

Environmental Impact Assessment Ordinance (Cap. 499)

Section 5(7)

Environmental Impact Assessment Study Brief No. ESB-0010/1998

Project Title: Yau Tong Bay Development - Reclamation of Yau Tong Bay

Name of Applicant: Maunsell Consultants Asia Ltd, named "the Applicant" thereafter

BACKGROUND

- 1 An application (No. ESB-0010/1998) for an EIA study brief under section 5(1) of the captioned Ordinance was submitted by the Applicant on 12 August 1998 with a project profile (No. PP-012/1998).
- 2 The Applicant proposes to proceed with the Yau Tong Bay Development by reclaiming land in Yau Tong Bay and resuming the existing marine lots for the future Comprehensive Development Area (CDA) development. The reclamation site is zoned "CDA" on the Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K/15/9. The project area is about 28.5 hectares which comprises 9.6 hectares of Yau Tong Marine Lots, 0.55 hectare government lots and 18 hectares reclamation (see Figure 1 for project area). The project profile covers the following designated projects:
 - (i) reclamation works of Yau Tong Bay; and
 - (ii) decommissioning of ship building and repairing facilities at the marine lots.
- 3 Pursuant to section 5(7)(a) of the Environmental Impact Assessment Ordinance, the Director of Environmental Protection (DEP) issues this Environmental Impact Assessment (EIA) study brief to the Applicant to carry out an EIA study.
- 4 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the proposed designated projects and related activities taking place concurrently. This information will contribute to decisions by the DEP on:
 - (i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the proposed project;
 - (ii) the conditions and requirements for the detailed design, construction and operation of the proposed project to mitigate against adverse environmental consequences wherever practicable; and

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

OBJECTIVES OF THE EIA STUDY

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 the elements of the community and environment likely to be affected by the proposed project and/or likely to cause adverse impacts to the proposed project, including both the 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 propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operation of the project;
- (v) 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;
- (vi) 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;
- (vii) to investigate the extent of side-effects of proposed mitigation measures that may lead to other forms of impacts;
- (viii) to identify constraints associated with the mitigation measures recommended in the study; and
- (ix) 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.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The purpose of this study brief is to scope the key issues of the EIA study. The Applicant has to demonstrate in the EIA report that the criteria in the relevant sections of the Technical Memorandum on the Environmental Impact Assessment Process of the Environmental Impact Assessment Ordinance (thereafter refer to as the TM), are fully complied with.

The Scope

3.2 The scope of this EIA shall cover all works proposed within the “Study Area” and any other works associated with these developments outside the Study Area. The EIA study shall cover the combined impacts of all these works on the sensitive receivers in the vicinity in accordance with the requirements laid down in Section 3.4 of the TM. The following list of work elements will be included in the project:

- (i) Reclamation of Yau Tong Bay;
- (ii) Construction of seawall;
- (iii) Diversion of existing drainage outfall and provision of new stormwater drainage system;
- (iv) Provision of new sewerage system;
- (v) Decommissioning of all the marine lots which have the potential history of land contamination due to ship building and repairing facilities;
- (vi) Demolition of existing building structures; and
- (vii) Provision of infrastructure (e.g. access roads, waterworks, services and utilities, etc.) for the development.

Technical Requirements

3.3 The Applicant shall conduct the EIA study to address all environmental aspects of the activities as described in the scope as set out above. They are to include the following technical requirements as specific impacts:

3.4 Noise Impact

3.4.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing noise impact as stated in Annexes 5 and 13 of the TM respectively.

(i) Determination of Study Area

The study area shall include all area with 300m from the project boundary. The study area could be reduced accordingly if the first layer of noise sensitive receivers (NSRs), closer than 300m from the outer project limit, provides acoustic shielding to

those receivers at further distance behind. In the later case, the study area shall be agreed with the DEP.

(ii) Provision of Background Information and Existing Noise Levels

The Applicant shall provide all background information relevant to the project, e.g. relevant previous or current studies. Unless involved in the planning standards, e.g. those for planning of fixed noise sources, no existing noise levels are particularly required.

(iii) Identification of Noise Sensitive Receivers

The Applicant shall refer to Annex 13 of the TM when identifying the NSRs. The NSRs shall include all existing NSRs and all planned / committed noise sensitive developments and uses earmarked on the relevant Outline Zoning Plan, Outline Development Plan and Layout Plans (including the proposed housing development on the site East of Eastern Harbour Crossing).

(iv) Provision of an Emission Inventory of the Noise Sources

An inventory of noise sources (construction equipment for construction noise assessment) shall be provided.

(v) Construction Noise Assessment

- (a) The Applicant shall carry out assessment of noise impact from construction (excluding percussive piling) of the project during day time, i.e. 7 a.m. to 7 p.m., on weekdays other than general holidays in accordance with the methodology stipulated in paras 5.3 and 5.4 of Annex 13 of the TM. The criteria in Table 1B of Annex 5 of the TM shall be adopted in the assessment.
- (b) To minimise the construction noise impact, alternative construction methods to replace percussive piling shall be proposed as far as practicable.
- (c) If the unmitigated construction noise levels are found exceeding the relevant criteria, the Applicant shall propose practicable direct mitigation measures (including but not limited to movable barriers, enclosures, quieter alternative methods, re-scheduling and restricting hours of operation of noisy task) to minimise the impact. If the mitigated noise levels are still exceeding the relevant criteria, the duration of the noise exceedance shall be given.

3.5 Water Quality Impact

3.5.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing water

pollution as stated in Annexes 6 and 14 of the TM respectively.

3.5.2 The study area for the purpose of water quality impact assessment is shown in Figure 2.

3.5.3 The Applicant shall identify and analyse all physical, chemical and biological disruptions of marine, estuarine, fresh water or ground water system(s) arising during the construction of the project. The Applicant shall address the following:

General

- (i) collection and review of background information on the existing water system(s) and the respective catchment(s);
- (ii) characterization of water and sediment quality based on existing information or site survey/ tests as appropriate;
- (iii) identification and analysis of all existing and planned future activities and beneficial uses related to the water system(s) and identification of all water sensitive receivers;
- (iv) identification of pertinent water quality objectives and establishment of other appropriate water quality and sediment criteria or standards for the water system(s) and all sensitive receivers;
- (v) identification of any alteration of shoreline or bathymetry, change of flow regimes, change of ground water levels, change of catchment types or areas;
- (vi) identification, analysis and quantification of all existing and likely future water and sediment pollution sources, including point discharges, non-point sources to surface water runoff and pollution loading in existing storm drains. Field investigation and laboratory tests shall be conducted as appropriate;
- (vii) Establishment and provision of an emission inventory on the quantities and characteristics of all these pollution sources;

Impact Predictions

- (viii) prediction and quantification by mathematical modeling or other technique approved by DEP, of the impacts on the water system(s) and the sensitive receivers due to those alterations and changes identified in (v) and the pollution sources identified in (vi). Possible impacts include changes in hydrology, flow regime, sediment erosion or deposition, water and sediment quality and the effects on the aquatic organism due to such changes. The prediction shall take into account and include

the construction stage, in particular the water quality in any temporary embayment created during construction and the operational stage. Cumulative impacts due to other projects, activities or pollution sources within a boundary as shown in Figure 2 shall also be predicted and quantified;

Waste Water and Non-point Sources Pollution

- (ix) analysis on the adequacy of existing and planned future sewerage system to receive discharges of waste water identified in (vi) above;
- (x) analysis on the provision and adequacy of existing and planned future facilities to reduce pollution arising from the non-point sources identified in (vi) above;

Dredging, Filling and Dumping

- (xi) identification and quantification of all dredging, fill extraction, filling, reclamation, sediment/ mud transportation and disposal activities and requirements. Potential fill source and dumping ground to be involved shall also be identified. Field investigation, sampling and laboratory tests to characterise the sediment/ mud concerned shall be conducted as appropriate. The ranges of parameters to be analysed; the number, type and methods of sampling/ sampling preservation/ laboratory tests; and the laboratory to be used shall be approved by DEP. Particular attention shall be given to the requirement of WBTC No. 22/92 on "Marine Disposal of Dredged Material" (or any current WBTC issued for this subject);
- (xii) prediction, quantification and assessment of impacts on the physical regime, water and sediment quality of the water system(s) and the sensitive receivers due to the activities identified above. The prediction and quantification of impacts caused by sediment re-suspension and contaminants release shall be carried out by mathematical modeling or other techniques approved by DEP;
- (xiii) identification and evaluation of the best practicable dredging and reclamation methods to minimise dredging and dumping requirements and demand for fill sources based on the criterion that exciting marine mud shall be left in place and not be disturbed as far as possible;
- (xiv) evaluation of the impacts due to release of the interstitial water and associated contaminants to the water column ground water if wick drain installation is used to speed up consolidation of mud;
- (xv) Prediction and quantification of cumulative impacts due to other dredging, filling or dumping activities, in particular the South East Kowloon Development and those at

Tseung Kwan O, within the Study Area as shown in Figure 2;

- (xvi) Investigation of the potential biogas problem for marine mud left in place including the measurement of parameters such as Total Organic Carbon (TOC) and Sediment Oxygen Demand (SOD) and suggestion of monitoring and precautionary measures on development, if necessary.

Mitigation

- (xvii) Proposal of effective infrastructure upgrading or provision, water pollution prevention and mitigation measures to be implemented during the construction stage so as to reduce the water and sediment quality impacts to within acceptable levels of standards. Requirements to be incorporated in the project contract document shall also be proposed. Best management practices to reduce storm water and non-point source pollution shall be investigated and proposed. Attention shall be made to the water quality control and mitigation measures recommended in the ProPECC paper PN1/94 on construction site drainage; and
- (xviii) evaluation and quantification of residual impacts on the water system(s) and the sensitive receivers with regard to the appropriate water and sediment quality criteria, standards and guidelines.

3.6 Waste Management Implications

3.6.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing waste management implications as stated in Annexes 7 and 15 of the TM respectively. The assessment of waste management implications shall cover the following:

- (i) Analysis of Activities and Waste Generation

The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction and operation activities, based on the sequence and duration of these activities.

- (ii) Proposal for Waste Management

- (a) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation shall be fully evaluated.

- (b) Having been taken into account all the opportunities for reducing waste generation, the types and quantities of the wastes required to be disposed of as a consequence shall be estimated and the disposal options for each type of waste described in detail. The disposal method recommended for each type

of wastes shall take into account the result of the assessment in section (iii) below.

(c) The impact caused by handling (including labeling, packaging & storage), collection, and disposal of wastes shall be addressed in detail. This assessment shall cover the following areas:

- (1) potential hazard;
- (2) air and odour emissions;
- (3) noise;
- (4) wastewater discharge; and
- (5) public transport.

3.7 Land Contamination Impact

3.7.1 The Applicant shall follow the guidelines for evaluating and assessing potential contaminated land issues as stated in Annex 19 sections 3.1 and 3.2 of the TM.

3.7.2 The Applicant shall provide a clear and detailed account of the present land use (e.g. description of the activities, chemicals and hazardous substances handled with clear indication of their storage and location by reference to a site map) and the relevant land use history in relation to possible land contamination (e.g. accident records, change of land use etc).

3.7.3 During the execution of the EIA study, the Applicant shall submit a contamination assessment plan (CAP) to the DEP for endorsement prior to conducting an actual contamination impact assessment of the land/site. The CAP shall include proposals on sampling and analysis required and shall aim at determining the nature and the extent of the contamination of the land/site.

3.7.4 Based on the endorsed CAP, the Applicant shall conduct a land contamination impact assessment. If land contamination is confirmed, a remedial action plan shall be prepared to formulate necessary remedial measures.

3.8 Landscape and Visual Impact

3.8.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing landscape and visual impact during construction and operational phases as stated in Annexes 10 and 18 of the TM respectively. Landscape and visual impact assessment shall cover the following:

- (i) a baseline study to provide a comprehensive and accurate description of the baseline landscape and visual character;
- (ii) a review of the relevant planning and development control framework;
- (iii) impact studies to identify the potential landscape and visual impacts and predict their magnitude and potential significance; and
- (iv) recommendations on mitigation measures and implementation programme.

3.8.2 The Applicant shall assess the impact of the proposed project on the landscape aspect during construction and operational phases. The Applicant shall appraise and analyse the existing landscape resource and character of the site. It shall focus particularly on the sensitivity of the landscape framework such as coastline etc. and its ability to accommodate change. The Applicant shall identify the degree of compatibility of the proposed project with the existing landscape.

3.8.3 The Applicant shall assess the visual impacts of the proposed project. The assessment shall include the following:

- (i) identification and plotting of visibility contours and visual envelope of the proposed project. The Study Area visual impact assessment shall be defined by the visual envelope of the proposed project.
- (ii) identification of the key groups of sensitive receivers within the visibility contours with regard to views from both ground level and elevated vantage points;
- (iii) description of the visual compatibility of the project with the surrounding, and its obstruction and interference with key views of the adjacent areas; and
- (iv) the severity of visual impacts in terms of distance, number of sensitive receivers shall be identified. The visual impacts of the project with and without mitigation measures shall be assessed.

3.8.4 The Applicant shall review plans and studies which may contain guidelines and control on urban design concepts, open space network etc. Such review will give an insight to the future outlook of the area affected and the ways that the project can be assimilated into the environment. Any conflict with the statutory town plan shall be highlighted and appropriate follow up action shall be recommended.

- 3.8.5 The Applicant shall recommend mitigation measures to minimize the adverse effects identified in the above paragraphs 3.8.2 and 3.8.3, including the provision of a landscape design. The mitigation measures shall include the preservation of vegetation, transplanting of mature trees, provision of screen planting, revegetation of disturbed land, compensatory planting, provisioning of amenity areas and open spaces, design of structures, provision of finishes to structures, colour scheme and texture of materials used and any measures to mitigate the disturbance to the existing landuse. Parties shall be identified for the on-going management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the operational phase of the project. A practical programme and funding proposal for the implementation of the recommended measures shall be presented.
- 3.8.6 Perspective drawings, plans and section/elevation diagrams, photographs on scaled physical models, photo-retouching and photo-montage shall be adopted to illustrate the landscape and visual impacts of a project. The Applicant shall record the technical details in preparing the illustrations which may need to be submitted for verification of the accuracy of the illustrations.

4. ENVIRONMENTAL MONITORING & AUDIT (EM&A) REQUIREMENTS

- 4.1 The Applicant shall identify in the EIA study whether there is any need for EM&A activities during the construction and operation phases of the project and, if affirmative, to define the scope of the EM&A requirements for the project in the EIA study.
- 4.2 Subject to the confirmation of the EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM.
- 4.3 The Applicant shall prepare a project implementation schedule (in the form of a checklist as shown in Annex 1) containing all the EIA study recommendations and mitigation measures with reference to the implementation programme.

5. DURATION OF VALIDITY

- 5.1 This EIA study brief is valid for 24 months after the date of issue. If the EIA study does not commence within this period, the Applicant shall apply for another EIA study brief afresh in accordance with section 6 of the EIA Ordinance before the EIA study commences.

6. REPORT REQUIREMENTS

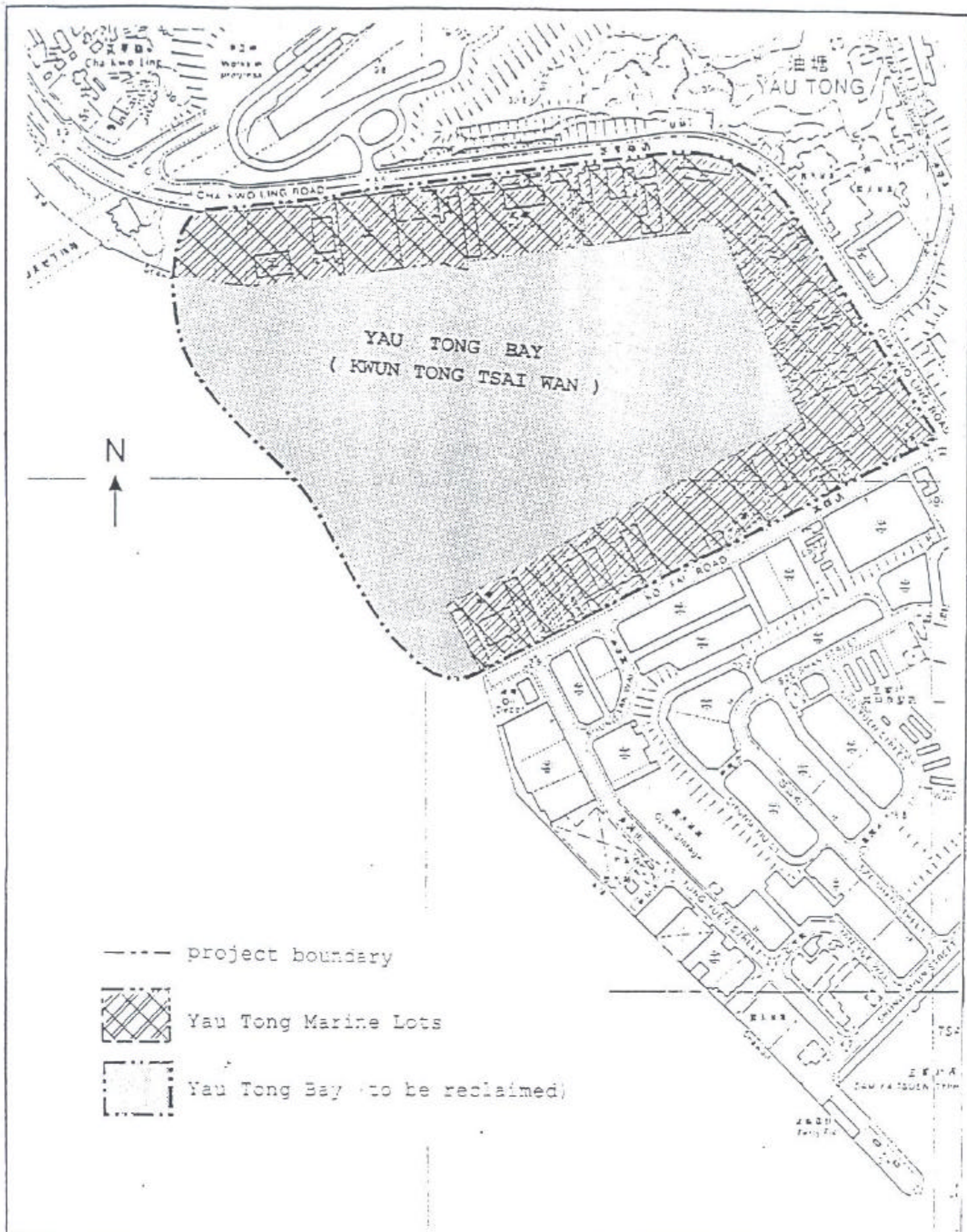
- 6.1 In preparing the EIA report, the Applicant shall refer to Annex 11 of the TM for the

contents of an EIA report. The Applicant shall also refer to Annex 20 of the TM which stipulates the guidelines for the review of an EIA report. The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:

- (i) 40 copies of the EIA report in English and 80 copies of the executive summary (each bilingual in both English and Chinese) as required under section 6(2) of the EIAO to be supplied at the time of application for approval of the EIA report.
- (ii) when necessary, addendum to the EIA report and the executive summary submitted in (i) above as required under section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.
- (iii) 20 copies of the EIA report in English and 50 copies of the executive summary (each bilingual in both English and Chinese) with or without Addendum as required under section 7(5) of the EIAO, to be supplied upon advice by the Director for consultation with the Advisory Council on the Environment.

7. OTHERS PROCEDURAL REQUIREMENTS

- 7.1 During the EIA study, if there is any change in the name of the Applicant for this EIA study brief, the Applicant mentioned in this study brief must notify the Director immediately.
- 7.2 If there is any key change in the scope of the projects mentioned in section 1 of this EIA study brief and in the Project Profile (No. PP-012/1998), the Applicant must seek confirmation from the Director in writing on whether or not the scope of issues covered by this EIA study brief can still cover the key changes, and the additional issues, if any, that the EIA study must also address. If the changes to the projects fundamentally alter the key scope of the EIA study brief, the Applicant shall apply to the Director for another EIA study brief afresh.



TITLE
The Location Plan

FIGURE 1

SCALE 1:5000

Yau Tong Bay Development

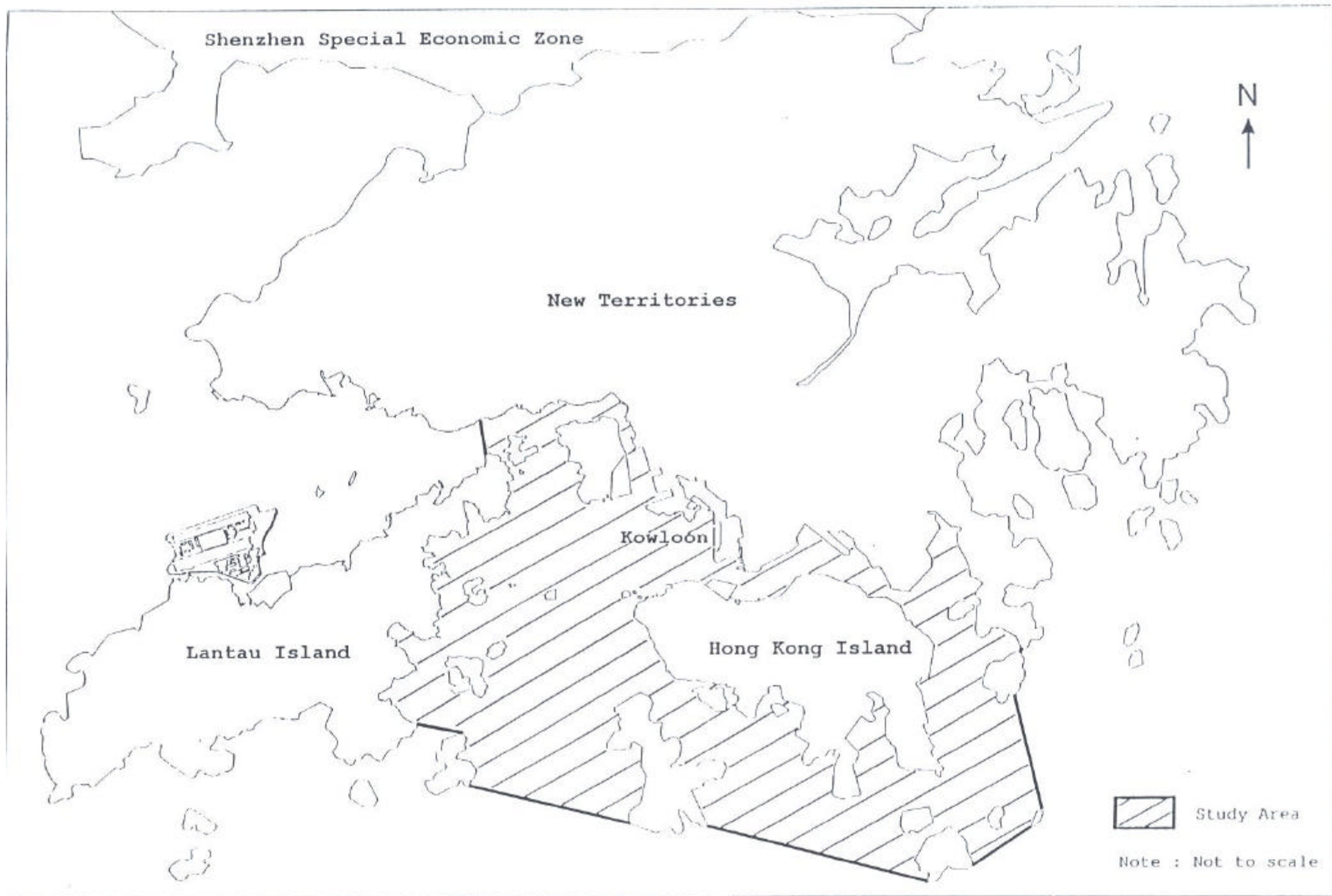


Figure 2 : Study Area for Water Quality Impact Assessment - Yau Tong Bay Development

IMPLEMENTATION SCHEDULE

EIA* Ref	EM&A Log Ref	Environmental Protection Measures*	Location/Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stages**				Relevant Legislation & Guidelines
					Des	C	O	Dec	

- * All recommendations and requirements resulted during the course of EIA/EIA Process, including ACE and/or accepted public comment to the proposed project.
- ** Des=Design, C=Construction, O=Operation, Dec=Decommissioning

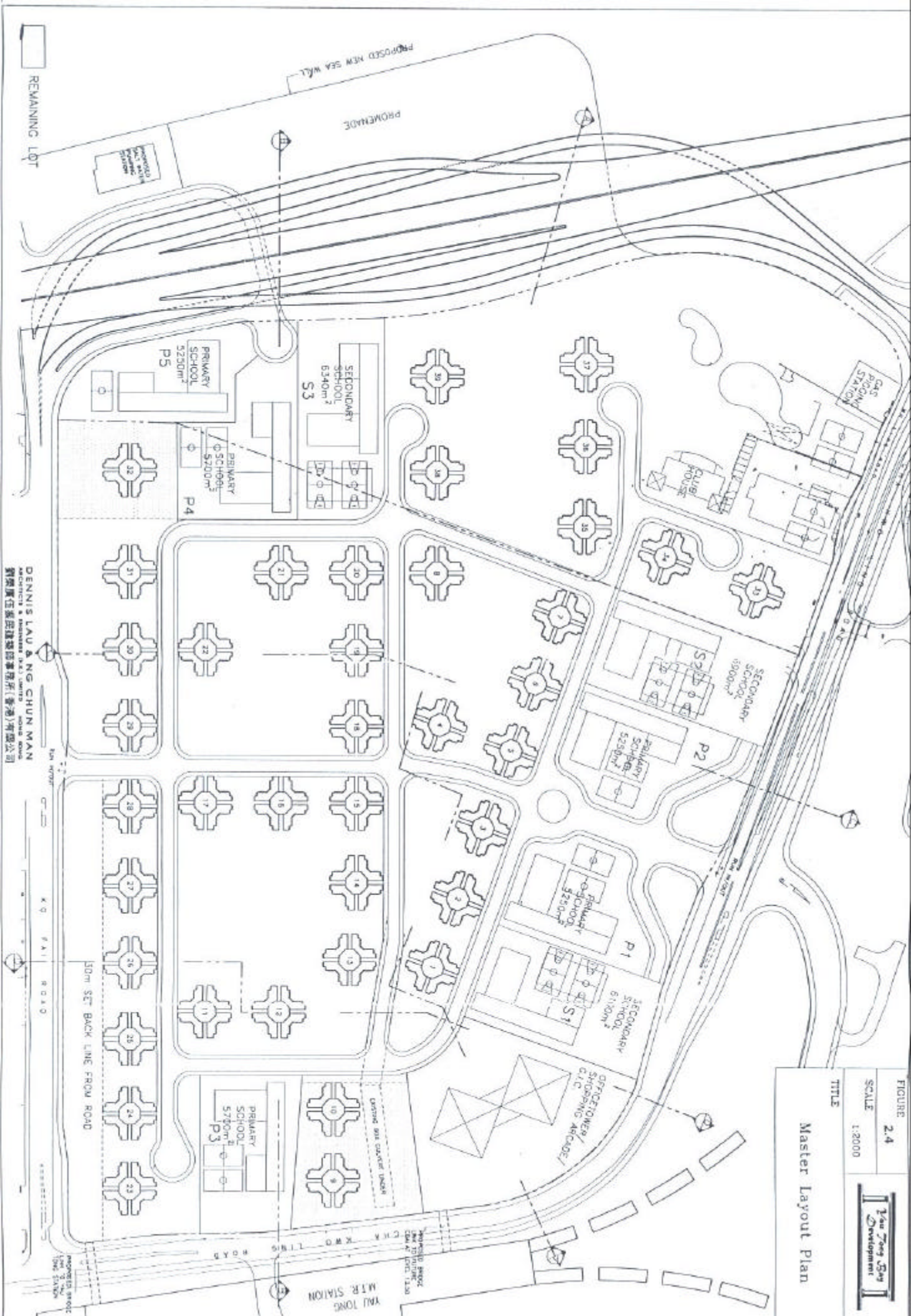


FIGURE 2.4
 SCALE 1:2000
 TITLE Master Layout Plan

DENNIS LAU & NG CHUN MAN
 劉榮偉及吳建強建築師事務所(香港)有限公司

