



Government of Nepal
Ministry of Infrastructure Development
Department of Roads
Bridge Branch

Third Bridges Improvement and Maintenance Program (BIMP III)

Chakupat, Lalitpur

AMENDED NOTICE FOR

Request for Expression of Interest (REOI)

Notice No.: BIMP/01/083-84

Amendment-01

It is notified that Third Bridges Improvement and Maintenance Program (BIMP III) requested all the eligible Consultants to submit expression of interest in providing the following services.

S. N.	Contract Identification No.	Service
1	BIMP/III-DOR-CS-QCBS-013	Consulting services for detailed structural inspection and preparation of maintenance and rehabilitation requirements of special bridges 1. Karnali River Bridge, Chisapani, Karnali 2. Bheri River Bridge, Surkhet, Bheri 3. Trishuli (Mugling) River Bridge, Mugling, Chitwan 4. Marsyangdi River Bridge, Aanbukhaireni, Gorkha

Reference	Original Provision	Amended Provision
Terms of Reference: Section G. Team Composition, Note a)	The Key Staff composition and estimated total Key Staff man month for design of maintenance/rehabilitation bridge study has been estimated for design of maintenance/rehabilitation bridge study of one major SRN bridges.	The Key Staff composition and estimated total Key Staff man month for design of maintenance/rehabilitation bridge study has been estimated for design of maintenance/rehabilitation bridge study of four major SRN bridges.
Added Provision in REOI Notice	-	Note- Consultants shall mention the work experience indicating duration of the assignment, commencement and completion year. The consultant shall mention detailed features of the bridge
Added Provision in REOI Notice	-	A Consulting Firm is not permitted to form association as Sub - Consultant with more than 2 (Two) Lead Consulting Firms. The Consultants' association, not stated clearly, shall be considered in the form of sub- consultancy.
REOI Submission Deadline	13 August 2026	18 August 2026

Interested consultants may obtain Terms of Reference (TOR) for the mentioned assignment title and further detail relevant information from <https://dor.gov.np/home/notices>. Expression of Interest must be delivered in written form to the given address (in Person or by email) by August 18, 2026.

Project Director

**REQUEST FOR EXPRESSIONS OF INTEREST
(CONSULTING SERVICES – FIRMS SELECTION)
(Amended Notice)**

NEPAL

Third Bridges Improvement and Maintenance Program (BIMP-III)

Loan No./Credit No./ Grant No.: IDA-Credit No. 7728-NP

Assignment Title: Consulting services for detailed structural inspection and preparation of maintenance and rehabilitation requirements of special bridges

1. Karnali River Bridge, Chisapani, Karnali
2. Bheri River Bridge, Surkhet, Bheri
3. Trishuli (Mugling) River Bridge, Mugling, Chitwan
4. Marsyangdi River Bridge, Aanbukhaireni, Gorkha

Reference No. (as per Procurement Plan): BIMPIII-DOR-CS-QCBS-013

The Government of Nepal has received financing from the World Bank toward the cost of the Third Bridges Improvement and Maintenance Program (BIMP-III), and intends to apply part of the proceeds for consulting services.

The consulting services (“the Services”) include Detailed structural inspection and preparation of maintenance and rehabilitation requirements of special bridges.

The detailed Terms of Reference (TOR) for the assignment can be found at the website of the Department of Roads www.dor.gov.np/home/notices.

The Department of Roads, Bridge Branch, Third Bridges Improvement and Maintenance Program (BIMP III) now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are:

- Core business and years in business
- General Experience of Firm within last 15 years.
- Relevant experience of the Consulting Firm with similarity in nature, size, complexity within last 10 years.
- Technical, Managerial and organizational capability of the firm (Professional staff relevant to the assignment)

(Note- Consultants shall mention the work experience indicating duration of the assignment, commencement and completion year. The consultant shall mention detailed features of the bridge.)

Key Experts will not be evaluated at the shortlisting stage.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers", Seventh Edition, September 2025, setting forth the World Bank's policy on conflict of interest.

Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected. **A Consulting Firm is not permitted to form association as Sub - Consultant with more than 2 (Two) Lead Consulting Firms. The Consultants' association, not stated clearly, shall be considered in the form of sub- consultancy.**

A consultant will be selected in accordance with the Quality & Cost Based Selection (QCBS) method set out in the World Bank's Procurement Regulations.

Further information can be obtained at the address below during office hours: 0900 to 1700 hours.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by **18th August 2026**. The original deadline for REOI submission was 13th August 2026.

Department of Roads
Bridge Branch
Third Bridges Improvement and Maintenance Program (BIMP III)
Project Coordination Unit (PCU)
Chakupat, Lalitpur
Attn: Project Director, BIMP III
Tel: +977-1-5903796
E-mail: dorbridgebranch2@gmail.com, infobimp3pcubb@gmail.com

Evaluation Criteria for Short Listing of Consulting services for detailed structural inspection and preparation of maintenance and rehabilitation requirements of special bridges

SHORTLIST EVALUATION CRITERIA

Minimum and Details Qualifying Criteria

I) Minimum Qualification Requirement of Consulting Firm

S.N.	Minimum qualification Criteria	Compliance	Status
1	Corporate Registration	Yes/No	Pass/Fail
2	Year of Standing min. 10 year (Each member in case of JV)	Yes/No	Pass/Fail
3	JV Agreement in case of Firms in JV	Yes/No	Pass/Fail
4	Power of attorney	Yes/No	Pass/Fail
5	Adherence to code of Ethics and Anti-Corruption Policy	Yes/No	Pass/Fail
6	Shall have experience as follows: Single Entity or Lead Partner (in case of JV): (i) Experience of maintenance design/condition assessment of either cable stayed or motorable suspension or similar type of bridges in at least 2 Nos. of bridges Other JV Partners: (i) Experience of maintenance design/condition assessment/design of either cable stayed or motorable suspension or similar type of bridges	Yes/No	Pass/Fail
Note 1: The above information must be supported with copies of respective certificates.			
Note 2: Consultants are allowed to form a joint venture with each other to enhance their qualification.			
Note 3: Maximum no of partner in a JV firm: Three.			
Note 4: A consultant shall not submit more than one REOI, either individually or as joint venture			
Note 5: The EOI of consulting Firm will be rejected if any Firm associated in JV has been debarred by the World Bank.			

The consultant (firm) must have sufficient qualification and experience to carry out the assignment.

II) Details of the Qualification Requirement for short listing

Details of Qualifying Criteria	
Description of Criteria	Marks out of 100
A) Core Business of the firm	10
B) General Experience of Firm	15
C) Relevant Experience to the assignment	65
D) Technical, Managerial and Organizational capability of the Firm	10
A) Core Business of the firm	Maximum 10 Marks
Active Years in consulting service	As consultant
a. Number of active years in consulting services	$\leq 5 = 0$ marks
b. Number of active years in consulting services	$\geq 10 = 10$ marks
B) General Experience of Firm	Maximum 15 Marks
Work Experience	As consultant
a. Number of active years in consulting services	$\leq 10 = 0$ marks
b. Number of active years in consulting services	$\geq 15 = 10$ marks
C) Relevant Experience to the assignment	Maximum 65 Marks
Work Experience	As consultant
a. Number of projects of maintenance design of either cable stayed or motorable suspension or similar type of bridges	10.0 marks for each job, Maximum 50 marks
b. Number of projects of Structural inspection, condition assessment / structural health monitoring of long span cable bridges	5.0 marks for each job, Maximum 15 marks
D) Technical, Managerial and Organizational capability of the Firm	Maximum 10 Marks
Technical capability- Professional staff in the organization relevant to the assignment	
a. Number of Full time Professional Staffs	$\leq 5 = 0$ marks
b. Number of Full time Professional Staffs	$> 5 = 10$ marks
Note 6: In between marks will be given on prorata basis.	
Note 7: Previous experience work as a sub consultant will not be considered for evaluation.	
Note 8: Completed or substantially completed projects will be considered for evaluation.	
Note 9: The completed/substantially completed projects within last 10 (ten) years counted from REOI submission deadline shall be considered for evaluation.	
Note 10: Minimum Pass Marks to obtain as a whole is 70%.	
Note 11: If more than one Consultant secures equal score, preference will be given to the Consultant with more experience in the criteria C.a. Similarly, the second preference will be given to C.b. criteria and international exposure training program.	

Documentation Required

S.N.	Supporting Document
1	Firm Registration Certificate/Legal Documents
2	Company Profile
3	List of Relevant Completed Assignments
4	Client Completion Certificates or Contract References
5	Brief Project Data Sheets for Similar Assignments
6	Description of Technical and Organizational Capability

Note:

1. Key Experts/CV of personnel shall **not be evaluated at the REOI shortlisting stage.**
2. Firms may associate with other firms to enhance their qualifications.
3. Shortlisting shall be based on the firm's qualifications and experience relevant to the assignment.

Government of Nepal
Ministry of Infrastructure Development
Department of Roads
Bridge Branch
Project Coordination Unit (PCU)

TERMS OF REFERENCE (TOR)

FOR

**CONSULTING SERVICES FOR DETAILED STRUCTURAL
INSPECTION AND PREPARATION OF MAINTENANCE
AND REHABILITATION REQUIREMENTS OF SPECIAL
BRIDGES**

1. Karnali River Bridge, Chisapani, Bardiya
2. Bheri River Bridge, Surkhet
3. Trishuli (Mugling) River Bridge, Mugling, Chitwan
4. Marsyangdi River Bridge, Aanbukhaireni, Tanahun

UNDER

**THIRD BRIDGES IMPROVEMENT AND MAINTENANCE
PROGRAM (BIMP III)**

July, 2026

Table of Contents

A. INTRODUCTION	3
B. OBJECTIVES	6
C. SCOPE OF WORKS	7
D. Duration of the services	11
E. Reporting Requirement	12
F. Minimum and Details Qualifying Criteria.....	13
G. Team Composition	15
H. Technology transfer.....	16
I. Data and assistance to be provided by the Client	16
J. Contractual Arrangement	16
K. Annex 1: Preferred Qualification Requirements of key staff.....	17
A. Key Staffs (International Experience)	17
B. Key Staffs (National Experience)	18

A. INTRODUCTION

The Government of Nepal (GON) is carrying out the Third Phase of the Bridge Improvement and Maintenance Program (BIMP III), which is supported by the World Bank. This program is designed to make Nepal's bridge infrastructure more resilient, safe, and inclusive, while also strengthening the country's ability to sustainably develop bridges. Improving the professional skills within the Department of Roads (DoR) is crucial to ensure the long-term sustainability of bridge networks in Nepal. By enhancing its workforce and systems, the DoR can boost the quality and efficiency of bridge management and development. The GON launched the Third Bridges Improvement and Maintenance Program (BIMP-III) after signing an agreement with the International Development Association (World Bank) on June 21, 2025, securing US\$ 150 million in credit.

Department of Roads (DoR) is an organization responsible for management of Strategic Road Network (SRN) including roads, bridges and tunnels in Nepal. Some of the roads and bridges built under SRN have now exceeded their design life and require urgent attention. Various factors like aging infrastructure, delays in execution of appropriate maintenance work, changing environmental and climatic conditions including flooding and landslides, variations in the design and actual traffic demands over time and frequent road crashes, necessity for additional maintenance and rehabilitation of roads and bridges are apparent. Maintenance and rehabilitation are also essential to enhance reliability and extend useful life of assets at levels of costs that are typically well below replacement.

In addition, considering the inadequacy of the required expertise within the Bridge Branch and to accomplish the various simultaneous activities within the project timeframe, Bridge Branch, intended for procurement of the consulting services of the firm with a technical lead experienced in the assessment and management of ageing special bridges.

The scope of this assignment is to carry out a systematic, on-site inspection-led assessment of selected major SRN bridges through an integrated approach combining close-up visual inspection of accessible components and drone-based inspection of inaccessible or hazardous areas, to ensure complete structural coverage. The services include planning and executing inspections, performing targeted tests, documenting and synthesizing findings, interpreting condition and risk, and translating inspection evidence into clear, prioritized recommendations for repair, remediation, and future monitoring. The outputs will establish a reliable baseline for decision-making, support maintenance planning and budgeting, inform monitoring strategies, and strengthen DoR's bridge asset management practices, with all recommendations traceable to documented inspection evidence and aligned with applicable national standards and international good practice.

The bridges selected for this engagement are the Karnali, Bheri, Trishuli (Mugling) and Marsyangdi River bridges. The key details of these four bridges, including their general characteristics, construction features, and historical background, are summarized in the tables below.

Table 1: Summary of Details of Karnali Bridge

The only cable-stayed of Nepal over Karnali River at Chisapani had been formally opened for traffic on December 12, 1993. It links Lumbini province and Far-western province of Nepal along East-west Highway (MRM) (NH01). The 500 m long bridge is supported over a single pylon tower which divides the bridge length to 325 m west (right) span and 175 m east (left) span. Counterweights have been provided at the east side of the bridge to balance the length variation.

General Details	
Bridge Type: Cable Stayed Bridge	
Name of Bridge/River: Karnali Bridge	Total Length (m): 500
Road Name: Mahendra Rajmarga (NH01)	Road Length (km): 1027.67
Chainage (km): 901+115.001	Division Road Office: Nepalgunj
Latitude: 28.641289	Longitude: 81.283214
Design Standard: AASHTO Standard specifications for Highway Bridges-1983 as amended by the interim specifications-Bridges, 1984	Design Live Load: HS 20 - 44
Bridge Width (m): 11.3	Carriageway (m): 7.2
Construction Details	
Span Length(m): 325 main span + 175 side span	
Super Structure: Cable Stayed	Deck: Steel Truss stiffening deck with concrete deck slab
Bearing: Steel Bearing	
Tower: Steel tower	Tower Pier: Concrete pier with open foundation
Abutment: RCC abutments	Abutment Foundation: RCC open foundation
Road Signs: Name of Bridge, Bridge Span	Running Surface: Bituminous Surface
History	
Designed by: Steinman Boynton Gronquist & Birdsall, Inc. New York. U.S.A.	Year of Completion: 1993
Constructed By: Kawasaki Heavy Industries Ltd. Japan	
Drawings: As built drawings by Kawasaki Heavy Industries Ltd. available	

Table 2: Summary Details of Bheri River Bridge

General Details	
Bridge Type: Suspension Bridge	
Name of Bridge/River: Bheri River Bridge	Main Span Length (m): 120
Road Name: Ratna Highway (NH58)	Road Length (km): 113.08
Chainage (km): 94+370	Division Road Office: Surkhet
Latitude: 28.517858	Longitude: 81.663122
Design Live Load: China loading CH-80	
Bridge Width (m): 10.95	Carriageway (m): 7.75

Construction Details	
Main Super Structure: Suspension Bridge	Deck: Steel Truss stiffening deck with concrete deck slab
Bearings: Steel Bearing	
Tower Type: RCC	Tower Foundation: Data not available
Abutment Type: RCC	Abutment Foundation: Data not available
Anchorage block: Data not available	Running Surface: Concrete Surface
Road Signs: Bridge Span	
History	
The bridge was constructed with Government financing.	Year of Completion: 1988
Drawings: Not available	

Table 3: Summary details of Trishuli River (Mugling)

General Details	
Bridge Type: Suspension Bridge	
Name of Bridge/River: Trishuli River (Mugling)	Main Span Length (m): 125
Road Name: Prithvi Highway (NH17)	Road Length (km): 173.43
Chainage (km): 83+290.001	Division Road Office: Damauli
Latitude: 27.854024	Longitude: 84.557121
Design Load: China loading CH-80	
Bridge Width(m): 8.4	Carriageway(m): 6.2
Construction Details	
Main Super Structure: Suspension Bridge	Deck: Steel Truss stiffening deck with steel chequered plate deck slab
Bearing: Steel bearing	
Tower Type: RCC tower	Tower Foundation: Data not available
Abutments: RCC abutments	Abutment foundation: Data not available
Anchorage Block: Data not available	Running Surface: Steel
Road Signs: Diversion	Services: Electricity Line
History	
The bridge was constructed with support from Government of China and constructed in 1972 AD	
Drawings: Not available	

Table 4: Summary details of Marsyangdi River Bridge

General Details	
Name of Bridge/River: Marsyangdi River	Main span Length (m): 120
Road Name: Aanbukhaireni – Gorkha (NH44)	Road Length (km): 24.69
Chainage (km): 0+800	Division Road Office: Damauli

Latitude: 27.905899	Longitude: 84.543214
Design Load: Not available	
Bridge Width(m): 8	Carriageway(m): 6
Construction Details	
Main Super Structure: Suspension Bridge	Deck: Steel Truss stiffening deck with steel chequered plate deck slab
Bearing: Steel bearing	
Tower Type: RCC tower	Tower Foundation: Data not available
Abutments: RCC abutments	Abutment foundation: Data not available
Anchorage block: Data not available	
Road Signs: Name of Bridge	Running Surface: Steel
History	
The bridge was constructed with support from Government of China. Year of completion is about 1969 AD.	
Drawings: Not available	

B. OBJECTIVES

The primary objective of the consulting services under this assignment is to undertake comprehensive, systematic, and evidence-based structural inspections of selected major SRN bridges through a combination of detailed visual inspection, drone-based inspection of inaccessible areas, and targeted testing, thereby ensuring complete coverage and a reliable assessment of bridge condition. The assignment aims to identify and document defects and deterioration mechanisms, determine the need for targeted investigations and testing, assess the structural condition and performance of the bridges, and prepare maintenance, repair, retrofitting and rehabilitation measures, including detailed designs and cost estimates, to restore the bridges to their intended level of safety, serviceability, and functionality. Specifically, the objectives are to:

- i. Carry out detailed close-up visual inspections, drone-based inspections of inaccessible areas, and targeted testing as deemed necessary to assess bridge condition, defects, deterioration mechanisms, and construction details.
- ii. Ensure full inspection coverage and comprehensive documentation of all critical structural components.
- iii. Identify, quantify, and document defects, damage, and deterioration mechanisms through the integration of close-up visual inspections, drone-based inspections, and targeted testing, supported by measurements, photographs, videos, and georeferenced defect mapping, to provide a complete and reliable record of bridge condition. Also, develop a 3D photogrammetric digital twin to capture the baseline information and also for its use in remediation design
- iv. Provide study-based recommendations for maintenance, retrofitting, rehabilitation, and monitoring, ensuring that all proposed interventions are clearly traceable to observed and documented findings. Provide study-based recommendations for maintenance, rehabilitation, and monitoring, ensuring that

all proposed interventions are clearly traceable to observed and documented findings.

- v. Prepare detailed repair, retrofitting and rehabilitation designs, including technical specifications and engineer's cost estimates, as well as norms and technical specifications for implementation of maintenance and remediation works.
- vi. Prepare bridge health monitoring plans and provide recommendations to assist the Department of Roads (DoR) in future bridge inspection, maintenance, and asset management of bridge assets.

C. SCOPE OF WORKS

The scope of services shall comprise detailed close-up visual inspections, drone-based inspections of inaccessible areas, and targeted testing based on observed conditions and identified defects, forming an integrated, evidence-based inspection approach to achieve a comprehensive, accurate, and reliable assessment of the structural condition of each bridge. All subsequent analysis, evaluation, condition assessment, and maintenance and rehabilitation recommendations shall be derived from the findings of this integrated inspection approach.

Consultant shall be responsible for but not limited to:

- i. Carry out detailed visual inspections of all accessible bridge components using conventional close-up methods to assess condition, defects, deterioration mechanisms, and construction details, including determination of present scour depth at pylon/abutment foundations, tilting of pylons/abutments, and design of riverbed/bank protection and remedial measures.
- ii. Undertake drone-based inspections for inaccessible, high-level, or hazardous areas, including but not limited to cables, suspenders, pylons/towers, stiffening trusses, deck soffits, bearings, anchorage zones, and river-facing structural elements, to achieve full inspection coverage.
- iii. The Consultant shall carry out targeted testing as deemed necessary based on initial inspection findings. A Provisional Sum shall be included for such testing. The Provisional Sum shall be utilized based on actual requirements as confirmed through visual and drone inspection findings and sound engineering judgment.
- iv. Measure the vibration of the cables to estimate tension, along with strain and tensile stress measurements in the cables.
- v. Ensure comprehensive inspection coverage and condition assessment through the integration of close-up visual inspections, drone-based inspections of inaccessible areas, and targeted testing where required, so that no critical structural component remains uninspected or inadequately assessed due to access, safety, or operational constraints

- vi. Develop a 3D photogrammetric digital twin to capture the baseline information and also for its use in remediation design.
- vii. Identify, quantify, and document defects, damage, and deterioration mechanisms through the integration of close-up visual inspections, drone-based inspections, and targeted testing, supported by measurements, photographs, videos, and georeferenced defect mapping to provide a comprehensive record of bridge condition.
- viii. Evaluate the structural integrity, serviceability, safety, and load rating of the bridges based on findings from visual inspections, drone inspections, and targeted testing, in accordance with internationally recognized best practices.
- ix. Prepare comprehensive inspection reports, updated drawings, and condition assessment records, clearly demonstrating how inspection findings have been jointly interpreted and validated.
- x. Provide study-based recommendations for maintenance, retrofitting, rehabilitation, and monitoring, ensuring that all proposed interventions are clearly traceable to observed and documented findings.
- xi. Prepare bridge health monitoring plans and recommendations to assist DoR in future bridge inspection and maintenance of bridge assets.
- xii. Prepare detailed design, cost estimates, technical specifications and norms for the maintenance, retrofitting, rehabilitation and remediation works to assist DoR in engaging specialist contractors to carry out the works.
- xiii. Deliver at least three technical workshops/presentations (maximum 30 participants each) on Inception, Maintenance Design of Special Bridges, etc., to be conducted following the completion of fieldwork and data analysis.

Task-1: Inception Report – Inspection Methodology

The Inception Report shall define a methodology covering inspection, testing, and digital data capture, including:

- i. Identification and classification of bridge components by inspection method:
 - a. Close-up visual inspection (accessible components);
 - b. Drone-based inspection (inaccessible or hazardous components);
- ii. Detailed procedures for drone deployment, image capture, and safety management;
- iii. Methodology for 3D photogrammetric data acquisition and digital twin development, including accuracy, resolution, and deliverables;
- iv. Approach for **cable vibration measurement and tension estimation**, including instrumentation, data acquisition, and analysis techniques;
- v. Procedures for integrating visual, drone, and testing data into a unified condition assessment;

- vi. Data management framework, including:
 - a. defect coding and classification systems,
 - b. georeferencing and digital mapping of defects,
 - c. Quality Assurance and Quality Control (QA/QC) procedures;
- vii. Reporting formats and protocols ensuring outputs are auditable and aligned with client requirements.

Task-2: Structural Inspection and Data Analysis

The Principal Inspection shall integrate all inspection and data capture activities to establish a verified baseline condition:

- i. Perform close-up visual inspection of all accessible components;
- ii. Perform drone-based inspection of inaccessible and critical elements;
- iii. Undertake cable vibration measurements, analysis and interpret results to estimate cable forces;
- iv. Undertake targeted testing as required, based on inspection findings.
- v. Develop a 3D digital twin incorporating high-resolution imagery and geometry for:
 - a. defect identification and mapping,
 - b. condition visualization,
 - c. maintenance design and monitoring applications;
- vi. Prepare comprehensive defect inventories including:
 - a. type, extent, severity, and location of defects,
 - b. annotated photographs and drone imagery,
 - c. linkage to digital twin models where applicable;
- vii. Assess deterioration mechanisms and structural implications;
- viii. Establish a verified baseline condition for each bridge and its components;
- ix. Prepare an integrated Structural Inspection Report demonstrating:
 - a. completeness of inspection coverage,
 - b. consistency between visual, drone findings and targeted testing results
 - c. traceability of all observations and conclusions.

Task-3: Condition Evaluation and Recommendations

This task translates inspection and testing outputs into actionable engineering decisions as:

3.1 Analysis and Synthesis of Findings

- i. Consolidate findings from:
 - a. visual inspections,
 - b. drone inspections,
 - c. targeted testing results
 - d. cable tension measurements,
 - e. design calculations
- ii. Assess defect criticality in terms of:
 - a. structural safety,
 - b. serviceability,
 - c. durability, and
 - d. resilience;
- iii. Confirm defect progression and associated risks.

3.2 Maintenance design and Remediation Plan

- i. Develop detailed maintenance and repair plan on basis of the findings and supported by expert study-based recommendations for:
 - a. repair, remediation, strengthening, or replacement;
- ii. Classify maintenance plan by priority:
 - a. Immediate (safety-critical),
 - b. Short-term,
 - c. Medium- to long-term;
- iii. Provide detailed maintenance design to carry out the works.
- iv. Ensure all recommendations are:
 - a. evidence-based and traceable to inspection and test data,
 - b. proportionate to risk and remaining service life,
 - c. aligned with relevant standards and best practice.

3.3 Monitoring and Asset Management

- i. Identify components requiring continuous monitoring;
- ii. Recommend monitoring approaches, including:
 - a. periodic visual and drone inspections,
 - b. structural health monitoring systems where justified;
- iii. Define:

- a. inspection intervals,
- b. monitoring parameters,
- c. trigger thresholds for intervention;
- iv. Establish baseline datasets for long-term condition tracking.

3.4 Cost Estimates, Technical Specification, Norms and Decision Support

- i. Prepare detailed cost estimates for:
 - a. repair and remediation work, maintenance
 - b. structural health monitoring systems
- ii. Prepare technical specification and norms for maintenance and rehabilitation works
- iii. Prepare bridge health monitoring plans and recommendations in future bridge inspection and maintenance of bridge assets.
- iv. Provide structured outputs suitable for:
 - a. maintenance planning and implementation,
 - b. budgeting and prioritization,
 - c. integration into DoR asset management systems;
- v. Deliver a clear, auditable recommendation report linking:
 - a. defects → risk → intervention → cost.

D. Duration of the services

The consulting services shall be carried out over a period of seven (7) months from the commencement date. The Consultant shall plan and execute the site operations, targeted testing, including any procurement and post-processing within the timelines indicated in **Table 5**:

Table-5: Site Operations and Data Processing

S. N.	Preparatory Outputs	Completion Deadline (no. of month after the commencement date)
1.	Planning-Mobilization, safety planning, flight and capture plans, and use of equipment and tools	1.0
2.	Site Operations-Detailed Structural Inspections, targeted testing and 3D photogrammetric capture of bridges, and cable vibration measurements	2.0
3.	Post-processing, integration, and analysis of inspection and targeted testing data sets to support condition assessment and reporting	4.0
4.	Condition evaluation and Maintenance Design	5.0

S. N.	Preparatory Outputs	Completion Deadline (no. of month after the commencement date)
5.	Detailed Cost Estimate, Norms and Technical Specification	6.0
6.	Final Report	7.0

E. Reporting Requirement

The Consultant shall keep full records relating to all aspects of the work covered by his service contract. Such records shall be available for inspection and use by the Client. All original drawings, work sheets, field notes, computer programs, reports and other documents relating to the study shall become the property of the Client and shall not use in other purpose without approval from the Client. The Consultant shall be responsible for submitting the following deliverables:

Inception Report

Three (3) hard copies and one soft copy, outlining the inspection methodology, including the integrated approach for close-up visual inspection and drone-based inspection of inaccessible areas, work plan, staffing schedule, and data management procedures.

Detailed Structural Inspection Report

Three (3) hard copies and one soft copy, presenting the outcomes of the visual and drone-based inspections, including targeted testing and condition assessment of all bridge components, defect inventories, annotated photographs, design calculations and drone imagery, updated drawings as applicable, and establishment of a verified baseline condition for each bridge.

Report on Repair, Remediation, and Monitoring Recommendations

Five (5) hard copies and one soft copy, comprising:

1. inspection-based and risk-informed recommendations for repair, remediation, and rehabilitation;
2. prioritization of interventions based on urgency and structural risk;
3. recommendations for future inspection and monitoring, including frequency, scope, and methodologies;
4. Detail cost estimates for maintenance and rehabilitation design, instrumentation and implementation;
5. a summary of capacity building and knowledge transfer activities, including the application of innovative inspection and assessment approaches.

Table-6: Time frame for Reports and Submissions

S. N.	Preparatory Outputs	Submission Deadline (no. of month after the commencement date)
1.	Inception Report	1
2.	Detailed Structural Inspection Report and targeted testing report	4
3.	Draft Report on maintenance and rehabilitation design, cost, procurement and monitoring recommendations	6
4.	Final Report	7

*Details to consider in reports are described and mentioned in scope of works of the assignment.

F. Minimum and Details Qualifying Criteria

I) Minimum Qualification Requirement of Consulting Firm

S. N.	Minimum qualification Criteria	Compliance	Status
1	Corporate Registration	Yes/No	Pass/Fail
2	Year of Standing min. 10 year (Each member in case of JV)	Yes/No	Pass/Fail
3	JV Agreement in case of Firms in JV	Yes/No	Pass/Fail
4	Power of attorney	Yes/No	Pass/Fail
5	Adherence to code of Ethics and Anti-Corruption Policy	Yes/No	Pass/Fail
6	Shall have experience as follows: Single Entity or Lead Partner (in case of JV): (i) Experience of maintenance design/condition assessment of either cable stayed or motorable suspension or similar type of bridges in at least 2 Nos. of bridges Other JV Partners: (i) Experience of maintenance design/condition assessment/design of either cable stayed or motorable suspension or similar type of bridges	Yes/No	Pass/Fail

Note 1: The above information must be supported with copies of respective certificates.

Note 2: Consultants are allowed to form a joint venture with each other to enhance their qualification.

Note 3: Maximum no of partner in a JV firm: Three.

Note 4: A consultant shall not submit more than one REOI, either individually or as joint venture

Note 5: The EOI of consulting Firm will be rejected if any Firm associated in JV has been debarred by the World Bank.

The consultant (firm) must have sufficient qualification and experience to carry out the assignment.

II) Details of the Qualification Requirement for short listing

Details of Qualifying Criteria	
Description of Criteria	Marks out of 100
A) Core Business of the firm	10
B) General Experience of Firm	15
C) Relevant Experience to the assignment	65
D) Technical, Managerial and Organizational capability of the Firm	10
A) Core Business of the firm	Maximum 10 Marks
Active Years in consulting service	As consultant
a. Number of active years in consulting services	$\leq 5 = 0$ marks
b. Number of active years in consulting services	$\geq 10 = 10$ marks
B) General Experience of Firm	Maximum 15 Marks
Work Experience	As consultant
a. Number of active years in consulting services	$\leq 10 = 0$ marks
b. Number of active years in consulting services	$\geq 15 = 10$ marks
C) Relevant Experience to the assignment	Maximum 65 Marks
Work Experience	As consultant
a. Number of projects of maintenance design of either cable stayed or motorable suspension or similar type of bridges	10.0 marks for each job, Maximum 50 marks
b. Number of projects of Structural inspection, condition assessment / structural health monitoring of long span cable bridges	5.0 marks for each job, Maximum 15 marks
D) Technical, Managerial and Organizational capability of the Firm	Maximum 10 Marks
Technical capability- Professional staff in the organization relevant to the assignment	
a. Number of Full time Professional Staffs	$\leq 5 = 0$ marks
b. Number of Full time Professional Staffs	$> 5 = 10$ marks
<i>Note 1: In between marks will be given on prorata basis.</i>	
<i>Note 2: Previous experience work as a sub consultant will not be considered for evaluation.</i>	
<i>Note 3: Completed or substantially completed projects will be considered for evaluation.</i>	
<i>Note 4: The completed/substantially completed projects within last 10 (ten) years counted from REOI submission deadline shall be considered for evaluation.</i>	
<i>Note 5: Minimum Pass Marks to obtain as a whole is 70%.</i>	
<i>Note 6: If more than one Consultant secures equal score, preference will be given to the Consultant with more experience in the criteria C.a. Similarly, the second preference will be given to C.b. criteria and international exposure training program.</i>	

Documentation Required

S. N.	Supporting Document
1	Firm Registration Certificate/Legal Documents
2	Company Profile
3	List of Relevant Completed Assignments
4	Client Completion Certificates or Contract References
5	Brief Project Data Sheets for Similar Assignments
6	Description of Technical and Organizational Capability

Note:

1. Key Experts/CV of personnel shall **not be evaluated at the REoI shortlisting stage**.
2. Firms may associate with other firms to enhance their qualifications.
3. Shortlisting shall be based on the firm's qualifications and experience relevant to the assignment.

G. Team Composition

Tentative person month detail required for the assessment is provided under table below and the qualification requirement for evaluation of key staff is set out in **Annex 1**:

Position	Quantity	Total Person Months			Total	Remarks
		Inception	Inspection	Design		
1) Key Staffs (International Experience)						
Team Leader/ Bridge Engineer	1	1	1	3	5	
Bridge Inspection Specialist	1		2	1	3	
2) Key Staffs (National)						
Structural Engineer	1	1	2	4	7	
Geo-Technical Engineer	1	1	2	1	4	
Hydrologist	1	1	2	1	4	
3) Non-Key Staffs (National)	3				10	

Note:

- a) The Key Staff composition and estimated total Key Staff man month for design of maintenance/rehabilitation bridge study has been estimated for design of maintenance/rehabilitation bridge study of **four** major SRN bridges.
- b) A Technical Proposal shall be considered unsuitable and shall be rejected for further evaluation if it does not respond to important aspect of ToR.

H. Technology transfer

The Consultant shall consider the technology transfer as an important aspect of the service. As per the request of DOR PCU, the Consultant shall brief and demonstrate the working procedure, design concept, pavement design, quality control procedure, software operation, contract management, Maintenance Management procedures, and Claim /Dispute management. The Consultant shall assist the DOR and its staff to build their capacity as a part of the on-the-job training under this assignment. Bridge Expert shall provide training / mentoring sessions to DoR, Engineers regarding Bridge design and maintenance as requested by Bridge Branch.

I. Data and assistance to be provided by the Client

The DOR shall provide the Consultant following documents and services subject to availability:

- a) Bridge Maintenance Manual Volume I and II (Repair Works)
- b) Norms and Specifications for road and bridges
- c) As built drawings of Karnali Bridge *

** Drawings and additional information regarding other 3 bridges are not available and consultant needs to prepare GAD and other necessary drawings.*

J. Contractual Arrangement

The Consultant's contract will be with Government of Nepal, Department of Roads, Bridge Branch, BIMP III and will be based on a contract agreement consistent with the standard procurement document based on World Bank Procurement Regulations for IPF Borrowers, July 2016 Revised September 2025.

Annex 1: Preferred Qualification Requirements of key staff

Key Personnel Qualification Requirement

The working team for field and office works should necessarily consist of the following Key Personnel with qualification and experiences as indicated in the following table. These key professionals shall be:

A. Key Staffs (International Experience)

I. Team Leader / Bridge Engineer

A. Education Qualification	
Minimum	Master's degree in Bridge / Structure Engineering or equivalent
B. Experience	
B 1. General Experience in Civil Engineering works	
Minimum	10 years
Preferable	15 years
B 2. Specific Experience in bridge projects	
Minimum	7 years
Preferable	10 years
B 3. Experience in similar type of bridge projects	
a) Shall have experience of maintenance design of either cable stayed or motorable suspension or similar type of bridges	
Minimum	2 Nos. of bridges
Maximum	5 Nos. of bridges
b) Experience in Structural inspection, assessment and structural health monitoring of either cable stayed or motorable suspension bridges	
Minimum	2 Nos. of bridges
Maximum	5 Nos. of bridges
C. Experience in the Proposed Field of Expertise	
C 1. Shall have international experience in any bridge projects as bridge engineer/supervision engineer/team leader or equivalent	
D. Language	
Capable to communicate fluently in English Language	

II. Bridge Inspection Specialist

A. Education Qualification	
Minimum	Bachelor's degree in Civil Engineering
Preferred	Master's degree in Bridge / Structure Engineering
B. Experience	
B 1. General Experience in Civil Engineering works	
Minimum	8 years
Preferable	10 years
B 2. Specific Experience in bridge design / condition assessment / maintenance / inspection projects	
Minimum	5 nos. of bridges
Preferable	8 nos. of bridges
B 3. Experience in Structural inspection and condition assessment of cable stayed or motorable suspension bridges	

Minimum	3 nos. of bridges
Preferable	5 nos. of bridges
C. Experience in the Proposed Field of Expertise	
D 1. Shall have international experience in any bridge projects	
E. Language	
Capable to communicate fluently in English Language	

Note: International experience means experience other than their native country (country of birth) and current nationality.

B. Key Staffs (National Experience)

I. Structural Engineer

A. Education Qualification	
Minimum	Minimum: Bachelor's degree in Civil Engineering/Bridge Engineering Preferable: Master's Degree in Bridge Engineering/Structural Engineering or related field
B. Experience	
B1. General Experience in Civil Engineering works	
Minimum	7 years
Preferable	10 years
B2. Specific Experience in bridge design/maintenance design	
Minimum	3 Nos. of bridges
Preferable	5 Nos. of bridges
C. Language	
Capable to communicate fluently in English Language	

II. Geo-Technical Engineer

A. Education Qualification	
Minimum	Master's Degree in Geotechnical Engineering or related field
B. Experience	
B 1. General Experience in Civil Engineering works	
Minimum	7 years
Preferable	10 years
B2. Specific Experience in design/ Supervision of bridge projects as Geotechnical Engineer	
Minimum	3 Nos. of bridges
Preferable	5 Nos. of bridges
C. Language	
Capable to communicate fluently in English Language	

III. Hydrologist

A. Education Qualification	
Minimum	Master's degree in Hydrology/Hydropower Engineering or related Engineering discipline
B. Experience	
B 1. General Experience as Hydrologist	
Minimum	7 years
Preferable	10 years

B 2. Specific Experience in bridge projects as Hydrologist	
Minimum	3 Nos. of bridges
Preferable	5 Nos. of bridges
C. Language	
• Capable to communicate fluently in English Language	