



A Babtie BMT Company

VOLUME 1

1.0 INTRODUCTION

1.1 Background

Babtie BMT Harris & Sutherland Hong Kong Ltd. in association with Mouchel Asia Environmental, MVA Hong Kong Ltd and Team 73 Hong Kong were commissioned by Highways Department of the Hong Kong Government on 23 February 1998, under Agreement No. 69/97, to provide professional services in respect to the Investigation Assignment for Widening and Reconstruction of Tai Po Road (Sha Tin Section), hereinafter referred to as the Project.

The Project is located in Sha Tin, in the vicinity of the Sha Tin KCR Station. The regional location of the Project is shown in Figure 1.1 and the Project Works area is shown on Figure 1.2. The Project was developed as a result of the Sha Tin and Ma On Sha District Traffic Study (STMOSDTS), completed in 1995, which was commissioned to examine the traffic demands of continuous development of the Sha Tin Ma On Shan areas.

The STMOSDTS forecasted that Tai Po Road, Sha Tin Section, in its present state will be seriously overloaded with a traffic volume to road capacity (v/c) ratio of about 1.6 by year 2001. The STMOSDTS recommended the widening of Tai Po Road, Sha Tin, including the replacement of the existing diamond interchange with an elevated roundabout at the junction of Tai Po Road / Sha Tin Rural Committee Road

The widening of Tai Po Road would reduce the v/c ratio from 1.60 to 1.06 by year 2001. In addition, the future provision of a new Trunk Road T4 connecting Trunk Road T3 to Sha Tin Road will divert some traffic away from Tai Po Road, reducing the v/c ratio further from 1.06 to 0.84.

A Preliminary Project Feasibility Study (PPFS) for this Project was completed in February 1997, which included a Preliminary Environmental Review (PER). The PER identified the potential environmental impacts that may be associated with the Project which included air quality, noise, water, waste, landscape and visual impacts and recommended that an Environmental Impact Assessment (EIA) be carried out at a later stage of the project.

The objective of this stage of the Project is to carry out an EIA on the project, define the project scope and prepare the preliminary design of the Project. This document comprises the EIA for the project and covers the potential environmental impacts that were identified in the PER.

1.2 Purpose and Objectives of the EIA

The purpose of the EIA is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project and all related activities taking place concurrently. This information will contribute to decisions on:-

- (i) The overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- (ii) The conditions and requirements for the detailed design, construction and operation of essential components of the Project; and

- (iii) The acceptability of residual impacts after the proposed mitigation measures are implemented.

The EIA Study has been prepared in accordance with Clause 6.14 of the Study Brief which includes the assessment of the following:-

- (i) During Construction Activities: the potential for noise, air quality, water quality and construction waste impacts; and
- (ii) During Operation of the Project: the potential for air, noise, water quality, visual, landscape and townscape impacts and landuse impacts.

The requirements of EIA have been met by:-

- (i) Carrying out the necessary background studies to identify, collect and analyse existing information relevant to the EIA Study;
- (ii) Carrying out any necessary environmental survey, site investigations and baseline monitoring work to achieve the objectives;
- (iii) Quantifying, by use of models or other predictive methods, the residual and cumulative environmental impacts (specifying whether these are transient, long term and/or irreversible) arising from the construction and operation of the Project;
- (iv) Proposing practicable, effective and enforceable methods, measures and standards to effectively mitigate any significant environmental impacts in the short and long term; and
- (v) Outlining a programme by which the environmental impacts of the Project can be assessed, monitored and audited.

The Study Brief also required consideration of beneficial aspects of the Project as well as the adverse effects, the delineation of identified impacts as short and long term effects (e.g. duration), secondary effects of the Project and Project induced effects, cumulative effects of implementation of the Project with other projects in the study area. There were no synergistic effects and trans-boundary effects associated with the Project.

Guidelines for Ecological Assessment of the Technical Memorandum of the EIA Ordinance outlines the general approach and methodology for assessment of ecological impact arising from a project or proposal. The annex includes procedures for determining the need for ecological assessment. Based on the Preliminary Project Feasibility Study it is generally considered that the works area is not inside recognised sites of conservation importance and does not encroach into any important habitats. There is also no likely presence of species of conservation importance. Therefore, an ecological assessment is not required. Generally within the works area there should be good site/construction practices and housekeeping measures to avoid or minimize any nuisance or localized damage to the natural environment.

1.3 EIA Report Requirements

The following EIA report meets the Study Brief objectives of:-

- (i) Fully satisfying the requirements of the Brief in respect to the prediction and assessment of impacts, the identification of environmental impact mitigation measures and the associated residual impacts;
- (ii) Providing a detailed assessment and evaluation of the environmental impacts and cumulative effects arising from the Project sufficient to identify, evaluate and mitigate those issues of key concern during the construction and operation of the Project which are likely to influence decisions on the Project;
- (iii) Defining measurable environmental parameters and environmental features likely to be affected by the Project and identifies the environmental monitoring programmes which are required both to provide a baseline profile of existing environmental conditions and to monitor impacts and compliance during construction, commissioning and operation of the Project;
- (iv) Defining the environmental audit requirements for compliance and post-project audit, which would include a review of the monitoring data both to identify compliance with regulatory requirements, policies and standards and to define any remedial works required to redress unanticipated or unacceptable consequential environmental impacts;
- (v) Proposing a detailed programme of investigation able to meet all other objectives of the assignment;
- (vi) Prescribing the specification for detailed design, construction and operation requirements of the Project; and
- (vii) Providing with the impact summary, the Study findings, conclusions, recommendations and a mechanism for implementation.

1.4 Report Structure

In meeting the objectives set out above, this report contains the following Sections:-

- Section 2.0 describes the Project and its key elements;
- Section 3.0 presents the relevant environmental standards and guidelines for construction and operation noise, air quality, water quality visual, landscape and townscape impacts, waste management and land use aspects of the study;
- Section 4.0 provides the traffic flow predictions for this Study;
- Section 5.0 assesses the noise impacts likely to occur during the construction and operation of the proposed project and recommends appropriate mitigation measures for their amelioration;
- Section 6.0 assesses the air pollution impacts likely to arise during construction and operation and recommends appropriate mitigation measures for their amelioration;

- Section 7.0 assesses the water pollution impacts likely to arise during construction and operation and recommends appropriate mitigation measures for their amelioration;
- Section 8.0 assesses the visual, landscape and townscape impacts likely to arise from implementation of the project and recommends appropriate mitigation measures for their amelioration;
- Section 9.0 assesses the waste management impacts likely to arise during construction and recommends appropriate mitigation measures for their amelioration;
- Section 10.0 assesses the land use impacts likely to arise during implementation of the project;
- Section 11.0 provides a summary of the conclusions and recommendations of this assignment; and
- Section 12.0 outlines the required environmental monitoring and audit requirements during the construction and operation of the Project.