

REQUEST FOR EXPRESS OF INTEREST (REOI)

FOR CONSULTING SERVICES FOR IMPLEMENTATION SUPPORT AND WORKS SUPERVISION (ISWS) FOR IMPROVEMENT AND MAINTENANCE OF LOCAL ROADS

Project : Lao PDR Climate Resilient Road Connectivity Improvement Project (CRRICIP)

Financing : WB Project ID No. P179284; IDA Credit A 76320 and IDA Credit B 76330

Assignment : Consulting Services for Implementation Support and Work Supervision Services for the Improvement and Maintenance of Local Roads in Khammuan, Savannakhet, and Salavan Province, Lao PDR.

Reference No. : CRRICIP-QCBS-01

The Government of Lao Peoples Democratic Republic (GoL) has received financing support from the World Bank's (WB) International Development Association (IDA) to implement the Lao PDR Climate Resilient Road Connectivity Improvement Project (CRRICIP), and intends to apply part of the proceeds for consulting services.

The consulting services is to support DOR, DPWTs, and PTI in the overall implementation and supervision of the project related to road improvement and maintenance. The services include, but are not limited to, the following: (a) reviewing and providing recommendations on the approval of the detailed designs prepared by the Contractors; (b) supervising the construction and rehabilitation works, including climate resilient aspects of local roads under OPBRC/HPBC; (c) monitoring and supervising compliance with performance indicators during the O&M period of the maintenance phase of the OPBRC/HPBC contracts; (d) advising the Employer on all facets of project implementation; (e) reviewing and recommending approval of the Contractor's Site-Specific Environment and Social Management Plans (SS-ESMPs), including traffic management plans for each contract and location, as well as site specific traffic management and road safety plans; (f) monitoring the Contractor's compliance with the project's environment and social requirements, in line with the WB's ESF; (g) engaging external services from a certified laboratory for environmental instrumental monitoring of air quality, noise and water quality, as well as conducting technical audit of construction quality, if and when required. The Services shall be carried out in compliance with best international practices.

The ISWS Consultant is expected to begin the assignment concurrently with the first Hybrid PBC Contractor, which is planned to be awarded by December 2025. There will be 5 to 10 contracts for the Improvement of climate resilience and safety of selected local roads in 3 project provinces : Khammouan, Savannakhet, and Saravan. Each contract is estimated to be valued at approximately USD 5.0 million to USD 9.0 million. The ISWS Consultant will provide services for all 10 road improvement packages simultaneously. The road improvement works will cover approximately 300 km of local roads, including district and rural roads, in the provinces of Khammouan, Savannakhet, and Saravan. These roads will be upgraded to the standards of Class V/III roads as per the Ministry of Public Works and Transport (MPWT) Road Design Manual 2018, addressing climate and disaster resilience aspects. The project will utilize Hybrid Performance-Based Contract ("Hybrid PBC"), which serve as an alternative to typical Output and Performance-based Road Contracts ("OPBRC"). This approach entails 2 years for road construction works, during which payment will be made based on input or quantities, and 3 years for maintenance, during which payment will be made based on service levels specified in the Hybrid PBC contracts.

The duration of the assignment encompasses the review of the detailed design and the supervision of the Hybrid PBC for local roads, for a total period of 42 months. This includes the improvement works phase of 30 months, which incorporates the design period, and the PBC road maintenance phase of 12 month. It is expected that the ISWS consultant will allocate the majority of its resources during the construction phase and fewer resources during the maintenance phase. The detailed Terms of Reference (TOR) for the assignment can be obtained at the address provided below.

The CRRICIP 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:

Criterion 1 - Specific experience : At least 10 years of experience in supervising of road construction, improvement, rehabilitation or maintenance in the South/ South East Asia region;

Criterion 2 - Road construction supervisions contracts : At least three supervision contracts carried out in the past 10 years that included similar implementation support and/or supervision services for local road construction or rehabilitation contracts, each valued at a minimum of 2.0 million USD, performed in rural areas, and successfully completed in the capacity of Lead Consultant (i.e., individually or as lead member of a Joint Venture);

Criterion 3 - Road maintenance supervisions contracts : At least three supervision contracts for road maintenance, successfully completed in the past 10 years in the capacity of Lead Consultant (i.e., individually or as lead member of a Joint Venture);

Criterion 4 - E&S experience in road construction/rehabilitation supervision services : At least three supervision contracts of similar scope and nature performed in the past 10 years with for the implementation and monitoring of RAP, ESIA, ESMP for road construction, rehabilitation and maintenance, successfully completed in the capacity of Lead Consultant (i.e., individually or as the lead member of Joint Venture).

Expressions of Interest (EOIs) shall be submitted in English. Consultants shall include maximum 10 contracts per criterion listed above and will arrange the "past contract information forms" separately for each criterion. Failure to provide the required detail in the past contract information forms shall be under full Consultant's responsibility – there will be no clarifications carried out during evaluation. In case the Consultant shall provide more than 10 contracts for each criterion, only the first 10 references shall be considered for evaluation. Key Experts will not be evaluated at the shortlisting stage.

Attention of interested Consultants is drawn to paragraphs 3.14, 3.16 and 3.17 of the World Bank's Regulations - Procurement in Investment Project Financing - Goods, Works, Non-Consulting and Consulting Services (July 2016, revised November 2020 edition), 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 will be selected under the method of quality and cost-based selection (QCBS) in accordance with the said WB Procurement Regulations. A shortlist of firms will be established based on the submitted expressions of interest and in line with the criteria as outlined above. A shortlist of five to eight best qualified firms/associations shall be selected for the next phase of evaluation, based on the scores obtained. Shortlisted Consultants will be invited to submit full technical and finance proposal.

Further information can be obtained at the address below during office hours from 8.00 to 16.00, Monday to Friday.

Expression of interest must be delivered in a written form to the address below by email by 17.00 (Local time of Vientiane Capital, Lao PDR, GMT+7) of 20 July 2025.

Department Planning and Finance, Ministry of Public Works and Transport
Lanexang Avenue, Phonxai Village, Saysettha District, Vientiane Capital, Lao PDR.

Attention : Mr. Vannasone K. Thepvongsa
Deputy Director General, Department Planning and Finance (DPF - MPWT)
E-mail : proc.dpf.mpwt@gmail.com with Cc : pphonh.plv@gmail.com, inthapada@hotmail.com and maxmahaxay11@hotmail.com

Issued on : 27 June 2025

Place : Vientiane Capital, Lao PDR.

Authorized Signature



Mr. Phitsaphonh Philavong

Deputy Director General, Department of Roads (DOR - MPWT)
Head of CRRCI Project Procurement Committee

TERMS OF REFERENCE

SUPERVISION CONSULTANT FOR IMPROVEMENT OF DISTRICT ROADS AND RURAL ROADS IN THE PROVINCES OF KHAMMOUAN, SAVANNAKHET AND SARAVAN PROVINCES (CONSULTING SERVICE – FIRMS SELECTION, REF. NO. CRRICP-QCBS-01)

A. Project Background

1. Lao PDR being a land-locked country, the Government of Laos (GOL) has adopted the policy of utilizing this to make it land-linked with all the neighboring countries. Consistent with this policy is the need to further strengthen and improve the road transport linkages to its hinterlands and the last-mile connectivity to rural areas through climate resilient road network.

2. Road transport is the dominant mode of transport carrying about 86 percent of freight traffic and 98 percent of passenger traffic and is central to the policy of 'landlocked' to 'land linked'. The country's total road network of 59,943 kilometers (km) in 2017 with a paved road network of 9,251 km (15.5 percent). It consists of primary network of 7,515 km of National Roads, secondary network of 8,597 km of Provincial Roads, tertiary network of about 33,318 km of District Roads and Rural Roads, 3,537 km of Urban Roads, and 6,975 km of Special Roads. 15 percent of the total road network is paved, and 40 percent of these paved roads are classified as in poor or bad condition. 85 percent of the total road network is unpaved, and about 40 percent of these unpaved roads are inaccessible during the rainy seasons.

3. The Lao PDR Climate Resilient Road Connectivity Improvement Project [CRRICP], which is supported by the World Bank (WB/IDA), envisages in supporting the GOL in furthering its aim to strengthen its tertiary road network comprising District and Rural Roads in high poverty districts which are also severely affected by climate hazards. The aim is to provide climate-resilient, all-weather paved roads to improve year-around access to markets, educational institutions, health facilities for the rural inhabitants; thus, improving their livelihoods and quality of rural life.

4. The CRRICP has the following components as detailed below.

- **Component 1: Climate Resilient Road Access:** The project will support (i) improvement of about 300 km of District Roads and Rural Roads in the provinces of Khammouan, Savannakhet and Saravan to the standards of Class V/VI roads as per MPWT's Road Design Manual 2018, Standard Specifications, and addressing climate and disaster resilience aspects, and maintenance of the Project roads post improvement during the Project period through Hybrid Performance-based Contracts ("Hybrid PBC") which is an alternative to typical Output and Performance-based Road Contracts ("OPBRC")¹ and, (ii) construction supervision of the project road improvement works (for a period of 42 months) including DLP for the first 12 months after road works' completion.
- **Component 2: Project Management:** This component will support (i) financial audit, (ii) technical audits of the project road improvement works during construction, (iii) environmental and social monitoring and audits, (iv) road safety audit of the project road designs at three stages (at design, construction, and completion stages) and awareness campaigns, (v) road user satisfaction surveys carried out at the start of implementation of works, at mid-term, and at the close of the project, (vi) incremental operating costs, (vii) technical and operational assistance for the day-to-day management, monitoring and evaluation of the Project, and (viii) land acquisition, resettlement, and rehabilitation costs,

¹ OPBRC is a type of road work contract where payments are made against measured outputs. The technical standards and service levels define the desired results; and the outputs satisfy defined functional needs in terms of road quality, quantity and reliability, including with respect to construction, rehabilitation, and maintenance. Hybrid Performance-based Contracts" means a combination of the conventional measurement works contract (in phase 1) with a performance-based maintenance (in phase 2), including e.g., road improvement during the first two years, for which the payment is based on inputs or quantities (unit price) followed by a 3-year maintenance period, for which payment is made based on fixed lump-sum amounts subject to meeting the services levels specified in the contracts.

including the implementation of Resettlement Action Plan(s). The costs of land acquisition, resettlement, and rehabilitation will be exclusively financed by counterpart funds from the Government of Lao PDR.

- **Component 3: Institutional Development:** This component will support MPWT in (i) capacity building of local contractors in the areas of performance-based maintenance, climate resilience, road safety, and environmental and social risk management, (ii) a study on climate resilient road network planning and prioritization and capacity building of MPWT and DPWTs, (iii) preparation of a road sector financing strategy, (iv) capacity building of MPWT and DPWT staff on cross-cutting issues including road maintenance, performance-based contract management, road safety, gender, citizen engagement, and climate disaster risk, (v) a female internship program, and (vi) preparation of selected environmental, social, technical, and economic documents as well as feasibility studies, through the provision of technical advisory services in the road sector in Targeted Provinces..
- **Component 4: Contingent Emergency Response Component:** This component will support MPWT in case of an Eligible Crisis or Emergency in responding promptly and effectively to it as per the Contingent Emergency Response Manual.

IDA financing will support two components, implemented under the lead of DOR/MPWT:

- i. The improvement of about 300 km of Local Roads (District Roads and Rural Roads) in the provinces of Khammouan, Savannakhet, and Saravan to the standards of Class V/VI roads as per Ministry of Public Works and Transport (MPWT) Road Design Manual 2018 and addressing climate and disaster resilience aspects using Hybrid Performance-Based Contract ("Hybrid PBC" or "HPBC") approach, which include 2 years for construction, for which payment will be made based on input or quantities, and 3 years for maintenance, for which payment will be made based on services levels specified in the Hybrid PBC contracts. The World Bank Standard Procurement Document - Request for Bids, HPBC (Without Prequalification) will be applied. Climate resilience interventions include elevating flood-prone road sections, paving the road, improvement or construction of drainage and small bridges, and slope improvement and stabilization, as required. Under this component, road safety issues would be considered, such as improvement of geometry, road furniture and traffic calming measures.
- ii. The Institutional Development support MPWT both in Central and Provinces in (i) capacity building of local contractors in the areas of Hybrid PBC, climate resilience, road safety, and environmental and social risk management, (ii) a study on climate resilient road network planning and prioritization and capacity building of MPWT and DPWTs, (iii) preparation of a road sector financing strategy, (iv) capacity building of MPWT and DPWT staff on cross-cutting issues including road maintenance, output and performance-based contract management for road maintenance services, road safety, gender, citizen engagement, and climate disaster risk, (v) a female internship program, and (vi) preparation of selected environmental, social, technical, and economic documents as well as feasibility studies, through the provision of technical advisory services in the road sector in Targeted Provinces.

E&S Requirements:

To avoid, mitigate and manage potential environmental and social (E&S) risks and negative impacts of the works during construction and maintenance services, MPWT has prepared an E&S risk management documents in accordance with requirements of the WB's Environmental and Social Framework (ESF) and relevant Environmental and Social Standards (ESSs). These include (i) Environmental and Social Commitment Plan (ESCP), (ii) Environmental and Social Management Framework (ESMF) which covers an initial Environmental and social impact assessment (ESIA) and Labor Management Plan (LMP), (iii) Resettlement Policy Framework (RPF), and (iv) Stakeholder Engagement Plan (SEP) which includes Ethnic Groups Engagement Framework (EGEF) into one single document. These ESF documents (ESCP, ESMF, RPF and SEP) were cleared by the WB and disclosed onto the MPWT's website prior to project appraisal on June 6, 2024. The ESF documents outline potential E&S risks, guidance on the process of detailed site-specific risks and impacts assessments, mitigation measures and site-specific instruments or plans to be carried out and prepared during project implementation during or after the detailed survey and design of road subprojects are available in accordance with the above ESF documents.

Site-specific instruments include, but should not be limited to Site-specific Environment and Social Management Plan (SS-ESMP), Site-specific Biodiversity Management Plan (SS-BMPs), a Resettlement Action Plan (RAP) or Abbreviated Resettlement Action Plan (ARAP), Stakeholder Engagement Plan (SEP) which combines an Ethnic Group Engagement Plan (EGEP), an update to the Stakeholder Engagement Plan (SEP), and a Labor Management Procedure (LMP). The SS-ESMP will also incorporate Traffic Management Plan (TMP), the Environmental and Social Health and Safety (ESHS), and the Code of Conduct (COC) to prevent and address Sexual Exploitation Abuse (SEA), Sexual Harassment (SH), Gender-Based Violence (GBV) and Violence Against Children (VAC) to be applied by Contractors, as well as SS-BMP, UXO Risk Management Procedure, and "Chance Finds Procedure" to manage risk of cultural heritage. After the SS-ESMPs are finalized by the Feasibility Study Consultant, the PMU assisted by the supervision consultant will review and include key aspects of E&S risks management measures particularly ESHS requirements in bidding and contract documents. The ISWS will be responsible for review and approval of the Contractor ESMP (C-ESMP) covering LMP, TMP, "Chance Finds Procedure", UXO Risk Management Procedure, relevant SS-BMP and SEP and EGEP to be prepared by the contractors and ensuring their effective implementation. Close supervision of the work contracts and the mitigation measures by local authorities and/or communities will also be required.

The Project activities also have to be conducted according to GOL laws and regulations especially those related to environment and social impact mitigation. Consultation with GOL suggested that to comply with GOL's EIA regulation, the Project will require an Environmental Compliance Certificate (ECC) for each Province and thus preparation of 3 Initial Environmental Examination (IEE) reports will be required. The FS-Consultant will prepare the 3 IEE reports including consultation and the Environmental Research and Disaster Prevention Division of the Public Works and Transport Research Institute (EDPD/PTI) will facilitate the issuance of the ECCs as well as an Ethnic Group Engagement Plan (EGEP). EDPD/PTI will also be responsible for the overall guidance, supervision, and coordination of the E&S activities of the Project including provision of training on E&S requirements of the WB as well as road safety.

Feasibility Study

The Feasibility Study (FS) is underway including conceptual design, site-specific environmental and social assessment for each road section, preparation of E&S management plans (SS-ESMPs, SS-BMPs, RAPs/ARAPs, SEP with EGEP as per ESMF requirements) and bidding documents (for approximately 300 km of roads). The study will deliver the IEE required under national legislation, and the site-specific Environmental and Social Management Plan (SS-ESMP) for each road section and the relevant sub-plans (LMP, EGEP, SS-BMP, etc.) as required under the World Bank's ESF. The FS consultant will also work on the packaging of the road works, which is tentatively proposed three to four packages for each province (approximately 81-124 km).

Supervision Services

The Implementation Support and Works Supervision Consultant (ISWS), overseeing the works contracts, will be financed by funds from the IDA Credit.

The Department of Roads (DoR), under MPWT is responsible for project implementation including overall technical oversight, execution, and management of the project. DoR, which will be the Employer, has appointed a dedicated team (Component Management Unit - CMU) that will be responsible for the day to-day implementation, and operation of the Component Activities, including contracting and supervision of all consultants. Project provinces will assign its staff to be part of CMU, who will work with the ISWS on the ground.

This assignment (the "Assignment") of the ISWS consultant, as outlined in these Terms of Reference ("TOR"), covers the review of the detailed design and the Supervision of the Hybrid PBC for local roads for 42 months (improvement works' phase of 30 months, including the design period and 12 month of maintenance). It is expected that the ISWS consultant would put the largest part of its resources during the construction and less during the maintenance. There will be 10 contracts for the Improvement of climate resilience and safety of selected local roads in 3 project provinces (Khammouan, Savannakhet, and Saravan), each estimated of around USD 5.0 million. The ISWS Consultant will provide services for all 10 road improvement packages at the same time.

DoR and DPWTs will continue supervision (directly or outsourced) of the maintenance phase of the Hybrid PBC up to the end of the respective contracts.

B. Objectives of the Assignment

The objective of the Assignment is to support DOR, DPWTs, and PTI in overall implementation and supervision of the project road improvement and maintenance. The services include but are not limited to: (a) review and recommendations on the approval of the detailed designs prepared by the Contractors; (b) supervision of the construction and rehabilitation works including climate resilient aspects of the local roads under OPBRC/HPBC; (c) monitoring/supervise compliance with performance indicators during the O&M period of the maintenance phase of the HPBC contracts; (d) advising the Employer on all facets of project implementation; (e) review and recommend approval of the Contractor's Site-Specific Environment and Social Management Plans (C-ESMPs), including construction management plan, camp and garage management plan, traffic management plan, for each contract and location, as well as the site specific traffic management and road safety plans; (f) monitor the Contractor's compliance with the project environment and social requirements, in line with the WB ESF; (g) engage external services from a certified laboratory for environmental instrumental monitoring of air quality, noise and water quality, as well as technical audit of construction quality, if and when required. The Services shall be carried out in compliance with best international practices.

C. Scope of the Assignment

The Consultant shall be responsible for the works supervision, monitoring and supervision of the Contractor's performance and the implementation support to DoR/MPWT, DPWT of three Provinces (Khammouan, Savannakhet and Saravan) and EDPD/PTI during the implementation of this Project component, including ensuring full compliance with the E&S measures as required by the WB and GOL and the preparation of the required reporting on these. The tasks include, but are not limited to, the following:

- i) Review and recommend for approval of the detailed designs as well as the C-ESMPs, including specific E&S risk management action for each sensitive location along the construction site, contractor's camp and garage management plan, borrow pit and quarry management plan, traffic management and road safety plan, to be prepared and submitted by the contractors for the HPBC contracts, (including any adjustments, compliance with design standards and international best-practice appropriate for Lao conditions in terms of climate resilience, recommendations on road safety from road safety audits, E&S measures especially those related to occupation health and safety of workers and safety of local communities, pollution control and waste management etc.) in line with the detailed designs and the ESF documents approved by WB and GOL.
- ii) Supervise and report on works progress, compliance with the requirement of technical specifications of the works and quality control, monitoring actual climate (weather) and environmental conditions as well as ensuring compliance with C-ESMP and relevant ESSs requirements during construction and maintenance works, for the HPBC on local roads;
- iii) Supervise and report on compliance with service levels of the O&M activities for the maintenance phase, including providing advice to MPWT on technical issues, contract management, and E&S risk management activities;
- iv) Supervise and report on the implementation of E&S risk and impact mitigation measures to reduce potential negative impacts on local environment and local people during construction and maintenance services as required by the WB and GOL, including review, approve, and monitor the C-ESMP and LMPs – labor and working conditions to be prepared and implemented by Contractors, and any other issue to be monitored at the local level. Special consideration will be given to ensure effective implementation of the ESHS measures to prevent and address occupational and community health and safety issues of workers and local communities, Labor Management Plan (LMP) and compliance with the Code of Conduct (COC) related to SEA/SH, GBV, VAC, and the campaigns related to HIV/AIDS awareness and road safety;
- v) Supervise and report on the implementation of the resettlement plans (ARAPs/RAPs), ensuring that (i) compensation and assistance are paid and provided to Project Affected Households or Persons (PAHs/PAPs) for their properties to be acquired or assets affected, and that households continue to have safe access to their land and homes during and following construction. Assess completion of ARAPs/RAPs and recommend

the PMU whether the sub-project sites can be hands-over to the contractors. Prepare ARAP/RAP Completion Reports for each road sub-projects,

- vi) Assist DoR/MPWT, DPWT and EDPD/PTI in implementing and reporting on ARAP/RAP implementation and also identifying and addressing any additional resettlement impacts including relocation of public utilities caused by the detailed design;
- vii) baseline and post construction socio-economic surveys and monitoring in line with the project indicators;
- viii) Other tasks as necessary in the project implementation.

The above tasks are further detailed under Part E.

The civil works for the Project Roads comprise the improvement of the quality, climate resilience, maintenance, and road safety of the selected local roads. Scope of road works involve improvement of the existing carriageway to DBST standards, construction of crossings to climate resilient standards, improvement and construction of side drains and slope protection works, and road safety furniture. No significant land acquisition is expected to be required.

For hybrid PBC, whilst civil works during rehabilitation shall be paid under traditional BoQ, the maintenance phase shall be performance-based, with payment subject to achievement of the required service levels set-out in the contract.

The consultant is encouraged to hire women to be part of its consulting services. In addition, the consultant will support DOR and PTI to ensure that the road works contracts have requirements to employ local women in project works in mid-skilled roles (at least 15% of share of local women in mid-skilled roles).

The consultant will engage with local communities along project roads during the road improvement and maintenance works. Concerns of local communities should be addressed in the design and through contract implementation by implementation and monitoring of a Grievance Redress Mechanism (GRM).

D. Detailed Tasks

Task 1: Review of the Detailed Design (RDD)

The Consultant shall review/recommend for approval, within 14 days of receipt, the Contractor's work plan and organization for the design activities, with scheduled dates for each development stage of the detailed design. The suitable stages listed below are to be considered.

The Consultant shall review the detailed design prepared by the Contractor, according to the approved work plan.

At the suitable stages listed below, systematic reviews of the detailed design and the ESS requirements shall be performed in accordance with planned arrangements:

- Program for data gathering and surveys, taking into consideration existing data from the Detailed Design (DD)
- Interpretation of the data collected. Selection of design parameters and obtaining approval from the DOR/MPWT
- Incorporation of the design parameters into the design process;
- Design and analyses methods, including design calculations, topographic surveys and geotechnical surveys / testing of the existing pavement structures, bridges, erosion protection facilities, culverts, road safety, and other structures;
- Ensure that the designs include climate resilience measures by taking into account future climate change parameters, while also minimizing land requirements or adverse impacts on accessing private properties. Hydrology data for hydraulic designs must take into account future climate parameters to modify historic data. The improved roads shall withstand extreme weather events, in line with international best-practice, the E&S requirements, the vulnerability data provided by MPWT, and that the design fits with the objectives set out in the detailed design.

- Ensure that the designs consider minimizing potential environmental and social impacts, including consideration of alternative technical solutions, materials, or construction methods that could reduce adverse effects on local communities and the surrounding environment.
- Advise on modifications where necessary and submit for DOR/MPWT approval as appropriate;
- Review traffic management plans to ensure minimum delays, to avoid situations where contractors block the roads unnecessary for too long.
- Review of the Project Quality Assurance Plan and Quality Control Manual implementation to ensure the project roads are built in according to approved design and standards specification and compliance with the World Bank and Government E&S requirements, including UXO risk management. Ensure contractors well establish their quality control system in line with contract requirements and the project QA plan.

Records of the results of the reviews and any necessary actions shall be maintained.

Task 2: Data Collection

The Consultants shall carry out the following tasks upon mobilization:

- i) Collect and review all available technical documentation related to the Project Roads (e.g. digitized topographic maps, as-built drawings, elevation and cross-sections, hydrographic data, climate change hydrology data, climate vulnerability and risk data, input data and results of HDM-4 evaluations, previous studies);
- ii) Review the Road Safety Audit report (RSA), which will be conducted by an independent consultant hired by MPWT. The recommends from the audit report will be incorporated into the detailed design.
- iii) Make videos of the entire Right of Way prior to commencement of construction and then at intervals not exceeding 3 months throughout the Construction Phase, and at 6 monthly intervals thereafter up till the end of the Assignment. These videos shall be geographically coded linked to ground locations and provided with software to enable remote viewing. It is essential that the videos are easily related to spatial location (chainage) along their length. Relevant data should be provided to DoR in a format that allows for easy input into the Integrated Road Asset Management System (IRAMS). Suggested format is MP4 or equivalent, and videos should be taken by construction sections (expected 3-15 km).
- iv) As an alternative to video, geocoded photos at no greater than 20m intervals may be collected and loaded into Mapillary (www.mapillary.com) or equivalent for keeping a timeline of photos.
- v) Install 3 weather stations, one in each project province, to enable recording and viewing of historic rain, temp, airspeed and other weather parameters by all parties. The stations shall be implemented at the start of the assignment to collect data for use in the rest of the project. The cost towards the weather stations shall be borne by the Consultant under the reimbursable costs.

Task 3: Daily Rehabilitation and Maintenance Supervision

The Consultants will set up a suitable organization to ensure that the works are effectively completed within the project time frame. This includes sufficient staffing and the availability in the field of such staff.

The Consultants shall arrange a schedule of management meetings, site inspections, site meetings, and other in liaison with the Contractors for each package and notify those expected to attend. The Consultants shall take notes and circulate minutes thereof.

The Consultants shall: (a) Maintain orderly files for correspondence, reports of site visits and meetings, material submissions, reproduction of the original contracts and all addenda, eventual emergency works, site instructions, information and drawings issued subsequently to the start of the contracts, as well as the Consultants' clarifications and interpretations of the contract documents, progress reports and other related documents; (b) Keep a diary or log book, recording the Contractor's works main achievements, contractors quality control, data related to questions and clarifications, list of visiting officials, daily activities, decisions, observations in general, and specific observations in more detail, such as actual climate (weather) conditions (rainfall) and including in the case of observing test procedures on a sampling basis; and (c) maintain a set of drawings, "as built drawings," recording details of the works and maintenance actually executed. On E&S, the Consultant shall keep all related information and documents approved by WB and GOL especially those related to the policy instruments (ESMF, RPF, EGEF, SEP); E&S plans

(E&S management plans in bidding and contract documents, SS-ESMPs, SS-BMPs, TMP, LMP, RAPs/ARAPs, SEP with EGEP, C-ESMPs). In addition to keeping all ESF related documents and instruments, the ISWS will continue to apply, supervise and report on implementation and compliance with C-ESMPs and GRM to remain active until the end of the maintenance phase.

Specifically, the Consultants will be required to perform *inter alia* the following tasks:

- i) Assist DoR/MPWT, DPWTs to administer the execution of the rehabilitation works in accordance with the contracts; prepare certificates of payments as required by the contract; enter and maintain complete records of progress payments. The Team Leader of the Consultant will be the Engineer's Representative;
- ii) Provide such information as is necessary for the Contractors to set out the works; and check that the setting out is correct;
- iii) Review and recommend approval of the Contractor's work program and proposals, method statements, calculation notes if any, working drawings, specifications, maintenance method or technology, proposed materials and their compliance to the specifications and the designs, traffic management plans, contingency plan, etc. to the extent required by the contracts;
- iv) Review all technical documents submitted by the Contractor (including the C-ESMP) within 10 days of receipt. The Consultants shall promptly provide DoR/MPWT and DPWTs with report/s, analysis and interpretations and provide in a reasonable time the proposed decisions on all claims, disputes and other matters in questions relating to the execution or progress of work or the interpretation of the contract documents;
- v) Supervise and oversee the activities of rehabilitation and maintenance of the Contractor and ensure that contractor's Quality Assurance and Quality Control system and team are in place and effectively implemented;
- vi) Ensure the approved systems of measurement of the Contractor for payment during the Rehabilitation Phase are followed, and provide the relevant certificates;
- vii) Supervise and controlling the works activities of the Contractor in the field to ensure quality of workmanship and compliance with the contracts;
- viii) Review as appropriate the road tests in the field / laboratory which will be provided and operated by the Contractors; analyze and endorse the results or propose the appropriate procedures for re-testing and / or correction measures, alternatively, arrange for the tests required for the traditional works contracts.
- ix) Maintain detailed daily diaries, photographs and other documents concerning relevant events and activities; and call and keep minutes of routine site meetings between the parties to the contracts; Review conformity reports prepared by the Contractor or arrange required inspections for acceptance, and report to DoR/MPWT. Propose any rectification work or solution where required for implementation and check that it is implemented;
- x) Prepare brief monthly and consolidated quarterly progress reports for the civil works under the contracts in a form acceptable to DoR/MPWT and the World Bank. These reports will include, as a minimum, details of the physical and financial status of the contract, details of delays and the budgetary effect of particular problems, with suggested solutions and comments on the quality of works in accordance with the contracts, a summary of key challenges and achievements of the implementation of C-ESMPs and other E&S risk management plans as appropriate and suggested mitigation measures;
- xi) Work Closely with DPWTs, PTI under MPWT (and contractors) to ensure ESF compliance, supervise and report the ESF implementation on monthly (technically brief) and on quarterly basis (full assessment of ESF aspects), and timely report any incidents of accidents;
- xii) Carry out final inspections of the works in cooperation with MPWT and advise MPWT on the issuance the completion certificate;
- xiii) Review for accuracy the 'As-Built' drawings prepared by the Contractor for all the works, and convert the 'As-Built' information to a suitable form for input into the RMS/PROMMS. This includes, where appropriate, documents of a scale and layout suitable for scanning and consolidation into computer graphics data base for later use by DoR/MPWT for planning, programming and maintenance of the road system;
- xiv) Prepare a Completion Report for the rehabilitation phase of HPBCs, upon acceptance of the rehabilitation works. The report will also include a section on the progress, issues, and follow-up actions related to safety and other E&S requirements;
- xv) Recommend and report to DoR/MPWT with respect to carrying out the works following any possible appeal to arbitration or litigation related to the works and/or E&S issues and follow-up actions; and
- xvi) Provide any other specialized services as may be necessary and agreed upon with DoR/MPWT, and any other services as may be requested by DoR/MPWT;

- xvii) Supervise and recommend the Contractors' safety implementation, precautions on the sites and safety training of their staff and laborers;
- xviii) In close coordination with EDPD/PTI, DOR, and DOT, assist DPWTs in the project provinces to plan and implement E&S measures in line with the WB and GOL requirements. This will include, but not limited to, providing guidance to the Contractor on ways to actively engage local authorities and local communities.

Task 4: Review of the Contractor's Programs of Works

The Consultants shall review the Contractor's Program of Works, including but not limited to:

- i) Review the Program of Works submitted by the Contractor for the execution of the works to determine whether the methods, arrangements, order and timing of activities are realistic and coherent, and take into account constraints on construction during rainy seasons in relation to the conditions pertaining to the site and contractual timelines. The review will take into account the E&S risk management activities and the C-ESMP and other plans, if relevant, to ensure full compliance of E&S requirements during construction and maintenance;
- ii) Identify from the approved program the necessary information to be provided to the Contractor and ensure that it is made available in a timely manner, including information on climate change impact forecasting, vulnerable road sections, E&S measures, etc.;
- iii) Review the Contractors' work plan (s) so that they will not exceed the initial set deadlines for the rehabilitation; The Consultants shall review, verify and make comments as well as recommendations on the work progress reports and will prepare his monthly reports in line with this. Progress reports should include a clear indication of interventions made during the reporting period, physical and financial progress. Such reports should also include implementation and compliance status of Contractor's SS-ESMPs, as well as relevant ESHS, Community Health and Safety (CHS) and Occupational Health and Safety (OHS) sub-plans,, traffic management plan, prevention of accidents and include proposals to improve traffic safety and other safety measures during construction and maintenance works.
- iv) Make sure that the Contractors mobilize the required equipment and qualified foremen and workers;
- v) Ensure that the Program of Works includes: time for mobilization, field investigations and tests where needed, monthly activities, critical path activities, regulatory clearances and permissions; planning for maintenance works; quality control of works; allowance for adverse weather conditions; planned public, political or social events; a general description of the works method(s) the Contractor intends to adopt; and, the major stages in the execution of works. This will also include the implementation progress of E&S measures especially those related to the payment of compensation (if needed) and GOL approval;
- vi) Record and ensure that the Contractor is making available all documents in accordance with the contract;
- vii) Ensure that the Contractor conforms with contract requirements, standards, national and local requirements, and agreements with authorities and approvals regarding: choice of materials and resources; list of authorized sub-contractors; method logistics including earth moving related issues and materials; DBST/Cement Concrete or other suitable pavement; erosion protection mitigations and design; adequate responsibilities of foremen and key staff responsible for the works; labor requirements; ESHS measures including pollution control and waste management; health and safety issues including the fight against HIV Aids, Covid-19 prevention and contribution to the fight against gender-based violence, sexual harassment, child abuse and human trafficking as relevant; and proper management of safety risks especially those related to UXO and hazardous materials such as collection and disposal of toxic substance, used oil, and explosives.

Task 5: Review of the Contractor's Quality Assurance Plan

The Consultants shall review the Quality Assurance Plan of the Contractors, including but not limited to:

- i) Organization of the quality assurance tasks, the responsibility and authority for the management, who can sign letters and claims with responsibilities for quality assurance;
- ii) Attendance in meetings with DoR/MPWT and IFI;
- iii) Records and reporting;
- iv) Improvement of road conditions;
- v) Contract administration documents, archiving and as-built drawings;

- vi) Management of suppliers and sub-contractors;
- vii) Inspection and testing of the works to ensure compliance with quality requirements, control method, extent of method, acceptance criteria; procedures to rectify any case of non-compliance;
- viii) Control of the quality and quantity of materials and timely delivery;
- ix) Non-conformance reports and proposed remedies;
- x) Internal audit with remedies in case corrective actions are proposed by auditors.

Task 6: Contractor's Substantial Completion Reports after Rehabilitation

The Consultants shall review the reports on interim and completed rehabilitation works prepared by the Contractor and advise DOR, as appropriate, to make the related payment. At time of review, the Consultants shall ensure completeness of the reports submitted by the Contractor to include an overall description of the works implemented, and achievements including those related to safety and other ESS measures. The Consultant shall ensure when certifying payment claims that due remedies have been accounted for any noncompliance with the ESF contractual commitments and obligations. The Reports (issued at each payment request) shall include, but not be limited to:

- i) A brief executive summary;
- ii) Details of works executed, including any major works difficulties encountered, including major climate event impacts;
- iii) Design changes, if any, for the works in progress;
- iv) A summary of Contractor E&S Implementation Compliance Status especially those related to the approved C-ESMP and the implementation of the GRM;
- v) Works records;
- vi) Quality control tests carried out and their results and compliances with the performance and technical specifications;
- vii) Conclusions.

The Completion report issued at the end of the Rehabilitation Phase shall include, but not be limited to:

- i) An executive summary;
- ii) Mobilization details; description of the works implementation; detailed financial cost of emergency works, if any; details of works executed, technique employed and types, quality, quantity and sources of materials used, including any major works difficulties encountered. This shall include information on specific activities and designs related to sections identified as specifically vulnerable to climate change impact based on relevant vulnerability mapping, and road crash-prone locations;
- iii) Design changes (from approved by DoR/MPWT), if any;
- iv) The Consultants' appraisal of Contractor performance;
- v) Assessment of any complaints, accidents, disputes;
- vi) Occupational health and safety statistics (man-hours worked without Lost-Time Injuries (LTIs), number and gravity of LTIs and number of fatalities, etc.)
- vii) Reported implementation status of community health and safety (cases of sexual harassments, code of conduct);
- viii) Critical studies with remedies on significant technical problems which may have arisen during the improvement and rehabilitation period;
- ix) A summary of Contractor E&S Implementation and Compliance Status and the implementation of the GRM;
- x) Works records;
- xi) As-built drawings;
- xii) Details on payments made under the rehabilitation phase;
- xiii) Planned and achieved work's program
- xiv) Conclusions.

Task 7: Review Environmental and Social Framework Instruments and compliance by the Contractor

The Consultants shall, when reviewing the Contractor documents and report especially those related to C-ESMP, the final ESHS, and LMP with CoC documents, as well as any other relevant plans (SS-BMPs, TMP, ARAPs/RAP) and at the time of site visits during rehabilitation and maintenance phase, ensure that none of the safety and E&S

regulations have been excluded and violated or otherwise ensure that appropriate measures are applied to prevent E&S, safety and security breaches resulting in impacts on environment or people and accidents (including to members of the public). The Consultants' review of E&S and safety issues shall include, but is not limited to:

- i) Assist the Client and work with local authorities to organize consultation events with residents/PAHs well ahead of the construction activities, as stipulated at the sub-project-level ARAPs/RAPs, C-ESMPs and/or SEP and ensure that the work starts only once compensation has been paid to PAHs/PAPs and relocation of affected assets, if any is completed;
- ii) Review and verify the accuracy of all permits and clearances (e.g. Construction permit; Water rights; Environmental permits; Land availability; Land acquisition in accordance to the ARAP/RAP; Right of way, UXO Risk Management, Borrow Pit approvals and borrow pit / quarry management plans, etc.) that have been obtained prior to construction in order to ensure completeness;
- iii) Support MPWT and RC in establishment, supervision of Grievance Redress Mechanism (GRM), consistent with the project's SEP, including the following-up and reporting on the resolution of any project related complaints or grievances that may be received from PAHs/PAPs;
- iv) Ensure that the C-ESMP reflects maintaining highest standards of pollution management and adhere to international standards on air, water, noise quality and vibration levels like those given in WBG EHSF Guidelines;
- v) Ensure that the C-ESMP has reliable and wide-ranging baseline data collected and reported on water (surface and ground) and air quality, noise, and vibration levels likely to be impacted during the project construction works.
- vi) Supervise and report on the implementation of the SS-BMP;
- vii) Approve after due revision of the contractor's ESMP, and, when required, RAP/ARAP, during the execution of the works, instruct the Contractor to update the ESMP and, when required, RAP, if it becomes necessary;
- viii) Supervise the contractor's implementation of the C-ESMP, TMP, LMP, and report on compliance of the contractor with the ESMP, C-ESMP, SEP and, ESHS Requirements, LMP. Document and report on Contractor's non-conformances, identify corrective actions and follow-up on correction/remediation particularly on repeated non-compliance with E&S requirements specified in the C-ESMP to the PMU and PTI and the WB;
- ix) Review the sub-project-specific ESMPs and, when required, RAP/ARAPs, after 6/12 months of implementation and amend them based on outcomes;
- x) Check if the Contractor provides adequate PPE and safety equipment to the workers, and ensure road safety and community safety measures and facilities as specified by the SS-ESMP, C-ESMP, TMP and ESHS requirements.
- xi) Check if the Contractor provides instructions and required trainings to workers, subcontractors and suppliers on the respective ESHS requirements, in line with the LMP, and comply with it including, among others, prevention of SEA/SH risks;
- xii) Review the Contractor's progress reports, and check if detected non-conformities are documented and analyzed and are addressed through corrective actions;
- xiii) Follow-up and report on the resolution of any complaints or grievances in relation to ESHS and Labor Management Plan (LMP) included at the project's ESMPs, and Contractor's ESMPs;
- xiv) Inform the PMU on any ESHS related situation that might arise which could jeopardize the successful completion of the Project. Reflect such situations in the periodic reporting.
- xv) Assist the PMU and PTI to promptly notify the WB of any incident or accident related to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including inter alia, road traffic related accidents on the Project roads, cases of SEA/SH, and accidents that result in death, serious or multiple injury and other incidents occurred in the Project construction sites or related to Project-financed civil works and activities within 48 hours after learning of the incident or accident;
- xvi) Ensure that non-conformities are addressed through measures adapted to the severity of the situation;
- xvii) Undertake regular site visits to sub-project sites and workers camps for verifying the implementation of the specific E&S measures, including the verification of stakeholder engagement and provisions to prevent SEA/SH are in place, as well as ensuring that in the event of a non-compliance, agreed remedial actions are

agreed to be applied and documented. Recommend the PMU to take appropriate actions or measures against non-compliance with C-ESMP by contractors and their workers including termination of their contracts if the person persists in any conduct which is prejudicial to safety, health, in protection of environment or in the case of complaints of SEA/SH, GBV, and VAC.

- xviii) Take actions timely when seeing breaches with the safety regulations or when, in his own judgment, there is a prevailing event that may result in an accident, make timely and practicable recommendation on the spot;
- xix) Stop the works if the way of execution is endangering the life, health or properties of any people;
- xx) Supervision, reporting and evaluation of the SS-ESMP, SS-BMP, TMP, C-ESMP, SEP and RAPs implementation.
- xxi) Prepare and submit stand-alone Monthly and Annual Environmental Social Monitoring Reports and contribute to the regular project progress reports as relevant throughout the Project implementation phase; The reports should include the operation status of GRM with number and topics of grievances received, addressed and pending to be addressed.
- xxii) Undertake other actions related to ESHS aspects of the Project, in order to ensure full compliance of the Project with the provisions stipulated by the project's Labor Management Plan (LMP), included in the project's ESMP.

Task 8: Review and controlling Health and Safety Management Plans (HSMP) of the Contractor

The Consultants shall review the HSMP proposed by the Contractor. The Consultants shall ensure that the C-ESMP will incorporate adequate measures in line with the HSMP and key activities may include, but are not limited to:

- i) Ensuring that contractors and their workers are trained and sign the "Codes of Conduct" before beginning of their works;
- ii) Systematic identification of existing and new hazards on the works site;
- iii) Minimization of significant hazards, where elimination and isolation are both impractical;
- iv) Update method statements to describe and implement new work procedures as required to minimize hazards;
- v) Review the generic and site-specific traffic safety management plan prepared by contractors, taking into account safety of road users, resident along the road and workers and including considerations on temporary access to and from houses and road sides during the works;
- vi) Ensure the provision and use of appropriate protection measures (PPE) and the availability for workers to be properly protected with safety supplies including, but not limited to, emergency kits with drugs and medicines, safety shoes, safety hats and appropriate protective clothing;
- vii) OHS and CHS training material and on-going training modules, as well as specialized trainings for hazardous activities (e.g. operation of heavy machinery, working in confined space, lifting);
- viii) Ensure that the age of employment and the working conditions of the project workers comply with the project's Labor Management Plan (LMP);
- ix) Pre-determined and known to workers emergency procedures dealing with accidental spillage, pollution or imminent danger;
- x) Ensure regular review and assessment of each hazard identified and supervise employees' exposure to these hazards;
- xi) Ensure that regular medical checks are done for workers and normal working hours are followed;
- xii) Incident and accident reporting procedure and methodology for statistics compilation for OCHS performance;
- xiii) Ensure reporting and recording of work site incidents so health and safety problems can be addressed quickly and regularly;
- xiv) Proper preventive signs significantly ahead of works zone for drivers to be informed of reduced speed and detours;
- xv) Report to DoR/MPWT and copy to DPWTs any significant issues related to Health and Safety; and
- xvi) Recommend measures including performance security charge and sanctions in case of non-compliance with Environmental, Social Health and Safety (ESHS) measures after a written notification/warning letter is provided following two verbal warning documented in the monthly work progress report.

Task 9: Review the Emergency Procedures and Contingency Plan of the Contractor

The Consultants shall review the Emergency Procedures and Contingency Plan to be submitted by the Contractor to ensure the Plan at the least includes:

- i) An effective communication and event recording system;
- ii) The name, contact number and specific duties of the Contractor's nominated Emergency Duty Officer who shall be fully authorized to respond to an emergency event 24/7;
- iii) Availability of priority contact numbers in case of emergency, e.g. police, hospitals, ambulances, fire brigades and others as may be needed;
- iv) Response procedures for emergency events including road crashes during works and climate events;
- v) Possible detour routes in the event of road closure;
- vi) Due consideration shall be made to minimize the potential negative impacts of the emergency works.

Task 10: Supervise Contract Changes and Instruct Claims

The Consultants shall evaluate:

- i) the Contractor's proposals for any modifications of drawings or specifications and report them to DoR/MPWT and DPWTs with recommendations;
- ii) Inform DoR/MPWT and DPWTs of intended changes including effects on time schedule, quality, durability and function including on design features specifically for climate change impacts, and get Employer approval for the intended variation;
- iii) Examine the Contractor's proposals for changes and provide recommendations to DoR/MPWT for approval, in case of substantial changes affecting costs;
- iv) Under exceptional conditions, such as emergency and unforeseen works, issue instructions to the Contractor including, but not limited to, time schedule, payment terms, and any technical deviations and quality requirements;
- v) Supervise any works carried out with respect to a change of scope of works and maintain detailed records of any such works;
- vi) Ensure that all relevant project documentation, including site drawings, is updated to reflect the changes and given to Contractors and DoR/MPWT and DPWTs;
- vii) Be responsible to follow up on all works under a change and final acceptance at completion;
- viii) Ensure that the payments to the Contractor are in line with the changes in scope;
- ix) In the event of disagreements on rates and prices between DoR/MPWT and the Contractor, the Consultant shall recommend rates and prices to be approved by DoR/MPWT and confirmed by an Amendment to the original contract; reasonable adjustments should consider the actual costs with evidence included.

The Consultants shall also review and analyze eventual claims for Time Extension and Payment for additional Works and actions to mitigate safety risks, including but not limited to:

- i) Advise and assist DoR/MPWT and DPWTs on issues relating to changes to the Contract, including but not limited to any addition, extension and litigation/arbitration and assist on resulting consequences;
- ii) Review, investigate and prepare report on claims submitted by the Contractors within 30 days of the submission, establish admissibility to determine legitimate and justified costs and recommend, where appropriate, settlements;
- iii) Investigate fully all claims to establish admissibility under the Contracts to determine legitimate and justified costs, in case of emergency works;
- iv) Act as Mediator and aim at settling dispute quickly without involvement of external parties; and,
- v) Advise DoR/MPWT and DPWTs on the claims with proposed solutions.

Task 11: Relocation of Utility Services and Removal of Encroachments

The Consultant shall oversee changes in existing utility services and encroachments as proposed by the Contractor in his design. Detailed proposals will be drawn up by the Contractor for their relocation by the Utility Service Providers or by the Contractor. Any official dealings with any service agency shall be done through DoR/MPWT. Where practical, the Consultants will assist the Contractor in ascertaining, from the relevant service authorities, the

layout and nature of existing services, both above and under the ground. The Consultant shall review the contingency plans for necessary protection/diversions developed by the contractor or otherwise incorporate E&S risk management measures to protect existing services against damage or destruction during rehabilitation, improvement, maintenance or under emergency works.

Task 12: Monitor Quality Control of Materials and Workmanship

The Consultants shall monitor the Contractors' testing and checking of the quality of the materials and works implemented to verify compliance with all specified requirements and the contractor's own quality plan through intermittent testing and inspection of the works.

The Consultants shall arrange for the required external testing as required.

The Consultants shall verify the materials quality and specifically ensure that the Contractor is:

- i) Performing laboratory and/or field tests on the quality of the as-delivered materials or have obtained from its suppliers, satisfactory materials specifications and quality assurance, testing and warranties. If and when required, the Consultant shall mobilize a third-party laboratory for independent controls;
- ii) Using materials of satisfactory technical characteristics, quality and quantity and that the extraction is in conformity with the legislation and, as required, has obtained extraction authorization.

Task 13: Financial Monitoring and Costs Control

The Consultant shall make accounts of current quantities executed and related cost estimate for the works executed, including for issuing Interim, Final and Maintenance Payment Certificates, work orders and invoices. In case of changes to the scope of works, the Consultants shall provide a summary of the agreed revised scope of the works that may be issued by DoR/MPWT. The Consultants shall:

- i) Prepare and agree with the Contractor on monthly statements of quantities and costs, as well as drafts for the payment certificates and make recommendations to DoR/MPWT on payments;
- ii) Receive and record evidence of payments.

The Consultants shall make a thorough check of the payment certificates and their enclosures and attachments including checks on quantities and amounts. Any review of payment claims for the Contractor shall be in accordance with the contracts legal, technical and ESF conditions. The Consultant shall ensure when certifying payment claims that due remedies have been accounted for any noncompliance with the ESF contractual commitments and obligations. Upon review and within a maximum of 14 days of receipt of claims, the Consultant shall forward the applications to DoR/MPWT with recommendations for payment (if appropriate). With respect to any possible additional works (including emergency works) approved, the Consultants shall ensure that all applications detail the actual quantities and value of works completed to date compared with the amendments of the Contract.

Task 14: Benefits Monitoring & Evaluation

The Consultant will develop and implement a Monitoring and Evaluation (M&E) framework to supervise the project performance, in line with the results framework in the World Bank Project Appraisal Document (PAD), and evaluate the project's benefits in comparison with those initially expected. This implies setting the baseline, monitoring at mid-term and at the end of the assignment, conducting the relevant surveys and compiling all data into the M&E reports. The M&E framework shall include specific language and indicators (if appropriate) on the implementation and performance climate resilience measures against actual weather data. The consultant will also develop and Implement a Community Satisfactory Monitoring and Evaluation framework to supervise the performance of contractor during Rehabilitation and O&M phases and conduct the user satisfaction surveys.

Task 15: Compliance with Specified Levels of Service during the O&M Phase

The Consultants will monitor the Contractor's compliance with the levels of service specified in the PBC during the first year of the O&M phase. The responsibility for compliance with the service levels will be on the Contractor. Therefore, the Consultants shall review, comment and make recommendations on the adherence to service levels

by the Contractor. Subject to contract provisions with the Contractor, the remedy for Non-compliance with service levels may result in payment reductions of the quarterly payments to the Contractor. The Consultants shall inform DoR/MPWT on any significant nonconformities with the levels of service and propose remedies. The Consultants shall issue notification and follow up on remedies approved by DoR/MPWT and report on these, with evidence given whether the Contractor reacted fully to such notification. For determination of service level compliance, the Consultants shall:

- i) Check the compliance with the performance indicators specified in the PCB contracts. These indicators cover variables/parameters such as potholes, vegetation, drainage, roughness, and management (e.g., reporting, data supply);
- ii) Note the occurrence and extent of any major climatic events and eventual need for emergency works
- iii) Make recommendations on the magnitude of any payment reductions based on the assessed performance;
- iv) Work with the Contractor to identify ways to address any ongoing non-compliance issues.

Reporting during the Operation and Maintenance (O&M) Phase shall require the preparation of quarterly reports, based mainly on the contractors reporting and his own control through the Contractor's Self Control Unit (SCU), which will contain all the relevant financial and technical details of the Maintenance, including the revision and certification of the Contractor's Invoicing and Non-Compliance. The quarterly report shall present the level of service reached and the eventual non-compliances by the PBC Contractors, and, upon acceptance and recommendation of the Consultant for approval be the basis for the payment of quarterly installments. In this report the following issues will be presented (but not limited to):

- i) Indicators related to asset management compliance;
- ii) Testing and other field verifications parameters, verifications of test results, interpretation and action required;
- iii) Summary sheets for each group of indicators, performances achieved, payments, balance for payment;
- iv) Total deductions and balance in the custody of the Employer;
- v) Compliance with ESHS obligations, and verification that remedies have been accounted for any noncompliance with the ESF contractual commitments and obligations;
- vi) Issues for further discussion, solutions, line of action;
- vii) Action related to sub-contractors, if any;
- viii) Notes and Observations of the Consultant.

Task 16: Environmental and Social Risks Management

To streamline and consolidate Task 9 and Task 10 above, the ISWS shall be responsible for Environmental and Social Risk Management as follows:

i) Overall Responsibilities

- E&S Compliance Monitoring: Consolidate the responsibilities for reviewing and ensuring compliance with the C-ESMP, SS-BMPs, TMP, LMP, SEP with EGEP, UXO Risk Management Procedure, and "Chance Finds Procedure" to manage risk of cultural heritage;
- ARAP/RAP implementation and reporting: Supervise and report on ARAP/RAP implementation, ensuring timely compensation and assistance to affected households for acquired properties, maintaining safe access to homes and land, and assessing readiness for contractor handover; assist relevant agencies with any remaining or additional resettlement tasks, including public utility relocation, and prepare RAP/ARAP completion reports for each road sub-project;
- Incident or accident reporting: Assist the PMU and PTI in notifying the WB within 48 hours of any project-related incident or accident with potential or actual significant adverse effects on the environment, communities, public, or workers, including road accidents, SEA/SH cases, and serious injuries or fatalities
- Reporting and Documentation: Include all reporting obligations, such as preparation of Monthly Environmental and Social Monitoring Reports and incident reports.

ii) Construction Phase Tasks:

- E&S Plan Reviews and Approvals: Initial review and approval of C-ESMP (covering, SS-BMPs, TMP, LMP, UXO Risk Management Procedure, and "Chance Finds Procedure" to manage risk of cultural heritage), verifying alignment with project requirements and compliance with national and international E&S standards as described in Tasks 9 and 10;

- Implementation Oversight: Supervise the day-to-day implementation of the C-ESMP, related SS-BMPs, TMP, LMP, UXO Risk Management Procedure, and "Chance Finds Procedure" to manage cultural heritage risks, ensuring compliance throughout the construction phase;
- Training and Guidance: Provide orientation to contractors on E&S protocols, with emphasis on CHS, OHS, and safeguarding measures against sexual exploitation, abuse, harassment, and other social risks;
- Environmental Quality Monitoring: Conduct regular assessments of air, water, and noise quality, as stipulated in the SS-ESMP s, to ensure standards are upheld throughout the construction phase.

iii) Maintenance Phase Tasks

- Continued E&S Compliance Supervision: Monitor and ensure the continued implementation of E&S measures during maintenance. This includes traffic management, community safety, and adherence to labor standards as described in Tasks 9 and 10;
- Environmental Quality Monitoring: Conduct regular assessments of air, water, and noise quality, as stipulated in the SS-ESMP, to ensure standards are upheld throughout the maintenance phase.

iv) Social and Resettlement Management

- Resettlement Action Plan (RAP): Provide support for any resettlement tasks, including coordination with local authorities, grievance redress, and follow-up on compensation including preparing RAP/ARAP completion report for each road;
- Stakeholder Engagement Plan (SEP) and Ethnic Group Engagement Plan (EGEP): Engage with ethnic communities and other stakeholders to ensure culturally sensitive consultation processes and accessible grievance mechanisms;
- Labor Management Plan (LMP): Oversee implementation of labor (ESS2) standards, monitor grievance mechanisms for workers, and verify the contractor's compliance with employment practices, safety measures, and welfare as well as Occupational Health and Safety provisions provide in the LMP.

Task 17: Safety Assessment of Road Infrastructure and Road Safety Awareness

In parallel to the ISWS services, the Employer will contract the services of a Road Safety Auditor (RSA) as an individual independent Consultant. The initial Road Safety Audit shall be performed during the development of the Detailed Design, which will serve as the basis for the Bidders to prepare their financial proposals. The ISWS-Consultants shall assist the Employer by: i) collaborating with the RSA Consultant; ii) reviewing and, where needed, commenting the reports submitted by RSA to the Employer; iii) where approved by the Employer, adopt and implement the recommendations by the RSA; iv) ensuring prompt compliance by the Contractors in implementing the recommended and agreed measures in their detailed designs.

Upon completion of civil works, a RSA after construction will be conducted. After the completion of the audit, the consultants will prepare a final report that summarizes road characteristics and safety conditions.

Besides, the ISWS Consultant shall organize periodically training sessions and awareness raising on road safety, for all project involved stakeholders, i.e. Employer, Contractor and local communities, with training courses to be organized at the contractor's camp, village and community halls, as well as schools along the project roads. Most importantly, all communities shall have participated in at least one road safety awareness campaign before opening of the rehabilitated local roads to traffic.

E. Time Schedules and Budget Management for Works

The TOR for Consultant covers the rehabilitation works and initial O&M phases for an estimated total 42-month period.

The Rehabilitation Phase under the Hybrid PBC for the local roads will be approximately 30 months, including the design phase followed by 3 years' maintenance period, from which the Consultant shall monitor the first 12 months up to the end of the Defect Liability Period.

F. Consultants' Reporting Obligations

The Consultant shall prepare reports for each package/section separately and submit whenever required for each package. It is to be noted that implementation timelines of the different packages may differ, as works on some rural roads' sections may start earlier than others.

F.1. Inception Phase

Inception Report: The Consultants will produce an inception report that will include a master plan for the entire assignment, detailed work plan and schedule of tasks based on the consultancy contract and a time table for the mobilization of the key experts, the non-key experts and the support staff, including ESF reporting. A specific section of the inception report shall be dedicated to ESMP, RAP, EGEP and LMP implementation. The Inception Report shall include a work plan for the assignment, team composition, challenges anticipated and comments to the TOR, if any. List of people met and minutes of meetings shall be provided in Annexes, if any. The Implementation Work Plan for RAP, EGEP shall include content following Tasks 7, 8 and 9. The draft Inception Report and Implementation Work plan shall be submitted to PMU and EDPD/PTI and the World Bank within six weeks after the date of contract signing. The final Inception Report and the implementation Work Plan shall be submitted within one week after receipt of approval from the PMU and EDPD/PTI and the World Bank.

F.2. Reports on the Rehabilitation and O&M Phases

Monthly Progress Reports: The Consultants shall prepare a concise monthly progress report, in a format to be agreed with DoR/MPWT and the World Bank. These reports will be sent to DoR/MPWT and the World Bank within one week of the end of the month. Such reports shall summarize the activities of the Consultants including those related to E&S and OHS and CHS activities, RAP, EGEP and LMP implementation progress, the progress of the works contract in terms of physical and financial progress, all contract and design changes, the status of Contractor claims (if any), brief descriptions of the technical and contractual problems being encountered (and solutions recommended) progress and issues related to the implementation of the ESS activities and other relevant information. The draft template of the Monthly Progress Report for each package/section shall be submitted to PMU and EDPD/PTI and the World Bank within one month after the date of contract signing. The final template shall be submitted within one week after receipt of approval from the PMU and EDPD/PTI and the World Bank.

Quarterly Reports: The Consultants shall prepare a comprehensive quarterly report summarizing all activities including financial and E&S aspects of the works contracts, at the end of each quarter (not later than the 14th day of next quarter), and at other times for the Periodic Report when considered necessary by either the Consultants or DoR/MPWT because of delays in the construction works or the occurrence of technical or contractual difficulties. The quarterly report shall also summarize the performance of the Consultant's staff in implementing their monitoring supervision responsibilities. In addition, the report will also include progress and issues related to the implementation of environmental and social measures, as well as works' compliance with the requirements of WB and GoL.

Benefit Monitoring Evaluation (BME) Reports: The Consultants shall prepare three Benefit Monitoring Reports during the Assignment providing updates on economic analysis and key performance indicators of the project as defined in the M&E framework, comparisons with corresponding baseline information and subsequent analysis. The 1st BME report shall be submitted at the early project commencement as a baseline report, the 2nd report shall be submitted in time for the midterm project review mission, and the 3rd report at the completion of the Construction Phase.

Accident and Incident Reports: In accordance with the Environmental and Social Incident Response Toolkit (ESIRT) of the WB, the ISWS Consultant shall notify the DoR/MPWT, DPWT of any E&S incident or accident who will then notify the WB of the incident that may take place in the subproject or project area and be related to the project or sub-projects within 48 hours after the incident occurs. Incidents include (but should not be limited to) incidents and complaints related to SEA/SH and/or child abuse, child labor, forced labor, any significant environmental impacts, pollution incident/accident, any fatality and/or bodily harm affecting Project (including contractor) staff or project affected people, any public opposition, and the issuance of any notice or fine for breach of environmental, labor, health or safety laws and regulation. After receiving the notification, the WB will provide advice for the DOR on the next steps. If the incident is found to be related to the project or sub-project, the ISWS Consultant will prepare detailed reports on the on incident and conduct root cause analysis, and prepare a Corrective Action Plan (CAP) to prevent and avoid similar incidents from reoccurrence in the future. The ISWS Consultant will

also monitor and report on implementation of corrective actions until the incident is assessed and closed by the WB management.

ESHS Reports: The Consultants shall ensure the immediate reporting to DoR/MPWT, DPWT, and EDPD/PTI of

Claims Reports: Reports detailing the assessment of every claim by a Contractor and submitted to DoR/MPWT.

Rehabilitation Phase Completion Report: The Consultants shall prepare a comprehensive Completion Report when the Rehabilitation Phase has been completed for each contract. The report, which shall be submitted immediately after the works completion, shall summarize the methods of construction, the field and laboratory tests carried out, the monitoring supervision services performed, and recommendations for improvement for future projects of a similar nature to be undertaken by DoR/MPWT, including specific recommendations on improvements relating to infrastructure resilience. The report shall also provide information on traffic volume and speed data, ESS issues, actions, and lessons learnt so that effective mitigation measures can be considered during the planning, design, and implementation of future road works under Hybrid PBC.

Road O&M Performance: The Consultants shall prepare monthly concise O&M reports and quarterly comprehensive reports on project monitoring and the condition of the project road in relation to O&M requirements for all road sections after completion of the rehabilitation phase. Any comments/recommendations on the E&S requirement should also be provided.

O&M Phase Completion Report: The consultant shall prepare an O&M Phase Completion Report. The report shall be submitted not later than 1 month before the end of Consultant's contract, and shall summarize the methods of monitoring service levels, all the guidelines and procedures for future monitoring of O&M, as well as a summary of supervision services performed, and recommendations for improvement for future projects of a similar nature to be undertaken by DoR/MPWT, including specific recommendations on improvements relating to infrastructure resilience. The report shall include recommendations and an implementation plan for the remaining O&M phases of the Hybrid PBC.

F.3. Reports on the Implementation of RAP, EGEP and LMP:

RAP/ARAP, Completion Report. The draft Completion Report for each package shall be submitted to PMU and EDPD/PTI and the Financiers within 45 months after the completion of the RAP implementation. Besides the completion status of the RAP, the report shall also include information regarding Grievance Redress Mechanism (GRM) including number of grievances received and resolved, any outstanding grievances, including those that where escalated to go through the national legal system. The final version shall be submitted within two weeks after receipt of approval from PMU and EDPD/PTI and the Financiers. The reports shall be supported by evidence of compensation, minutes of the important meetings, key technical notes and summary of grievances received and addressed.

F.4. Environmental and Social Monitoring Reports (semi-annual and annual):

In close consultation with EDPD/PTI, the Consultant shall prepare and submit to the MPWT and World Bank, (within 14 days after the end of the period) a consolidated semi-annual and annual monitoring report for each package summarizing all environmental and social activities (ESMP, RAPs, SEP/EGEP, LMP etc.) including progress and records on GRM and C-CESMP as well other aspects related to road safety, workers OHS, employment, community health and safety, etc. The reports shall also summarize the performance of the contractors and Consultant's staff in fulfilling their supervision responsibilities. Preparation of a separate RAP implementation and completion reports and/or other monitoring reports may also be required during the Assignment as requested by the GOL and/or World Bank.

F.5. Copies of Reports and Language:

The number of submitted reports is 1 hardcopy and the electronic copy of each report. The distribution list will be advised by DoR/MPWT. The distribution of electronic copies would be by email. Reports shall be written in English.

All reports shall be provided in both MS Office (Word, Excel etc.) and PDF format. A copy of all reports will be also instantly shared with WB.

F.6. Proprietary Information

The Consultants shall safeguard all proprietary information made available to any of their staff, personnel, employees, contracted persons or sub-consultants or any person or entity involved in delivering the services.

G. Consulting Firm Minimum Experience

The Consultant is expected to be a firm or an association of consulting firms with the appropriate capabilities and experience to execute the services. For this purpose, the Consultants are required to demonstrate availability of qualified international and national staff to carry out the assignment in Lao PDR.

The following requirements shall apply to the firms to qualify for the assignment:

Criterion 1 – Specific experience : At least 10 years of experience in supervising of road construction, improvement, rehabilitation or maintenance in the South/ South East Asia region;

Criterion 2 – Road construction supervisions contracts : At least three supervision contracts carried out in the past 10 years that included similar implementation support and/or supervision services for local road construction or rehabilitation contracts, each valued at a minimum of 2.0 million USD, performed in rural areas, and successfully completed in the capacity of Lead Consultant (i.e., individually or as lead member of a Joint Venture);

Criterion 3 – Road maintenance supervisions contracts : At least three supervision contracts for road maintenance, successfully completed in the past 10 years in the capacity of Lead Consultant (i.e., individually or as lead member of a Joint Venture);

Criterion 4 – E&S experience in road construction/rehabilitation supervision services : At least three supervision contracts of similar scope and nature performed in the past 10 years with for the implementation and monitoring of RAP, ESIA, ESMP for road construction, rehabilitation and maintenance, successfully completed in the capacity of Lead Consultant (i.e., individually or as the lead member of Joint Venture).

Consultants shall include a maximum of 10 contracts per criterion listed above and will arrange the “past contract information forms” separately for each criterion. Failure to provide the required details in the past contract information forms shall be the full responsibility of the Consultant – there will be no clarifications carried out during evaluation. In case the Consultant shall provide more than 10 contracts for each criterion, only the first 10 references shall be considered for evaluation.

H. Level of Efforts (LOE)

Estimated LOE

The Consultant shall employ qualified engineers and other professionals who are competent to carry out the duties in accordance with the responsibilities specified in this Terms of Reference.

The consultant shall take into account of the fact that contracts to be supervised under this assignment will not start at the same time, when considering level of efforts and mobilization plan. Prior to the mobilization of any member of the Consultant's team, the consultant will obtain permission from the DOR.

Consultant staff will be mobilized for each package only after the notice to commence for the works has been issued to the different Contractors, and only then on an as-needed basis, depending of the Contractors' work programs and their mobilization efforts. The Consultant shall manage staff inputs and reassign staff from time to time and as necessary, with permission from DoR/MPWT, to reflect the actual progress of the works.

The Consultants shall assign the following key personnel. The estimated Person-months are indicative: 145 for key-Personal (International and Local) and for 442 non-key staff, as follows:

Key Personnel - International	Number	Estimated Person Months
1. Team Leader/ Senior Resident Engineer (TL/SRE, international – full-time)	1	30
2. Road Design Engineer (RDE, international – intermittent)	1	3
3. Structural Engineer (SE, international – intermittent)	1	2
4. Hydraulic and Drainage Engineer (HDE, international – Intermittent)	1	2
5. Road Maintenance Engineer (RME, international – intermittent)	1	6
6. Materials Engineer (ME, international – intermittent)	1	8
7. Senior Environmental and Social Standard Specialist (ISESS, international – intermittent)	1	10
8. Benefit and Monitoring Expert (BME, international – intermittent)	1	4
9. Social Standard Specialist (SSS) cum RAP/ARAP, SEP/EGDF, GRM, Sexual Exploitation and Abuse / Sexual Harassment Specialist (SEA/SH) – (local – full-time)	1	30
10. Environmental Standard Specialist (ESS) cum Occupational Health and Safety Specialist (OHSS) – (local – full-time)	1	30
11. Road Safety Specialist (RSS, local – full-time)	1	30

The non-key experts and other support staff, as necessary to properly perform the services timely and orderly. Only the CVs of the key personnel will be evaluated.

Non key-experts are expected for at least the following positions:

Non-Key personnel	Number	Estimated Person Months
1. Resident Engineers (RE) (local – full-time)	3	84
2. Materials Engineer (ME, local – full-time)	2	24
3. Structure Engineer (SE) (local – Intermittent)	1	8
4. Road Design Engineer (RDE, local – intermittent)	1	8
5. Site Surveyors (2), (SS, local – full-time)	2	48
6. Site Engineer (3), (SE, local – full-time)	3	250
7. Support Staff (local – intermittent)	2	20

The key personnel shall comply with the following minimum requirements:

IMPORTANT NOTE: Consultants shall not propose local personnel who are already engaged in other contracts of MPWT under ISWS contracts. Specifically, such personnel shall not be proposed for a position requiring time inputs or other conditions that would necessitate their resignation from other current contracts with MPWT. The frequent staff replacements occurring in various MPWT's contracts have created serious implementation issues. In order to address this malpractice, the Client shall take serious measures, including proposing the **rejection or blacklisting** of individuals who leave their positions under the other current MPWT contracts to join new contracts. Therefore, locally contracted individual firms and individuals shall be warned not to propose the same persons for multiple positions simultaneously unless there is proven assurance of their availability to take on new positions without detriment to other MPWT's contract(s). In this context, Consultants are strongly encouraged to include specific conditions in their employment contracts with key personnel, introducing incentives for staff to remain in their assignments, such as e.g., minimum number of months to be worked and penalties for leaving the job early.

I. Key Experts – Tasks and Minimum Qualifications

Position	Tasks	Required Qualifications
1. Team Leader/ Senior Resident Engineer (TL/SRE)	<p>As the Consultant's representative, the TL will supervise all activities and tasks stated in these TOR, and all Experts, Personnel and Support Personnel under the consultancy contract for the monitoring and supervision of the rehabilitation works and O&M phases.</p> <p>The TL shall ensure that the works are constructed, maintained and road operated in accordance with the provisions therein. The TL will have the powers defined in Works Conditions of Contract as being "<u>the Engineer Representative</u>".</p> <p>In addition to all the duties necessary for the adequate monitoring supervision of all activities on site included in the civil works contracts, the TL's responsibilities as the Consultant also include:</p> <ol style="list-style-type: none"> Preparation of formal contract execution documentation on implementation; and Evaluating the HPBC administration. <p>In detail, the TL's responsibilities as the Consultant include, but are not limited to:</p> <ol style="list-style-type: none"> Acting as Engineer's Representative as defined in the World Bank Procurement Framework¹; Assisting DoR/MPWT Management in overall project implementation activities, road work contract management, and in approving the contractor's work programs, method statements, material sources, etc., including ensuring that relevant climate resilience measures are adopted for vulnerable and other sections of the Project Roads; Preparing and issuing reports as outlined in this TOR as well as additional reports defined subsequently; Approving working drawings, approving the setting out of the works in field, and instructing the contractors, as required; Checking measurements and keeping measurement records; Maintaining records, correspondence, and diaries; Certifying work volume and recommending interim certificates for construction payments; Maintaining consolidated project accounts, and preparing financial statements and withdrawal applications for submission to IDA; Certifying completion of part or all the works, including O&M payments; Processing the contractor's possible claims; Ensuring minimum disruption/damage to the environment and local settlements by approval of contractors' work statements/methodologies, including monitoring the impact of construction works 	<p>Minimum preferable qualifications as Team Leader / Senior Resident Engineer:</p> <ul style="list-style-type: none"> At least a Bachelor degree in civil engineering; At least 15 years of proven relevant international experience; 10 years of experience as a Team Leader (highway engineer) leading road construction and/or maintenance projects; At least 2 team leadership assignments with experience in managing performance-based contracts will be an asset; Fluency in written and spoken English is mandatory.

¹ World Bank Procurement Framework and Regulations are available at:

<http://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework>

Position	Tasks	Required Qualifications
	<p>on the environment and local settlements and providing information to DoR/MPWT and the donor in the monthly, quarterly and final reports, as well as ad hoc as requested by DoR/MPWT or the Donor;</p> <ol style="list-style-type: none"> 12) Providing DoR/MPWT with complete records and reports, and approving the contractors' as-built drawings for the works; 13) Providing assistance to DoR Management to ensure smooth implementation of all programs, contracts, and activities under this project component; 14) Carrying out performance monitoring and evaluation for the Project, with support from the Maintenance Engineer, during the first four years of the maintenance period, being responsible for all aspects of the consulting engineers' services leading to the successful implementation of the project, including compliance with the specified service level (measured through the contractual performance indicators). The TL will issue certificates and vet invoices for payment to the Contractor, monthly during the construction phase, and quarterly during the O&M period. 15) Ensure the project activities/contracts are compliance with the ESMP. <p>TL Leadership: The TL will lead the Consultant's team to undertake the following to achieve the objectives of the Project:</p> <ol style="list-style-type: none"> 1) Review engineering designs and other designs for the project road and review, where needed, revised engineering designs and cost estimates; 2) Function as "Engineer Representative " in administering the works contracts during the rehabilitation period, ensuring completion of construction, in accordance with the contract provisions and evaluation on performance of the contractor, and monitoring compliance with the specified performance indicators during the first year of the O&M phase; 3) Support DoR/MPWT in the implementation of Road Safety Programs; 4) Assist the MPWT in ensuring that the Project is implemented consistent with the GoL laws and regulations related to environmental and social risk management, as well as meeting the environment and social obligations and/or requirements of the WB and GoL provided in the ESCP, ESMF, SEP as well as site specific E&S risk management instruments (SS-ESMP/C-ESMP, LMP, RAP/ARAP); 5) Carry out performance monitoring and evaluation of the civil works at all times, and in particular after physical completion of each milestone of the improvement works; 6) Carry out performance monitoring and evaluation of road condition, including compliance with the contractual performance indicators. 	
2. Road Design Engineer (RDE)	Services by the DE are to be provided throughout the final detailed design phase.	Minimum qualification requirements as Road Design Engineer:

Position	Tasks	Required Qualifications
	<p>The detailed design includes: geometric design; drainage; earthworks; pavement; road safety furniture; traffic signs and marking; bridge repair; environmental devices). The DE should have the required capacity to assess the development of the design stage, being responsible for:</p> <ol style="list-style-type: none"> 1) Review the detailed engineering design prepared by the Contractors, considering the Detailed Design provided by DoR/MPWT as a minimum requirement; 2) Identify sensitive points in each of the sections of the design, and timely propose remedial actions; 3) Taking into consideration the review carried out, validate all the design process, aiming at recommending to DoR/MPWT the approval of the Final Detailed Design presented by the Contractors. 4) Advise on eventual design changes required during construction. 	<ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 10-year of experience in road design, including 5-years as the lead design specialist of design teams. • good written and oral English communication skills.
3. Structural Engineer (SE)	<p>Services by the SE are to be provided in an intermittent manner throughout the final detailed design phase and during road rehabilitation phase. The SE will review design of new structures and bridges repair and make recommendations to DoR/MPWT the approval of the Final Detailed Design of structural works presented by the Contractors. In addition, the services will include:</p> <ol style="list-style-type: none"> 1) Assisting in optimizing the design of structures keeping climate change effects in mind; 2) Consider strengthening the infrastructure design against natural hazards and impacts by climate change; 3) Review and evaluate hydrological and geotechnical reports and data and make appropriate technical recommendations; 4) Provide input to the preparation of Reports on relevant topics related to structures. 	<p>Minimum preferable qualifications as Structural Engineer:</p> <ul style="list-style-type: none"> • At least a B.Sc. in Civil Engineering • At least 10 years of experience in the engineering field of road-bridge design, with a good all-round knowledge of road infrastructure. • experience in bridge design for structures exposed to natural hazards (mostly floods) and climate change. • good written and oral English communication skills.
4. Hydraulic and Drainage Engineer (HDE)	<p>The HDE will provide service in an intermittent manner throughout the final detailed design phase and during road improvement phase. The Hydrologist will undertake the following tasks, but are not limited to:</p> <ol style="list-style-type: none"> 1) Review the conceptual design regarding hydraulic design; 2) Review of hydrological data, meteorological data provided by contractors; 3) Confirm and verify design criteria (e.g., return period of floods; precipitation, frequency duration curves, etc.); 4) Review hydrological investigations and calculations for water levels and flows for bridges, culverts and drainage structures undertaken by contractors; 5) Ensure adequate cross drainage to ensure that roads do not act as barrier causing larger upstream tracts of land to be flooded and that seasonal irrigation flow requirements of the local communities are maintained; 	<p>Minimum preferable qualifications as Hydraulic and Drainage Engineer:</p> <ul style="list-style-type: none"> • At least a B.Sc. in Civil Engineering • At least 10 years of experience in the field of hydrology related to infrastructure design and climate change issues. • experience with climate adaptation designs • good written and oral English communication skills.

Position	Tasks	Required Qualifications
	6) Consider aspects of climate change (e.g., higher flood levels with longer duration, more intense rainfalls, etc.) in all design criteria;	
5. Road Maintenance Engineer (RME)	1) Establishing O&M quarterly reporting formats and preparation of O&M monthly/quarterly reports during the first year of maintenance of the HPBC; 2) Monitoring compliance with O&M standards 3) Providing training to MPWT/DPWT and Contractor on Performance-Based Maintenance concepts and implementation; 4) Review the surveys and inspection data of the contractor and address non-compliances with regard to O&M standards; 5) Preparing certificates and invoices, as appropriate, to be issued by the TL, for the quarterly payments to the Contractor during the O&M period;	Minimum qualifications as Road Maintenance Engineer : <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 6 years of international experience working on road performance-based maintenance projects, including DBST or asphalt concrete pavements. • Fluency in written and spoken English is mandatory.
6. Materials Engineer (ME)	The ME will be experienced in the materials and processes involved for road rehabilitation works including the use of unbound (aggregate and natural materials) and concrete materials as well as the construction of DBST pavements, and will be fully aware of the needs for proving materials in the laboratory, quality control and construction techniques in the field. The ME will: <ol style="list-style-type: none"> 1) Review existing information and conduct site visits, review materials sources proposed by the Contractors; 2) Review the detailed engineering pavement design prepared by the Contractors, considering the Conceptual Design provided by DoR/MPWT as a minimum requirement; 3) During the construction oversee the use of materials to ensure they meet quality standards required; 4) Determine the materials requirements for asphalt concrete pavement; 5) Monitor the quality control of the PBC-contractors; 6) Arrange for the quality control of the works in the BPC; 7) Supervise the works and order correction when needed; 8) Evaluate after road completion if the initial performance requirements for the O&M stage are met. 	Minimum preferable qualifications as Materials Engineer : <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 10 years of experience as a materials engineer working on road construction and /or road maintenance projects; • 2 assignments as a Materials Engineer; • At least one of the two positions shall be as an expert with over 6 years of international experience; • Fluency in written and spoken English is mandatory.
7. Senior Environmental and Social	International Senior Environmental and Social Standards Specialist (ISESSS) will be mobilized on intermittent basis. During the construction phase the ISESS will prepare a detailed action plan including environmental and social monitoring checklists to be completed by the ESSS to ensure that the Environmental and Social Risk Management System is established, implemented, maintained, the	Minimum qualifications as ISESS: <ul style="list-style-type: none"> • At least a Master Degree in environmental science, social science or a relevant subject;

Position	Tasks	Required Qualifications
Standards Specialist (ISESS)	<p>performance of which to be monitored by the ISESS. He/she will address all environmental and social issues during construction and O&M phases.</p> <p>The ISESS will review and advise the relevant persons (of the ISWS) on the ESHS risks and E&S impacts of any design change proposals and the implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements (SEP/EGDF and RAP/ARAP).</p> <p>The ISESS will also help with review of the Contractors Site Specific ESMPs (C-ESMPs), and recommend the PMU to approve the environmental aspects of C-ESMPs. The ISESS will prepare Quarterly Environmental Reports and RAP Completion Report providing details of the Contractors activities (such as training programs, community meetings) and compliance with the C-ESMP, SS-BMP and other ESMP.</p> <p>The ISESS will conduct a due diligence of the borrow pits proposed for use by contractor/provide advice to the ESS and Occupational Health and Safety Specialist (OHSS) in conducting the due diligence to ensure that the borrow pits meet requirements set out in the SS-ESMP and SS-BMP.</p> <p>Tasks:</p> <ol style="list-style-type: none"> 9) Provide supports to the Team Leader or Senior Resident Engineer(s), lead E&S supervision tasks, and provide guidance on E&S and OHSS to ensure contractors compliances to the project ESMPs, MBPs, SEP and others plans; 10) Technical lead in assisting the PMU, EDPD/PTRI and RCs to develop RAP and SEP/EGEF Implementation Work Plan, tracking system, and to monitor achievement of the Work Plan. This Work Plan will also include any additional resettlement impacts caused by the detailed design and relocation of public utilities; 11) Preparation and submission of inception report, progress reports and RAP completion report to the PMU and ESD/PTRI and the World Bank for review and approval; 12) Prepare a detailed action plan including environmental and social monitoring checklists to be completed jointly by the ESS and OHSS to ensure that the Environmental and Social Management System is established, implemented, maintained and will monitor its performance; 13) Help with the development and review of the Contractors C-ESMPs, including LMP, grievance redress mechanism, stakeholder engagement and all other aspects as relevant; 14) Conduct a due diligence of the borrow pits proposed for use by the contractor or guide the ESS and OHSS in conducting the due diligence to ensure that the borrow pits meet requirements set out in Project's C-ESMPs, SS-BMP and SEP; 15) Ensure baseline monitoring and reporting of Contractor's compliance with contractual environmental and social mitigation measures during the assignment; 	<ul style="list-style-type: none"> • At least 10 years of experience in ESIA preparation, implementation, supervision and monitoring of projects, including roads/highway projects funded by International Financial Institutions; • Good knowledge of MDBs, specifically World Bank's ESF ESS1, ESS2, ESS4, ESS5, ESS6, ESS7, ESS8, and ESS10 or social safeguard policies (Involuntary Resettlement and Indigenous People policies) and relevant national legislation; • An understanding of Laos legislation such as Law on Resettlement and Occupation (2018) Decree on EIA (2022), Land Law 2003 would be advantageous but is not essential • Ability to effectively communicate and produce reports and documents in English of good quality; • Leadership, organizational and good interpersonal skills; • Ability to effectively communicate and produce reports and documents in English of acceptable quality; • Experience in the region would be an advantage; • Fluency in written and spoken English is mandatory. • Leadership, organizational and good interpersonal skills;

Position	Tasks	Required Qualifications
	<p>16) Undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;</p> <p>17) Review and advise the relevant persons (of the ISWS) on the ESHS risks and other impacts of any design change proposals and the implications for compliance with the Project ESIA, ESMP, SEP, SS-BMP, consent/permits and other relevant project requirements;</p> <p>18) Conduct regular site visits to: a) monitor RAP/ARAP implementation, compensation, replacement of assets lost (construction of new structures); b) livelihood and income restoration support. Preparation and submission of E&S monitoring report including the status of grievance received and addressed;</p> <p>19) Communication with and report to the PMU and ESD/PTRI E&S focal points and World Bank task team, over the course of RAP/ARAP and SEP/EGEF implementation to seek advice and support to RAP and EGEP implementation;</p> <p>20) Work with concerned government agencies including MONRE and its local offices, EDPD/PTRI, DPWT/OPWT and other concerned agencies and teams assigned from the ministries and the project provinces, to successfully implement C-ESMPs, SS-BMP, RAP/ARAP and SEP/EGEP;</p> <p>21) Assist PMU and ESD/PTRI E&S focal points to establish and implement simple digital tracking system;</p> <p>22) Agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS as well as C-ESMP obligations;</p> <p>23) Check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;</p> <p>24) Review and comment, in a timely manner, the C-ESMP as well as other Contractor's ESHS documentation (including regular reports and incident reports) submitted to the Engineer and to provide advice to ensure the accuracy and efficacy of the documentation; and</p> <p>25) Provide specific advice and training to the ESS, field engineers of DPWT, and key staff of local authorities and communities responsible for planning and implementation of the social aspect of C-ESMP including SEA/SH CoC and RAP/ARAP and SEP/EGDF and SS-BMP and key parameters for monitoring.</p>	
8. Benefit and Monitoring Expert (BME) (international) –Part time	Under the overall direction of the Team Leader (TL), the BME will lead the benefit monitoring activities to ensure that economic analysis reports will be developed for the baseline report, the mid- term review, and final completion of the rehabilitation works. The activities of this position include, but are not limited to, the following:	Minimum preferable qualifications as BME and Transport Economist : <ul style="list-style-type: none"> • At least a Bachelor degree in economics or civil engineering; • At least 8-year experience as an economist;

Position	Tasks	Required Qualifications
	<ol style="list-style-type: none"> 1) Supervise the local Transport Economist in the visit to the project sections and lead discussions with MPWT staff and other partners, to obtain data necessary for the tasks, including clear definition of baseline parameters. The BME will coordinate the existing traffic volume data collection, to determine the annual average daily traffic (AADT) volumes, and forecast traffic volume growth; 2) Supervise the road deterioration and road user related data collection, to determine the economic and other indicators to use as appropriate input to the Highway Development and Management (HDM-4) model analysis; 3) Conduct economic analysis of the local road rehabilitation works 4) Adopt a life cycle cost and benefit approach, make an analysis to determine the economic benefits of the project. In case the final engineering design prepared by the Contractor differs from the engineering design used during the bidding process, review the economic analysis accordingly. 5) Draft a summary report outlining the issues, the proposed project, its inputs, outputs, outcome and impacts, and its budget and general implementation arrangements; 6) Provide economic analysis reports, of satisfactory quality, at the beginning, midterm, and completion of the road rehabilitation and improvement works. The main text and appendixes of the final report should be in the format of an Implementation Completion and Results Report (ICR), related to the rehabilitation works. 	<ul style="list-style-type: none"> • two assignments as a transport economist working in internationally-financed road construction projects; • Fluency in written and spoken Lao would be an advantage. • Fluency in written and spoken English is mandatory.
9. Social Standard Specialist (SSS) cum Community Health and Safety, Sexual Exploitation and Abuse Specialist / Sexual Harassment Specialist (SEAS/SHS)	<p>The SSS will be a full-time position over the duration of the construction period. With guidance from the TL, ISESSS and in collaboration with ESS, and RSS, the SSS will provide support to the Team Leader and the consultant team in undertaking the social risk management (SRM) activities including ensuring close communication with local authorities and local communities.</p> <p>Tasks related to SSS:</p> <ol style="list-style-type: none"> 1) Establish and maintain close coordination with DPWT, local authorities, and local community and support the Team Leader and the consultant team to implement the SRM activities during supervision and monitoring, and conduct them under remote guidance of the ISESS when they are not on site; 2) Supervise the contractors' compliance to ESMPs / C-ESMPs including measures to manage SEA/SH risks, and SEP/EGDF in particular LMP and social aspects as relevant, and complete detailed action plan including social monitoring checklists prepared by the ISESS; 3) Under the supervision of ISESS, design and implement training plan on RAP, SEP/EGDF, LMP and GRM implementation, and other SS aspects; 4) Review all documents and reports regarding the integration of SRM included in the C-ESMPs and other contractor's social action plans as LMP and SEP; 	<p>Minimum qualifications as Social Safeguards Specialist:</p> <ul style="list-style-type: none"> • At least a Degree in Social science or an equivalent field; • Preferably 5 years of experience in conducting social impact assessments and implementing social mitigation plans, and/or monitoring implementation of social mitigation measures during the implementation of projects including highway projects funded by developing partners. • Knowledge of the IFI's (WB, EIB, AIIB) safeguard policies and relevant national legislation such as instructions on resettlement and compensation. • Ability to effectively communicate and produce reports and documents in Lao and English;

Position	Tasks	Required Qualifications
	<ol style="list-style-type: none"> 5) Undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with the C-ESMP and LMP requirements, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month. SSS will monitor the Contractor's implementation of their C-ESMPs and SEP/EGDF via weekly inspections of the Contractors camps and work sites. Specific attention will be given to ensure safety of workers and local communities; 6) Prepare monthly compliance reports; and 7) Provide support to the Team Leader, ISESS, and work with RSS, ESS/OHSS, and Senior Resident Engineer(s) to ensure compliance with the project C-ESMP, SEP/EGDF and LMP requirements. 8) Tasks related to CHS and SEAS/SHS: 9) Establish and maintain close coordination with contractor and local community and support the Team Leader and the consultant team implement the SEA/SH risk management activities during supervision and monitoring, and conduct them under remote guidance of the SSRS and ISESS when they are not on site; 10) Supervise the contractors' compliance to ESMPs / C-ESMPs and LMP with regards to SEA/SH Code of Conduct and complete detailed action plan including SEA/SH monitoring checklists prepared by the SSRS; 11) Under the supervision of ISESS, design and implement training plans on SEA/SH; 12) Review all documents and reports regarding the integration of SEA/SH including the C-ESMPs and other contractor's social action plans as LMP; 13) Undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with the LMP and SEA/SH obligations, with and without contractor and/or client relevant representatives, as necessary. SSS to monitor the Contractor's implementation of their LMP and SEA/SH action plans via regular inspections of the Contractors camps and visits to local communities. 14) Prepare monthly compliance reports; and 15) Provide support to the ISESS, RSS, and ESS/OHSS and Team leader and Senior Resident Engineer(s) to ensure compliance to the project ESMP and LMP requirements. 16) Monitor and report on implementation of measures provided in the C-ESMP to prevent and manage risks of other Community Health and Safety including communicable diseases (HIV/AIDS, other sexual transmitted diseases (STD), COVID19). 17) Notify the ISESS and TL of any E&S incidents that may take place in the project sites or be associated with the project within 48 hours after the incident occurs. Participate in a Root Cause 	<ul style="list-style-type: none"> • Organizational and interpersonal skill with cultural sensitivity; • Fluency in written and spoken Lao is mandatory. • Fluency in written and spoken English is an asset.

Position	Tasks	Required Qualifications
	Analysis and assist the TL in preparation of reports required by the Environmental and Social Incident Response Toolkit (ESIRT) of the WB.	
10.Environmental Standard Specialist (ESS) cum Occupational Health and Safety Specialist (OHSS)	<p>The ESS will be a full-time position over the duration of the construction period. With guidance from the ISESS, SSRS and RSS, the ESS will provide support to the Team Leader and the consultant team undertaking the Environmental activities including ensuring close communication with local authorities and local communities.</p> <p>Tasks related to ESS:</p> <ol style="list-style-type: none"> 1) Establish and maintain close coordination with DPWT, local authorities, and local community and support the Team Leader and the consultant team implement the Environmental activities during supervision and monitoring, and conduct them under remote guidance of the ISESS and RSS when they are not on site; 2) Supervise the contractors' compliance to ESMPs / C-ESMPs, and environmental aspects as relevant, and complete detailed action plan including environmental monitoring checklists prepared by the ISESS and SSRS; 3) Under the supervision of ISESS, design and implement training plan on ESMP and C-ESMP, SEP and SS-BMP implementation, environmental awareness, and other E&S aspects; 4) Review all documents and reports regarding the integration of environmental and social safeguard including the C-ESMPs and other contractor's environmental action plans; 5) Conduct a due diligence of the borrow pits proposed for use by contractor to ensure that the borrow pits meet requirements set out in the C-ESMPs, SEP, and SS-BMP; 6) Undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with the C-ESMP requirements, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month. ESS to monitor the Contractor's implementation of their C-ESMPs, SEP and SS-BMP via weekly inspections of the Contractors camps and work sites. Specific attention will be given to ensure safety of workers and local communities; 7) Prepare monthly compliance reports; and 8) Provide support to the ISESS, RSS, Team leader and Senior Resident Engineer(s) to ensure compliance to the project ESMP requirements, SEP and SS-BMP. <p>Tasks related to OHSS:</p> <ol style="list-style-type: none"> 9) Help prepare the Health and Safety Management Plans (HSMP) which forms part of the Contractors overarching C-ESMPs; 	<p>Minimum qualifications as Environmental Safeguards Specialist:</p> <ul style="list-style-type: none"> • At least a Degree in environmental science or an equivalent field; • Preferably 5 years of experience in conducting environmental impact assessments and implementing environmental mitigation plans, and/or monitoring the implementation of environmental mitigation measures during the execution of projects, including highway projects funded by development partners. • Knowledge of the IFI's (WB, EIB, AIB) safeguard policies and relevant national legislation such, as the Ministry of Natural Resources and the Environment's (MONRE) Instructions on ESIA and IEE, 2016. • Ability to effectively communicate and produce reports and documents in Lao and English; • Organizational and interpersonal skills with cultural sensitivity; • Fluency in written and spoken Lao. • Fluency in written and spoken English is mandatory.

Position	Tasks	Required Qualifications
	<ol style="list-style-type: none"> 10) Review and Monitor Health and Safety Management Plans of the Contractor, and Review the Emergency Procedures and Contingency Plan of the Contractor; 11) Prepare health and safety monitoring checklists to ensure that the HSMP is implemented and maintained throughout the contract period; 12) Take care of all ESHS issues during construction works including conducting ESHS training and daily toolbox briefings to provide ESHS awareness; 13) In coordination with ESSS and SRSS, undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with the C-ESMP requirements, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month. Specific attention will be given to ensure compliance with the project Occupational and Community Health and Safety (OCHS) requirements; 14) Review and advise the relevant persons (of the ISWS) on the OCHS risks and impacts of any design change proposals and the implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements; 15) As part of the ISWS quarterly report, prepare Quarterly OCHS section providing a summary of the reporting periods monitoring checklists, incident and accident reports, non-compliance reports, training programs, etc; and 16) Assist Team Leader on leading all OCHS accident/incident reporting, responding, investigation and monitoring 17) Notify the ISESSS and TL of any E&S incidents that may take place in the project sites or be associated with the project within 48 hours after the incident occurs. Participate in a Root Cause Analysis and assist the TL in preparation of reports required by the Environmental and Social Incident Response Toolkit (ESIRT) of the WB. 	
11. Road Safety Specialist (RSS)	<ol style="list-style-type: none"> 1) Review the detailed engineering designs with focus on road safety issues; 2) Review the road safety audit report (RSA) of the detailed designs to see if RSA's recommendations for safety improvement have been adequately incorporated; 3) During the construction, monitor the contractor's implementation of the traffic management plans (TMP) and road safety measures and recommend the contractors' to improve its performance with focus on road safety on a regular basis (at least twice a day or as necessary. This to ensure that effective implementation of TMP and road safety measures with flag men, sufficient visible traffic and contractors' machine regulating equipment and warning signs in place at all time. 	<p>Minimum qualifications for Road Safety Specialist:</p> <ul style="list-style-type: none"> • At least a Bachelor degree in highway or civil engineering (preferably with a focus on road safety); • At least 10 years of experience in road design or road safety audits; • Fluency in written and spoken English is mandatory.

Position	Tasks	Required Qualifications
	<ol style="list-style-type: none"> 4) Provide specific advice and training to the ESS, SSS field engineers of DPWT, contractor's workers especially the traffic management and road safety specialists and the key local authorities and communities responsible for planning and implementation of road safety measures/campaigns. 5) Organise periodically training sessions on road safety, for all project involved stakeholders, i.e. Employer, Contractor and local communities. 6) Prepare, main record and provide input on status of TMP and road safety measures for E&S monitoring report for submission to the WB via PMU; 7) Conduct regular site visit to road sections under construction to monitor implementation of TMP and road safety measures by the contractors. 8) Promptly notify the WB of any incident or accident related to the traffic and road safety under the project within 48 hours after the incident take place and participate in root cause analysis and incident report preparation. 	<ul style="list-style-type: none"> • Fluency in written and spoken Lao is mandatory.

II. Non-Key Experts – Tasks and Minimum Qualifications

Position	Tasks	Required Qualifications
1. Resident Engineers (RE)	<p>The REs will be assigned to the supervision of civil works, as well as to monitoring performance during the first year of the O&M period for the PCB contracts, ensuring compliance with the technical specifications and contract's performance indicators.</p> <p>The RE will be supervising the contractor for his package and will report to the Team Leader.</p> <ol style="list-style-type: none"> 1) Inspection of all works 2) Approval of material and method statements. 3) Quality Control 4) Monitoring daily implementation of the TMP and ESMP 	<p>Minimum preferable qualifications as Resident Engineer:</p> <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 10 years of experience as a resident engineer working on road construction and/or maintenance projects; • two assignments as a Resident Engineer of road rehabilitation and improvement (or construction) projects; • Fluency in written and spoken Lao is mandatory • Fluency in written and spoken English is mandatory.

Position	Tasks	Required Qualifications
2. Materials Engineer (ME)	<p>The ME will be experienced in the materials and processes involved for road rehabilitation works including the use of unbound (aggregate and natural materials) and concrete materials as well as the construction of DBST pavements, and will be fully aware of the needs for proving materials in the laboratory, quality control and construction techniques in the field.</p> <p>The ME will:</p> <ol style="list-style-type: none"> 1) Review existing information and conduct site visits, review materials sources proposed by the Contractors; 2) Review the detailed engineering pavement design prepared by the Contractors, considering the Conceptual Design provided by DoR/MPWT as a minimum requirement; 3) During the construction oversee the use of materials to ensure they meet quality standards required; 4) Determine the materials requirements for asphalt concrete pavement; 5) Monitor the quality control of the PBC-contractors; 6) Arrange for the quality control of the works in the BPC; 7) Supervise the works and order correction when needed; 8) Evaluate after road completion if the initial performance requirements for the O&M stage are met. 	<p>Minimum preferable qualifications as Materials Engineer:</p> <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 10 years of experience as a materials engineer working on road construction and /or road maintenance projects; • two assignments as a Materials Engineer; • At least one of the 2 positions shall be as an expert with over 6 years international experience; • Fluency in written and spoken English is mandatory.
3. Structural Engineer (SE)	<p>Services by the SE are to be provided in an intermittent manner throughout the final detailed design phase and during road rehabilitation phase. The SE will:</p> <ol style="list-style-type: none"> 1) Review design of new structures and bridges repair and make recommendations to DoR/MPWT the approval of the Final Detailed Design of structural works presented by the Contractors. 2) Assist in optimizing the design of structures keeping climate change effects in mind; 3) Consider strengthening the infrastructure design against natural hazards and impacts by climate change; 4) Review and evaluate hydrological and geotechnical reports and data and make appropriate technical recommendations; 5) Provide input to the preparation of Reports on relevant topics related to structures. 	<p>Minimum preferable qualifications as Structural Engineer:</p> <ul style="list-style-type: none"> • At least a B.Sc. in Civil Engineering • At least 10 years of experience in the engineering field of bridge design, with a good all-round knowledge of road infrastructure. • experience in bridge design for structures exposed to natural hazards (mostly floods) and climate change. • good written and oral English communication skills is mandatory.
4. Road Design Engineer (RDE)	<p>Assist the RDE (International) Services by the DE are to be provided throughout the final detailed design phase.</p> <p>The detailed design includes: geometric design; drainage; earthworks; pavement; road safety furniture; traffic signs and marking; bridge repair; environmental devices). The DE should have the required capacity to assess the development of the design stage, being responsible for:</p> <ol style="list-style-type: none"> 1) Review the detailed engineering design prepared by the Contractors, considering the Detailed Design provided by DoR/MPWT as a minimum requirement; 	<p>Minimum qualification requirements as Road Design Engineer:</p> <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 5 years of experience in road design, including 5-years as a lead design specialist for design teams.

Position	Tasks	Required Qualifications
	2) Identify sensitive points in each of the sections of the design, and timely propose remedial actions; 3) Taking into consideration the review carried out, validate all the design process, aiming at recommending to DoR/MPWT the approval of the Final Detailed Design presented by the Contractors. 4) Advise on eventual design changes required during construction.	<ul style="list-style-type: none"> • good written and oral English communication skills
5. Site Surveyor (SS)	1) Conduct topographic and other surveys, as required, to monitor the detailed design and progress of works; 2) Support the resident engineer at the commencement, progress and completion of civil works at the project road, including to check that measurements performed by the Contractor meet the required accuracies.	Minimum preferable qualifications for qualified professional as Senior Surveyor : <ul style="list-style-type: none"> • At least a Bachelor degree in geodetic engineering (or a related civil engineering field); • At least 7 years of experience as a surveyor or senior surveyor; • Preferred: a minimum 2 project assignments involving road construction, including pavement construction and rehabilitation; • A minimum of 1 assignment involving experience working with international organizations; • Fluency in written and spoken Lao. • Fluency in written and spoken English is an asset.
6. Site Engineer	The SEs will be assigned to the supervision of civil works during rehabilitation phase, as well as to monitoring performance during the first year of the O&M period for the PCB contracts, ensuring compliance with the specified performance indicators. The SE will be supervising the contractors for his package and will report to the RE for his package: 1) Control of quantities 2) Control of method statements and their application in the field 3) Supervising the contractor's quality control and organising the Consultant's own controls 4) Ensuring that the works carried out are in line with the specifications and the detailed design. 5) Conduct daily monitoring the implementation of C-ESMP under guidance of Environmental and Social Specialist.	Minimum preferable qualifications as Site Engineer : <ul style="list-style-type: none"> • At least a Bachelor degree in civil engineering; • At least 10 years of experience as a site engineer working on road construction and/or maintenance projects with asphalt concrete pavement; • two assignments as a Site Engineer for road rehabilitation projects involving asphalt concrete pavement;

Position	Tasks	Required Qualifications
		<ul style="list-style-type: none"> • Fluency in written and spoken Lao is mandatory • Fluency in written and spoken English is an advantage.

K. Facilities to be provided by DoR/MPWT

- i) Full time Project Manager, under DoR, a single point of contact within the MPWT for all communications and requests, as well as a technical staff person designated by him/her for daily administrative or support needs;
- ii) Necessary project documents;
- iii) Assistance for international consultation experts to get visas, residence permits and other permits for the consultancy;
- iv) Permission for consultation experts to enter relevant offices and construction sites and, where needed, MPWT staff to cooperate with them;
- v) Consultation experts will be allowed to get all the data sources, project documents that are not-restricted and not containing proprietary and/or confidential information, reports, drawings and maps. For such access, the consultant experts will sign a Confidentiality Agreement for all information to remain confidential during the time of the Consultancy and for five years after the completion of the Consultancy.

L. Facilities to be provided by the Consulting Firm, the Consultants

- i) Office Space in Vientiane and the necessary furniture such as desks, chairs, tables, shelves;
- ii) Office Space on the various construction sites including necessary furniture such as desks, chairs, tables, shelves;
- iii) The office equipment (computers, printers, internet, telephone, fax, photocopying equipment, binding machines, etc.);
- iv) Accommodation as needed to fulfill the consultancy assignment;
- v) Transportation as needed to fulfill the consultancy assignment;
- vi) All survey and measurements instruments;
- vii) All equipment and clothing, PPE, as required to fulfill the site duties;
- viii) The support staff;
- ix) Translation as required.
- x) All other facilities and supplies required to carry out the services.

NOTE: Guidelines for a Code of Conduct and Action Plan to prevent Gender-Based Violence (GBV) and Violence Against Children (VAC) – attached separately in RFP package