



LAO PEOPLE'S DEMOCRATIC REPUBLIC

Peace Independence Democracy Unity Prosperity

MINISTRY OF PUBLIC WORKS AND TRANSPORT

DEPARTMENT OF TRANSPORT

**Vientiane Sustainable Urban Transport Project
(VSUTP)**

**BIDDING DOCUMENT
FOR PROCUREMENT OF
WORKS**

PACKAGE : CW1E – Traffic Signaling

Volume 3

**PART III CONDITIONS OF CONTRACT
AND CONTRACT FORMS**

12 September 2023 Edition

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[Name of Employer]

[Name of Contract]

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General Conditions of Contract

A. General

1. Definitions

- 1.1 Boldface type is used to identify defined terms.
- (a) The **Accepted Contract Amount** means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
 - (b) The **Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
 - (c) The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 29.1 [Appointment of Adjudicator] hereunder.
 - (d) **Bank** means the financing institutions named in the **Particular Conditions of Contract (PCC)**.
 - (e) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
 - (f) **Compensation Events** are those defined in GCC 51.1 [Compensation Events] hereunder.
 - (g) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC 69.1 [Completion].
 - (h) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC 2.3 below.
 - (i) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the Employer.
 - (j) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the Employer.
 - (k) The **Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
 - (l) **Days** are calendar days; months are calendar months.
 - (m) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
 - (n) A **Defect** is any part of the Works not completed in accordance with the Contract.
 - (o) The **Defects Liability Certificate** is the certificate issued by the Project Manager upon correction of defects by the Contractor.

- (p) The **Defects Liability Period** is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects.
- (q) **Drawings** include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (r) The **Employer** is the party who employs the Contractor to carry out the Works, as specified in the **PCC**.
- (s) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) **Force Majeure** means an exceptional event or circumstance: which is beyond a Party's control; which such Party could not reasonably have provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.
- (u) **In writing** or **written** means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
- (v) The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- (w) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the **PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (x) **Letter of Acceptance** means the formal acceptance by the Employer of the Bid and denotes the formation of the Contract at the date of acceptance.
- (y) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (z) **Party** means the Employer or the Contractor, as the context requires.
- (aa) **PCC** means Particular Conditions of Contract.
- (bb) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (cc) The **Project Manager** is the person named in the **PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (dd) **Retention Money** means the aggregate of all monies retained by the Employer pursuant to GCC 55.1 [Retention].
- (ee) **Schedules** means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.

- (ff) The **Site** is the area defined as such in the **PCC**.
- (gg) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (hh) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (ii) The **Start Date** is given in the **PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (jj) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (kk) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (ll) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (mm) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the **PCC**.

2. Interpretation

- 2.1 In interpreting these GCC, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is specified in the **PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Contract Agreement,
 - (b) Letter of Acceptance,
 - (c) Letter of Bid,
 - (d) Particular Conditions of Contract,
 - (e) the List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) General Conditions of Contract,
 - (g) Specifications,
 - (h) Drawings,
 - (i) Completed Activity Schedules or Bill of Quantities, and
 - (j) any other document listed in the **PCC** as forming part of the Contract.

- 3. Language and Law**
- 3.1 The language of the Contract and the law governing the Contract are stated in the **PCC**.
- 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when
- (a) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from, or any payments to, a particular country, person, or entity. Where the borrower's country prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded.
- 4. Contract Agreement**
- 4.1 The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the attached Contract forms in Section 8. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.
- 5. Assignment**
- 5.1 Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party
- (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party; and
- (b) may, as security in favor of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.
- 6. Care and Supply of Documents**
- 6.1 The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 6.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.
- 6.3 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.
- 6.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.
- 7. Confidential Details**
- 7.1 The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow its proper implementation.

7.2 Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

7.3 Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this Clause.

8. Compliance with Laws

8.1 The Contractor shall, in performing the Contract, comply with applicable Laws.

8.2 Unless otherwise stated in the Particular Conditions,

(a) the Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the [Employer's Country or country where the Site is located] which (i) such authorities or undertakings require the Employer to obtain in the Employer's name, and (ii) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract;

(b) the Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the [Employer's Country or country where the Site is located] which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under Subclause 8.2(a) hereof and that are necessary for the performance of the Contract. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Employer or its personnel, including the Subcontractors and their personnel, but without prejudice to Subclause 8.1 hereof.

9. Joint and Several Liability

9.1 If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally liable to the Employer for the fulfillment of the provisions of the Contract, and shall designate one of such persons to act as a leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

- 10. Project Manager's Decisions** 10.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.
- 11. Delegation** 11.1 The Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
- 12. Communications** 12.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.
- 13. Subcontracting** 13.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.
- 14. Other Contractors** 14.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the **PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
- 15. Personnel and Equipment** 15.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the functions stated in the Schedule or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
- 15.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within 7 days and has no further connection with the work in the Contract.
- 15.3 Should any employee of the Contractor be determined, based on reasonable evidence, to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the execution of the Works, then that employee shall be removed in accordance with Clause 15.2 above.
- 16. Employer's and Contractor's Risks** 16.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
- 17. Employer's Risks** 17.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:
- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or

- (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.
- 17.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to
- (a) a Defect which existed on the Completion Date,
 - (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
 - (c) the activities of the Contractor on the Site after the Completion Date.
- 18. Contractor's Risks**
- 18.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks, are Contractor's risks.
- 19. Insurance**
- 19.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the **PCC** for the following events, which are due to the Contractor's risks:
- (a) loss of or damage to the Works, Plant, and Materials;
 - (b) loss of or damage to Equipment;
 - (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
 - (d) personal injury or death.
- 19.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
- 19.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance, which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 19.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.
- 19.5 Both parties shall comply with any conditions of the insurance policies.

- 20. Site Investigation Reports** 20.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **PCC**, supplemented by any information available to the Contractor.
- 21. Contractor to Construct the Works** 21.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.
- 22. The Works to Be Completed by the Intended Completion Date** 22.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
- 23. Designs by Contractor and Approval by the Project Manager** 23.1 The Contractor shall carry out design to the extent specified in the **PCC**. The Contractor shall promptly submit to the Employer all designs prepared by him. Within 14 days of receipt, the Employer shall notify any comments. The Contractor shall not construct any element of the permanent work designed by him within 14 days after the design has been submitted to the Employer or where the design for that element has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on, taking these comments into account as necessary.
- 23.2 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings..
- 23.3 The Contractor shall be responsible for design of Temporary Works.
- 23.4 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 23.5 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.
- 23.6 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
- 24. Safety** 24.1 The Contractor shall be responsible for the safety of all activities on the Site.
- 25. Discoveries** 25.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
- 26. Possession of the Site** 26.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the **PCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
- 27. Access to the Site** 27.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place

where work in connection with the Contract is being carried out or is intended to be carried out.

28. Instructions, Inspections, and Audits

28.1 The Contractor shall carry out all instructions of the Project Manager, which comply with the applicable laws where the Site is located.

28.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

28.3 The Contractor shall permit ADB or its representative to inspect the Contractor's site, assets, accounts, records, and other documents relating to the submission of bids and contract performance and to have them audited by auditors appointed by ADB. The Contractor shall maintain all documents and records related to the bid submission and execution of the Contract for at least 5 years after completing the works contemplated in the relevant contracts or the period prescribed in applicable law, whichever is longer. The Contractor shall provide any documents necessary for the investigation of allegations of corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations and require its employees or agents with knowledge of the Contract to respond to questions from ADB.

28.4 ADB's right to inspect the Site and/or the Contractor's accounts and records relating to the performance of the Contract stated in Sub-Clause 28.3 and 74.2 (e) shall survive termination and/ or expiration of this Contract.

29. Appointment of the Adjudicator

29.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the **PCC**, to appoint the Adjudicator within 14 days of receipt of such request.

29.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 14 days of receipt of such request.

30. Procedure for Disputes

30.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.

30.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

30.3 The Adjudicator shall be paid by the hour at the rate specified in the **PCC**, together with reimbursable expenses of the types specified in the **PCC**, and the cost shall be divided equally between the Employer and the

Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding.

- 30.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the **PCC**.

B. Staff and Labor

- 31. Forced Labor** 31.1 The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements.
- 32. Child Labor** 32.1 The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where national laws have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.
- 33. Workers' Organizations** 33.1 In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with national law. Where national law substantially restricts workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where national law is silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and bargain collectively. The Contractor shall engage with such workers representatives. Worker organizations are expected to fairly represent the workers in the workforce.
- 34. Nondiscrimination and Equal Opportunity** 34.1 The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. In countries where national law provides for non-discrimination in employment, the Contractor shall comply with national law. When national laws are silent on nondiscrimination in employment, the Contractor shall meet this Subclause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.

C. Time Control

- 35. Program**
- 35.1 Within the time stated in the **PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
- 35.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 35.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the **PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the **PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
- 35.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
- 36. Extension of the Intended Completion Date**
- 36.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 36.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 37. Acceleration**
- 37.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 37.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

- 38. Delays Ordered by the Project Manager** 38.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
- 39. Management Meetings** 39.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 39.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
- 40. Early Warning** 40.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
- 40.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

D. Quality Control

- 41. Identifying Defects** 41.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
- 42. Tests** 42.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
- 43. Correction of Defects** 43.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the **PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 43.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

- 44. Uncorrected Defects** 44.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

E. Cost Control

- 45. Contract Price** 45.1 In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

- 45.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for Materials on Site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

- 46. Changes in the Contract Price** 46.1 In the case of an admeasurement contract:
- (a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25%, provided the change exceeds 1% of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
 - (b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15%, except with the prior approval of the Employer.
 - (c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

- 46.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

- 47. Variations** 47.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.
- 47.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 47.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

- 47.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 47.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 47.6 In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in GCC 46.1 [Changes in the Contract Price] or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.
- 48. Cash Flow Forecasts**
- 48.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.
- 49. Payment Certificates**
- 49.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 49.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 49.3 The value of work executed shall be determined by the Project Manager.
- 49.4 The value of work executed shall comprise,
- (a) in the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been completed; or
 - (b) in the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.
- 49.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 49.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- 50. Payments**
- 50.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If

the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

50.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

50.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

50.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

51. Compensation Events

51.1 The following shall be Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC 26.1 [Possession of the Site].
- (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effects on the Contractor of any of the Employer's Risks.

(k) The Project Manager unreasonably delays issuing a Certificate of Completion.

51.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

51.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

51.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

52. Tax

52.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC 54.1 [Price Adjustment].

53. Currencies

53.1 Where payments are made in currencies other than the currency of the Employer's country specified in the **PCC**, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.

54. Price Adjustment

54.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the **PCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{ Imc/loc}$$

where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c."

A_c and B_c are coefficients¹ specified in the **PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency “c;” and

I_{mc} is a consolidated index prevailing at the end of the month being invoiced and I_{oc} is the same consolidated index prevailing 28 days before Bid opening for inputs payable; both in the specific currency “c.”

54.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

55. Retention

55.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the **PCC** until Completion of the whole of the Works.

55.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 69.1 [Completion], half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” bank guarantee.

56. Liquidated Damages

56.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the **PCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **PCC**. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.

56.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC 50.1 [Payments].

57. Bonus

57.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the **PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

58. Advance Payment

58.1 The Employer shall make advance payment to the Contractor of the amounts stated in the **PCC** by the date stated in the **PCC**, against provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the Employer in amounts and currencies

¹ The sum of the two coefficients A_c and B_c should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulas for all currencies, since coefficient A_c , for the nonadjustable portion of the payments, is a very approximate figure (usually 0.10 ~ 0.20) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency is added to the Contract Price.

equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

58.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

58.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

59. Securities

59.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the **PCC**, by a bank acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a bank guarantee.

60. Dayworks

60.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

60.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within 2 days of the work being done.

60.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

61. Cost of Repairs

61.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

F. Force Majeure

62. Definition of Force Majeure

62.1 In this Clause, "Force Majeure" means an exceptional event or circumstance,

- (a) which is beyond a Party's control;
- (b) which such Party could not reasonably have provided against before entering into the Contract;

- (c) which, having arisen, such Party could not reasonably have avoided or overcome; and
- (d) which is not substantially attributable to the other Party.

62.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war;
- (c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;
- (d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; and
- (e) natural catastrophes such as earthquake, hurricane, typhoon, or volcanic activity.

63. Notice of Force Majeure

63.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

63.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

63.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

64. Duty to Minimize Delay

64.1 Each Party shall at all times use all reasonable endeavours to minimize any delay in the performance of the Contract as a result of Force Majeure.

64.2 A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

65. Consequences of Force Majeure

65.1 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to GCC Subclause 30.1 [Procedure for Disputes] to

- (a) an extension of time for any such delay, if completion is or will be delayed, under GCC Subclause 36 [Extension of the Intended Completion Date]; and
- (b) if the event or circumstance is of the kind described in subparagraphs (a) to (d) of GCC Subclause 62.2 [Definition of Force Majeure] and, in the case of subparagraphs (b) to (d), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in GCC Subclause 19 [Insurance].

65.2 After receiving this notice, the Project Manager shall proceed in accordance with GCC Subclause 10 [Project Manager's Decisions] to agree or determine these matters.

66. Force Majeure Affecting Subcontractor

66.1 If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader Force Majeure events or circumstances shall not excuse the Contractor's nonperformance or entitle him to relief under this Clause.

67. Optional Termination, Payment and Release

67.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with GCC Subclause 73.5 [Termination].

67.2 Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate, which shall include

- (a) the amounts payable for any work carried out for which a price is stated in the Contract;
- (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;
- (c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- (d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- (e) the Cost of repatriation of the Contractor's staff and labor employed wholly in connection with the Works at the date of termination.

- 68. Release from Performance**
- 68.1 Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises, which makes it impossible or unlawful for either or both Parties to fulfill its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance,
- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract; and
 - (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under GCC Subclause 67 [Optional Termination, Payment and Release] if the Contract had been terminated under GCC Subclause 67.

G. Finishing the Contract

- 69. Completion**
- 69.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed.
- 70. Taking Over**
- 70.1 The Employer shall take over the Site and the Works within 7 days of the Project Manager's issuing a certificate of Completion.
- 71. Final Account**
- 71.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.
- 72. Operating and Maintenance Manuals**
- 72.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **PCC**.
- 72.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **PCC** pursuant to GCC 72.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the **PCC** from payments due to the Contractor.
- 73. Termination**
- 73.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 73.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate;
- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Project Manager gives two consecutive Notices to update the Program and accelerate the works to ensure compliance with GCC Subclause 22.1 [The Works to be Completed by the Intended Completion Date] and the Contractor fails to update the Program and demonstrate acceleration of the works within a reasonable period of time determined by the Project Manager;
- (g) the Contractor does not maintain a Security, which is required;
- (h) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **PCC**; and
- (i) if the Contractor, in the judgment of the Employer has engaged in integrity violations in competing for or in executing the Contract, pursuant to GCC 74.1 [Fraud and Corruption].

73.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC 73.2 above, the Project Manager shall decide whether the breach is fundamental or not.

73.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

73.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

74. Fraud and Corruption

74.1 If the Employer determines, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, or other integrity violations, including the failure to disclose any required information which constitutes a fraudulent practice, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contract and expel him from the Site, and the provisions of Clause 73 {Termination} shall apply as if such termination had been made under Sub-Clause 73.2 (i).

74.2 ADB requires Borrowers (including beneficiaries of ADB-financed activity) and their personnel, as well as firms and individuals participating in an ADB-financed activity, including but not limited to, Bidders,

Suppliers, Contractors, agents, subcontractors, subconsultants, service providers, subsuppliers, manufacturers (including their respective officers, directors, employees and personnel) under ADB-financed contracts to observe the highest standard of ethics during the procurement and execution of such contracts in accordance with ADB's Anticorruption Policy (1998, as amended from time to time). In pursuance of this policy, the ADB

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - (ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (v) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
 - (vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations; and
 - (vii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vi) above and the following: obstructive practice, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award or any of its officers, directors, employees, personnel, subconsultants, subcontractors, service providers, suppliers or manufacturers has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
- (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of

a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation, including by failing to inform ADB in a timely manner at the time they knew of the integrity violations;

- (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible, either indefinitely or for a stated period of time, to participate² in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and
- (e) will have the right to require that a provision be included in bidding documents and in contracts financed, administered, or supported by ADB, requiring Bidders, suppliers and contractors, consultants, manufacturers, service providers and other third parties engaged or involved in ADB-related activities, and their respective officers, directors, employees and personnel, to permit ADB or its representative to inspect the site and their assets, accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

74.3 All Bidders, consultants, contractors, suppliers, manufacturers, service providers, and other third parties engaged or involved in ADB-related activities and their respective officers, directors, employees and personnel are obliged to cooperate fully in any investigation when requested by ADB to do so. As determined on a case by case basis by ADB, such cooperation includes, but is not limited to, the following:

- (a) being available to be interviewed and replying fully and truthfully to all questions asked;
- (b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;
- (c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;
- (d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communications Technology

² Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

(ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);

- (e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and
- (f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.

74.4 All Bidders, consultants, contractors and suppliers shall require their officers, directors, employees, personnel, agents to ensure that, in its contracts with its subconsultants, Subcontractors and other third parties engaged or involved in ADB-related activities, such subconsultants, Subcontractors and other third parties similarly are obliged to cooperate fully in any investigation when requested by ADB to do so.

74.5 The Contractor undertakes that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the bid, have been given or received in connection with the procurement process or in the contract execution.³

75. Payment upon Termination

75.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the **PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

75.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

76. Property

76.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

77. Release from Performance

77.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterward to which a commitment was made.

³ The undertaking also applies during the period of performance of the contract

- 78. Suspension of ADB Loan or Credit**
- 78.1 In the event that ADB suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made,
- (a) the Employer is obligated to notify the Contractor, with copy to the Project Manager, of such suspension within 7 days of having received ADB's suspension notice.
 - (b) if the Contractor has not received sums due it within the 28 days for payment provided for in GCC 50.1 [Payments], the Contractor may immediately issue a 14-day termination notice.
- 79. Eligibility**
- 79.1 The Contractor shall have the nationality of an eligible country as specified in Section 5 [Eligible Countries] of the bidding document. The Contractor shall be deemed to have the nationality of a country if the Contractor is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 79.2 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as specified in Section 5 [Eligible Countries] of the bidding document and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment, and services.
- 79.3 For purposes of GCC 79.2, "origin" means the place where the materials and equipment are mined, grown, produced, or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

Section 8 - Particular Conditions of Contract

The following Particular Conditions of Contract shall supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Particular Conditions of Contract

A. General	
GCC 1.1 (d)	The financing institution is: Asian Development Bank (ADB)
GCC 1.1 (r)	The Employer is Department of Transport, Ministry of Public Works and Transport: Address: Dr. Bounta ONNAVONG, Director General, Department of Transport, Ministry of Public Works and Transport Lane Xang Avenue, Phonexay Village, Xaysetha District First Floor of Ministry of Public Works and Transport Building Vientiane Capital, Lao PDR +856-21-415563 bounta_ov@yahoo.com
GCC 1.1 (w)	The Intended Completion Date for the whole of the Works shall be 365 days (March 2024)
GCC 1.1 (cc)	The Project Manager is: Mr. Khamphanh Vanthana, Project Manager, Vientiane Sustainable Urban Transport Project, Department of Public Works and Transport Setthathirath Road, Khao Ngot Village VUDAA Building, Sisattanak District, Vientiane Capital Lao PDR +856 20-58988759 k_vanthana@yahoo.com
GCC 1.1 (ff)	The Site is comprised of various road intersections in Vientiane City which a list is given in Section 6, Scope of Work Page 6-8
GCC 1.1 (ii)	The Start Date shall be within 60 days from the signing of the Contract.
GCC 1.1 (mm)	The Works consist of Traffic Signaling as defined in the contract agreement, design drawings, technical specifications and the bill of quantities.
GCC 2.2	Sectional Completions are: Not Applicable, the whole works shall be handed over on completion date.
GCC 2.3 (j)	The following documents also form part of the Contract: As defined in the Contract Agreement Form. <ol style="list-style-type: none"> (1) Initial Environmental Examination (IEE); (2) Environmental Management Plan (EMP); (3) Resettlement Plan (RP); (4) Site Specific Environmental Management Plan (SSEMP); and (5) Site Specific Health and Safety Management Plan (SSHSMP). ⁽¹⁾ The resettlement plan can be downloaded from: https://www.adb.org/projects/documents/lao-45041-002-rp-1
GCC 3.1	The language of the contract is English . The law that applies to the Contract is the law of Lao People's Democratic Republic.

GCC 11.1	The Project Manager may delegate any of his duties and responsibilities.
GCC 14.1	Schedule of other contractors is: CW1A - from start to end of CW1A contract, CW1B - from start to end of CW1B contract.
GCC 19.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: US\$ 0.5 m (b) for loss or damage to Equipment: US\$ 0.5 m (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract US\$ 0.5 m (d) for personal injury or death: (i) of the Contractor's employees: US\$ 0.5 m (ii) of other people: US\$ 1 m
GCC 20.1	Site Investigation Reports are: Geotechnical Investigations Report
GCC 23.1	The following shall be designed by the Contractor: shop drawings, as built drawings and any drawings required for the purposes of variation.
GCC 24.2	<p>Add GCC 24.2:</p> <p>"The Contractor is responsible for providing site workers with safe and healthy working conditions and establish an operating system to prevent accidents, injuries, and disease. This includes the establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.</p> <p>Within 28 days from the date of the Letter of Acceptance, the Contractor shall submit a detailed Site Specific Environmental, Health and Safety Management Plan (SSETCMP) for the Project Manager's no objection showing how it intends to comply with environmental, health and safety laws and regulations and other specific requirements prescribed in the Contract, addressing all the monitoring and mitigation measures set forth in the Environmental Impact</p> <p>Assessment ("EIA") and the Environmental Management Plan ("EMP") of the project as well as related Supplementary Information attached in Section 6- Employer's Requirements. Work shall not commence on the Site until the no objection of SSETCMP has been obtained from the Project Manager. Such confirmation of no objection by the Project Manager shall not relieve the Contractor of any of his obligations or responsibilities under the Contract.</p> <p>The Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc. , in accordance with the Contractor's SSETCMP. The Contractor should ensure that his Subcontractors comply with the SSETCMP and provide all such necessary equipment to their personnel.</p> <p>The Contractor shall (a) establish an operational system for managing environmental, health and safety impacts, (b) comply with the approved SSETCMP and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the project EMP through the SSETCMP, (c) allocate the budget required to ensure that such measures, requirements and actions are carried out, (d) submit semi-annual reports on the compliance of such measures to the Project Manager and the Employer.</p> <p>Where unanticipated health and safety hazards, or environmental risks or impacts become apparent during the Contract, the Contractor is required to update the</p>

	<p>SSETCMP to outline the potential impacts to site works and associated mitigation measures for the Project Manager's approval.</p> <p>In the event of a significant injury involving medical treatment or hospitalization and fatal accident the Contractor shall notify the Project Manager immediately by verbal communication and submit a formal report as soon as practicable after its occurrence. For all accidents, whether fatal or not, the Contractor shall also notify the appropriate local authorities in accordance with the Laws of the Country.</p>
GCC 26.1	The Site Possession Date(s) shall be: 7 days from the signing of the Contract
GCC 29.1	Appointing Authority for the Adjudicator: Lao Adjudication Board
GCC 30.3	<p>The Adjudicator shall be paid by the hour at the rate of: Prevailing Lao Adjudication Board's rate.</p> <p>The reimbursable expenses are: Prevailing Lao Adjudication Board's rates.</p>
GCC 30.4	<p>Institution whose arbitration procedures shall be used:</p> <p>(a) Contracts with foreign contractors:</p> <p>International arbitration shall be conducted in accordance with the Rules of the Singapore International Arbitration Centre (SIAC) shall apply.</p> <p>The place of arbitration shall be Singapore: the place of the institution administering the arbitration.</p> <p>(b) Contracts with domestic contractors:</p> <p>Arbitration shall be conducted in accordance with the laws of the Employer's country.</p>
GCC 32.1	<p>Add the following text at the end of the Sub-Clause:</p> <p>"Child" means a child below the statutory minimum age of 18 as specified under applicable national law.</p>
GCC 34.2	<p>GCC 34.2 is added:</p> <p>Respectful Work Environment</p> <p>The Contractor shall ensure that its employees and Subcontractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct and harassment, including sexual harassment and shall, at all times, behave in a manner that creates an environment free of unethical behavior, bullying, misconduct and harassment, including sexual harassment. The Contractor shall take appropriate action against any employees or Subcontractors, including suspension or termination of employment or sub-contract, if any form of unethical or inappropriate behavior is identified.</p> <p>The Contractor shall conduct training programs for its employees and Subcontractors to raise awareness on and prevent any form of bullying, discrimination, misconduct and harassment including sexual harassment, and to promote a respectful work environment. The Contractor shall keep an up to date record of its employees and Subcontractors who have attended and completed such training programs and provide such records to the Employer or the Project Manager at their first written request.</p>
C. Time Control	
GCC 35.1	The Contractor shall submit for approval a Program for the Works within 14 days from the date of the Letter of Acceptance.
GCC 35.3	<p>The period between Program updates is 60 days.</p> <p>The amount to be withheld for late submission of an updated Program is US\$ 20,000.</p>

D. Quality Control	
GCC 40.3	Add the following as Sub-Clause 40.3: The Contractor shall provide the Employer with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP
GCC 43.1	The Defects Liability Period is: 365 days .
E. Cost Control	
GCC 53.1	The currency of the Employer's country is: Lao Kip
GCC 54.1	The Contract is not subject to price adjustment in accordance with GCC Clause 54, and the information regarding coefficients does not apply .
GCC 55.1	The proportion of payments retained is: 5%
GCC 56.1	The liquidated damages for the whole of the Works are 0.05% of the final Contract Price per day. The maximum amount of liquidated damages for the whole of the Works is 10% of the final Contract Price.
GCC 58.1	The Advance Payments shall be 10% of the Contract Price and shall be paid to the Contractor no later than 60 days from commencement date.
GCC 58.3	Repayment of the Advance Payments shall be: 10% from each payment certificate.
GCC 59.1	The Performance Security amount is: 10% of the Contract Price denominated in the types and proportions of the currencies in which the Contract Price is payable. If the institution issuing the Performance Security is located outside the Employer's country, it shall have a correspondent financial institution located in the Employer's country to make it enforceable.
G. Finishing the Contract	
GCC 69.2	Add a new Sub-Clause GCC 69.2 as follows: The Contractor shall reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of the construction.
GCC 72.1	The date by which operating and maintenance manuals are required is 30 days after Completion Date. The date by which "as built" drawings are required is 30 days after the Completion Date.
GCC 72.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required in GCC 72.1 is US\$ 10,000 .
GCC 73.2 (h)	The maximum number of days is: 200 days
GCC 74	To reflect ADB's latest Fraud and Corruption clauses, GCC 74 text is as follows: If the Employer determines, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, or other integrity violations, including the failure to disclose any required information which constitutes a fraudulent practice, in competing for or in executing the Contract, then the

Employer may, after giving 14 days notice to the Contractor, terminate the Contract and expel him from the Site, and the provisions of Clause 73 [Termination] shall apply as if such termination had been made under Sub-Clause 73.2 (i).

ADB requires Borrowers (including beneficiaries of ADB-financed activity) and their personnel, as well as firms and individuals participating in an ADB-financed activity, including but not limited to, Bidders, Suppliers, and Contractors, agents, subcontractors, subconsultants, service providers, sub-suppliers, manufacturers (including their respective officers, directors, employees and personnel) under ADB-financed contracts to observe the highest standard of ethics during the procurement and execution of such contracts in accordance with ADB's Anticorruption Policy (1998, as amended from time to time). In pursuance of this policy, ADB:

- a) defines, for the purposes of this provision, the terms set forth below as follows:
- i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - v) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
 - vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations; and
 - vii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vi) above and the following: obstructive practice, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- b) will reject a proposal for award if it determines that the Bidder recommended for award or any of its officers, directors, employees, personnel, subconsultants, subcontractors, service providers, suppliers or manufacturers has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
- c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation, including by failing to

	<p>inform ADB in a timely manner at the time they knew of the integrity violations;</p> <p>d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB- financed, -administered, or -supported Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document). activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and</p> <p>e) will have the right to require that a provision be included in bidding documents and in contracts financed, administered, or supported by ADB, requiring Bidders, suppliers and contractors, consultants, manufacturers, service providers and other third parties engaged or involved in ADB-related activities, and their respective officers, directors, employees and personnel, to permit ADB or its representative to inspect the site and their assets, accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.</p> <p>All Bidders, consultants, contractors, suppliers, manufacturers, service providers, and other third parties engaged or involved in ADB-related activities and their respective officers, directors, employees and personnel are obliged to cooperate fully in any investigation when requested by ADB to do so. As determined on a case by case basis by ADB, such cooperation includes, but is not limited to, the following:</p> <p>a) being available to be interviewed and replying fully and truthfully to all questions asked;</p> <p>b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;</p> <p>c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;</p> <p>d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communication Technology (ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);</p> <p>e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and</p> <p>f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.</p> <p>All Bidders, consultants, contractors and suppliers shall require their officers, directors, employees, personnel, agents to ensure that, in its contracts with its subconsultants, Subcontractors and other third parties engaged or involved in ADB-related activities, such subconsultants, Subcontractors and other third parties</p>
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¹ Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

	<p>similarly are obliged to cooperate fully in any investigation when requested by ADB to do so.</p> <p>The Contractor undertakes that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the bid, have been given or received in connection with the procurement process or in the contract execution.²</p>
GCC 75.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 10%
GCC 80	<p>The following Sub-Clause 80 is added:</p> <p>The Contractor shall comply with the measures relevant to the Contractor set forth in the IEE, the EMP, and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventive actions set forth in a Safeguards Monitoring Report.</p> <p>The Contractor shall make available a budget for all such environmental and social measures.</p>
GCC 81	<p>The following Sub-Clause 81 is added:</p> <p>The Contractor shall comply with the relevant provisions with measures set forth in the Gender Action Plan (GAP), attached hereto as Appendix B.</p>
GCC 82	<p>The following Sub-Clause 82 is added:</p> <p>The Contractor shall also comply with all reasonable requests of the national and local authorities responsible for enforcing environmental controls.</p> <p>Within 28 days of the Commencement Date the Contractor shall submit a detailed Site Specific Environmental Management Plan (SSEMP) for the Engineer's no objection showing how he/she intends to comply with environmental laws and regulations and other specific requirements prescribed in the Contract, addressing all the monitoring and mitigation measures set forth in the IEE and the EMP of the project attached in Section 6- Employer's Requirements. Work shall not commence on the Site until the no objection of SSEMP has been obtained from the Engineer and is being implemented. Such acceptance by the Project Manager shall not relieve the Contractor of any of his obligations or responsibilities under the Contract.</p> <p>The Contractor shall (a) establish an operational system for managing environmental impacts, (b) comply with the approved SSEMP and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the project EMP through the SSEMP, (c) allocate the budget required to ensure that such measures, requirements and actions are carried out, (d) submit semi-annual reports on the compliance of such measures to the Employer.</p> <p>Where unanticipated environmental risks or impacts become apparent during the Contract, the Contractor is required to update the SSEMP to outline the potential impacts to site works and associated mitigation measures for the Engineer's approval.</p>
GCC 83	<p>The following Sub-Clause 83 is added:</p> <p>The Contractor shall provide the Employer with quarterly reports of its activities, including each of its obligations under Sub-Clauses 31, 32, 33, 34, 40.3, 69.2, 80, 81, 82, and 83.</p>

² The undertaking also applies during the period of performance of the contract.

Appendix A: ENVIRONMENTAL MANAGEMENT PLAN (EMP)**ENVIRONMENTAL CONTROL – MITIGATION MEASURES**

The following mitigation measures to limit environmental impact during construction have been approved by ADB and are to be implemented under the Contract. It is expected that the Contractor should adhere to these guidelines and duly supervised by the Consultant for the Construction Supervision.

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
Detail Design / Pre- Construction phases				
I.- Inclusion of environmental measures and provisions in the Detailed Design (DD) documentation	1.- Undertake consultation with the project executing agency, project implementation agency, affected people (residents, employees in business, etc.) within and in the vicinity of the BRT alignment and bus depot to formulate and agree on suitable measures to minimize environmental impacts during the construction phase and address safety issues during operation phase.	Part of detailed design cost	PIC	DOT/IA
	2.- Ensure that agreed mitigation measures with affected people are incorporated in the project design.	Part of detailed design cost	PIC	DOT/IA
	3.- Include in the design the installation of warning signs and traffic calming devices such as speed humps on access streets and close to the bus depot including the bus maintenance area.	Part of detailed design cost	PIC	DOT/IA
	4.- Lay-out of construction complementary surfaces for construction machinery and bus parking areas will ensure that fuel tanks, storage areas of flammable and hazardous substances machinery, bus maintenance and bus washing system, will be positioned as far away as possible from surrounding houses, streams, buildings and property boundaries.	Part of detailed design cost	PIC	DOT/IA
	5.- Take into consideration soil permeability in the design and specifications for bus maintenance and washing areas to avoid contamination of soil and water resources. Ensure that the design of these surfaces include a roof and impermeable floor, provisions to contain spillage and leaks of fuel and hazardous substances, as drainage, and provisions (oil-water separator, etc.) for collection and treatment of used oil and contaminated wastewater.	Part of detailed design cost	PIC	DOT/IA
	6.- A water recycling facility will be integrated in the design of the bus depot to maximize the re-use of wastewater from bus washing during operation phase.	Part of detailed design cost	PIC	DOT/IA
	7.- Prior to construction phase, undertake environmental quality monitoring as a baseline for future controls. Parameters to be monitored are: air quality, noise levels, surface and groundwater quality. Parameters to monitor, locations to take samples	Part of detailed design cost and/or Part of project cost	PIC and/or Contractor	DOT/IA

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	and frequency of the works are described in the Environmental Monitoring Plan (EMoP).			
	8.- Define a complete Reporting System (RS) during the whole construction and operation phases.	Part of detailed design cos	PIC	DOT/IA
II.- Environmental aspects during the tender phase	9.- DOT/IA and PIC will ensure that EMP is included in all tender and contract documents for all project components regardless of financing source.		PIC	DOT/IA
III.- Lack of a mechanism to resolve environmental complaints due to project future implementation.	Prior to start the site works; the DOT/IA, contractors and PIC will undertake the following tasks:			
	10.- Establish a Grievance Redress Mechanism (GRM), as described in the IEE. This GRM shall be approved by the DOT/IA and local competent authorities.	Part of detailed design cost, Part of project cost	DOT/IA, Contractor, PIC	DOT/IA, Competent Authority, PIC
	11.- Through public awareness campaigns, make public the existence and content of the GRM.	Part of project cost	DOT/IA, Contractor, PIC	DOT/PIC
	12.- Ensure that names and contact numbers of representatives of DOT/IA, contractors and PIC are placed on the notice boards outside the construction sites.	Part of project cost	DOT/IA, Contractor, PIC	DOT/PIC
IV.- Implementation of the EMP in the construction processes	13.- Ensure that the contractors include the specifications of the EMP in their Construction EMPs (CEMP) and define the specific measures, the HSE management staff and the appropriate budget for the implementation, before approval of those CEMPs.		Contractor	DOT/PIC
V.- Disruption to community services due to relocation of facilities (e.g., water supply)	14.- In coordination with Nampapa Nkhon Luang (Water supply State Enterprise), include in the design the water supply pipelines location. The construction has to avoid as much as possible the disruption of Community facilities and services.	Part of detailed design cos	DOT/IA, PIC	Competent Authorities
	15.- In coordination with utility companies, relocate power supply, communication lines and other utilities into the underground before construction works commence.	Specific projects	To be determined	Competent Authorities

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	16.- Make provisions to preserve the operation of current facilities (water supply, etc.) in sufficient quantity and in agreement with the local community,	Part of bid cost for civil works	Contractor	DOT/PIC
	17.- Clear notification in advance to affected households (HH) and establishments about the disruptions. State the method for future notifications.	Part of bid cost for civil works	Contractor	DOT/PIC
VI.- Tree cutting	18.- A visual recognition of the possible affected trees will be carried out before any construction action. All of them expected to interfere with the project will be marked and well located (GIS). It will be prepared a list of individuals, indicating the specie, height and wingspan, general phytosanitary status and point of location, specifying if they need to be pruned or cut.	Part of project cost	Contractor	DOT/PIC, DONRE, MONRE
	19.- Obtain necessary tree cutting permits from concerned agencies prior to start site works in the affected locations.		Contractor, DOT/IA	DONRE, MONRE
	20.- Replace removed trees by planting individuals along the alignment, in the non- motorized transport (NMT) areas, according to the landscaping works described in the project design.	Part of project cost	Contractor	DOT/PIC, DONRE, MONRE
	21.- Undertake planting of trees and bushes at the depot area, including a hedge as green barrier around these surface, when and where feasible.	Part of project cost	Contractor	DOT/PIC
VII.- Establishment of construction-related facilities and maintenance surfaces	The following measures will be implemented by the contractor: 22.- Make sure to get the necessary environmental approvals and permits, if needed, prior to establishment and operation of construction facilities and maintenance surfaces. As well, approval from DOT/IA-PIC is required before starting operations.		Contractor	DOT/PIC, DONRE, MONRE
	23.- Facilities that could generate emissions of high density of dust and noise levels shall be located at least 300 m from sensitive receptors such as residential/housing areas, medical facilities, schools, religious and cultural sites, etc.		Contractor	DOT/PIC
	Expected needs of facilities that may generate impact to water resources and to natural soils (machinery maintenance or washing surfaces, storage		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	of hazardous substances) will be properly built, incorporating these areas the following protection measures: 24.- These auxiliary surfaces will be located at least 100 m from the channel crossed at PK 2+210.			
	25.- Maintenance surfaces will be laid on concrete pavement.	Part of project cost	Contractor	DOT/PIC
	26.- To collect and retain process waters, a specific tank or settling pond will be installed prior to start main works.	Part of project cost	Contractor	DOT/PIC
	27.- To assure the proper storage of hazardous substances, an enclosure will be built on concrete material, closed by fence and will be protected with a roof.	Part of project cost	Contractor	DOT/PIC
VIII.- Health risk due to COVID-19 pandemic	In order to prevent effects of COVID-19: 28.- The contractors will include in their respective health and safety (H&S) plans, which are part of their specific Construction EMPs (CEMPs), COVID-19 health risks, preventive measures as stated in this EMP and in the Governmental Regulations and appropriate budget for implementation and follow up during the whole period of contract (except Decision from the Authorities due to the evolution of the pandemic risk).	Part of project cost	Contractor	DOT/PIC
	29.- PIC's staff is also obligated to implement preventive measures both at offices and on site while keeping activities during this stage.	Part of project cost	PIC	DOT, Sanitary Authorities
	30.- All agents will allow their staff to work from home as far as possible, promoting teleconferences and the interchange of information and coordination using remote communication such as phone, e-mail and Internet applications.	Part of project cost	All Agents	All Agents, Sanitary Authorities
	31.- All agents will prohibit gathering of more than 10 people. For gatherings with less than 10 people, it will be respected the social distance of 2 meters and the use of mask	Part of project cost	All Agents	All Agents, Sanitary Authorities

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
Construction Phase				
I.- Air quality impacts due to gaseous and dust emissions	1.- Store demolition materials outside the project area and transport them to authorized disposal site. If it's a new one, specific for this project, first approval from local authority must be given. After, DOT/PIC will approve the disposal site as well.	Part of project cost	Contractor	DOT/PIC
	2.- Transportation will be done with trucks provided with covers to avoid the generation of dust.	Part of project cost	Contractor	DOT/PIC
	3.- Undertake regular water spraying on accesses, work areas and other construction-related facilities near or within populated areas and other sensitive receptors, while no pavement on the ground.	Part of project cost	Contractor	DOT/PIC
	4.- Prohibition to use equipment and vehicles that emit visible smoke exceeding acceptable limits.		Contractor	DOT/PIC
	5.- Impose speed limits for project vehicles to minimize the emission of pollutants and to assure safety conditions for local people, along the streets.		Contractor	DOT/PIC
	6.- Prohibition of burning any type of waste generated at the construction sites and other project related facilities and activities.		Contractor	DOT/PIC
	7.- Regularly clean roads used by construction vehicles. Remove mud, cement, tiles, debris, etc.	Part of project cost	Contractor	DOT/PIC
	8.- Control the maintenance of the machinery: emissions, noise. Certification of inspections.		Contractor	DOT/PIC
	9.- Install temporary fencing or barriers around dusty activities in vicinity of sensitive receivers to minimize dust emission	Part of project cost	Contractor	DOT/PIC
	10.- Implement the EMoP regarding this aspect.	Part of project cost	Contractor	DOT/PIC
	11.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
II.- Noise and vibration impacts due to operation of construction	12.- Previously to the commencement of the works, the Contractor should carry out a review of the current status of the possible affected buildings, regarding the structure of the walls (existing cracks, etc.).		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
equipment/ vehicles and various construction activities	13.- Operation of noisy equipment and construction works during night time (19:00-06:00) in populated areas will only be undertaken after prior notification and consultation have been carried out with affected people and local officials, and suitable noise attenuation measures are implemented.		Contractor	DOT/PIC
	14.- Prohibit noisy construction activities in the vicinity of the educational and training centers during the daily period in which classes are taught.		Contractor	DOT/PIC
	15.- Prohibit use of vibration-generating equipment near vibration sensitive structures, such as ancient temples and other buildings that are considered as Physical Cultural Resources (PCR).		Contractor	DOT/PIC
	16.- Use of low noise emission generating machinery and, if necessary, install them inside noise damping walls. Position any stationary equipment that produces high noise levels (e.g., portable diesel generators, portable concrete mixer, compressors, etc.) as far as is practical from sensitive receptors.		Contractor	DOT/PIC
	17.- Install portable acoustic barriers protecting the sensitive buildings. Barriers will be moved from one section after finishing works to the following section that starts construction.	Part of project cost	Contractor	DOT/PIC
	18.- Control the maintenance of the machinery: emissions, noise. Certification of inspections.		Contractor	DOT/PIC
	19.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
	20.- Implement the EMoP regarding this aspect.	Part of project cost	Contractor	DOT/PIC
III.- Generation of solid waste and waste waters	21.- Provide and install garbage bins in the project area, facilities and workers' camp (if any) for temporary storage of construction waste and domestic solid waste.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	22.- Separate solid waste into hazardous, non-hazardous and reusable waste streams and store temporarily on site in areas that are protected from the elements.		Contractor	DOT/PIC
	23.- Where there is no available area, spoils will be loaded and transported immediately to disposal sites approved by the PIC (Engineer) and local authority.	Part of project cost	Contractor	DOT/PIC
	24.- Ensure that waste is not indiscriminately dumped within the project site and adjacent areas. Contractor will prepare before starting works a Waste Management Plan (WMP) to be implemented during the whole construction period.		Contractor	DOT/PIC
	25.- Excavated and demolition materials and spoils must be loaded and transported immediately to temporary disposals at auxiliary surfaces and after/or to disposal sites approved by the PIC and local Authority.	Part of project cost	Contractor	DOT/PIC
	26.- Unsuitable/demolition material disposal sites will be protected from erosion by avoiding formation of steep slopes and implementation of suitable measure such as grassing, etc. and any case according to the final destination of the materials and the disposals.	Part of project cost	Contractor	DOT/PIC
	27.- Waste waters from concrete will be collected in a settling pond or pumped to a tank for sedimentation before been poured to the public drainage (if pH is acceptable) system and deposited concrete mud will be removed to authorized disposal site.	Part of project cost	Contractor	DOT/PIC
	IV.- Drainage Obstruction	28.- If obstruction to drainage is unavoidable, provide alternative temporary channels of sufficient pump capacity to avoid flow restrictions.	Part of project cost	Contractor
29.- Regularly inspection and maintain all drainage grates, gutters and pipes to ensure that they continue functioning as required.		Part of project cost	Contractor	DOT/PIC
V.- Potential contamination of soil and ground water due to use of bitumen and other hazardous substances.	30.- Train relevant construction personnel in handling of fuels and spill control procedures	Part of project cost	Contractor	DOT/PIC
	31.- Ensure that the hauler and supplier guarantee that the trucks to be used for transport are approved by local authorities for the transport of bitumen and are also in accordance with the supplier's instructions for transport.		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	32.- Truck drivers must be familiar with the safe loading and unloading procedures of the bitumen products, including the emergency procedures during spillage.		Contractor	DOT/PIC
	33.- Ensure availability of spill clean-up materials (e.g., absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances where such materials are being stored.	Part of project cost	Contractor	DOT/PIC
	34.- Ensure all storage containers are in good condition with proper labeling.		Contractor	DOT/PIC
	35.- Trucks will be provided with tools and materials for handling bitumen spills.	Part of project cost	Contractor	DOT/PIC
	36.- Regularly check containers for leakage and undertake necessary repair or replacement.		Contractor	DOT/PIC
	37.- Prohibit discharge of oil contaminated water.		Contractor	DOT/PIC
	38.- Place waste oil, used lubricant and other hazardous wastes in tightly sealed containers and store in a location with roof, impermeable floor and bund.	Part of project cost	Contractor	DOT/PIC
	39.- Spills of hazardous substances will be immediately stopped and collected into containers. Polluted soils will be removed as well and considered as hazardous material.	Part of project cost	Contractor	DOT/PIC
	40.- In case of a small bitumen spill during transport, allow the bitumen to cool and solidify in order to be removed mechanically into containers for disposal.		Contractor	DOT/PIC
	41.- For large spills, prevent bitumen from spreading by making a trench or barrier with sand, soil or other materials. Remove the spill mechanically into containers for disposal.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	42.- All other hazardous substances will be properly stored out of the surroundings of the construction sites, mainly regarding significant and/or sensitive places such as Presidential Palace, Victory Arch, temples, official buildings (Ministry of Army, etc.), preferable in the surface for future depot or on a surface approved as auxiliary facility, inside a closed enclosure, on a concrete platform and covered by a roof. Fire extinguishers will be provided.	Part of project cost	Contractor	DOT/PIC
	43.- All waste from paint, solvents and any other pollutant substance will be removed after used and disposed in approved disposals.	Part of project cost	Contractor	DOT/PIC
VI.- Affection to vegetation	44.- Depending on the final installation of any auxiliary facility, ensure that the CEMP includes the appropriate restoration plan for that/those area/s.		Contractor	DOT/PIC
	45.- Fully implement the landscaping design along the whole alignment of the BRT Project, according to the specifications contained in the Detail Design for this subject.	Part of project cost	Contractor	DOT/PIC
VII.- Damage to community facilities and properties	46.- Immediately repair any damage caused by the project works to community facilities and properties such as water supply, power supply, communication system, structures, houses, etc.	Part of project cost	Contractor	DOT/PIC
	47.- Access roads damaged during transport of construction materials and other project-related activities will be maintained to at least its pre-project condition and to ensure that it remains passable to pedestrians and vehicles	Part of project cost	Contractor	DOT/PIC
VIII.- Traffic congestion and difficulties to access to properties	48.- Closely coordinate with local authorities and traffic police for any closure of the streets or rerouting of vehicular traffic, if required. Prepare a Temporary Traffic Management Plan (TTMP) to be approved by the DOT/IA.		Contractor	DOT/PIC
	49.- As much as possible, enable traffic in sections where no construction work is ongoing and enable one side of the affected streets to be open to two-way traffic.		Contractor	DOT/PIC
	50.- Provide road signs indicating lane closures and detours.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	51.- As much as possible, schedule delivery of construction materials and equipment as well as transport of spoils during non-peak hours.		Contractor	DOT/PIC
	52.- Ensure access in areas to be closed temporarily or partially by provision of alternative access to houses and business. These accesses will be prepared in good conditions for pedestrians even with difficulties in their mobility.	Part of project cost	Contractor	DOT/PIC
	53.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
	54.- Construction work will be divided into sections and phased, thereby limiting the extent and duration of disturbance particularly in the Transit Mall and NTM roads			
IX.- Hazards to health and safety of workers due to construction works	55.- Provide all personnel with appropriate safety equipment such as safety boots, helmets, gloves, protective clothes, welding helmets, dust masks, goggles, ear protection, safe line and fall prevention measures if needed, etc., broadly referred to as personal protective equipment (PPE) and ensure that it's properly used as required.		Contractor	DOT/PIC
	56.- Prohibit workers from entering work sites without the appropriate PPE. The contractor shall employ and Environment, Health and Safety Officer (EHSO) to ensure proper implementation of all mitigation measures as specified in the EMP. The EHSO will undertake coordination with residents and local officials to ensure that conflicts due to presence of workers at the site are avoided.		Contractor	DOT/PIC
	57.- Conduct training for construction workers regarding health and safety measures, emergency response in case of accidents, fire etc.	Part of project cost	Contractor	DOT/PIC
	58.- Provide first-aid facilities that are readily accessible to workers at construction site	Part of project cost	Contractor	DOT/PIC
	59.- Provide fire-fighting equipment at the working areas, as appropriate.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	60.- Provide enough and separate hygienic sanitation facilities for male and female workers along the site. Toilets will be portable and will be moved along site depending on the working activities in each section.	Part of project cost	Contractor	DOT/PIC
X.- Hazards to public safety due to construction works	61.- Install barriers to keep the public away from risky construction areas.	Part of project cost	Contractor	DOT/PIC
	62.- Install signaling at the periphery of the construction site advising road users and the general public that construction is in progress.	Part of project cost	Contractor	DOT/PIC
	63.- Strictly impose speed limits for construction vehicles along all their route from night parking and other facilities' areas, not only along the affected sections of the alignment		Contractor	DOT/PIC
	64.- Provide adequate lighting at night within and in the vicinity of construction sites,	Part of project cost	Contractor	DOT/PIC
	65.- Provide security personnel in hazardous areas to restrict public access.	Part of project cost	Contractor	DOT/PIC
	66.- Provide safe passage ways for pedestrian to cross the construction site and for people whose home and business access has been disrupted due to construction works.	Part of project cost	Contractor	DOT/PIC
XI.- Potential damage to undiscovered archaeological relics	67.- Cease operations on a road section where artifacts or archaeological finds are discovered and immediately inform to the PIC and to the Project Coordination Unit (PCU).		Contractor	DOT/PIC, PCU
	68.- The PCU will notify Department of Transportation, who will notify the relevant Government agency, such as the Ministry of Information, Culture and Tourism (MICT) to obtain advice regarding the next steps to be followed.		Contractor	DOT/PIC, PCU, MICT
	69.- Works will recommence only after the relevant Government agency has provided official notification accordingly.		Contractor	DOT/PIC, PCU, MICT
XII.- Social conflicts due to presence of workers	70.- Maximize number of local people employed in construction works, mainly citizens living in the neighborhood of the project areas.		Contractor	DOT/PIC
	71.- Inform the population that any complaint about worker's attitude may be expressed through the GRM.		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
XIII.- Additional environmental mitigation measures	72.- The Contractor shall implement corrective and/or additional measures to avoid, mitigate or compensate for adverse environmental impacts due to construction works and other project-related activities performed by the Contractor and its subcontractors. DOT/PIC may define and request this implementation when it's considered well justified.	Part of project cost	Contractor	DOT/PIC
	73.- The contractor will implement the Reporting System as stated in the IEE. As well, the contractor will report when requested by DOT/PIC, regarding unexpected events, extension of the information contained in its reports, etc.		Contractor	DOT/PIC
XIV.- Specific measures for the depot area	74.- Install a drainage system that collects all waters generated during the bus washing operations and runoff waters after rains, in the maintenance area, where hazardous products are used and may be spilled, such as oils, paints, etc.).	Part of project cost	Contractor	DOT/PIC
	75.- Provide to each maintenance or washing surface with an isolated ground, made with concrete and with a proper drainage, where all maintenance operations of vehicles will be carried out during the operation phase.	Part of project cost	Contractor	DOT/PIC
	76.- Install a primary water treatment system in each maintenance area, where collected process wastewaters will be retained for sedimentation and basic chemical treatment, until quality parameters are adjusted to the national standards for a final destiny.	Part of project cost	Contractor	DOT/PIC
XV.- Health risk due to COVID-19 pandemic	The following measures will be implemented by the contractor: 77.- Keep as much as possible safety social distance.	Part of project cost	Contractor	DOT/PIC
	78.- Use of certificated masks and gloves.	Part of project cost	Contractor	DOT/PIC
	79.- Usually wash hands and arms with soap and or disinfectant.	Part of project cost	Contractor	DOT/PIC
	80.- Provide to work sites and offices with devices for disinfectant products.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	81.- Frequent disinfection of offices, site cabins, vehicles, toilets, rest rooms, etc.	Part of project cost	Contractor	DOT/PIC
	82.- HSE Manager of contractors will be in charge of the implementation.	Part of project cost	Contractor	DOT/PIC
	83.- Contractors will set in the H&S an effective and fast communication system for workers to express symptoms of illness, in case they feel them, or any other concern about COVID-19.	Part of project cost	Contractor	DOT/PIC
	84.- Reporting. Both contractors and PIC will include in their monthly reports the status of compliance with the implementation of the measures.	Part of project cost	Contractor, PIC	DOT/PIC
	85.- Information dissemination. Information about individual protection measures against COVID-19 will be disseminated handing out brochures, triptychs and posters at offices and work sites.	Part of project cost	Contractor	DOT/PIC
	86.- Training. Contractors will continually instruct workers in this matter.	Part of project cost	Contractor	DOT/PIC
	87.- PIC will assure that all its staff takes the necessary individual measures as well as will undertake general disinfection actions at office.	Part of project cost	PIC	DOT, Sanitary Authorities
Operation Phase				
I.- Air quality condition due to operation of the project buses	1.- Conduct semi-annual monitoring works, according to the EMoP of the IEE, during the period of liability (2 years) to verify the effective reduction of the pollutants along the alignment.	Part of project cost	Operator	Project owner
	2.- Ensure that all engines used for buses maintenance at the depot generate emissions according to the National Standards and Regulations		Operator	Project owner
II.- Noise emission due to operation of new buses and noise from maintenance activities	3.- Prohibit unnecessary use of horn, to be used only for safety/emergency purposes		Operator	Project owner
	4.- Conduct semi-annual monitoring works, according to the EMoP of the IEE, during the period of liability (2 years) at bus depot - bus maintenance area or any other location if received a complaint that may be considered substantiated	Part of project cost	Operator	Project owner

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
III.- Generation of debris and other hazardous residues	5.- Provide garbage bins with cover within the project areas (such as at the bus depot, BRT stops and stations, etc.).	Part of project cost	Operator	Project owner
	6.- Separate solid waste into hazardous, non-hazardous and reusable materials.	Part of project cost		
	7.- Ensure that generated wastes are not indiscriminately dumped within the project site and adjacent areas.		Operator	Project owner
	8.- Undertake regular collection and disposal of wastes to sites approved by local authorities.	Part of project cost	Operator	Project owner
IV.- Potential contamination of water resources due to maintenance works	9.- Reuse the recycled water for bus washing and depot's surfaces cleaning. It will be only discharged to the sewage net when in excess. The project does not include the possibility of discharging any effluent to any natural water body	Part of project cost	Operator	Project owner
	10.- Ensure the proper functioning of the drainage that collects all process waters generated at the washing surfaces. Repair or improve it when necessary	Part of project cost	Operator	Project owner
	11.- Ensure availability of spill clean-up materials (e.g., absorbent pads, etc.) specifically designed for oil, in the bus maintenance area.	Part of project cost	Operator	Project owner
	12.- Ensure that maintenance and repairs of equipment and vehicles are only undertaken in designated areas with adequate provisions to avoid contamination of the environment.		Operator	Project owner
	13.- Ensure that an emergency response plan is in place and adequately resourced to address emergency situations such as accidents/spills, fire, etc.		Operator	Project owner
	14.- Implement the ground water analytics as stated in the EMoP contained in the IEE, according to its specifications, if necessary.	Part of project cost	Operator	Project owner
V.- Use of natural resources. Water supply	15.- Ensure a proper maintenance of the installed water recycling facilities to assure the reuse of wastewater from washing of buses to reduce the consumption of fresh water as a natural resource during project operation, as much as possible.	Part of project cost	Operator	Project owner

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
VI.- Hazards to health and safety conditions of workers and the users of the bus service	16.- Install separate male and female sanitation facilities/hygienic toilets at the BRT stations and bus depot for employees/workers and for service users.	Part of project cost	Operator	Project owner
	17.- Provide appropriate safety equipment for workers such as safety boots, helmets, gloves, protective clothes, welding helmets, goggles, ear protection, etc. and ensure that these are properly used as required.	Part of project cost	Operator	Project owner
	18.- Provide first aid facilities and sufficient fire extinguishers and other fire-fighting equipment at all the work sites.	Part of project cost	Operator	Project owner
	19.- Ensure that the installed signaling is effective to guarantee safety for pedestrians, mainly around the bus stations and stops and at the entrances of the depot. If necessary, reinforce the signaling system or even mobilize specialized staff.	Part of project cost	Operator	Project owner
VII.- Traffic difficulties for local transit	20.- Undertake close coordination with traffic authorities/local officials with regard to entry/exit schedule of buses and implementation of other measures to avoid traffic congestion in the vicinity of the bus depot.	Part of project cost	Operator	Project owner
VIII.- Health risk due to COVID-19 pandemic	21.- Reduce or minimize common touched surface points by using digital ticketing and passenger information system	Part of project cost	Operator	Project owner, Sanitary Authorities
	22.- Limit overcrowding in station areas by implementation of passenger flow / density monitoring systems, linked to "intelligent" wayfinding systems	Part of project cost	Operator	Project owner, Sanitary Authorities
	23.- Reduce passenger density in stations / buses by design, e.g., design specification requirements for network/line-wide (station, system, and buses) passenger density thresholds of pax/m ²	Part of project cost	Operator	Project owner, Sanitary Authorities
	24.- Establish disinfection points (hand sanitizer stations) at the fare gates, entrances/exits	Part of project cost	Operator	Project owner, Sanitary Authorities
	25.- Clean and disinfect station facilities as a routine and trains on a daily basis at night	Part of project cost	Operator	Project owner,

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
				Sanitary Authorities
	26.- Individual preventive/protection measures will be applied during the liability period in case of unexpected events related with this pandemic or other disease and always according to the Official Regulations at that time.	Part of project cost	Operator	Project owner, Sanitary Authorities

Environmental Monitoring Plan

Contractor resources and monitoring schedule. Specifications

The Contractor has to mobilize, full time, an EHSO to follow up daily the construction activities, both the site (all BRT alignment and depot surface) and any other facility related with the project implementation: concrete or asphalt batching plants (CBP, ABP), store for hazardous substances, maintenance area of machinery, etc. The contractor will monitor different environmental quality parameters on a quarterly basis. These parameters are, at least, air quality, noise and vibration levels and water quality in case of using a CBP and/or installing a settling pond.

The Contractor will prepare, at least, the following reports:

- a.) The EHS Manager will prepare a specific Environment, Health and Safety report (EHSMR) on a monthly basis (, that will be submitted to the IA/PIC for approval. It will include all relevant information related with these subjects, generated during the period.
- b.) A semi-annual report (EHSSR) will be prepared as a summary of the events happened during the period, related with those matters. Monthly and semi- annual reports will include the results of the environmental quality analytics carried out by the Contractor.
- c.) A final report (EHSFR) will be prepared after completion of the works. PIC will verify the accuracy of its content and it should be approved before contractor gets the environmental certification.
- d.) Specific reports when requested by the IA or the PIC, due to extraordinary or special situations happened on site.
- e.) Prepare a Method Statement (MS) for each subject as required in the IEE. These documents will be submitted to IA/PIC for approval before execution.

Table below, presents the ambient sampling program to be carried out for the project.

- 1) In the event that the construction works start within a period of 12 months since the approval of the DD, it will not be considered necessary to carry out analytics, except for groundwater. Baseline data for reference are the results included in this IEE
- 2) In case of proper implementation of all environmental measures for operation phase, regarding the configuration of the bus maintenance area, groundwater analytics could be avoided.
- 3) PIC, according to the ToR of its contract, will carry out its own analytics to verify the results of contractor's measurements

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
Pre-construction						
Project Implementation Consultant						
Atmosphere	1A- Air Quality: CO, NO ₂ , SO ₂ , SPM	<ul style="list-style-type: none"> - PK 1+160 - Setthathirath x Koun Boulom Intersection - PK 4+400 - in the northern tip of Patuxai Square - PK 4+140 North Corridor, P12, in front of the Hospital - PK 9+050 North Corridor, P1 National University of Laos 	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE
Noise	2A- Acoustic level: Leq, Lmax, day time and night time	<ul style="list-style-type: none"> - PK 1+320 - Setthathirath x Chao Anou Intersection - PK 3+310 North Corridor - Lao-Vietnam Secondary School 	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
		<ul style="list-style-type: none"> - PK 4+140 North Corridor, P12, in front of the Hospital - PK 8+800 North Corridor - P2, Sathit School 				
Natural Water	3A- Surface water quality: Temp, pH, DO, COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	- PK 2+210 North Corridor – Channel, downstream	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE
Contractor (1)						
Atmosphere	1B- Air Quality: CO, NO2, SO2, SPM	(see locations for parameter 1A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC
Noise	2B- Acoustic level: Leq, Lmax, One Hour LAeq (dBA) for day time and night time	(see locations for parameter 2A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC
Natural Water (2)	3B- Surface water quality: Temp, pH, Dissolved oxygen (DO), COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	(see location for parameter 3A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
	4- Groundwater quality: total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX)	Bus maintenance surface	Once, before start operation phase	Part of Project cost	Contractor	DOT/PIC
Construction (3)						
Noise and vibrations	5- Ambient noise and vibrations: - Leq, Lmax, day time and night time - m/s ²	- Noise: same locations and any other where there are verified complaints - Vibrations : any point where there are substantiated complaints	Noise measurement, quarterly and to validate complaints	Part of Project cost	Contractor	DOT/PIC
Natural Water	6- Surface water quality: Temp, pH, Dissolved oxygen (DO), COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	(see location for parameter 3A)	Monthly, during the works around PK 2+200	Part of Project cost	Contractor	DOT/PIC
Operation Phase						

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
Atmosphere	7- 1B- Air Quality: CO, NO ₂ , SO ₂ , SPM	Same sites sampled during IEE preparation to verify the reduction of pollution due to the project or any other considered necessary by the Operator due to significant changes in the volume of traffic along the BRT .	Semi-annual for the first 2 years of operation	Part of project operation cost	DOT/IA	DONRE
Noise	8- Ambient noise: Leq, Lmax, day time and night time	Bus depot - bus maintenance area and any other location if received a complaint that may be considered substantiated	Semi-annual for the first 2 years of operation, and when necessary to validate complaints	Part of project operation cost	DOT/IA	DONRE
	9- Ground water quality : total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX)	Bus maintenance surface	Semi-annual for the first 2 years of operation	Part of project operation cost	DOT/IA	DONRE

Appendix B: GENDER ACTION PLAN (GAP)

The following provisions with measures have been approved by ADB and are to be complied with during the execution of the Contract. It is expected that the Contractor should adhere to these guidelines and duly supervised by the Consultant for the Construction Supervision.

GENDER ACTION PLAN

<p>Output 1. A sustainable transport management agency for Vientiane established</p>	<ul style="list-style-type: none"> - Target of 30% of employees recruited for the transport agency are women, including 20% women in decision-making or management posts. - Ensure that women staff are provided training relevant to their jobs; target participation of women in postgraduate training proportionate to the percentage of women staff in the relevant positions. - Ensure that all agency staffs are trained in gender issues relevant to BRT, including prevention of sexual harassment and violence against women.
<p>Output 2. High-quality bus services and bus rapid transport established and operating in Vientiane</p>	<p>BRT physical design features will include:</p> <ul style="list-style-type: none"> - Priority seating and waiting spaces for pregnant women, elderly, people with disability, and adults with small children or prams in all buses and stations. - Safe pedestrian access to the stations and bus stops - Adequate lighting around stations, near exits and entrances, bus stops, and pedestrian walkways. - Installation of security cameras in all buses and at all bus stations and provision of security personnel inside stations. - Separate toilets for women and men in bus stations, with regular cleaning. - Ensure that the BRT information system and scheduling is developed based on an analysis of transport patterns and needs of women and men to support accessibility and facilitate trip planning by different groups of men and women. - Ensure real-time traffic information electronic displays to help women and men plan their waiting time. - Consider various modalities to support affordability and increase access, e.g., passes to enable travel in multiple segments without paying fares, lower fares to reduce cost during off-peak hours, and pro-poor rate structures to reduce the burden of cost for the poor living in peripheral areas. Undertake gender analysis to inform smart card ticketing and fare pricing. - Ensure that 30% of jobs generated from BRT services, e.g., fare system staff, station attendees, supervisors, security officers, and drivers are filled by women, with data to be reported on a disaggregated basis, and all staff to be provided adequate training. - Ensure that 30% of unskilled labor jobs in civil works are provided to women, and that this is stipulated in civil works contracts. Disseminate information on the types of jobs available to local communities and those which can be performed by women. - Ensure that all construction contracts for civil works include gender-specific core labor standards. - Ensure that all BRT staffs are provided a briefing on the prevention of sexual harassment, violence against women, STI/HIV and AIDS, trafficking, and reporting channels. - Provide information boards on STI/HIV and AIDS and prevention of sexual harassment in bus stations and lay-bys.

Output 3. Traffic management in the core area of Vientiane improved	<ul style="list-style-type: none"> - Ensure that pedestrian friendly traffic management and traffic calming measures, e.g., protected crossings, traffic and pedestrian crossing signalization, raised crossings, traffic police, etc., are provided on all BRT routes. - Ensure that pedestrian friendly traffic management and traffic calming measures as well as pedestrian crossings are in place, especially near the transit mall section, and in other areas with high numbers of pedestrians, including children and women.
Output 4. Paid parking system and national vehicle registration system established	<ul style="list-style-type: none"> - Ensure that spaces are allocated for pregnant women and people with disabilities in the dedicated parking spaces. - Ensure that parking areas are well lit. - Ensure that 30% of employees for parking management and enforcement are women.
Output 5. Accessibility for pedestrians and other non-motorized transport in the core area of Vientiane improved	<ul style="list-style-type: none"> - Ensure adequate NMT lanes or walkways to the bus stations, transit mall, morning market and Vientiane high school - All NMT walkways to include barriers for vehicles and restrictions on vendors blocking paths (or assign certain sections to vendors where pedestrian paths are not blocked). - Adequate lighting and street benches provided NMTs lanes and walkways.
Project Management	<ul style="list-style-type: none"> - Appoint a gender focal in the PCU. The gender focal may be supported by the Subcommittees for the Advancement of Women (Sub-CAW) within MPWT. - Appoint to the project implementation consultants a part-time international gender specialist for 3 months, a part-time international universal accessibility specialist for 2 months, and one part time national gender specialist for 7 months (all on an intermittent basis, based on key project gender deliverables aligned to outputs) responsible for supervision and reporting against the GAP throughout the project period. - Project implementation consultant team to have knowledge of and experience with implementing the specified gender design features of the project - Gather baseline sex-disaggregated data and gender analytical information for preparatory surveys, feasibility studies, and assessments prior to the start of construction. - Facilitate equal participation and consultation of women affected by and involved in the project during preparatory surveys, studies, assessments, and other consultative mechanisms. - Provide gender awareness and GAP implementation training for relevant MPWT staff - Include all female PCU staff members as participants in capacity development activities relevant to their positions. - Integrate gender-related substantive content into capacity development activities and communication strategies whenever appropriate - Integrate gender indicators into the project M&E system.

BRT = bus rapid transit, GAP = gender action plan, M&E = monitoring and evaluation, MPWT = Ministry of Public Works and Transport, NMT = non-motorized transport, PCU = project coordination unit.

Source: Asian Development Bank.

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
Detail Design / Pre- Construction phases				
I.- Inclusion of environmental measures and provisions in the Detailed Design (DD) documentation	1.- Undertake consultation with the project executing agency, project implementation agency, affected people (residents, employees in business, etc.) within and in the vicinity of the BRT alignment and bus depot to formulate and agree on suitable measures to minimize environmental impacts during the construction phase and address safety issues during operation phase.	Part of detailed design cost	PIC	DOT/IA
	2.- Ensure that agreed mitigation measures with affected people are incorporated in the project design.	Part of detailed design cost	PIC	DOT/IA
	3.- Include in the design the installation of warning signs and traffic calming devices such as speed humps on access streets and close to the bus depot including the bus maintenance area.	Part of detailed design cost	PIC	DOT/IA
	4.- Lay-out of construction complementary surfaces for construction machinery and bus parking areas will ensure that fuel tanks, storage areas of flammable and hazardous substances machinery, bus maintenance and bus washing system, will be positioned as far away as possible from surrounding houses, streams, buildings and property boundaries.	Part of detailed design cost	PIC	DOT/IA
	5.- Take into consideration soil permeability in the design and specifications for bus maintenance and washing areas to avoid contamination of soil and water resources. Ensure that the design of these surfaces include a roof and impermeable floor, provisions to contain spillage and leaks of fuel and hazardous substances, as drainage, and provisions (oil-water separator, etc.) for collection and treatment of used oil and contaminated wastewater.	Part of detailed design cost	PIC	DOT/IA
	6.- A water recycling facility will be integrated in the design of the bus depot to maximize the re-use of wastewater from bus washing during operation phase.	Part of detailed design cost	PIC	DOT/IA
	7.- Prior to construction phase, undertake environmental quality monitoring as a baseline for future controls. Parameters to be monitored are: air quality, noise levels, surface and groundwater quality. Parameters to monitor, locations to take samples	Part of detailed design cost and/or Part of project cost	PIC and/or Contractor	DOT/IA

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	and frequency of the works are described in the Environmental Monitoring Plan (EMoP).			
	8.- Define a complete Reporting System (RS) during the whole construction and operation phases.	Part of detailed design cos	PIC	DOT/IA
II.- Environmental aspects during the tender phase	9.- DOT/IA and PIC will ensure that EMP is included in all tender and contract documents for all project components regardless of financing source.		PIC	DOT/IA
III.- Lack of a mechanism to resolve environmental complaints due to project future implementation.	Prior to start the site works; the DOT/IA, contractors and PIC will undertake the following tasks:			
	10.- Establish a Grievance Redress Mechanism (GRM), as described in the IEE. This GRM shall be approved by the DOT/IA and local competent authorities.	Part of detailed design cost, Part of project cost	DOT/IA, Contractor, PIC	DOT/IA, Competent Authority, PIC
	11.- Through public awareness campaigns, make public the existence and content of the GRM.	Part of project cost	DOT/IA, Contractor, PIC	DOT/PIC
	12.- Ensure that names and contact numbers of representatives of DOT/IA, contractors and PIC are placed on the notice boards outside the construction sites.	Part of project cost	DOT/IA, Contractor, PIC	DOT/PIC
IV.- Implementation of the EMP in the construction processes	13.- Ensure that the contractors include the specifications of the EMP in their Construction EMPs (CEMP) and define the specific measures, the HSE management staff and the appropriate budget for the implementation, before approval of those CEMPs.		Contractor	DOT/PIC
V.- Disruption to community services due to relocation of facilities (e.g., water supply)	14.- In coordination with Nampapa Nkhon Luang (Water supply State Enterprise), include in the design the water supply pipelines location. The construction has to avoid as much as possible the disruption of Community facilities and services.	Part of detailed design cos	DOT/IA, PIC	Competent Authorities
	15.- In coordination with utility companies, relocate power supply, communication lines and other utilities into the underground before construction works commence.	Specific projects	To be determined	Competent Authorities

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	16.- Make provisions to preserve the operation of current facilities (water supply, etc.) in sufficient quantity and in agreement with the local community,	Part of bid cost for civil works	Contractor	DOT/PIC
	17.- Clear notification in advance to affected households (HH) and establishments about the disruptions. State the method for future notifications.	Part of bid cost for civil works	Contractor	DOT/PIC
VI.- Tree cutting	18.- A visual recognition of the possible affected trees will be carried out before any construction action. All of them expected to interfere with the project will be marked and well located (GIS). It will be prepared a list of individuals, indicating the specie, height and wingspan, general phytosanitary status and point of location, specifying if they need to be pruned or cut.	Part of project cost	Contractor	DOT/PIC, DONRE, MONRE
	19.- Obtain necessary tree cutting permits from concerned agencies prior to start site works in the affected locations.		Contractor, DOT/IA	DONRE, MONRE
	20.- Replace removed trees by planting individuals along the alignment, in the non- motorized transport (NMT) areas, according to the landscaping works described in the project design.	Part of project cost	Contractor	DOT/PIC, DONRE, MONRE
	21.- Undertake planting of trees and bushes at the depot area, including a hedge as green barrier around these surface, when and where feasible.	Part of project cost	Contractor	DOT/PIC
VII.- Establishment of construction-related facilities and maintenance surfaces	The following measures will be implemented by the contractor: 22.- Make sure to get the necessary environmental approvals and permits, if needed, prior to establishment and operation of construction facilities and maintenance surfaces. As well, approval from DOT/IA-PIC is required before starting operations.		Contractor	DOT/PIC, DONRE, MONRE
	23.- Facilities that could generate emissions of high density of dust and noise levels shall be located at least 300 m from sensitive receptors such as residential/housing areas, medical facilities, schools, religious and cultural sites, etc.		Contractor	DOT/PIC
	Expected needs of facilities that may generate impact to water resources and to natural soils (machinery maintenance or washing surfaces, storage		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	of hazardous substances) will be properly built, incorporating these areas the following protection measures: 24.- These auxiliary surfaces will be located at least 100 m from the channel crossed at PK 2+210.			
	25.- Maintenance surfaces will be laid on concrete pavement.	Part of project cost	Contractor	DOT/PIC
	26.- To collect and retain process waters, a specific tank or settling pond will be installed prior to start main works.	Part of project cost	Contractor	DOT/PIC
	27.- To assure the proper storage of hazardous substances, an enclosure will be built on concrete material, closed by fence and will be protected with a roof.	Part of project cost	Contractor	DOT/PIC
VIII.- Health risk due to COVID-19 pandemic	In order to prevent effects of COVID-19: 28.- The contractors will include in their respective health and safety (H&S) plans, which are part of their specific Construction EMPs (CEMPs), COVID-19 health risks, preventive measures as stated in this EMP and in the Governmental Regulations and appropriate budget for implementation and follow up during the whole period of contract (except Decision from the Authorities due to the evolution of the pandemic risk).	Part of project cost	Contractor	DOT/PIC
	29.- PIC's staff is also obligated to implement preventive measures both at offices and on site while keeping activities during this stage.	Part of project cost	PIC	DOT, Sanitary Authorities
	30.- All agents will allow their staff to work from home as far as possible, promoting teleconferences and the interchange of information and coordination using remote communication such as phone, e-mail and Internet applications.	Part of project cost	All Agents	All Agents, Sanitary Authorities
	31.- All agents will prohibit gathering of more than 10 people. For gatherings with less than 10 people, it will be respected the social distance of 2 meters and the use of mask	Part of project cost	All Agents	All Agents, Sanitary Authorities

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
Construction Phase				
I.- Air quality impacts due to gaseous and dust emissions	1.- Store demolition materials outside the project area and transport them to authorized disposal site. If it's a new one, specific for this project, first approval from local authority must be given. After, DOT/PIC will approve the disposal site as well.	Part of project cost	Contractor	DOT/PIC
	2.- Transportation will be done with trucks provided with covers to avoid the generation of dust.	Part of project cost	Contractor	DOT/PIC
	3.- Undertake regular water spraying on accesses, work areas and other construction-related facilities near or within populated areas and other sensitive receptors, while no pavement on the ground.	Part of project cost	Contractor	DOT/PIC
	4.- Prohibition to use equipment and vehicles that emit visible smoke exceeding acceptable limits.		Contractor	DOT/PIC
	5.- Impose speed limits for project vehicles to minimize the emission of pollutants and to assure safety conditions for local people, along the streets.		Contractor	DOT/PIC
	6.- Prohibition of burning any type of waste generated at the construction sites and other project related facilities and activities.		Contractor	DOT/PIC
	7.- Regularly clean roads used by construction vehicles. Remove mud, cement, tiles, debris, etc.	Part of project cost	Contractor	DOT/PIC
	8.- Control the maintenance of the machinery: emissions, noise. Certification of inspections.		Contractor	DOT/PIC
	9.- Install temporary fencing or barriers around dusty activities in vicinity of sensitive receivers to minimize dust emission	Part of project cost	Contractor	DOT/PIC
	10.- Implement the EMoP regarding this aspect.	Part of project cost	Contractor	DOT/PIC
	11.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
II.- Noise and vibration impacts due to operation of construction	12.- Previously to the commencement of the works, the Contractor should carry out a review of the current status of the possible affected buildings, regarding the structure of the walls (existing cracks, etc.).		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
equipment/ vehicles and various construction activities	13.- Operation of noisy equipment and construction works during night time (19:00-06:00) in populated areas will only be undertaken after prior notification and consultation have been carried out with affected people and local officials, and suitable noise attenuation measures are implemented.		Contractor	DOT/PIC
	14.- Prohibit noisy construction activities in the vicinity of the educational and training centers during the daily period in which classes are taught.		Contractor	DOT/PIC
	15.- Prohibit use of vibration-generating equipment near vibration sensitive structures, such as ancient temples and other buildings that are considered as Physical Cultural Resources (PCR).		Contractor	DOT/PIC
	16.- Use of low noise emission generating machinery and, if necessary, install them inside noise damping walls. Position any stationary equipment that produces high noise levels (e.g., portable diesel generators, portable concrete mixer, compressors, etc.) as far as is practical from sensitive receptors.		Contractor	DOT/PIC
	17.- Install portable acoustic barriers protecting the sensitive buildings. Barriers will be moved from one section after finishing works to the following section that starts construction.	Part of project cost	Contractor	DOT/PIC
	18.- Control the maintenance of the machinery: emissions, noise. Certification of inspections.		Contractor	DOT/PIC
	19.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
	20.- Implement the EMoP regarding this aspect.	Part of project cost	Contractor	DOT/PIC
III.- Generation of solid waste and waste waters	21.- Provide and install garbage bins in the project area, facilities and workers' camp (if any) for temporary storage of construction waste and domestic solid waste.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	22.- Separate solid waste into hazardous, non-hazardous and reusable waste streams and store temporarily on site in areas that are protected from the elements.		Contractor	DOT/PIC
	23.- Where there is no available area, spoils will be loaded and transported immediately to disposal sites approved by the PIC (Engineer) and local authority.	Part of project cost	Contractor	DOT/PIC
	24.- Ensure that waste is not indiscriminately dumped within the project site and adjacent areas. Contractor will prepare before starting works a Waste Management Plan (WMP) to be implemented during the whole construction period.		Contractor	DOT/PIC
	25.- Excavated and demolition materials and spoils must be loaded and transported immediately to temporary disposals at auxiliary surfaces and after/or to disposal sites approved by the PIC and local Authority.	Part of project cost	Contractor	DOT/PIC
	26.- Unsuitable/demolition material disposal sites will be protected from erosion by avoiding formation of steep slopes and implementation of suitable measure such as grassing, etc. and any case according to the final destination of the materials and the disposals.	Part of project cost	Contractor	DOT/PIC
	27.- Waste waters from concrete will be collected in a settling pond or pumped to a tank for sedimentation before been poured to the public drainage (if pH is acceptable) system and deposited concrete mud will be removed to authorized disposal site.	Part of project cost	Contractor	DOT/PIC
	IV.- Drainage Obstruction	28.- If obstruction to drainage is unavoidable, provide alternative temporary channels of sufficient pump capacity to avoid flow restrictions.	Part of project cost	Contractor
29.- Regularly inspection and maintain all drainage grates, gutters and pipes to ensure that they continue functioning as required.		Part of project cost	Contractor	DOT/PIC
V.- Potential contamination of soil and ground water due to use of bitumen and other hazardous substances.	30.- Train relevant construction personnel in handling of fuels and spill control procedures	Part of project cost	Contractor	DOT/PIC
	31.- Ensure that the hauler and supplier guarantee that the trucks to be used for transport are approved by local authorities for the transport of bitumen and are also in accordance with the supplier's instructions for transport.		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	32.- Truck drivers must be familiar with the safe loading and unloading procedures of the bitumen products, including the emergency procedures during spillage.		Contractor	DOT/PIC
	33.- Ensure availability of spill clean-up materials (e.g., absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances where such materials are being stored.	Part of project cost	Contractor	DOT/PIC
	34.- Ensure all storage containers are in good condition with proper labeling.		Contractor	DOT/PIC
	35.- Trucks will be provided with tools and materials for handling bitumen spills.	Part of project cost	Contractor	DOT/PIC
	36.- Regularly check containers for leakage and undertake necessary repair or replacement.		Contractor	DOT/PIC
	37.- Prohibit discharge of oil contaminated water.		Contractor	DOT/PIC
	38.- Place waste oil, used lubricant and other hazardous wastes in tightly sealed containers and store in a location with roof, impermeable floor and bund.	Part of project cost	Contractor	DOT/PIC
	39.- Spills of hazardous substances will be immediately stopped and collected into containers. Polluted soils will be removed as well and considered as hazardous material.	Part of project cost	Contractor	DOT/PIC
	40.- In case of a small bitumen spill during transport, allow the bitumen to cool and solidify in order to be removed mechanically into containers for disposal.		Contractor	DOT/PIC
	41.- For large spills, prevent bitumen from spreading by making a trench or barrier with sand, soil or other materials. Remove the spill mechanically into containers for disposal.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	42.- All other hazardous substances will be properly stored out of the surroundings of the construction sites, mainly regarding significant and/or sensitive places such as Presidential Palace, Victory Arch, temples, official buildings (Ministry of Army, etc.), preferable in the surface for future depot or on a surface approved as auxiliary facility, inside a closed enclosure, on a concrete platform and covered by a roof. Fire extinguishers will be provided.	Part of project cost	Contractor	DOT/PIC
	43.- All waste from paint, solvents and any other pollutant substance will be removed after used and disposed in approved disposals.	Part of project cost	Contractor	DOT/PIC
VI.- Affection to vegetation	44.- Depending on the final installation of any auxiliary facility, ensure that the CEMP includes the appropriate restoration plan for that/those area/s.		Contractor	DOT/PIC
	45.- Fully implement the landscaping design along the whole alignment of the BRT Project, according to the specifications contained in the Detail Design for this subject.	Part of project cost	Contractor	DOT/PIC
VII.- Damage to community facilities and properties	46.- Immediately repair any damage caused by the project works to community facilities and properties such as water supply, power supply, communication system, structures, houses, etc.	Part of project cost	Contractor	DOT/PIC
	47.- Access roads damaged during transport of construction materials and other project-related activities will be maintained to at least its pre-project condition and to ensure that it remains passable to pedestrians and vehicles	Part of project cost	Contractor	DOT/PIC
VIII.- Traffic congestion and difficulties to access to properties	48.- Closely coordinate with local authorities and traffic police for any closure of the streets or rerouting of vehicular traffic, if required. Prepare a Temporary Traffic Management Plan (TTMP) to be approved by the DOT/IA.		Contractor	DOT/PIC
	49.- As much as possible, enable traffic in sections where no construction work is ongoing and enable one side of the affected streets to be open to two-way traffic.		Contractor	DOT/PIC
	50.- Provide road signs indicating lane closures and detours.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	51.- As much as possible, schedule delivery of construction materials and equipment as well as transport of spoils during non-peak hours.		Contractor	DOT/PIC
	52.- Ensure access in areas to be closed temporarily or partially by provision of alternative access to houses and business. These accesses will be prepared in good conditions for pedestrians even with difficulties in their mobility.	Part of project cost	Contractor	DOT/PIC
	53.- Provide prior notification to communities on schedule of construction activities.		Contractor	DOT/PIC
	54.- Construction work will be divided into sections and phased, thereby limiting the extent and duration of disturbance particularly in the Transit Mall and NTM roads			
IX.- Hazards to health and safety of workers due to construction works	55.- Provide all personnel with appropriate safety equipment such as safety boots, helmets, gloves, protective clothes, welding helmets, dust masks, goggles, ear protection, safe line and fall prevention measures if needed, etc., broadly referred to as personal protective equipment (PPE) and ensure that it's properly used as required.		Contractor	DOT/PIC
	56.- Prohibit workers from entering work sites without the appropriate PPE. The contractor shall employ and Environment, Health and Safety Officer (EHSO) to ensure proper implementation of all mitigation measures as specified in the EMP. The EHSO will undertake coordination with residents and local officials to ensure that conflicts due to presence of workers at the site are avoided.		Contractor	DOT/PIC
	57.- Conduct training for construction workers regarding health and safety measures, emergency response in case of accidents, fire etc.	Part of project cost	Contractor	DOT/PIC
	58.- Provide first-aid facilities that are readily accessible to workers at construction site	Part of project cost	Contractor	DOT/PIC
	59.- Provide fire-fighting equipment at the working areas, as appropriate.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	60.- Provide enough and separate hygienic sanitation facilities for male and female workers along the site. Toilets will be portable and will be moved along site depending on the working activities in each section.	Part of project cost	Contractor	DOT/PIC
X.- Hazards to public safety due to construction works	61.- Install barriers to keep the public away from risky construction areas.	Part of project cost	Contractor	DOT/PIC
	62.- Install signaling at the periphery of the construction site advising road users and the general public that construction is in progress.	Part of project cost	Contractor	DOT/PIC
	63.- Strictly impose speed limits for construction vehicles along all their route from night parking and other facilities' areas, not only along the affected sections of the alignment		Contractor	DOT/PIC
	64.- Provide adequate lighting at night within and in the vicinity of construction sites,	Part of project cost	Contractor	DOT/PIC
	65.- Provide security personnel in hazardous areas to restrict public access.	Part of project cost	Contractor	DOT/PIC
	66.- Provide safe passage ways for pedestrian to cross the construction site and for people whose home and business access has been disrupted due to construction works.	Part of project cost	Contractor	DOT/PIC
XI.- Potential damage to undiscovered archaeological relics	67.- Cease operations on a road section where artifacts or archaeological finds are discovered and immediately inform to the PIC and to the Project Coordination Unit (PCU).		Contractor	DOT/PIC, PCU
	68.- The PCU will notify Department of Transportation, who will notify the relevant Government agency, such as the Ministry of Information, Culture and Tourism (MICT) to obtain advice regarding the next steps to be followed.		Contractor	DOT/PIC, PCU, MICT
	69.- Works will recommence only after the relevant Government agency has provided official notification accordingly.		Contractor	DOT/PIC, PCU, MICT
XII.- Social conflicts due to presence of workers	70.- Maximize number of local people employed in construction works, mainly citizens living in the neighborhood of the project areas.		Contractor	DOT/PIC
	71.- Inform the population that any complaint about worker's attitude may be expressed through the GRM.		Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
XIII.- Additional environmental mitigation measures	72.- The Contractor shall implement corrective and/or additional measures to avoid, mitigate or compensate for adverse environmental impacts due to construction works and other project-related activities performed by the Contractor and its subcontractors. DOT/PIC may define and request this implementation when it's considered well justified.	Part of project cost	Contractor	DOT/PIC
	73.- The contractor will implement the Reporting System as stated in the IEE. As well, the contractor will report when requested by DOT/PIC, regarding unexpected events, extension of the information contained in its reports, etc.		Contractor	DOT/PIC
XIV.- Specific measures for the depot area	74.- Install a drainage system that collects all waters generated during the bus washing operations and runoff waters after rains, in the maintenance area, where hazardous products are used and may be spilled, such as oils, paints, etc.).	Part of project cost	Contractor	DOT/PIC
	75.- Provide to each maintenance or washing surface with an isolated ground, made with concrete and with a proper drainage, where all maintenance operations of vehicles will be carried out during the operation phase.	Part of project cost	Contractor	DOT/PIC
	76.- Install a primary water treatment system in each maintenance area, where collected process wastewaters will be retained for sedimentation and basic chemical treatment, until quality parameters are adjusted to the national standards for a final destiny.	Part of project cost	Contractor	DOT/PIC
XV.- Health risk due to COVID-19 pandemic	The following measures will be implemented by the contractor: 77.- Keep as much as possible safety social distance.	Part of project cost	Contractor	DOT/PIC
	78.- Use of certificated masks and gloves.	Part of project cost	Contractor	DOT/PIC
	79.- Usually wash hands and arms with soap and or disinfectant.	Part of project cost	Contractor	DOT/PIC
	80.- Provide to work sites and offices with devices for disinfectant products.	Part of project cost	Contractor	DOT/PIC

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
	81.- Frequent disinfection of offices, site cabins, vehicles, toilets, rest rooms, etc.	Part of project cost	Contractor	DOT/PIC
	82.- HSE Manager of contractors will be in charge of the implementation.	Part of project cost	Contractor	DOT/PIC
	83.- Contractors will set in the H&S an effective and fast communication system for workers to express symptoms of illness, in case they feel them, or any other concern about COVID-19.	Part of project cost	Contractor	DOT/PIC
	84.- Reporting. Both contractors and PIC will include in their monthly reports the status of compliance with the implementation of the measures.	Part of project cost	Contractor, PIC	DOT/PIC
	85.- Information dissemination. Information about individual protection measures against COVID-19 will be disseminated handing out brochures, triptychs and posters at offices and work sites.	Part of project cost	Contractor	DOT/PIC
	86.- Training. Contractors will continually instruct workers in this matter.	Part of project cost	Contractor	DOT/PIC
	87.- PIC will assure that all its staff takes the necessary individual measures as well as will undertake general disinfection actions at office.	Part of project cost	PIC	DOT, Sanitary Authorities
Operation Phase				
I.- Air quality condition due to operation of the project buses	1.- Conduct semi-annual monitoring works, according to the EMoP of the IEE, during the period of liability (2 years) to verify the effective reduction of the pollutants along the alignment.	Part of project cost	Operator	Project owner
	2.- Ensure that all engines used for buses maintenance at the depot generate emissions according to the National Standards and Regulations		Operator	Project owner
II.- Noise emission due to operation of new buses and noise from maintenance activities	3.- Prohibit unnecessary use of horn, to be used only for safety/emergency purposes		Operator	Project owner
	4.- Conduct semi-annual monitoring works, according to the EMoP of the IEE, during the period of liability (2 years) at bus depot - bus maintenance area or any other location if received a complaint that may be considered substantiated	Part of project cost	Operator	Project owner

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
III.- Generation of debris and other hazardous residues	5.- Provide garbage bins with cover within the project areas (such as at the bus depot, BRT stops and stations, etc.).	Part of project cost	Operator	Project owner
	6.- Separate solid waste into hazardous, non-hazardous and reusable materials.	Part of project cost		
	7.- Ensure that generated wastes are not indiscriminately dumped within the project site and adjacent areas.		Operator	Project owner
	8.- Undertake regular collection and disposal of wastes to sites approved by local authorities.	Part of project cost	Operator	Project owner
IV.- Potential contamination of water resources due to maintenance works	9.- Reuse the recycled water for bus washing and depot's surfaces cleaning. It will be only discharged to the sewage net when in excess. The project does not include the possibility of discharging any effluent to any natural water body	Part of project cost	Operator	Project owner
	10.- Ensure the proper functioning of the drainage that collects all process waters generated at the washing surfaces. Repair or improve it when necessary	Part of project cost	Operator	Project owner
	11.- Ensure availability of spill clean-up materials (e.g., absorbent pads, etc.) specifically designed for oil, in the bus maintenance area.	Part of project cost	Operator	Project owner
	12.- Ensure that maintenance and repairs of equipment and vehicles are only undertaken in designated areas with adequate provisions to avoid contamination of the environment.		Operator	Project owner
	13.- Ensure that an emergency response plan is in place and adequately resourced to address emergency situations such as accidents/spills, fire, etc.		Operator	Project owner
	14.- Implement the ground water analytics as stated in the EMoP contained in the IEE, according to its specifications, if necessary.	Part of project cost	Operator	Project owner
V.- Use of natural resources. Water supply	15.- Ensure a proper maintenance of the installed water recycling facilities to assure the reuse of wastewater from washing of buses to reduce the consumption of fresh water as a natural resource during project operation, as much as possible.	Part of project cost	Operator	Project owner

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
VI.- Hazards to health and safety conditions of workers and the users of the bus service	16.- Install separate male and female sanitation facilities/hygienic toilets at the BRT stations and bus depot for employees/workers and for service users.	Part of project cost	Operator	Project owner
	17.- Provide appropriate safety equipment for workers such as safety boots, helmets, gloves, protective clothes, welding helmets, goggles, ear protection, etc. and ensure that these are properly used as required.	Part of project cost	Operator	Project owner
	18.- Provide first aid facilities and sufficient fire extinguishers and other fire-fighting equipment at all the work sites.	Part of project cost	Operator	Project owner
	19.- Ensure that the installed signaling is effective to guarantee safety for pedestrians, mainly around the bus stations and stops and at the entrances of the depot. If necessary, reinforce the signaling system or even mobilize specialized staff.	Part of project cost	Operator	Project owner
VII.- Traffic difficulties for local transit	20.- Undertake close coordination with traffic authorities/local officials with regard to entry/exit schedule of buses and implementation of other measures to avoid traffic congestion in the vicinity of the bus depot.	Part of project cost	Operator	Project owner
VIII.- Health risk due to COVID-19 pandemic	21.- Reduce or minimize common touched surface points by using digital ticketing and passenger information system	Part of project cost	Operator	Project owner, Sanitary Authorities
	22.- Limit overcrowding in station areas by implementation of passenger flow / density monitoring systems, linked to "intelligent" wayfinding systems	Part of project cost	Operator	Project owner, Sanitary Authorities
	23.- Reduce passenger density in stations / buses by design, e.g., design specification requirements for network/line-wide (station, system, and buses) passenger density thresholds of pax/m ²	Part of project cost	Operator	Project owner, Sanitary Authorities
	24.- Establish disinfection points (hand sanitizer stations) at the fare gates, entrances/exits	Part of project cost	Operator	Project owner, Sanitary Authorities
	25.- Clean and disinfect station facilities as a routine and trains on a daily basis at night	Part of project cost	Operator	Project owner,

Environmental Aspect/Concern	Proposed Mitigation Measures	Estimated Cost	Responsibility	
			Implement	Monitoring
				Sanitary Authorities
	26.- Individual preventive/protection measures will be applied during the liability period in case of unexpected events related with this pandemic or other disease and always according to the Official Regulations at that time.	Part of project cost	Operator	Project owner, Sanitary Authorities

Environmental Monitoring Plan

Contractor resources and monitoring schedule. Specifications

The Contractor has to mobilize, full time, an EHSO to follow up daily the construction activities, both the site (all BRT alignment and depot surface) and any other facility related with the project implementation: concrete or asphalt batching plants (CBP, ABP), store for hazardous substances, maintenance area of machinery, etc. The contractor will monitor different environmental quality parameters on a quarterly basis. These parameters are, at least, air quality, noise and vibration levels and water quality in case of using a CBP and/or installing a settling pond.

The Contractor will prepare, at least, the following reports:

- a.) The EHS Manager will prepare a specific Environment, Health and Safety report (EHSMR) on a monthly basis (, that will be submitted to the IA/PIC for approval. It will include all relevant information related with these subjects, generated during the period.
- b.) A semi-annual report (EHSSR) will be prepared as a summary of the events happened during the period, related with those matters. Monthly and semi- annual reports will include the results of the environmental quality analytics carried out by the Contractor.
- c.) A final report (EHSFR) will be prepared after completion of the works. PIC will verify the accuracy of its content and it should be approved before contractor gets the environmental certification.
- d.) Specific reports when requested by the IA or the PIC, due to extraordinary or special situations happened on site.
- e.) Prepare a Method Statement (MS) for each subject as required in the IEE. These documents will be submitted to IA/PIC for approval before execution.

Table below, presents the ambient sampling program to be carried out for the project.

- 1) In the event that the construction works start within a period of 12 months since the approval of the DD, it will not be considered necessary to carry out analytics, except for groundwater. Baseline data for reference are the results included in this IEE
- 2) In case of proper implementation of all environmental measures for operation phase, regarding the configuration of the bus maintenance area, groundwater analytics could be avoided.
- 3) PIC, according to the ToR of its contract, will carry out its own analytics to verify the results of contractor's measurements

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
Pre-construction						
Project Implementation Consultant						
Atmosphere	1A- Air Quality: CO, NO ₂ , SO ₂ , SPM	<ul style="list-style-type: none"> - PK 1+160 - Setthathirath x Koun Boulom Intersection - PK 4+400 - in the northern tip of Patuxai Square - PK 4+140 North Corridor, P12, in front of the Hospital - PK 9+050 North Corridor, P1 National University of Laos 	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE
Noise	2A- Acoustic level: Leq, Lmax, day time and night time	<ul style="list-style-type: none"> - PK 1+320 - Setthathirath x Chao Anou Intersection - PK 3+310 North Corridor - Lao-Vietnam Secondary School 	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
		<ul style="list-style-type: none"> - PK 4+140 North Corridor, P12, in front of the Hospital - PK 8+800 North Corridor - P2, Sathit School 				
Natural Water	3A- Surface water quality: Temp, pH, DO, COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	- PK 2+210 North Corridor – Channel, downstream	Once, during the design phase	Part of detailed design cost	DOT/PIC	DONRE
Contractor (1)						
Atmosphere	1B- Air Quality: CO, NO2, SO2, SPM	(see locations for parameter 1A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC
Noise	2B- Acoustic level: Leq, Lmax, One Hour LAeq (dBA) for day time and night time	(see locations for parameter 2A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC
Natural Water (2)	3B- Surface water quality: Temp, pH, Dissolved oxygen (DO), COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	(see location for parameter 3A)	Once, before starting site works	Part of Project cost	Contractor	DOT/PIC

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
	4- Groundwater quality: total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX)	Bus maintenance surface	Once, before start operation phase	Part of Project cost	Contractor	DOT/PIC
Construction (3)						
Noise and vibrations	5- Ambient noise and vibrations: - Leq, Lmax, day time and night time - m/s ²	- Noise: same locations and any other where there are verified complaints - Vibrations : any point where there are substantiated complaints	Noise measurement, quarterly and to validate complaints	Part of Project cost	Contractor	DOT/PIC
Natural Water	6- Surface water quality: Temp, pH, Dissolved oxygen (DO), COD, (BOD)5, NH4+, NO2-, NO3-, PO4-, Coliform	(see location for parameter 3A)	Monthly, during the works around PK 2+200	Part of Project cost	Contractor	DOT/PIC
Operation Phase						

Environmental Aspect	Parameter	Location	Sampling Frequency	Cost	Responsibility	
					Implementation	Verification
Atmosphere	7- 1B- Air Quality: CO, NO ₂ , SO ₂ , SPM	Same sites sampled during IEE preparation to verify the reduction of pollution due to the project or any other considered necessary by the Operator due to significant changes in the volume of traffic along the BRT .	Semi-annual for the first 2 years of operation	Part of project operation cost	DOT/IA	DONRE
Noise	8- Ambient noise: Leq, Lmax, day time and night time	Bus depot - bus maintenance area and any other location if received a complaint that may be considered substantiated	Semi-annual for the first 2 years of operation, and when necessary to validate complaints	Part of project operation cost	DOT/IA	DONRE
	9- Ground water quality : total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX)	Bus maintenance surface	Semi-annual for the first 2 years of operation	Part of project operation cost	DOT/IA	DONRE

Appendix B: GENDER ACTION PLAN (GAP)

The following provisions with measures have been approved by ADB and are to be complied with during the execution of the Contract. It is expected that the Contractor should adhere to these guidelines and duly supervised by the Consultant for the Construction Supervision.

GENDER ACTION PLAN

<p>Output 1. A sustainable transport management agency for Vientiane established</p>	<ul style="list-style-type: none"> - Target of 30% of employees recruited for the transport agency are women, including 20% women in decision-making or management posts. - Ensure that women staff are provided training relevant to their jobs; target participation of women in postgraduate training proportionate to the percentage of women staff in the relevant positions. - Ensure that all agency staffs are trained in gender issues relevant to BRT, including prevention of sexual harassment and violence against women.
<p>Output 2. High-quality bus services and bus rapid transport established and operating in Vientiane</p>	<p>BRT physical design features will include:</p> <ul style="list-style-type: none"> - Priority seating and waiting spaces for pregnant women, elderly, people with disability, and adults with small children or prams in all buses and stations. - Safe pedestrian access to the stations and bus stops - Adequate lighting around stations, near exits and entrances, bus stops, and pedestrian walkways. - Installation of security cameras in all buses and at all bus stations and provision of security personnel inside stations. - Separate toilets for women and men in bus stations, with regular cleaning. - Ensure that the BRT information system and scheduling is developed based on an analysis of transport patterns and needs of women and men to support accessibility and facilitate trip planning by different groups of men and women. - Ensure real-time traffic information electronic displays to help women and men plan their waiting time. - Consider various modalities to support affordability and increase access, e.g., passes to enable travel in multiple segments without paying fares, lower fares to reduce cost during off-peak hours, and pro-poor rate structures to reduce the burden of cost for the poor living in peripheral areas. Undertake gender analysis to inform smart card ticketing and fare pricing. - Ensure that 30% of jobs generated from BRT services, e.g., fare system staff, station attendees, supervisors, security officers, and drivers are filled by women, with data to be reported on a disaggregated basis, and all staff to be provided adequate training. - Ensure that 30% of unskilled labor jobs in civil works are provided to women, and that this is stipulated in civil works contracts. Disseminate information on the types of jobs available to local communities and those which can be performed by women. - Ensure that all construction contracts for civil works include gender-specific core labor standards. - Ensure that all BRT staffs are provided a briefing on the prevention of sexual harassment, violence against women, STI/HIV and AIDS, trafficking, and reporting channels. - Provide information boards on STI/HIV and AIDS and prevention of sexual harassment in bus stations and lay-bys.

Output 3. Traffic management in the core area of Vientiane improved	<ul style="list-style-type: none"> - Ensure that pedestrian friendly traffic management and traffic calming measures, e.g., protected crossings, traffic and pedestrian crossing signalization, raised crossings, traffic police, etc., are provided on all BRT routes. - Ensure that pedestrian friendly traffic management and traffic calming measures as well as pedestrian crossings are in place, especially near the transit mall section, and in other areas with high numbers of pedestrians, including children and women.
Output 4. Paid parking system and national vehicle registration system established	<ul style="list-style-type: none"> - Ensure that spaces are allocated for pregnant women and people with disabilities in the dedicated parking spaces. - Ensure that parking areas are well lit. - Ensure that 30% of employees for parking management and enforcement are women.
Output 5. Accessibility for pedestrians and other non-motorized transport in the core area of Vientiane improved	<ul style="list-style-type: none"> - Ensure adequate NMT lanes or walkways to the bus stations, transit mall, morning market and Vientiane high school - All NMT walkways to include barriers for vehicles and restrictions on vendors blocking paths (or assign certain sections to vendors where pedestrian paths are not blocked). - Adequate lighting and street benches provided NMTs lanes and walkways.
Project Management	<ul style="list-style-type: none"> - Appoint a gender focal in the PCU. The gender focal may be supported by the Subcommittees for the Advancement of Women (Sub-CAW) within MPWT. - Appoint to the project implementation consultants a part-time international gender specialist for 3 months, a part-time international universal accessibility specialist for 2 months, and one part time national gender specialist for 7 months (all on an intermittent basis, based on key project gender deliverables aligned to outputs) responsible for supervision and reporting against the GAP throughout the project period. - Project implementation consultant team to have knowledge of and experience with implementing the specified gender design features of the project - Gather baseline sex-disaggregated data and gender analytical information for preparatory surveys, feasibility studies, and assessments prior to the start of construction. - Facilitate equal participation and consultation of women affected by and involved in the project during preparatory surveys, studies, assessments, and other consultative mechanisms. - Provide gender awareness and GAP implementation training for relevant MPWT staff - Include all female PCU staff members as participants in capacity development activities relevant to their positions. - Integrate gender-related substantive content into capacity development activities and communication strategies whenever appropriate - Integrate gender indicators into the project M&E system.

BRT = bus rapid transit, GAP = gender action plan, M&E = monitoring and evaluation, MPWT = Ministry of Public Works and Transport, NMT = non-motorized transport, PCU = project coordination unit.

Source: Asian Development Bank.

Section 9 - Contract Forms

This section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Table of Forms

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Notification of Award

---- on letterhead paper of the employer ----

Letter of Acceptance

..... date.

To: Name and address of the contractor

Subject: Notification of Award Contract No.

This is to notify you that your Bid dated date for execution of thename of the contract and identification number, as given in the Bid Data Sheet for the Accepted Contract Amount of the equivalent ofamount in words and figures and name of currency, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose the Performance Security Form included in Section 9 (Contract Forms) of the Bidding Document.

[Choose one of the following statements:]

We accept that [insert the name of adjudicator proposed by the bidder] be appointed as the Adjudicator.

[or]

We do not accept that [insert the name of the adjudicator proposed by the bidder] be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to [insert name of the appointing authority], the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with GCC 29.1.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made theday of, between *name of the employer*. (hereinafter “the Employer”), of the one part, and *name of the contractor*. (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as *name of the contract*. should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Contract Agreement,
 - (b) the Letter of Acceptance,
 - (c) the Letter of Bid,
 - (d) the Particular Conditions of Contract,
 - (e) the List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) the General Conditions of Contract,
 - (g) the Specifications,
 - (h) the Drawings,
 - (i) the Completed Activity Schedules or Bill of Quantities,
 - (j) Initial Environmental Examination (IEE);
 - (k) Environmental Management Plan (EMP);
 - (l) Resettlement Plan (RP);
 - (m) Site Specific Environmental Management Plan (SSEMP);
 - (n) Site Specific Health and Safety Management Plan (SSHSMP).and
 - (o) any other documents shall be added here.¹
3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

¹ Tables of Adjustment Data may be added if the contract provides for price adjustment (see GCC 54.1).

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *name of the borrowing country*.on the day, month and year indicated above.

Signed by
for and on behalf of the Employer

Signed by.....
for and on behalf the Contractor

in the presence of:

in the presence of:

Witness, Name, Signature, Address, Date

Witness, Name, Signature, Address, Date

Performance Security

*Bank's name, and address of issuing branch or office*¹

Beneficiary: *Name and address of the employer*

Date:

Performance Guarantee No.:

We have been informed that *name of the contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the contract*. dated with you, for the execution of *name of contract and brief description of works*. (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in words* ². (*amount in figures*.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of , ³, and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded. ⁴

.....
Signature(s) and seal of bank (where appropriate)

-- Note to Bidder --

If the institution issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
² The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the employer. If the bank issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer.
³ Insert the date 28 days after the expected completion date. The employer should note that in the event of an extension of the time for completion of the contract, the employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
⁴ Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758 where applicable.

Advance Payment Security

*Bank's name, and address of issuing branch or office*¹

Beneficiary:*Name and address of the employer*
Date:
Advance Payment Guarantee No.:

We have been informed that *name of the contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the contract*. dated with you, for the execution of *name of contract and brief description of works*. (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum *name of the currency and amount in words* ². (. *amount in figures*.) is to be made against an advance payment guarantee.

At the request of the Contractor, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in words*³. (. *amount in figures*.) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number *contractor's account number*. at *name and address of the bank*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty percent (80%) of the Contract Price has been certified for payment, or on the . . . day of ,⁴, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (*or ICC Publication No. 758 as applicable*).

.....
Signature(s) and seal of bank (where appropriate)

-- Note to Bidder --

If the institution issuing the advance payment security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
² The guarantor shall insert an amount representing the amount of the advance payment denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the employer.
³ Footnote 2.
⁴ Insert the expected expiration date of the time for completion. The employer should note that in the event of an extension of the time for completion of the contract, the employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."