

1. INTRODUCTION

1.1 Preamble

1.1.1 On 19 November 1997, the New Territories region of Highways Department of the Hong Kong Special Administrative Region Government commissioned Maunsell Consultants Asia Ltd (hereafter known as Maunsell) as the lead consultant for the Environmental Impact Assessment Study (hereafter known as the EIA Study) for the Sai Sha Road Widening between Kam Ying Road and the junction of the proposed trunk road T7 (hereafter known as the Project or road widening). The purpose of the Assignment is to provide information on the nature and extent of noise (and possible associated operational air quality) and landscape and visual impacts arising from the construction and operation of the proposed project and all related activities taking place concurrently. This information will contribute to decisions on whether:

- the predicted levels of any environmental impacts that are likely to arise as a result of the proposed road widening are within the established standards and guidelines;
- there are any specific conditions and requirements for environmental protection that should be applied to the detailed design, construction and operation of the widened road; and
- any residual impacts identified in the EIA are within the established standards and guidelines after proposed mitigation measures are implemented.

1.1.2 As part of the Assignment, ERM-Hong Kong, Ltd. have been commissioned to undertake an EIA Study to assess the noise impacts of the proposed road widening and possible air quality impacts associated with operational noise mitigation measures. Hassell Limited have been commissioned to undertake the Visual Impact and Landscape/Townscape studies.

1.1.3 The EIA Study provides the following inputs to the Assignment.

- **EIA - Inception Report (EIA - IR).** The purpose of this report is to review existing data and highlight key issues and constraints of the Project. The findings of this report will provide the basis for the environmental impact assessment.
- **EIA - Final Assessment Report (EIA - FAR).** The purpose of this report is to consolidate all the findings of the EIA for the alignment option. The findings and recommendations of this report will be incorporated into the Preliminary Design of the alignment.
- **Environmental Monitoring and Audit Manual.** This report will be used as a guideline for environmental monitoring and audit during the construction, post-project and operational phases.
- **Executive Summary.** The Executive Summary will highlight the issues of

concern to the community, the levels of residual environmental impacts and cumulative effects, requirements for implementation of the project, and the basis for the implications of those requirements. The Executive Summary will be prepared in both English and Chinese.

1.2 Objectives of the EIA

1.2.1 The objectives of the EIA Study are as follows:

- i) to describe the proposed road widening and associated work together with the requirements and environmental benefits for carrying out the proposed project;
- ii) to identify and describe the elements of the existing and planned community and environment likely to be affected by the proposed road widening;
- iii) to identify and quantify environmental polluting sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- iv) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
- v) to identify existing landscape and visual quality in the study area and evaluate the landscape and visual impact of the proposed project;
- vi) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- vii) to propose the provision of infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during the construction and operation of the project;
- viii) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- ix) to identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and cumulative effects expected to arise during the construction and operational phases of the Project in relation to the sensitive receivers and potential affected uses;
- x) 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 impacts and reduce them to the levels of the established criteria;
- xi) to design and specify the environmental monitoring and audit requirements necessary to ensure the implementation and the effectiveness of the environmental protection and pollution control measures adopted; and
- xii) to identify any additional studies necessary to implement the mitigation measures, monitoring and proposals recommended in the EIA Study.

1.3 Study Area

- 1.3.1 The *Study Area* for the noise assessment is 300 m from either side and along the full stretch of the proposed alignment (*Figure 1a*). In cases where first layer of noise sensitive receivers (NSRs), within 300 m from the road provide adequate acoustic shielding to those NSRs behind this *Study Area* may be reduced.
- 1.3.2 In the case of the landscape and visual impact assessment, the *Study Area* is defined by a distance of 500 m from the proposed alignment (*Figure 1b*). All visually sensitive receivers will be assessed where necessary, regardless of the distance from the proposed alignment, as part of the visual impact assessment.

1.4 Structure of the EIA

- 1.4.1 After this introductory section, the remainder of the report is arranged as follows:
- *Section 2, Project Description*, provides general details relating to the construction and operation of the proposed alignment;
 - *Section 3, Noise*, identifies the noise impacts arising from the road widening during both the construction and operational phases;
 - *Section 4, Landscape/Townscape and Visual Impacts*, reviews the landscape and visual impacts arising from the proposed road widening;
 - *Section 5, Landuse Assessment*, assesses both short term and long term implications for land uses resulting from the proposed road widening;
 - *Section 6, Environmental Monitoring and Audit*, identifies the EM&A requirements for the construction and operation phases; and
 - *Section 7, Conclusions*, discusses the overall conclusions of the EIA.
- 1.4.2 *Annex A* details the proposed construction schedule listing construction activities and plant inventory likely to be required during the construction phase of the road widening. It also catalogues the individual construction plant sound power levels as well as presenting the noise levels predicted at neighbouring NSRs during the construction phase.
- 1.4.3 *Annex B* presents the results of the traffic noise modelling.
- 1.4.4 *Annex C* presents the results of the noise insulation eligibility test for all NSRs.
- 1.4.5 *Annex D* presents an example and methodology of construction and operational noise calculations.
- 1.4.6 *Annex E* contains the tree survey records.
- 1.4.6 *Annex F* presents all of the *Figures* referred to within the text..