experience in similar capacity	Survey Engineer for projects preparation of highway project (NH/SH/hill roads) involving 2/4-laning of minimum aggregate length of 80 km road or 200 m bridge
iii)	Age Limit	65 years on the date of submission of Proposal

ENVIRONMENTAL SPECIALIST

i)	Educational Qualification	
	Essential	Graduate in Civil Engineering / Environment Engineering / Masters in Environment Science
	Desirable	Post Graduate in Environmental Engineering
ii)	Essential Experience	

	a) Total Professional Experience	Min. 06 years
	b) Experience in Highway Projects	Min. 5 years in environment impact assessment and permitting of highway projects (2/4 laning)
	c) Experience in similar capacity	Environmental Specialist in at least two highway projects (2/4 laning) or 1 bridge project
iii)	Age Limit	65 years on the date of submission of bid

QUANTITY SURVEYOR/DOCUMENTATION EXPERT

i)	Educational Qualification	
	Essential	Graduate or equivalent in Civil Engineering / Certificate course from 'Institution of Quantity Surveying'
	Desirable	
ii)	Essential Experience	
	a) Total Professional Experience	Min. 10 years
	b) Experience in Highway Projects	Min. 8 years in Preparation of Bill of Quantities, Contract documents and documentation for major highway projects involving two/ four laning
	c) Experience in similar capacity	Quantity Surveyor / Documentation Expert in highway projects (NH/SH/hill roads) involving two/four laning of minimum aggregate length of 80 km or 200 m bridge
iii)	Age Limit	65 years on the date of submission of Proposal

TEAM LEADER CUM SENIOR BRIDGE ENGINEER

i)	Educational Qualification	
	Essential	Graduate in Civil Engineering or equivalent as approved by AICTE
	Desirable	Post graduate in Structural Engineering, Degree/Diploma/Certificate in Project Management
ii)	Essential Experience	
	a) Total Professional Experience	Min. 15 years
	b) Experience in Bridge projects	Min. 5 years in major Bridge Design/Construction/Development project.
	c) Experience in similar capacity (Either as Team Leader or in Similar capacity)	He should have handled as Team Leader/Project Manager or similar capacity of at least Two projects each in design and supervision of at least two major bridge of a length 200 mtr.(Excluding approaches)
iii)	Age Limit	65 years on the date of submission of proposal

BRIDGE/STRUCTURAL ENGINEER

i)	Educational Qualification	
	Essential	Graduate in Civil Engineering or equivalent
	Desirable	Masters in Bridge Engineering / Structural Engineering
ii)	Essential Experience	
	a) Total Professional Experience	Min. 8years
	b) Experience in Bridge projects	Min. 05 years in project preparation and design of bridge projects.
	c) Experience in similar capacity	Bridge Engineer in highway design consultancy projects (2/4 lane NH/SH/ hill roads) involving design of minimum two major bridges (length more than 100 m)
iii)	Age Limit	65 years on the date of submission of Proposal

QUALIFICATION AND EXPERIENCE REQUIREMENT OF KEY PERSONNEL FOR PHASE 2

SENIOR BRIDGE ENGINEER

The Bridge & Structural Engineer shall be responsible for checking the designs of bridges, and any other structure to be constructed in the Project highway and supervising the works of bridges and any other structure to be constructed by the Concessionaire for this project. He shall also inspect the bridge rehabilitation and repair works to be undertaken by the Concessionaire. He should have thorough understanding and experience with international 'best practices' of modern bridge construction technology.

He should have the following qualification / experience.

1. Essential Qualifications.

- a) Graduate in Civil Engineering from a recognized University.
- b) Professional Experience of at least 10 years in handling Highway/Bridge projects. At least 5 years experience in Construction / Construction Supervision of bridge / interchange / any other structures.
- d) Experience in similar capacity in supervision of at least 2 Major Highway Bridges.
- e) Experience in supervision of Rehabilitation and repair of 2 nos Major Bridges.
- f) Not more than 65 years of age.

2. Preferential Qualifications.

- a) Post Graduate Degree in Structural Engineering.
- b) He should have thorough understanding and experience of modern bridge construction technology. viz., Arch, extradosed, Precast Segmental, Balanced

HIGHWAY CUM PAVEMENT ENGINEER

The expert shall be continuously interacting with the Concessionaire for the review of highway designs and drawings using sophisticated computer software and also construction and O&M works and to ensure life cycle cost effectiveness and viable design of pavement including appropriate rehabilitation / strengthening of the existing two lane pavement which is significantly distressed. He shall also be responsible for ensuring complete adherence to maintenance standards during Construction and Operation period. Thus, the position requires a pavement specialist with thorough knowledge and understanding of international 'best practices' in the field of Design, Construction and maintenance of flexible/rigid type of pavements including latest Codal stipulations and specifications.

He should have the following qualification / experience.

1. Essential Qualifications.

- a) Graduate in Civil Engineering from a recognized University.
- b) Professional Experience of at least 10 years in Pavement Design / Pavement Construction / Pavement Maintenance of Highways / Roads / bridges of at least 5 years in similar capacity in Construction / Construction Supervision of 2/4 of major highway projects.
- c) Experience as Pavement Specialist/Pavement Engineer in Construction/Construction Supervision of at least 2 major highway projects (of length 40% of project length or more of similar configuration (2/4 lane and above).

2. Preferential Qualifications.

- a) Post Graduate Degree in Highway Engineering / Pavement Engineering /Transportation Engineering
- b) Experience as a Pavement Specialist/Pavement Engineer in Highway EPC project (of length 40% of project length or more of similar configuration (2/4 lane) including major bridges.).

SENIOR CONTRACT SPECIALIST

Duties: He will be deployed in working season in stages for cumulative duration of period mentioned in Enclosure-A for obtaining his expert opinion on emerging contractual issues. His key responsibilities will be to guide and assist Team Leader/Employer in all aspects of contract management in proper implementation of contract provisions including controlling the project cost of the construction package. He will also be required to offer his advice on contractual complications arising during the implementation as per the request of the employer. He will be required to prepare manuals/schedules for the consultants team/employer based on the provisions of the contract document. He will be responsible for giving appropriate suggestions in handling claims of the contractors and any dispute arising thereof.

(1) Essential Qualifications.

- a) Graduate in Civil Engineering from a recognized University.

- b) Professional Experience of 15 years in Contract Management.
- c) Experience of at least 4 years as Contract Specialist on any National/State Highway project/Bridge Project.
- d) Contract Management of a large Highway/Bridge contract say over Rs.150 crore including experience of handling Variation orders, claims of the contractor and there appropriate disposal for at least 2 projects.
- e) Handled at least one Arbitration cases in respect of any Highway/Bridge projects.
- f) *Not more than 65 years of age.*

(2) Preferential Qualifications.

(a) Degree in Law/PG in management/certificate course in management/ certificate course in construction management/certificate course in contract management.

Senior Quality cum Material Expert

The Quality/Material Expert shall review the test results of bore holes, quarry and borrow area material to find out their strength characteristics and suitability for using them in construction. He shall inspect the Concessionaire's field laboratories to ensure that they are adequately equipped and capable of performing all the specified testing requirements of the contract. He shall look into the quality assurance aspect of the construction works and supervise the setting-up of the various Concessionaire's rock crushers and bituminous mixing plants to ensure that the specified requirements for such equipment are fully met. Experience in latest Quality Management techniques in highway projects shall have added advantage.

He should have the following qualification / experience.

1. Essential Qualifications.

- a) Graduate in Civil Engineering from a recognized University.
- b) Professional Experience of at least 10 years in handling Highway projects.
- c) Experience of at least 5 years as Senior Quality/ Material Expert or in similar capacity in Construction / Construction Supervision /major highway projects
- d) Experience as Senior Quality/ Material Expert or in similar capacity in handling of at least 2 similar bridge projects (of length 40% of project length or more of

similar configuration (2/ 4 lane) and above)

e) Not more than 65 years of age.

2. Preferential Qualifications.

Post Graduate Degree in Geotechnical Engineering / Foundation Engineering / Soil Mechanics.

SUB-PROFESSIONAL

SURVEY ENGINEER

The candidate should be Diploma in Civil Engineering Firm may field Survey Engineer with diploma in Civil Engineering/Survey having at least 5 years experience in the field of surveying out of which atleast 3 years should be in highway projects and they should have also dealt with at least 1 project of similar nature. This position requires thorough understanding of modern computer based method of surveying with total station digital level etc.

ASSISTANT HIGHWAY ENGINEER

The Candidate should be Diploma in Civil Engineering.

CAD EXPERT

He should be Diploma in Civil Engineering/Computer Science having experience in computer related design method for highway engineering.

ENVIRONMENTAL ENGINEER

The Candidate should be Diploma in Civil Engineering/Environmental Engineering or other relevant qualification. He should have at least 6 years experience out of which 2 years in highway projects. He should have good knowledge of MOEF guidelines/requirements for mitigation measures.

ASSISTANT BRIDGE ENGINEER

The Candidate should be Graduate in Civil Engineering with 3 years experience. He should have handled at least 1 major bridge project.

ASSISTANT QUALITY CUM MATERIAL ENGINEER

The Candidate should be Graduate in Civil Engineering or diploma in Civil Engineering with 3 years experience.

ELECTRICAL ENGINEER

The Candidate should be Diploma in Electrical Engineering from recognised institute. He should have at least 6 years experience

QUANTITY SURVEYOR

He should be Diploma or equivalent in Civil Engineering having Min. 5 years of professional experience in preparation of highway project estimates. He should have Min. 3 years experience in Preparation of Bill of Quantities/estimates for major highway projects costing Rs.100 Crore or above.

Proof of Eligibility

Form-E1

Letter of Proposal (On Applicant's letter head)

(Date and Reference)

To, *****

Sub: Appointment of Consultant for Project Management Consultancy for

Dear Sir,

With reference to your RFP Document dated, I i.e. M/s-----
----- (Name of Bidder) having examined all relevant documents and understood their contents, hereby submit our Proposal for selection as Consultant. The proposal is unconditional and unqualified.

2. 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.
3. This statement is made for the express purpose of appointment as the Consultant for the aforesaid Project.
4. I shall make available to the Authority any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
5. I acknowledge the right of the authority to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
6. I certify that in the last three years, we or any of our Associates **have neither failed to perform on any contract**, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Applicant, **nor been expelled from any project or contract by any public authority** nor have had any contract terminated by any public authority for breach on our part.
7. I understand that you may cancel the Selection Process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Consultant, without incurring any liability to the Applicants in accordance with Clause 1.7 of the RFP document.
8. I/We certify that in regard to matters other than security and integrity of the country, we or any of our Associates have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to

undertake the Consultancy for the Project or which relates to a grave offence that outrages the moral sense of the community.

9. I further certify that in regard to matters relating to security and integrity of the country, have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.
10. I further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our Directors/Managers/employees.
11. I hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Authority [and/ or the Government of India] in connection with the selection of Consultant or in connection with the Selection Process itself in respect of the above mentioned Project.
12. ~~Deleted.~~
13. I agree and understand that the proposal is subject to the provisions of the RFP document. In no case, shall I have any claim or right of whatsoever nature if the Consultancy for the Project is not awarded to me or our proposal is not opened or rejected.
14. I agree to keep this valid for 120 (One hundred and twenty) days from the Proposal Due Date specified in the RFP.
15. A Power of Attorney in favor of the authorized signatory to sign and submit this Proposal and documents is attached herewith.
16. In the event of my firm being selected as the Consultant, I agree to enter into any Agreement in accordance with the form Appendix V of the RFP. We agree not to seek any changes in the aforesaid form and agree to abide by the same.
17. I have studied RFP and all other documents carefully and also surveyed the Project site. We understand that except to the extent as expressly set forth in the Agreement, we shall have no claim, right or title arising out of and documents or information provided to us by the Authority or in respect of any matter arising out of or concerning or relating to the Selection Process including the award of Consultancy.
18. The Proof of Eligibility and Technical proposal are being submitted in separate covers in hard copy (as per clause 4.1 of LoI) and ~~INFRACON Team I.D no.____~~. Financial Proposal is being submitted in hard copy only. This Proof of Eligibility read with Technical Proposal and Financial Proposal shall constitute the Application which shall be binding on us.
19. I agree and undertake to abide by all the terms and conditions of the RFP Document. In witness thereof, I submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully,
(Signature, name and designation of the authorized signatory)
(Name and seal of the Applicant)

FORM-E2/T3
FIRM'S REFERENCES

The following information related to the firm should be provided in the proposal.

- i. Name of the project applied for:-
- ii. Year of establishment of firm*

Consultant	Year of Establishment	Country	Type of Organization			
			Private	Public	Other	
Individual						

NOTE:- *Copy of Certificate of incorporation shall be submitted.

- iii. Office/ Business Address/Telephone nos. /Cable Address.
- iv. Narrative description of firm (Not more than 2sheets)
- v. Name of two (2) principals who may be contacted with title and telephone number/fax number/e-mail.

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 was legally contracted by the client:

Assignment Name:		Country:
Location within Country :		Professional Staff Provided by your firm:
Name of Client :		No. of Staff :
Address :		No. of Staff Months :
Start Date (Month / Year)	Completion Date (Month / Year)	Approx. Value of Services : (in INR/current USD) :
Name of JV Firm(s) if any :		No. of Months of Professional Staff provided by Associated Firm(s)
Status of your Company in the Assignment		
Narrative Description of Project :		
Description of Actual Services Provided by your Company:		

Signature of Authorized Representative

(Certificate from Employer regarding experience should be furnished)

- i. Experience in DPR/ Feasibility Study preparation of 2/4 lane Bridge Projects non-PPP projects during the last 7years.***

S No	Projects Name /Year	Type of Services Rendered	Length of Bridge Project (m)	Client (with Complete address, contact person, telephone Nos.and FaxNos.)	Total Fee for the Consultancy Assignment (INR)	Fee received by Applicant	%age of total fee received by the firm	Period
	Sole Consultant/ Prime Consultant of JV / minor Authority's Engineer of JV consultant							
1	2	3	4	5	6	7	8	9

- (ii) Experience as Authority Engineer/Independent Consultant/Construction supervision of bridge projects, non-PPP Projects during the last 7 years.***

S No	Projects Name /	Type of Service rendered	Description of Bridge Project/ Length (kms)	Client (with complete address, contact person, Telephone Nos. and FaxNos.)	Total Fee for the Consultancy Assignment (INR)	% age of total fee received by the firm	Approx. Cost of bridge Project	Period
1	2	3	4	5	6	8	9	10

- a) Similar project means 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.

- b) Only those projects, to be included in the table which are bridge Projects and for which clients certificates from the concerned Government agencies are enclosed with the proposal.
- c) The details of bridges having length more than 200 m in the listed projects is to be specifically mentioned.
- d) For weightage of experience in any past Consultancy assignment, experience certificate from the client shall be submitted. If the applicant firm/member of JV has / have prepared the DPR/Supervision projects solely on its own, 100% weightage shall be given. If the applicant firm/member of JV has prepared the DPR/Supervision projects as a partner in a JV, weightage shall be given as per its share in JV. If the applicant firm/member of JV have prepared the DPR/Supervision projects as an associate, 25% weightage shall be given.
- e) For weightage of experience in any past Consultancy assignment, experience certificate from the client shall be submitted. In absence of clear demarcation of JV share in client certificate, the weightage will be treated as 60 % for lead partner and 40% for minor partner. 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.
- (ix) Assignments on hand including those for which the Letter of Acceptance from the clients received as on 7 days prior to due date for submission of proposals: The details shall be given in the following format.

S. No	Name of Assignment	Client	Role of the firm	Date of letter of Acceptance	Date of Agreement if signed	Present status of Assignment	Team Members provided by the firm		
			Sole, Lead/ OtherinJV or sub-consultant				Name	DOB	Position
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

FORM- E3

Financial Capacity of the Applicant

Average Annual turn over of the Bidder

(Refer to Clauses 1.3.2 of the RFP)

(In Rs. crore\$)

Bidder type	Annual Turnover										Average Annual Turnover (In Rs. crore\$)
	Year 1		Year 2		Year 3		Year 4		Year 5		
	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	
1	2	3	4	5	6	7	8	9	10	11	$(2 \times 3 + 4 \times 5 + 6 \times 7 + 8 \times 9 + 10 \times 11) / 5$
Single entity Bidder		1.00		1.05		1.10		1.15		1.20	

Name & address of Bidder's Bankers:

\$The conversion rate of USD into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India for the relevant date. Where relevant date should be as on the date 28 (twenty eight) days prior to the Application Due Date.

Instructions:

1. The Bidder shall attach copies of the balance sheets, financial statements and Annual Reports for 5 (five) years preceding the Bid Due Date. The financial statements shall:
 - (a) reflect the financial situation of the Bidder;
 - (b) be audited by a statutory auditor;
 - (c) be complete, including all notes to the financial statements; and
 - (d) correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
2. Year 1 will be the latest completed financial year, preceding the bidding. Year 2 shall be the year immediately preceding Year 1 and so on. In case the Bid Due Date falls within 3 (three) months of the close of the latest financial year of a Bidder, it shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the 5 (five) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, financial year shall, for the purposes of a Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.
3. The Bidder shall also provide the name and address of the Bankers to the Bidder.

TECHNICAL PROPOSAL

(Form-T1)

FROM (Name of Firm)

To: (Name and Address of Client)

Ladies/Gentlemen:

Subject: Submission of Technical and Financial Proposal for engagement of PMC Consultant.

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal dated (Date), and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal for the above mentioned work.

My/Our registration No. on Infracon is And my/our Infracon Team ID is

Our Proposal is binding upon us. We understand you are not bound to accept any Proposal you receive

We remain,

Yours sincerely,

Managing Director/Head of the
firm/ Authorised Representative of
the firm

(Form-T-2)

Details of projects for which Technical and Financial Proposals have been submitted

Sl.No.	Name of Project	Consultancy Package No.	Names of Proposed Key Personnel

(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.

**Composition of the Team Personnel and the task Which would be assigned to each
Team Member For DPR work**

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.			
....			
....			

APPROACH PAPER ON METHODOLOGY PROPOSED FOR PERFORMING THE DPR AND PRECONSTRUCTION WORK

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

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.

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
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, 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:

Assignment Name:		Country:
Location within Country :		Professional Staff Provided by your firm:
Name of Client :		No. of Staff :
Address :		No. of Staff Months :
Technology Used:		
Start Date (Month / Year)	Completion Date (Month / Year)	Approx. Value of Services : (in INR/current USD) :
Name of JV Firm(s) if any :		No. of Months of Professional Staff provided by Associated Firm(s)
Status of your Company in the Assignment i.e., Sole/Lead Member/Other Member/Associate		
Narrative Description of Project :		
Description of Actual Services Provided by your Company:		

Signature of Authorised Representative

(Certificate from Employer regarding experience should be furnished)

(Form- T9)

Office Equipment and software

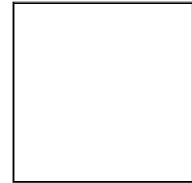
Attach a list of office equipment and software owned by the Applicant

(Curriculum Vitae as per INFRACON)

CVs of the Key Personnel should be uploaded on INFRACON (Indian Consultant) and the hard copies of the CVs as uploaded on the INFRACON is to be submitted along with the Technical Proposals.

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 details uploaded 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 MORT&H or its implementing agencies 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 decided 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 forth is project by ----- (the applicant firm) and I have not given consent to any other consultant(s) to propose my CV for any position for this 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 received by 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)

.....Date

(Signature of Key Personnel)

(Day/Month/Year)

The PMC 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 MORT&H or its implementing agencies 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 the ongoing projects. We also confirm the truthfulness of the credentials uploaded by our firm/~~JV Member/Associate~~ and all the Key Personnel proposed in our team on INFRACON

We understand that if any information about our firm/~~JV Member/~~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/Associate/~~ Key Personnel for an appropriate period to be decided by the Client, if the information is submitted by the consultant wilfully.

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]

INTEGRITY PACT

(To be executed on plain paper and submitted along with Technical Bid/Tender documents for tenders having a value between Rs.5 Cr and 100 Cr. To be signed by the bidder and same signatory competent/ authorized to sign the relevant contract on behalf of the MORT&H)

Tender No._____

This integrity Pact is made at _____ on this _____ day of _____ 2026. Between

MORT&H herein after referred to as “**The Principal**”, which expression shall unless repugnant to the meaning or contract thereof include its successors and permitted assigns.

And

_____ Hereinafter referred to as “**The Bidder/Contractor /Concessionaire/Consultant**” and which expression shall unless repugnant to be meaning or context there of include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedures, contract/s for “**Authority Engineer Services for the project of Project name**”. The Principal values full compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/ or Contractor(s)/Concessionaire(s)/ Consultant(s).

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions of which shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnesses asunder:-

Article-1 Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a. No employee of the Principal, personally or through family members, will in

connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self, or third person, any material or immaterial benefit which the person is not legally entitled to.

- b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude all known prejudiced persons from the process, whose conduct in the past has been of biased nature.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/Regulations.

Article – 2 Commitments of the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s).

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

- (a) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- (b) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other action to ensure strict competitiveness or to introduce cartelization in the bidding process.
- (c) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not commit any offence under the relevant IPC/PC Act and other Statutory Acts; further the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not use improperly, for purposes of completion 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 and business

details, including information contained or transmitted electronically.

- (d) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of foreign-origin shall disclose the name and address of the Agents/ Representatives in India, if any. Similarly the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of Indian Nationality shall furnish the name and address of the foreign principle, if any.
- (e) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.
- (f) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not instigate third persons to commit offences outlined above or be a necessary to such offences.
- (g) The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the bidding process in furtherance of his bid.

Article-3 Disqualification from tender process and exclusion from future contracts.

1. If the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s), before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) from the tender process.
2. If the Bidder/ Contractor/ Concessionaire/ Authority's Engineer has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder/ Contractor/ Concessionaire/ Authority's Engineer for any future tenders/ contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder/ Contractor/ Concessionaire/ Authority's Engineer and the amount of the damage. The exclusion will be imposed for a minimum of 1year.
3. A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that "On the basis of facts available there are no material doubts".
4. The Bidder/ Contractor/ Concessionaire/ Authority's Engineer with its free consent and without any influence agrees and undertakes to respect and uphold the

Principal's absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

5. The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder/ Contractor/ Concessionaire/ Authority's Engineer shall be final and binding on the Bidder/ Contractor/ Concessionaire/ Consultant.
6. On occurrence of any sanctions/ disqualification etc. arising out from violation of integrity pact, the Bidder/ Contractor/ Concessionaire/ Authority's Engineer shall not be entitled for any compensation on this account.
7. Subject to full satisfaction of the Principal, the exclusion of the Bidder/ Contractor/ Concessionaire/ Authority's Engineer could be revoked by the Principal if the Bidder/ Contractor/ Concessionaire/ Authority's Engineer can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article – 4 Compensation for Damages.

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article-3, the Principal shall be entitled to forfeit the Earnest Money Deposit/ Bid Security or demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security (equivalent to 1% of Contract Price) apart from any other legal right that may have accrued to the Principal.
2. In addition to 1 above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor/ Concessionaire/Consultant's Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor/ Concessionaire/ Authority's Engineer and/ or demand and recover liquidated and all damages as per the provisions of the contract/concession agreement against Termination.

Article-5 Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 3 years immediately before signing of this Integrity Pact with any other Company in any country conforming to the anti corruption/ Transparency International (TI) approach or with any other Public Sector Enterprise/ Undertaking in India or any Government Department in India that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from

the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgressions of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article-6 Equal treatments of all Bidders/ Contractors/ Concessionaires/ Consultants/ Subcontractors.

1. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders/ Contractors/ Concessionaires/ Consultants and Subcontractors.
3. The Principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Article – 7 Criminal charges against violating Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s)/ Sub-contractor(s).

If the Principal obtains knowledge of conduct of a Bidder/ Contractor/ Concessionaire/ Authority's Engineer or Subcontractor, or of an employee or a representative or an associate of a Bidder/ Contractor/ Concessionaire/ Authority's Engineer or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article – 8 Pact Duration

This Pact begins when both parties have legally signed it. (In case of EPC i.e.for projects funded by Principal and consultancy services). It expires for the Contractor/ Authority's Engineer 12 months after his Defect Liability period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders 6 months after this Contract has been awarded. (In case of BOT Projects) It expires for the concessionaire 24 months after his concession period is over and for all other unsuccessful Bidders 6 months after this Contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by MORT&H.

Article – 10 Other Provisions.

1. This pact is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e.....
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the Bidder/Contractor/Concessionaire/Authority's Engineer is a partnership or a consortium, this pact 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 will strive to come to an agreement to their original intentions.
5. Any disputes/ differences arising between the parties with regard to term of this pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
6. The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pact at the place and date first done mentioned in the presence of following witness:-

(For & On behalf of the Principal)

(For & On behalf of the Bidder/
Contractor/ Concessionaire/ Authority's
Engineer)

(Office
Seal)
Place _____ Date _____

Witness 1 :
(Name & Address): _____

Witness 2 :
(Name & Address): _____

Bid Securing Declaration

(Refer Clauses 3.2.3)

I hereby submit a declaration that the bid submitted by the undersigned, on behalf of the *consultant*, [*Name of the consultant*], shall not be withdrawn or modified during the period of validity i.e. not less than 120 (*one hundred twenty*) days from the bid due date.

I, on behalf of the *consultant*, [*Name of the consultant*], also accept the fact that in case the bid is withdrawn or modified during the period of its validity *or if we* fail to sign the contract in case the work is awarded to us or we fail to submit a performance security before the deadline defined in clause 6.1 of the letter of Invitation (LOI), then [*Name of the consultant*] will be suspended for participation in the tendering process for the consultancy works of BRO/MoRTH/NHAI/NHIDCL and consultancy works under other Centrally Sponsored Schemes, for a period of two years from the bid due date of this work.

(Signature of the Authorised Signatory)

(Official-Seal)

FINANCIAL PROPOSALS

(FORM-I)

FROM : (Name of Firm)

TO:

Address of Employer

Subject :

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal dated [Date], and our proposal. Our attached financial proposal is for the sum of [Amount in words and figures]. This amount is inclusive of the taxes except Goods and Services Tax which shall be reimbursed by the authority.

Our financial proposal shall be binding upon us upto the expiration of the validity period of the proposal, i.e., [Date].

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

Commission and gratuities, if any, paid or to be paid by us to agents relating to this proposal and contract execution, if we are awarded the contract, are listed below:

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity
.....
.....

We understand you are not bound to accept any proposal you receive.

We
remain,
Yours
sincerely,

**Managing Director/Head of the firm/
Authorised Representative of the
firm* Name of the firm
Address**

Format of Financial Proposal**Summary of Cost in Local Currency****A. For Phase 1 (DPR)**

No.	Description	Amount(INR)
I	<u>Local Consultants</u> 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	Reports and Document Printing	
IX	Surveys & Investigations	
A	Topographical Survey	
B	Investigations	
X	Cost of supply and fixing Boundary Pillars	
	Subtotal Local Consultants :	
	<u>Foreign Consultants</u>	
F-I	Remuneration for Expatriate Staff	
F-II	Mobilization and Demobilization	
	Total cost net of Goods & service tax**	

A. For Phase 2 (Construction Supervision and Maintenance)

No.	Description	Amount (Rs.)
I	Remuneration for Local Professional Staff	
II	Supporting Staff	
III	Transportation	
IV	Duty Travel to Site	
V	Office Rent	
VI	Office Supplies, Utilities and Communication	
VII	Office Furniture and Equipment	
VIII	Reports and Document Printing	
IX	Road Survey Equipment	
X	Contingencies	
	Total cost net of Goods & service tax**	

Total for Phase 1 &2

	Grand Total net of Goods and Service tax (for all 3 phases)	
	Goods and Service tax	
	Grand Total including goods and service tax (for all 3 phases)	

Note: Payments will be made as per stipulations of the Conditions of Contract.

LC* Local Currency

** Total Cost Net of Goods &Service Tax shall be considered for financial evaluation

Note: Escalation shall be paid @ of 5% after each 12 months from the bid due date.

Insurances shall not be allowed separately. These will be incidental to main items.

Rates for all items shall be quoted in figures as well as in words.

(FORM-III)

Estimate of Local Currency Costs

A. For Phase 1 (DPR)**I. Remuneration for Local Staff (including per diem allowance)**

Sr. No.	Position	Name	Rate(INR)	Staff Month	Amt.(INR)
	Professional Staff				
1	Team Leader cum Senior Bridge Engineer			6	

2	Senior Bridge Engineer			4	
3	Highway cum Pavement Engineer			6	
4	Material-cum-Geotechnical Engineer-Geologist			6	
5	Senior Survey Engineer			3	
6	Senior Geologist			4	
7	Environmental Specialist			2	
8	Quantity Surveyor/Documentation Expert			2	
	Sub-Total:			33	
	Sub-Professional Staff	(To be assessed by Consultant as per requirement of assignment and one sub-professional be a fresh graduate)			
1					
2					
3					
4					
5					
6					
7					
	Sub-Total:				
	TOTAL				

II. Transportation (Fixed costs)

S.No	Description	Qty.	Nos. of months	Rate/ Month (INR)	Amount(INR)
1	The vehicles provided by the Consultants shall include the cost for rental, drivers, operation, maintenance, repairs, insurance, etc. A. For use of consultants				
	Total				

III. Duty Travel to Site (Fixed Costs)

Trips	NO	Rate (INR)	Amount (INR)

IV. Office Rent (Fixed Costs)

The rent cost includes maintenance, cleaning, repairs, etc. months x

Total_ _____

V. Office Supplies, Utilities and Communication (Fixed Costs)

No.	Item	Months	Monthly Rate (INR)	Amount InINR.
1	Office Supplies Drafting			
2	Supplies Computer			
3	Running Costs			
4	Domestic and International Communication			

TOTAL:-----

VI. Office Furniture and Equipment (Rental)

No.	Description	Unit	Quantity	Rate (INR)	Amount (INR)
1	Office Furniture and Equipment		LS		
				Total	

VII. Reports and Document Printing

No.	Description	No. of Copies	Rate per Copy (INR.)	Amount (INR)
1	Monthly Report	3 PerMonth		
2	Inception Report & QAP	3		
3	Environment and Social Impact Screening Report	4		
4	Draft Feasibility Report	4		
5	Final Feasibility Report	6		
9	Draft Environmental Assessment report	4		
10	Final Environmental Assessment report	6		
11	Draft Detailed Design Report & Drawings etc.	4		
	Draft EMP	4		
12	Draft Bidding Documents	4		
13	Final Detailed Project Reportwith Bill of Quantities, Cost Estimates, Updated Drawings etc.	6		
	Final EMP	6		
14	Final Bidding Documents	6		
			Total	

VIII. Survey and Investigation

A. Topographical Survey (Fixed Rate)

No.	Item	Kms	Rate per Km (INR)	Amount (INR)
1	Topographic Survey including hire charges for equipment and supply of survey teams			
No.	Item	Kms	Rate per Km (INR)	Amount (INR)
	comprising of project survey filed staff etc. inclusive of cost of materials, labourer			
2	Detailed topographic surveys using mobile/ aerial LiDAR or better technology			

B. Investigation (Fixed cost)

No.	Description	Quantity	Amount (INR)	
1	Road and Bridge Inventory			
3	Roughness Survey			
4	Axle Load Survey			
5	Material Survey and Investigation			
6	Sub-grade Investigation			
7	Traffic Survey			
8	Socio-economic & Census Survey/Studies			
10	Any other investigations/surveys			
	*Sub-Soil Investigation (Boring)	Rate	Qty.	Amount (Rs)
11	a) Boring in all type of soils (other than hard rock)		1500m (for projects of length < 110 km) or 2000m (for projects of length > 110 km)	
	b) Boring in hard rock		200m (for projects of length < 110 km) or 300m (for projects of length > 110 km)	
	Total			

Note:* Quantities of borings shall be taken from Financial Proposal Form No.V. For financial evaluation, these quantities and rates quoted by the consultant will be considered. However, Payment shall be made on the actual quantity of boring at rates quoted above by the Consultant, which may be substantially more or less than the estimated quantities.

IX. Cost of supply and fixing Boundary Pillars

Item		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. (lumpsum)		

Estimate of Local Currency costs

B. FOR PHASE 2 (CONSTRUCTION SUPERVISION AND MAINTENANCE)

I. REMUNERATION FOR LOCAL PROFESSIONALSTAFF

For Standalone Bridge Project:

No.	Position	Name	Construction Period 36 months+DLP 120 months		
			Rate	No. of man-months*	Amount
	Professional Staff				
1.	Team Leader Cum Senior Bridge Engineer				
2.	Resident cum Pavement Specialist				
3.	Senior Bridge Engineer				
4.	Senior Contract Specialist				
5.	Senior Quality cum Material Expert				
	Sub - Total				
	Sub-professional				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
	Sub Total				
	Total				

II. Duty Travel to Site (Fixed Costs) (For all Lengths of projects): Professional and Sub-Professional Staff

Trips	Number of Trips	Rate*	Amount

* Rate quoted includes Hotel charges, travel cost etc.complete.

III. Office Rent (Fixed Costs)-

Minimum 200 sqm area of office shall be rented. The rent cost includes electricity and water charges, maintenance, cleaning, repairs, etc. complete.

Nos. of Months	Rate/month	Amount
48		

The rent cost includes electricity and water charges, maintenance, cleaning, repairs, etc. complete.

IV. Office Supplies, Utilities and Communication (Fixed Costs)

No	Item	Months	Monthly Rate	Amount in Rs.
1.	Office Supplies			
2.	Drafting Supplies			
3.	Computer Running Costs			
4.	Domestic and International Communication			

V. Office Furniture and Equipment(Rental)

The cost shall include rental charges towards all such furniture and equipment as required for proper functioning of office. Office furniture shall include executive tables, chairs, visitor chairs, steel almirahs, computer furniture, conference table etc. Office equipment shall include as a minimum of telephone (2external &10 internal lines), photocopier (15ppm, 12000copies per month with A3 & A4 input) fax machine, PCs(5 No., Intel Core 2 Duo E8300, 19" colour TFT, Cache-6MB, RAM-2 GB, HDD-250 GB, DVD Writer, Key board, optical scroll mouse, MS- Windows Vista Business, pre-loaded anti-virus etc.), laser printers (2 no., 14 ppm, 266 MHZ, 5000 pages per month, 600x600 dpi or better etc., Engineering Plan printer (1 no.), binding machine (1 no.), plotter A0 size, overhead projector, AC (4 no., 1.5 Ton), Water Coolers (as required)etc.

Nos. of Months	Rate/month	Amount
48		

VI. Reports and Document Printing

No.	Description	No. of Reports	No. of Copies per Report	Total Nos. of copies	Rate perCopy ()	Amount
1	Monthly reports (Design and Construction)	84	3	252		
2	Half yearly Reports	8	3	24		
3	Various others reports as provided in the Concession Agreement such as Completion					
				Total		

VII. Contingencies

Afixed amount of Indian Rupees ONE MILLION shall be included in the Financial Proposal. The provisions of Contingency shall be operated with the specific approval from the Competent Authority in <agency>

Estimate of Costs for Expatriate Consultants (in Indian Rupees)

I. Remuneration of Expatriate Staff including per Diem allowances

II. Mobilization and Demobilization

1. International Airfares (Fixed costs)

2. Inland Travel in Home Country (Fixed Costs)

LumpSum

3. Other Miscellaneous expenses (like DA, internal travel expenses other incidentals)

(Fixed cost)

Lump Sum

TENTATIVE QUANTITIES FOR SUB-SOIL INVESTIGATIONS (BORING)

(Form -V)

S.No	Stretch Proposed for DPR	NH No.	Approximate Length	Cumulative Tentative Quantities (in m)	
				In Soils other than hard rock	In hard rock
1	<u>Bridge</u>	As per List at Annexure-I	As per List at Annexure- I		

DETAILED EVALUATION CRITERIA

1. First Stage Evaluation -Proof of Eligibility (Para 12.1 of Data Sheet)

1.1 Eligibility criteria for sole applicant firm.

The sole applicant firm shall satisfy the following criteria.

(a) Firm should have experience of preparation of DPR/detailed design of 2/4 lane bridge of aggregate length as given below. The firm should have also prepared DPR/detailed design of at least one project of 2/4 lane of minimum length as indicated below in the last 7 years.

S.No.	Package No.	Tentative Length	Minimum Aggregate Length required	Minimum length of a Eligible Project (2/4 lane)	
				DPR = 0.4 xTentative Length	Detailed design = 0.6 xTentative Length
1	2	3	4	5	6

(b) Firm should also have experience of project Authority Engineer/Independent Engineer/Construction supervision of 2/4 lane Bridge project of aggregate length as given below in the last 7 years.

S.No.	Package No.	Tentative Length	Minimum Aggregate Length required	Minimum length of a Eligible Project (2/4 lane)
				Project Supervision/independent Engineer = 0.4 xTentative Length
1	2	3	4	5

Note: Similar project means 2/4 lane bridge. For 2-lane projects experience of 4/6 lane also to be considered with a multiplication factor of 1.5.

(a) Annual Average Turn Over for the last 5 years

{In cases where, Audited/Certified copy of Balance Sheet for the FY 2025-26 is available, last five years shall be counted from 2021-22 to 2025-26. However, where audited/certified copy of the Balance Sheet for the FY 2025-26 is not available (as certified by the Statutory auditor) then in such cases last five years shall be considered from 2020-21 to 2024-25} of the firm from Consultancy services should be equal to more than Rs. 5 crore.

(In Rs. crore\$)

Bidder type	Annual Turnover										Average Annual Turnover (In Rs. crore\$)
	Year 1		Year 2		Year 3		Year 4		Year 5		
	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	
1	2	3	4	5	6	7	8	9	10	11	$(2 \times 3 + 4 \times 5 + 6 \times 7 + 8 \times 9 + 10 \times 11) / 5$
Single entity Bidder or Lead Member including other members of the Joint Venture		1.00		1.05		1.10		1.15		1.20	

Name & address of Bidder's Bankers:

\$The conversion rate of USD into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India for the relevant date. Where relevant date should be as on the date 28 (twenty eight) days prior to the Application Due Date. (Financial Year to be modified as applicable)

2. **Second Stage Evaluation -Technical Evaluation (Para 12.2 of Data Sheet)**

A1. Firm's Profile, turnover and professionals working with the firm (20M)

1	Experience of firms in DPR/detailed design/construction/supervision of bridge in terms of year	7	
1.1	Less than 5 year		2.5
1.2	5 year to 15 year.		5.0
1.3	15 year to 25 year		6.0
1.4	More than 25 years		7.0
2	Profile of the Firm	3	
2.3	Private Limited Company and sole applicant		3.0
2.5	Public Limited Company and sole applicant		3.0
3	Specific experience of firms in terms of turnover(Updated to the factor as per clause 1.3.2 of LOI)	6	
3.1	Firm Average Turnover of last 5 years >5 but < 10 crore		4.0
3.2	Firm Average Turnover of last 5 years 10-20 crore		5.0
3.3	Firm's Average Turnover of last 5 years > 20 crore		6.0
4	Highway Professionals working with the firm	4	
4.1	<10 nos.		0
4.2	10-20 nos.		2.0
4.3	> 20-30 nos.		3.0
4.4	> 30 nos.		4.0
<p>The professionals who possess degree in Civil Engineering/Transport Planning/Transport Economics/Traffic Management/Geology/Environment Science or Engineering and 8 years Experience in bridge with employment in the firm for more than one year. The current Employment Certificate/Pay roll details shall be uploaded by Key Personnel on INFRACON for Indian bidders only.</p>			

Note:

Similar project means 2/4 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.

A2. Firm's relevant experience in last 7 years for DPR work (20 M)

S. No.	Description	Maximum Marks	Sub-Marks
1	Specific experience of the DPR consultancy related to the assignment	8	
1.1	Aggregate Length of DPR / Detailed design of 2/4 lane projects	4	
1.1.1	More than the indicative Length of the bridge		2.0
1.1.2	More than 2 times the indicative length of the bridge		3.0
1.1.3	More than 3 times the indicative length of the bridge		4.0
1.2	DPR for 2/4 lane projects each equal to or more than 40 % of indicative length of a package applied for (or detailed design for 2/4 lane projects each equal to or more than 60 % of indicative length of bridge applied for)	4	
1.2.1	1 project		2.0
1.2.2	2 projects		3.0
1.2.3	≥ 3 projects		4.0
2	DPR of Bridge having length more than 200 m	8	
2.1	1 bridge		4.0
2.2	2 bridges		5.0
2.3	3 bridges		6.0
2.4	≥4 bridges		7.0
2.5	≥ 5 bridges		8.0
3	DPR for Special bridges,- arch/extradosed/cable stayed)		
3.1	DPR of number of special bridges/ tunnels (if applicable)	4	
3.1.1	1 project		1
3.1.2	2 projects		2
3.1.3	3 projects		3
3.1.4	≥4 projects		4

A3: Firm's relevant experience in last 7 years for Supervision work (20 M).

S. No.	Description	Maximum Marks	Sub-Marks
1	Specific Experience as Authority Engineer/Independent Engineer /Construction supervision in bridge projects	5	
1.1	More than the indicative Length of the package applied for -		3.0
1.2	More than 2 times the indicative length of the package applied for-		4.0
1.3	More than 3 times the indicative length of the package applied for-		5.0
2	Specific Experience as Authority Engineer/Independent Engineer /Construction supervision in Number of bridge projects (40%of project length) or more in last 7 years.	5	
2.1	1 project		3.0
2.2	2 Project		3.5
2.3	3 Project		4.0
2.4	4 Project		4.5
2.5	5 Project or more		5.0
3	Experience in Construction Supervision of bridges having length of more than 200 meter in last 7 years.	10	
3.1	1 project		6.0
3.2	2 Project		7.0
3.3	3 Project		8.0
3.4	4 Project		9.0
3.5	5 Project or more		10.0

Note 1: Employer's certificate/ certificate from Statutory Auditor should be submitted substantiating the experience/turnover claimed by the firm.

B1. Material testing, survey and investigation, equipment and software proposed to be used (10M)

S.No.	Description	Maximum Marks	Sub-Marks
1	Availability of Material Testing Facilities with persons/resources having operational skills of the equipment	1.5	
1.1	Owned* (Available In House)		1.5
1.2	Outsourced (Hire basis)		1.5
* 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 Field Investigation Facilities with persons/resources having operational skills of the equipment	1	
2.1	Owned** (Available In House)		1
2.2	Outsourced (Hire basis)		1
** Shall be ascertained through ownership evidence uploaded on INFRACON for construction of Highway Project.			
3	Availability of Office Equipment and Software with persons/resources having operational skills of the equipment	1.5	
3.1	Owned*** (Available In House)		1.5
3.2	Outsourced (Hire basis)		1.5
*** Shall be ascertained through ownership evidence uploaded on INFRACON for key hardware/software required for Highway consultancy assignment.			
4	Experience in LiDAR or better technology for topographic survey (Infrastructure sector)	6.0	
4.1	1 project		1
4.2	2 projects		2
4.3	3 projects		3
4.4	4 projects		4
4.5	≥ 5 projects		5
6.3	Area > 500 ha		6

Note: The experience of firm/associate in Lidar or equivalent technology, shall be supported by experience certificate. The experience of a firm/ associate in Lidar or equivalent technology 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**. Any false certification shall attract provisions of Clause 1.8, Section -2 (letter of Invitation) read with Clause 2.9.1(g) of GCC

C1. Qualification and Competence of the Key Staff for adequacy of the Assignment for phase 1 (Project preparation and pre construction activity). (Para 12.2 of Data Sheet and Enclosure II of TOR)

C1.2 HIGHWAY cum PAVEMENT ENGINEER

S.No.	Description		Max. Marks
I	General Qualification		25
i)	Degree in Civil Engineering or equivalent [AICTE Approved]		20
ii)	Post graduation in Highway Engg/ Transportation Engineering [AICTE Approved]		5
II	Relevant Experience & Adequacy for the Project		70
a)	Total Professional Experience		15
	<8years	0	
	8-12 years	11	
	>12-15 years	13	
	>15 years	15	
(b)	Experience in Highway Projects - Experience in Design/ Pavement Design of Highway Projects (2/4 lane of NH/SH/Hill roads)		25
	<6 years	0	
	6-10years	19	
	>10-15 years	22	
	>15years	25	
(C)	Experience in approach road for bridge construction in hilly terrain		30
(i)	In Design/ Pavement Design of Highway Projects (2/4 lane of NH/SH/hill roads) in Similar Capacity (Minimum aggregate length 80 km)		20
	<80km	0	
	80km-150km	15	
	>150km-250km	17	
	>250km	20	
(ii)	In Design/Pavement Design of Highway Projects(2/4 lane of NH/SH/ hill roads) in Bridge construction - Number of Projects		10
	2 projects	8	
	3- 5 projects	9	
	> 5 projects	10	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2.0 marks		
	Total		100

C1.3 SENIOR BRIDGE ENGINEER

S. No.	Description		Max. Marks
I	General Qualification		25
i)	Degree in Civil Engineering or equivalent [AICTE Approved]		20
ii)	Post Graduation in Structural Engineering/ Bridge		5
II	Relevant Experience & Adequacy for the Project		70
a)	Total Professional Experience		15
	<10 years	0	
	10-12years	11	
	>12-15 years	13	
	>15 years	15	
b)	Experience in Bridge Projects		25
(i)	Experience in project preparation and design of bridge		20
	<8 years	0	
	8-10 years	15	
	>10-12 years	17	
	>12years	20	
(ii)	Experience of 2/4 lane configuration bridges		5
	<2 Projects	0	
	2-4 Projects	4	
	> 4 projects	5	
c)	Experience as Senior Bridge Engineer or Similar Capacity in Highway Design Consultancy Projects (2/4 laning of NH/SH/hill roads) involving design of Major Bridges (minimum 2 nos. of length more than 200m)		30
	<2 numbers	0	
	2-4 numbers	24	
	5-6 numbers	27	
	> 6 numbers	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

C1.4 MATERIAL ENGINEER cum GEOTECHNICAL ENGINEER cum GEOLOGIST

S. No.	Description		Max. Marks
I	General Qualification		25
i)	Degree in Civil Engineering /M. Sc. in Geology[AICTE Approved]		20
ii)	Post graduation in Foundation Engineering / Soil Mechanics / Geo Tech Engineering or Phd in Geology[AICTE Approved]		5
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-In Similar Projects (2/4 lane of NH/SH/hill roads) in design and or Construction/ Construction Supervision		25
	<7 years	0	
	7-10 years	19	
	>10 -12 years	22	
	>12years	25	
c)	Experience as Material cum Geo-technical Engineer in bridge construction on Highway Projects (2/4 lane of NH/SH/hill roads) (Minimum aggregate length 80 km)		30
	<80 km	0	
	80 km-150 km	24	
	>150 km – 250 km	27	
	>250 km	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

C1.6 SENIOR SURVEY ENGINEER

S. No	Description		Max. Marks
I	General Qualification		25
i)	Degree or equivalent in Civil Engineering / Diploma in Civil Engineering /Diploma in Surveying[AICTE Approved]		20
ii)	Post Graduation in Survey Engineering / Surveying / Remote Sensing[AICTE Approved]		5
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 lane of NH / SH / hill roads) 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		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 80km)		30
	<80 km	0	
	80 km-150 km	24	
	>150 km-250 km	27	
	>250 km	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

C1.7 ENVIRONMENTAL SPECIALIST

S. No.	Description		Max. Marks
I	General Qualification		25
i)	Degree in Civil Engineering / Environmental Engineering or Post Graduate in Environmental Sciences[AICTE Approved]		20
ii)	Post-Graduation in Environmental Engineering [AICTE Approved]		5
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 laning of NH/SH/hill roads)		25
	<5 years	0	
	5 -7 years	19	
	>7-10 years	22	
	>10 years	25	
c)	Experience as Environmental Specialist or in Similar Capacity in Highway Projects(2/4 lane of NH/SH/hill roads)		30
	<2 projects	0	
	2- 4 projects	24	
	5-7 projects	27	
	>7 projects	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

C1.8 QUANTITY SURVEYOR/DOCUMENTATION EXPERT

S. No.	Description		Max. Marks
I	General Qualification		25
i)	Graduation or equivalent in Civil Engineering / Certificate course from 'Institution of Quantity Surveying '[AICTE Approved]		20
ii)	Graduation or equivalent in Civil Engineering [AICTE Approved]		5
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 laning of NH/SH/hill roads)		25
	<8 years	0	
	8 -10 years	19	
	>10-12 years	22	
	>12 years	25	
c)	Experience as Quantity Surveyor / Documentation Expert or in Similar Capacity in Highway Projects(2/4 lane of NH/SH/hill roads) (Minimum Aggregate length of 80km)		30
	<80 km	0	
	80 km-150 km	24	
	>150 km - 250km	27	
	>250 km	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

C1.11 TEAM LEADER cum SENIOR BRIDGE ENGINEER

S. No.	Description	Max. Marks
I	General Qualification	25
i)	Degree in Civil Engineering or equivalent [AICTE Approved]	20
ii)	Post Graduation in Structural Engineering, Degree/Diploma/Certificate in Construction Management	5
II	Relevant Experience & Adequacy for the Project	70
a)	Total Professional Experience	15
	<15 years	0
	15-18 years	11
	>18-21 years	13
	> 21 years	15
(b)	Experience in major Bridge Project -Experience in major Bridge Design/Construction / Development Project	25
	< 5 years	0
	6-8 years	19
	>8-10 years	22
	>10 years	25
c)	Experience in Similar Capacity	30
(i)	As Team Leader/Project Manager or similar capacity of at least two major bridge of a length 200 mtr. (Excluding approaches) in Construction Supervision / IC.	20
	< 2 projects	0
	2 projects	15
	3- 5 projects	18
	> 5 projects	20
(ii)	As Team Leader/Project Manager or similar capacity of at least two major bridge of a length 200 mtr. (Excluding approaches) in DPR/ Feasibility Study.	10
	< 2 projects	0
	2 projects	8
	3- 5 projects	9
	> 5 projects	10
III	Employment with Firm	5
	> 1 Year	0
	1 year	3
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks	
	Total	100

C1.12 Bridge Structural Engineer

S. No.	Description		Max. Marks
I	General Qualification		25
i)	Degree in Civil Engineering or equivalent[AICTE Approved]		20
ii)	Post Graduation in Structural Engineering/ Bridge Engineering[AICTE Approved]		5
II	Relevant Experience & Adequacy for the Project		70
a)	Total Professional Experience		15
	<8 years	0	
	8-10 years	11	
	>10-15=12 years	13	
	>12 years	15	
b)	Experience in Bridge Projects		25
(i)	Experience in project preparation and design of bridge projects		25
	<5 years	0	
	5-8 years	19	
	>8-10 years	22	
	>10 years	25	
c)	Experience as Bridge Engineer or Similar Capacity in Highway Design Consultancy Projects (2/4 laning of NH/SH/hill roads) involving design of Major Bridges (minimum 2 nos. of length more than 200m)		30
	<2 numbers	0	
	2-4 numbers	24	
	5-6 numbers	27	
	> 6 numbers	30	
III	Employment with Firm		5
	Less than 1 Year	0	
	1 year	3	
	Add 0.5 marks for each subsequent year subject to maximum of 2 marks		
	Total		100

Assumptions to be made regarding Similar Capacity for various positions

1. Highway cum Pavement Engineer

- i) On behalf of Consultant: Highway Engineer/Highway Design Engineer/Pavement Engineer.
- ii) In Government Organizations: Executive Engineer (or equivalent) and above

2. Material Engineer cum Geo Technical Engineer- Geologist

- i) On behalf of Consultant: Material Engineer/Material Expert/Geo Technical Engineer
- ii) In Government Organizations: Executive Engineer (or equivalent) and above
Material Engineer/Material Expert/Geo Technical Engineer/Manager (Material)

3. Quantity Surveyor/Documentation Expert

- i) On behalf of Consultant /Contractor: Quantity Surveyor
- (ii) In Government Organizations:Assistant Engineer (or equivalent)

15. Material Engineer

- i) On behalf of the Consultant/Contractor: Material Engineer/ Material Expert
- ii) In Government Organizations: Executive Engineer (or equivalent) and above

Consultant has to assess the major utility shifting involved and propose the CV accordingly.

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.

C2. Evaluation Criteria for assessment of score of Key Staff for adequacy of the Assignment for phase 2 Construction Supervision and Maintenance

C2.2 Senior Bridge Engineer

S. No.	Description	Max. Marks	Reference/Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
1	General Qualification	25		
i)	Graduate in Civil Engineering	21		
ii)	Post-Graduation in Structural Engineering	04		
2	Adequacy for the Project	70		
i)	Total Professional Experience in handling Highway/Bridge projects < 10 years -0 10 years -11 marks Add one mark extra for each additional 2 year subject to maximum 4(four) marks	15		
ii)	Experience in similar capacity in Design/Construction/Construction Supervision of Bridges/ 2/4 lane) and above) < 5 years -0; 5 years -15 marks Add 1 (one) mark extra for each additional completed year of experience subject to maximum 5 (five) marks	20		

	Experience in similar capacity in supervision of Major Highway Bridges < 2 Bridges -0 02 Bridge -15 marks Add 2.5 mark extra for each additional bridge subject to maximum 5 marks	20		
S. No.	Description	Max. Marks	Reference/Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
iv)	Experience in similar capacity in supervision of Rehabilitation and repair of Major Bridges < 2 nos. - 0 2 nos. -8 marks > 3 nos.- 10	10		
v)	Experience in similar capacity of modern bridge construction technology viz., Precast Arch, cable stay, Segmental, Balanced Cantilever Construction, Extra dosed Bridge, Full Span Launching, Incremental Launching. Experience in 1 project - 4 marks More than one project - 5 marks	5		
3	Employment with the Firm < 1 year -0 1 year -3 marks Add 0.5 marks for each subsequent year subject to maximum 2 marks	5		
	Total :	100		

Note:

(1) Similar Capacity includes the following positions

i) On behalf of Consultant/Contractor: Bridge Engineer/Project Manager

(Bridges)

ii) On behalf of Government: Executive Engineer

- (2) Only those projects (in numbers) will be considered for evaluation above, where the input of the personnel is not < 12 months
- (3) In case of experience on behalf of Authority's Engineer or Contractor, the experience shall be duly endorsed by the respective Government agency. In case of non-availability of endorsement from Govt. Agency, the experience uploaded on INFRACON Portal will

be taken into consideration. However, the key personnel/ bidder will be solely responsible for any fake information/ CV, which may result in debarment.

C2.3 Highway cum Pavement Engineer

S. No.	Description	Max. Marks	Reference/Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
1	General Qualification	25		
I)	Graduate in Civil Engineering	2 1		
II)	Post-Graduation in Transportation/Highway Engineering/Pavement engineering or equivalent	0 4		
2	Adequacy for the Project	70		
	Professional Experience			
i)	Total Professional Experience of Pavement Design/Construction and Maintenance of Highways/Roads/bridge approaches < 10 years -0 10 years -15 marks Add one mark extra for each additional year of experience subject to maximum 5 (five) marks.	20		
ii)	Experience in Similar capacity in Construction/Construction Supervision of 2/4-lane of major Highway Projects (similar configuration (2/4 lane) and above) < 5 years -0; 5 years -15 marks Add one mark extra for each additional year of experience subject to maximum 5 (five) marks.	20		
iii)	Experience in similar capacity as Pavement specialist/pavement engineer in construction/ construction supervision of Major Highway projects (of length 40% of project length or more of similar	25		

S. No.	Description	Max. Marks	Reference/Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
	configuration (2/4 lane) and above) < 2 nos. -0 2 nos. -20 marks Add 2.5 marks extra for each additional project subject to maximum 5 marks.			
iv)	Experience in similar capacity on EPC Projects (of length 40% of project length or more of similar configuration (2/4 lane) and above) 1 Project- 4 marks Add 1 (one) mark extra for each additional project subject to maximum 1 (one) mark	5		
3	Employment with the Firm < 1 year -0 1 year – 3 marks Add 0.5 marks for each subsequent year subject to maximum 2 marks	5		
	Total :	100		

Note:

(1) Similar Capacity includes the following positions

i) On behalf of Consultant/Contractor: Pavement Specialist/ Pavement Engineer/ Pavement Expert / Highway Engineer

ii) On behalf of Government: Executive Engineer

(2) Only those projects (in numbers) will be considered for evaluation above, where the input of the personnel is not < 6 months

(3) In case of experience on behalf of Authority's Engineer or Contractor, the experience shall be duly endorsed by the respective Government agency. In case of non-availability of endorsement from Govt. Agency, the experience uploaded on INFRACON Portal will be taken into consideration. However, the key personnel/ bidder will be solely responsible for any fake information/ CV, which may result in debarment.

C2.4 Senior Quality/Material Expert

S. No.	Description	Max. Marks	Reference/Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
1	General Qualification	25		
	I) Graduate in Civil Engineering	21		
	II) Post Graduation in Geotechnical Engineering/ Foundation Engineering/ Soil Mechanics/ Rock Mechanics	04		
2	Adequacy for the Project	70		
	Professional Experience			
i)	Total Professional Experience in handling Highway/Bridge projects < 10 years -0 10 years -11 Add one mark extra for each additional year of experience subject to maximum 4 (four) marks.	15		
ii)	Experience in similar capacity in Construction/Construction Supervision of major Highway Projects ((similar configuration (2/4 lane) and above)) < 5 years -0; 5 years -19 Add 2.0 (two) marks extra for each additional year of experience subject to maximum 6 (Six) marks.	25		
iii)	Experience in similar capacity in handling Similar Highway projects (of length 40% of project length or more of similar configuration (2/4 lane) and above) < 2 nos. -0 2 nos. - 25 Add 2.5 marks extra for each additional project subject to maximum 5 (five) marks.	30		
3	Employment with the Firm < 1 year - 0 1 year - 3 Add 0.5 marks for each subsequent year subject to maximum 2 marks	5		
	Total :	100		

Note:

- (1) Similar Capacity includes the following positions

- i) On behalf of Consultant/Contractor: Quality Expert/ Material Engineer/Material Expert/ Quality Engineer/ Geo-Technical Expert.
 - ii) On behalf of Government: Executive Engineer
- (2) Only those projects (in numbers) will be considered for evaluation above, where the input of the personnel is not < 12 months
- (3) In case of experience on behalf of Authority's Engineer or Contractor, the experience shall be duly endorsed by the respective Government agency. In case of non-availability of endorsement from Govt. Agency, the experience uploaded on Infracon Portal will be taken into consideration. However, the key personnel/ bidder will be solely responsible for any fake information/ CV, which may result in debarment.

C2.8

Senior Contract Specialist

S. No.	Description	Max. Marks	Reference/ Details of projects Claimed for self-assessment	Marks self-assessed by the bidder
1	General Qualification	25		
I)	Graduate in Civil Engineering	21		
II)	Post Graduate Degree in Law/PG in management/certificate course in management/ certificate course in construction management/certificate course in contract management	04		
2	Adequacy for the Project	70		
	Professional Experience			
i)	Total Professional Experience of Contract Management. < 15 years -0 15 years -15 marks Add one mark extra for each additional year of experience subject to maximum 5 (five) marks.	20		
ii)	Experience as Contract Specialist on any National/State Highway project. < 4 years -0 4 years -15 marks Add one mark extra for each additional year of experience subject to maximum 5 (five) marks.	20		
iii)	Contract Management of a large Highway contract say over Rs.150 crore including experience of handling variation orders, claims of the contractor and there appropriate disposal < 2 nos. -0 2 nos. -20 Add 2.5 marks extra for each additional project	25		

	subject to maximum 5 (five) marks.			
v)	Experience of Handling Arbitration cases in respect of any Highway project. 1 project -4 marks 2 or more projects-5 marks	5		
3	Employment with the Firm <1 year- 0 1 year – 3 marks Add 0.5 marks for each subsequent year subject to maximum 2 marks	5		
	Total :	100		

Note: As per RFP, Definition of Team Leader includes Project Manager/Resident Engineer/ or any equivalent position.

**Border Roads Organisation
CHIEF ENGINEER PROJECT DANTAK
(Ministry of Defence)
Government of India**

PROJECT MANAGEMENT CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR DESIGN, SELECTION OF SITE, TYPE OF BRIDGE, SUB SOIL INVESTIGATION, ESTIMATION, PREPARATION OF TENDER DOCUMENTS, SUPERVISION DURING CONSTRUCTION PERIOD AND MAINTENANCE OF 266 MTR SPAN (INDICATIVE LENGTH) ICONIC BRIDGE INCLUDING APPROACHES AT KM 1.275 ON DAMCHU-HAA LINK ROAD UNDER 60 RCC/ 19 BRTF PROJECT DANTAK IN BHUTAN

PART-II

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TERMS OF REFERENCE

&

DRAFT CONCESSION AGREEMENT

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APR 2026

**Border Roads Organisation
CHIEF ENGINEER PROJECT DANTAK
(Ministry of Defence)**

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TERMS OF REFERENCE (TOR)

Terms of Reference (TOR) for PMC

1. General

1.1 BRO Project Dantak has been entrusted with the assignment of Project Management Consultancy Services for feasibility study, preparation of Detailed Project Report (DPR) For Design, including selection of site, type of bridge, sub soil investigation, estimation, preparation of tender documents, Supervision during construction period and maintenance of 266 mtr span (indicative length) iconic bridge including approaches at Km 1.275 On Damchu-Haa Link Road under 60 RCC/ 19 BRTF Project Dantak in Bhutan. BRO Project Dantak now invites proposal from Technical consultants for PMC as per details given in **Annexure- I.**

1.2 BRO Project Dantak 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.

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 feasibility report, detailed project report and also construction supervision to ensure quality work.

2.2 The viability of the project shall be established taking into account the requirements with regard to pavement design, construction of new bridges and structures, 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 design of pavement and overlay with options for flexible or rigid pavements, design of bridges and cross drainage structures, quantities of various items, detailed working drawings, detailed cost estimates, economic and financial viability analyses, environmental feasibility, environmental action plans as appropriate and documents required for tendering the project on commercial basis for international / local competitive bidding.

2.4 The PMC consultant should ensure detailed project preparation incorporating aspects of value engineering, quality audit requirement in design and implementation.

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. Likewise the contract may also be terminated/foreclose at any stage/phase and payment due upto that stage only would be payable.

3. Scope of Services

The PMC consultancy shall be carried out into following phases:

Phase	Description	Sub-Phase	Key activities	Report/deliverable submitted
1	Project preparation	1A (Feasibility Study)	Project planning and mobilization	Inception Report and QAP
			Alignment finalization, preliminary surveys	Alignment Options Report and Feasibility Report
		1B (DPR)	Detailed design of Bridge, preparation of detailed project report with drawings	Draft DPR Report, Final DPR Report, documents and drawings
			Preparation of bid documents and technical schedules	Civil Works Contract Agreement and Schedules
2	<i>Construction activity and maintenance</i>		A. During Construction <ol style="list-style-type: none"> 1. Review and approval of design 2. Supervision of construction work, 3. Review of progress work 4. Quality assurance monitoring 	

		<p>and supervision test,</p> <p>5. Arrangement of safety of work/workers/users/ pedestrians</p> <p>B. During maintenance</p> <p>1) Maintenance of the bridge and road work</p> <p>2) Quality assurance during project life</p> <p>4) Safety aspects</p>	
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Detailed TOR for Project Preparation activity shall be as per Appendix VI A and for construction Supervision as per Appendix VI B. Wherever the consultant is stated in the TOR or elsewhere

(i) as DPR, it shall mean the Project Management consultant in the Phase 1 (Project Preparation) and

(ii) as Authority Engineer, it shall mean the Project Management consultant in Phase 2 (Construction Supervision and maintenance)

Terms of Reference (TOR) for Project Preparation(DPR)

1. General

A. Objectives of the Consultancy

- To carry out detailed investigations and studies for the proposed bridge.
- To prepare a comprehensive DPR suitable for approval, tendering, and construction.
- To recommend the most techno-economically feasible bridge option.

B Scope of Services

The Consultant shall provide DPR services, including but not limited to the following:

Data Collection & Reconnaissance

- Collection and review of existing data, drawings, maps, and reports.
- Site reconnaissance and assessment of constraints including effect of proposed **Bunakha Dam construction**.
- Collection of traffic data (classified traffic counts, axle load survey etc).
- Requirement of additional crossings in form of culvert/ minor bridge.

Topographical Survey

- Detailed topographical survey using Total Station / DGPS/ LiDAR.
- Establishment of control points and benchmarks.
- River cross-sections, L-section, HFL markings, and floodplain mapping.
- Survey of approach roads and nearby structures.

Hydrological & Hydraulic Studies

- Catchment area analysis and flood estimation.
- Determination of design discharge, HFL, LWL, and scour depth.
- Hydraulic modelling.
- Waterway adequacy and afflux calculation.

Geotechnical Investigations

- Boreholes at proposed pier, abutment, and foundation locations **as per tentative drawings issued by RBAT Directorate, HQ DGBR, New Delhi (copy enclosed as part of tender document)**
- Laboratory testing of soil/rock samples.
- Assessment of soil strata, bearing capacity, and foundation recommendations.
- Seismic considerations.

Bridge Planning & Design

- Evaluation of alternative bridge configurations and alignments.
 - Selection of bridge type (**Cable strayed/ Arch / Extra Dosed**).
- (i) Preliminary and detailed structural design of:
- Foundations
 - Substructure (piers, abutments)
 - Superstructure
 - Design of bearings, expansion joints, drainage, and crash barriers.
 - Design of approaches, protection works, and river training works.
 - Compliance with IRC, IS, MoRTH, and other applicable standards.

Approach road Design

- Geometric design of approach roads along with possible crossings like culverts, minor bridge, etc.
- Pavement design.
- Junctions, signage, road markings, and safety features.

Environmental & Social Aspects

- Environmental screening and impact assessment (as applicable).
- Identification of mitigation measures.

Cost Estimates & Financial Analysis

- Preparation of detailed quantity estimates.
- Rate analysis and abstract cost estimate.
- Project cost including contingencies and escalation.
- Construction phasing and implementation schedule.

Construction Methodology & Risk Analysis

- Proposed construction methodology.
 - Identification of risks and mitigation measures : 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.
- Traffic management during construction.

Tender Documents Support

- Preparation of technical specifications.
- Preparation and approval of BOQ and bid documents for EPC mode of construction and approvals of the same by competent authority of BRO.

Deliverables

The Consultant shall submit the following:

1. Inception Report
2. Survey & Investigation Reports
3. Hydrology & Geotechnical Reports
4. Preliminary Design & Options Analysis Report
5. Draft DPR
6. Final DPR (Hard & Soft Copies) including:
 - Drawings (GAD, foundation, superstructure, approaches)
 - Design calculations
 - Cost estimates and BOQ
 - Construction methodology

Standards & Codes

1	IRC: 5	Standard Specifications & Code of Practice for Road Bridges. Section I - General Features of Design (Eighth revision)
2	IRC: 6	Standard Specifications & Code of Practice for Road Bridges. Section II - Loads and Load Combinations (Seventh revision)
3	IRC: 22	Standard Specifications and Code of Practice for Road Bridges. Section VI - Composite Construction (Limit State Design) Third revision
4	IRC: 24	Standard Specifications and Code of Practice for Road Bridges, Steel Road Bridges (Limit State Method) (Third Revision)
5	IRC: 78	Standard Specifications and Code of Practice for Road Bridges. Section VII Foundations & Substructure Code of Practice for Limit state Design of Foundations
6	IRC: 83	Standard Specifications and Code of Practice for Road Bridges. Section IX Bearings, Part I : Roller & rocker Bearings (Second revision) Bearings (Elastomeric bearings) , Part II (Second revision) Part III: Pot, Pin, Metallic Guide and Plane Sliding Bearings (First Revision) (Section IX) – Bearings (Spherical and Cylindrical)

7	IRC: 89	Guidelines for Design & Construction of River Training & Control Works for Road Bridges (Second Revision)
8	IRC: 112	Code of Practice for Concrete Road Bridges (First Revision)
9	IRC:SP-13	Guidelines for the Design of Small Bridges and Culverts (Second revision)
10	IRC:SP-37	Guidelines for Evaluation of Load Carrying Capacity of Bridges (First revision)
11	IRC:SP-65	Guidelines for Design and Construction of Segmental Bridges (First revision)
12	IRC:SP-66	Guidelines for Design of Continuous Bridges (First revision)
13	IRC:SP-67	Guidelines for use of External and Unbonded Prestressing Tendons in Bridge Structures
14	IRC:SP-69	Guidelines and Specification for Expansion Joints (First revision)
15	IRC:SP-70	Guidelines for the Use of High-Performance Concrete (Including Self Compacting Concrete in Bridges) (First Revision)
16	IRC:SP-71	Guidelines for the Design and Construction of Precast Pre tensioned Girder of Bridges (First revision)
17	IRC:SP-80	Guidelines for Corrosion Prevention, Monitoring and Remedial Measures for Concrete Bridge Structures
18	IRC: SP: 114	Guidelines for Seismic Design of Road Bridges
19	MORT&H Specification- (Fifth Revision)	Specification for Road and Bridge Works
20	IS 456	Plain and Reinforced Concrete - Code of Practice
21	19. IS 4926	Ready-Mixed Concrete - Code of Practice
22	IS 2911 : Part 1-(Sec 2)	Code of practice for design and construction of pile foundations: Part 1 -Concrete piles, Section 2 Bored cast-in- situ
23	IS 1893: Part 3	Criteria for Earthquake Resistant Design of Structures Part 3 : Bridges and Retaining Walls
24	IS 10790: Part 1&2	Methods of sampling of steel for prestressed and reinforced concrete and steel:
25	IS 1343	Code of Practice for Prestressed Concrete
26	IS 13920	Ductile detailing of reinforced concrete structures subjected to seismic forces - Code of practice

27	PTI	Recommendation for Stay Cable Design, Testing and Installation, 2012
28	FIB Bulletin 89	Acceptance of Stay Cable Systems using Prestressing Steels, 2019
29	AASHTO LRFD	Bridge Design Specifications (9th edition), 2024.
30	AASHTO.	Guide Specifications for LRFD Seismic Bridge Design (2nd edition), 2011.

All works shall conform to latest editions of:

- IRC Codes
- IS Codes
- MoRTH Specifications
- Relevant international standards (if applicable)

Time Schedule

Total duration: [6 months] from date of award, including review and approval.

C. BRO Project Dantak shall

- Provide available data and reports.
- Facilitate site access and coordination with local authorities.
- Timely review and approval of submissions by the Competent Authority.

D. Consultant's Responsibilities

- Deploy qualified and experienced professionals.
- Ensure accuracy, safety, and compliance with standards.
- Obtain necessary technical approvals.

E. Payment Schedule

Linked to milestones such as:

- Inception Report
- Completion of surveys & investigations
- Submission of Draft DPR
- Submission of Final DPR

F. Confidentiality & Ownership

(i) All data, drawings, and reports shall remain the property of BRO Project Dantak. If at inception stage or feasibility stage, employer desires to terminate the contract, the contract will be terminated after payment up to that stage.

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 parameters 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.

4.11.4.4 Geo-technical Investigations and Sub-Soil Exploration

1. The Consultants shall carry out geo-technical investigations and sub-surface explorations for the proposed Bridges, 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
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 the Authority.
3. However, where a study of geo-technical reports and information available from adjacent crossings over the same waterway (existing 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 Project Dantak.
4. Geo technical 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 IRC78.

5. The scheme for the borings locations and the depth of boring shall be prepared by the Consultants and submitted to BRO Project Dantak for approval. The sub -soil exploration and testing should be carried out through the Geotechnical Consultants empanelled by MORT&H. The soil testing reports shall be in the format prescribed in relevant IRC Codes.
6. 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.

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 by products, 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 levelling the ground as required from the construction point of view 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 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..

4.12 Detailed Design of Bridges, Road and Pavements, Structures

4.12.1 General

1. The Consultants are to carryout detailed designs and prepare working drawings for the following:
 - i. Bridges, viaduct.
 - ii. High speed highway with carriageway configuration complete in all respects;
 - iii. Design of pavement and overlay for the existing road, paved shoulders, medians, verges;
 - iv. At-grade and grade-separated intersections, interchanges (if required);
 - v. Prepare alignment plans, longitudinal sections and cross-sections@50m intervals;
 - vi. Designs for road furniture and road safety/traffic control features;
 - vii. Bridges and structures rehabilitation plan with design and drawings
 - viii. Traffic amenities (Parking Areas, Weighing Station and Rest Areas, etc.)
- ix. Design of pavement for approach road viii. 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 Project Dantak.
2. The Design Standards evolved for the project shall cover all aspects of detailed design including the design of geometric elements, bridges and structures, pavement design, 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 blackspots 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 or as applicable.
 - iv. junctions, intersections and interchanges or as applicable;

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.

5. 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.
6. 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.

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 lifecycle 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 <Agency>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.
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 Plans 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 BRO Project Dantak to 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. 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 BRO, the Consultants shall prepare detailed design as per IRC codes/guidelines for all components of the bridges and structures.
4. Subsequent to the approval of the GAD and Alignment Plan by BRO, the Consultant shall prepare detailed design as per IRC 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.
5. 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.
6. 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.
7. The Consultants shall also carry out the design and make suitable recommendations for protection works for bridges and drainage structures.

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 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.

4.13 Environment and Social Impact Assessment

The consultant shall under take the detailed environmental and social impact assessment in accordance with the standard set by the Government of Bhutan.

4.13.1 Environmental Impact Assessment

Environment impact assessment or initial environment examination be carried out in accordance with ADB's Environmental Assessment Requirements of ADB 1998 guidelines for selected infrastructure projects 1993 as amended from time to time/World Bank Guidelines / Government of Bhutan Guidelines, as applicable

1. The consultant should carry out the preliminary environmental screening to assess the direct and induced impacts due to the project.
2. The consultant shall ensure to document baseline conditions relevant to the project with the objective to establish the benchmarks.
3. The consultant shall assess the potential significant impacts and identify the mitigation measures to address these impacts adequately.
4. The consultant shall do the analysis of alternatives incorporating environmental concerns. This should include with and without scenario and modification incorporated in the proposed project due to environment considerations.
5. The consultant shall give special attention to the environmental 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) Highway side landscape and enhancement of the road junctions,
 - (d) Enhancement of highway side water bodies, and
 - (e) Redevelopment of the borrow areas located on public land.
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 and noise pollution. The consultant will also provide additional inputs in the areas of performance indicators and monitoring mechanisms for environmental components during construction and operational phase of the project.
8. The consultant shall provide the cost of mitigation measures and ensure that environmental related staffing, training and institutional requirements are budgeted in project cost.
9. The consultant shall identify and plan for plantation and Transplantation of the suitable trees along the existing highway in accordance with IRC guidelines.

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.

4.13.4 Reporting Requirements of EIA

- The consultant would prepare the stand-alone reports as per the requirement of the ADB/World Bank /<Agency>, as applicable, with contents as per the following:
- Executive Summary
- Description of the Project
- Environmental setting of the project.
- Identification and categorization of the potential impacts (during construction and operation periods).
- Analysis of alternatives (this would include correlation amongst the finally selected alternative alignment/routing and designs with the avoidance and environmental management solutions).
- The public consultation process.
- Policy, legal and administrative framework. This would include mechanisms at the states and national level for operational policies. This would also include a description of the organizational and implementation mechanism recommended for this project.
- Typical plan or specific designs for all additional environmental items as described in the scope of work.
- Incorporating any other as per the suggestions of the ADB/WorldBank/ <Agency>, till the acceptance of the reports by the ADB/ World Bank/<Agency>, as applicable.

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 BRO/ADB/WB projects are to be checked against rates for similar on-going works under BRO/WorldBank/ 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.
5. The consultant shall furnish cost comparison amongst conventional and with the use of New/alternative Material and Technology to arrive at the estimated cost. The estimated cost as proposed by the consultant shall be cost effective as well as environment friendly.

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 EPC documents for bridge construction including approaches, minor bridge, culverts, as applicable.
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 BRO Project Dantak.
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 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 documents of ministry before bidding the project.

6.3.3 Support during the bidding process

1. Consultant shall support BRO Project Dantak 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 BRO project Dantak 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 **Annexure-I to LOI**. The final reports, drawings and documentation shall be completed within this time schedule.
2. BRO 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 APPENDIX-IA (Part-I) as per client's assessment.
3. A Manning Schedule for key personnel mentioned above is enclosed as APPENDIX-IA (PartI) along with broad job- description and qualification as APPENDIX-IB (Part-I). The information furnished in APPENDIX-I & II (Part-I) 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. **Key personnels as mentioned in LOI 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 **required** 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 Project Dantak 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 Project Dantak before commencement of the services.
9. 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 BRO project Dantak 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.

10. Reports to be submitted by the Consultant to BRO Project Dantak.

10.1 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.

10.2 Project preparation activities will be split into four 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	DPR	Detailed design of highway, preparation of detailed project report with drawings	Draft DPR Report, Final DPR Report, documents and drawings
4	Technical Schedules	Preparation of bid documents and technical schedules	Civil Works Contract Agreement and Schedules

Preliminary design work should commence without waiting for feasibility study to be completed.

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 for any part of the next stage.

10 Reports and Documents to be submitted by the Consultant to BRO Project Dantak.

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-I. Further, the reports shall also be submitted in CD's in addition to the hardcopies as mentioned in Enclosure-I. 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 ENCLOSURE-II
4. Formats for submission of Reports and Documents to understand any additional format and content requirements
5. 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. 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 geotechnical and sub-soil investigations, road and pavement investigations, investigation and design of bridges & structures, environment and R&R assessment, 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 BRO project Dantak.
2. Data formats for report and investigation result submission
 - i. Required data formats for some reports, investigations and documents are discussed in ENCLOSURE-II
 - ii. Formats for submission of Reports and Documents.
 - iii. The consultants will need to propose data formats for use in all other field studies and investigations not covered in enclosure II.
 - iv. The proposed data forms will need to be submitted for the approval of BRO Project Dantak 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 BRO 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 BRO
- x. Draft design standards; and

STAGE 2: Feasibility Report

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 bridge and approach roads.
2. Alignment options should include but not be limited to:
 - (i) Provision of main bridge and other structures like minor bridge, culverts, etc.
 - (ii) Greenfield sections of the road
 - (iii) New alignments due to lack of RoW, opportunity to shorten road etc.
 - (iv) New/Re-alignment to cater to local traffic and o-d points
 - (v) Re-alignment due to changes in local network and/or surrounding road network
 - (vi) Bypasses as suggested and approved in alignment report
 - (vii) Re-alignment due to need to improve road geometry
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, environmental impact, structures affected, cost of construction, road geometry, input from local consultation, BRO Project Dantak views
 - iv. 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 in standard format.
 - ii. Overview of BRO project Dantak 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
- x. Cost estimates based on preliminary rate analysis and bill of quantities,
- xi. Cost analysis of all alternate identified alignments
- xii. 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 BRO Project Dantak shall be submitted within 15 days of receipt of comments from BRO Project Dantak on draft feasibility study report.

STAGE: 3

10.9 Draft Detailed Project Report (DPR)

1. The draft DPR Submission shall consist of Main Report, Design Report, Materials Report, Engineering Report, Drainage Design Report, Environmental Assessment Report, 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 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 and conclusions. The report shall include Executive Summary in standard format giving brief accounts of the findings of the study and recommendations.
- ii. 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.

- iii. **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 design of bridge, additional minor bridge and or cross-drainage structures while Part-II shall deal with the design of road features and pavement composition. 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.

- iv. **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.

- v. **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 Bhutan and World Bank / ADB as appropriate.
- vi. **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.
- vii. **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.
- viii. **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.
- ix. **Volume - VIII, Bill of Quantities:** This volume shall contain the package-wise detailed Bill of Quantities for all items of works.
- x. **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:
 - Detailed Working Drawings for Bridge and Structures.
 - Detailed Working Drawings for individual Culverts and Cross Drainage Structures.
 - Horizontal Alignment and Longitudinal Profile.
 - Cross-section @ 50m interval along the alignment within ROW
 - Typical Cross-Sections with details of pavement structure.
 - Detailed Drawings for Improvement of At-Grade and Grade-Separated
 - Intersections and Interchanges.
 - Drawings for Road Sign, Markings and other Facilities.
 - Schematic Diagrams (linear chart) indicating but be not limited to be following:
 - Widening scheme;
 - Locations of service roads;
 - Location of traffic signals, traffic signs, road markings, safety features; and,
 - The drawings shall also include the locations of all traffic safety features including traffic signals, signs, markings, crash barriers, 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
- b. 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 II
- c. The consultant shall also provide digital versions of all drawings stated in para 1 above in the format proposed in Enclosure II

10.10 Final Detailed Project Report, Documents and Drawings (6 Sets)

1. The Final DPR consisting of Main Report, Design Report, Drainage Design Report and Materials Report, incorporating all revisions deemed relevant following receipt of the comments from BRO Project Dantak on the draft DPR shall be submitted as per the schedule given in Enclosure-I.

STAGE: 4

10.11 Bid documents and Technical Schedules

1. Bid documents

- a. The consultant shall prepare bid documents for EPC
- b. 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.
- 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.

11. Interaction with BRO Project Dantak

1. During entire period of services, the Consultant shall interact continuously with BRO Project Dantak and provide any clarification as regards methods being followed and carryout modification as suggested by BRO Project Dantak. A programme of various activities shall be provided to BRO Project Dantak and prior intimation shall be given to BRO Project Dantak regarding start of key activities such as boring, survey etc. so that inspections of BRO Project Dantak officials could be arranged in time.

2. The BRO Project Dantak officers and other Government officers may visit the site at any time, individually or collectively to acquaint/ supervise the field investigation and survey works. BRO Project Dantak may also appoint a Proof Consultant to supervise the work of the DPR consultant including inter-alia field investigation, survey work, Design work.
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 BRO Project Dantak. 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 Thimphu, Bhutan or in Delhi, India 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 BRO Project Dantak all 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 II 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 BRO Project Dantak 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), 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.
2. **Software:** The Consultant shall also hand-over to BRO Project Dantak CD's containing any general software including the financial model which has been specifically developed for the project.
3. The CD's should be properly indexed and a catalogue giving contents of all CD's and print-outs of the contents (data from field studies topographic data and drawings) should be handed over to BRO Project Dantak 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.

ADDITIONAL POINTS TO BE CONSIDERED FOR HILL ROADS IN ADDITION TO POINTS COVERED IN MAIN TOR

Sr. No.	Clause No. of TOR	Additional points
2.	2.3	Design of protective works, slope stabilization measures, erosion control measures, landslide control/protection measures, if required
3.	3	Feasibility study and preparation of detailed project report for hill roads shall be done in accordance with 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
4.	4.1	<p>a) Detailed design of road considering and incorporating specific aspects related to hill region like terrain, topographic conditions, extreme weather conditions, altitude effects etc.</p> <p>b) Design of protective works, slope stabilization measures, erosion control measures, land slide control/protection measures , if required e) Design of scenic overlooks/watering points etc.</p>
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. For aspects not covered by IRC and BIS, international standard practices, such as, British and American Standards may be adopted.
6.	4.7	<p>Review of data and documents pertaining</p> <p>to a) Terrain and soil condition</p> <p>b) Existing protective works, erosion control and land slide control/protection works, slope stabilization measures, Existing land slide clearance facilities</p>

Sr. No.	Clause No. of TOR	Additional points
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)	<p>The primary tasks to be accomplished during the reconnaissance survey shall also include:</p> <p>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.</p> <p>b) Climatic conditions i.e. temperature, rainfall data, snowfall data, fog conditions, unusual weather conditions etc.</p> <p>c) Realignment requirements</p> <p>d) Inventory of geologically sensitive areas like slip prone areas, areas subject to landslides, rockfall, erosion etc.</p>
9.	4.11.2.1 (3.ii)	Cross sections shall be taken at every 25 m. in case of hill roads and at points of appreciable changes in soil conditions. While taking cross sections, soil conditions shall also be recorded.
10.	4.11.3.1 (1)	<p>The inventory data shall also include:</p> <p>a) General elevation of road indicating maximum & minimum heights negotiated by main ascents & descents and total no. of ascents & descents.</p> <p>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, no. & location of hairpin bends etc.</p> <p>c)Details & types of protective structures, erosion & land slide control/protection measures.</p>
11.	4.11.3.2 (2)	<p>Pavement:</p> <p>a) Location of crust failures along with their causes</p> <p>b) Conditions of camber/cross falls/super elevations etc., whether affected by subsidence Embankment: Extent of slope erosion on hill and valley side</p>

12.	--	<p>Condition Surveys & Investigation for Slope Stabilization, Erosion Control, Landslide Correction/Protection:</p> <p>a) Inventory & Condition Surveys of Existing Protective/Control Measures: The consultant shall make an inventory of all the structures related to Slope Stabilization, Erosion Control, Landslide Control/protection etc. This shall include details of effectiveness of control measures already done and condition of protective/control 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</p>
		<p>instability and to determine 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/geomorphological 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.</p>
14.	4.12.1 (1)	<p>The Consultant shall also carry out detailed designs and prepare working designs for the following:</p> <p>a) Cross sections at every 25 m intervals b) Slope stabilization and erosion control measures c) Design of protection/control structures in areas subject to subsidence, landslides, rock fall, rock slide, scour, 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</p>
15.	4.12.2 (1) 4.12.2 (2)	<p>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 BRO Project Dantak</p> <p>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 and materials.</p>
16.	4.12.3	<p>Wherever practicable/feasible hairpin bends and steep gradients shall be avoided by realignments, provision of structures or any other suitable provisions.</p>

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, thermal stresses due to temperature difference in day and night, 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 including features specific to hill roads.
20.	4.12.7	<p>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.</p> <p>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.</p>
23.	10.9.3	<p>Volume II: Design Report :</p> <p>a) Inventory of protection measures and other structures</p> <p>Volume III: Drawings</p> <p>a) Drawings for protection/control measures and other structures</p>
24.	10.9.3	<p>Volume II: Design Report (Part II)</p> <p>Part II of Design Report shall also deal with design of other protection/control structures.</p> <p>Volume IX: Drawing Volume</p> <p>This shall also include :</p> <p>a) Detailed working drawings for protection/control structures</p>

ADDITIONAL REQUIREMENTS FOR BRIDGES

Sr.No.	Clause No. of TOR	<i>Additional points</i>
1	4.1	For standalone bridge projects the scope of work shall include detailed design of approach road extending at least up to 1 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 modelling 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.
- i) Provide information on estimated/observed maximum depth of scour. **The effect of silting/drawdown post construction of Bunakha Dam shall also be considered.**
- ii) Provide information on required river training works for proposed bridge
- iii) Provide hydraulic design for the bridge and the required river training works.
- iv) 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/**Bunakha dam**, 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/seismic Load on the Structures as per IRC SP 136 and SP 54

Terms of reference for phase 2: Construction supervision and maintenance

[Note: The term Agreement and clauses thereof referred to the EPC agreement to be entered between Authority and contractor for the work of on Engineering Procurement Construction (EPC) basis]

1. Scope

1.1 These Terms of Reference (the “**TOR**”) for the Authority’s Engineer are being specified pursuant to the EPC Agreement..... (the “**Agreement**”), which has to be entered into between the Authority and (the “**Contractor**”) for (**work...**) on Engineering, Procurement, Construction (EPC) basis.

1.2 The TOR shall apply to construction and maintenance of the Bridge and approach roads.

2. Definitions and interpretation

2.1 The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

2.2 References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be reference to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

2.3 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, *mutatis mutandis*, to this TOR.

3. General

3.1 The Authority’s Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

3.2 The Authority’s Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining.

(a) any Time Extension.

(b) Any additional cost to be paid by the Authority to the Contractor;

(c) The Termination Payment; or

(d) Any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs.5,000,000 (Rs.Fifty lakh.)

- 3.3 The Authority's Engineer shall submit regular periodic reports, once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.
- 3.4 The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2 EPC Agreement.
- 3.5 The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.
- 3.6 In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4. Role and responsibility of Officers of the Authority

The officer in-charge of the Authority (PD/Cdr TF) is responsible for the overall supervision and monitoring of the execution of project as the representative of the owner of the project. The Authority's Engineer is appointed to assist the Authority for carrying out the functions as detailed under clause 18.2 of the EPC Agreement. As such, an officer of the Authority is vested with all such powers and responsibilities as are enjoined upon the Authority's Engineer and is fully competent to issue any instructions for proper monitoring and supervision of the project, either by himself or through the Authority's Engineer. Instructions issued by the concerned officer of the Authority shall have the same effect as that of the Authority's Engineer in terms of this Agreement. Wherever such concerned officer issues any instructions or notice to the Contractor, he shall endorse a copy thereof to the Authority's Engineer.

5 Construction Period

- 5.1 During the Construction Period, the Authority's Engineer shall review and approve the Drawings furnished by the Contractor along with supporting data, including the geotechnical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1.6 of EPC Agreement. The Authority's Engineer shall complete such review and approve and send its observations to the Authority and the Contractor within 30 (thirty) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.
- 5.2 The Authority's Engineer shall review and approve any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings. The review/approval of drawing should be authenticated by Authority's Engineer.
- 5.3 Quality Assurance Manual and Plan forms the basis of quality of the work. It is therefore essential that the Quality Assurance Manual and Plan prepared by the Concessionaire be

checked and approved. Thus, the Authority's Engineer shall check contents of Quality Assurance Plan and Manual of Concessionaire as per requirements of Quality Management System (as per ISO 9001), IRC Special Publication-112:2017 (Manual for Quality control in Road & Bridge). The Authority's Engineer shall also offer their comments for modifying/improving the document. After receiving the corrected document, the Authority's Engineer shall review and formally approve the QAM and Quality Plan and send one copy to the Authority. The Authority's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

- 5.4 The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project Highway for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4 EPC Agreement.
- 5.5 The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the contractor within 7 (seven) days of receipt of such report.
- 5.6 On a daily basis, the concerned key personnel of Authority Engineer shall inspect the Construction Works. Following activities need to be undertaken during the visits.
- Review of construction including progress, quality and safety of construction
 - Inspection of defects and deficiencies in construction works
 - Witnessing quality inspection tests at labs established by Concessionaire on a sample basis

Review of quality of work shall be done in reference to Quality Assurance Plan (QAP)/Manual and ISO 9001:2008, IRC: SP: 47-1998 and IRC: SP: 57-2000 for road bridges and roads respectively. The Authority's Engineer also needs to capture following documents and send to Project Dantak field office via email on a daily basis

- *Scanned copy of filled RFI (Request for Inspection) form including commentary on 'Satisfactory/Unsatisfactory' nature of work completed by Concessionaire*
- *Daily inspection report Proforma as provided in Enclosure IB1*
- *Readings of quality inspection tests witnessed by the Consultant*
- *Minimum 6 high resolution photographs supporting the remarks made by the Authority's Engineer in RFI form*

Team Leader will be responsible for sending daily emails to BRO Project Dantak office.

- 5.7 On a monthly basis, the Authority Engineer shall prepare a **Monthly Inspection Report** in accordance with the standard format setting forth an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Authority Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Bridge/approach roads. The Authority Engineer shall send a copy of its Inspection Report to the Authority and

the Concessionaire latest by 7th of every month. Key sections of the Monthly Progress Report are as follows.

S No.	Section	Sub-Sections
1	Executive Summary	1.1 Construction progress in current month
		1.2 Current issues and recommended actions by AE
2	Project Overview	2.1 Salient Features of the Project
		2.2 Project Milestones
		2.3 Location Map
		2.4 Key Plan
3	Critical issues and Action log	3.1 Pending issues and action log
		3.2 Obligations as per contract
4	Physical Progress	4.1 Detailed physical progress
6	Change of Scope	6.1 Status of pending COS proposals
7	Mobilization of Resources	7.1 Resource mobilization by contractor/ concessionaire
8	Financial Progress Details	8.1 Pen picture- Escrow
		8.2 Escrow details
9	Summary of quality control tests	9.1 Tests witnessed by IE/AE
		9.2 Tests conducted by IE/AE
10	Monitoring of maintenance obligations during construction phase	10.1 Critical issues and action log
		10.2 Cumulative defects and deficiencies
		10.3 Status of damages
11	Safety features	11.1 Pen picture on safety features at construction site
		11.2 Accident report
12	Annexures	Annexure1:Detailed list of physical components as per Schedule G
		Annexure 2 onwards: Additional details provided by AE

- 5.8 If at any time during the Construction Period, the Authority Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and Users in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the Users, it shall make a recommendation to the Authority forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof.
- 5.9 The Authority's Engineer shall conduct the pre-construction review of manufacturer's reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.
- 5.10 For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this, the tests specified in the IRC Special Publication-112:2017 (Manual for Quality control in Road & Bridge works and the Specifications for Road and Bridge Works issued by MORT&H (the "Quality Control Manuals") or any modifications/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.
- 5.11 The Authority's Engineer shall test check at least 60(sixty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.
- 5.12 The timing of tests referred to in Paragraph 5.10, and the criteria for acceptance/rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.
- 5.13 In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.
- 5.14 The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the bridge or approaches, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 of EPC Agreement shall apply.
- 5.15 In the event that the Contractor fails to achieve any of the Project Milestones, the Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Standalone Bridge Project is not feasible within the time specified in the Agreement, it shall require the Contractor to initiate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the

Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.

5.16 The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2 of EPC Agreement.

5.17 Authority's Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measure, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.

5.18 In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.

5.19 The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-K and issue a Completion Certificate or Provisional Certificate as the case maybe. For carrying out functions under this Paragraph and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-K.

6 Maintenance Period

6.1 The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with Contractor.

6.2 The Authority's Engineer shall undertake regular inspections, at least once every month to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Authority and the Contractor.

6.3 *Visual Inspection of bridge/ approaches*

6.3.1 The Authority Engineer shall carry out visual inspection of entire bridge/ approaches as per the frequency defined in the following table

Nature of defect or deficiency		Frequency of inspection
BRIDGES		
(a)	Superstructure of bridges	
(i)	Cracks	Weekly

(ii)	Spalling/scaling	Weekly
(b)	Foundations of bridges	
(i)	Scouring and/or cavitation	Weekly
(c)	Piers, abutments, return walls and wing walls of bridges	
(i)	Cracks and damages including settlement and tilting	Weekly
(d)	Bearings (metallic) of bridges	
(i)	Deformation	Weekly
(e)	Joints in bridges	
(i)	Loosening and malfunctioning of joints	Weekly
(f)	Other items relating to bridges	
(i)	Deforming of pads in elastomeric bearings	Weekly
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weepholes and vent-holes	Weekly
(iii)	Damage or deterioration in parapets and handrails	Weekly
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	Weekly
(v)	Damage to wearing coat	Weekly
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	Weekly
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	Weekly
APPROACH ROADS		
(a)	Carriageway and paved shoulders	
(i)	Breach or blockade	Daily
(ii)	Pot holes	Daily
(iii)	Cracking	Weekly
(iv)	Rutting	Weekly
(v)	Bleeding/skidding	Weekly
(vi)	Ravelling/Stripping of bitumen surface	Weekly
(vii)	Damage to pavement edges	Weekly
(viii)	Removal of debris	Daily
(b)	Hard/earth shoulders, side slopes, drains and culverts	
(i)	Variation by more than 2% in the prescribed slope of camber/cross fall	Weekly
(ii)	Edge drop at shoulders	Weekly
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	Weekly
(iv)	Rain cuts/gullies in slope	Weekly
(v)	Damage to or silting of culverts and side drains during and immediately preceding the rainy season	Weekly
(vi)	Desilting of drains	Daily
(c)	Road side furniture including road signs and pavement marking	

(i)	Damage to shape or position; poor visibility or loss of retro-reflectivity	Daily
(h)	Other Project Facilities and Approach roads	
(i)	Damage or deterioration in Approach Roads, [pedestrian facilities, truck lay-bys, bus-bays, bus-shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works]	Daily
(j)	Incident Management	
Nature of defect or deficiency		Frequency of inspection
(i)	Instances of Incident Management as reported including time of call, response time, services rendered and time of clearing of the road.	Daily
(ii)	List of the Incident Management Services rendered.	Weekly

6.3.2 All elements which have daily inspection frequency shall be inspected weekly as well. Similarly, all elements which have weekly inspection frequency shall be inspected monthly as well.

6.3.3 Daily inspection report format and weekly inspection report. Manpower which needs to conduct visual inspection and mode of reporting is defined in the following table

Frequency of inspection	Inspection to be carried out by	Mode of reporting
Daily	Sub-professional staff	Soft copy by Email
Weekly	Key personnel	Soft copy by Email
Monthly	Key personnel	Hard copy and Soft copy

6.3.4 High resolution photographs and video of the bridge and approach road stretches having defects and/or deficiencies shall be submitted along with Weekly Inspection Report and Monthly Status Report. Summary of key observations around defects and deficiencies in bridge/ approaches construction shall be reported in Monthly Progress Report and detailed inspection report shall be provided as Annexure to Monthly Progress Report.

6.6 The Authority Engineer shall prepare a Monthly Status Report in O&M phase of project in respect of its duties and functions under this Agreement and in accordance with the standard format. 1st deliverable of the report which is an executive summary to the main report (Section 1) shall be submitted to the Authority and updated on the PMIS and project specific website by 4th of every month. Main report (Section 2 onwards) shall be submitted to the Authority and updated on the PMIS and project specific website by 7th of every month. Key sections of the Monthly Status Report are as follows;

S.No	Sections	Sub sections
		1.1 Overall road condition

1	Executive Summary	1.2 Key reporting metrics
		1.3 Key maintenance activities undertaken
		1.4 Pending issues
		1.5 Recommended actions by AE
		1.6 Strip plan for maintenance
2	Project Overview	2.1 Key project details
		2.2 Location map
		2.3 Key plan
		2.4 Summary of project features
		2.5 RoW availability
3	Critical issues and action taken	3.1 Issue and action log
		3.2 Summary of deficiencies
		3.3 Obligations as per contract
		3.4 Inspection schedule
4	Monthly Inspection Report	4.1 Summary of NCR issued
		4.2 Equipment based inspection report
5	Monitoring of ETC Lanes	5.1 Monthly ETC Report
		5.2 On-ground infrastructure report
		5.3 On ground ETC operations & SLA adherence
6	Status of damages	6.1 Damages for non completion of project facilities
		6.2 Damages for breach of maintenance activities
		6.3 Damages for non completion of major maintenance works
7	Change of Scope proposals	7.1 Change of Scope proposals
8	Status of pending disputes	8.1 Status of pending disputes
		9.2 Accident Report
		9.3 Details of user complaints
		9.4 Encroachment list
		9.5 Lane closure report
10	Annexures	Annexure I-Detailed visual inspection report of project highway
		Annexure II onwards- Additional details provided by AE

6.7 The Authority's Engineer shall specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Bridge and approach roads including additional cross drainage/ minor bridge/ drains is in

conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and remedial measures, if any, taken by the Contractor on this behalf.

6.8 In respect of any defect or deficiency referred to in Paragraph 3 of Schedule-E, the Authority's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.

7 Determination of costs and time

7.1 The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.

7.2 The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.

7.3 The Authority's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 18.5 of EPC Agreement.

8 Payments

8.1 The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer in accordance with the provision of Clause 10.2.4 (d) of EPC Agreement.

8.2 Authority's Engineer shall

- (a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90(ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and
- (b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 19.10 of EPC Agreement.

8.3 The Authority's Engineer shall, within 15 (fifteen) days of receipt of the First stage Maintenance Payment Statement from the Contractor pursuant to Clause 19.6 of EPC Agreement, verify the Contractor's statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.

8.4 The Authority's Engineer shall certify final payment with 30(thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16 of EPC Agreement.

9 Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

10 Miscellaneous

10.1 All key personnel and sub professional staff of the Authority Engineer 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. 1 Biometric Attendance System shall be installed by the Authority Engineer at its own cost at the site office in order to facilitate the attendance marking. A copy of monthly attendance records shall be attached with Monthly Status Report. Proper justification shall be provided for cases of absence of key personnel/ sub professional staff which do not have prior approval from Project Director.

10.2 A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.

10.3 The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as - built' Drawings and keep them in its safe custody.

10.4 Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings in 2(two) hard copies and in microfilm form or in such other medium as may be acceptable to the Authority, reflecting the bridge/approaches as actually designed, engineered and constructed, including an as built survey illustrating the layout of the road and setback lines, if any, structures forming part of project Facilities; and shall hand them over to the Authority against receipt there of.

10.5 The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

10.6 The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

11. PERFORMANCE CLAUSE

Authority's Engineers shall be expected to fully comply with all the provisions of the 'Terms of Reference', and shall be fully responsible for supervising the Designs, Construction and maintenance and operation of the facility takes place in accordance with the provisions of the EPC Agreement and other schedules. Any failure of the Authority Engineer in notifying to Employer and the Contractor on non-compliance of the provisions of the EPC Contract Agreement and other schedules by the EPC Contractor, non-adherence to the provision of ToR and non-adherence to the time schedule prescribed under ToR shall amount to non-performance.

The Authority Engineer shall appoint its authorized representative, who shall issue on behalf of the AE, Completion Certificate along with the Team Leader and shall carryout any such task as may be decided by Employer. The AE shall take prior approval of Employer before issuing Completion Certificate. The proposal submitted shall also include the name of the authorized representative along with the authorization letter and power of attorney.

12. CONSULTANT'S PROPOSAL

12.1 List of key personnel to be fielded by the Consultants shall be as below:

Standalone Bridge Project:

- i. Team Leader Cum Senior Bridge Construction Engineer
- ii. Resident cum Pavement Specialist
- iii. Bridge/Structural Engineer
- iv. Senior Contract Specialist
- v. Senior Quality cum Material expert

12.2 Broad job-description and minimum qualification for key personnel mentioned above is enclosed as **Appendix-IB (Part-I)**. However, higher marks shall be accorded to the Candidate with higher relevant qualification and experience. **The age of the Key Personnel should not be more than 65 years as on date of submission of bid/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. 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 authorised signatory for the Consultant. The key personnel shall also certify at the end of their bio- data proforma that they have not left any of the Employer works without completing of their assignment and have not accepted any other offer at the time of signing of the bio-data and as such shall be available to work with the Authority Engineer. In case the key personnel leaves the assignment without approval of Employer, Employer would be at liberty to take any appropriate action against that key personnel including debarment. The CV submitted by selected firm shall be hoisted on official website of Employer. **It is clarified that CVs for the key**

Personnel to be deployed during supervision phase shall be submitted at the time of start of construction and supervision work.

- 12.3 In addition to above, consultants are required to propose other key personnel, sub-professional staff and other field engineers as detailed in **Appendix-IA (Part-I)** and the minimum qualification requirements for the same is enclosed in **Appendix-IB (Part-I)**.

13. PERIOD OF SERVICES

- 13.1 The services of an Authority's Engineer will be in phases as per Contract Agreement.

- 13.1.1 The time period for construction supervision shall be as per Annexure A of LOI.

14. Project Coordinator

The Firm shall appoint a personnel from its head office to act as Project Coordinator for the assignment. He will be authorised to communicate with the Authority in respect of all matters pertaining to the project. The cost of the Project Coordinator shall be incidental to the Consultancy Assignment.

ENCLOSURE-IA

Schedule for submission of Reports and Documents for Phase-1

Stage No.	Activity	No. of copies	Time Period in days from date of commencement
1	Monthly Reports	3	By 10 th day of every month
2	Inception Report		
	(i) Draft Inception Report including QAP document	3	10
	(ii) Inception Report including QAP document	3	20
3	F.S. REPORT		
	i) Draft Feasibility Study Report including option study report	4	60
	ii) Comments of client	1	70
	iii) Final Feasibility Study Report incorporating compliance of comments of Client	4	90

4	Detailed Project Report i)Draft DPR ii)Comments of client iii)Final DPR incorporating compliance of comments of Client	4 1 6	120 150 180
5	Technical Schedules i) Draft Technical Schedules ii) Comments of client iii) Final technical schedule	4 1 6	120 150 180

The checklist for different stages of submission of report has been enclosed as under and the same shall be appended with proper references and page numbering. The checklist/s shall be appended with the report without which no payment shall be made.

Schedule for approval of Reports and Documents by PD after submission by Consultant.

Stage No.	Activity	Time Period in days from date of submission of Comment and acceptance by PD
1	Inception Report	7 days
2	Feasibility Study Report i) Draft Feasibility Study Report including option study report ii) Final feasibility Study report	15days 7 days
3	Detailed Project Report i) Draft DPR ii) Final DPR incorporating compliance of comments of Client	20 days 7 days
4	Technical Schedules i) Draft Technical Schedules ii) Final technical schedule	20 days 7 days

The checklist for different stages of submission of report has been enclosed as under and the same shall be appended with proper references and page numbering. The checklist/s shall be appended with the report without which no payment shall be made.

Daily Inspection Report in construction period Phase 2

Component	Item Description	Description of inspection work carried out	Results of lab tests conducted (Test conducted, Pass/Fail)	Name of key personnel inspecting the work
1. Major Bridge works	Foundation/ Sub structure/ Super structure			
2. Road works including culverts, and minor bridges	Embankment/ Sub Grade/GSB/WMM/ DBM/BC			
3. Approach to Major Bridges/RE wall	Foundation/ Sub structure/ Super structure			
4. Other Works				

Daily Inspection Report in O&M period -Phase 2

Nature of defect/ deficiency	Defect found (Yes/No)	If defect found, Chainage &side	Compliance of previous defect (Yes/No/NA)	AE Remarks
ROADS				
Carriageway and paved shoulders				
Breach or blockade				
Pot holes				
Removal of debris				
Hard/earth shoulders, side slopes, drains and culverts				
Desilting of drains				
Road side furniture including road signs and pavement marking				
Damage to shape or position; poor visibility or loss of retro reflectivity				
Other Project Facilities and Approach roads				
Damage or deterioration in Approach Roads,-[pedestrian facilities, truck lay-bys, bus-bays, bus- shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works]				

Weekly Inspection Report in O&M period

BRIDGE				
(a)	Superstructure of bridges			
(i)	Cracks			
(ii)	Spalling/scaling			
(b)	Foundations of bridges			
(i)	Scouring and/or cavitation			
(c)	Piers, abutments, return walls and wingwalls of bridges			
(i)	Cracks and damages including settlement and tilting			
(d)	Bearings (metallic) of bridges			
(i)	Deformation			
(e)	Joints in bridges			
(i)	Loosening and malfunctioning of joints			
(f)	Other items relating to bridges			
(i)	Deforming of pads in elastomeric bearings			
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and vent-holes			
(iii)	Damage or deterioration in parapets and handrails			
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches			
(v)	Damage to wearing coat			

(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds				
(vii)	Growth of vegetation affecting the structure or obstructing the waterway				
APPROACH ROADS					
(a)	Carriageway and paved shoulders				
(i)	Breach or blockade				
(ii)	Roughness value exceeding 2,500mm in a stretch of 1 km (as measured by a standardised roughometer/bump integrator)				
(iii)	Pot holes				
(iv)	Cracking in more than 5% of road surface in a stretch of 1km				
(v)	Rutting exceeding 10 mm in more than 2% of road surface in a stretch of 1km (measured with 3m straight edge)				
(vi)	Bleeding/skidding				
(vii)	Ravelling/Stripping of bitumen surface exceeding 10 sq m				
(viii)	Damage to pavement edges exceeding 10 cm				
(ix)	Removal of debris				
(b)	Hard/earth shoulders, side slopes, drains and culverts				
(i)	Variation by more than 2% in the prescribed slope of camber/crossfall				
(ii)	Edge drop at shoulders exceeding 40mm				

(iii)	Variation by more than 15% in the prescribed side (embankment) slopes				
(iv)	Rain cuts/gullies in slope				

Nature of defect or deficiency		Defect found (Yes/No)	If defect found, Chainage & side	Compliance of previous defect (Yes/No/NA)	AE Remarks
(v)	Damage to or silting of culverts and side drains during and immediately preceding the rainy season				
(vi)	Desilting of drains in urban/semi- urban areas				
(c)	Roadside furniture in cluding road signs and pavement marking				
(i)	Damage to shape or position; poor visibility or loss of retro- reflectivity				
(h)	Other Project Facilities and Approach roads				

Month of survey for equipment based bridge/ road condition assessment

Equipment based bridge/road inspection shall be done by the Authority's Engineer twice a year as per the month of the year defined in the following table.

Country	Survey before rains	Survey after rains
Bhutan	Mar	Oct

APPENDIX-VII

DRAFT CONTRACT AGREEMENT

Between
Border Roads Organisation
CHIEF ENGINEER PROJECT DANTAK
(Ministry of Defence)
Government of India

And

M/s

For

PROJECT MANAGEMENT CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR DESIGN, INCLUDING SELECTION OF SITE, TYPE OF BRIDGE, SUB SOIL INVESTIGATION, ESTIMATION, PREPARATION OF TENDER DOCUMENTS, SUPERVISION DURING CONSTRUCTION PERIOD AND MAINTENANCE OF 266 MTR SPAN (INDICATIVE LENGTH) ICONIC BRIDGE INCLUDING APPROACHES AT KM 1.275 ON DAMCHU-HAA LINK ROAD UNDER 60 RCC/ 19 BRTF PROJECT DANTAK IN BHUTAN

May 2026

(Km 1.275 on Damchu Haa link road in Bhutan)

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Appendix A: Terms of reference containing, inter-alia, the Description of the Services and Reporting Requirements

Appendix A1: Reporting requirement

Appendix B:	Consultants' Sub consultants, Key Personnel and Sub Professional Personnel, Task assignment, work programme, manning schedule, qualification requirements of key personnel, schedule for submission of various report.
Appendix B1:	Medical certificate
Appendix C:	Hours of work for Consultants' Personnel
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Appendix F:	Copy of letter of invitation
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Appendix I:	Minutes of the Pre-bid meeting

PROJECT MANAGEMENT CONSULTANCY SERVICES FOR FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR DESIGN, INCLUDING SELECTION OF SITE, TYPE OF BRIDGE, SUB SOIL INVESTIGATION, ESTIMATION, PREPARATION OF TENDER DOCUMENTS, SUPERVISION DURING CONSTRUCTION PERIOD AND MAINTENANCE OF 266 MTR SPAN (INDICATIVE LENGTH) ICONIC BRIDGE INCLUDING APPROACHES AT KM 1.77 ON DAMCHU-HAA LINK ROAD UNDER 60 RCC/ 19 BRTF PROJECT DANTAK IN BHUTAN

This CONTRACT (hereinafter called the "Contract") is made on the ----- day of the month of ----- 2026, between, on the one hand BRO Project Dantak (herein after called the "Client") and,

on the other hand, M/s ----- (hereinafter called the "Consultants").

WHEREAS

- (A) the Client has requested the Consultants to provide certain consulting services as defined in the General Conditions attached to this Contract (hereinafter called the "Services");
- (B) the Consultants, having represented to the Client that they have the required professional skills, personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract;

NOW THEREFORE the parties hereto hereby agree as follows:

1 The following documents attached hereto shall be deemed to form an integral part of this Contract:

- (a) The General Conditions of Contract (hereinafter called "GC");
- (b) The Special Conditions of contract (hereinafter called "SC");
- (c) The following Appendices:

Appendix A: Terms of reference containing, inter-alia, the Description of the Services and Reporting Requirements

Appendix A1: Reporting requirement

Appendix B: Consultants' Sub consultants, Key Personnel and Sub Professional Personnel, Task assignment, work programme, manning schedule, qualification requirements of key personnel, and schedule for submission of various report.

Appendix B1: Medical certificate

Appendix C: Hours of work for Consultants' Personnel

Appendix D: Duties of the Client

Appendix E: Cost Estimate

Appendix F: Copy of letter of invitation

Appendix G: Copy of letter of acceptance

Appendix H: Copy of Bank Guarantee for Performance Security

Appendix-I: Minutes of the pre-bid meeting

Appendix J: Memorandum of Understanding

2. The mutual rights and obligations of the Client and the Consultants shall be as set forth in the Contract; in particular:

- (a) The Consultants shall carry out the Services in accordance with the provisions of the Contract; and
- (b) Client shall make payments to the Consultants in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

FOR AND ON BEHALF OF

Witness

(<Agency>)

Address
By
Authorized Representative

1. Signature Name

2. Signature Name
Address

FOR AND ON BEHALF OF
(Consultant)

Witness

1. Signature
Name
Address

By
Authorized Representative
Name
Address

2. Signature

GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) "Applicable Law" means the laws and any other instruments having the force of law in the Government's country [or in such other country as may be specified in the Special Conditions of Contract (SC)], as they may be issued and in force from time to time.
- (b) "Contract" means the Contract signed by the Parties, to which these General Conditions of Contract are attached, together with all the documents listed in Clause 1 of such signed Contract;
- (c) "Effective Date" means the date on which this Contract comes into force and effect pursuant to Clause GC 2.1;
- (d) "foreign currency" means any currency other than the currency of the Government;
- (e) "GC" means these General Conditions of Contract;
- (f) "Government" means the Government of India;
- (g) "local currency" means the currency of the Government;
- (h) "Consultant" wherever mentioned in this Contract Agreement means the "Project Management Consultant (PMC)" and includes sub-consultants or Associates engaged by the primary consultant.
- (i) "Member", in case the Consultants consist of a joint venture or consortium of more than one entity, means any of these entities, and "Members" means all of these entities;
- (j) "Personnel" means persons hired by the Consultants or by any Sub-Consultants and or Associates as Employees and assigned to the performance of the Services

Or any part thereof; "Foreign Personnel" means such persons who at the time of being so hired had their domicile outside the Government's Country, "Local Personnel" means such persons who at the time of being so hired had their domicile inside the Government's Country; and 'key personnel' means the personnel referred to in Clause GC 4.2 (a).

(k) "Party" means the Client or the Consultants, as the case may be, and Parties means both of them;

(l) "Services" means the work to be performed by the Consultants pursuant to his contract, as described in Appendix A hereto. The scope of work will be strictly

as given in various Clauses in TOR. The approach and methodology to be adopted by the Consultant for carrying out the assignment as Authority Engineer may be modified depending on the site requirements and work programme of the EPC Contract or after mutual discussions with Employer, the EPC Contractor and the Authority Engineer. The work plan as indicated by the Consultant may be modified accordingly to the site requirements.

(m) "SC" means the Special Conditions of Contract by which these General Conditions of Contract may be amended or supplemented;

(n) "Sub consultant" means any entity to which the Consultants subcontract any part of the Services in accordance with the provisions of Clause GC 3.7; and

(o) "Third Party" means any person or entity other than the Government, the Client, the Consultants or a Sub consultant.

1.2 **Relation between the Parties**

Nothing contained herein shall be construed as establishing a relation of master and servant or of agent and principal as between the Client and the Consultants. The Consultants, subject to this Contract, have complete charge of Personnel performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

1.3 **Governing Law and Jurisdiction**

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Laws of India and the Courts at Guwahati shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

1.4 **Language**

This Contract has been executed in the language specified in the SC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.5 **Table of Contents and Headings**

The table of contents, headings or sub-headings in this agreement are for convenience for reference only and shall not be used in, and shall not limit, alter or affect the construction and interpretation of this Contract.

1.6 **Notices**

1.6.1 *Any notice, request or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, facsimile or e-mail to such Party at the address specified in the SC.*

1.6.2 Notice will be deemed to be effective as specified in the SC.

1.6.3 A party may change its address for notice hereunder by giving the other Party notice of such change pursuant to the provisions listed in the SC with respect to Clause GC 1.6.2.

1.7 **Location**

The Services shall be performed at such locations as are specified in **Letter of Acceptance(Appendix-G)** hereto and, where the location of a particular task is not so specified, at such locations, whether in India or elsewhere, as the Client may approve.

1.8 **Authority of Member in Charge**

In case the Consultants consist of a joint venture of more than one entity, with or without an Associate the Members hereby authorize the entity specified in the SC to act on their behalf in exercising all the Consultants' rights and obligations towards the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.

1.9 **Authorized Representatives**

Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Client or the Consultants may be taken or executed by the officials specified in the SC.

1.10 **Taxes and Duties**

Unless otherwise specified in the SC, the Consultants, Sub-consultants and Personnel shall pay such taxes, duties, fees and other impositions as may be levied under the Applicable Law. Goods & Service tax as applicable shall be paid to the Authority's Engineer while making payment for services rendered. The consultants shall then deposit the same with the tax authorities and provide a proof of having done so within next 90 days in line with policy circulars issued by Employer.

2. **COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT**

2.1 **Effectiveness of Contract**

This Contract shall come into force and effect on the date (the "Effective Date") of the Client's notice to the Consultants instructing the Consultants to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SC have been met.

2.2 **Termination of Contract for Failure to Become Effective**

If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as shall be specified in the SC, either Party may, by not less than four (4) weeks' written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.

2.3 **Commencement of Services**

The Consultants shall begin carrying out the Services at the end of such time period after the Effective Date as shall be specified in the SC.

2.4 **Expiration of Contract**

Unless terminated earlier pursuant to Clause GC 2.9 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.

2.5 **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.

2.6 **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 as the case may be, has been obtained. Pursuant to Clause GC 8.2 hereof, however, each Party shall give due consideration to any proposals for modification made by the other Party.

2.7 **Force Majeure**

2.7.1 **Definition**

- (a) For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, and which makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.
- (b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Subconsultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both (A) take into account at the time of the conclusion of this Contract and (B) avoid or overcome in the carrying out of its obligations hereunder.
- (c) Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

2.7.2 **No Breach of Contract**

The failure of a Party to fulfil any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

2.7.3 **Measures to be Taken**

- (a) A party affected by an event of Force Majeure shall take all reasonable measures to remove such Party's inability to fulfil its obligations hereunder with a minimum of delay.
- (b) A party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any event not later than fourteen (14) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.
- (c) The Parties shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

2.7.4 **Extension of Time**

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such

action as a result of Force Majeure.

2.7.5 **Payments**

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultants shall be entitled to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Services after the end of such period.

2.7.6 **Consultation**

Not later than thirty (30) days after the Consultants, as the result of an event of Force Majeure, have become unable to perform a material portion of the Services, the Parties shall consult with each other with a view to agreeing on appropriate measures to be taken in the circumstances.

2.8 **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.

2.9 **Termination**

2.9.1 **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 (h) of this Clause 2.9.1, terminate this Contract:

- (a) if the Consultants fail to remedy a failure in the performance of their obligations under, as specified in a notice of suspension pursuant to Clause 2.8 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;
- (c) if the Consultants fail to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 8 hereof;
- (d) 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;
- (e) 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
- (f) if the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.
- (g) if the consultant, in the judgment of the Client has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this clause:

"corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution.

"Fraudulent practice" means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among consultants (prior to or after submission of proposals) designed to establish prices at artificial non competitive levels and to deprive the Borrower of the benefits of free and open competition.

- (h) if EPC Contractor represents to Employer that the Consultant is not discharging his duties in a fair, efficient and diligent manner and if the dispute remains unresolved, Employer may terminate this contract.

2.9.2 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 2.9.2, 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 8 hereof within forty five(45) days after receiving written notice from the Consultants that such
- (b) is overdue;
- (c) 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;
- (d) 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
- (e) if the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause 8 hereof.

2.9.3 Cessation of Rights and Obligations

Upon termination of this Contract pursuant to Clauses GC 2.2 or GC 2.9 hereof, or upon expiration of this Contract pursuant to Clause GC2.4 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 GC 3.3 hereof;
- (iii) the Consultants' obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause GC 3.6 (ii) hereof; and
- (iv) any right which a Party may have under the Applicable Law

2.9.4 Cessation of Services

Upon termination of this Contract by notice of either Party to the other pursuant to Clauses 2.9.1 or 2.9.2 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 3.9 or 3.10 hereof.

2.9.5 Payment upon Termination

Upon termination of this Contract pursuant to Clauses 2.9.1 or 2.9.2 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 6 hereof for Services satisfactorily performed prior to the effective date of termination.
- (ii) Reimbursable expenditures pursuant to Clause 6 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 2.9.1 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.

2.9.6 Disputes about Events of Termination

If either Party disputes whether an event specified in paragraphs (a) through (e) of Clause 2.9.1 or in Clause 2.9.2 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 9 hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

3. OBLIGATIONS OF THE CONSULTANTS

3.1 General

3.1.1 Standard of Performance

The Consultants shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials and methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with Sub consultants or Third Parties.

3.1.2 Law Governing Services

The Consultants shall perform the Services in accordance with the Applicable Law and shall take all practicable steps to ensure that any Sub- consultants and or Associates, as well as the Personnel of the Consultants and any Sub-consultants and or Associates, comply with the Applicable Law. The Client shall advise the Consultants in writing of relevant local customs and the Consultants shall, after such notifications, respect such customs.

3.2 Conflict of Interests

3.2.1 Consultants not to Benefit from Commissions, Discounts, etc.

The Remuneration of the Consultants pursuant to Clause GC6 hereof shall constitute the Consultants' sole remuneration in connection with this Contract or the Services and, subject to Clause GC3.2.1.1 hereof, the Consultants shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations hereunder, and the Consultants shall use their best efforts to ensure that any Sub-consultants and or Associates, as well as the Personnel and agents of either of them, similarly shall not receive any such additional remuneration.

3.2.1.1 If the Consultants, as part of the Services, have the responsibility of advising the Client on the procurement of goods, works or services, the Consultants shall comply with any applicable procurement guidelines of the Client (Employer) and or Associates Bank or of the Association, as the case maybe, and other funding agencies and shall at all times exercise such responsibility in the best interest of the Client. Any

discounts or commissions obtained by the Consultants in the exercise of such procurement responsibility shall be for the account of the Client.

3.2.2 Consultants and Affiliates not to be otherwise interested in Project

The Consultants agree that, during the term of this Contract and after its termination, the Consultants and any entity affiliated with the Consultants, as well as any Subconsultant and any entity affiliated with such Subconsultant, shall be disqualified from providing goods, works or services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

3.2.3 Prohibition of Conflicting Activities

Neither the Consultants nor their Subconsultants nor the Personnel of either of them shall engage, either directly or indirectly, in any of the following activities:

- (a) during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract; or
- (b) after the termination of this Contract, such other activities as may be specified in the SC.

3.3 Confidentiality

The Consultants, their Subconsultants and the Personnel of either of them shall not, either during the term or within two(2) years after the expiration of this Contract, disclose any proprietary or confidential information relation to the Project, the Services, this Contract or the Client's business or operations without the prior written consent of the Client.

3.4 Liability of the Consultants

Subject to additional provisions, if any, set forth in the SC, the Consultants' liability under this Contract shall be as provided by the Applicable Law.

3.5 Insurance to be taken out by the Consultants

The Consultants (i) shall take out and maintain, and shall cause any Subconsultants to take out and maintain, at their (or the Subconsultants', as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverage, as shall be specified in the Special Conditions (SC), and (ii) at the Client's request, shall provide evidence to the Client showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid.

3.6 Accounting, Inspection and Auditing

The Consultants(i)shall keep accurate and systematic accounts and records in respect of the Services, hereunder, in accordance with internationally accepted accounting principles such as Generally Accepted Accounting Principles (GAAP) and in such form and detail as will clearly identify all relevant time charges and cost, and the bases thereof (including such bases as may be specifically referred to in the SC) ; (ii) shall permit the Client or its designated representative periodically, and upto one year from the expiration or termination of this Contract, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Client; and (iii) shall permit the client to inspect the Consultant's accounts and records relating to the performance of the Consultant and to have them audited by auditors appointed by the client.

3.7 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 B;

- (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;
- (c) any other action that may be specified in the SC.

3.8 **Reporting Obligations**

The Consultants shall submit to the Client the reports and documents specified in **Appendix A/E** hereto, in the form, in the numbers and within the time periods set forth in the said Appendix. Reporting stages, review progress and checklist shall be as reflected in the DPR.

3.9 **Documents prepared by the Consultants to be the Property of the Client**

All plans, drawings, specifications, designs, reports and other documents prepared by the Consultants in performing the Services shall become and remain the property of the Client, and the Consultants shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, together with a detailed inventory thereof. The Consultants may retain a copy of such documents. Restrictions about the future use of these documents, shall be as specified in the SC.

3.10 **Equipment and Materials furnished by the Client**

Equipment and materials made available to the Consultants by the Client, or purchased by the Consultants with funds provided by the Client, shall be the property of the Client and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultants shall make available to the Client an inventory of such equipment and materials and shall dispose of such equipment and materials in accordance with the Client's instructions. While in possession of such equipment and materials, the Consultants, unless otherwise instructed by the Client in writing, shall insure them in an amount equal to their full replacement value.

4. **CONSULTANTS' PERSONNEL**

4.1 **General**

The Consultants shall employ and provide such qualified and experienced Personnel as are required to carry out the Services.

4.2 **Description of Personnel**

- (a) The titles, agreed job descriptions, minimum qualification and estimated periods of engagement in the carrying out of the Services of each of the Consultants' Key Personnel are described in Appendix B. If any of the Key Personnel has already been approved by the clients his/her name is listed as well.
- (b) If required to comply with the provisions of Clause 3.1.1 of this Contract, adjustments with respect to the estimated periods of engagement of Key Professional / Sub Professional Personnel set forth in Appendix B may be made by the Consultants by written notice to the Client, provided
 - (i) that such adjustments shall not alter the originally estimated period of engagement of any individual by more than 10% or one week, whichever is larger, and
 - (ii) that the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth in Clause 6.1 (b) of this Contract. Any other such adjustments shall only be made with the Client's written approval.

(c) If additional work is required beyond the scope of the Services specified in Appendix A, the estimated periods of engagement of Key Personnel set forth in Appendix B may be increased by agreement in writing between the Client and the Consultants.

4.3 **Approval of Personnel**

The Key Personnel i.e. Professional Staff and Sub-consultants listed by title as well as By name in Appendix B are hereby approved by the Client. In respect of other Key Personnel which the Consultants propose, to use in the carrying out of the Services, the Consultants shall submit to the client for review and approval a copy of their biographical data and (in the case of Key personnel to be used within the country of the Government) a copy of a satisfactory medical certificate in the form attached here to as Appendix B1. If the Client does not object in writing (stating the reasons for the objection) within thirty (30) calendar days from the date of receipt of such biographical data and (if applicable) such certificate, such Key Personnel shall be deemed to have been approved by the Client.

4.4 **Working Hours, Overtime, Leave, etc.**

(a) Working hours and holidays for Key Professional / Sub Professional Personnel are set forth in Appendix C hereto. To account for travel time, foreign Personnel carrying out Services inside the Government's country shall be deemed to have commenced (or finished) work in respect of the Services such number of days before their arrival in (or after their departure from) the Government's country is specified in Appendix C hereto.

(b) The Key Professional / Sub Professional Personnel shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave except as specified in Appendix C hereto, and except as specified in such Appendix, the Consultants' remuneration shall be deemed to cover these items. All leave to be allowed to the Personnel is included in the staff-months of service set for in Appendix B. Any taking of leave by Personnel shall be subject to the prior approval of the Client by the Consultants, who shall ensure that absence for leave purposes will not delay the progress and adequate supervision of the Services.

4.5 **Removal and/or Replacement of Key Personnel**

Removal and/or replacement of Key Personnel shall be regulated as under:

4.5.1 **In case notice to commence services pursuant to Clause 2.1 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 equally or better qualified and experienced personnel to the satisfaction of the Authority, whenever mobilization is ordered.

4.5.2 **In case notice to commence services is given within 120 days of signing of contract.**

It would be preferred that the team leader cum senior Bridge Engineer shall continue during all the Phase 1, 2 of the agreement.

(i) During phase 2 the team leader shall be equal or better qualification in case the replacement is necessitated. Moreover the combined technical score of these 3 key personnels

(i) Resident cum Highway Engineer

(ii) Bridge/Structural Engineer (iii) Senior Pavement specialist

to be deployed during phase 2 (Construction, Supervision & Maintenance) should be equal or more then the Technical score of 3 key personnel(except team leader) as assessed

during the technical evaluation. This would ensure that the evaluated preferred bidder during the evaluation stage remain the preferred bidders even in the phase 2 stage (Construction, Supervision & Maintenance).

(ii) Replacement of team leader and other key personnel are permitted once during Phase II (i.e. Supervision and Maintenance stage) without any reduction in remuneration subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. However any further Replacement of all the Key Personnel shall be permitted subject to reduction of remuneration equal to 2 % (two per cent) of the total remuneration specified for the Key Personnel who is proposed to be replaced subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. In case of emergency such as death, serious medical ground the replacement of team leader and other key personnels are permitted without any reduction in remuneration subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority. The maximum age limit of replaced key personnel shall be 65 years as on the date of submission of proposal for such replacement.

4.5.3 If the consultant finds that any of the personnel had made false or fake 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.

4.5.4 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.

4.5.5 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.

4.5.6 If any member of the approved team of a consultant engaged by BRO project Dantak leaves that consultant before completion of the job, he shall be barred for a period of 24 months from being engaged as a team member of any other consultant working (or to be appointed) for any other <Agency>/ MoRTH projects.

4.6 **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.

5. **OBLIGATION OF THE CLIENT**

5.1 Assistance and Exemptions unless otherwise specified in the SC, the Client shall use its best efforts to ensure that the Government shall:

- (a) provide the Consultants, Sub consultants and Personnel with work permits and such other documents as shall be necessary to enable the Consultants, Subconsultants or Personnel to perform the Services;
- (b) assist for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all supporting papers for necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in India;
- (c) Facilitate prompt clearance through customs of any property required for the Services;

- (d) 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;

- (a) 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
- (b) Provide to the Consultants, Sub-consultants and or Associates and Personnel any such other assistance as may be specified in the SC.

5.2 **Access to Land**

The Client warrants that the Consultants shall have, free of charge, unimpeded access to all land in the Government's country in respect of which access is required for the performance of the Services. The Client will be responsible for any damage to such land or any property thereon resulting from such access and will indemnify the Consultants and each of the Personnel in respect of liability for any such damage, unless such damage is caused by the default or negligence of the Consultants or any Subconsultants or the Personnel of either of them.

5.3 **Change in the Applicable Law**

If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost or reimbursable expenses incurred by the Consultants in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultants under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made to the ceiling amounts specified in Clause 6.1(b). For any increase or decrease of amount due to change in the Applicable law, a supplementary agreement between the parties shall be executed before making any such payments.

5.4 **Services, Facilities and Property of the Client**

The client shall make available to the Consultants and the Personnel, for the purposes of the Services and free of any charge, the services, facilities and property described in Appendix D at the times and in the manner specified in said Appendix D, provided that if such services, facilities and property shall not be made available to the Consultants as and when so specified, the Parties shall agree on (i) any time extension that may be appropriate to grant to the Consultants for the performance of the Services, (ii) the manner in which the Consultants shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Consultants as a result thereof pursuant to Clause 6.1(c) hereinafter.

5.5 **Payment**

In consideration of the Services performed by the Consultants under this Contract, the Client shall make to the Consultants such payments and in such manner as is provided by Clause 6 of this Contract.

6. **PAYMENT TO THE CONSULTANTS**

6.1 **Cost Estimates: Ceiling Amount**

- (a) An abstract of the cost of the Services payable in local currency (Indian Rupees) is set forth in Appendix E.

- (b) Except as may be otherwise agreed under Clause 2.6 and subject to Clause 6.1(c), the payments under this Contract shall not exceed the ceiling specified in the SC. The Consultants shall notify the Client as soon as cumulative charges incurred for the Services have reached 80% of the ceiling.
- (c) Notwithstanding Clause 6.1(b) hereof, if pursuant to Clauses 5.4 hereof, the Parties shall agree that additional payments shall be made to the Consultants in order to cover any necessary additional expenditures not envisaged in the cost estimates referred to in Clause 6.1(a) above, the ceiling set forth in Clause 6.1(b) above shall be increased by the amount or amounts, as the case may be, of any such additional payments.

6.2 Currency of Payment

- (a) The payment shall be made in Indian Rupees.

6.3 Mode of Billing and Payment

Billing and payments in respect of the Services shall be made as follows:-

- (a) The Client shall cause to be paid to the Consultants an advance payment as specified in the SC, and as otherwise set forth below. The advance payment will be due after provision by the Consultants to the Client of a bank guarantee by a bank acceptable to the Client in an amount (or amounts) and in a currency (or currencies) specified in the SC, such bank guarantee (i) to remain effective until the advance payment has been fully set off as provided in the SC, and **ii) in such form as the Client shall have approved in writing.**

(b) Payment Schedule

Phase	Description	Sub-Phase	Key activities	Payment Phase wise %	Payment key activities%
1	Project preparation	1A(Feasibility Study)	Project planning and mobilization	30.0%	5.0
			Alignment finalization, preliminary surveys		10.0
		1B (DPR)	Detailed design of bridge and approach road, preparation of detailed project report with drawings		10.0
			Preparation of bid documents and technical schedules		5.0

2	<i>Construction activity and maintenance</i>		A. During Construction 1. Review and approval of design 2. Supervision of construction work, 3. review of progress work 4. Quality assurance monitoring and supervision test, 5. Arrangement of safety of work/workers/users/ pedestrians	70.0%	60.0
			B. During maintenance Vehicle 1 Inspection of defect and deficiencies 2) Maintenance of the bridge/road work 3) Quality assurance during project life		10.0

Note: 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 BRO from time to time.

* 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) Beginning 13th months from the bid due date, billing rates shall be increased to cover all items of contract i.e. remuneration, vehicle hire, office rent, consumables, furniture etc. @ 5% every 12 months. However, for evaluation and award of the Bid proposals, the quoted initial rate (as applicable for first 12 months from last date of submission of bid) shall be multiplied by the total time input for each position on this contract, i.e. without considering the increase in the billing rates.
- (d) 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.
- (e) Inadequate deployment of key personnel and sub-professional shall lead to 100% deduction in the monthly payment. The key personnel and sub- professional shall be considered to be inadequately deployed if he/she is present for less than 90% (excluding holidays) of the time stipulated in a half year (such as Jan-June & July- Dec), as per the Man Months Input in the Terms of Reference and the Deployment Schedule proposed by the firm. For avoidance of doubt, in case the Team Leader cum Senior Highway Engineer has not been made available for 90% of the stipulated time in the half year, then no monthly payment shall be released for one month in the half year. However, for the part of absence/leave remuneration shall be reduced on prorata basis.
- (f) All payments shall be made in Indian Rupees and shall be subjected to applicable Indian laws withholding taxes if any.
- (g) **Payment for Phase-1-[Project preparation]**

- (i) The payment to the consultant shall be made on deliverable basis as per the payment schedule mentioned in GC 6.3(b). No payment shall become eligible for the next stage till the consultant completes to the satisfaction of the client the work pertaining to the preceding stage. The payment for the work of subsoil 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 adjustment in the payment to the consultants will be made in the final payment only.
- (ii) The Client shall cause the payment of the Consultants in Para 6.3 (b) 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.
- (iii) 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.
- (iv) All payments under this Contract shall be made to the account of the Consultants specified in the SC.
- (v) 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) **Payment for Phase-2-[Construction supervision and Maintenance]**

(i) **(a) During Construction-**

The amount due to be paid to the Consultant during construction period based on GC 6.3 (b) will be paid to the Consultant on monthly basis in proportion to the financial progress of the civil works achieved by the contractor. If the financial progress of the work is lagging behind the schedule considering original construction period of civil works contract due to reasons attributable to the civil works contractor, Client will make payment to the Consultant based on actual mobilization of personnel and logistics as per Contract. The Client may however review the requirement of personnel & logistics items commensurate to the progress of the civil works and ask Consultant to reduce the deployment of personnel & logistics and in such case, payment to the Consultant shall be for reduced personnel and logistics from one month time period of the notice to the effect from the Client notwithstanding the actual deployment by the Consultant. **Client may also ask the Consultant to demobilize with one month notice period if the**

progress of civil works Contract is standstill or the civil works Contract is terminated.

(i) **(b) During maintenance**

The due amount of the consultant's financial proposal for Maintenance supervision phase as mentioned in GC 6.3 (b) shall be paid monthly on proportionate basis. Payment shall be deducted at the rate specified in form III of RFP in case consultant do not use required equipment for supervision during maintenance.

Notwithstanding any other provisions in the agreement in this regard, this provision will prevail and override any other provision to the contrary in this agreement.

- (ii) As soon as practicable and not later than fifteen (15days)after the end of each calendar month during the period of the Services, the Consultants shall submit to the Client, in duplicate, itemized statements, accompanied by copies of receipted invoices, vouchers and other appropriate supporting materials, of the amounts payable pursuant to Clauses GC6.3 for such month. Each monthly statement shall distinguish that portion of the total eligible costs which pertains to remuneration from that portion which pertains to reimbursable expenditures.
- (iii) 75% of bill raised by the Consultant shall be paid within 72 Hrs and remaining bill may be paid after due scrutiny. The Client shall cause the payment of the Consultants periodically as given in schedule of payment above within thirty (30) days after the receipt by the Client of bills with supporting documents. Only such portion of a monthly statement that is not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual payment and costs authorized to be incurred by the Consultants, the Client may add or subtract the difference from any subsequent payments. Interest 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.
- (iv) 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 ninety (90) calendar days after receipt of the final report and final statement by the Client unless the Client, within such ninety (90) day period, gives written notice to the Consultants specifying in detail deficiencies in the Services, the final report or final statement. The Consultants shall there upon 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.
- (v) All payments under this Contract shall be made to the account of the Consultants specified in the SC.

(I) "In the event that the construction of the project (under phase 2) occurs prior to the Scheduled Construction completion Date, the Consultant shall be entitled to receive a payment of bonus equivalent to 0.02% (zero point zero two per cent) of the consultancy cost for each day by which the Construction completion Date precedes the Scheduled Construction completion Date, but subject to a maximum of 2% (two per cent) of the consultancy cost. Provided, however, that the payment of

bonus, if any, shall be made only after the issue of the Completion Certificate for the Civil work to the Civil Contractor. For the avoidance of the doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the Consultancy Price shall always be deemed to be the amount specified in Financial Proposal, and shall exclude any revision thereof for any reason.”

7. Responsibility for Accuracy of Project Documents

7.1 General

7.1.1 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.

7.1.2 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.

7.1.3 The survey control marks established by the Consultant shall be protected by the Consultants till the start of the Construction work.

7.2 Retention Money

An amount equivalent to 5% of the contract value shall be retained at the end of the contract for accuracy of design, quantities submitted & supervision etc. and the same will be released after the completion of civil contract works or after 3 years from completion of consultancy services, whichever is earlier. The retention money will however be released by the Client on substitution by Bank Guarantee of the same amount valid upto the period as above. Out of this 5%, 2.5% shall be in the form of Bank Guarantee and 2.5% shall be the amount retained from Consultancy fee payable to the Consultant.

7.3 Penalty

7.3.1 Penalty for Error/Variation

i. If variation in project cost occurs due to Change of scope requests of **more than 5%** of the total project cost as estimated by the consultant and these change of scope requests arise due to deficiencies in the design provided by the consultant, the penalty equivalent to 1% of the contract value shall be imposed. For this purpose retention money equivalent to 1% of the contract value will be forfeited. This shall exclude any additional/deletion of items/works ordered by the client during the execution

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 contract value)
1	Topographic Surveys	0.25 to 0.40

Sr.No.	Item	Penalty (%age of contract value)
	<i>a) The horizontal alignment does not match with ground condition.</i>	
	<i>b) The cross sections do not match with existing ground.</i>	
	<i>c) The co-ordinates are defective as instruments of desired accuracy not used.</i>	
	Geotechnical Surveys	0.25 to 0.40
2	<i>a) Incomplete surveys</i>	
	<i>b) Data not analyzed properly</i>	
	<i>c) The substrata substantially different from the actual strata found during construction.</i>	
3	Traffic data found to be varying by more than 25% on resurvey at a later date, unless there are justifiable reasons.	0.15 to 0.25
4	Axle load data found to be varying by more than 25% on resurvey at a later date, unless there are justifiable reasons.	0.15 to 0.25
5	Structural Designs found to be unsafe or grossly over designed	The firm shall be considered as nonperforming as per para 7.4.2.1

7.3.2 Penalty for delay

In case of delay in completion of services, a penalty equal to 0.01% of the contract price per day subject to a maximum 1% 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.

7.3.3 Total amount of recovery from all penalties shall be limited to 4% of the Consultancy Fee.

7.3.4 BRO is in process of evolving performance based rating system for DPR Consultants. Performance of Consultants shall be monitored by BRO 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.

7.4 ACTION FOR DEFICIENCY IN SERVICES

7.4.1 Consultants 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.

7.4.2.1 Non Performing:

The firm shall be declared as non-performing under following circumstances:

- (a) Structural Designs found to be unsafe or grossly over designed.
- (b) Change of scope more than +/-10%.
- (c) Recommendation for Release of Payment to the contractor and without compliance of contractual obligation.
- (d) In the absence of prescribed no of Key Personnel and non reporting of the same to authority.
- (e) In the case of major deficiencies in the Detailed Project Report involving time and cost overrun and adverse effect on reputation of BRO.

7.4.2.2 Debarring-

If the firm is declared as non-performing under any clause 7.4.2.1, the firm will not be eligible for participating in future projects of the Ministry (including NHAI, NHIDCL, BRO, etc.) for a period of 5 years.

8. FAIRNESS AND GOOD FAITH

8.1 Good Faith

The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

8.2 Operation of the Contract

The Parties recognize that it is impractical in this Contract to provide for every contingency which may arise during the life of the Contract, and the Parties hereby agree that it is their intention that this Contract shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this Contract either Party believes that this Contract is operating unfairly, the Parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but no failure to agree on any action pursuant to this Clause shall give rise to a dispute subject to arbitration in accordance with Clause 9 hereof.

9. SETTLEMENT OF DISPUTES

9.1 Amicable Settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or the interpretation thereof.

9.2 Dispute Resolution

9.2.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "**Dispute**")

shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 9.3.

9.2.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non - privileged records, information and data pertaining to any dispute.

9.3 Conciliation

In the event of any Dispute between the Parties, either Party may call upon Chairman of BRO and the Chairman of the Board of Directors of the Consultant or a substitute thereof for amicable settlement, and upon such reference, the said persons shall meet no later than 10(ten) days from the date of reference to discuss and attempt to amicably resolve the

Dispute. If such meeting does not take place within the 10(ten) day period or the Dispute is not amicably settled within 15(fifteen) days of the meeting or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 30 (thirty) days of the notice in writing referred to in Clause 9.2.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the Provisions of Clause 9.4.

9.4 Arbitration

9.4.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause 9.3, shall be finally decided by reference to arbitration by an Arbitral Tribunal appointed in accordance with Clause 9.4.2. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi (the "Rules"), or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996 as amended. The venue of such arbitration shall be *** and the language of arbitration proceedings shall be English.**

9.4.2 Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator to be appointed as per the procedure below

a) Parties may agree to appoint a sole arbitrator or, failing agreement on the identity of such sole arbitrator within thirty(30) days after receipt by the other Party of the proposal of a name for such an appointment by the Party who initiated the proceedings, either Party may apply to the President, Indian Roads Congress, New Delhi for a list of not fewer than five nominees and, on receipt of such list, the Parties shall alternately strike names therefrom, and the last remaining nominee on the list shall be sole arbitrator for the matter in dispute. If the last remaining nominee has not been determined in this manner within sixty (60) days of the date of the list, the president, Indian Roads Congress, New Delhi, shall appoint, upon the request of either Party and from such list or otherwise, a sole arbitrator for the matter in dispute.

9.4.3 Substitute Arbitrator

If for any reason an arbitrator is unable to perform his function, a substitute shall be appointed in the same manner as the original arbitrator.

9.4.4 Qualifications of Arbitrator

The sole arbitrator selected pursuant to Clause 9.2.1 hereof shall be expert with extensive experience in relation to the matter in dispute. Preference will be given to the person having adequate experience in the Infrastructure Field/ Civil Engineering.

9.4.5 The Arbitrators shall make a reasoned award (the "Award"). Any Award made in any arbitration held pursuant to this Clause 9 shall be final and binding on the Parties as from the date it is made, and the Consultant and the Authority agree and undertake to carry out such Award without delay.

9.4.6 The Consultant and the Authority agree that an Award may be enforced against the Consultant and/or the Authority, as the case may be, and their respective assets wherever situated.

9.4.7 This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder

9.4.8 Miscellaneous

In any arbitration proceeding hereunder:

(a) Proceedings shall, unless otherwise agreed by the parties be held in Delhi.

(b) The English language shall be the official language for all purposes;

- (c) The decision of sole arbitrator shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement; and
- (d) The schedule of Expenses and Fee payable to the Arbitrator shall be/as per the Schedule IV of Arbitration & Conciliation Act, 1996 as amended.

In exceptional cases, such as cases involving major legal implications/wider ramifications/higher financial stakes etc. a special fee structure could be fixed in consultation with the Contractor/Supervision Consultants and with the specific approval of the BRO before appointment of the Arbitrator,

10. 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 at Annexure- I of 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.

10.1 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.	0.5% of the original Consultancy charges.
(ii)	Revision of DPR due to changes in mode EPC / BOT / HAM etc	0.5% of the original Consultancy charges.

11. 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 of key personnel from future projects of <Agency>. 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 drawn including interest @12% per annum in 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.

SPECIAL CONDITIONS OF CONTRACT

Number of GC Clause

Number of GC Clause

5. OBLIGATION OF THE CLIENT

5.1 Assistance and Exemptions unless otherwise specified in the SC, the Client shall use its best efforts to ensure that the Government shall:

- (a) 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;
- (b) assist for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all supporting papers for necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in India;
- (c) facilitate prompt clearance through customs of any property required for the Services;
- (d) 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;

5.2 Access to Land

The Client warrants that the Consultants shall have, free of charge, unimpeded access to all land in the Government's country in respect of which access is required for the performance of the Services. The Client will be responsible for any damage to such land or any property thereon resulting from such access and will indemnify the Consultants and each of the Personnel in respect of liability for any such damage, unless such damage is caused by the default or negligence of the Consultants or any Sub consultants or the Personnel of either of them.

A. Amendments of, and Supplements to, Clauses in the General Conditions

5. Contractor shall make his own arrangements for obtaining necessary work permit, entry and exit pass residence permits, exchange permits and any other documents required for their stay in Bhutan and clearance through customs of any property required for the Services from Bhutan authorities for manpower and vehicle/Equipment/Plants for the work in accordance with the rules and regulations of the land.

The client shall approach the competent authorities of Bhutan for issue of all such instructions to the consultant as may be necessary or appropriate for the prompt and effective implementation of the Services;

1.6.2 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 facsimiles, 24 hours following confirmed transmission.
- (c) In case of E mail, 24 hours following confirmed transmission.
- (d) In the case of telexes, 24 hours following confirmed transmission;
- (e) In the case of telegrams, 24 hours following confirmed transmission; and

1.8 Entity to Act as Member in charge (In case of Joint Venture of Consultants)

1.9 The Authorized Representatives are:

For the Client : (--)

Director, <Agency>(--)

For the Consultant: Name
Designation

1.10 The Consultants and the personnel shall pay the taxes, duties, fees, levies and other impositions levied under the existing, amended or enacted laws (prevailing 7 days before the last date of submission of bids) during life of this contract and the Client shall perform such duties in regard to the deduction of such tax as may be lawfully imposed.

2.1 The effectiveness conditions are the following:

a) The contract has been approved by BRO Project Dantak.

2.2 The consultant will furnish within 15 days of the issue of Letter of Acceptance (LOA), an unconditional Bank Guarantee equivalent to 2.0% of the total contract value from a Nationalized Bank, IDBI or ICICI/ICICI Bank/Foreign Bank/EXIM Bank / Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs.1000 crore as per latest Annual Report of the Bank. In the case of a Foreign Bank (issued by a Branch in India) the net worth in respect of Indian operations shall only be taken into account. In case of Foreign Bank, the BG issued by Foreign Bank should be counter guaranteed by any Nationalized Bank in India. The time period shall be "four months" or such other time period as the parties may agree in writing.

2.3 The time period shall be "fifteen days" or such other time period as the Parties may agree in writing.

2.4 The time period shall be ----- **months** or such other time period as the parties may agree in writing.

2.9.4 If after finalisation of DPR, if the project has not been awarded within 2.5 years then the consultant is free to exit from the PMC work

2.9.7 Foreclosure with mutual consent (New Clause)

2.9.7.1 Without prejudice to any provision of this Agreement, the Authority 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.

2.9.7.2 Should a Party intend to foreclose this Agreement by mutual consent, the intending Party shall issue a notice to the other Party and upon issuance of such notice, the other Party may within 15 days from receipt of such notice either agree to such foreclosure or raise objection(s) to the same by intimating either of the two possible positions to the intending Party in writing. In case the contract is foreclosed on mutual consent, payment upto the completed stage will be paid as per CI 9.6 (b) of GC and remuneration & logistics beyond completed stage will be paid as per actual using the rates quoted in Consultants' financial proposal.

2.9.7.3 If at inception stage or feasibility stage, employer desires to foreclose the contract, the contract will be foreclosed with mutual consent up to that stage and the Consultant's consent is implied without exception.

2.9.7.4 Any attempt or endeavour for foreclosure by mutual agreement shall be without prejudice to the rights and obligations of the Parties herein and the factum of such an attempt or exercise shall not stop either of the Parties from discharging their contractual obligations under this Agreement.

2.9.7.5 For the avoidance of doubt, it is clarified that such foreclosure will be without prejudice to the Consultant and shall not affect the Consultant in any way if it wishes to bid in future projects of the Authority.

2.9.7.6 In case the project has not been awarded within a period of 2.5 years from the date of finalization of DPR and the Consultants have completed their activities under Phase 1, Consultants is free to exit from the Contract and such circumstances.

3.4 Limitation of the Consultants' Liability towards the Client

- (a) Except in case of negligence or wilful 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.

3.5 The risks and the coverage shall be as follows:

- (a) Third Party motor vehicle liability insurance as required under Motor Vehicles Act, 1988 as amended 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)
 - (i) The Consultant shall provide to <Agency> 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 <Agency> in a joint venture, the policy must be procured and provided to <Agency> by the joint venture entity and not by the individual partners of the joint venture.
 - (vi) The contract may include a provision whereby the Consultant does not cancel the policy midterm without the consent of <Agency>. The insurance company may provide an undertaking in this regard.
- (d) 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.

3. 7(c) The other actions are

"(i) 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".

3.9 The Consultants shall not use these documents for purposes unrelated to this Contract without the prior written approval of the Client.

4.6 The person designated as Team Leader cum Senior Highway Engineer in Appendix B shall serve in that capacity, as specified in Clause 4.6.

6.1 (b) The ceiling amount in local currency is **Rs..... (Excluding Goods & Services Tax)**

6.3 (a) No advance payment will be made.

6.3 **(b) Additional conditions: Payment for Phase-2-[Construction supervision and Maintenance]**

(i) Payment of Authority Engineer shall be released on approval of the monthly reports. Report shall be approved by the Authority only if it includes all the sections prescribed in the format and submitted as per specified timelines.

(ii) Payment shall be released as per rates quoted in Form-III of Appendix-IV- Breakup of Local currency costs.

(iii) For equipment based road inspection to be conducted in O&M phase, payment shall be released as per actual use of equipment on road and rates quoted in Form-III of Appendix-IV- Breakup of Local currency costs.

(iv) 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

(v) It is understood(i)that the remuneration rates shall cover(A) such salaries and

allowances as the Consultants shall have agreed to pay to the Personnel as well as factors for social charges and overhead, and (B)the cost of back stopping by home office staff not included in the Personnel listed in Appendix C, and(C)the Consultants' fee;(ii)that bonuses or other means of profit-sharing shall not be allowed as an element of overhead, and(iii)that any rates specified for persons not yet appointed shall be provisional and shall be subject to revision, with the written approval of the Client, once the applicable salaries and allowances are known.

(vi) Remuneration for periods of less than one month shall be calculated on an hourly basis for actual time spent in the Consultants' home office and directly attributable to the Services(one hour being equivalent to 1/240th of a month) and on a calendar-day basis for time spent away from home office(one day being equivalent to 1/30th of a month).

(vii) The rates for foreign and local Personnel are set forth in Appendix E

6.3 (g)(ii) &(h)(ii) The interest rate is: @ 10% per annum

6.3 (g)(iv) & (h)(v)**The account is:**
Account Number: _____

IFSC Code : _____

9.2 Disputes shall be settled by arbitration in accordance with the following provisions:

9.2.1 **Selection of Arbitrators**

Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator to be appointed as per the procedure below

- a) Parties may agree to appoint a sole arbitrator or, failing agreement on the identity of such sole arbitrator within thirty(30) days after receipt by the other Party of the proposal of a name for such an appointment by the Party who initiated the proceedings, either Party may apply to the President, Indian Roads Congress, New Delhi for a list of not fewer than five nominees and, on receipt of such list, the Parties shall alternately strike names therefrom, and the last remaining nominee on the list shall be sole arbitrator for the matter in dispute. If the last remaining nominee has not been determined in this manner within sixty (60) days of the date of the list, the president, Indian Roads Congress, New Delhi, shall appoint, upon the request of either Party and from such list or otherwise, a sole arbitrator for the matter in dispute.

Appendix A

Terms of reference containing, inter-alia, the Description of the Services and Reporting Requirements

Appendix A1: Reporting Requirements

[List format, frequency, contents of reports and number of copies; persons to receive them; dates of submission etc. If no reports are to be submitted, state here "Not applicable".]

Please refer TOR

Appendix B

Consultants' Sub consultants, Key Personnel and Sub Professional Personnel

Appendix B1: Medical Certificate

[Show here an acceptable form of medical certificate for foreign Personnel to be stationed in India. If there is no need for a medical certificate, state here: "Not applicable. "]

The form of Medical Certificate as required under the rules of Govt. of India

Appendix C

Hours of work for Consultants' Personnel

The Consultant's personnel shall normally work for 8 hours in a day and six days a week. Normally Sundays shall be closed for working. In addition they shall also be allowed to avail holidays as observed by the Client's office in the relevant state without deduction of remunerations. In case any person is required to work on Sunday or Holiday due to exigency of work, he/she shall be given compensatory leave within the next 15 days.

Appendix D

Duties of the Client

[List here under:

D-1 Services, facilities and property to be made available to the Consultants by the Client.

D-2 Counterpart personnel to be made available to the Consultants by
the Client.]

Please refer TOR

Appendix E Cost Estimate

List hereunder cost estimate in INR:

1. *Monthly rates for local Personnel (Key Personnel and other Personnel)*
2. *Reimbursable/Rental/Fixed expenditures as follows:*
 - a. *Cost of local transportation.*
 - b. *Cost of other local services, rentals, utilities, etc.*

Appendix F:

Copy of letter of invitation

Appendix G:

Copy of letter of acceptance

Appendix -H

(PERFORMANCE BANK GUARANTEE)

(Clause-13 of TOR)

To

Address of Employer:

WHEREAS _____¹ [Name and address of Consultants] (hereinafter called "the consultants") has undertaken, in pursuance of ContractNo. _____ dated _____ to provides the services on terms and conditions set forth in this Contract _____ [Name of contract and brief description of works) (hereinafter called the "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Consultants shall furnish you with a Bank Guarantee by a recognized bank for the sum specified there in as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Consultants such a Bank Guarantee;

NOW THERE OF we hereby affirm that we are the Guarantor and responsible to you, on behalf _____² [in words], such sum of the Consultants upto a total of [amount of Guarantee] being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of [amount of Guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Consultants before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the services to be performed there under or of any of the Contract documents which may be made between you and the Consultants shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the consultants or of the Bank.

Notwithstanding anything contained herein before, our liability under this guarantee is restricted to Rs. _____ (Rs. _____) and the guarantee shall remain valid till _____. Unless a claim or a demand in writing is made up on us on or before _____ all our liability under this guarantee shall cease.

This guarantee shall be valid for a period of 80 months i.e. upto 2 months beyond the expiry of contract of 78 months.

Signature and Seal of the Guarantor _____ In presence of

Name and Designation _____

1.

(Name, Signature & Occupation)

Name of the Bank _____

Address 2. _____

(Name & Occupation)

Date _____

1 Give names of all partners if the Consultants is a Joint Venture.

Appendix I: Minutes of Pre-bid meeting