

# Environmental Impact Assessment

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Project Number: 52320-002  
March 2021  
Draft

## Timor-Leste: Presidente Nicolau Lobato International Airport Expansion Project

### Volume 2 Appendices (Part 4)

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## Appendix H – SEMP Framework

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## I. Preparation

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The Contractor is responsible for preparing the Specific Environmental Management Plan (SEMP). The SEMP is prepared after the award of the contract and is to meet the conditions of the relevant Contractor bidding documents.

The Contractor can move to the site and commence work only after the SEMP has been approved by the Implementing Agency (IA) Project Management Unit (PMU) and the Project Implementation Consultant (PIC, also referred to as the ‘Engineer’ or ‘Supervision Consultant’).

The SEMP is a contractually binding document and applies equally to the main Contractor and to Sub-contractors under its control.

The SEMP must be compliant with (i) the SEMP conditions, and (ii) any national legislation. All licenses and permits issued by any outside organization that are required to meet the SEMP conditions are to be attached to the SEMP. An example could be a license to operate a borrow pit.

The PMU / PIC may require the Contractor to assess the SEMP activities. When any inspection by the PMU / PIC is undertaken and the work is found to be unsatisfactory, a non-compliance notice will be issued to the Contractor. The Contractor will implement corrective action to address the issues raised in the notice. When the work is shown to be non-conforming with the SEMP, the Contractor will be responsible for meeting costs of all investigations and associated corrective actions.

After a period, the Contractor may request that the contents of the SEMP be changed, but any requests and alterations to the SEMP can be approved only by the PMU / PIC. Likewise, the PMU / PIC may also request changes be made to the SEMP. In this respect the SEMP can be referred to a live working document.

The Contractor is to keep a daily record of all work done to meet the SEMP requirements. The daily record is to be available to the PMU / PIC. The Contractor is to provide monthly reports to the PMU / PIC regarding compliance with the SEMP.

## 2. Content

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The SEMP needs to be a concise and well-focused document that clearly sets out how the Contractor will meet the requirements of the project EMP. The SEMP shall consist of at least the following sections:

### 2.1. Introduction and Purpose

Identify the project and state the purpose of the SEMP. Identify who prepared the SEMP together with the contacts of the person who prepared the document.

### 2.2. Management Responsibilities

This section must clearly identify those persons within the Contractor’s team who will be directly responsible for supervising the SEMP activities. Each person and position is to be identified and contact details provided for their work, after-hours phone numbers for emergency situations, and their email addresses. Details are to be provided as to whether these persons are available on a full-time or part-time basis at the construction site. As a minimum, details are required for the following positions:

- The Contractor’s environmental manager.
- The back-up person for the environmental manager whenever the environmental manager is away from the site.
- The Contractor’s site engineer, who is responsible for supervising the contract on behalf of the Contractor.

- Any other persons on the Contractor's team who will have management responsibilities as required to meet the activities outlined in the SEMP conditions.

### 2.3. Legal Requirements

This section will outline the various environmental laws, regulations, and standards that the Contractor must comply with during construction. This will include all of the approved Project standards that have been outlined in the Project EIA, for example air quality standards, water discharge limits, etc.

### 2.4. Licenses and Permits

Provide details of licences and permits that the Contractor will require to undertake the works, e.g. licenses to operate a borrow pit, extract groundwater, etc.

### 2.5. Special Environmental or Cultural Issues

Show whether there are any special issues associated with the location of the work area that is, whether it is located inside or close to environmentally or culturally sensitive areas. Advise what approvals will be required and how work will be undertaken in these areas. Locate the boundaries to the areas in the plan of works.

### 2.6. Scope of Works

Define the construction requirements so that these clearly identify all of the work to be undertaken by the Contractor.

### 2.7. Plan of Works

The Contractor is to provide an overall plan of works that shows the location of all of the construction sites and the Contractor's support facilities and access roads. The plan of works should be based on the detailed engineering site plans and should show the following:

- Boundaries of the construction sites showing the extent of the disturbed area;
- Boundaries of any culturally or environmentally sensitive areas;
- Access roads (temporary and permanent);
- Contractor's facilities (show the location of offices, workshops, vehicle and machinery parking areas, material storage areas, fuel stores, etc.);
- Worker camps;
- Areas to be excavated;
- Areas where excavated fill will be dumped both as temporary and permanent dumps;
- Locations of material sources, sand, and stones;
- Waste disposal sites (non-hazardous and hazardous); and
- North, the map scale, contours, and existing drainage lines.

### 2.8. Machinery and Support Equipment Brought to Site

The Contractor is to provide:

- A list of all the machinery, vehicles, and support equipment that will be brought to the project;
- The age of the machinery;

- An assessment of the condition of the machinery <sup>1</sup> as good, average, or poor; where average or poor machinery is listed, describe the defect; <sup>2</sup>
- Where vibratory rollers are to be used, indicate the weight of the roller and the safe operating distances where the machine can be operated without causing harm to surrounding buildings or other susceptible infrastructure (the zone of vibration); and
- Any machinery that will create noise above 45 dBA is to be listed.

**Example of Table for Machinery that will be Brought to Site**

<b>Make and Type</b>	<b>Age (years)</b>	<b>Condition</b>
Excavator	2	Good
Bulldozer	3	Average
7 Ton Truck	1	Good
Mobile Crane	7	Average

**2.9. Details of Sites Used to Source Raw Materials**

This includes borrow pits and quarries. The SEMP is to provide the following details:

- Location of material supply areas;
- Type of activity and material extracted, e.g., borrow pit for sub-base or quarry for aggregate;
- Requirement for any permits or approvals to open the borrow pit or quarry;
- Estimated amounts to be extracted – total volume required and daily amounts as numbers of truckloads for how many days/months;
- Names of villages and distances along road (in kilometers) that the haul road may need to traverse before reaching the site;
- Machinery that will be operated at the site; and
- Health and safety issues that will be required to be addressed at the site.

**2.10. Contractor’s Facilities and Worker Camps**

Provide details of the facilities that the Contractor will erect on-site for (i) its own use, and (ii) worker camps. The Contractor is to show the location of these facilities on the plan of works and provide the following details:

- For Contractor facilities: show the areas required in square meters for all facilities such as administration offices, stores and workshops, vehicles and machinery parking areas. Show sources of electricity and water supply.
- For worker camps: provide details of (i) number of people occupying the camps; and (ii) areas (m<sup>2</sup>) and facilities installed for (a) washing and sanitation areas, (b) cooking, (c) sleeping areas, and (d) recreation areas.

For both the Contractor and worker facilities, describe the following:

- Type of construction of facilities (floor, walls, and roof);
- Storm-water drainage, collection systems, flow paths, and disposal areas;

<sup>1</sup> Condition relates to the age and the maintenance of the machinery or vehicles. Any vehicles or machinery that are leaking oil or fuel and are operated without satisfactory silencing or are deficient in safety equipment must be classified as average or poor.  
<sup>2</sup> Under the contract, the PSU is able to reject any machinery or vehicles that are unsatisfactory.

- Source of water and type of treatment required for cooking, washing, and drinking;
- Effluent systems to handle the disposal of washing, sanitation, and kitchen waste water;
- Source of energy to be used for heating and cooking;
- Confirm as “yes” or “no” if the facilities or camps are to be located within or closer than 2 kilometres of a protected or forested area;
- How long the camps will be required to be used; and
- Procedure for closing and dismantling the camps.

Enter details in a table:

### Example of Contractor’s Facilities to be Used during Construction

	Facility	Area (m <sup>2</sup> )	Construction			Stormwater drains to...	Effluent drains to...
			Floor	Walls	Roof		
1	Administration offices	300 m <sup>2</sup> (30 m x 10 m)	New transportable building			Freshwater tanks	Closed septic system
2	Workshop and machinery washdown areas	200 m <sup>2</sup> (20 m x 10 m)	concrete	c.g.i.	c.g.i.	Oil & water separator > sediment basin > natural drainage system	Closed septic system
3	Vehicle and machinery parking area	800 m <sup>2</sup> (40 m x 20 m)	Compacted coral aggregate			sediment basin > natural drainage system	n.a.
4	Storage area – materials	400 m <sup>2</sup> (40 m x 10 m)	Coral aggregate	c.g.i.	c.g.i.	Sediment basin > natural drainage system	n.a.
5	Storage area – fuel (5,000 liter) skid tank	15 m <sup>2</sup> (5 m x 3 m)	Concrete bunded base			Oil and water separator > sediment basin > natural drainage system	n.a.

c.g.i. = corrugated iron; n.a. not applicable.

## 3. Environmental Works Procedures

The SEMP is to provide a series of procedures that are designed to protect the environment. These are called environmental work procedures (EWP) and outline how work will be arranged to address the various issues that have been outlined in the SEMP.

The SEMP will review and build on the project EMP requirements to develop more detailed procedures for implementation in the construction activity. While the project EMP provides a list of mitigation requirements that will require procedures to be developed for each of them, the Contractor is required to review the adequacy of the requirements and if necessary include additional procedures. Should the Contractor consider that a procedure that is shown in the project EMP is not required, the Contractor will need to justify that decision.

The following is a list of procedures that may be required to be included in the SEMP. The project EMP will confirm which of these procedures or others will be required.

- Site preparation
- Excavation of construction sites
- Removal and disposal of excavated waste
- Erosion and sedimentation
- Storage and handling of construction materials, fuel, and lubricants

- Noise and vibration
- Dust generation
- Public access to site
- Risk to public and worker health and safety, including the risk of traffic accidents for local communities
- Use of hazardous materials
- Worker issues (e.g., use of fuel wood, hunting, clearing areas for gardening)
- Disposal of waste material (solid and liquid)
- Archaeological discoveries
- Rehabilitation of construction sites and Contractor facilities
- Code of Conduct for Workers
- Grievance Redress Mechanism

#### 4. Monitoring of Work

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The SEMP is to provide details of how each activity will be monitored, how frequently the monitoring will be carried out, what criteria will be monitored, and who will undertake the monitoring. A monthly report on monitoring activities is to be included in the monthly SEMP report.

#### 5. Staff and Worker Training

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The SEMP is to provide details of staff and worker training and awareness programs that will be required to ensure compliance with the SEMP. Awareness of staff and workers about safety and environmental regulations, the SEMP requirements, and in special circumstances where work will need to be carried out within or adjacent to protected areas or areas of cultural heritage will be particularly important. The program will need to show who will be responsible for implementing the program and where the program will be introduced so as to ensure that all workers are aware of the SEMP requirements before commencing work.

#### 6. Reporting

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The Contractor is to provide details in a monthly SEMP report. The report will be prepared by the person who has been identified within the Contractor's team as responsible for overseeing the SEMP procedures. The report will outline progress with regard to the project's physical monitoring targets and implementation of the SEMP for these works. The report should note which tasks have been completed and have been approved for payment by the PMU / PIC. The report is to specify if any notices have been issued by the PMU / PIC to correct work and what has been done by the Contractor to address these issues. Any complaints or issues that have been received from the public are to be listed in the report. Three copies of the report are to be sent to the PMU / PIC. The report will address the following topics:

- Status of work program: work completed, construction under way, and work planned  
Environmental unit and staff situation for the month
- Staff and worker awareness training carried out
- Waste volumes, types, and disposal (inorganic and organic) Areas revegetated and rehabilitated



- Dust control report
- Discovery of artefacts
- Safety and monthly accident report
- Status of SEMP environmental mitigation measures
- PMU / PIC notices issued and status of all nonconforming work
- Environmental Incidents
- Complaints received
- Other relevant environmental issues

## Appendix I – Sediment Plume Analysis

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## Sediment Plume Analysis during Construction

### 1. Purpose of Analysis

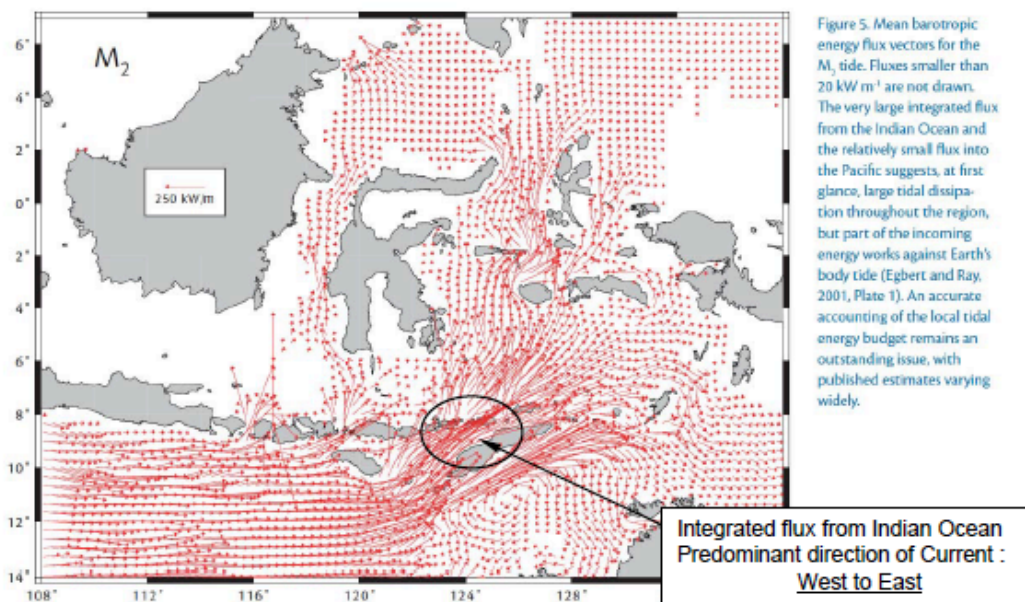
In order to assess impacts of turbidity during construction due to the airport expansion project, prediction of sediment plume by the following works is carried out using hydrodynamics diffusion modeling.

- 1) Rubble and Armor stone works
- 2) Reclamation works (Filling works of Soil)

### 2. Current Condition

#### 1) Current direction

The predominant direction of current is estimated to be from west to east based on the following map.



Source : A brief overview of tides in the Indonesian seas (2005)

2) Current Velocity

The maximum current velocity is estimated to be 20cm/s based on the following map.

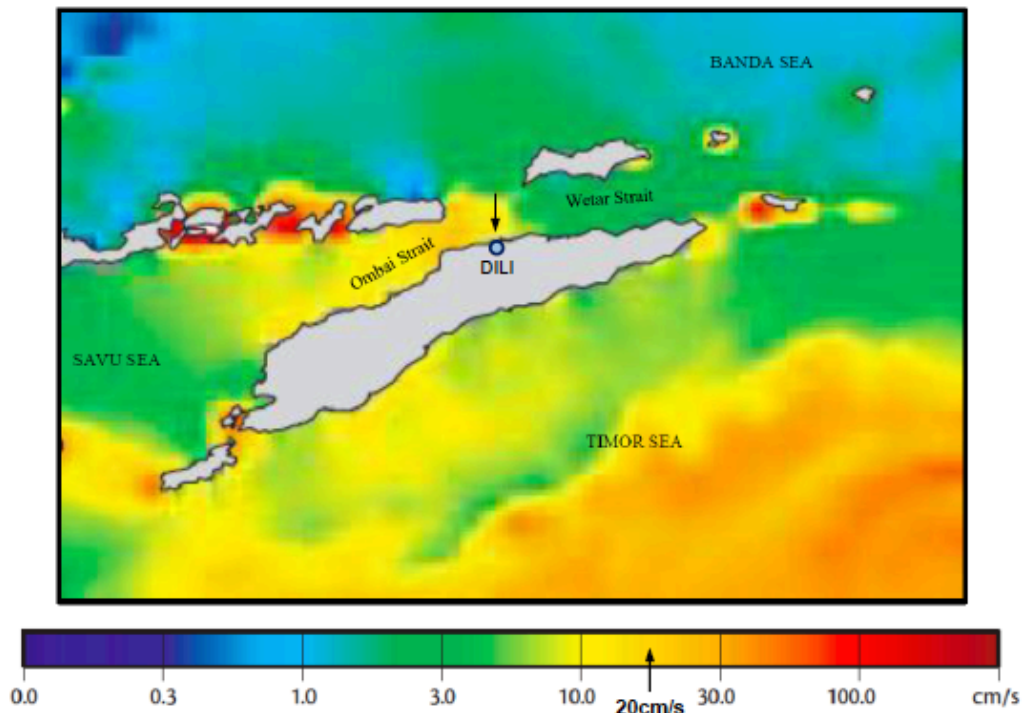


Figure 6. Maximum current velocity due to the M2 (semidiurnal lunar) constituent, which is the major constituent broadly responsible for tidal water level variations. (Map reproduced from Ray, Egbert and Erofeeva, 2005, A brief overview of tides in the Indonesian seas).

3. Basic Unit of Suspended Sediment (SS)

The basic units of suspended sediment (SS) of each construction works are as follows.

1) Rubble and Armor stone works

SS Basic Unit : 15.3 kg/m<sup>3</sup> (See Table-2 in Page 5)

daily construction volume : 300 m<sup>3</sup>/day (working hour : 8 hours)

SS generated per second "q" : 15.3 x 300 / 8 = 574 kg/h = 159 g/s

2) Reclamation works (Filling works of Soil)

SS Basic Unit : 10.6 kg/m<sup>3</sup> (See Table-2 in Page 5)

daily construction volume : 1,250 m<sup>3</sup>/day (working hour : 8 hours)

SS generated per second "q" : 10.6 x 1,250 / 8 = 1,656 kg/h = 460 g/s

#### 4. Calculation of Suspended Sediment Diffusion

The suspended sediment diffusion is estimated using the following hydrodynamics equation.

Okubo and Pritchard equation

$$S = \frac{q H^{-1}}{\sqrt{\pi p x}} \exp\left(-\frac{u^2 y^2}{p^2 x^2}\right)$$

where ;

- S : Sedimentation at any position (g/cm<sup>3</sup>)
- q : SS generated per second (g/s)
- u : Current velocity (cm/s) [20 cm/s]
- H : Water depth (cm) [5 m = 500 cm]
- p : Diffusion velocity (cm/s) [p = 1.25 cm/s in the port facing the pacific ocean]

The sedimentation is calculated under the following conditions.

- The predominant direction of current is west to east. However, 50% direction of current is considered east to west, from construction area to coral habitats in this calculation.
- The distance between the construction site and coral habitat is calculated as 500m.
- Silt curtain is 75% effective at trapping sediment.

##### 1) Rubble and Armor stone works

$$q = 159 \text{ g/s}$$

$$S = 2.569 \times 10^{-7} \text{ g/cm}^3 \times 0.50 \text{ (50\% current direction)} \times 0.25 \text{ (leakage from Silt curtain)}$$

$$= 3.211 \times 10^{-8} \text{ g/cm}^3 \text{ (at coral habitat)}$$

$$3.211 \times 10^{-8} \text{ g/cm}^3/\text{second} \times 8 \text{ hours consider 1m depth } \underline{0.00092 \text{ kg/m}^2/\text{day}}$$

##### 2) Reclamation works

$$q = 460 \text{ g/s}$$

$$S = 7.415 \times 10^{-7} \text{ g/cm}^3 \times 0.50 \text{ (50\% current direction)} \times 0.25 \text{ (leakage from Silt curtain)}$$

$$= 9.268 \times 10^{-8} \text{ g/cm}^3 \text{ (at coral habitat)}$$

$$9.268 \times 10^{-8} \text{ g/cm}^3/\text{second} \times 8 \text{ hours consider 1m depth } \underline{0.0027 \text{ kg/m}^2/\text{day}}$$

**5. Assessment**

The threshold values for the impacts to Corals are shown below. The calculated sedimentations of each construction works are less than the value as no impact to Corals.

**Table-1 Sedimentation Thresholds for Impacts to Corals (DHI 2010)**

Nearshore waters (within 5m isobath) during summer and winter only		
Zone	Suspended Sediment	Sedimentation
Zone of Total Mortality	>25 mg/l for more than 20% of the time	> 0.5 kg/m <sup>2</sup> /day (> 17.5 mm/ 14 day)
Zone of Partial Mortality	>25 mg/l for 5-20% of the time; OR > 10 mg/l for more than 20% of the time; OR >5 mg/l for more than 50% of the time; OR	0.1-0.5 kg/m <sup>2</sup> /day (3.5-17.5 mm/ 14 day)
Zone of Influence	>25 mg/l for 1-5% of the time; OR > 10 mg/l for 1-20% of the time; OR >5 mg/l for 5-50% of the time	0.025-0.1 kg/m <sup>2</sup> /day (0.9-3.5 mm/ 14 day)
No Impact	>25 mg/l for less than 1% of the time; OR > 10 mg/l for less than 1% of the time; OR >5 mg/l for less than 5% of the time	<0.025 kg/m <sup>2</sup> /day (<0.9 mm/ 14 day)

## Appendix J – Framework Spoil Disposal Plan

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## I. Purpose

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This assessment outlines the technical characteristics of the Spoil Disposal Site(s) that CONTRACTOR proposes for use for spoil disposal during construction of the PNLIA.

The spoil disposal site will be considered as an associate facility by ADB and as such ADB are required to complete due diligence on the site to confirm that the site selected is appropriate and the level of assessment is sufficient to meet ADB safeguards requirements.

Therefore, this assessment, prepared by the CONTRACTOR, requires approval from the CSC and IPMU prior to the application of licenses and approvals for the site and its subsequent use.

The CONTRACTOR shall ensure that the disposal of excess spoil material will be undertaken in a manner that verifiably minimises environmental and social risks.

## 2. Site Screening

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### Screening Summary

A screening assessment of potential sites for spoil disposal has been undertaken by the CONTRACTOR. The CONTRACTORs ESHSO have undertaken the screening exercise.

The following table indicates the sites assessed.

**Table J-1: Sites Screened**

#	Site Name	GPS Coordinates	Nearest Village

The following Figure indicates the location of each site.

**Figure J-1: Location of Screened Sites**

The CONTRACTOR used the Rapid Environmental Assessment Checklist to summarise the potential impacts of the site. The completed checklists for each site are provided as **Appendix A**.

The following table summarises the findings of the checklists.



**Table J-2: Summary of Screening Activity**

Site	Air quality Impacts	Hydrology Impacts	Topography Issues	Soils Impacts	Flora Impacts	Fauna Impacts	Protected Area Impacts	Access Issues	Impacts to Local Community, including compensations - resettlement	Safety Issues	Noise Impacts	Archaeology / PCR Issues

The results of the screening exercise indicate that the following sites were **UNSUITABLE** for use:

XXX  
 XXX  
 XXX

The results of the screening exercise indicate that the following sites are **SUITABLE** for use:

XXX  
 XXX  
 XXX

### 3. Site specific Environmental and Social Assessment

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Following the rapid screening exercise, the locations considered for use as disposal site/s (including their access roads) have been inspected by CONTRACTOR personnel from project different disciplines, including:

Name / Position  
 Name / Position

The characteristic of the selected dump site is described in the following paragraphs

Name of Disposal Site

TO BE COMPLETED

Location/s

PROVIDE SITE COORDINATES

PROVIDE SITE BOUNDARY OVERLAID ON ORTHOPHOTO

PROVIDE ACCESS ROAD/S OVERLAID ON ORTHOPHOTO

PROVIDE FOR MULTIPLE SITES IF APPLICABLE

Cross sections of the sites (at 25 meter intervals) are provided in **Appendix B**.

A photographic record of the site pre-construction is provided by **Appendix C**.

#### 3.1. Site Area And Estimated Volume Available

Estimated volume of material

Approximately XXX million cubic meters of material will be generated during the Project. The following table indicates the amount of material to be placed at each spoil disposal site and the volume of material allowed for disposal at each site according to their license.

**Table J-3: Available Site Areas**

#	Site Name	Proposed Spoil Volume (m <sup>2</sup> )	Volume Available According to License (m <sup>2</sup> )

### 3.2. Social Issues

#### Access Arrangements, Route Selection and Traffic Management

The following figure/s provides the access routes for the site/s. These routes are also included in the CONTRACTORS Traffic Management Plan. No works shall start until the Traffic Management Plan and the access routes have been approved by the Engineer.

#### **Figure J-2: Access Roads**

The route selection process was based on the following principles:

- Avoidance of natural hazards;
- Avoidance of populated areas; and
- No ban for travelling of HGV.

The route from the XXX to the spoil disposal site has a total length of XXX Km.

A summary condition survey of the access road has been undertaken and is included as **Appendix D**.

The route will pass through the following populated areas:

XXX  
XXX

The following sensitive receptors were located along the route:

**Table J-4: Sensitive Sites**

#	Type and Name	Coordinates	Distance to Route

The following upgrading works will be undertaken on the access road prior to its use:

XXX  
XXX

Routine spraying of the access road with water will be undertaken during dry periods to limit dust impacts.

A speed limit of XXX has been set on the access roads.

Access to the site will be strictly controlled and will be fenced during the construction works to prohibit unauthorized access.

Warning signs will be placed around the site to inform the local community of the safety issues.

### 3.3. Stakeholder Engagement

As part of the site selection process the CONTRACTOR has undertaken consultations with the local community regarding the use of the site and access roads.

The following table indicates the comments received during the consultations.

**Table J-5: Summary of Consultations**

#	Village	Comment	Reply

A list of those present in the meeting is provided by **Appendix E**.

The attendees were informed during the meeting of the Grievance Redress Mechanism, and were provided a copy along with contact numbers for complaints.

### 3.4. Surface Water and Drainage and Groundwater

The following surface water features have been identified in the area:

**Table J-6: Surface Water Features**

#	Name	Location

Outline if any crossings of these water courses will be necessary and if adequate crossing are available.

Outline here what site drainage will be installed, include designs, if relevant.

### 3.5. Reinstatement and Landscaping at Completion

The spoil disposal site shall be re-instated upon completion of works at the site.

Where practical, the site has been re-instated with similar species as those removed as part of the site clearance.

CONTRACTOR to provide full details of the reinstatement plan here, including area to be reinstated, schedule, types of plants and maintenance program.

**Appendix F** provides the profiles of the reinstated site.

### 3.6. Services Infrastructure & Plant On Site

The CONTRACTOR will use the following equipment on-site:

**Table J-7: Site Equipment**

#	Type of Equipment	Number

XXX number of staff will be located at the site, they include:

**Table J-8: Staff**

#	Staff Positions	Number

The site will be equipped with first aid facilities, mobile communications and toilets.

### 3.7. Biodiversity

A survey of flora and fauna was undertaken at the site by a national specialist. The findings of the survey indicate that:

XXX  
 XXX

### 3.8. Archeology and PCR

A walkover survey of the site was undertaken at the site by a national specialist. The findings of the survey indicate that:

XXX  
 XXX

### 3.9. Land Use

The spoil disposal sites, including access roads will affect the following

- XXX Land Plots
- XXX Productive Fruit Trees
- XXX Residential Buildings
- XXX Commercial Buildings
- XXX Auxiliary Buildings
- XXX Gates and Fences
- XXX Businesses
- XXX Fodder
- XXX Agricultural Land

These features will be compensated by MOTC per the conditions of the Project LARP

### 3.10. Proposed Preventive Measures

**Appendix G** provides the mitigation actions required for the operation and reinstatement of the site.

## 4. Conclusions & follow up actions

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### 4.1. Conclusions

Based upon the results of this Assessment and on the basis that CONTRACTOR implements the mitigation measures under his responsibility and follow up actions identified, the following conclusions can be made with respect to proposed use of the disposal site assessed in this report:

- CONTRACTOR SEMP contains general mitigation measures to address the risks identified in this E&S Assessment;
- Where necessary, additional site-specific mitigation measures have been identified in this Assessment (see **Appendix G**), which provide further assurance to ADB that CONTRACTOR can meet its environmental and social Project Requirements;
- If implemented appropriately, the mitigation measures outlined in CONTRACTOR SEMP and this assessment will result in appropriate avoidance for reduction of impacts to an appropriate level;
- This assessment has taken into consideration all requirements of the EIA and EMP and CONTRACTOR SEMP;
- Where necessary, CONTRACTOR has highlighted additional actions to be undertaken, which will allow appropriate mitigation of environmental and social impacts (see **Appendix G**);
- CONTRACTOR will implement and monitor proposed use of the disposal site and amend mitigation measures as required to ensure they are effective.

## 4.2. Licenses and Approvals

Upon approval of this assessment by the IPMU, CONTRACTOR will complete his Spoil Disposal Plan according to national permitting requirements.

## 4.3. Follow-up

In addition to the implementation of those measures outlined in this report, the following Actions have been identified for addition to CONTRACTOR Action Tracking System, in order to close out issues identified in this PCS that require non-routine follow up action;

**Table J-9: Follow-up Actions**

Action	Responsible
Periodic (Monthly) inspections/audits will be undertaken on the selected site to verify the respect of project requirements, as considered appropriate by the Engineer, the PIU and ADB	Contractor
Review of Grievance Reports relating to dump truck movements delivering spoil to the dump site. Address any grievances as required.	Contractor
Periodic inspections of dump truck movements on the approved route corridor to observe whether Project related vehicles are contributing to traffic delays, hold ups or incidents.	Contractor

LIST OF APPENDICES

APPENDIX A – SCREENING REPORTS

APPENDIX B – SITE CROSS SECTIONS

APPENDIX C – PHOTOGRAPHIC RECORD OF THE SITE/S

APPENDIX D – ACCESS ROAD CONDITION SURVEY

APPENDIX E – CONSULTATIONS

APPENDIX F – SITE PROFILES

APPENDIX G - PROPOSED MITIGATION MEASURES

## Appendix K – Framework Pollution Prevention Plan

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## Document Title: Pollution Prevention Plan

Reference Number: CEMP-02

**Project:** Presidente Nicolau Lobato International Airport Expansion Project, Timor-Leste

Revision	Date	Prepared By	Checked By	Approved by

## I. Introduction

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The Specific Environmental Management Plan (SEMP) defines the actions and measures necessary for the overall management of environment and social impacts for both the Project beneficiary (MOTC) and Contractors in line with the applicable law and other obligations. The SEMP is comprised of a suite of management plans.

This document is the Project Pollution Prevention Plan, document no CEMP-02.

Project construction activities have the potential to generate a range of pollution sources that require proper planning from the outset to avoid resulting in impacts to human, biological or other environmental receptors. These includes accidental emissions to air, water and soil, amongst others. The Project seeks to proactively manage such potential pollution sources and to this effect has included specific obligations regarding pollution prevention in the Project EIA.

### I.1. Purpose of the Plan

The potential pollutants that could arise from the Project requires careful management to avoid negative impacts on human health, and environmental factors such as groundwater, soils, surface water and ecology. This Plan therefore:

- Outlines the key policies, legislation and standards;
- Defines roles and responsibilities;
- Outlines actions and measures necessary for the effective prevention of pollution;
- Details specific control measures to be implemented by Contractors (and subcontractors), to achieve this.
- Incorporates the requirements of the EIA findings, international standards, GoTL legislation, Lenders requirements and Project-specific construction permits.

### I.2. Scope of the Plan

This Plan covers all construction activities and is applicable to all Contractors staff and sub-contractors staff. This document acts as a framework to determine what the Contractors are expected to produce, Contractors are required to ensure that all the Plan requirements are adopted within their own management plans. Further information on Roles and Responsibilities is provided in Section 5 of this Plan.

The construction phase of the Project also includes the reinstatement of land that is temporarily occupied or affected by the works to its original state when the construction works are completed, including the locations for the construction site organizations and pipe storage yards.

### I.3. Document Management

This document will be managed and controlled by the Document Control and Archiving Compartment within Contractors Office.

## 2. Project Overview

The Government of Timor-Leste (the Government) has requested ADB assistance for the expansion of the Presidente Nicolau Lobato International Airport in Dili Municipality. The Presidente Nicolau Lobato International Airport (PNLIA) in Dili is the only international airport in Timor-Leste and services regular connections to Darwin, Denpasar and Singapore. The Executing Agency (EA) of the Project is the Council for Administration of the Infrastructure Fund (CAFI) and the Implementing Agency (IA) of the Project is Ministry of Transport and Communications (MOTC).

The condition of the airport is generally poor, and the airport needs substantial improvement and development to meet increasing passenger numbers and to support the tourist market in the country. The airport and its runway (1,850m) are currently unable to accommodate larger aircrafts and meet international safety and service standards. The existing runway is 1,850m in length with a pavement width of 30m. The runway is capable of supporting narrow-bodied (Code C) aircraft (e.g., Boeing 737, Airbus A320) operations with significant payload restrictions due to its runway length.

There are seven (7) components under the proposed Project including (i) runway extension; (ii) runway widening; (iii) parallel taxiway; (iv) apron; (v) control tower; (vi) aerodrome ground lighting system; and (vii) ancillary facilities. The PNLIA development plan aims to optimize the use of the existing airport land area and facilities while developing new facilities in a timely manner to meet future need, but in proportion to demand to ensure that developments are cost effective.

**Figure K-1: Site Layout**



## 3. Key Policies and Legislation