

TERMS OF REFERENCE FOR CONSULTANTS

I. Background

1. ADB is providing a technical assistance grant to the government of Tajikistan (the government) for the preparation of the CAREC corridors 2, 3, and 5 (Obigarm–Nurobod) Road Project. The project road, about 72 km long, will replace a section of the existing M41 highway that will be inundated due to the construction of the Rogun Hydropower (HPP) project. The project road passes through mountainous terrain and includes 3 tunnels of total length about 6 km, several substantial bridges, and a high level 700 m long bridge over the future hydropower reservoir.

2. The executing agency for implementing the project is the Ministry of Transport (MOT), represented by its Project Implementation Unit for Roads Rehabilitation (PIURR). The detailed design of the road has been completed by a national design consultant appointed by MOT.

3. ADB will engage a team of international consultants (individuals) and national consultants (firm) to assist ADB and MOT with preparing a project for constructing the bypass road to the standard required for processing ADB financing. The consultants will be recruited in accordance with ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.

4. The consultants are expected to be recruited and mobilized respectively by June 2018 and July 2018 given the HPP reservoir impounding schedule and the ensuing project's procurement schedule. The services will generally be provided in Dushanbe, and at the project location as required. The MOT/PIURR will provide the consultants with all reports, documents, and other information that they have reasonably available.

II. Scope of Services

5. The scope of the services to be provided by the consultants will include the following:

- (i) Carrying out due diligence of all aspects of the detailed design, confirming its compliance with relevant international and national standards, particularly for pavements, tunnels and road safety aspects. For tunnels, the reference standard will be the EU Directive 2004/54/EC on minimum safety requirements for tunnels in the Trans-European Road Network;
- (ii) Preparing a report setting out aspects of the detailed design that require amendment to bring it into reasonable compliance with international standards, agreeing these amendments with MOT/PIURR and confirming that the amendments have been incorporated into the design. To the extent necessary, advising MOT/PIURR of the additional surveys and investigations required to support the agreed design amendments. The responsibility for undertaking these surveys and investigations, and for completing the design amendments, will be with the national design consultant;
- (iii) Identifying potential access road connections between the proposed bypass and villages within its influence area, agreeing with MOT/PIURR which of these connections should be implemented under the project, and confirming that they have been incorporated into the design of the bypass. Villages for which such connections should be provided will include those with existing low standard links to M41 highway which will lose those links when the highway is inundated;

- (iv) Preparing a concept design for the proposed 700 m bridge over the future reservoir, to the detail required to procure a design-construct contract for its construction;
- (v) Preparing safeguards assessments, for involuntary resettlement and environment, and preparing appropriate mitigation plans, in accordance with the provisions of ADB's Safeguards Policy Statement 2009, including recommending a categorization for both types of impacts;
- (vi) Preparing a social and gender impact assessment, including collection of baseline data and development of a gender action plan;
- (vii) Preparing a cost estimate for the project, including appropriate contingencies, taking into account costs for similar recent ADB and other internationally-financed projects in Tajikistan, in a format similar to the Bills of Quantities that will form part of the subsequent bidding and contract documentation;
- (viii) Providing support to the transport economist recruited separately by ADB to prepare an economic and financial analysis following ADB's procedures for such analyses. This support will include appropriate traffic, origin-destination, and other studies;
- (ix) Preparing a procurement plan for the project, in accordance with the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions;¹
- (x) Preparing bidding documents for the project's civil works contracts, based on the relevant ADB standard bidding documents and the specifications and other documents that have been used for earlier ADB-supported road projects, and assisting MOT/PIURR with obtaining ADB approval of the bidding documents;
- (xi) Assisting MOT/PIURR with procuring contractors for the civil works, including preparing final documents for issue to bidders, responding to bidders' queries, pre-bid meetings and site visits, bid receipt, bid evaluation including preparing bid evaluation reports for obtaining approval to award contracts to MOT and ADB, preparing final contract documentation, but not including final signing of the contracts;
- (xii) Preparing a final report for the technical assistance, setting out details of all activities undertaken.

III. Position-based Terms of Reference

6. The position-based terms of reference (TOR) for each of the consultants who will undertake the services are presented in the tables below.

Position	Team Leader/Highway Engineer – International
Qualifications	Bachelor of Civil Engineering or equivalent, preferably with relevant post-graduate qualifications
Experience	At least 15 years managing multi-disciplinary teams preparing transport sector projects intended for ADB or similar agency financing, preferably with projects that include roads, bridges and tunnels in institutional and physical environments similar to those prevailing in the project area.
Tasks	<ul style="list-style-type: none"> • Responsible to ADB and MOT/PIURR for the successful delivery of all aspects of the project; • Overseeing the work of the international and national consultants to ensure that their outputs are coordinated and meet the requirements of their respective TOR; • Maintaining effective communications with MOT and its PIURR which will be responsible for the implementation of the ensuing project; • Provide brief progress reports to ADB and MOT/PIURR each month, setting out progress against schedule, problems encountered and how these are to be addressed, and other matters as appropriate;

¹ Part of the ensuing project may be financed by another agency, which may require that its procurement procedures be used for that part. This is to be confirmed.

Position	Team Leader/Highway Engineer – International
	<ul style="list-style-type: none"> • Working closely with, and requesting additional work as necessary from, the national design consultant that has been engaged by MOT to prepare the detailed design of the project road; • Provide support and assistance to ADB missions as required, including during the missions preparing financing for the ensuing investment project; • As highway engineer, undertake appropriate due diligence on the highway design aspects of the detailed design, propose amendments where appropriate to reflect improved road safety and climate resilience, and ensure these amendments are incorporated into the final detailed design; • Ensure the final design incorporates appropriately designed accesses to communities located within the vicinity of the project road, as agreed with MOT/PIURR; • Prepare specifications for the highway-related works and prepare specifications for the overall works by incorporating specifications for other aspects of the project that have been prepared by the relevant specialists.
Inputs	Person-months: 6 – Full time

Position	Structural Engineer – International
Qualifications	Bachelor of Civil Engineering or equivalent, preferably with relevant post-graduate qualifications
Experience	At least 15 years of experience in the design and construction of bridges for highways and other transport infrastructure, and experience with preparing design briefs or equivalent for major bridges to be implemented through contractor design-build arrangements. Familiarity with structural design standards prevalent in Central Asia would be advantageous. Part of the experience should preferably have been in physical environments similar to those prevailing in the project area.
Tasks	<ul style="list-style-type: none"> • Undertake appropriate due diligence on the structural aspects of the detailed designs, excluding tunnels, including proposing amendments to the designs to reflect improved sustainability, road safety, and other aspects; • Preparing a design brief suitable for use as part of a design-construct contract package for the proposed 700 m bridge across the hydropower project reservoir; • Prepare specifications for the structural aspects of the project.
Inputs	Person-months: 3 – Intermittent

Position	Tunnel Engineer – International
Qualifications	Bachelor of Civil Engineering or equivalent, preferably with relevant post-graduate qualifications
Experience	At least 15 years of experience in the design and construction of tunnels for highways and other transport infrastructure. Part of the experience should preferably have been in physical environments similar to those prevailing in the project area.
Tasks	<ul style="list-style-type: none"> • Undertake appropriate due diligence of the tunnel aspects of the detailed designs, including proposing amendments to the designs to reflect improved sustainability, safety, and other aspects; • Require additional geotechnical and other investigations if the investigations undertaken by the national design consultant are considered not sufficient, such investigations to be undertaken by the national design consultant; • Review as part of the due diligence provisions in the tunnel designs for lighting, ventilation, fire, communications, drainage, and emergency response systems, and propose amendments as appropriate; • Prepare specifications for the tunnel aspects of the project.
Inputs	Person-months: 2 – Intermittent

Position	Geotechnical Specialist – International
Qualifications	Bachelor of Science, Geology, Civil Engineering or equivalent, preferably with relevant post-graduate qualifications
Experience	At least 10 years of experience in the geotechnical aspects of highway design and construction, including pavement design, with extensive experience in projects involving tunnels preferred. Part of the experience should preferably have been in physical environments similar to those prevailing in the project area.
Tasks	<ul style="list-style-type: none"> • Undertake appropriate due diligence on the geotechnical aspects of the detailed designs, including excavations, embankments, bridge foundations, tunnels, and bituminous pavements; • Require additional geotechnical and other investigations if the investigations undertaken by the national design consultant are considered not sufficient, such investigations to be undertaken by the national design consultant;

Position	Geotechnical Specialist – International
	<ul style="list-style-type: none"> Review specifications for all aspects of the project to ensure they are appropriate from a geotechnical perspective.
Inputs	Person-months: 2 – Intermittent

Position	Procurement Specialist – International
Qualifications	Bachelor of Engineering or other appropriate qualification
Experience	At least 10 years of experience in the procurement of major civil works contracts, with a substantial part of this experience in projects financed by ADB or other similar international funding agencies. Experience with contracts procured on a contractor design-construct approach would be advantageous. Part of this experience should preferably have been in institutional environments similar to those prevailing in Tajikistan.
Tasks	<ul style="list-style-type: none"> For the civil works contract to be procured under conventional international procurement procedures, prepare master and contract-specific bidding documents, based on ADB's procurement guidelines and procedures, and ADB's relevant standard bidding documents; For the 700 m bridge contract to be prepared on a contractor design-construct basis, work with the Structural Engineer to develop a procurement process, prepare bidding documents based on the relevant ADB standard document; Assist MOT/PIURR with obtaining government and ADB approval of the bidding documents; Assisting MOT/PIURR with procuring contracts for the project's civil works, including issuing bid documents, site visits and pre-bid meetings, bid evaluation, preparing bid evaluation reports, and finalizing contracts with selected bidders.
Inputs	Person-months: 5 – Intermittent

Position	Road Safety Specialist – International
Qualifications	Bachelor of Engineering or other appropriate qualification
Experience	At least 10 years of experience in road safety assessments and audits of major highway projects, with a substantial part of this experience in projects financed by ADB or other similar international funding agencies. Part of this experience should preferably have been in institutional and physical environments similar to those prevailing in Tajikistan.
Tasks	<ul style="list-style-type: none"> Working with the Team Leader/Highway Engineer prepare an assessment of the road safety aspects of all parts of the design – roads, bridges, tunnels, etc. prepare an audit report setting out amendments that must be made to the designs to bring them into compliance with acceptable international standards; Once the designs are in final draft form, repeat the road safety assessment to ensure that all required road safety facilities and features have been incorporated and, if additional improvements are required, ensure that these improvements are incorporated before the designs are accepted as being final.
Inputs	Person-months: 1 – Intermittent

Position	Environment Specialist – International
Qualifications	Bachelor of Environmental Science or other appropriate qualification
Experience	At least 10 years of experience in environment impact assessment preparation, implementation and addressing environment issues for development projects. Part of this experience should preferably have been in institutional and physical environments similar to those prevailing in Tajikistan. Proven practical experience in preparing environment impact assessments and conducting stakeholder consultations. Familiar with IFI financed projects.
Tasks	<ul style="list-style-type: none"> Present the information on the project description in relation to the background environment of the area as per the detailed design; Study the relevant baseline information including: soil, geology, hydrology, biodiversity, noise, air quality and water quality; conduct baseline surveys for each parameter to establish ambient environmental conditions in the area. For noise, acquire baseline data on a 24hour basis at representative points and prepare a constructed baseline using these; Perform an impacts analysis for the construction and operation stages of the project and propose mitigation measures to minimize and/or remove the impacts; conduct noise, vibration and air dispersion modelling using the traffic projections for the project to establish likely environmental impacts in the area; provide detailed assessment on soil/ slope stabilization and erosion, hydrology, etc; Assess environmental impacts of the project and its ancillary activities and also discuss <i>cumulative environmental impacts</i>;

Position	Environment Specialist – International
	<ul style="list-style-type: none"> • Perform a clear analysis of project alternatives such that the environmentally most feasible option emerges as the selected alignment; • Develop an environmental sensitivity mapping of the project area using the baseline data collected; include data on noise, vibration, social indicators, water and soil; • Perform a risk based environmental impact analysis of the likely impacts of the project based on the findings and results of the noise and air emissions modeling, biodiversity baseline and other sensitive environmental parameters along the alignment; • As part of the environment impact assessment (EIA), prepare an environmental management plan (EMP) including the use of appropriate mitigation technologies, an environmental monitoring plan with monitoring indicators, and institutional arrangements and responsibilities (including cost estimates and training); • Conduct an institutional environmental capacity review with regards to the implementation capacity of the executing agency with regards to environmental safeguards. Prepare a capacity development program to deal with each of the identified capacity gaps. • Conduct meaningful public consultation with communities and relevant stakeholders in the area of influence of the project at least twice during the environmental assessment process, once at the planning stage and once when the final detailed design is available for sharing with all stakeholders. Consult all local and national level stakeholders, including community based organization and national and international NGOs actively working in the area. Ensure, and provide evidence that the findings and concerns of the communities have been addressed in the EIA report; • The EIA and its EMP should contain the requirement for the preparation of a site specific EMP by the contractor (using a risk-based approach) to ensure that the mitigation measures are customized to the needs of the various aspects of the project and the alignment; • The EIA should contain maps and figures to explain the details and all supporting data and studies performed as part of the EIA should be duly annexed; • Prepare a Grievance Redress Mechanism that is operational for the project, including community representation along the entire alignment of the road.
Inputs	Person-months: 4 – Intermittent

Position	Social Development Specialist – International
Qualifications	Bachelor of community development, anthropology, sociology or other appropriate qualification
Experience	At least 10 years of experience in resettlement plan preparation, implementation and addressing resettlement issues for development projects financed by ADB or similar development agencies. Part of this experience should preferably have been in institutional and physical environments similar to those prevailing in Tajikistan. Proven practical experience in preparing resettlement plans and conducting stakeholder consultations.
Tasks	<ul style="list-style-type: none"> • Analyze relevant laws and regulations vis-à-vis ADB's involuntary resettlement safeguard requirements, as described in the ADB Safeguard Policy Statement (SPS) 2009, and recommend gap-filling measures as needed; • Identify potential land acquisition and resettlement (LAR) impacts of the proposed project and conduct the necessary preparatory surveys (inventory of loss, socioeconomic survey of project-affected households, valuation survey); • Prepare a land acquisition and resettlement plan (LARP) in accordance with ADB's SPS; • Conduct meaningful consultations with affected households and other relevant stakeholders. Work closely with the government agency responsible for resettlement and assist the government in initiating a participatory process for LARP preparation and approval; • Advise the executing agency, participating local government(s), and implementing agencies on SPS (2009) requirements and procedures; • Assess the capacity and commitment of the responsible institutions to plan, update, and implement LARPs, and propose capacity building/training programs, as needed; • In close coordination with the other team specialists, develop a project-specific grievance redress mechanism to handle complaints in an effective and culturally-appropriate manner; • Ensure the collection of baseline data (sex-disaggregated, as much as feasible) on a range of socioeconomic indicators appropriate for the project with focus on needs, demands, constraints faced by poor, women and vulnerable groups in the project area in terms of their equitable access to the benefits and opportunities associated with the project. • Conduct gender analysis, including meeting with women residing or working along the project roads if appropriate, and identify their livelihoods needs and any potential project design element

Position	Social Development Specialist – International
	to address gender equity and enhance through the project implementation, if appropriate. Gender analysis will be carried out to inform the design of the project; <ul style="list-style-type: none"> • Collect data on number of women led businesses in the project area, especially along the road; size of businesses and main sectors they are working in. Identify, through consultation workshops with women entrepreneurs, the formal and informal barriers to women business development; • Identify mechanisms to ensure women's and girl's participation in the project including development of a gender action plan.
Inputs	Person-months: 3 – Intermittent

Position	Deputy Team Leader/ Highway Engineer – National
Qualifications	Bachelor of Civil Engineering or other appropriate qualification
Experience	At least 15 years of experience in the design and construction of road projects involving major earthworks, high standard pavements, bridges and preferably tunnels.
Tasks	<ul style="list-style-type: none"> • Working with the Team Leader/Highway Engineer to provide overall management for the assignment; • Maintaining day-to-day communications with MOT/PIURR as required; • Working with the Team Leader as Highway Engineer to undertake due diligence of the detailed design, in particular the road aspects but also the bridges and tunnels as appropriate.; • Working with the Team Leader and other team members to produce detailed cost estimates for the project, taking into account contracts awarded and bids submitted for other similar works in Tajikistan and elsewhere in the region, in particular those financed by ADB and other similar funding agencies. • Providing the international members of the team with technical translation support (Russian/English) as required; • Accompany the international team members during field visits as required.
Inputs	Person-months: 6 – Full time

Position	Environment Specialist – National
Qualifications	Bachelor of Environmental Science or other appropriate qualification
Experience	At least 5 years of experience in environmental assessments for road projects, preferably including assisting with the preparation and implementation of environment impact assessments for ADB and similar agency-funded infrastructure projects.
Tasks	<ul style="list-style-type: none"> • Working with the International Environment specialist to produce the project's environment impact assessment (EIA); • Arranging and overseeing affected community surveys and consultations required for preparing the EIA;
Inputs	Person-months: 5 – Full time

Position	Social Development Specialist – National
Qualifications	A relevant degree in the social sciences, anthropology, or equivalent
Experience	At least 5 years of experience in social assessments for road projects, preferably including assisting with the preparation and implementation of land acquisition and resettlement plans for ADB and similar agency-funded infrastructure projects.
Tasks	<ul style="list-style-type: none"> • Working with the International Social Safeguards specialist to produce the project's land acquisition and resettlement plan (LARP), gender analysis and gender action plan (GAP); • Arranging and overseeing affected community surveys and consultations required for preparing the LARP and GAP.
Inputs	Person-months: 5 – Full time

Position	Translator – National
Qualifications	Qualifications appropriate for the position
Experience	At least 10 years of experience in providing Russian/English translation services for activities similar to the project, including in high level meetings and other interactions with governments.
Tasks	<ul style="list-style-type: none"> • Providing oral and written translation services as required, including the translation of technical reports, contract documentation, etc. • Assisting the Team Leader and Deputy Team Leader with technical translations where required.
Inputs	Person-months: 6 – Full time