1 INTRODUCTION

1.1 Background

The primary area for expansion of Hong Kong's port facilities, as recommended by the Port & Airport Development Strategy (PADS), will be along the north east shore of Lantau Island.

The Lantau Port Peninsula Development study and the Western Harbour Development Study (LAPH studies) were subsequently commissioned in 1991 to investigate the feasibility of developing land and marine based port facilities in this location. Environmental Impact Assessments were carried out during these studies.

The LAPH study recommended that the port should be developed in four phases. Stage 1 comprises the following works elements of Phase I and II:

(a) Container Terminals Nos. 10 and 11 (CT10 and 11);

(b) container back up areas (CBA) for CT10 and 11;

(c) serviced land for industrial development;

(d) a breakwater;

(e) dredged access channels; and

(f) road links and utility services.

The study area and the scope of Stage 1 are shown on Figure 1.1. Items (b), (c) and (f) from the above list are referred to as the Ancillary Works in this Report.

The present study was commissioned in August 1993 by the Civil Engineering Office of the Civil Engineering Department to carry out master planning for the CBA and serviced land for industrial development together with detailed engineering designs for the latter. Engineering designs for the CBA are being undertaken by Civil Engineering Department (CED) while a parallel study (the CT10 and 11 Preliminary Design, referred to as the container terminal study) is carrying out preliminary engineering design for CT10 and 11.

An environmental impact assessment (EIA) has been commissioned to consider the cumulative environmental impacts of certain aspects of Stage 1. The Brief for the environmental impact assessment is appended to this report as Appendix A. The scope of work includes the following :

(a) Construction Stage

(i) Air Pollution

The impacts from the Ancillary Works, breakwater and dredged access channel have been assessed in this Study while the impacts from CT10 and 11 have been assessed by the container terminal study consultants. Cumulative impacts from construction are included in the report based on CT10 and 11 data prepared by the container terminal study consultants.

(ii) Noise Pollution

The assessment of noise pollution has followed the same approach as the assessment of air pollution impacts during construction.

(iii) Water Pollution

The assessment of water pollution impacts has been based on mathematical modelling studies of the development. The study has included an assessment of the water quality in the Discovery Bay area during the period of construction and operation of Stage 1, focusing on nutrient levels.

(iv) Ecology

A survey of the use of the water body by the Chinese White Dolphin has been carried out.

(b) Operation Stage

(i) Air Pollution

The air pollution assessment has followed the same approach as for air pollution during construction in preparation of cumulative impacts.

(ii) Noise Pollution

A noise impact assessment has been carried out for all Phases of the Lantau Port. The impacts for Phases I and II backup areas and the Ancillary Works have been assessed in the Study while the impacts from CT10, 11, 12 and 13 and the Phase III and IV backup areas have been assessed by the container terminal study.

Cumulative impacts from operation were compiled by the container terminal study and have been included directly into this Report.

It should be noted that the Brief does not include water pollution impacts during operation as these have been considered to have been assessed in sufficient detail in the LAPH study.

Construction of parts of the project will be brought forward on an accelerated programme. These are referred to as the Advance Works and this report identifies environmental impacts separately for these works wherever appropriate. The scope of the Advance Works is shown on Figure 1.2.

1.2 Objectives of the Environmental Assessment Study

The Environmental Assessment study has the following objectives :

(a) to describe the characteristics of the proposed project and related facilities and the requirements for their development;

(b) to identify and describe the existing and proposed elements of the community and environment likely to affect or be affected by the proposed project;

(c) to minimize pollution, environmental disturbance and nuisance arising from the project and related facilities and its construction and operation;

(d) to identify, predict and evaluate the net environmental impacts and cumulative effects expected to arise due to the construction and operation of the project in relation to the existing and planned community and the neighbouring land uses;

(e) to identify and specify cost-effective methods, measures and standards for the inclusion into the design, which are necessary to mitigate impacts to an acceptable level;

(f) to recommend environmental monitoring and audit requirements necessary to ensure the effectiveness of the environmental protection measures adopted;

(g) to identify the nature and extent of the potential environmental impacts associated with the mitigation measures recommended in the study e.g. placement of noise bunds and to propose methods to minimize identified impacts;

(h) to identify other potential constraints associated with the mitigation measures recommended in the study, e.g. structural, visual, maintenance problems, and so recommend proposals to resolve the constraints; and

(i) to identify additional studies where necessary to fulfil the objectives or requirements of this Assignment.

1.3 Approach

The assessment has been divided into two phases. The first phase was an assessment of the serviced land and container back up area for air and noise impacts. The second phase was a cumulative assessment which included impacts associated with air and noise summed for the entire Lantau Port Development - Stage 1.

The water quality assessment has taken on board the assessments undertaken for LAPH studies and used much of the baseline data presented in that study.

The air and noise studies have predicted the impacts at 2001 and 2011 using the latest designs and agreed location and orientation of CT10 and 11.

Figure 1.1
The Study Area

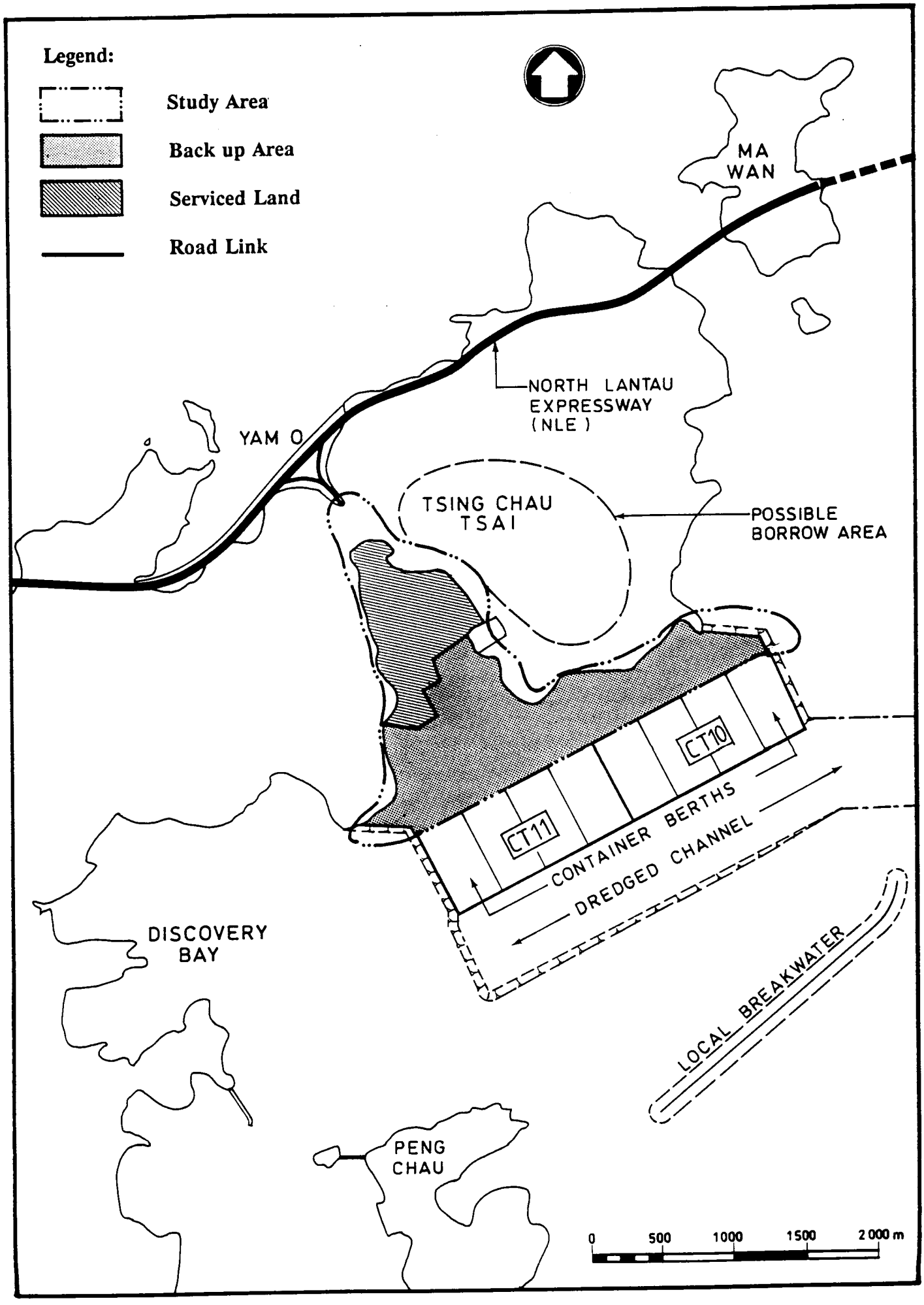

Figure 1.2
Advance Works