

1 INTRODUCTION

1.1 Project Background

1.1.1 Road D3A and Road D4A are dual 2-lane district distributor roads within the Runway Precinct of the Kai Tak Development (KTD) as shown in **Figure 1.1**. Road D3A is running along the centre of the Runway Precinct and is replacing the original southern section of Road D3 that runs along the waterfront of the Runway Precinct. Road D4A is an extension of Road D4 connecting Road D4 with the proposed Road D3A.

1.1.2 Both Road D3A and Road D4A will play an important role in linking up all the development areas in Runway Precinct of KTD with the hinterland.

1.2 Project Scope and Programme

1.2.1 The scope of the Project comprises:

- a) Construction of approximately 1.5km long dual 2-lane carriageway along the former runway;
- b) Construction of footpaths; and
- c) Construction of approximately 1.4km long landscaped deck above the dual 2-lane carriageway along the former runway;
- d) Ancillary works including drains, sewers, fresh and salt water supply mains, utilities, landscape softworks and hardworks;

1.2.2 The Project construction works are anticipated to commence on site in early 2014, with completion of the project in 2016.

1.3 Purpose of this Manual

1.3.1 The purpose of this Environmental Monitoring and Audit (EM&A) Manual is to guide the set up of an EM&A programme to ensure compliance with the EIA study recommendations, to assess the effectiveness of the recommended mitigation measures and to identify any further need for additional mitigation measures or remedial action. This Manual outlines the monitoring and audit programme for the proposed Project. It aims to provide systematic procedures for monitoring, auditing and minimising environmental impacts associated with Project activities.

1.3.2 Hong Kong environmental regulations and the Hong Kong Planning Standards and Guidelines have served as environmental standards and guidelines in the preparation of this Manual. In addition, the EM&A Manual has been prepared in accordance with the requirements stipulated in Annex 21 of the EIAO-TM.

1.3.3 This Manual contains the following information, where applicable:

- Responsibilities of the Contractor, the Engineer or Engineer's Representative (ER), Environmental Team (ET) and Independent Environmental Checker (IEC) with respect to the environmental monitoring and audit requirements during the course of the Project;
- Project organisation;
- The basis for, and description of the broad approach underlying the EM&A programme;
- Requirements with respect to the construction programme schedule and the necessary environmental monitoring and audit programme to track the varying environmental impact;
- Details of the methodologies to be adopted, including all field laboratories and analytical procedures, and details on quality assurance and quality control programme;

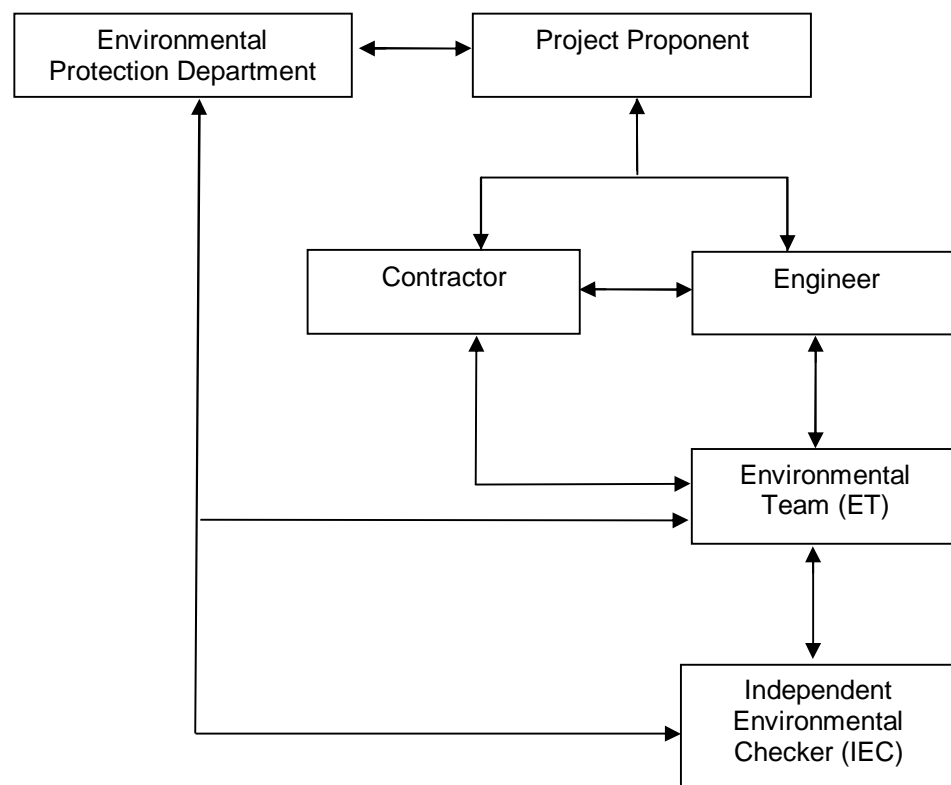
- The rationale on which the environmental monitoring data will be evaluated and interpreted;
- Definition of Action and Limit Levels;
- Establishment of Event and Action Plans;
- Requirements for reviewing pollution sources and working procedures required in the event of non-compliance with the environmental criteria and complaints;
- Requirements for presentation of environmental monitoring and audit data and appropriate reporting procedures; and
- Requirements for review of EIA predictions and the effectiveness of the mitigation measures / environmental management systems and the EM&A programme.

1.3.4 For the purpose of this manual, the ET leader, who shall be responsible for and in charge of the ET, shall refer to the person delegated the role of executing the EM&A requirements.

1.4 Project Organization

1.4.1 The roles and responsibilities of the various parties involved in the EM&A process are outlined in the following paragraphs. The proposed Project organization and lines of communication with respect to environmental management for the Project are shown in **Figure 1.2**.

Figure 1.2 Project Organisation



1.4.2 The duties and responsibilities of respective parties are as follows:

The Contractor

1.4.3 The Contractor shall report to the Engineer. The duties and responsibilities of the Contractor are:

- To provide assistance to ET in carrying out monitoring;
- To submit proposals on mitigation measures in case of exceedances of Action and Limit Levels in accordance with the Event and Action Plans;
- To implement measures to reduce impact where Action and Limit Levels are exceeded;
- To implement the corrective actions instructed by the Engineer;
- To accompany joint site inspection undertaken by the ET; and
- To adhere to the procedures for carrying out complaint investigation.

Environmental Team

1.4.4 The ET Leader and the ET shall be employed to conduct the EM&A programme and ensure the Contractor's compliance with the Project's environmental performance requirements during construction. The ET Leader shall be an independent party from the Contractor and have relevant professional qualifications, or have sufficient relevant EM&A experience subject to the approval of the Engineer's Representative (ER). The ET shall be led and managed by the ET leader. The ET leader shall possess at least 7 years experience in EM&A and/or environmental management.

1.4.5 The duties and responsibilities of the ET are:

- To monitor various environmental parameters as required in this EM&A Manual;
- To analyse the environmental monitoring and audit data and review the success of EM&A programme to cost-effectively confirm the adequacy of mitigation measures implemented and the validity of the EIA predictions and to identify any adverse environmental impacts arising;
- To carry out regular site inspection to investigate and audit the Contractors' site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems; carry out ad hoc site inspections if significant environmental problems are identified;
- To audit and prepare monitoring and audit reports on the environmental monitoring data and site environmental conditions;
- To report on the environmental monitoring and audit results to the IEC, Contractor, the ER and EPD or its delegated representative;
- To recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit Levels in accordance with the Event and Action Plans; and
- To adhere to the procedures for carrying out complaint investigation.

Engineer or Engineer's Representative

1.4.6 The Engineer is responsible for overseeing the construction works and for ensuring that the works undertaken by the Contractor in accordance with the specification and contractual requirements. The duties and responsibilities of the Engineer with respect to EM&A may include:

- Supervising the Contractor's activities and ensure that the requirements in the EM&A Manual are fully complied with;
- Informing the Contractor when action is required to reduce impacts in accordance with the Event and Action Plans;
- Participating in joint site inspection undertaken by the ET; and
- Adhering to the procedures for carrying out complaint investigation.

Independent Environmental Checker

- 1.4.7 The Independent Environmental Checker (IEC) shall advise the Engineer's Representative on environmental issues related to the Project. The IEC shall possess at least 7 years experience in EM&A and/or environmental management. The IEC shall be an independent party from the Contractor and the ET.
- 1.4.8 The duties and responsibilities of the IEC are:
- To review the EM&A works performed by the ET (at least at monthly intervals);
 - To carry out random sample check and audit the monitoring activities and results (at least at monthly intervals);
 - To review the EM&A reports submitted by the ET;
 - To review the effectiveness of environmental mitigation measures and project environmental performance;
 - To review the proposal on mitigation measures submitted by the Contractor in accordance with the Event and Action Plans; and
 - To adhere to the procedures for carrying out complaint investigation.
- 1.4.9 Sufficient and suitably qualified professional and technical staff shall be employed by the respective parties to ensure full compliance with their duties and responsibilities, as required under the EM&A programme for the duration of the Project.