

## 1.0 INTRODUCTION

### 1.1 Background

This project is one of the improvement schemes recommended under the Comprehensive Traffic Review for East Kowloon (CTREK) in 1996, which concluded that the local network of Lei Yue Mun Road would be saturated beyond the year 2001 and the traffic conditions would further deteriorate due to the intake of population around the development of Ko Chiu Road Estate and Eastern Harbour Crossing (EHC) housing site, and the redevelopment of Yau Tong Estate and Lei Yue Mun housing site in the area. Based on the future traffic requirements, the proposed project has been selected after careful consideration of the alternative siting and alignments according to various aspects including major environmental factors. The selection process will be discussed in details in Chapter 2. The proposed project will support the development / redevelopment of the housing sites as well as creating opportunities to enhance the Yau Tong urban restructuring. Figure 1.1 shows the location of the site.

A preliminary project feasibility study (PPFS), completed in December 1997, was conducted to examine the alignment of the vehicular underpass and the layout of the associated road improvement scheme. A Preliminary Environmental Review (PER) was also carried out in conjunction with the PPFS to identify the potential environmental concerns arising from the implementation of the project. The results of the PER indicate that during construction stage, precautionary measures may be required, as the Works limit of the Project is located within the Consultation Zone of Sai Tso Wan Landfill. During the operation stage, noise and air pollution impacts from vehicular traffic, and water quality impact such as runoff from the site are expected.

The proposed works have been identified as a Designated Project under Schedule 2, Part (A.1) of the EIA Ordinance, so an Environmental Permit is required prior to the construction and operation of the project. Since the proposed works are likely to have adverse impacts on the environment, the Study Brief requires an Environmental Impact Assessment (EIA) Study to determine the nature and extent of environmental impacts arising from the construction, operation of the proposed road and all related activities taking place concurrently. Hence, a detailed EIA will be conducted to evaluate the potential air, noise, water, landscape and visual impacts as well as landfill gas hazard associated with the Project.

### 1.2 Purpose of the Environmental Impact Assessment (EIA) Study

The Environmental Impact Assessment Study will determine the likely impacts and corresponding mitigation measures and monitoring programmes in relation to the proposed highway improvement. The study will identify, evaluate and propose the most effective means of ameliorating any potentially negative impacts on the environment and in particular on the neighbouring schools and estates likely to be affected.

The objectives of the EIA study are as follows:

- (i) to describe the proposed project and associated works together with the requirements for carrying out the proposed project;

- (ii) to identify and describe elements of community and environment likely to be affected by the proposed project and/or likely to cause adverse impacts to the proposed project, including natural and man-made environment;
- (iii) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- (iv) to identify any potential landscape and visual impacts and determine the significance of impacts on sensitive receivers;
- (v) to propose the provision of infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during construction and operation of the project;
- (vi) to identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and the cumulative effects expected to arise during the construction and operation phases of the project in relation to the sensitive receivers and potential affected uses;
- (vii) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the project which are necessary to mitigate these environmental impacts and reduce them to acceptable levels;
- (viii) to investigate the extent of side effects of proposed mitigation measures that may lead to other forms of impact;
- (ix) to identify constraints associated with the mitigation measures recommended in the EIA study;
- (x) to identify, within the study area, any individual project(s) that fall under Schedule 2 of the EIA Ordinance; to ascertain whether the findings of this EIA study have adequately addressed the environmental impacts of those projects; and, where necessary, to identify the outstanding issues that need to be addressed in any further detailed EIA study; and
- (xi) to design and specify environmental monitoring and audit requirements, if required, to ensure the implementation and the effectiveness of the environmental protection and pollution control measures adopted.

### 1.3 The Approach

The EIA Study has been carried out based on information available at the time. Relevant reports and drawings to the Project have been reviewed and findings have been incorporated where appropriate in this EIA Report. For examples, the findings of the following studies have been reviewed and incorporated in this study.

- *Preliminary Environmental Review for Lei Yue Mun Road Underpass, Roundabout at Junction with Yau Tong Road and Associated Improvement Works* (September 1997)
- *Environmental Assessment for Ko Chiu Road/Yau Tong/Lei Yue Mun Comprehensive Development* (April 1998)
- *Final Environmental Assessment Study for Potential Public Housing Sites East of EHC, Lei Yue Mun* (December 1998)

In accordance with the requirements of the EIA Study Brief, the EIA is to cover the following aspects of impact assessment:

- Noise impacts
- Air quality impacts
- Landfill gas hazards
- Water quality impacts
- Visual and landscape impacts

The assessment results have been used as the basis for the evaluation of their respective impacts arising from the proposed Project on both existing and planned sensitive developments, as well as for the identification of locations where the acceptable criteria limits are exceeded and appropriate mitigation measures are required. Figure 2.2 indicates the limit of Environmental Impact Assessment Study Area.

Considering the nature and environment of the project, impacts arising from construction waste, ecology and cultural heritage are considered to be minimal. Therefore, they have not been included in the EIA Study Brief. No further assessment is therefore required.

The report has been prepared in accordance with the requirements stipulated in the Technical Memorandum on Environmental Impact Assessment Process. This covers relevant project information and legislation, existing environmental conditions, assessment criteria and methods, assessment findings and proposed mitigation measures.

The Environmental Monitoring and Audit (EM&A) programme is presented in a separate EM&A Manual.

## 1.4 Report Structure

This Final EIA Report consists of 8 sections, as follows:

- (1) Introduction
- (2) Description of the Project
- (3) Noise Impact Assessment
- (4) Air Quality Impact Assessment
- (5) Landfill Gas Hazard Assessment
- (6) Water Quality Impact Assessment
- (7) Landscape and Visual Impact Assessment
- (8) Conclusions

## 2.0 DESCRIPTION OF THE PROJECT

### 2.1 Proposed Works

This project is one of the improvement schemes recommended under the CTREK in 1996 which concluded that the local network would be saturated beyond the year 2001 and the traffic conditions would further deteriorate due to the intake of population around the surrounding developments. The project will support the development of requirements of the housing sites as well as creating opportunities to enhance the Yau Tong urban restructuring.

The project will reduce the traffic passing through the Lei Yue Mun Road / Kai Tin Road Roundabout by diverting the traffic to use the proposed underpass. Moreover, the widening works and junction improvement at the Yau Tong Road / Lei Yue Mun Road junction will increase the capacity to facilitate the traffic generated from the adjacent housing developments. Since the improvements are mainly used to improve the local traffic condition, alternative siting will not be effective.