

## **1 INTRODUCTION**

### **1.1 Project Background**

- 1.1.1 In 2002, Civil Engineering and Development Department (CEDD) commissioned an integrated planning and engineering study under Agreement No. CE 87/2001 (CE) “Further Development of Tseung Kwan O – Feasibility Study” (the “TKO Study”) to formulate a comprehensive plan for further development of TKO New Town. It recommended to further develop TKO to house a total population of 450,000 besides the district’s continuous commercial and industrial developments.
- 1.1.2 At present, the Tseung Kwan O Tunnel is the main connection between Tseung Kwan O (TKO) and other areas in the territory. To cope with the anticipated transport need, the TKO Study recommended the provision of Tseung Kwan O – Lam Tin Tunnel (TKO-LT Tunnel) and Cross Bay Link (CBL) to meet the long-term traffic demand between TKO and the external areas.
- 1.1.3 The TKO-LT Tunnel, together with the proposed Trunk Road T2 in Kai Tak Development (KTD) and Central Kowloon Route (CKR), will form Route 6 in the strategic road network. Route 6 will provide an east-west express link between Kowloon and TKO areas. Upon completion, this strategic route will also provide the necessary relief to the existing heavily trafficked road network in the central and eastern Kowloon areas, and reduce the related environmental impacts on these areas.
- 1.1.4 AECOM Asia Co. Ltd. was appointed by CEDD to carry out the Assignment on Tseung Kwan O – Lam Tin Tunnel and Association Works – Investigation (hereafter referred to as “the Project”). The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO). An application (No. ESB-195/2008) for an Environmental Impact Assessment (EIA) Study Brief under section 5(1) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the CEDD on 17 July 2008 with a Project Profile (No.PP-361/2008) for the Project. An Environmental Impact Assessment (EIA) Study for the Project has been undertaken as part of the Assignment, in accordance with the EIA Study Brief (No. ESB-195/2008) which was issued in August 2008 and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

### **1.2 Designated Projects under EIAO**

- 1.2.1 The Project covers the following designated project (DP) elements as specified in Items A.1, A.7, A.8, A.9 and C.2(c) in Schedule 2 Part 1 of the EIAO (Cap.499):
- DP1 – A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing roads under A.1 in Schedule 2 Part 1;
  - DP2 – A road tunnel more than 800m in length between portals under A.7 in Schedule 2 Part 1;
  - DP3 – A road bridge more than 100m in length between abutments under A.8 in Schedule 2 Part 1;
  - DP4 – A road fully enclosed by decking above and by structure on the sides for more than 100m under A.9 in Schedule 2 Part 1; and
  - DP5 – Reclamation works (including associated dredging works) more than 1 ha in size

and a boundary of which is less than 100m from an existing residential area under C.2(c) in Schedule 2 Part 1.

- 1.2.2 Subsequent to the issue of the EIA Study Brief (ESB-195/2008), Lei Yue Mun Road Underpass (LYMR UP) is put on hold after study of alternative road improvement options and public consultation, and it will be carried out separately from TKO-LT Tunnel if it is decided to proceed later. As such, the works related to LYMR UP which was originally included as part of the Project has been deleted. Since there is no change in the Project nature and increase in its scope, the scope of issues covered under the EIA Study Brief is considered still adequate and valid.

### **1.3 Objectives of this EIA Study**

- 1.3.1 The Project covers several DP elements under Schedule 2 of the EIAO which requires an Environmental Permit (EP) for its construction and operation. Clearly stated in the EIA Study Brief, the main purpose of this EIA study is to provide information on the nature and extent of potential environmental impacts arising from the construction and operation of the Project and related activities taking place concurrently, and to contribute to decisions on the overall environmental acceptability of the Project, after the implementation of environmental mitigation measures.

- 1.3.2 The objectives of the EIA study as stated in the EIA Study Brief are as follows:

- (i) to describe the Project and associated works together with the requirements for carrying out the Project;
- (ii) to identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment;
- (iii) to provide information on the consideration of alternatives/options for site locations and layouts of the Project to avoid and minimise potential environmental impacts to environmentally sensitive areas and other sensitive uses; to compare the environmental benefits and dis-benefits of each of the different options; to provide reasons for selecting the preferred option(s) and to describe the part of environmental factors played in the selection of the preferred option(s);
- (iv) to identify and assess air quality impact, noise impact, water quality impact, waste management implication, ecological impact, fisheries impact, cultural heritage impact, landscape and visual impact; and landfill gas hazard and determine the significance of impacts on sensitive receivers and potential affected uses;
- (v) to propose the provision of infrastructure or mitigation measures so as to minimize 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 reducing them to acceptable levels;
- (viii) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures, and to identify constraints associated with the mitigation measures recommended in the EIA study as well as the provision of any

- necessary modification;
- (ix) to identify any individual project element(s) and associated works of the Project 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
  - (x) to design and specify the environmental monitoring and audit requirements to ensure the effective implementation of the recommended environmental protection and pollution control measures.

## **1.4 Structure of the EIA Report**

1.4.1 The background of the Project and objectives of this Report are introduced in Section 1. A description of the Project and details of consideration alternative options are provided in Section 2. Sections 3 to 12 detail the results of the environmental impact assessment of each key subject area, covering relevant legislation, environmental conditions, assessment criteria and methods, and assessment findings.

Sections 3 to 12 include:

- Section 3: Air Quality Impact
- Section 4: Noise Impact
- Section 5: Water Quality Impact
- Section 6: Ecological Impact
- Section 7: Fisheries Impact
- Section 8: Waste Management
- Section 9: Impact on Cultural Heritage
- Section 10: Landscape and Visual Impact
- Section 11: Landfill Gas Hazard
- Section 12: Hazard to Life

1.4.2 An outline of the requirements for the environmental monitoring and audit (EM&A) programme is presented in Section 13. The EM&A programme is presented in detail in a separate EM&A Manual. A detailed implementation schedule of the recommended mitigation measures is provided in Section 14. A summary of environmental outcome and conclusion of the whole assessment is given in Section 15.