

REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – INDIVIDUAL)

COUNTRY: GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN

NAME OF PROJECT: OBIGARM NUROBOD Rd PROJECT LONG BRIDGE and APPROACHES

Grant No.: S0309A

Assignment Title: Project Implementation Support – International Bridge Engineer

Reference No.: AIIB/SF/ONRdPLB/PIU/IC-05

The *Government of the Republic of Tajikistan* has received financing from the Asian Infrastructure Investment Bank (AIIB) toward the cost of the *Obigarm Nurobod Rd Project Long Bridge and approaches*, and intends to apply part of the proceeds for consulting services.

The overall objective of the consulting services (“the Services”) includes the followings:

The overall objective of the assignment is to provide the **technical support to the PIU** during preparation of the AIIB funded Section 3 of the Works for the Long Bridge and Approaches. The technical support will require the input from an individual, independent senior bridge specialist with wide experience in the design and construction of major cable-based long span bridges, including suspension bridges, cable stayed bridges and as well as other major types of long bridges. The specialist selected for the required technical support will be required to carry out a detailed review of the work outputs done by the an **External Design Consultant** earlier selected and to provide written reports on the feasibility studies for the bridge conceptual designs, options study, preliminary designs for selected option, works and performance specifications, drawings and other technical and Tender Documents for **Design, Build, Operate and Maintain (DBOM) contract format using output and performance indicators**.

The detailed **Terms of Reference (TOR)** for the assignment is attached as an Appendix 1.

The *Ministry of Transport/Projects Implementation Unit for Roads Rehabilitation* now invites Expression of Interest (EOI) from eligible “Consultants” to indicate their interest in providing the services fulfilling requirements of TOR. Interested Consultants should provide their latest CV with information demonstrating that they have the required qualifications and relevant experience to perform the Services. The broad shortlisting criteria are as follows:

Qualifications:

- MSc (Master's degree) or higher education in a recognized University, with major in structural engineering or equivalent;
- 20 years' experience in the preparation and design of major bridge projects; out of which minimum 5 years on construction in field;
- Specific expertise in the preparation and procurement of internationally financed major bridges projects carried out under the FIDIC Conditions of Contract for Design-Build or International IFI ;
- Proven experience in geotechnical and soil mechanics, structural analysis, international bridge designs, standards and codes, knowledge of the newest and most advanced software tools for design of bridges.
- Fluent knowledge of English (writing, speaking and reading) is a requirement;

The attention of interested Consultants is drawn to Section II, paragraph 4.4, and paragraph 4.9 of the AIIB's "Procurement Instructions for Recipients" June 2, 2016, setting forth the AIIB's policy on conflict of interest and eligibility.

A consultant will be selected in accordance with the AIIB Procurement Policy and its associated Interim Operational Directive on Procurement Instructions for Recipients. AIIB's Policy on Prohibited Practices will apply to all contracts.

Expression of Interest must be delivered in a written form along with a CV to the address below in person, or by e-mail by **January 10, 2023**. EOI arriving after the deadline will not be considered. The copy of your CV shall be incorporated into a PDF document.

Attn: Mr. N. Arabzoda, Executive Director
Project Implementation Unit for Roads Rehabilitation
Ministry of Transport of the Republic of Tajikistan
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Dushanbe, 734042, Tajikistan
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Appendix 1

Terms of Reference for Bridge Engineering Specialist for Section 3 Obigarm to Nurobod – Long Bridge and Approaches

Background

The Government of Tajikistan, represented by the Ministry of Transport, is constructing a 75 km long alternative alignment of the existing M41 highway connecting the northeast region of Tajikistan and the Kyrgyz Republic, located between Obigarm (km 72) and Nurobod (km 158). The existing highway will be inundated by the reservoir of the Rogun Hydropower Project (HPP), currently under construction.

The M41 highway is of regional importance, reflected by its position on Central Asia Regional Economic Cooperation (CAREC) Corridors 2, 3 and 5.

The M41 highways project is divided into three sections:

Section 1: Obigarm to Tagikamar (km 0+000 to km 30+217)

Sub-Section 1: Javoni – Kandak

Sub-Section 2: Gazakyon – Sebnok (Lugar)

Sub-Section 3: Hakimi - Siyohgulak

Section 1 is approximately 30 km long and includes Bridges No. 1 through No. 6, Tunnel No.1 (Kandak Tunnel, 1.6 km), Tunnel No.2 (Karagach Tunnel, 1.7 km), and local access roads of 30 km.

Section 1 is funded by the Asian Development Bank (ADB) and by the OPEC Fund for International Development (OFID).

Section 2: Tagikamar to Nurobod (km 30+217 to km 75+600, less the bridge in Section 3)

Section 2, Sub-Section 4: Mudzhihrv – Alihodzha

Section 2, Sub-Section 5: Alihodzha – Tuthor

Section 2, Sub-Section 6: Tuthor – Kabudiyon ((Samsolik)

Section 2, Sub-Section 7: Kaboudiyon – Humdon

Section 2 is approximately 44 km long and includes Bridges No. 7 through No. 13, Tunnel No. 3 (Tagikamar Tunnel, 2.6 km), local access roads 40 km, and a temporary long bridge over the Rogun HPP Reservoir at Darband over the Surkhkhob River.

Section 2 is funded by the European Bank for Reconstruction and Development (EBRD).

Section 3: Bridge over Rogun Reservoir (km 72+900 to km 74+303)

Section 3 includes design and construction of a 760-meter-long permanent bridge across the Rogun Reservoir, as well as 640 meters of bridge approaches (the Project). There are also potential options under consideration to extend the length of the bridge to 990 metres, with a corresponding reduction in the length of the approaches.

Section 3 is proposed to be funded by the Asian Infrastructure Investment Bank (“the Bank” or “AIIB”), supported by a grant financing for the project preparation.

The Project is a government priority, as reflected by its inclusion in the National Development Strategy. The project is also consistent with the CAREC Transport and Trade Facilitation Strategy 2020 and will contribute to achieving goals three (good health and well-being) and nine (industry, innovation and infrastructure) of the UN sustainable development goals.

The Ministry of Transport (MoT or “the Client”), which is responsible for the administration of the Republican Road Network of Tajikistan, will be in charge of overall project implementation.

To manage projects in the road sector the Projects Implementation Unit for Roads Rehabilitation (PIURR) has been established by the decree of the Government of Tajikistan under the MoT. In addition, a dedicated Project Implementation Unit (PIU) for the management of the Section 3, has been established under the PIURR.

Objectives

The overall objective of the assignment is to provide the **technical support to the PIU** during preparation of the AIIB funded Section 3 of the Works for the Long Bridge and Approaches. The technical support will require the input from an individual, independent senior bridge specialist with wide experience in the design and construction of major cable-based long span bridges, including suspension bridges, cable stayed bridges and as well as other major types of long bridges. The specialist selected for the required technical support will be required to carry out a detailed review of the work outputs done by the an **External Design Consultant** earlier selected and to provide written reports on the feasibility studies for the bridge conceptual designs, options study, preliminary designs for selected option, works and performance specifications, drawings and other technical and Tender Documents for **Design, Build, Operate and Maintain (DBOM) contract format using output and performance indicators**.

The Specialist (otherwise defined as the Consultant under Section D3 of the Contract, which means the person who will provide the services under the Contract for provision of the services of the Bridge Engineer Specialist). will liaise closely with the other Project Support Consultants, who are assisting the PIU, with the overall implementation of the project, but on a part time basis.

The Specialist will be required to familiarize themselves with all technical documents related to the Project.

Through the engagement of the Specialist, the Client will be introduced to the best international practice in the field of structural engineering for long span bridges, planning construction and maintenance. In that respect, the Specialist will prepare and present, from time to time, slide presentation of various aspects of planning, design and implementation of long bridges, specifically related to cable type of bridges.

3. Scope of Work

Further to the above Objectives, the Specialist will focus on the following activities, **but not limited to**:

- a) Review and provide written comments on the proposed options to be considered **during** the Options Study, which shall include at least three main bridge options (balanced cantilever, cable-stay, extra dose etc.), as well as a series of relevant sub-options for each bridge type (deck materials, span arrangements, foundation types, pylon height etc.).

- b) Review and provide written comments on the proposed design criteria, standards, works and performance specifications and design methodologies to be applied in the bridge consideration.
- c) Review and provide written comments on the proposals for **detailed** geotechnical, wind and seismic investigations to be carried out in Phase 2 of the design of the long bridge, including review of the TORs for such geotechnical and other investigations to determine if they will provide sufficient factual information for both the Preliminary Design as well as for tendering for the planned DBOM works contract using output and performance parameters for fully finished milestones. Climate negative influence and possible adaptation will need to be also reviewed and commented. as well as the required measures for the reservoir banks erosion control.
- d) Review and provide written comments on the draft Options and Feasibility Study Report from a technical point of view, including the methodology used by the External Design Consultant in assessing the technical feasibility, ease of construction, time for construction, etc. and the estimated cost of each option presented in the Draft and Final FS with proposed and recommended option for the long bridge.
- e) Identify any specific technical issues to be addressed by the External Design Consultant during the preliminary design phase, including identification of any potential constraints to the construction and any necessary measures for climate resilient design and long-term performance.
- f) Review and provide written comments on the External Design Consultant's proposals for output and performance-based criteria and the associated implementable and fully measurable milestones and their payment schedule within the overall lump sum cost for the bridge.
- g) Review and provide written comments on the Preliminary Design of the selected option, including on the extent to which it provides a feasible basis for contracting the works using a DBOM contracting. This includes, but not limited to the level of detailed and provided works specifications, structural calculations and considerations, E&S requirements, climate resilience design, major river works and protection of abutments/ towers/pylons, riverbanks erosion protection works, etc., typical drawings and specific instructions related to the type of bridge selected for implementation.
- h) Suitability of the Standard Tender Documents for use for DBOM contract, by reviewing the con and pro of FIDIC 2017 second edition and the WB SBD for D&B from January 2021 (inclusive of output and performance indicators for fully finished milestones).
- i) Review and provide written comments on the Employer's Requirements and other technical specifications, as well as the proposed output and performance-based criteria for measurement, acceptance/remedies and payment of the finished works of the long bridge and its approaches
- j) Review and provide written comments on the proposed schedule for construction, including milestones in timely and substance fashion, taking into account the anticipated water levels fluctuation during the construction as a result of the completion of the Rogun Dam.
- k) Review and provide written comments on the updated cost estimates for the bridge and approaches implementation and maintenance, including foreseen cash flow diagrams for expected expenditure and income by a potential contractor during the implementation of DBOM contract, including definition of potential advance payment to contractor as part of the proposed payment model.
- l) Review and provide written comments on the Project Risks Matrix developed by the External Design Consultant and introduce additional risks that may need to be addressed, if appropriate.

- m) Review and provide written comments on the draft Preliminary Design Report and associated documentation, making sure that the outputs are prepared to the required quality, leading to a successful Tendering of the Project, with all required documentation for procurement and implementation of the associated works of the Project.
- n) Review and provide written comments on the final Preliminary Design Report and associated documentation, confirming that the received comments and suggestions by the Project peers have been fully incorporated.
- o) Review and provide written comments of the Technical Documentation required for Tender Documents for DBOM contract.

4. Implementation Arrangements and Duration of the Assignment

The assignment is expected to start in January 2023 and will have a **duration of 7 months**. The Specialist shall perform his services remotely from the Specialist's home office and in the Client's offices in Dushanbe, Tajikistan, depending on the situation related to the COVID 19 pandemic limitation of movement and flights. Otherwise, the service will need to be performed in full, in Dushanbe office of the PIU

The total work days are calculated as:

- At home office: 10 working days
- In Dushanbe office: 18 working days
- Traveling: 2 working days

The services will be provided, during the course of the project implementation/preparation. The exact input during each month will depend on the requirements of the Project. At end of each month, the Specialist shall provide for PIU management approval and payment a monthly Invoice specifying the work done and time provided. Travelling days directly from the Specialist's home office to Dushanbe are considered as working days.

The Specialist will use its own necessary computer hardware and software required to deliver the services.

During visits to Tajikistan, the Client will provide the Specialist with appropriate furnished office space within the PIU. These facilities will be provided free of charge by the Client. The a per diem for accommodation and subsistence, as well the costs of international travel, will be reimbursed by the Client in accordance with the Contract, subject to prior approval by the Client of missions to Dushanbe. In addition, the Client will support and facilitate issuing of required visa for visit to Tajikistan.

All available Project information including copies of critical documentation such as outputs from previous studies will be made available to the Specialist by the PIU. All received Project material belongs to the Client and can't be shared with any other person of institution. Prohibited sharing will result in breach of the contract.

5. Reporting and Deliverables

The following reports shall be prepared by the Specialist during the course of the Services:

- a) A brief **Inception Report**, setting out the proposed approach to the Project, the inputs foreseen, the key challenges to be addressed during the assignment;

- b) Reviews and Reports on specific issues indicated in the Section 3 above (Scope of Works, items “a” to “o”); and
- c) Final Report, including a review of all tasks undertaken by the Specialist, along with recommendations for any further support to be provided for under the project.

NOTE: All reports exchanged between the Specialist and the client need to be copied to the Project Team Leader of AIIB.

The Specialist shall report to the PIU’s nominated representative and AIIB on all aspects of his assignment. The Specialist shall liaise closely with the PIU Project Support Consultant as necessary.

The Specialist will provide deliverables addressing in detail all tasks as specified in section 3 of this Terms of Reference. All deliverables will be prepared and delivered by the Specialist in the English language and copied to AIIB PTL

All Project reports issued by the Specialist shall be reviewed and approved by the PIU and AIIB in a shortest possible time. A period of up to two weeks shall be allowed for this review and approval.

6. Professional Qualification of the Specialist

The Specialist will have recognized/proven high-level international experience in the project preparation and design of long span bridge structures of a comparable size and scope. In addition, he/she will have proven and evident experience in providing independent technical, financial and operational opinions and advices of high value to Clients.

The Specialist will have at **minimum** the following professional academic credentials, experience, and qualifications:

- MSc (Master’s degree) or higher education in a recognized University, with major in structural engineering or equivalent;
- 20 years’ experience in the preparation and design of major bridge projects; out of which minimum 5 years on construction in field;
- Specific expertise in the preparation and procurement of internationally financed major bridges projects carried out under the FIDIC Conditions of Contract for Design-Build or International IFI ;
- Proven experience in geotechnical and soil mechanics, structural analysis, international bridge designs, standards and codes, knowledge of the newest and most advanced software tools for design of bridges.
- Fluent knowledge of English (writing, speaking and reading) is a requirement;