

Lao PDR Southeast Asia Disaster Risk Management Project - Additional Financing

Component 1.1. Structural Investments for Flood Protection

TOR for Consultancy Services for Construction Supervision in Luang Prabang and Borikhamxay

I. INTRODUCTION AND BACKGROUND

1. The South East Asia Disaster Risk Management Project for Lao PDR (LDRM, the Project) is being implemented with financing from the World Bank (WB) with the aim of reducing the risk of flooding and enhancing the disaster risk financing capacity of Lao PDR. The Project was approved on July 6, 2017 and became effective on 11 October 2017, with a commitment amount of US\$30 million. The project focuses on structural investments in Muang Xay of Oudomxay (ODX) Province and enhancing the capacity of the Government of Lao PDR (GoL) to provide hydro-meteorological services and disaster response.
2. In 2018, Lao PDR experienced widespread floods, which significantly impacted its people and economy. To help reduce the financing gap and augment the response efforts, the World Bank approved **Additional Financing (LDRM-AF, or AF)** of about \$25 million. This includes funding for Structural Investments to Strengthen Flood Protection to support additional investments in Muang Xay and to implement similar activities in two additional provinces i.e. Luang Prabang (LPB) and Borikhamxay (BKX). The planned investments in LPB comprise the construction of around 2 km of riverbank protection along the lower part of Nam Khan and the installation of four water gates and associated pumps on urban tributaries/creeks that join the Mekong River and Nam Khan and potential riverside park. In Pakxan City, Borikhamxay, around 1.2 km of riverbank protection along the Mekong River is planned.
3. This assignment covers the construction supervision of the planned flood protection investments in LPB and BKX of total estimated value \$12m (\$7m in LPB and \$5m in BKX). Detailed designs and bidding documents for the works will be prepared by other consultants and are expected to be completed by the end of 2020.
4. The project is being implemented by the Department of Waterways (DOW) of the Ministry of Public Works and Transport (MPWT), which coordinates activities with the Department of Urban Planning and Housing (DUPH) of MPWT and the Environmental Research and Disaster Prevention Division (EDPD) of the Public Works and Transport Research Institute (PTRI) of MPWT. The Provincial Departments of Public Works and Transport (DPWT) of the two provinces are responsible for day-to-day contract management on project sites and the reporting function including the activities related to safeguards compliance of contractor as required by the WB. The Provincial Department of Natural Resources and Environment (PONRE) and relevant local authorities are responsible for supervision/monitoring of safeguard compliance as required by GoL requirements. Detailed descriptions of the project and activities to be funded under the Additional

Financing (AF) can be found in the Project Paper, which is available online at <http://projects.worldbank.org/P170945ang=en>

II. OBJECTIVES OF THE CONSULTING ASSIGNMENT

- The objectives of this assignment are to support the DOW to supervise civil works contracts in Luang Prabang and Borikhamxay Provinces including the implementation, monitoring and reporting of related environmental and social safeguard requirements.

III. SCOPE OF SERVICES^[1]_[SEP]

A. Introduction

- In Luang Prabang cover Riverbank/Embankment Protection along two selected lengths of the west (left) bank of the Nam Khan (in red in Figure 1) and the installation of 4 “Water Gates” and Pumps on urban tributaries/creeks joining the Mekong River (3 Gates) and Nam Khan (1 Gate) - refer to Figure 1 for locations. In the case of the Riverbank Protection for the Nam Khan, supervision covers approximately 2km on both banks of the Nam Khan as indicated in black + red and at least approximately 1.2 km the lengths of Riverbank Protection identified in red in Figure 1 and the four Water Gates.

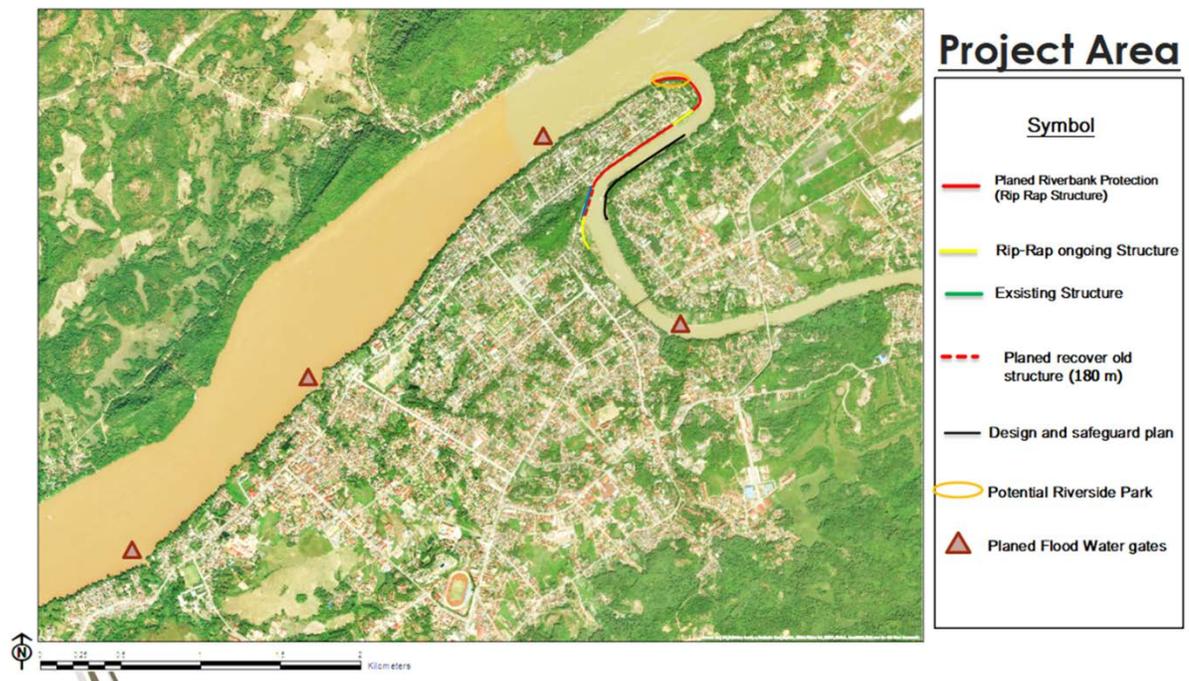


Figure 1 showing proposed locations of embankment and 4 water gates

- The consultant services required in Borikhamxay cover riverbank protection along the Mekong River at two different sites, approximately lengths 1.2 km - refer to Figure 2 for locations.

Project area for AF (Bolikamxay)

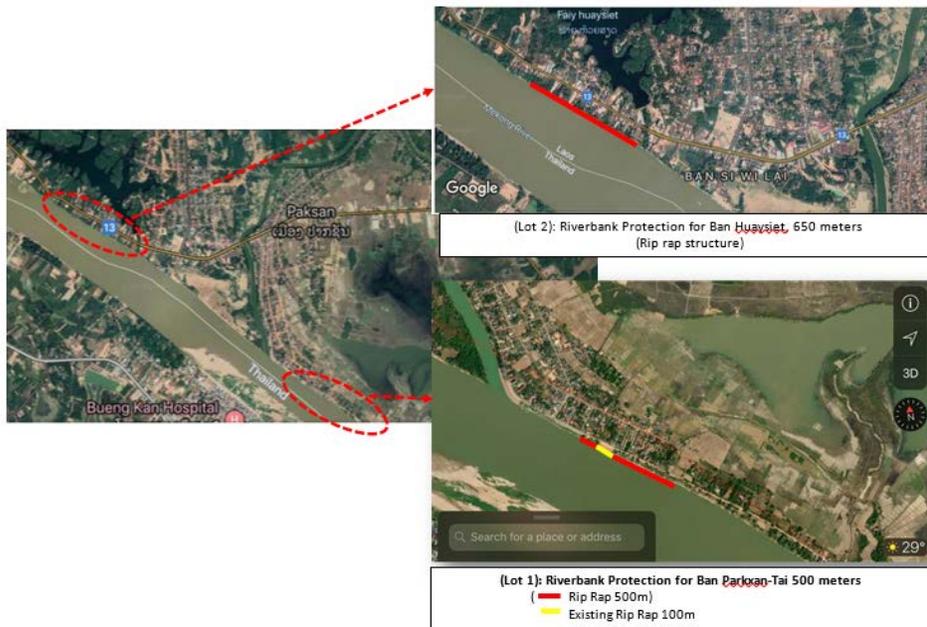


Figure 2 showing Project area for Borikhamxay

B. Overview and Contracting Arrangements for this Assignment

8. The consultant shall perform the role of “The Engineer” as prescribed in the Conditions of Contract and Particular Conditions of Contract of the World Bank Standard Bidding Document for Works, January 2017. The consultant shall be responsible for supervising the contract in Luang Prabang and Borikhamxay Provinces. The consultant shall also be responsible for review and approval of the Contractor - Environmental and Social Management Plan (C-ESMP) to be prepared and submitted by the contractor/s, as well as day-to-day supervision and monitoring of the safeguard performance of the contractor/s, including incorporating results in progress reports. In light of the coronavirus (Covid-19) pandemic, the contractor will also be required to implement measures for mitigating potential impacts of this pandemic on workers and local communities in line with the guidelines to be applied for projects with WB financing. These measures will be considered during the preparation of safeguard documents as well as during the supervision of works as described in this TOR.
9. There will be separate contracts for LPB and BKX and the works in LPB may be packaged into more than one contract, which would be implemented in parallel, most likely with lagged commencement dates. The consultant shall be responsible for supervising all contracts.
10. In broad terms the consultant shall:

- Ensure that all Works are constructed to the prescribed quality in accordance with the specifications of the bidding documents and Work Contracts and quality assurance systems;
- Monitor construction methods and quality control;
- Certify the quality of works conforms to the specifications and drawings;
- Provide technical assistance to DOW during the Defects Liability Period; and
- Perform any and all other items of work not specifically mentioned below, but which are necessary and essential to successfully supervise and control the construction activities in accordance with the plans, specifications and terms of contract.

C. Overarching Considerations

11. The following overarching considerations need to be addressed during the preparation of all aspects of the project. It is noted that the Environmental and Social Management Framework (ESMF), Compensation and Resettlement Policy Framework (CRPF or briefly called RPF), and Ethnic Group Engagement Framework (EGEF) shall be applied to all types of project activities where the relevant policy is triggered and consultation with WB may be necessary.

(i) Environmental and Social Safeguard (including potential ethnographic impacts and unavoidable resettlement of affected people) aspects

12. *To comply with WB safeguard requirements*, the ESMF requires safeguard screening to identify potential risks and impacts (positive and negative) proposed activities/subprojects and the safeguard instruments to be prepared and applied under the subproject. Specific screening forms and outlines of safeguard instruments are provided in the ESMF. Key specific requirements can be summarized in bullet points below, while main responsibilities, the cost of the project owner (PO) and/or the subproject owner (SPO)¹, the contractor, and the Consultant are identified in “Section D: Tasks to be covered”:

- If land acquisition and/or resettlement of local population is involved, preparation of a Resettlement Action Plan (RAP) or abbreviated RAP (ARAP) in line with the RPF will be required and ***WB clearance and disclosure of the cleared ARAP or RAP will be needed before the works/activities can be implemented.*** The implementation cost of the RAP/ARAP will be part of the subproject costs and the results will be monitored and reported to the WB. The ARAP or RAP will include information on the Grievance Redress Mechanism (GRM) established and operated in the subproject sites as per the ESMF, RPF and EGEF. No work will commence before the compensation and

¹ The Project Owner (PO) is the Department of Waterways (DOW) of the Ministry of Public Works and Transport (MPWT) while the Subproject Owner (SPO) are the Department of Public Works and Transport (DPWT) of Oudomxay, Luang Prabang (LPB), and Borikhamxay (BKX). The Environment Research and Disaster Prevention Division (EDPD) of the Public Works and Transport Institute (PTRI) will assist PO/SPO during the planning, implementation, and monitoring of all safeguard activities and safeguard training as needed.

resettlement of Project Affected Persons and Project Affected Households (PAPs/PAHs) has been completed.

- If ethnic groups who meet the definition of Indigenous Peoples (IPs) under the World Bank's policy OP 4.10 are present with collective attachment to the proposed sub-project area, the preparation of an Ethnic Group Engagement Plan (EGEP) in line with the EGEF will be required and ***WB clearance and disclosure of the cleared EGEP will also be needed before implementation.*** The EGEP will include information on the GRM established and operated in the subproject sites as per the ESMF, RPF and EGEF. The implementation costs of the EGEP will be part of the subproject costs and the results will be monitored and reported to WB.
 - To mitigate potential risks and impacts of the proposed investments/activities on the local environment and local communities, the ***Environmental and Social Management Plan (ESMP) must be prepared and submitted to WB for review and clearance, and disclosure be made before bidding process.*** The ESMP identifies potential negative issues of the subproject/activities and proposes measures to mitigate potential negative impacts during construction and operations and identifies those to be included in contract documents (CD) including finalization of the Environmental Code of Practices (ECOP) and the Environmental, Social Health and Safety (ESHS) requirements including Code of Conduct (COC) on Gender-Based Violence (GBV) and Violence Against Children (VAC) including other social risks and impacts such as SEA (Sexual Exploitation Abuse) and HIV Aids as well as potential occupation and community health and safety issues. ESMP may include site specific ESMP to be applied by individual subprojects to address and manage some specific risks and impacts in the sub-project site. The consultant will also ensure that the Contractor ESMP (C-ESMP) is prepared and implemented by the contractor. On behalf of SPO and PO, the Construction Supervision Consultant (CSC), and/or Field Engineer (FE) will review and approve the C-ESMP and will also be responsible for day-to-day supervision of the C-ESMP compliance and include the results in the subproject progress report. CSC and FE will be also responsible for responding to and addressing day-to-day work-related grievances that may be raised by local people, PAHs and PAPs. Periodic monitoring of safeguard compliance will be conducted by the SPO and local authorities and reports are to be submitted to GOL (copy to DOW/EDPD/PTRI).
13. DOW and EDPD of PTRI will conduct 3-month monitoring and submit the 6-month and annual safeguard monitoring report to the WB as agreed with the WB. For the RAP, more frequent updates should be provided to WB at least once a month or as necessary. Active and inclusive consultations with local authorities and local communities particularly the Project Affected Households and Persons (PAHs/PAPs) are required throughout the planning and implementation of the subproject/activities. Due attention will be given to avoid, reduce, and/or mitigate the health and safety risks especially those related to potential labor influx, workers, local communities, and UXO/explosions, and toxic/hazardous materials and wastes. The safeguard monitoring reports are also required

to update the status of grievances and feedback that may be received by PAHs and PAPs and concerned stakeholders and addressed.

14. *To satisfy GOL requirements*, the EIA decree (2019) requires the preparation of an Environmental and Social Impact Assessment (ESIA) or an Initial Environmental Examination (IEE) depending on the type/nature and scope of the project/activities and their potential impacts/risks. If an ESIA is required, a scoping report including a TOR for the ESIA study will be prepared and submitted to the Department of Environment (DOE)² of Ministry of Natural Resources and Environment (MONRE). If preparation of an IEE report is required, it will be submitted to the Provincial Office of Natural Resources and Environment (PONRE) for review and approval. Specific procedures on consultation with local authorities and affected people will also be required throughout the process. After the ESIA/IEE report are approved and an Environmental compliance certificate (ECC) is issued, the SPO will have to provide a budget for DOE of MONRE or PONRE and other local authorities to carry out ESIA/IEE implementation monitoring to ensure compliance with the ECC. The costs of periodical ESIA/IEE monitoring will be part of the project/subproject cost.
15. In the case of Luang Prabang, which is a UNESCO World Heritage site, initial discussions with DNEP and PONRE and the World Heritage Office in Luang Prabang (LPB-WHO) suggested that the impacts on the heritage site and surrounding areas should be considered throughout, with close collaboration with UNESCO and the World Heritage Office. A heritage impact assessment will be part of the ESIA to be developed during the sub-project preparation and the ESIA report and associated documents will be provided to LPB-WHO and UNESCO for their review; LPB-WHO and UNESCO will also be consulted throughout. Early consultation meetings with various stakeholders are essential.
16. The Consultant will also support EDPD/PTRI representing PO for safeguard and DPWT representing SPO, to implement and report on all safeguard instruments (ESMP, RAP/ARAP, EGEP, ESIA or IEE) required by WB and GoL. The PO/SPO (on behalf of the Government) will be responsible for making payments (land acquisition, compensation, support required for resettlement etc.) associated with the RAP/ARAP, EGEP and the ECC and for the implementation costs of RAP/ARAP, EGEP, the ECC including issuance, and compliance monitoring. The Works Contractors will be responsible for the implementation of mitigation measures and C-ESMP during preconstruction/site establishment, construction, and closure of construction sites. The Construction Supervision Consultant will be responsible for review and approval of the C-ESMP and day-to-day supervision of the Works Contractors performance, including C-ESMP compliance and include the results in the project progress report to be submitted to SPO.

(ii) Urban Design, Green Infrastructure and Non-Structural Measures

² In December 2019, DOE has been established by combining the Department of Natural Resources and Environment Policy (DNEP) with the Department of Environment Quality Promotion (DEQP) of MONRE. DOE is now responsible for review of the ESIA in Lao PDR.

17. The project promotes an integrated approach to mitigate flooding through a complementary combination of structural (grey and green) and non-structural measures. Non-structural measures are intended to include: improved urban planning and land-use zoning; eco-friendly design solutions; institutional capacity-building on integrated flood risk management; and better operations and maintenance of flood protection systems.
18. The city authorities are keen to develop tourism, enhance pedestrian amenity, improve the cities visual appearance, and harmonize the urban design character (e.g., integrate its infrastructure with the surrounding natural landscape). Every effort should be made to make infrastructure investments and facilities attractive, blending in with the surroundings through the adoption of eco-friendly/ bioengineering methods where feasible. Recreational facilities such as walkways shall allow full mobility to different users (e.g., people with disabilities, elderly people, families with children); hiking/biking trails should be incorporated along riverbanks and embankments where appropriate; open spaces should be planted with native trees and vegetation.
19. It is important to note that (i) Preparation of the environment and social safeguard documents to be required by WB (i.e. ESMP, RAP/ARAP, EGDP) and those to be required by GOL (ESIA or IEE) will be conducted by the consultant responsible for the feasibility study and detailed design (ISAN); (ii) A Project Resettlement Committee (PRC) will be established for each province to be responsible for implementation of RAP/ARAP and EGDP; (iii) compliance with the environmental and social safeguard obligations is explicitly included as part of the WB standard bidding document (under the topic of Environmental, Social, Health and Safety or ESHS); and (iv) Before construction can begin, the following criteria should be completed: (a) the compensation payment, GOL approval of the ESIA/IEE, and CSC approval of the C-ESMP and its site-specific subplans.

D. Tasks to be Covered

20. These shall include but not necessarily be limited to the following:

(i) Task 1: Mobilization and Initial Actions

- Establish a project office/s and facilities for the consulting services including providing or identifying a suitable test laboratory for independent testing of soils, concrete and other construction materials etc. (cost of offices and laboratory to be paid through works contracts)
- Review and coordinate detailed work programs featuring all pertinent activities and critical paths;
- Prepare the project organization charts and overall implementation and consultant staffing schedules and maintain and update such charts and schedules as necessary;
- Establish document control and filing systems for the project office/s, including official correspondence, drawings, site instructions, variation orders, diaries and all site records;

- Develop program management and tracking system, using proprietary computer software such as Microsoft Project or similar forms of Gantt Charts to schedule and monitor progress on all aspects of construction activities; and
- Prepare an Inception Report within the first six weeks of the consulting services to present the results of the above tasks.

(ii) Task 2: Design Review and Updating Contract Documents as Necessary

- While it is envisaged that construction works will proceed soon after the completion of Detailed Engineering Design unforeseen delays may occur in procuring works contracts. The consultant may therefore be required to update designs, contract drawings and contract documents to accommodate any pertinent changes that occur. Before commencement of the works, the consultant shall carry out selected “route walking” to identify any necessary changes to the planned works and the access to them. Any such changes shall be subject to endorsement by the design consultant, approval of the client and, depending on the implication on costs, the no objection of the World Bank.
- The recommended design criteria, specifications, technical standards, and codes of practice should give due consideration to Lao PDR Standard and Specifications, taking due account of advice provided by DOW, and where Lao PDR codes of practice/specifications and standards are not available, relevant international codes of practice, specifications and standards (with the approval of DOW.)
- The particular specifications for material and workmanship of all major work items should be presented in the bidding documents, and contain a general overview of the elements on which the work will be performed, inter alia, including technical parameters, main materials, characteristics, performance criteria for the main components, test and passing requirements, and acceptance criteria.

(iii) Task 3: General activities

- Regular assessment of the adequacy of the contractor/s input materials, labor, equipment, and construction methods;
- Establish field survey control, as required, in accordance with the construction contracts. Check the construction contractors’ setting out to ensure that work complies with the tolerances established by the contract documents and to ensure proper control of construction;
- Check and ensure the contractors carry out work in accordance with their submitted Method Statements and ensure the contractors adopt international safety standards in carrying out the works;
- Ensure that the construction contractors have valid permission to access construction sites before work commences, and that their site occupation program complies with conditions applicable to that permission;

- Make and keep records of condition surveys at each site prior to commencement of construction;
- Conduct random (but at least fortnightly) reviews of the contractors' daily records, material-testing results, batch records, set-out survey records etc. and report to the Client;
- Scrutinize construction methods proposed by the contractor including environmental, safety, personnel and public issues. This to include the review and approval of any temporary works proposed, including any necessary design checks;
- Extend timely assistance and directions to the contractors in all matters related to interpretation of the contract documents, plans, quality control testing, and other matters relating to contract compliance and progress;
- Check and revise construction drawings if any alteration is needed according to site requirements. Any significant revisions to design drawings should be certified by the design consultants;
- Conduct regular formal site meetings with the contractor and keep minutes of matters of concern;
- Carry out regular daily site visits and maintain an overview of progress, with particular attention to ensuring contractors' adherence to the design and construction drawings and specifications. Maintain daily records of the activities on the site, site conditions and contractor's resources;
- Attend to third party inspections as necessary;
- Assist DOW as necessary in meeting its obligations under the World Bank Credit, particularly in relation to reporting requirements and providing support during World Bank implementation review and mid-term review missions.

(iv) Task 4: Inspect and test construction materials for quality assurance

- Monitor, audit and perform independent testing of materials and systems put in place by the works contractor to verify their compliance with the required standards in accordance with the specifications;
- Supervise, approve and keep records of all site tests of the works according to the specifications;
- Check and verify that the materials testing laboratories established by the contractor, or outsourced to a private laboratory by the contractor, are well equipped and staffed by qualified personnel. On a random basis, have parallel samples tested at an independent and separate materials testing laboratory to verify the accuracy of the contractor's results.

(v) Task 5: Report progress and certify Interim Payments

- Prepare monthly progress reports with supporting photos for submission to the Client; the reports will also include progress related to Environmental and Social Safeguard implementation;
- Record and measure the quantities of works in accordance with the Conditions of Contract and the Bills of Quantities and provide certification;
- Process the contractors' claims for interim payments and issue interim payment certificates for the Client's review and approval;

(vi) Task 6: Monitor and update as necessary implementation schedules and cost projections

- Review, comment, and recommend for approval the Construction Contractors' proposed implementation schedules and programs, including periodic updates as the works proceed;
- Monitor the implementation schedules and if actual progress lags significantly behind the approved planned project schedules, require the contractors to submit alternative schedules and work plans to achieve completion on time;
- Prepare and update contract cash flow and financial projections on a monthly basis;

(vii) Task 7: Environmental and social safeguards monitoring

- Review and monitor the government (PO and SPO) and contractor's adherence to (i) the approved Environmental and Social Management Plan (ESMP), Contractor-Environmental and Social Management Plan (C-ESMP), Ethnic Group Engagement Plan (EGEP), and Resettlement Action Plan or Abbreviated Resettlement Action Plan (ARAP); (ii) any monitoring plans as recommended in the Environmental and Social Impact Assessment (ESIA) report; and (iii) relevant national legislation including EIA Decree 2019 and Compensation and Resettlement Decree 84, 2016; and review documentation, resolution and reporting on non-compliance issues and complaints;
- Undertake regular monitoring and include in all reports adherence and implementation status of ESMP, C-ESMP, RAP/ARAP and EGEP and follow up as needed on the actions required in the safeguards documents and previous progress reports or any specific incidence reports prepared ;
- Support EDPD/PTRI, DPWT and Project Resettlement Committee (PRC) and local authorities to operate the Project Grievance Redress Mechanism (GRM), and monitor, report on the status of grievances received and responded or addressed;
- Promptly attend to, and report on, any public complaints and incidences concerning execution of the works;
- Ensure that the contractors are aware of the approved GRM and grievance procedures established for the local communities and concerned stakeholders , and for contractor's workers, appoint two separate focal points with one for

handling with grievances received from the local communities and the other for dealing with grievances from contractor's workers and ensure that they follow the protocols as detailed in ESMP, C-ESMP, RAP/ARAP and EGEP (including proper documentation), and address any works-related complaints in a timely manner;

- Liaise with, and give necessary support to any independent environmental and social safeguards consultants in carrying out their monitoring and evaluation tasks, and fully cooperate with and participate in periodic monitoring visits, implementation support missions and spot-checks or investigation missions undertaken by DOW, World Bank staff or their consultants
- Undertake the inspection of and approval of contractors' camps and disposal sites to ensure that the ESMP/ESCOPs criteria for such sites are met;
- Assist with the encouragement of employment of communities, specifically women and ethnic people during infrastructure works and ensure that core labor standards are followed and monitored during implementation. This includes integrating necessary provisions in contracts to ensure that Project goals can be reached and indicators measured.
- Undertake regular monitoring to ensure that the measures to mitigate risks and negative impacts from the works and labor influx, as described in the environmental/safeguards documents applied, including implementation of ESMP, Environmental, Social, Health and Safety (ESHS) Guidelines including occupational and community health and safety plan, Code of Conduct (COC) to prevent and address Gender-based Violence, Violence Against Children (VAC) and Sexual Exploitation and Abuse (SEA), as part of their contractual obligations;
- Reviewing contractors' Monthly Construction Progress Report/s (MCPR) and prepare a summary for all contracts;
- Supervise contractors' compliance with safeguards documents and Construction Environmental Management Plans (C-EMPS), and issue instructions and notifications to the Contractor to address any safeguards non-compliance concerns;
- Review and advise on compliance with the Resettlement Action Plans and Ethnic Group Engagement Plans by the SPO (DPWT) and PO (EDPD/PTRI). Social Specialists of the Supervision Consultant will assess and certify completion of RAP and compensation provided to PAHs/PAPs to enable SPO and PO to handover the subproject sites or parts of the subproject sites (where RAP and compensation is completed) to contractors to start their works;
- Supervision of contractors in all matters concerning compliance with occupational health, safety (OHS) and labour management procedures or plan (LMP) and the community health and safety standard, including education on HIV/AIDS and COC to prevent and address potential GBV, VAC and SEA issues. If required, instruct the Contractors to take actions in accordance with the requirements of the Contract to

ensure compliance with the requirements of the project for addressing HIV/AIDS and GBV, VAC and SEA;

- Conduct safety audits to validate the OHS supervision of the resident engineer and independently confirm compliance with the Contractor's OHS plan. Provide regular audit reports of the findings.
- Ensure that any workers camps are established and managed in accordance with the recommendations of the Environmental Management Plan (EMP), OHS and LMP and the guidance contained in the IFC Guidance Note on Worker's Accommodation (Version 2009) see: <http://tinyurl.com/workers-camps>;
- Provide materials for consultation and otherwise support the SPO and local authorities to consult with the communities and stakeholders in accordance with ESMP, RAP and EGEP and ensure that outcomes of consultations are documented and included in safeguard monitoring reports, annual and semi-annual progress reports. A Provisional Sum has been incorporated in the contract to cover the costs associated with consultation including the costs of organizing consultation workshops with stakeholders, including the costs of interpretation and participants' per diem, transportation, accommodation, and catering as deemed necessary (refer also to para. 30 of this TOR).

(viii) Task 8: Variations and Claims

- Prepare for DOW's review and approval and subsequent issue to the contractor/s, submissions for variations to the contract/s that may be necessary to address unforeseen circumstances or other matters. Such variations should be in accordance with Section 13 Variations and Adjustments of the Conditions of Contract. The submissions should inter alia indicate to DOW any effect the changes may have on the contract amount and any additional time required to complete the contract;
- Assess any contractor/s' claims for extension of time, additional payment etc., and recommend means of resolving them for approval by the Client³. Adopt the procedures described in Section 20 Claims, Disputes and Arbitration for resolution of such claims;
- In case of unresolved claims prepare a report stating the issues, documentary evidences and way forward for the Client;

³The Consultant should ensure that the Client and Contractor fully understand the various types of variations to the contract that can arise and how they are must be handled differently. The two primary scenarios for variations to the contract are when the quantities of an existing BoQ item changes by more than 25%, the unit rates should be reviewed and adjusted, upward or downward, depending on the change in quantities. For items that were never catered for in the original BoQ, these must have the quantities estimated and the unit costs negotiated. Care must be taken on these "negotiations" as this is no longer a competitive process. These issues are a critical part of contracts management.

(ix) Task 9: Test, commission and certify civil works and any mechanical and electrical equipment

- Review and approve the contractor/s' procedures for commissioning and acceptance tests (to be submitted by the contractor);
- Supervise all tests and commissioning of all civil works in conformity with the specifications of the bidding document and approve all test certificates.
- Supervise the installation, testing and commissioning of any electro mechanical and control equipment supplied and installed by the contractor/s and ensure that quality and performance is as stipulated in the contract document. Verify and approve all test certificates;
- Review and approve all operating manuals submitted by the contractor before their handing over to the Client;

(x) Task 10: Ensure the documentation of final works

- Verify and ensure that the contractors carry out all revisions to construction drawings and any detailed drawings as necessary during the contract implementation;
- Check and approve (i) as-built drawings and other documentation, and (ii) operation and maintenance manuals submitted by the contractors;

(xi) Task 11: Certify completion and prepare the final payment certificate

- Certify partial, substantial, and final completion of the works in accordance with provisions of the contracts, including certification of stage and final acceptance tests. This should include: inspecting the works and informing the contractor in writing regarding the items outstanding or needing remedial work for full completion. Upon full completion, the Consultants shall assist DOW in undertaking the inspection of the works in connection with the issuance of the Completion Certificate stating the date or dates from which the Period/Defects Liability period shall start. The Consultants will issue taking-over certificates after prior approval by DOW and completion of remedial/outstanding works.

(xii) Task 12: Defects Liability Period

- During the 12-month defects liability period, intermittent checks are required to ensure that the works constructed including any electro mechanical equipment and control systems are operating in accordance with technical specifications of the bidding document and operating manuals. The Consultants shall carry out at least two evaluation missions during the defects liability period. The Consultant will agree the mission dates in consultation with, and approval by DOW. One of the evaluation missions must take place during the rainy season. Each evaluation mission shall cover, inter alia:

- Review of the performance of any electro mechanical equipment and control systems, including all monitoring data and testing in accordance with the manufacturers' specifications;
 - Identification of any performance issues with the works;
 - Assessment of the day to day operation and maintenance of the works;
 - A status report to DOW including recommendations for any remedial actions necessary
- Each evaluation mission report shall be submitted to DOW not later than one week after completion of the mission.
 - On satisfactory completion of the defects liability periods for the works the consultant shall certify final completion.

E. Coordination with Other Agencies

21. In addition to the other two primary participants to the contracts, DOW and the contractors, the consultant shall coordinate and interact as necessary for the smooth implementation of the works with all other parties involved. It is envisaged that this will include but not necessarily be limited to: other departments of MPWT; utility providers; the Local Government; National Government ministries; the Police; representatives of commercial and civil society groups and other consultants and contractors engaged in urban infrastructure works. Such coordination with parties outside of DOW shall be done in close consultation and collaboration with DOW.
22. Assist DOW to coordinate with other agencies to solve any problems in relation to traffic management, public nuisance etc. that may arise from construction activities. This will include examining, approving and supervising all temporary and permanent traffic management proposals of the contractor and ensuring that interruption to movement of all road users is kept to a minimum. In the case of Luang Prabang, which is a World Heritage Site, the consultants shall liaise closely with the World Heritage Office and shall ensure that the contractor/s similarly do so and follow any requirements stipulated by them relating to heritage matters;
23. Coordinate and supervise all service/utility diversions and relocations required to facilitate the timely completion of the contracts, paying close attention to the associated costs. Costs will be accommodated in the BoQ as a provisional sum. The works should be closely supervised and costs carefully managed.

F. Outputs and Reporting

24. Submit the reports listed below in English and Lao PDR, both in word editable and in pdf formats, including maps at clearly readable scales, in both electronic and hard copy format. Translations must be high quality with editing for language and technical accuracy by a translator familiar with technical terminology. All major reports need to contain an

executive summary in both languages. The reports are to be prepared first in draft and finalized upon review by the GoL. All the reports will include a section on environment and social safeguards describing the implementation progress, issues, actions and/or recommendations that can be used to judge compliance with the Environment, Social, Health, and Safety (ESHS) requirements as incorporated in the bidding/contract documents as well as the effectiveness of the C-ESMP and/or performance of contractor. The Consultant will be responsible for providing at least the following major reports:

No.	Report	Number of copies		Submission of Reports (from the date of contract signing)
		Lao	English	
1	Inception Report	6	6	2weeks
2	Monthly Progress Report covering safeguard (ESMP/C-ESMP, RAP/ARAP, EGEP, IEE) implementation status, issues, GRM, lessons learned, and actions taken and to be taken	6	6	Monthly (5 working days after the end of each month)
3	RAP/ARAP Completion Reports (ICR)consisting two parts. One will be prepared and submitted to the World Bank via SPO/PO after completion of compensation to all PAHs/PAPs and the other will be prepared and submitted after completion of the subproject (works)	6	6	First report to be submitted to the Bank 2 weeks after RAP/ARAP completion
4	EGEP Completion Report	6	6	To be submitted two weeks after subproject completion,
5	Any reports on relevant issues or incidence that may happen during the construction/works	6	6	Depending on the nature and level of severity of the incidence, the report needs to be submitted to PO/SPO as soon as possible.
6	Final Completion Report	6	6	On substantial completion of contract/s

7	Final Project Completion Report	6	6	Upon completion of works
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IV. ESTIMATED SCHEDULE AND DURATION OF SERVICES

25. It is anticipated that the period of the services would be approximately 12 months for supervision plus intermittent coverage during the 12 month defects liability period as noted above.
26. For the purposes of preparing proposals, the consultant is to adopt the following implementation schedule – this is subject to change as project preparation and procurement proceed:

Consultant’s commencement of services	2021
First Civil works bids submitted	2021
First Civil works contracts awarded	2021
Civil works substantially completed	2022

V. FACILITIES AND EQUIPMENT TO BE PROVIDED BY THE EMPLOYER AND BY THE CONSULTANT

27. The Employer will provide, through the Works Contracts, the items listed below. All equipment procured under this contract will be the property of the Employer and will be transferred to the Employer after completion of the contract.:
- Serviced offices for the Engineer and Engineer’s staff including office equipment including computers, printers and copiers, stationary and other consumables;
 - Survey equipment and site protective wear;
 - Vehicles, drivers, fuel and vehicle maintenance;
 - Unskilled labour needed as helpers for surveys and quality control.
28. DOW will also provide support in obtaining any necessary data, maps and supporting materials from other Ministries. Administrative support will be provided to facilitate obtaining work permits and visas for international staff.
29. The following items shall be fully arranged by the Consultant. :
- Rented accommodation for staff;
 - International and local airfares for staff;
 - Local and international telecommunication;
30. The consultant will be responsible for other services that may be needed, including:
- Translation of the reports in Lao/English language;
 - Professional editing and design of communications materials;

- Organizing of the related consultation workshops with stakeholders in target areas including the costs of interpretation and participants' per diem, transportation, accommodation, and catering. A provisional sum of US\$10,000 has been incorporated in the contract to cover these costs.

VI. REQUIRED LEVEL OF EXPERTISE OF CONSULTING FIRM AND KEY EXPERTS

A. Expertise of Consulting Firm (Consultant)

31. The Consultant is expected:

- To be a consulting firm or an association of consulting firms with the appropriate capabilities and experience to execute the services.
- Have at least 15 years of general experience implementing supervision contracts for civil engineering projects worldwide and specifically in developing countries; experience in ASEAN is an advantage;
- Have at least 8 years of specific experience in the supervision of flood risk management and/or hydraulic engineering projects in developing countries;
- Have a proven record of successful completion of at least 3 assignments related to construction supervision of flood protection and disaster risk management, civil engineering, hydrology, water resource management, urban development and design, and construction supervision of projects involving investments over \$7 million, including stakeholder engagement and consideration of environmental and social safeguards and procurement aspects;
- To be able to mobilize the internationally experienced and locally experienced Key Experts and staff listed in the tables below. The Consultant must evaluate for themselves the staff required to achieve the objectives of the assignment and may propose additional or alternative staff (Key experts must be included in the consultant's proposal). The contract will be a time-based contract and the inputs presented are indicative and may be varied by the consultant. Staff should be predominantly based in Luang Prabang and Borikhamxay throughout the assignment.

32. The following table presents the indicative staffing and inputs for all of the proposed construction works (that will be implemented within a budget of \$12m) in Luang Prabang and Borikhamxay:

Ref #	Description	Indicative Inputs (mm)
Internationally Experienced Staff		
1	Resident Engineer/Team Leader (KE)	13
2	Quantity Surveyor (KE)	5
Locally Experienced Staff		
1	Deputy Resident Engineer/Deputy Team Leader (KE)	12
2	Deputy Resident Engineer #2 (KE)	12
3	Deputy Quantity Surveyor x2	24
4	Site Inspector#1	12
5	Site Inspector#2	12
6	Environmental and Social Safeguards Specialist	12
7	Materials Specialist	4

B. Expertise of Key Experts

33. The Consultant's team shall include the Key Experts listed. Remaining staff will be subject to a pass/fail evaluation of their qualifications. The Consultant may be required to replace candidates not meeting the specified requirements prior to contract signature.
34. The Key Experts are required to fulfill, at a minimum the requirements listed below and in addition they must be fluent in written and spoken English. Locally experienced Key Experts must be fluent in writing and speaking both English and the Lao language;
35. It is envisaged that the international Resident Engineer/Team leader will: (a) be based in Luang Prabang and Borikhamxay on an intermittent basis – with lengthy periods at the beginning and end of construction implementation and shorter periods in between; and (b) will manage and support the Deputy Resident Engineer remotely by phone and electronic communications from his home base on an intermittent basis. The locally experienced Deputy Resident Engineer/Deputy Team Leader will be based in Luang Prabang and Borikhamxay full time and shall work under the direction of the Resident Engineer. The consultant may propose alternative arrangements within the same level of time inputs.
36. The inputs listed below include for providing technical support to DOW during the defects liability period, using staff involved in the construction supervision.
37. The following Key Experts and other staff will be required for Construction Supervision. "Assignment Details" included are indicative only.
- **Resident Engineer/Team Leader** (International) with:

- At least a BSc in Civil Engineering, Hydraulics Engineering or a closely related discipline and membership of an appropriate internationally recognized professional organization;
 - At least 10 years relevant experience in the construction supervision of large civil engineering projects valued over \$10 million of which at least 10 years should have been on flood protection schemes or similar works;
 - At least 5 years experience in supervising projects in developing countries, and has experiences with World Bank or ADB funded will be an asset.
- o *Assignment Details*
- Responsible for supervising the works and, if included, goods contract/s, as defined in this scope of works and as set down in the contract documents for the works and goods;
 - Liaising with the design team under a separate consultancy on any design modifications that may become necessary, or are proposed by the contractor/s during the course of construction;
 - Regular communication both verbal and written with DOW to ensure smooth running of the works and goods contracts.
- **Quantity Surveyor** (International) with
 - At least a BSc degree in Quantity Surveying, Civil Engineering, Engineering Measurement or similar;
 - At least 10 years relevant experience in the supervision and measurement, of civil engineering construction projects valued over \$7.5 million. At least 5 years experience of working on project and with World Bank or ADB funded projects will be an asset.
- o *Assignment Details*
- Agree procedures and arrangements with the contractor/s for the preparation, submission, verification and approval of interim and final payment certificates;
 - Establish arrangements with the Resident Engineer and other staff for the checking and agreement of measurements on site;
 - Review and certify, as appropriate claims and variation orders submitted by the contractor/s;
 - Process the final account/s and completion certificate/s.
- **Deputy Resident Engineer/Deputy Team Leader** (Locally experienced) with:
 - At least a BSc in Civil Engineering, Hydraulics Engineering or a closely related discipline;
 - At least 7 years relevant experience in the construction supervision of large civil engineering projects valued over \$5 million of which at least 2 years should have been on flood protection schemes or similar;

- Familiarity with World Bank or ADB procedures and contract documents including at least 2 years experience in supervising World Bank or ADB funded projects.
- o *Assignment Details*
 - As Deputy Resident Engineer/Deputy Team Leader assist and work under the direction of the Resident Engineer/Team Leader to ensure that the objectives of this scope of services are met. Shall be based in Luang Prabang and Borikhamxay and during periods when the Resident Engineer is not present shall act on his behalf;
 - Shall assist the Resident Engineer to ensure that communication both verbal and written with DOW is clearly understood.
- **Deputy Resident Engineer #2** (Locally experienced) with:
 - At least a BSc in Civil Engineering, Hydraulics Engineering or a closely related discipline;
 - At least 4 years relevant experience in the construction supervision of large civil engineering projects valued over \$5 million of which at least 1 year should have been on flood protection schemes or similar;
 - Familiarity with World Bank or ADB procedures and contract documents including at least 2 years experience in supervising World Bank or ADB funded projects would be advantageous.
- o *Assignment Details*
 - As Deputy Resident Engineer #2 assist and work under the direction of the Resident Engineer/Team Leader to ensure that the objectives of this scope of services are met. Shall be based in Luang Prabang or Borikhamxay;
 - Shall assist the Resident Engineer to ensure that communication both verbal and written with DOW is clearly understood.