



*Hong Kong Government
Territory Development Department
NT North Development Office*

Agreement No. CE 48/95

**Yuen Long South Development
Engineering Works in Areas 13 and 14, Yuen Long
(PWP Items No. 27CG and 28CG)**

EIA Study

Final Executive Summary

Ref. 0080/EIA/FES/Issue 1

November 1997



Binnie Consultants Limited

EIA-129.2/BC

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Report Authorized For
Issue By:






For and on Behalf of
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1 INTRODUCTION

1.1 The Yuen Long South Development Engineering Works in Areas 13 & 14 shown in Figure 1.1 form part of the Committed Urban Development Area in the North West New Territories (NWNT). These Public Works Programme items were created accordingly:

- (i) PWP 27CG/B - 'Yuen Long South Eastern Extension - Site Formation, Roads and Drainage Works', which covers works in Area 14;
- (ii) PWP 28CG/B - 'Yuen Long South Western Extension - Site Formation, Roads and Drainage Works', which covers works in Area 13;
- (iii) PWP 4061DS - 'NWNT Development - Trunk Sewers, Sewage Pumping Station and Rising Mains - Stage III'.

1.2 Figure 1.2 shows the landuse zoning plan for Areas 13 and 14. The main components of the scheme shown in Figure 1.3 include the following:

- (i) site formation for the public housing site in Area 13;
- (ii) construction of a road network and its connection with existing roads including the Yuen Long South Bypass;
- (iii) construction of drains, sewers and water mains;
- (iv) associated works at locations to be agreed with the Director's Representative;
- (v) landscaping and any environmental impact abatement works identified in the EIA Study;
- (vi) maintenance or reprovisioning of existing facilities affected by the Project;
- (vii) provision of basic infrastructural services to promote further development of Yuen Long South, Areas 13 and 14;
- (viii) preserving the existing villages through provision of basic infrastructural services.

- 1.3 Binnie Consultants Limited was appointed by the Territory Development to undertake the *Yuen Long South Development - Engineering Works in Areas 13 and 14, Yuen Long* (hereafter called 'the Project'). These works will be implemented according to the gazetted Yuen Long Outline Zoning Plan as major parts of the PWP Items Nos. 27CG and 28CG.
- 1.4 The assignment is undertaken in three stages:
- (i) Investigation Stage;
 - (ii) Design and Contract Stage;
 - (iii) Construction/Completion Stage.
- 1.5 The Investigation Stage studies for the Project include an Environmental Impact Assessment (EIA), a Drainage Impact Assessment, Traffic and Transport Studies and Engineering Studies. This Executive Summary Report relates only to the EIA.

2 NOISE

- 2.1 The detailed noise assessment prepared on the basis of the 'worst case scenario' shows that predicted noise levels at the NSRs along the proposed new roads during the construction of road network and drains will exceed the noise guidelines. The worst affected noise sensitive receivers including NSRs 15, 28 and 38 may experience noise levels up to 14 dB above the guidelines.
- 2.2 However, provided that the recommended mitigation measures such as temporary noise barriers and good site practices and careful phasing of the works are followed, construction noise levels can be reduced at most NSRs. Two existing village houses and one school with residual impact above the guidelines will be mitigated by careful phasing of the works.
- 2.3 An EM&A Programme will be implemented to ensure that noise from the construction activities would be kept within the guidelines.
- 2.4 Road traffic noise is anticipated to be the major noise problem during the operational phase. The detailed noise modelling based on the traffic data in 2011, indicates that some NSRs may experience up to 76 dB(A) noise impact for the future worst case scenario without any mitigation measures.

- 2.5 Direct noise mitigation measures in the form of noise barriers (Figures 2.1 and 2.2) are recommended for both the existing and future sensitive receivers taking into account the various constraints such as sightline, ingress/egress. In cases where noise barriers are not practicable, for example at junctions where sightline problems may occur, affected existing noise sensitive receivers have been tested for eligibility for consideration for indirect mitigation measures in the form of acoustic insulation.
- 2.6 126 existing dwellings would be exposed to noise levels above the HKPSG standards after implementation of the noise barriers, but 85 of these will be eligible for consideration for indirect technical remedies in the form of acoustic insulation. The rest of the existing dwellings still exposed to residual impact are affected by roads outside the scope of this project.

3 AIR QUALITY

- 3.1 The baseline air quality monitoring from the Yuen Long Station indicates that the concentrations of NO₂ and SO₂ are fairly low and well below the AQOs. The short term maximum concentration of TSP and RSP are well below the AQOs, but the annual average of the particulates exceeds the AQOs.
- 3.2 Without adequate mitigation measures, dust levels from the construction could exceed the Air Quality Objectives at nearby ASRs. However, the construction is not expected to cause significant dust impacts, providing that good site practices, especially regular watering of haul roads, are fully undertaken.
- 3.3 Two major sources of potential air pollution, i.e. chimney and traffic, during the operational phase have been identified. The modelled results show that the cumulative impact during the operational phase will comply with the Air Quality Objectives.
- 3.4 It is not likely that the air quality will be subjected to significant construction or operational impacts, if the proposed good site practices and operation maintenance are fully implemented.

4 ECOLOGY

- 4.1 Field investigations have been undertaken to assess the overall conservation importance and general wildlife interest of the Study area.

- 4.2 The project would alter the current mix of agricultural land and villages. The major habitats affected will be abandoned and active agricultural land. In addition, 0.4 ha ponds and 257 numbers of trees will also be affected. These habitats are currently used by some wildlife but none of the species found is listed as rare or endangered.
- 4.3 It is recommended that ecological features should be incorporated into the new landscaping as much as possible. Where this is impractical vegetation should either be replaced or replanted, preferably by native species. The overall impacts of the proposed construction on the ecology will not be significant and little of ecological value will be lost.

5 WASTE MANAGEMENT

- 5.1 Various wastes will be generated during the construction period of the Project. In order to minimise unnecessary waste, the sources, types, quantities and disposal methods have been identified.
- 5.2 It is recommended that the quantity of waste generation should be minimised and the potential for reuse and recycling of waste should be considered. Construction wastes should be inert and non-inert materials. Inert waste will be reused for public filling. The solid wastes which cannot be recycled will be disposed of at an approved landfill site, while the chemical wastes should be delivered to and treated at Government Chemical Waste Treatment Centre.
- 5.3 The proposed construction waste is not expected to have an adverse environmental impact as long as good environmental practices are observed.

6 LANDSCAPE AND VISUAL IMPACTS

- 6.1 The proposed project will influence the existing visual environment. The major impact will be a visually intrusive excavated and filled site formation, followed by an urbanized area. It will also break the existing rural views towards the south from Yuen Long Town Centre.
- 6.2 In order to minimise the adverse impacts it is recommended that attempts should be made to preserve as many existing trees as possible in the formulation of the road alignment and the layout of the housing development. Provision for landscape treatment will also be incorporated in the road design. During the construction good site practices are recommended to minimise the transient impacts on the visual environment.

7 WATER QUALITY

- 7.1 The proposed development has the potential for both negative and beneficial impacts on the water quality. The adverse impacts as a result of the construction activities include construction site runoff and discharge, sewage discharge from construction workforce and general construction activities. Such impacts will be mainly limited to the construction stage which is relatively short term in nature. No significant adverse impact is expected if the recommended mitigation measures are used.
- 7.2 Systematic improvement of existing and future wastewater collection and disposal systems both in the hinterland and by proposed development will reduce the pressure on the overall water quality in the study area.

8 SEWAGE TRANSFER SCHEME

- 8.1 The proposed Sewage Transfer Scheme will be implemented under PWP Item No. 4061DS to serve the Yuen Long South Development. Detailed assessments for noise, air quality, waste and sewage management indicate that adverse environmental impacts associated with the construction and operation of the Sewage Transfer Station can be kept to minimum levels, provided that recommended mitigation measures are properly implemented. Potential operational odour issues can be satisfactorily designed out using a proprietary odour removal system.
- 8.2 The proposed Sewage Transfer Scheme will have a positive benefit on the overall water quality in the study area.

9 CUMULATIVE IMPACTS

- 9.1 There are several concurrent projects, such as 74 CD - Village Flood Protection for Ma Tin Tsuen, 61DS - Sewage Transfer Scheme and 227 WF - Water Mainlaying Works between Tai Yuk road and Fung Cheung Road, which are likely to overlap the proposed development. However, the detailed assessments indicate that all these constructions are relatively short periods and minor. The cumulative impacts are minor and acceptable.

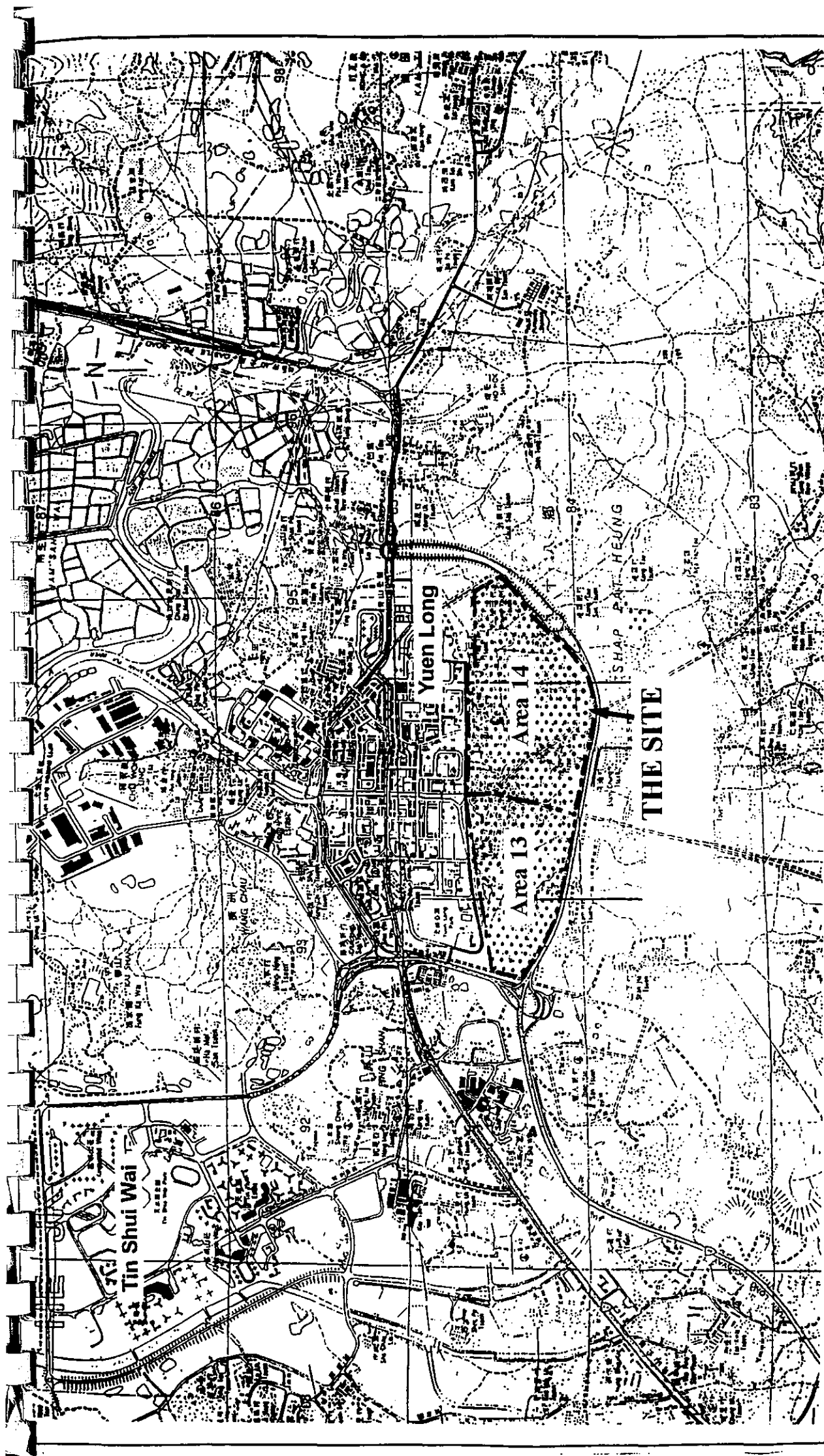
10 EM&A MANUAL

- 10.1 A detailed Environmental Monitoring & Audit Manual, as a stand alone document, has been developed for the construction and operational phases of the proposed Project to ensure that good construction practice and monitoring of environmental effects is carried out properly and systematically.


11 CONCLUSION

- 11.1 The EIA Study is an essential and integral component of the Yuen Long South Development Engineering Works in Areas 13 & 14.
- 11.2 Provided that the requirements of this EIA Report and the Environmental Monitoring & Audit Manual are fully carried out, particularly with respect to stringent construction and operational noise, ecology, air and water quality, and the careful handling and disposal of construction wastes and other impacts, the Project can be constructed and operated with a minimum of impact on the environment to the ultimate benefit of current and future residents in the Study Area.

END OF TEXT

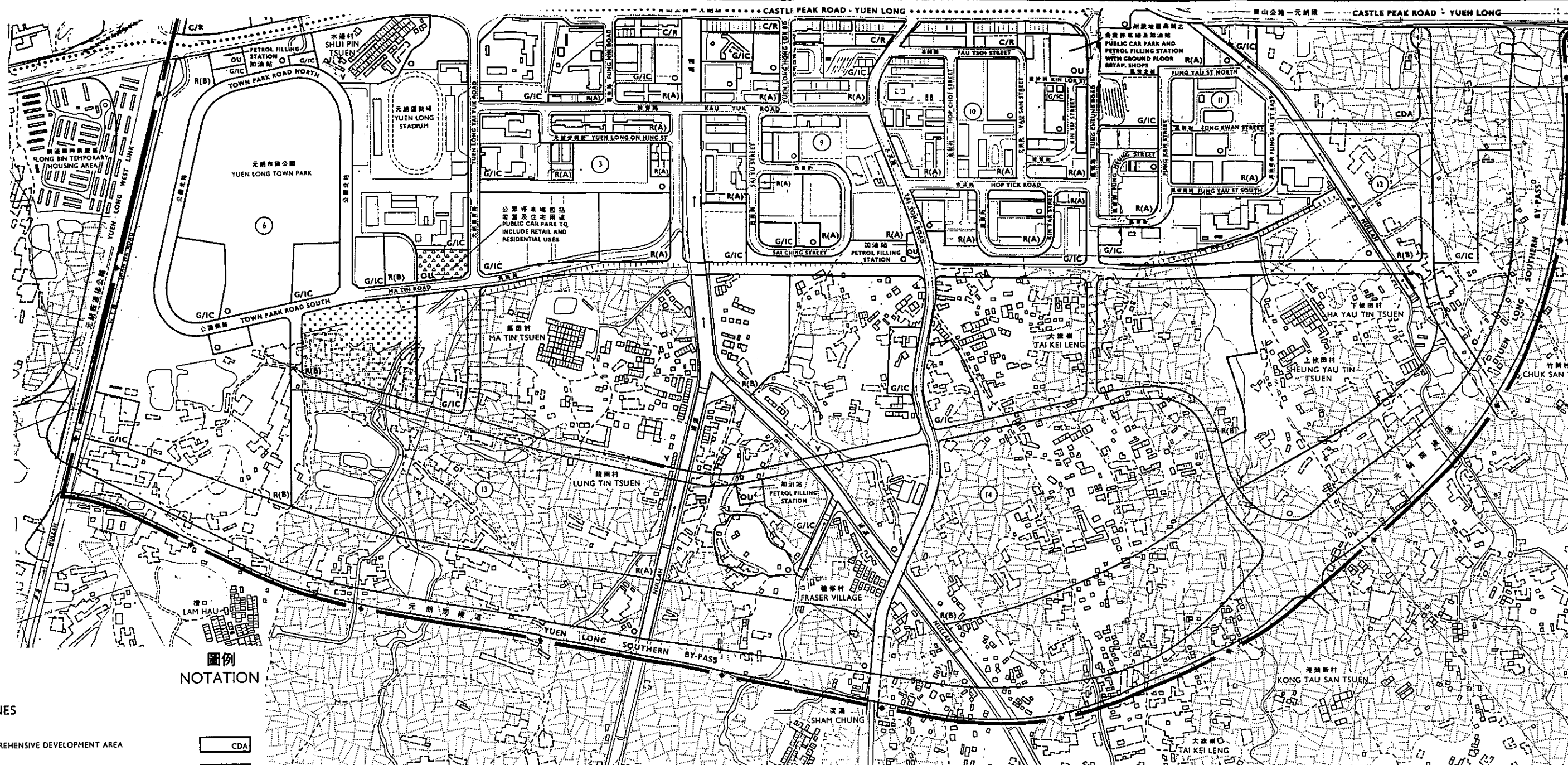


LOCATION OF THE PROPOSED PROJECT

<div>  <div> TERRITORY DEVELOPMENT DEPARTMENT </div> </div>	Figure no.		
	Prepared	MC	Checked
	Date	MAR 97	Scale
	NTS		

AGREEMENT NO. CE 48/95
YUEN LONG SOUTH DEVELOPMENT
ENGINEERING WORKS IN AREAS 13 AND 14,
YUEN LONG (PWP ITEMS NO.27CG AND 28CG)


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 CONSULTING ENGINEERS




圖例
NOTATION

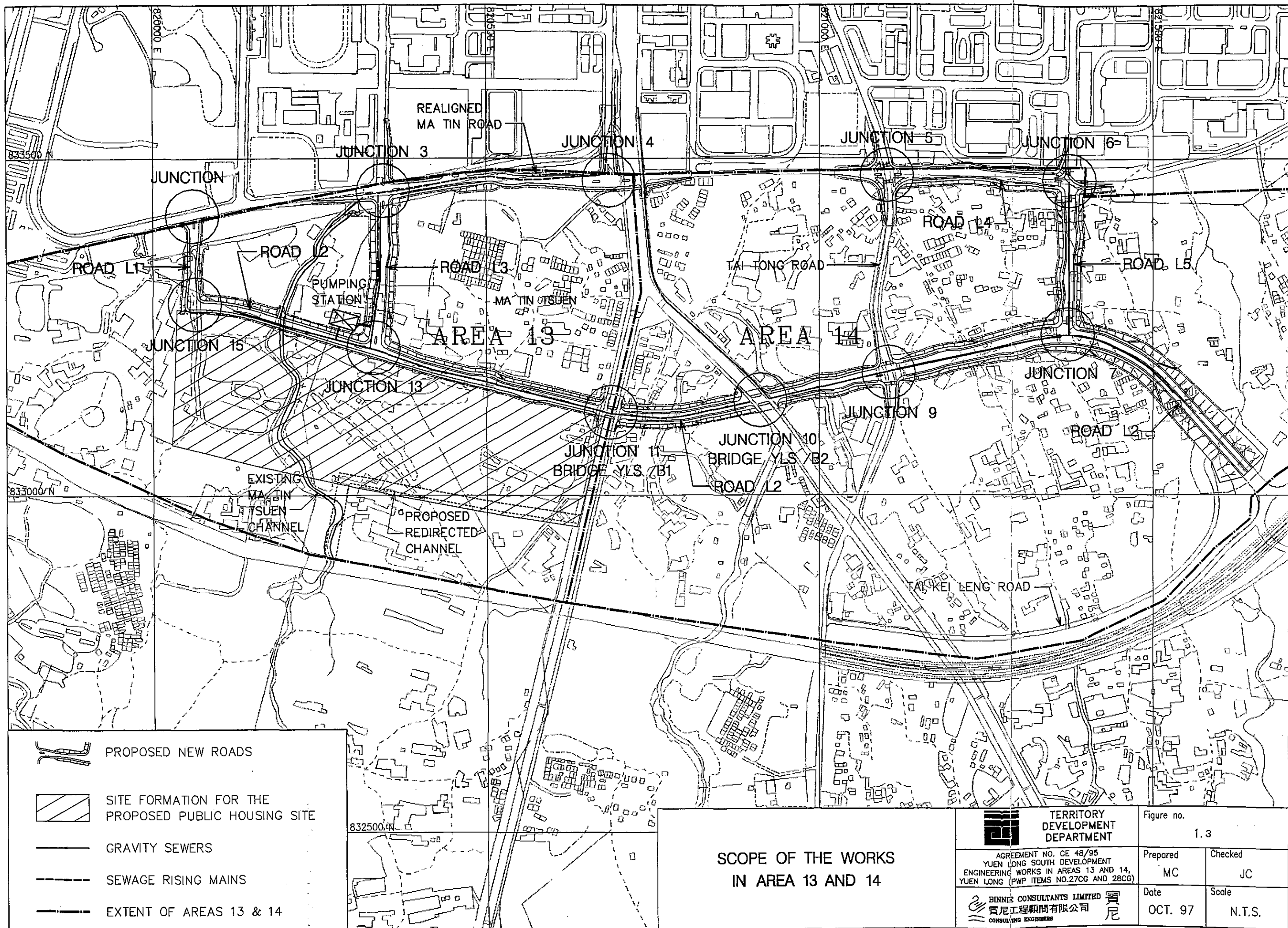
- ZONES**
- COMPREHENSIVE DEVELOPMENT AREA CDA
 - COMMERCIAL/RESIDENTIAL C/R
 - RESIDENTIAL (GROUP A) R(A)
 - RESIDENTIAL (GROUP B) R(B)
 - VILLAGE TYPE DEVELOPMENT V
 - INDUSTRIAL I
 - GOVERNMENT/INSTITUTION/COMMUNITY G/I/C
 - OPEN SPACE O
 - OTHER SPECIFIED USES OU
 - GREEN BELT GB
- COMMUNICATIONS**
- LIGHT RAIL TRANSIT SYSTEM
 - PROPOSED LIGHT RAIL TRANSIT SYSTEM - - - - -
 - MAJOR ROADS AND JUNCTIONS =
 - ELEVATED ROADS =
- MISCELLANEOUS**
- BOUNDARY OF PLANNING SCHEME - - - - -
 - ZONE BOUNDARY =
 - AREA NUMBER 16
 - NULLAH =

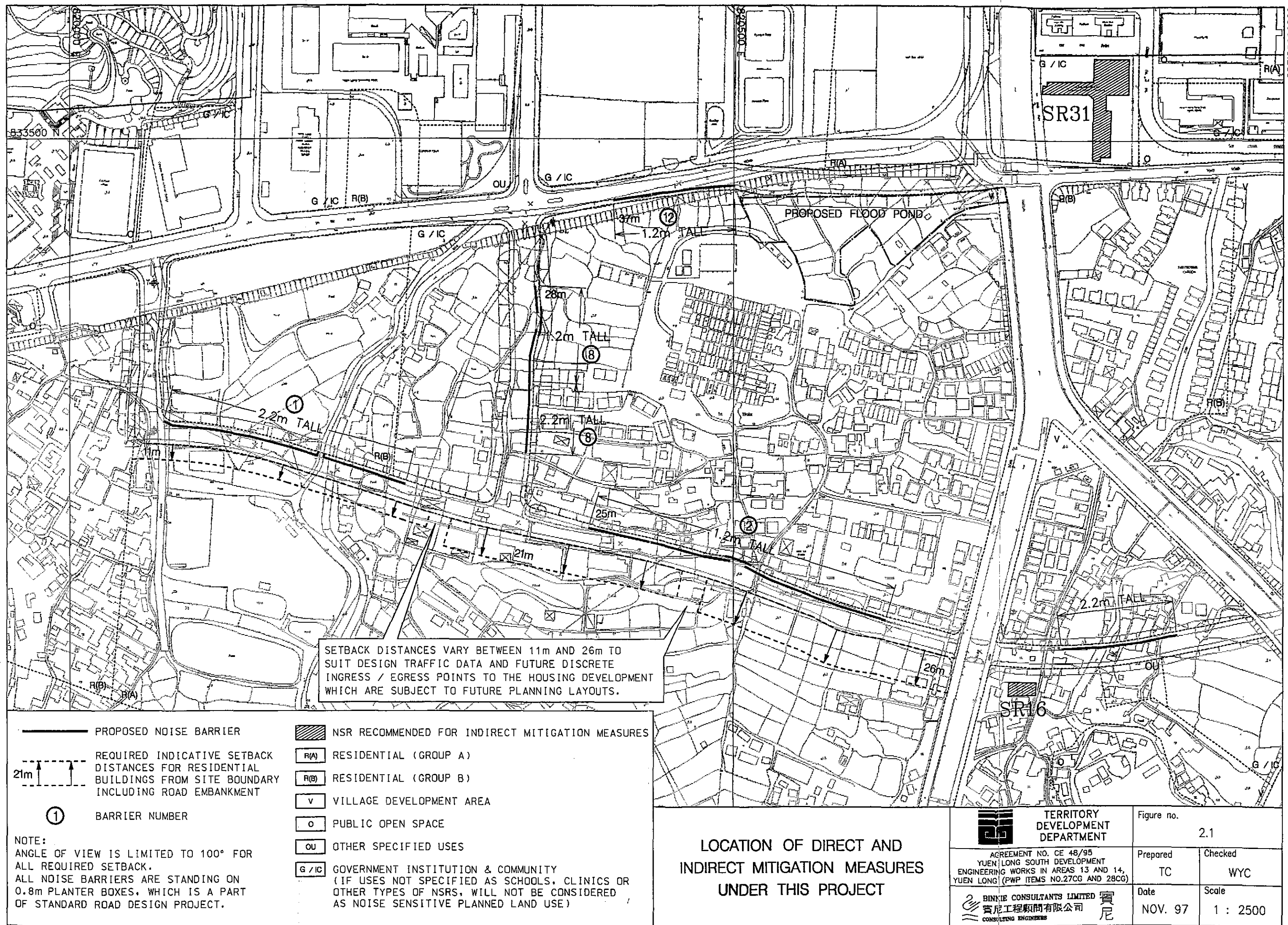
Source : Extracted from Yuen Long Outline Zoning Plan (S/YL/2)

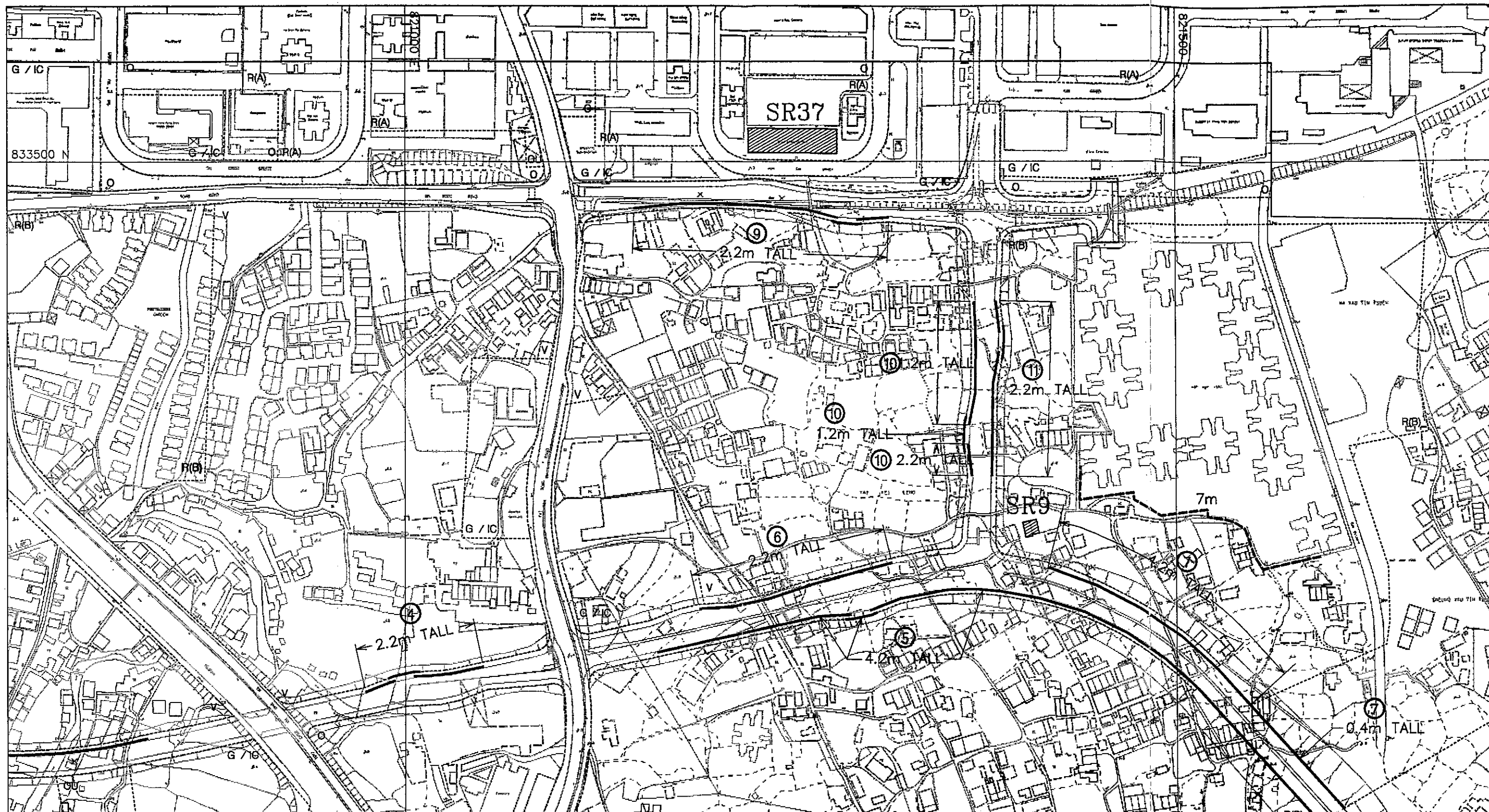
LAND USE ZONING PLAN

 <p>TERRITORY DEVELOPMENT DEPARTMENT</p>	Figure no.		1.2
	AGREEMENT NO. CE 48/95 YUEN LONG SOUTH DEVELOPMENT ENGINEERING WORKS IN AREAS 13 AND 14, YUEN LONG (PWP ITEMS NO.27CG AND 28CG)		
	Prepared	MC	Checked JC
	Date	10/97	Scale NTS


BINNIE CONSULTANTS LIMITED
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 CONSULTING ENGINEERS







- PROPOSED NOISE BARRIER
 - - - EXISTING NOISE BARRIER
 ⑩ BARRIER NUMBER

- ▨ NSR RECOMMENDED FOR INDIRECT MITIGATION MEASURES
 R(A) RESIDENTIAL (GROUP A)
 R(B) RESIDENTIAL (GROUP B)
 V VILLAGE DEVELOPMENT AREA
 O PUBLIC OPEN SPACE
 OU OTHER SPECIFIED USES
 G/IC GOVERNMENT INSTITUTION & COMMUNITY
 (IF USES NOT SPECIFIED AS SCHOOLS, CLINICS OR
 OTHER TYPES OF NSRS, WILL NOT BE CONSIDERED
 AS NOISE SENSITIVE PLANNED LAND USE)

NOTE:
 ANGLE OF VIEW IS LIMITED TO 100° FOR
 ALL REQUIRED SETBACK.
 ALL NOISE BARRIERS ARE STANDING ON
 0.8m PLANTER BOXES, WHICH IS A PART
 OF STANDARD ROAD DESIGN PROJECT.

LOCATION OF DIRECT AND INDIRECT MITIGATION MEASURES UNDER THIS PROJECT



TERRITORY
 DEVELOPMENT
 DEPARTMENT

Figure no.
 2.2

AGREEMENT NO. CE 48/95
 YUEN LONG SOUTH DEVELOPMENT
 ENGINEERING WORKS IN AREAS 13 AND 14,
 YUEN LONG (PWP ITEMS NO.27CG AND 28CG)

Prepared
 TC

Checked
 WYC

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Date
 NOV. 97

Scale
 1 : 2500

