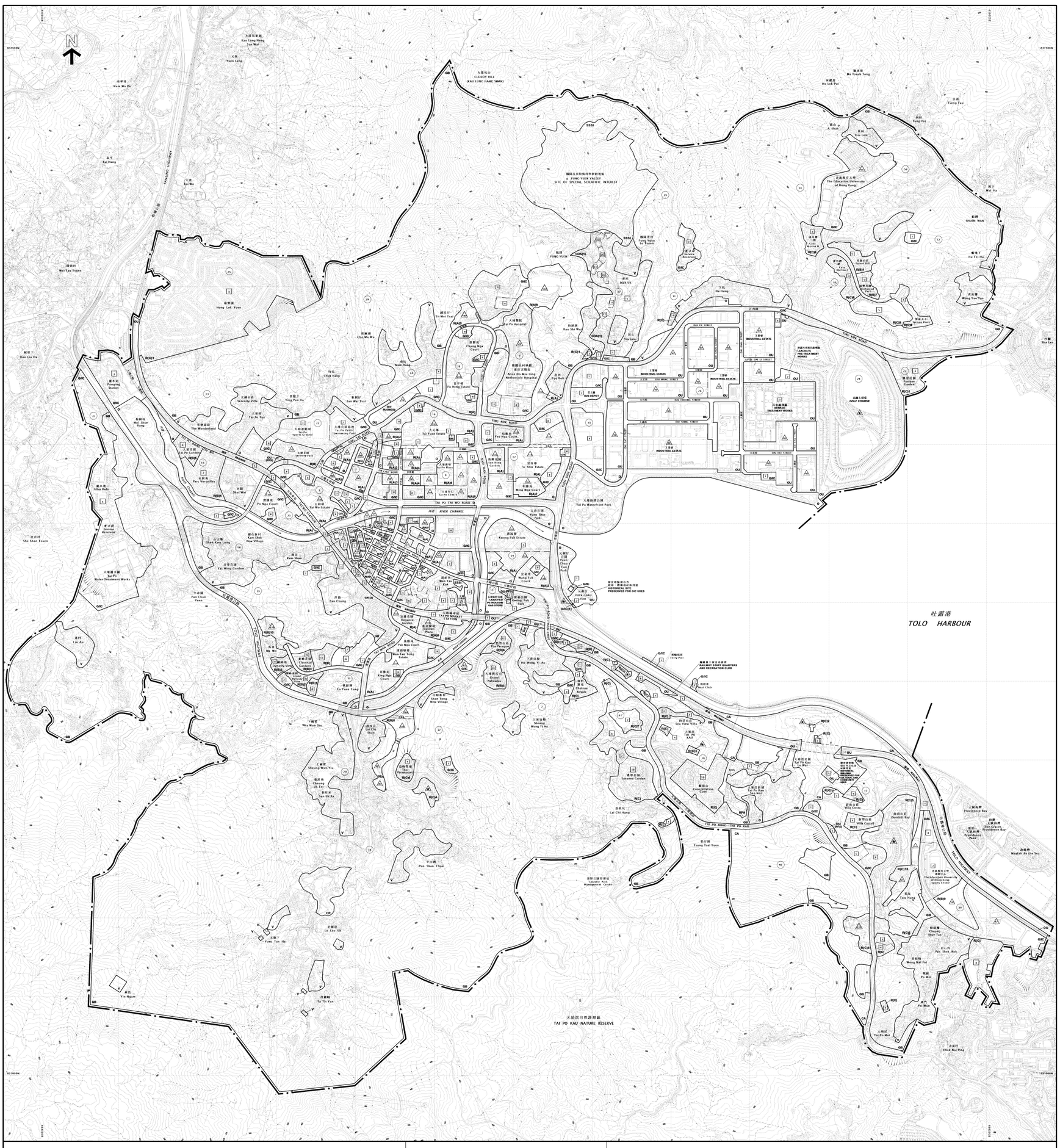
Attachment I



圖例
NOTATION

ZONES		地帶
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
RESIDENTIAL (GROUP B)	R(B)	住宅（乙類）
RESIDENTIAL (GROUP C)	R(C)	住宅（丙類）
RESIDENTIAL (GROUP D)	R(D)	住宅（丁類）
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	G/IC	政府、機構或社區
OPEN SPACE	O	休憩用地
RECREATION PRIORITY AREA	RPA	康樂優先區
OTHER SPECIFIED USES	OU	其他指定用途
GREEN BELT	GB	綠化地帶
CONSERVATION AREA	CA	自然保育區
SITE OF SPECIAL SCIENTIFIC INTEREST	SSSI	具特殊科學價值地點
COUNTRY PARK	CP	郊野公園

COMMUNICATIONS		交通
MAJOR ROAD AND JUNCTION	═╪═	主要道路及路口
ELEVATED ROAD	▨	高架道路

MISCELLANEOUS		其他
BOUNDARY OF PLANNING SCHEME	━ ◆ ━	規劃範圍界線
PLANNING AREA NUMBER	①	規劃區編號
BUILDING HEIGHT CONTROL ZONE BOUNDARY	—··—··—	建築物高度管制區界線
MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	△55	最高建築物高度（在主水平基準上若干米）
MAXIMUM BUILDING HEIGHT RESTRICTION AS STIPULATED ON THE NOTES	★	《註釋》內訂明最高建築物高度限制
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	8	最高建築物高度（樓層數目）
PETROL FILLING STATION	P F S	加油站
NON-BUILDING AREA	NBA	非建築用地

土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分率 APPROXIMATE AREA & % 公頃 HECTARES	% 百分率	用途
COMPREHENSIVE DEVELOPMENT AREA	18.37	0.75	綜合發展區
RESIDENTIAL (GROUP A)	108.48	4.45	住宅（甲類）
RESIDENTIAL (GROUP B)	35.52	1.46	住宅（乙類）
RESIDENTIAL (GROUP C)	141.04	5.79	住宅（丙類）
RESIDENTIAL (GROUP D)	0.73	0.03	住宅（丁類）
VILLAGE TYPE DEVELOPMENT	150.35	6.17	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	172.12	7.06	政府、機構或社區
OPEN SPACE	65.77	2.70	休憩用地
RECREATION PRIORITY AREA	3.75	0.15	康樂優先區
OTHER SPECIFIED USES	188.74	7.74	其他指定用途
GREEN BELT	1262.54	51.80	綠化地帶
CONSERVATION AREA	75.49	3.10	自然保育區
SITE OF SPECIAL SCIENTIFIC INTEREST	43.50	1.78	具特殊科學價值地點
COUNTRY PARK	5.73	0.24	郊野公園
RIVER CHANNEL	20.39	0.84	河道
MAJOR ROAD ETC.	145.03	5.94	主要道路等
TOTAL PLANNING SCHEME AREA	2437.55	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN

行政長官會同行政會議於２０１８年８月２１日　根據城市規劃條例第９（１）（ａ）條核准的圖則
APPROVED BY THE CHIEF EXECUTIVE IN COUNCIL UNDER SECTION 9(1)(a) OF THE TOWN PLANNING ORDINANCE ON 21 AUGUST 2018

Signed Ms Wendy LEUNG 梁蘊儀女士 簽署
CLERK TO THE EXECUTIVE COUNCIL 行政會議秘書

香港城市規劃委員會依據城市規劃條例擬備的大埔分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
TAI PO - OUTLINE ZONING PLAN

SCALE 1:7500 比例尺

米 METRES 200　0　200　400　600　800　1 000 METRES 米

規劃署遵照城市規劃委員會指示擬備
PREPARED BY THE PLANNING DEPARTMENT UNDER THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號
PLAN No. S/TP/28

政府總部
發展局
規劃地政科

香港添馬添美道二號
政府總部西翼十七樓

Planning and Lands Branch
Development Bureau
Government Secretariat

17/F, West Wing, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong

本局檔號 Our Ref. DEVB(PL-P) 50/17/06
來函檔號 Your Ref.

電話 Tel: 3509 8841
傳真 Fax: 2868 4530

郵寄及傳真
(2654 9174)

新界大埔汀角路 1 號
大埔政府合署
大埔民政事務處
(經辦人：何靖揚先生)

大埔桃源洞擬議公營房屋發展

本局得悉於 2021 年 7 月 20 日大埔區議會轄下規劃、房屋及工程委員會(下稱「規房會」)的會議上，規劃署、土木工程拓展署、房屋署及運輸署向議員介紹桃源洞的擬議公營房屋發展計劃，並聆聽議員的意見。當時規房會通過一項臨時動議，反對有關部門在未有充分諮詢大埔居民的情況下，於大埔桃源洞發展公營房屋。此外，本局得悉規劃署於 2021 年 8 月 19 日收到大埔南分區委員會羅曉楓副主席的信件，就桃源洞公營房屋發展對周邊社區帶來影響表示關注。經徵詢相關部門後，本局現回覆如下：

政府一直以多管齊下的策略增加房屋土地供應，以應付本港房屋及其他發展需要。香港土地資源有限，要在較短時間內增加和加快房屋土地的供應，政府必須盡量善用現有市區和新市鎮的已建設土地和周邊鄰近基建設施的地帶。擬議大埔桃源洞的公營房屋發展土地位於大埔新市鎮南面，毗鄰現有基建設施。

我們理解議員及地區人士對擬議發展項目的關注，一如以往，在提出有關發展建議前，政府會進行研究和詳細考慮發展會帶

來的影響，以評估及確立在「綠化地帶」用地發展房屋的可行性。就擬作公營房屋發展的桃源洞用地，土木工程拓展署委託的顧問已於2021年第二季大致完成可行性研究(下稱「研究」)，經考慮包括交通、基建、環境、景觀、視覺和空氣流通等方面的潛在影響，預期這幅土地用作房屋發展沒有無法克服的技術問題。

除了諮詢大埔區議會外，政府團隊亦已於2021年7月26日向大埔鄉事委員會匯報研究結果及諮詢《大埔分區計劃大綱圖》的擬議修訂項目，並聆聽委員的意見，當時桃源洞村的原居民代表亦有派員出席會議。為推展有關房屋發展，政府須根據《城市規劃條例》(下稱《條例》)程序改劃土地用途，當中包括法定的公眾諮詢程序。規劃署將於2021年8月27日就有關擬議房屋發展的修訂項目，連同大埔區議會、大埔鄉事委員會、大埔南分區委員會以及政府部門的意見，一併提交城規會轄下鄉郊及新市鎮規劃小組委員會(下稱「小組委員會」)考慮。如小組委員會同意有關擬議修訂項目，城規會將根據《條例》第5條展示圖則及諮詢公眾，為期兩個月。屆時，各議員、委員及公眾人士可對修訂項目作出申述和提出意見。按現時《條例》訂明，申述人和提意見人將獲邀出席城規會會議，直接向城規會委員作口頭陳述和表達意見。

感謝各議員及委員對大埔區發展所提出的寶貴意見及關注。

發展局局長

（雷裕文 雷裕文 代行）

2021年8月24日

副本送：

土木工程拓展署	（經辦人：杜琪鏗先生）
規劃署沙田、大埔及北區規劃處	（經辦人：朱霞芬女士）
運輸署	（經辦人：彭曉峯先生）
房屋署	（經辦人：張明麗女士）
大埔區議會秘書處	（經辦人：施玲玲女士）
大埔民政事務處	（經辦人：何璋明先生）

土木工程拓展署
Civil Engineering and Development Department

土木工程處
Civil Engineering Office

Web site 網址 : http://www.cedd.gov.hk
E-mail 電子郵件 : khtao@cedd.gov.hk
Telephone 電話 : (852) 3428 3627
Facsimile 傳真 : (852) 2714 0103
Our ref 本署檔號 : (02 ETC X) in PU-15-3005-CE61/2017-11
Your ref 來函檔號 :

香港九龍公主道101號
土木工程拓展署大樓
Civil Engineering and Development Building,
101 Princess Margaret Road,
Kowloon, Hong Kong

大埔區議會秘書處
新界大埔鄉事會街8號
大埔綜合大樓4樓
(經辦人：施玲玲女士)

施女士:

大埔桃源洞發展的工地平整及基礎設施工程－可行性研究及擬議修訂《大埔分區計劃大綱核准圖編號S/TP/28》

本署及其他相關政府部門的代表出席大埔區議會規劃、房屋及工程委員會在7月20日的會議，就大埔桃源洞發展的工地平整及基礎設施工程－可行性研究及擬議修訂《大埔分區計劃大綱核准圖編號S/TP/28》諮詢委員會的意見。本署代表在席上同意跟進以下事項 -

(1) 提供在可行性研究進行的交通影響評估報告，供委員參考；以及

(2) 進一步闡釋不建議在達運道和馬窩路交界建造行人天橋或隧道的原因。

2. 我們現謹回覆如下。

3. 有關第(1)點，交通影響評估報告[1]夾附在附件1，供委員會參考。

4. 有關第(2)點，達運道和馬窩路交界路口現時的設計載於交通影響評估報告內的圖則編號 5165339/TIA/6.1。該圖則亦已節錄於附件2以便參考。如圖則所示，該路口在馬窩路，達運道的南北兩面均設有燈控行人過路處。按顧問公司的估算，在2039年，在計算建議的發展及其他現有及已知的發

[1] 只提供英文版

展所產生的流量後，預測使用該三個燈控行人過路處過路的行人最多分別為每小時 250 人次、1,100 人次、以及 100 人次。

5. 過路處的容量按以下公式計算 –

$$\text{容量} = \text{過路處闊度} \times \text{單位闊度容量} \times \frac{\text{過路處每週期綠燈時間}}{\text{訊號週期}}$$

6. 按以上公式，訊號週期 110 秒以及單位闊度容量 1,900 每小時雙向人次/米計算的結果如下-

	馬窩路	達運道南面	達運道北面
闊度（米）	4.0	4.0	3.6
綠燈時間(秒)	15	18	23
行人過路處容量(每小時雙向人次)	1,035	1,245	1,430
最高過路行人流量(每小時雙向人次)	250	1,100	100

7. 如上表所示，三個行人過路處容量均大於預測最高的過路行人流量，足以應付估計的人流。所以，就建議的公屋發展而言，並沒有建造行人天橋或隧道的需要。

8. 謹請秘書處向委員轉達以上回覆。如有進一步的問題，可致電 3428 3627 與本署高級工程師陳振平先生聯絡。

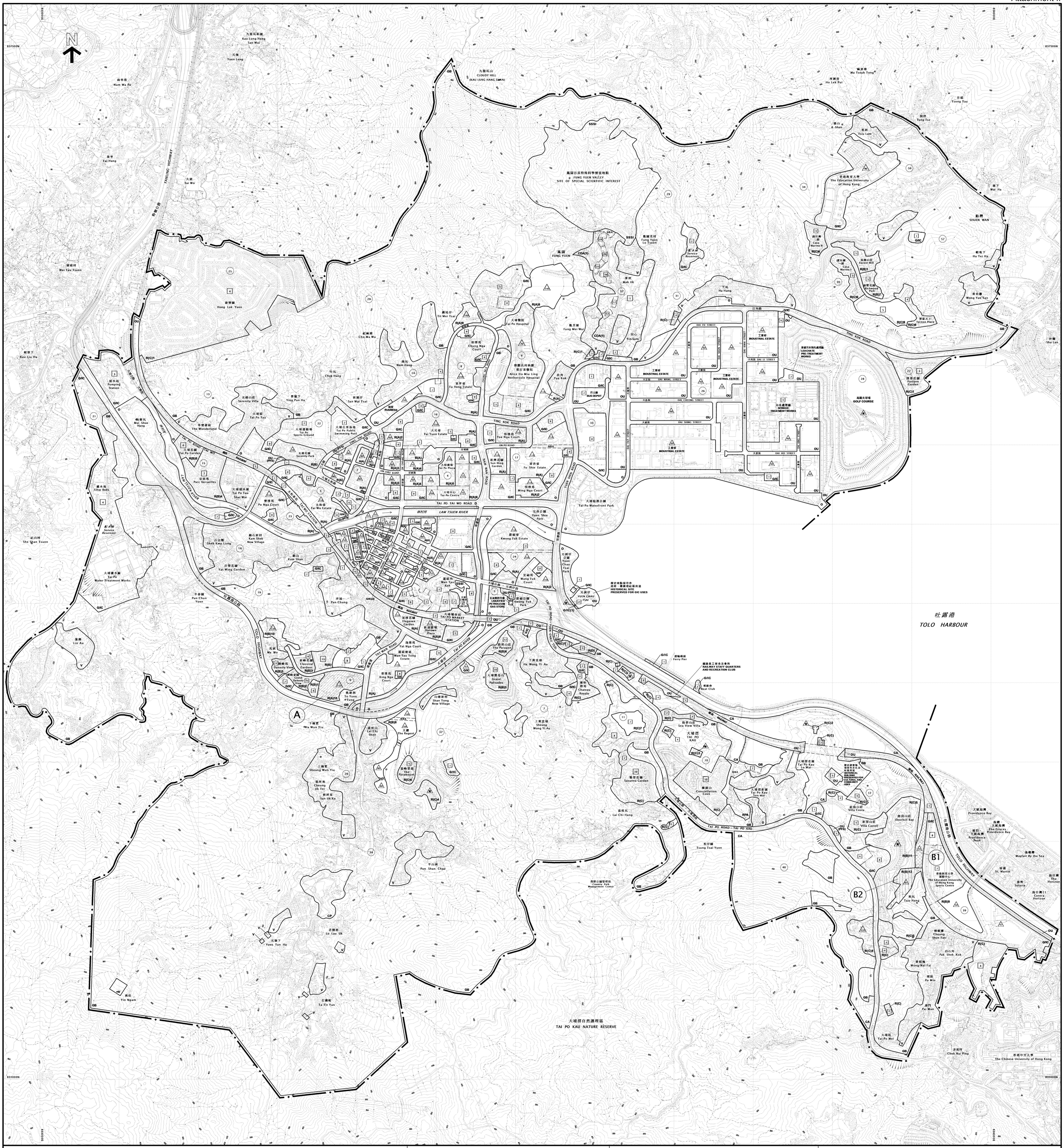
（杜琪鏗 杜琪鏗 ）

工程項目組組長/工程項目
土木工程拓展署

2021 年 7 月 30 日

副本抄送(不連附件)

規劃署(經辦人：梁萃熹先生) - 傳真：2696 2377



圖例
NOTATION

ZONES / 地帶

COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
RESIDENTIAL (GROUP B)	R(B)	住宅（乙類）
RESIDENTIAL (GROUP C)	R(C)	住宅（丙類）
RESIDENTIAL (GROUP D)	R(D)	住宅（丁類）
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	G/IC	政府、機構或社區
OPEN SPACE	O	休憩用地
RECREATION PRIORITY AREA	RPA	康樂優先區
OTHER SPECIFIED USES	OU	其他指定用途
GREEN BELT	GB	綠化地帶
CONSERVATION AREA	CA	自然保育區
SITE OF SPECIAL SCIENTIFIC INTEREST	SSSI	具特殊科學價值地點
COUNTRY PARK	CP	郊野公園

COMMUNICATIONS / 交通

MAJOR ROAD AND JUNCTION	主要道路及路口
ELEVATED ROAD	高架道路

MISCELLANEOUS / 其他

BOUNDARY OF PLANNING SCHEME	規劃範圍界線
PLANNING AREA NUMBER	規劃區編號
BUILDING HEIGHT CONTROL ZONE BOUNDARY	建築物高度管制區界線
MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	最高建築物高度（在主水平基準上若干米）
MAXIMUM BUILDING HEIGHT RESTRICTION AS STIPULATED ON THE NOTES	最高建築物高度限制（註釋）內訂明
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	最高建築物高度（樓層數目）
PETROL FILLING STATION (P F S)	加油站
NON-BUILDING AREA (NBA)	非建築用地

土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分率 APPROXIMATE AREA & % 公頃 HECTARES	% 百分率	用途
COMPREHENSIVE DEVELOPMENT AREA	18.37	0.75	綜合發展區
RESIDENTIAL (GROUP A)	112.35	4.61	住宅（甲類）
RESIDENTIAL (GROUP B)	39.16	1.61	住宅（乙類）
RESIDENTIAL (GROUP C)	137.41	5.64	住宅（丙類）
RESIDENTIAL (GROUP D)	0.73	0.03	住宅（丁類）
VILLAGE TYPE DEVELOPMENT	150.35	6.17	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	172.12	7.06	政府、機構或社區
OPEN SPACE	65.77	2.70	休憩用地
RECREATION PRIORITY AREA	3.75	0.15	康樂優先區
OTHER SPECIFIED USES	188.74	7.74	其他指定用途
GREEN BELT	1258.67	51.64	綠化地帶
CONSERVATION AREA	75.49	3.10	自然保育區
SITE OF SPECIAL SCIENTIFIC INTEREST	43.50	1.78	具特殊科學價值地點
COUNTRY PARK	5.73	0.24	郊野公園
RIVER CHANNEL	20.39	0.84	河道
MAJOR ROAD ETC.	145.02	5.94	主要道路等
TOTAL PLANNING SCHEME AREA	2437.55	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分，
現經修訂並按照城市規劃條例第 5 條展示。
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN AND HAVE BEEN AMENDED FOR EXHIBITION UNDER SECTION 5 OF THE TOWN PLANNING ORDINANCE

核准圖編號 S/TP/28 的修訂
AMENDMENTS TO APPROVED PLAN No. S/TP/28

AMENDMENTS EXHIBITED UNDER SECTION 5 OF THE TOWN PLANNING ORDINANCE — 按照城市規劃條例第 5 條展示的修訂

- AMENDMENT ITEM A — 修訂項目 A 項
- AMENDMENT ITEM B1 — 修訂項目 B 1 項
- AMENDMENT ITEM B2 — 修訂項目 B 2 項

（參看附表）
(SEE ATTACHED SCHEDULE)

香港城市規劃委員會依據城市規劃條例擬備的大埔分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
TAI PO - OUTLINE ZONING PLAN

SCALE 1:7500 比例尺

米 METRES 200 0 200 400 600 800 1 000 METRES 米

規劃署遵照城市規劃委員會指示擬備
PREPARED BY THE PLANNING DEPARTMENT UNDER THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號 PLAN No. **S/TP/28A**

~~APPROVED~~ *DRAFT* TAI PO OUTLINE ZONING PLAN NO. S/TP/28*A*

(Being ~~an Approved~~ ***a Draft*** Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

(1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.

(2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.

(3) (a) No action is required to make the existing use of any land or building conform to this Plan until there is a material change of use or the building is redeveloped.

(b) Any material change of use or any other development (except minor alteration and/or modification to the development of the land or building in respect of the existing use which is always permitted) or redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Town Planning Board.

(c) For the purposes of subparagraph (a) above, "existing use of any land or building" means -

(i) before the publication in the Gazette of the notice of the first statutory plan covering the land or building (hereafter referred as 'the first plan'),

- a use in existence before the publication of the first plan which has continued since it came into existence; or

- a use or a change of use approved under the Buildings Ordinance which relates to an existing building; and

(ii) after the publication of the first plan,

- a use permitted under a plan which was effected during the effective period of that plan and has continued since it was effected; or

- a use or a change of use approved under the Buildings Ordinance which relates to an existing building and permitted under a plan prevailing at the time when the use or change of use was approved.

(4) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

(5) Road junctions, alignments of roads and railway tracks, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.

(6) Temporary uses (expected to be 5 years or less) of any land or building are always permitted as long as they comply with any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, and there is no need for these to conform to the zoned use or these Notes. For temporary uses expected to be over 5 years, the uses must conform to the zoned use or these Notes.

(7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (8) in relation to areas zoned "Site of Special Scientific Interest" or "Conservation Area" :

(a) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, road, bus/public light bus stop or lay-by, cycle track, taxi rank, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;

(b) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and

(c) maintenance or repair of watercourse and grave.

(8) In areas zoned "Site of Special Scientific Interest" or "Conservation Area",

(a) the following uses or developments are always permitted:

(i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave; and

(ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(9) In any area shown as 'Road', all uses or developments except those specified in paragraph (7) above and those specified below require permission from the Town Planning Board :

on-street vehicle park and railway track.

(10) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

(11) In these Notes,

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

~~Approved~~ ***Draft*** Tai Po Outline Zoning Plan No. S/TP/28***A***

Schedule of Uses

COMPREHENSIVE DEVELOPMENT AREA (1)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
	Agricultural Use (Crop Cultivation Only) Eating Place Flat Government Refuse Collection Point Government Use (not elsewhere specified) House ~~Market~~ Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Residential Institution Shop and Services School Utility Installation for Private Project

Planning Intention

This zone is intended for comprehensive development/redevelopment of the area for low-density residential and agricultural uses with the provision of open spaces and other supporting facilities. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.

Remarks

(a) Pursuant to section 4A(2) of the Town Planning Ordinance, and except as otherwise expressly provided that it is not required by the Town Planning Board, an applicant for permission for development on land designated "Comprehensive Development Area (1)" shall prepare a Master Layout Plan for the approval of the Town Planning Board and include therein the following information :

(i) the area of the proposed land uses, the nature, position, dimensions and heights of all buildings to be erected in the area;

(ii) the proposed total site area and gross floor area for various uses, total number of flats and flat size, where applicable;

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (1) (Cont'd)

Remarks (Cont'd)

(iii) the details and extent of Government, institution or community (GIC) and recreational facilities, public transport and parking facilities, and open space to be provided within the area;

(iv) the alignment, widths and levels of any roads proposed to be constructed leading to or within the area;

(v) the landscape, tree preservation and urban design proposals within the area;

(vi) programmes of development in detail;

(vii) an environmental assessment including an ecological assessment report to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;

(viii) a drainage and sewerage impact assessment report to examine any possible drainage and sewerage problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;

(ix) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;

(x) a visual impact assessment report to examine any possible visual impacts that may be caused by the proposed development and the proposed mitigation measures to tackle them;

(xi) an air ventilation assessment report to examine any possible air ventilation problems that may be caused by the proposed development and the proposed mitigation measures to tackle them; and

(xii) such other information as may be required by the Town Planning Board.

(b) The Master Layout Plan should be supported by an explanatory statement which contains an adequate explanation of the development proposal, including such information as land tenure, relevant lease conditions, existing conditions of the site, the character of the site in relation to the surrounding areas, principles of layout design, major development parameters, design population, types of GIC facilities, and recreational and open space facilities.

(c) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic plot ratio of 0.64 and a maximum building height in terms of number of storeys as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (1) (Cont'd)

Remarks (Cont'd)

(d) In determining the maximum plot ratio for the purposes of paragraph (c) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(e) In determining the maximum number of storeys for the purposes of paragraph (c) above, any basement floor(s) may be disregarded.

(f) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraph (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(g) Under exceptional circumstances, for developments and/or redevelopments, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP A)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Flat Government Use (not elsewhere specified) House Library Market Place of Recreation, Sports or Culture Public Clinic Public Transport Terminus or Station (excluding open-air terminus or station) Public Vehicle Park (excluding container vehicle) (on land designated "R(A)1" ***and "R(A)10"*** only) Residential Institution School (in free-standing purpose-designed building only) Social Welfare Facility Utility Installation for Private Project	Commercial Bathhouse/Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Government Refuse Collection Point Hospital Hotel Institutional Use (not elsewhere specified) Office Petrol Filling Station Place of Entertainment Private Club Public Convenience Public Transport Terminus or Station (not elsewhere specified) Public Utility Installation Public Vehicle Park (excluding container vehicle) (not elsewhere specified) Religious Institution School (not elsewhere specified) Shop and Services ***(not elsewhere specified)*** Training Centre
In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room:	
Eating Place Educational Institution Institutional Use (not elsewhere specified) Off-course Betting Centre Office Place of Entertainment Private Club Public Convenience Recyclable Collection Centre School Shop and Services Training Centre	

Planning Intention

This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building. The "Residential (Group A)1" and "Residential (Group A)9" zones are intended for public housing development.

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Remarks

(a) On land designated "Residential (Group A)" ("R(A)"), "Residential (Group A)1" ("R(A)1"), "Residential (Group A)2" ("R(A)2"), "Residential (Group A)3" ("R(A)3"), "Residential (Group A)4" ("R(A)4"), "Residential (Group A)5" ("R(A)5"), "Residential (Group A)6" ("R(A)6"), "Residential (Group A)7" ("R(A)7"), "Residential (Group A)8" ("R(A)8")***,*** ~~and~~ "Residential (Group A)9" ("R(A)9") ***and "Residential (Group A)10" ("R(A)10")***, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys or metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) On land designated "R(A)", no new development of or redevelopment to a domestic or non-domestic building shall result in a total development and/or redevelopment in excess of a maximum domestic plot ratio of 5, or a maximum non-domestic plot ratio of 9.5, as the case may be. For new development of or redevelopment to a building that is partly domestic and partly non-domestic, the plot ratio for the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 5 divided by the maximum non-domestic plot ratio of 9.5.

(c) On land designated "R(A)", no addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the relevant maximum domestic and/or non-domestic plot ratio(s) stated in paragraph (b) above, or the domestic and/or non-domestic plot ratio(s) of the existing building, whichever is the greater, subject to, as applicable –

(i) the plot ratio(s) of the existing building shall apply only if any addition, alteration and/or modification to or redevelopment of an existing building is for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building; or

(ii) the maximum domestic and/or non-domestic plot ratio(s) stated in paragraph (b) above shall apply if any addition, alteration and/or modification to or redevelopment of an existing building is not for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building.

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Remarks (Cont'd)

(d) On land designated "R(A)1", "R(A)2", "R(A)3", "R(A)4", "R(A)5", "R(A)6", "R(A)7", "R(A)8"**,** ~~and~~ "R(A)9" ***and "R(A)10"***, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio/gross floor area (GFA) specified below, or the plot ratio/GFA of the existing building, whichever is the greater:

Sub-area	Maximum Plot Ratio/GFA
R(A)1	25,220m^2 for domestic and 8,000m^2 for non-domestic
R(A)2	plot ratio of 3.8
R(A)3	plot ratio of 4.7 for domestic and 0.45 for non-domestic
R(A)4	plot ratio of 4.2 for domestic and 1.40 for non-domestic
R(A)5	plot ratio of 4.8 for domestic and 1.22 for non-domestic
R(A)6	plot ratio of 3.8 for domestic and 1.57 for non-domestic
R(A)7	plot ratio of 4.1 for domestic and 1.13 for non-domestic
R(A)8	plot ratio of 4.4 for domestic and 1.82 for non-domestic
R(A)9	total plot ratio of 6.0 (including a maximum non-domestic plot ratio of 0.5)
R(A)10	***plot ratio of 6.8***

(e) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(f) In determining the maximum plot ratio/GFA for the purposes of paragraphs (b) to (d) above, the area of any part of the site that is occupied or intended to be occupied by free-standing purpose-designed buildings (including both developed on ground and on podium level) solely for accommodating Government, institution or community ***(GIC)*** facilities including school(s) as may be required by Government shall be deducted from calculation of the site area.

(g) In determining the maximum plot ratio/GFA for the purposes of paragraphs (b) to (d) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(h) On land designated "R(A)10", in determining the maximum plot ratio for the purposes of paragraph (d) above, any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded.

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Remarks (Cont'd)

~~(h)~~***(i)*** Where the permitted plot ratio/GFA as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio/GFA for the building on land to which paragraphs (b) to (d) above applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio/GFA specified in paragraphs (b) to (d) above may thereby be exceeded.

~~(i)~~***(j)*** Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and/or plot ratio/GFA restrictions stated in paragraphs (a) to (d) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

~~(j)~~***(k)*** Under exceptional circumstances, for developments and/or redevelopments, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP B)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat Government Use (Police Reporting Centre, Post Office only) House Library ***Public Vehicle Park (excluding container vehicle) (on land designated "R(B)11" and "R(B)12" only)*** Residential Institution School (in free-standing purpose-designed building only) ***Social Welfare Facility (on land designated "R(B)11" and "R(B)12" only)*** Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel Institutional Use (not elsewhere specified) ~~Market~~ Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) ***(not elsewhere specified)*** Recyclable Collection Centre Religious Institution School (not elsewhere specified) Shop and Services Social Welfare Facility ***(not elsewhere specified)*** Training Centre

Planning Intention

This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Town Planning Board.

Remarks

(a) On land designated "Residential (Group B)" ("R(B)"), "Residential (Group B)1" ("R(B)1"), "Residential (Group B)2" ("R(B)2"), "Residential (Group B)3" ("R(B)3"), "Residential (Group B)4" ("R(B)4"), "Residential (Group B)5" ("R(B)5"), "Residential (Group B)6" ("R(B)6"), "Residential (Group B)7" ("R(B)7"), "Residential (Group B)8" ("R(B)8") **,** ~~*and*~~ "Residential (Group B)10" ("R(B)10")***, "Residential (Group B)11" ("R(B)11") and "Residential (Group B)12" ("R(B)12")***, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys or metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(Please see next page)

RESIDENTIAL (GROUP B) (Cont'd)

Remarks (Cont'd)

(b) On land designated "R(B)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 3.3 or the plot ratio of the existing building, whichever is the greater.

(c) On land designated "R(B)1", "R(B)2", "R(B)3", "R(B)4", "R(B)5", "R(B)6", "R(B)7", "R(B)8"***,*** ~~*and*~~ "R(B)10"***, "R(B)11" and "R(B)12"***, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio/GFA specified below, or the plot ratio/GFA of the existing building, whichever is the greater:

Sub-area	Maximum Plot Ratio/GFA
R(B)1	plot ratio of 1.8
R(B)2	plot ratio of 2.8
R(B)3	plot ratio of 2.4
R(B)4	plot ratio of 2.1
R(B)5	plot ratio of 1.75
R(B)6	plot ratio of 1.65
R(B)7	21,852m^2 for domestic and 1,304m^2 for non-domestic
R(B)8	107,100m^2
R(B)10	72,640m^2
R(B)11	***50,981m^2***
R(B)12	***80,217m^2***

(d) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(e) In determining the maximum plot ratio/GFA for the purposes of paragraphs (b) and (c) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(f) On land designated "R(B)11" and "R(B)12", in determining the maximum GFA for the purposes of paragraph (c) above, any floor space that is constructed or intended for use solely as Government, institution or community facilities, as required by the Government, may be disregarded.

(Please see next page)

RESIDENTIAL (GROUP B) (Cont'd)

Remarks (Cont'd)

~~(f)~~***(g)*** Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA and/or building height restrictions stated in paragraphs (a) to (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

~~(g)~~***(h)*** Under exceptional circumstances, for developments and/or redevelopments, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP B) 9

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat Government Use (Police Reporting Centre, Post Office only) House Library Residential Institution School (in free-standing purpose-designed building only) Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel Institutional Use (not elsewhere specified) ~~Market~~ Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution School (not elsewhere specified) Shop and Services Social Welfare Facility Training Centre
In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room: Eating Place Off-course Betting Centre Office Place of Entertainment School Shop and Services	

Planning Intention

This zone is intended primarily for medium-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.

(Please see next page)

RESIDENTIAL (GROUP B) 9 (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum GFA of 88,200m^2 and a maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the GFA and height of the existing building, whichever is the greater.

(b) In determining the maximum GFA for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and/or building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP C)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat Government Use (Police Reporting Centre, Post Office only) House Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Flat (on land designated "R(C)1" only) Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel Institutional Use (not elsewhere specified) Library Petrol Filling Station Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Residential Institution Rural Committee/Village Office School Shop and Services Social Welfare Facility Training Centre

Planning Intention

This zone is intended primarily for low-rise, low-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Town Planning Board.

Remarks

(a) On land designated "Residential (Group C)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.6 and a maximum building height in terms of number of storeys as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

(Please see next page)

RESIDENTIAL (GROUP C) (Cont'd)

Remarks (Cont'd)

(b) On land designated "Residential (Group C)1" ("R(C)1"), "Residential (Group C)2" ("R(C)2"), "Residential (Group C)3" ("R(C)3"), "Residential (Group C)4" ("R(C)4"), "Residential (Group C)5" ("R(C)5"), "Residential (Group C)6" ("R(C)6"), "Residential (Group C)7" ("R(C)7"), "Residential (Group C)8" ("R(C)8"), ***and*** "Residential (Group C)9" ("R(C)9") and "Residential (Group C)10" ("R(C)10"), no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio/GFA, site coverage, and building height specified below, or the plot ratio/GFA, site coverage and height of the existing building, whichever is the greater: -

Sub-area	Maximum Plot Ratio/GFA	Maximum Site Coverage	Number of Storeys/ Metres above Hong Kong Principal Datum
R(C)1	plot ratio of 0.4	-	as stipulated on the Plan
R(C)2	plot ratio of 1.5	50%	3
R(C)3	plot ratio of 1.2	50%	6 storeys above car park
R(C)4	plot ratio of 0.6	25%	3 storeys above car park
R(C)5	Domestic: 57,500m^2 Non-domestic: 1,500m^2	-	12 residential storeys over 3 storeys of car park
R(C)6	plot ratio of 0.8	-	as stipulated on the Plan
R(C)7	20,000m^2	-	as stipulated on the Plan
R(C)8	plot ratio of 1.5	-	as stipulated on the Plan
R(C)9	46,200m^2	-	as stipulated on the Plan
~~R(C)10~~	~~plot ratio of 1.2~~	-	~~as stipulated on the Plan~~

(c) In determining the maximum number of storeys for the purposes of paragraphs (a) and (b) above, any basement floor(s) may be disregarded.

(d) In determining the maximum plot ratio/GFA for the purposes of paragraphs (a) and (b) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(Please see next page)

RESIDENTIAL (GROUP C) (Cont'd)

Remarks (Cont'd)

(e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/site coverage/building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP D)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (Redevelopment; Addition, Alteration and/or Modification to existing house only) On-Farm Domestic Structure Rural Committee/Village Office	Eating Place Flat Government Refuse Collection Point Government Use (not elsewhere specified)# House (not elsewhere specified)# Institutional Use (not elsewhere specified)# Library ~~Market~~ Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation# Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution# Residential Institution# School# Shop and Services Social Welfare Facility# Utility Installation for Private Project
In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House: Eating Place Library School Shop and Services	

Planning Intention

This zone is intended primarily for improvement and upgrading of existing temporary structures through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the Town Planning Board.

Remarks

(a) No addition, alteration and/or modification to or in-situ redevelopment of an existing temporary structure or an existing building (except to 'New Territories Exempted House' or to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building area of 37.2m^2 and a maximum building height of 2 storeys (6m), or the building area and height of the existing building, whichever is the greater.

(Please see next page)

RESIDENTIAL (GROUP D) (Cont'd)

Remarks (Cont'd)

(b) No development including redevelopment for 'Flat' and 'House' uses, other than those to which paragraph (a) above shall apply, shall result in a development and/or redevelopment in excess of a maximum plot ratio of 0.4 and a maximum building height of 2 storeys (6m), or the plot ratio and height of the existing building, whichever is the greater.

(c) In determining the maximum plot ratio for the purposes of paragraph (b) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (New Territories Exempted House only) On-Farm Domestic Structure Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) # House (not elsewhere specified) Institutional Use (not elsewhere specified) # ~~Market~~ Petrol Filling Station Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation # Public Vehicle Park (excluding container vehicle) Religious Institution (not elsewhere specified) # Residential Institution # School # Shop and Services Social Welfare Facility # Utility Installation for Private Project

In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House:

Eating Place
Library
School
Shop and Services

Planning Intention

The planning intention of this zone is to reflect existing recognized and other villages, and to provide land considered suitable for village expansion and reprovisioning of village houses affected by Government projects. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

(Please see next page)

VILLAGE TYPE DEVELOPMENT (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the existing building, whichever is the greater.

(b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Cable Car Route and Terminal Building Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Pier Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Holiday Camp Hotel House Marine Fuelling Station Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services ***(not elsewhere specified)*** Utility Installation for Private Project Zoo

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

(Please see next page)

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys or metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY (1)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Government Use (not elsewhere specified) Library Public Convenience Public Utility Installation Religious Institution Rural Committee/Village Office	Utility Installation for Private Project

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 2 storeys or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY (2)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Eating Place (Canteen only) Educational Institution Field Study/Education/Visitor Centre Government Use Library Place of Recreation, Sports or Culture Residential Institution (Hostel and Dormitory only) School Social Welfare Facility Training Centre	Eating Place (not elsewhere specified) Exhibition or Convention Hall Institutional Use (not elsewhere specified) Public Utility Installation Religious Institution Residential Institution (not elsewhere specified) Shop and Services Utility Installation for Private Project

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs for such uses as hostel cum youth centre, and other institutional establishments.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic GFA of 2,412m^2 and a maximum non-domestic GFA of 1,040m^2, or the GFA of the existing building, whichever is the greater.

(b) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(c) In determining the maximum GFA for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and/or building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

OPEN SPACE

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Aviary Barbecue Spot Field Study/Education/Visitor Centre Park and Garden Pavilion Pedestrian Area Picnic Area Playground/Playing Field Promenade Public Convenience Sitting Out Area Zoo	Cable Car Route and Terminal Building Eating Place Exhibition or Convention Hall Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp Pier Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Religious Institution Service Reservoir Shop and Services Tent Camping Ground Utility Installation for Private Project

Planning Intention

This zone is intended primarily for the provision of outdoor open-air public space for active and/or passive recreational uses serving the needs of local residents as well as the general public.

RECREATION PRIORITY AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (not elsewhere specified) Aviary Barbecue Spot Field Study/Education/Visitor Centre Government Use (Police Reporting Centre only) Holiday Camp On-Farm Domestic Structure Picnic Area Place of Recreation, Sports or Culture Public Convenience Rural Committee/Village Office Tent Camping Ground	Agricultural Use (Intensive Livestock Rearing only) Animal Boarding Establishment Boat Repairing Yard Broadcasting, Television and/or Film Studio Eating Place Flat Golf Course Government Refuse Collection Point Government Use (not elsewhere specified) Hotel House Marina Pier Place of Entertainment Private Club Public Utility Installation Public Vehicle Park (excluding container vehicle) Religious Institution Residential Institution Shop and Services Social Welfare Facility Theme Park Utility Installation for Private Project Zoo

Planning Intention

This zone is intended primarily for recreational developments for the use of general public. It encourages the development of active and/or passive recreation and tourism/eco-tourism. Uses in support of the recreational developments may be permitted subject to planning permission.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum GFA of 3,300m^2 and a maximum building height in terms of number of storeys as stipulated on the Plan, or the GFA and height of the existing building, whichever is the greater.

(b) In determining the maximum GFA for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room, caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(Please see next page)

RECREATION PRIORITY AREA (Cont'd)

Remarks (Cont'd)

(c) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(e) Under exceptional circumstances, for developments and/or redevelopments, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

OTHER SPECIFIED USES

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
For "Bus Depot" Only	
Bus Depot	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is primarily to provide land for the use of bus depot.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Business" Only

Schedule I: for open-air development or for building other than industrial or industrial-office building[@]

Ambulance Depot
Commercial Bathhouse/Massage Establishment
Eating Place
Educational Institution
Exhibition or Convention Hall
Government Use (Police Reporting Centre, Post Office only)
Information Technology and Telecommunications Industries
Institutional Use (not elsewhere specified)
Library
Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods[△])
Off-course Betting Centre
Office
Place of Entertainment
Place of Recreation, Sports or Culture
Private Club
Public Clinic
Public Convenience
Public Transport Terminus or Station
Public Utility Installation
Public Vehicle Park (excluding container vehicle)
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Recyclable Collection Centre
Religious Institution
Research, Design and Development Centre
School (excluding free-standing purpose-designed school building and kindergarten)
Shop and Services
Training Centre
Utility Installation for Private Project
Broadcasting, Television and/or Film Studio
Cargo Handling and Forwarding Facility
Government Refuse Collection Point
Government Use (not elsewhere specified)
Non-polluting Industrial Use (not elsewhere specified)
Petrol Filling Station
School (not elsewhere specified)
Social Welfare Facility (excluding those involving residential care)
Warehouse (excluding Dangerous Goods Godown)
Wholesale Trade

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Business" Only (Cont'd)

Schedule II: for industrial or industrial-office building [@]

Ambulance Depot
Art Studio (excluding those involving direct provision of services or goods)
Eating Place (Canteen only)
Government Refuse Collection Point
Government Use (not elsewhere specified)
Information Technology and Telecommunications Industries
Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods[△])
Office (excluding those involving direct provision of customer services or goods)
Public Convenience
Public Transport Terminus or Station
Public Utility Installation
Public Vehicle Park (excluding container vehicle)
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Recyclable Collection Centre
Research, Design and Development Centre
Shop and Services (Motor-vehicle Showroom on ground floor, Service Trades only)
Utility Installation for Private Project
Warehouse (excluding Dangerous Goods Godown)

In addition, for building without industrial undertakings involving offensive trades or the use/storage of Dangerous Goods[△], the following use is always permitted :

Office

Broadcasting, Television and/or Film Studio
Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only)
Industrial Use (not elsewhere specified)
Off-course Betting Centre
Office (not elsewhere specified)
Petrol Filling Station
Place of Recreation, Sports or Culture (not elsewhere specified)
Private Club
Shop and Services (not elsewhere specified) (ground floor only except Ancillary Showroom[#] which may be permitted on any floor)
Vehicle Repair Workshop
Wholesale Trade

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
For "Business" Only (Cont'd)	
In addition, the following uses are always permitted in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:	In addition, the following use may be permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:
Commercial Bathhouse/ Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Institutional Use (not elsewhere specified) Library Off-course Betting Centre Office Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Religious Institution School (excluding kindergarten) Shop and Services Training Centre	Social Welfare Facility (excluding those involving residential care)

@ *An industrial or industrial-office building means a building which is constructed for or intended to be used by industrial or industrial-office purpose respectively as approved by the Building Authority.*

△ *Dangerous Goods refer to substances classified as Dangerous Goods and requiring a licence for their use/storage under the Dangerous Goods Ordinance (Cap. 295).*

Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

Planning Intention

This zone is intended primarily for general business uses. A mix of information technology and telecommunications industries, non-polluting industrial, office and other commercial uses are always permitted in new "business" buildings. Less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public is always permitted in existing industrial or industrial-office buildings.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

For "Business" Only (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 9.5 and a maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

(b) In determining the maximum plot ratio for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room, caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(c) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a) above applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (a) above may thereby be exceeded.

(d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Golf Course" Only

Golf Course Golf Driving Range Utility Installation ancillary to Golf Course/Golf Driving Range/ Landfill Restoration Use	Government Use Public Utility Installation

Planning Intention

This zone is intended primarily for the provision of a golf course.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (including structure), except floodlight post and protective fencing, shall result in a total development and/or redevelopment in excess of a maximum building height of 9 metres above ground level or the height of the existing building (including structure), whichever is the higher.

(b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Historical Building Preserved for Cultural and Community Uses" Only

Exhibition or Convention Hall
Field Study/Education/Visitor Centre
Government Use (Police Reporting Centre, Post Office Only)
Library
Place of Recreation, Sports or Culture
Eating Place
Educational Institution
House
Private Club
Religious Institution
Social Welfare Facility

Planning Intention

This zone is intended to preserve, restore and convert the Tai Po Lookout building(s) of heritage interest on the site into a local heritage attraction with the provision of cultural and community facilities for the enjoyment of the public.

Remarks

(a) Any demolition of, or any addition, alteration and/or modification to the existing Tai Po Lookout building(s) of heritage interest on the site requires planning permission from the Town Planning Board.

(b) No new development, or addition, alteration and/or modification to an existing building shall result in a total development in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(c) In determining the maximum number of storeys for the purposes of paragraph (b) above, any basement floor(s) may be disregarded.

(d) Based on the individual merits of a development proposal, minor relaxation of the building height restriction stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Historical Site Preserved for GIC Uses" Only

Education Centre/Visitor Centre	Private Club
Government Use	Public Utility Installation
Institutional Use (not elsewhere specified)	Residential Institution
Place of Recreation, Sports or Culture	Utility Installation for Private Project

Planning Intention

This zone is intended to preserve the site for adaptive reuse for government, institution or community and related uses.

Remarks

(a) Any new development, or major addition, alteration and/or modification to the existing building requires permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

(b) No new development, or addition, alteration and/or modification to the existing building shall result in a total development in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(c) In determining the maximum number of storeys for the purposes of paragraph (b) above, any basement floor(s) may be disregarded.

(d) Based on the individual merits of a development proposal, minor relaxation of the building height restriction stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Industrial Estate" Only

Ambulance Depot
Broadcasting, Television and/or Film Studio
Cargo Handling and Forwarding Facility
Dangerous Goods Godown
Eating Place
Electric Power Station
Gas Works
Government Refuse Collection Point
Government Use (not elsewhere specified)
Industrial Use
Information Technology and Telecommunications Industries
Office
Petrol Filling Station
Pier
Private Club
Public Convenience
Public Transport Terminus or Station
Public Utility Installation
Public Vehicle Park (excluding container vehicle)
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Refuse Disposal Installation
Research, Design and Development Centre
Shop and Services
Social Welfare Facility (excluding those involving residential care)
Training Centre
Utility Installation for Private Project
Warehouse (excluding Dangerous Goods Godown)
Wholesale Trade
Library
Off-course Betting Centre
Offensive Trades
Oil Depot, Oil Refinery and Petro-chemical Plant
Place of Recreation, Sports or Culture
Service Industries (not elsewhere specified)

Planning Intention

This zone is intended to provide/reserve land for the development of an industrial estate for industries to be admitted by the Hong Kong Science and Technology Parks Corporation according to the criteria set by the Corporation. Industries to be included would normally not be accommodated in conventional industrial buildings because of their specific requirements.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

For "Industrial Estate" Only (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum GFA of 2,023,274m^2 and a maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the GFA and height of the existing building, whichever is the greater.

(b) In determining the maximum GFA for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room, caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Leachate Pre-treatment Works" Only

Leachate Pre-treatment Works	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is intended primarily to provide land for leachate pre-treatment works.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Liquefied Petroleum Gas Store" Only

Liquefied Petroleum Gas Store	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is primarily to provide land for the use of liquefied petroleum gas store.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Petrol Filling Station" Only

Petrol Filling Station	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is primarily to provide land for the use of petrol filling station.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
For "Railway" Only	
Railway Track Railway Station	Eating Place Government Use Public Utility Installation Shop and Services (excluding Motor-vehicle Showroom) Utility Installation for Private Project

Planning Intention

This zone is intended primarily to provide land for the use of railway stations and railway track.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board

For "Railway Staff Quarters and Recreation Club" Only

Flat
Government Use (Police Reporting Centre, Post Office only)
Private Club
Utility Installation for Private Project
Government Use (not elsewhere specified)
Public Utility Installation

Planning Intention

This zone is intended primarily to provide land for railway staff quarters and recreation club.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic GFA of 11,200m^2 and a maximum non-domestic GFA of 1,850m^2, or the GFA of the existing building, whichever is the greater.

(d) In determining the maximum GFA for the purposes of paragraph (c) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and/or building height restrictions stated in paragraphs (a) and (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
For "Sewage Treatment Works" Only	
Sewage Treatment Works	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is primarily to provide land for the use of sewage treatment works.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(b) In determining the maximum number of storeys for the purposes of paragraph (a) above, any basement floor(s) may be disregarded.

(c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GREEN BELT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Barbecue Spot Country Park* Government Use (Police Reporting Centre only) House (rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House only) Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Public Convenience Tent Camping Ground Wild Animals Protection Area	Animal Boarding Establishment Broadcasting, Television and/or Film Studio Burial Ground Cable Car Route and Terminal Building Columbarium (within a Religious Institution or extension of existing Columbarium only) Crematorium (within a Religious Institution or extension of existing Crematorium only) Field Study/Education/Visitor Centre Flat Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp House (not elsewhere specified) Marine Fuelling Station Petrol Filling Station Pier Place of Recreation, Sports or Culture Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Religious Institution Residential Institution School Service Reservoir Social Welfare Facility Utility Installation for Private Project Zoo

* *Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.*

Planning Intention

The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

(Please see next page)

GREEN BELT (Cont'd)

Remarks

Any filling of pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft Tai Po Outline Zoning Plan No. S/TP/20 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

CONSERVATION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery) Country Park* Nature Reserve Nature Trail On-Farm Domestic Structure Wild Animals Protection Area	Burial Ground Field Study /Education/Visitor Centre Government Use (not elsewhere specified) House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

* *Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.*

Planning Intention

This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment such as Site of Special Scientific Interest or Country Park from the adverse effects of development.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

Remarks

(a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the existing house.

(b) Any filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft Tai Po Outline Zoning Plan No. S/TP/20 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

SITE OF SPECIAL SCIENTIFIC INTEREST

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Wild Animals Protection Area	Agricultural Use Field Study/Education/Visitor Centre Government Use Nature Reserve Nature Trail On Farm Domestic Structure Picnic Area Public Convenience Public Utility Installation Tent Camping Ground Utility Installation for Private Project

Planning Intention

The planning intention of this zone is to conserve and protect the features of special scientific interest which are designated as Site of Special Scientific Interest (SSSI) and are important habitats for egrets and herons and for breeding of some rare butterflies which are protected under the Wild Animals Protection Ordinance. It intends to deter human activities or developments within the SSSI.

There is a general presumption against development in this zone. No developments are permitted unless they are needed to support the conservation of the features of special scientific interest in the SSSI, to maintain and protect the existing character of the SSSI, or for educational and research purposes.

Remarks

Any filling or excavation of land necessary to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except maintenance and repair works) shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft Tai Po Outline Zoning Plan No. S/TP/18 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

COUNTRY PARK

Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

~~APPROVED~~ *DRAFT* TAI PO OUTLINE ZONING PLAN NO. S/TP/28*A*

EXPLANATORY STATEMENT

~~APPROVED~~*DRAFT* TAI PO OUTLINE ZONING PLAN NO. S/TP/28*A*

EXPLANATORY STATEMENT

Contents

~~APPROVED~~*DRAFT* TAI PO OUTLINE ZONING PLAN NO. S/TP/28*A*

(Being ~~an Approved~~ ***a Draft*** Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the plan.

1. INTRODUCTION

This Explanatory Statement is intended to assist an understanding of the ~~approved~~ ***draft*** Tai Po Outline Zoning Plan (OZP) No. S/TP/28***A***. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land-use zonings of the plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURES

2.1 On 28 February 1980, under the delegated power by the then Governor, the then Secretary for Lands and Works, under section 3(1)(a) of the Town Planning Ordinance (the Ordinance), directed the Board to prepare a draft outline zoning plan for Tai Po New Town. Since the exhibition of the draft Tai Po OZP No. LTP/47 on 12 December 1980, the OZP has been amended/approved several times to reflect the changing circumstances.

2.2 On 11 July 2000, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently renumbered as S/TP/12. On 10 October 2000, the CE in C referred the approved Tai Po OZP No. S/TP/12 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended four times and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances.

2.3 On 4 May 2004, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently renumbered as S/TP/17. On 29 June 2004, the CE in C referred the approved OZP to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended once and exhibited for public inspection under section 5 of the Ordinance.

2.4 On 8 November 2005, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently re-numbered as S/TP/19. On 8 May 2007, the CE in C referred the approved Tai Po OZP No. S/TP/19 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended twice and exhibited for public inspection under sections 5 and 6C(2) of the Ordinance to reflect the changing circumstances.

2.5 On 13 January 2009, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently renumbered as S/TP/21.

On 8 December 2009, the CE in C referred the approved Tai Po OZP No. S/TP/21 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance.

2.6 On 17 September 2010, the draft Tai Po OZP No. S/TP/22, incorporating amendments to impose plot ratio, gross floor area (GFA) and building height restrictions on development zones, to designate non-building areas, to rezone "Commercial/Residential" sites, free-standing Government, institution or community buildings in public housing sites, the Po Heung Street site for public housing development, completed open space sites and various sites to other appropriate zonings to reflect the as-built situation, to rationalize zoning boundaries and to revise the schedule of Notes, was exhibited for public inspection under section 5 of the Ordinance. Subsequently, the draft OZP was amended three times and exhibited for public inspection under sections 6C(2) and 7 of the Ordinance to reflect the changing circumstances.

2.7 On 27 August 2013, the CE in C under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently re-numbered as S/TP/24. On 3 December 2013, the CE in C referred the approved Tai Po OZP No. S/TP/24 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was subsequently amended twice and exhibited for public inspection under sections 5 and 6C(2) of the Ordinance to reflect the changing circumstances.

2.8 On 8 September 2015, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently re-numbered as S/TP/26. On 14 March 2017, the CE in C referred the approved Tai Po OZP No. S/TP/26 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. ~~The reference back of the OZP was notified in the Gazette on 24 March 2017 under section 12(2) of the Ordinance~~.

2.9 On 4 August 2017, the draft Tai Po OZP No. S/TP/27, incorporating amendments to rezone a "Government, Institution or Community" ("G/IC") site at Pok Yin Road to "Residential (Group B)9", a "Green Belt" site at Ma Wo Road to "Residential (Group B)10", a "Residential (Group C)" site at Yau King Lane to "Residential (Group C)10", and revision to the building height restriction of a "G/IC" site at On Pong Road, was exhibited for public inspection under section 5 of the Ordinance. ~~During the two-month exhibition period, a total of 1,303 valid representations were received. On 17 November 2017, the representations were published for three weeks for public comments and a total of 15 valid comments on the representations were received. After giving consideration to the representations and comments on 26 April 2018 and 11 May 2018, the Board decided not to propose any amendment to the draft OZP to meet the representations.~~

2.10 On 21 August 2018, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tai Po OZP, which was subsequently re-numbered as S/TP/28. ~~On 31 August 2018, the approved Tai Po OZP No. S/TP/28 (the Plan) was exhibited for public inspection under section 9(5) of the Ordinance.~~ ***On 28 April 2020, the CE in C referred the approved Tai Po OZP No. S/TP/28 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The reference back of the OZP was notified in the Gazette on 8 May 2020 under***

section 12(2) of the Ordinance.

2.11 On XX XX 2021, the draft Tai Po OZP No. S/TP/29 (the Plan), incorporating amendments to rezone a "Green Belt" ("GB") site at To Yuen Tung, Ma Wo Road to "Residential (Group A)10" and a "Residential (Group C)10" site at Yau King Lane near Tsiu Hang to "Residential (Group B)11" and "Residential (Group B)12", was exhibited for public inspection under section 5 of the Ordinance.

3. OBJECT OF THE PLAN

3.1 The object of the Plan is to indicate the broad land-use zones and major road network for the Tai Po New Town so that development and redevelopment within the New Town can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.

3.2 The Plan is to illustrate the broad principles of development and planning control only. It is a small-scale plan and the road alignments and boundaries between the land-use zones may be subject to minor alterations as detailed planning proceeds.

3.3 Since the Plan is to show broad land use zoning, there would be situations in which small strips of land not intended for building development purposes and carry no development right under the lease, such as the areas restricted as non-building area or for garden, slope maintenance and access road purposes, are included in the residential zones. The general principle is that such areas should not be taken into account in plot ratio and site coverage calculation. Development within residential zones should be restricted to building lots carrying development right in order to maintain the character and amenity of the Tai Po area and not to overload the road network in the area.

3.4 Also, there would be cases that areas occupied by free-standing purpose-designed buildings that are solely accommodating schools or other Government, institution or community facilities, including those located on ground and on podium level, are included in the residential zones. Such areas should not be included into the plot ratio and site coverage calculations.

4. NOTES OF THE PLAN

4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land-use planning and control of development to meet changing needs.

4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services

Division of the Planning Department and can be downloaded from the Board's website at http://www.info.gov.hk/tpb.

5. THE PLANNING SCHEME AREA

5.1 The Planning Scheme Area (the Area) covered by the Plan is about 2,438 ha. The Area is encircled on three sides by the mountain ranges of Pat Sin Leng, Cloudy Hill, Tai Mo Shan and Grassy Hill. To the east, the coastline of Tolo Harbour forms its natural boundary. The boundary of the Area is shown by a heavy broken line on the Plan.

5.2 For planning and reference purposes, the Area has been divided into a number of smaller planning areas as shown on the Plan.

5.3 The Area can be broadly divided into three physical areas, namely the Tai Po Hui and its adjacent reclamation; the valley floors and lower hillslopes to the north and south; and the steep upper hillslopes in the peripheral areas.

5.4 Tai Po Hui and its adjacent reclamation in Tolo Harbour form the urban core of the Area. Tai Po Hui was once occupied mainly by tenement buildings, many of which have however been redeveloped in recent years. The reclamation to the south of Ting Kok Road is mainly for residential and industrial developments including public housing estates and the Tai Po Industrial Estate. The valleys and lower hillslopes to the north and south are dominated by agricultural use and rural settlements. The steep upper hillslopes are heavily wooded in most parts and form a scenic backdrop of the Area.

5.5 The northwest and southwest of the Area falls within the indirect water gathering grounds. To protect the water resources from being contaminated by wastes and pollutants, developments in this area would be strictly controlled.

6. POPULATION

Based on the 2016 Population By-census, the population of the Area was estimated by the Planning Department as about 249,300 persons. It is estimated that the planned population of the Area will be about ~~289,200~~***299,300*** persons.

7. BUILDING HEIGHT RESTRICTIONS IN THE AREA

7.1 In order to provide better planning control on the development intensity and building height upon development/redevelopment, to address public demand for greater certainty and transparency in the statutory planning system, and to meet the growing community aspiration for a better living environment, a review of the Tai Po OZP has been taken with a view to incorporating appropriate building height restrictions for various development zones to guide future development/ redevelopment. In the absence of building height control, tall buildings may proliferate at random locations and the scale may be out-of-context in the locality, resulting in negative impacts on the visual quality of the Area and may sometimes obstruct air ventilation. In order to prevent excessively tall or out-of

context buildings, to preserve some key urban design attributes (e.g. stepped building height from the urban core and preservation of public views to the mountain backdrop) and to provide better control on the building height of developments in the Area, building height restrictions are imposed for the development zones on the Plan.

7.2 A stepped building height concept with building heights gradually descending from the urban core at Tai Po Hui and the adjacent reclaimed areas to the peripheral areas has been adopted taking into account the local context, the local wind environment, and the need to maintain visually compatible building masses in the wider setting. The proposed height bands help preserve the natural topographical profile, public views to the ridgelines, maintain visual permeability, and wind penetration and circulation as far as possible.

7.3 Specific building height restrictions for the "G/IC" and "Other Specified Uses" ("OU") zones in terms of number of storeys or metres above Principal Datum (mPD) have been incorporated into the Plan, where appropriate, mainly to maintain the building height of developments at the existing and planned level, and to preserve their current function in providing visual and spatial relief to the high density environment of the Area.

7.4 For any site which covers a relatively large area, the development should be designed with a view to providing a variation in the height profile within the site, whilst not exceeding the maximum building height specified on the Plan.

7.5 Expert Evaluations on Air Ventilation Assessment (AVA) have been undertaken to assess the existing wind environment and the likely impact of the proposed building heights of the development sites within the Area on the pedestrian wind environment. The building height restrictions shown on the Plan have taken into consideration the findings of the AVA.

7.6 In general, a minor relaxation clause in respect of building height restrictions is incorporated into the Notes of the Plan in order to provide incentive for developments/redevelopments with planning and design merits. Each planning application under section 16 of the Ordinance will be considered on its own merits and the relevant criteria for consideration of such application are as follows:

(a) amalgamating smaller sites for achieving better urban design and local area improvement;

(b) accommodating the bonus plot ratio granted under the Buildings Ordinance in relation to surrender/dedication of land/area for use as a public passage/street widening;

(c) providing better streetscape/good quality street level public urban space;

(d) providing separation between buildings to enhance air and visual permeability;

(e) accommodating building design to address specific site constraints in achieving the permissible plot ratio under the OZP; and

(f) other factors such as need for tree preservation, innovative building design and planning merits that would bring about improvements to townscape and amenity of the locality and would not cause adverse landscape and visual impacts.

7.7 However, for any existing building with building height already exceeding the building height restrictions in terms of mPD and/or number of storeys as shown on the Notes of the Plan and/or stipulated on the Plan, there is a general presumption against such application for minor relaxation except under exceptional circumstances.

8. NON-BUILDING AREA

8.1 According to the findings of the AVA 2010, the major prevailing annual winds come from the East and North directions. The summer wind comes mainly from the East and the South. For most of the time, the Area is dominated by the prevailing wind coming from the East which blows along Lam Tsuen River, Tai Po Road (Tai Wo), Tai Po Tai Wo Road and Ting Kok Road. For the southeast summer wind, Kwong Fuk Road serves as an air path to the inner land. There are also two valley wind systems which blow from the north and south of the Area. The valley wind from the south blows over Wilson Trail Stage 7 and is assisted by the summer winds. The north wind connects to the east wind at air paths along the existing road network. In terms of air ventilation, the Area has an extensive green coverage and comprises many connected open space, greenery and GIC sites. There is no major air ventilation issue for the Area. However, to further improve the air path network, the AVA recommends a few strips of non-building/low building areas for better air ventilation of the Area.

8.2 Taking into account the findings of the AVA and other relevant factors, such as site constraints and impacts on development/redevelopment potential, the connection of two major east-west air paths in Areas 16, 17 and 24 is proposed by imposing a strip of "non-building area" (NBA) and two strips of land with building height restrictions of 1 and 3 storeys respectively on the Plan as follows:

(a) a 20m wide strip of NBA is designated across the northern part of Fu Shin Estate. The NBA passes through the existing internal road and landscaped areas of Fu Shin Estate. It connects to On Po Road and will help facilitate air flow from the east;

(b) a building height restriction of 1 storey is proposed for a 20m wide strip of land covering the existing shop/market in Tai Yuen Estate to maintain the east-west air path leading from On Po Road; and

(c) a building height restriction of 3 storeys is proposed for a 15m wide strip of land in Kwong Fuk Estate to help facilitate air flow from the east. It passes through the existing open area, estate road, car park podium, shopping centre and minor portions of Kwong Yan House and Kwong Yau House of the public housing estate and connects to Plover Cove Road in Planning Area 1.

8.3 According to the findings of the AVA 2014, two 15m wide strips of NBAs and a 30m wide NBA are designated within the planned residential development at Lai Chi Shan to facilitate the penetration of winds from the east and southeast into Lai Chi Shan and Wun Yiu to the west of the site.

8.4 The above NBA and building height restrictions will not apply to underground developments. Moreover, a minor relaxation clause has been incorporated in the Notes of the relevant zones to allow minor relaxation of the stated NBA and building height restrictions as shown on the Plan under exceptional circumstances.

8.5 The AVA also stressed that building height restriction (or minor changes of building heights) is not the most effective method for maintaining and/or improving air ventilation. Breezeways, air paths, open spaces, gaps between buildings and building permeability – especially at near ground level, are more effective. Future developments are therefore encouraged to minimize any possible adverse air ventilation impacts. The adoption of suitable design measures such as greater permeability of podium, wider gap between buildings, non-building area to create air paths, perforate building towers and podium design, positioning of building towers to align with the prevailing are encouraged. Large scale developments including public housing estates, Home Ownership Scheme (HOS) and Private Sector Participation Scheme (PSPS) should undertake AVA study upon their redevelopments.

9. LAND-USE ZONINGS

9.1 Comprehensive Development Area (1) ("CDA(1)") : Total Area 18.37 ha

9.1.1 This is intended for comprehensive development/redevelopment of the area for low-density residential and agricultural uses with the provision of open spaces and other supporting facilities. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.

9.1.2 The site located to the north of Ting Kok Road and to the south of Fung Yuen Site of Special Scientific Interest is under this zoning.

9.1.3 This zoning is intended to encourage a comprehensive development/ redevelopment of the site with a view to discontinuing the undesirable open storage and car-repairing workshop uses that existed on the site. The comprehensive development at the site comprises two portions, one portion for low-density residential use and the other for agricultural use. In view of the general infrastructure constraints pertinent to the area, residential development within the site is restricted to a maximum domestic plot ratio of 0.64. The agricultural use permitted is limited to crop cultivation only.

9.1.4 Developments or redevelopments within this zone are also subject to NBA restriction and the maximum building height restrictions as stipulated on the Plan, or the height of the existing building, whichever

is the greater. The buffer area between the Fung Yuen SSSI and the planned residential development at the "CDA(1)" zone is designated as NBA. To provide flexibility for innovative design, minor relaxation of the NBA, building height and/or plot ratio restrictions may be considered by the Board through the planning permission system. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of NBA, building height and/or plot ratio restrictions will be considered on its own merits.

9.1.5 Any development proposal in this zone requires the approval of the Board by way of a planning application under section 16 of the Ordinance. A Master Layout Plan (MLP) should be submitted in accordance with the requirements as specified in the Notes of the Plan for the approval of the Board under section 4A(2) of the Ordinance. A copy of the approved MLP will be made available in the Land Registry for public inspection pursuant to section 4A(3) of the Ordinance.

9.2 "Residential (Group A)" ("R(A)") : Total Area ~~108.48~~***112.35*** ha

9.2.1 This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building. The lowest three floors of a building include basements but exclude any floor used wholly or mainly for ancillary car parking, loading/unloading bay and/or plant room. Commercial uses on any floor above the lowest three floors will require planning permission from the Board.

9.2.2 The "R(A)" zone is sub-divided into a number of sub-areas. These sub-areas have different plot ratio/GFA restrictions as specified in the Remarks in the Notes of the Plan and they are also subject to the maximum building height restrictions as stipulated on the Plan, or the plot ratio/GFA and height of the existing building, whichever is the greater. These restrictions are required to avoid further increase in development intensity and building bulk. In order to ensure that essential commercial floorspace would be provided to serve the function of the town centre, non-domestic plot ratio restriction is specified for sites within the town centre. The plot ratio/GFA restrictions for the "R(A)" sub-areas are as follows:

Site	***Sub-area***	***Maximum Plot Ratio (PR)/GFA***
Po Heung Estate	***"R(A)1"***	***Domestic GFA of 25,220 m^2 Non-domestic GFA of 8,000 m^2***
Ming Nga Court, Ting Nga Court and Wang Fuk Court	***"R(A)2"***	***Total PR of 3.8***
Treasure Garden and Eightland Garden	***"R(A)3"***	***Domestic PR of 4.7 Non-domestic PR of 0.45***
Jade Plaza and Fortune Plaza	***"R(A)4"***	***Domestic PR of 4.2 Non-domestic PR of 1.40***
Tai Po Plaza	***"R(A)5"***	***Domestic PR of 4.8***

		Non-domestic PR of 1.22
Tai Po Centre Blocks 1-19 and multi-storey carpark	***"R(A)6"***	***Domestic PR of 3.8 Non-domestic PR of 1.57***
Tai Po Centre Blocks 20-23	***"R(A)7"***	***Domestic PR of 4.1 Non-domestic PR of 1.13***
Uptown Plaza	***"R(A)8"***	***Domestic PR of 4.4 Non-domestic PR of 1.82 (the public transport interchange permitted below the development is included in non-domestic PR calculation)***
Eastern and western portions of Chung Nga Road and Planning Area 9	***"R(A)9"***	***Total PR of 6.0 (including a maximum non-domestic PR of 0.5)***
To Yuen Tung, Ma Wo Road	***"R(A)10"***	***Total PR of 6.8***

9.2.3 The "R(A)" sites in Tai Po Hui (Area 1) comprise small lots along narrow streets with a number of on-street parking areas. The area is close to the existing Tai Po Market Station and well served by public transport facilities. Under the prevailing leases for most of the lots in Tai Po Hui, they are not required to provide on-site car parking and loading/unloading facilities. To preserve the character of Tai Po Hui, the provision of podium for on-site car parking and loading/unloading facilities should be discouraged and the building height of future developments/redevelopments should be kept as low as possible while the maximum plot ratio of 5/9.5 is still achievable. A more stringent building height restriction of 55mPD is therefore imposed for most of the "R(A)" sites in Tai Po Hui which will accommodate developments with not more than 2 storeys of commercial uses at the lowest floors. The restriction is considered necessary to maintain the existing market town character and pedestrian-oriented environment for Tai Po Hui and to enhance air flow.

~~9.2.2 Sites in Planning Areas 3, 4, 6, 8, 16, 17, 23 and 24 zoned for this purpose are intended for public housing development including public housing estates, HOS as well as PSPS. Within these developments, local open spaces and neighbourhood shopping and community facilities are provided to serve the needs of the residents.~~

~~9.2.3 Existing public housing estates include Tai Wo Estate in Planning Areas 3 and 23, Wan Tau Tong Estate in Planning Area 6, Fu Heng Estate in Planning Area 8, Tai Yuen Estate in Planning Area 16, Fu Shin Estate in Planning Area 17 and Kwong Fuk Estate in Planning Area 24. Nine HOS developments have been completed. They are King Nga Court, Tak Nga Court and Yat Nga Court in Planning Area 6, Chung Nga Court in Planning Area 8, Ting Nga Court in Planning Area 16, Ming Nga Court and Yee Nga Court in Planning Area 17, Po Nga Court in Planning Area 23 and Wang Fuk Court in Planning Area 24. Three PSPS developments have been completed. They are Tai Po Plaza in Planning~~

~~Area 4, Elegance Garden in Planning Area 6 and Sun Hing Garden in Planning Area 17. The "R(A)1" zone at Po Heung Street in Planning Area 1 and "R(A)9" zone at Chung Nga Road and Planning Area 9 are intended for public housing developments. The comprehensive public housing development within the "R(A)9" zone comprises three sites including two along Chung Nga Road, namely Chung Nga Road West and Chung Nga Road East and an adjoining site in Planning Area 9. Two primary schools with one at Chung Nga Road West and one at Planning Area 9 forming an integral part of the comprehensive public housing development are proposed to serve the community.~~

~~9.2.4 Most of the private "R(A)" developments in Planning Areas 1, 2, 4 and 9 have been completed.~~

~~9.2.5 Developments or redevelopments in areas zoned "R(A)" are subject to a maximum domestic plot ratio of 5, or a maximum non-domestic plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater. The proposed public housing developments at the eastern and western portions of Chung Nga Road and Planning Area 9 zoned "R(A)9" are subject to a total plot ratio of 6.0 (including a maximum non-domestic plot ratio of 0.5). The stipulated plot ratio restriction is the maximum only. All public housing estates are also governed by planning briefs. Any increase in GFA/plot ratio must be supported by relevant assessment on the infrastructural implications e.g. traffic impact assessment, drainage impact assessment and sewerage impact assessment.~~

9.2.~~6~~***4*** Developments or redevelopments in areas zoned "R(A)" are also subject to the maximum building height restrictions as stipulated on the Plan, or the height of the existing building, whichever is the greater. The stipulated building height restriction is the maximum only. Within public housing estates, there are a wide range of low-rise free-standing GIC facilities including schools, community halls, children and youth centres, elderly centres, social and welfare centres as well as ancillary facility buildings such as car park, shopping centres and markets serving the residents of the concerned estates. Such low-rise free-standing GIC and ancillary facility buildings should be kept as breathing spaces and visual relief for the building masses. No new addition, alteration and/or modification to or redevelopment of these existing individual free-standing GIC and ancillary facility buildings shall result in a height exceeding that of the existing building. All public housing estates are governed by planning brief. Upon the future redevelopment of the estates, the layout and design of these GIC and ancillary facility buildings should be comprehensively reviewed with the support of relevant impact assessments on air ventilation and visual aspects.

~~9.2.7 The "R(A)" sites in Tai Po Hui (Area 1) comprise small lots along narrow streets with a number of on-street parking areas. The area is close to the existing Tai Po Market Station and well served by public transport facilities. Under the prevailing leases for most of the lots in Tai Po Hui, they are not required to provide on-site car parking and loading/unloading facilities. To preserve the character of Tai Po Hui,~~

~~the provision of podium for on-site car parking and loading/unloading facilities should be discouraged and the building height of future developments/redevelopments should be kept as low as possible while the maximum PR of 5/9.5 is still achievable. A more stringent building height restriction of 55mPD is therefore imposed for most of the "R(A)" sites in Tai Po Hui which will accommodate developments with not more than 2 storeys of commercial uses at the lowest floors. The restriction is considered necessary to maintain the existing market town character and pedestrian-oriented environment for Tai Po Hui and to enhance air flow.~~

~~9.2.8 The "R(A)" zone is sub-divided into a number of sub-areas. These sub-areas have different PR/GFA restrictions as specified in the Remarks in the Notes of the Plan and they are also subject to the maximum building height restrictions as stipulated on the Plan, or the PR/GFA and height of the existing building, whichever is the greater. These restrictions are required to avoid further increase in development intensity and building bulk. In order to ensure that essential commercial floorspace would be provided to serve the function of the town centre, non-domestic plot ratio restriction is specified for sites within the town centre. The plot ratio/GFA restrictions for the "R(A)" sub-areas are as follows:~~

~~Site~~	~~Zone~~	~~Maximum Plot Ratio (PR)/GFA~~
~~Public Housing Development at Po Heung Street~~	~~"R(A)1"~~	~~Domestic GFA of 25,220 m^2 Non-domestic GFA of 8,000 m^2~~
~~Ming Nga Court, Ting Nga Court and Wang Fuk Court~~	~~"R(A)2"~~	~~Total PR of 3.8~~
~~Treasure Garden and Eightland Garden~~	~~"R(A)3"~~	~~Domestic PR of 4.7 Non-domestic PR of 0.45~~
~~Jade Plaza and Fortune Plaza~~	~~"R(A)4"~~	~~Domestic PR of 4.2 Non-domestic PR of 1.40~~
~~Tai Po Plaza~~	~~"R(A)5"~~	~~Domestic PR of 4.8 Non-domestic PR of 1.22~~
~~Tai Po Centre Blocks 1-19 and multi-storey carpark~~	~~"R(A)6"~~	~~Domestic PR of 3.8 Non-domestic PR of 1.57~~
~~Tai Po Centre Blocks 20-23~~	~~"R(A)7"~~	~~Domestic PR of 4.1 Non-domestic PR of 1.13~~
~~Uptown Plaza~~	~~"R(A)8"~~	~~Domestic PR of 4.4 Non-domestic PR of 1.82 (the public transport interchange permitted below the development is included in non-domestic PR calculation)~~
~~Planned Public Housing Development at eastern and western portions of Chung Nga Road and Planning Area 9~~	~~"R(A)9"~~	~~Total PR of 6.0 (including a maximum non-domestic PR of 0.5)~~

9.2.~~9~~***5*** Planning brief(s) setting out the development parameters and the design requirements of individual public housing site(s) will be provided to guide the future development of the site(s). ***Any increase in plot ratio/GFA must be supported by relevant assessment on the infrastructural implications e.g. traffic impact assessment, drainage impact assessment and sewerage impact assessment.***

9.2.~~10~~***6*** Minor relaxation of the NBA, building height and/or plot ratio/GFA restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of NBA, building height and/or plot ratio/GFA restrictions will be considered on its own merits.

9.3 "Residential (Group B)" ("R(B)") : Total Area ~~35.52~~ ***39.16*** ha

9.3.1 This zoning is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board. Areas under this zoning lie mostly in the lower hillslopes, valley floors or borrow areas in Planning Areas 6, 7, 15, 22***,*** ~~and~~ 30 ***and 39***.

9.3.2 Two private residential developments namely Serenity Park in Area 22 and Classical Garden II in Area 6 are zoned "R(B)". Developments or redevelopments in areas zoned "R(B)" are subject to a maximum plot ratio of 3.3 and the respective building height restrictions as stipulated on the Plan, or the plot ratio and the height of the existing building, whichever is the greater.

9.3.3 The "R(B)" zone is sub-divided into a number of sub-areas. These sub-areas have different ***plot ratio***~~PR~~/GFA restrictions as specified in the Remarks in the Notes of the Plan and they are also subject to the maximum building height restrictions as stipulated on the Plan, or the ***plot ratio***~~PR~~/GFA and height of the existing building, whichever is the greater. These restrictions are necessary to preserve the local character of the fringe area of the New Town and to maintain a stepped height profile descending from the town centre. The plot ratio/GFA restrictions for the "R(B)" sub-areas are as follows:

Site	~~Zone~~ ***Sub-area***	Maximum Plot Ratio/GFA
Forest Hill and Balmoral	"R(B)1"	1.8
Grand Dynasty View	"R(B)2"	2.8
Classical Gardens I, Dynasty View and Grand Palisades	"R(B)3"	2.4
Parc Versailles	"R(B)4"	2.1
Tai Po Garden	"R(B)5"	1.75
The Paragon	"R(B)6"	1.65
Richwood Park	"R(B)7"	Domestic GFA of

		21,852m^2 Non-domestic GFA of 1,304m^2
~~Lai Chi Shan~~***The Regent***	"R(B)8"	107,100m^2
Tai Po Town Lot 244 at Pok Yin Road~~, Area 39~~	"R(B)9"	88,200m^2
Tai Po Town Lot 243 at Ma Wo Road ~~near Classical Gardens I~~	"R(B)10"	72,640m^2
Yau King Lane near Tsiu Hang (northern portion)	***"R(B)11"***	***50,981m²***
Yau King Lane near Tsiu Hang (southern portion)	***"R(B)12"***	***80,217m²***

9.3.4 A site zoned "R(B)9" at Pok Yin Road ***(Tai Po Town Lot 244)*** is subject to a maximum GFA of 88,200m^2 and a maximum building height of 50mPD, of which a GFA of not exceeding 7,500m^2 should be provided for retail purpose to serve the increasing population in the locality. According to the findings of an AVA 2017 for the development, a 15m wide NBA running from northeast to southwest should be provided along the existing drainage reserve to facilitate the penetration of wind from the east-north-east to reach the downstream areas. The existing drainage reserve along the eastern boundary of the site would also facilitate wind penetration and alleviate potential air ventilation impact on the surrounding area. Should the future developer wish to make any changes to these measures, a quantitative AVA should be carried out to demonstrate that the performance of any future development be no worse off than the scenario with these measures. Requirement of the design measures and quantitative AVA ~~will be~~ ***have been*** incorporated into the ~~future~~ lease~~/land grant~~. Besides, the requirement on ~~provision of adequate air buffer distance and~~ relevant technical assessments including Noise Impact Assessment (NIA), Sewerage Impact Assessment (SIA) and Drainage Impact Assessment (DIA), etc. ~~would~~ ***have*** also ~~be~~ ***been*** incorporated into the lease ~~at the land disposal stage~~.

9.3.5 A site zoned "R(B)10" at Ma Wo Road ***(Tai Po Town Lot 243)*** is subject to a maximum GFA of 72,640m^2 and a maximum building height of 110mPD. Since the site is located on a sloping ground at a higher level than other nearby developments, a stepped building height profile descending from the northern part to the southern part of the site should be formulated in relation to the topography. ~~Besides, t~~***T***he requirement on ~~provision of adequate air buffer distance and~~ relevant technical assessments (including NIA, SIA, DIA, quantitative risk assessment and natural terrain hazard study (NTHS), etc)~~, if considered necessary, would~~ ***have*** ~~also be~~ ***been*** incorporated into the lease ~~at the land disposal stage~~.

9.3.6 A site zoned "R(B)11" at Yau King Lane near Tsiu Hang is subject to a maximum GFA of 50,981m^2 and a maximum building height of 55mPD. A hostel for severely mentally handicapped persons, a day activity centre and any other social welfare facilities (SWF) as

required by the Government shall be provided at the site. In order to facilitate provision of GIC facilities, in determining the maximum GFA of the development in the "R(B)11" zone, any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded. A public vehicle park (PVP) shall also be provided at the site. To accommodate the additional traffic and transport demand generated by the proposed development, a bus turn-around facility at the northern tip of "R(B)11" shall be implemented and completed before any population intake. The provision of the SWF, PVP and the bus turn-around facility would be incorporated into the land grant document to ensure their implementation.

9.3.7 ***To alleviate the potential air ventilation impact on surrounding areas, three building separations (with a width of 43m, 28m and 15m respectively) aligned in the southeast-northwest direction within this sub-area and a 29m-wide building separation straddling the "R(B)11" and "R(B)12" sub-areas should be provided. If the above design measures cannot be provided, further quantitative AVA should be conducted to demonstrate that the performance of any future development be no worse off than the scenario with these measures. To ensure that the future development would not cause adverse impacts on the surrounding areas and be susceptible to adverse road traffic and railway noise impact, the requirements on the air ventilation measures and relevant technical assessments (including NIA, SIA, DIA and NTHS), where appropriate, would be incorporated into the land grant document governing the development.***

9.3.8 ***A site zoned "R(B)12" at Yau King Lane near Tsiu Hang is subject to a maximum GFA of 80,217m^2 and a maximum building height of 65mPD. A residential care home for the elderly cum day care unit and any other SWF as required by the Government shall be provided at the site. In order to facilitate provision of GIC facilities, in determining the maximum GFA of the development in the "R(B)12" zone, any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded. A PVP shall also be provided at the site. The provision of the SWF and PVP would be incorporated into the land grant document to ensure their implementation.***

9.3.9 ***To alleviate the potential air ventilation impact on surrounding areas, two building separations each of 15m wide aligned in the southeast-northwest direction within this sub-area, a 80m setback from the southernmost boundary of the site, and a 29m-wide building separation straddling the "R(B)11" and "R(B)12" sub-areas should be provided. If the above design measures cannot be provided, further quantitative AVA should be conducted to demonstrate that the performance of any future development scheme be no worse off than the scenario with these measures. To ensure that the future development would not cause adverse impacts on the surrounding areas and be susceptible to adverse road traffic and railway noise impact, the requirements on the air ventilation measures and relevant***

technical assessments (including NIA, SIA, DIA and NTHS), where appropriate, would be incorporated into the land grant document governing the development.

9.3.~~6~~***10*** Minor relaxation of the NBA, building height and/or plot ratio/GFA restrictions may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of NBA, building height and/or plot ratio/GFA restrictions will be considered on its own merits.

9.4 "Residential (Group C)" ("R(C)") : Total Area ~~141.04~~ ***137.41*** ha

9.4.1 This zone is intended primarily for low-rise, low-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board.

9.4.2 Areas under "R(C)" zone are located largely on the hillslopes in Planning Areas 7, 10, 11, 12 and 31 overlooking Tolo Harbour. Developments or redevelopments in area zoned "R(C)" are subject to a maximum plot ratio of 0.6 and the respective building height restrictions as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

9.4.3 The "R(C)" zone is sub-divided into a number of sub-areas. These sub-areas have plot ratio/GFA/site coverage/building ***height*** restrictions as specified in the Remarks in the Notes of the Plan and stipulated on the Plan, or that of the existing building, whichever is the greater. The restrictions are intended to retain the existing scale and character of developments which blend in well with the natural environment. The plot ratio/GFA and site coverage restrictions for the "R(C)" sub-areas are as follows:

Site	~~Zone~~ ***Sub-area***	Maximum ***Plot Ratio (***PR***)***/GFA	Maximum Site Coverage
Hong Lok Yuen, Tai Po Town Lot 109, Fortune Garden and Riverain Bayside	"R(C)1"	0.4	-
Tai Po Inland Lot 12	"R(C)2"	1.5	50%
Redland Garden and Tolo Ridge	"R(C)3"	1.2	50%
J.C. Castle	"R(C)4"	0.6	25%
The Deerhill Bay	"R(C)5"	Domestic GFA of 57,500m^2 Non-domestic GFA of 1,500m^2	-
Casa Marina I & II, Tycoon Place**,** and the Paramount	"R(C)6"	0.8	-
Tai Po Town Lot 230 at Yat Yiu Avenue	"R(C)7"	20,000m^2	-

Kon Hang near Cheung Shue Tan	"R(C)8"	1.5	-
Tai Po Town Lots 223 and 229 at Lo Fai Road ~~near Tycoon Place~~	"R(C)9"	46,200m^2	-
~~Yau King Lane near Tsiu Hang~~	~~"R(C)10"~~	~~1.2~~	~~-~~

~~9.4.4 A site zoned "R(C)10" at Yau King Lane near Tsiu Hang is subject to a maximum plot ratio of 1.2 and maximum building heights of 55mPD at the northern portion and 65mPD at the southern portion. Adequate NBAs, building separations and setback (including an NBA of 26m wide aligned in the east-west direction within the northern portion, a building separation of 60m wide aligned in the southeast-northwest direction between the northern and southern portions, a building separation of 15m aligned in the southeast-northwest direction within the southern portion, a 14m setback from the site boundary near Deerhill Bay, and maintaining an open area at the northern-most portion of the site) should be provided for air ventilation purpose. If the design measures cannot be provided, further quantitative assessments should be conducted to demonstrate that the performance of any future development be no worse off than the scenario with these measures. To ensure that the future development would not cause adverse impacts on the surrounding areas, the requirement on the air ventilation measures and relevant technical assessments, where appropriate, would be incorporated into the land lease at the land exchange stage.~~

9.4.5~~4~~ Minor relaxation of the plot ratio/GFA/site coverage/building height restrictions may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of plot ratio/GFA/site coverage/building height restrictions will be considered on its own merits.

9.5 "Residential (Group D)" ("R(D)") : Total Area 0.73 ha

9.5.1 This zone covers the CARE village in Area 10 and is intended primarily for improvement and upgrading of the existing fishermen's village through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the Town Planning Board. Within this zoned area, redevelopment of existing houses shall not result in a total redevelopment of a maximum building area of 37.2m^2 and a maximum building height of 2 storeys (6m), or the building area and height of the existing building, whichever is the greater.

9.5.2 Apart from the intention of residential upgrading, very low-rise and low density residential development may be permitted on application to the Board. To be in line with the general development intensity of the surrounding areas, residential development shall not result in a total

development in excess of a maximum plot ratio of 0.4 and a maximum building height of 2 storeys (6m), or the plot ratio and height of the existing building, whichever is the greater.

9.5.3 Minor relaxation of plot ratio and/or building height restrictions may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of plot ratio and/or building height restrictions will be considered on its own merits.

9.6 "Village Type Development" ("V") : Total Area 150.35 ha

9.6.1 The planning intention of this zone is to reflect existing recognised and other villages, and to provide land considered suitable for village expansion and reprovisioning of village houses affected by Government projects. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.

9.6.2 In order to ensure that any future development or redevelopment within these villages would retain the village character, a maximum building height of 3 storeys (8.23m) or the height of the existing building(s) whichever is the greater is imposed under this zoning.

9.6.3 Land under this zoning is mainly located to the north of Ting Kok Road and along the valleys and foothills to the south of the East Rail.

9.6.4 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

9.7 "Government, Institution or Community" ("G/IC") : Total Area 172.12 ha

9.7.1 This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

9.7.2 Major existing GIC facilities include ***one***~~two~~ water treatment works, a fresh water primary service reservoir, a fresh water service reservoir and a fresh water pumping station in Planning Area 21, six fresh water service reservoirs in Planning Areas 12, 31 (including 2 service

reservoirs), 34, 37 and 57, a salt water pumping station in Planning Area 26 and two salt water service reservoirs in Planning Areas 21 and 31; two fire stations in Planning Areas 3 and 26; an ambulance depot in Planning Area 3; a major police station complex in Planning Area 17; the Tai Po Swimming Pool and the Tai Po Sports Ground in Planning Area 22; a major transport interchange in Planning Area 6; the Railway Museum in Planning Area 1; the Tai Po Hospital and Alice Ho Miu Ling Nethersole Hospital in Planning Area 9; the campus site of the Education University of Hong Kong (EdUHK) in Planning Area 34; the sports centre of the EdUHK in Planning Area 39; a special school in Planning Area 8; a market complex in Planning Area 1; a gas pigging station in Planning Area 24; a site of the ~~Fraternity of the Little Sisters of Jesus~~***Yuan Dao Exchange Centre*** for religious purpose in Planning Area 19; as well as primary and secondary schools, clinics, indoor recreation centres and community centre at various locations.

9.7.3 Proposed GIC facilities include a sports centre, a community hall and soccer pitches in Planning Area 1; a sports centre in Planning Area 6; ~~and~~ a clinic building and other possible community facilities in Planning Area 4***; and a rugby-cum-football pitch and a driving test centre in Area 33***. Other local GIC facilities will also be provided in the detailed planning of future development areas.

9.7.4 A number of primary and secondary schools have been provided and planned within the Area. This zoning covers some of the existing schools and adjacent ball courts, local open space etc., which fall within public housing estates. The ball courts, local open space etc. are common facilities shared by the schools and residents of the concerned estates. It also covers the Tai Wo Neighbourhood Community Centre, the refuse collection point at Tai Wo Estate as well as the Housing Department contractor depot and the adjoining ball courts.

9.7.5 When detailed planning and development for the Area proceeds, local community facilities such as kindergartens and neighbourhood centres, as may be required by relevant Government departments, will be provided within the public housing estates and the large private residential developments.

9.7.6 Developments or redevelopments within the "G/IC" zone are subject to building height restrictions as stipulated on the Plan or the height of the existing building, whichever is the greater. Minor relaxation of the building height restrictions may be considered by the Board on application. Each application for minor relaxation of building height restriction will be considered on its own merits, taking into account the relevant criteria as set out in paragraph 7.6 above.

9.7.7 This zoning includes two sub-zones which are subject to the following development restrictions:

(a) <u>"Government, Institution or Community (1)" ("G/IC(1)")</u> : Total Area 0.01 ha

(i) This sub-zone is intended to cover the rural committee building for the Tai Po Yuen Chau Tsai Fishermen's Village Association with a maximum building height of 2 storeys or the height of the existing building(s), whichever is the greater. Minor relaxation of the building height restriction may be considered by the Board on application. Each application for minor relaxation of building height restriction will be considered on its own merits, taking into account the relevant criteria as set out in paragraph 7.6 above; and

(ii) as this zone is located within the site boundary of Island House which is a declared monument, any work within this zone is prohibited except with a permit issued by the Antiquities Authority under section 6 of the Antiquities and Monuments Ordinance (Cap. 53). Application for permits under section 6 of the Antiquities and Monuments Ordinance through the Antiquities and Monuments Office ~~(AMO)~~ of the ~~Leisure and Cultural Services Department~~ ***Development Bureau*** should be made well in advance.

(b) "Government, Institution or Community (2)" ("G/IC(2)") : Total Area 0.04 ha

~~(i)~~ This sub-zone covers a site at Po Heung Street which is intended for hostel cum youth centre use. Development or redevelopment within this zone is subject to a maximum domestic GFA of 2,412m^2, a maximum non-domestic GFA of 1,040m^2 and a maximum building height of 80mPD, or the GFA and height of the existing building, whichever is the greater. ~~The non-domestic use is primarily intended for the in-situ reprovisioning of the youth centre under the subvention of Social Welfare Department.~~ ***The Hong Kong Federation of Youth Groups Tai Po Youth S.P.O.T and Youth Hostel PH2 were completed in 2020.*** Minor relaxation of the GFA and/or building height restrictions may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria set out in paragraph 7.6 above are relevant for assessing minor relaxation of building height restrictions. Each application for minor relaxation of plot ratio and/or building height restrictions will be considered on its own merits~~; and~~***.***

~~(ii) the site will be subject to noise impact from the East Rail and fixed plants of adjacent buildings. Upon development or redevelopment of the site, the project proponent is required to conduct noise impact assessment to address the noise issues and to implement mitigation measures identified in the assessment.~~

9.8 "Open Space" ("O") : Total Area 65.77 ha

9.8.1 This zoning is intended primarily for the provision of outdoor open-air

public space for active and/or passive recreational uses serving the needs of local residents as well as the general public.

9.8.2 One of the major existing open spaces is the promenade along Lam Tsuen River in Planning Area 4. The promenade provides a visual corridor to Tolo Harbour in the east and Tai Mo Shan in the west. Other existing open spaces include one in Planning Area 17, Mui Shue Hang Playground in Planning Area 15, Tai Po Tau Playground in Planning Area 22, Yuen Chau Tsai Park in Planning Area 24, the Tai Po Waterfront Park in the southern part of Planning Areas of 26 and 33. The waterfront park, together with the adjacent proposed recreation ground, also act as a buffer to separate the town centre from the Industrial Estate in Planning Area 26.

9.8.3 In addition to the major open spaces as indicated on the Plan, local open spaces are/will be provided to serve the residents and factory workers within the residential neighbourhoods and industrial areas.

9.9 "Recreation Priority Area" ("RPA") : Total Area 3.75 ha

9.9.1 This zone covering the site of the Kerry Lake Egret Nature Park in the eastern part of Planning Area 10 at Tai Po Kau is intended primarily for eco-tourism related recreational developments for the use of general public. Development within this zoning will be restricted to recreational and other ancillary uses. Uses in support of the recreational developments may be permitted subject to planning permission.

9.9.2 Developments or redevelopments within the "RPA" zone are subject to NBA restriction, the maximum GFA restriction of 3,300m^2 as specified in the Remarks in the Notes of the Plan, and the maximum building height restriction as stipulated on the Plan, or the GFA and height of the existing building, whichever is the greater. The existing playground and open/landscaped area of the Park within the "RPA" zone is designated as a NBA. Minor relaxation of the NBA, GFA and/or building height restrictions may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restriction. Each application for minor relaxation of NBA, GFA and/or building height restrictions will be considered on its own merits.

9.10 "Other Specified Uses" ("OU") : Total Area 188.74 ha

9.10.1 This zoning covers land annotated for the following specific uses:

Business

9.10.2 Land zoned for "OU" annotated "Business" is intended for general business uses. The site comprises six existing buildings with mixed industrial and office uses. Under this zoning, a mix of information technology and telecommunications industries, non-polluting industrial,

office and other commercial uses are permitted in new "business" buildings. However, in order to ensure that the concerns on fire safety and environmental impacts are properly addressed, only less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public are permitted as of right in existing industrial buildings or industrial-office buildings within this zone. As it is not possible to phase out existing polluting and hazardous industrial uses all at once, it is necessary to ensure compatibility of the uses within the same industrial building until the whole area is transformed to cater for the new non-polluting business uses. Development within this zone should make reference to the relevant Town Planning Board Guidelines. Developments or redevelopments within this zone are subject to a maximum plot ratio of 9.5 and a building height restriction as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

Golf Course

9.10.3 This zone covers the former Shuen Wan Landfill site in Area 28 and is intended primarily for a golf course. To avoid visual intrusion to the surrounding mountain backdrop, no addition, alteration and/or modification to or redevelopment of an existing building including structure, except floodlight post and protective fencing, shall result in a total development and/or redevelopment in excess of a maximum building height of 9 metres above ground level or the height of the existing building including structure, whichever is the higher.

Industrial Estate

9.10.4 This zone covers the Tai Po Industrial Estate in Planning Area 26 and is intended to provide/reserve land for the development of an industrial estate for industries to be admitted by the Hong Kong Science and Technology Parks Corporation. Industries to be included would normally not be accommodated in conventional industries buildings because of their specific requirements. In allocating sites, preference is given to those industries which involve a high level of technology, provide employment at a high level of skills, or produce new products for export or for local industries. The Industrial Estate has largely been developed.

9.10.5 Within this zone, the maximum total GFA of all developments or redevelopments is 2,023,274m^2, which is equivalent to a plot ratio of 2.5 for the area designated for industrial development and a plot ratio of 5 for a site designated for estate centre as set out in the lease for the Tai Po Industrial Estate. Developments or redevelopments within this zone are also subject to a building height restriction as stipulated on the Plan, or the height of the existing building, whichever is the greater. According to the lease of the lot, individual subdivision in the Tai Po Industrial Estate may be developed up to a plot ratio of 2.625 provided that the overall plot ratio of the area designated for industrial use within the lot would not exceed a maximum plot ratio of 2.5.

Historical Building Preserved for Cultural and Community Uses

9.10.6 This zoning covers the Tai Po Lookout site in Planning Area 12 and is intended to preserve, restore and convert the historic building(s) of heritage interest on the site into a local heritage attraction with the provision of cultural and community facilities for the enjoyment of the public. To retain the historic value of the Tai Po Lookout, any demolition of, or any addition, alteration and/or modification to the building(s) of heritage interest on the site requires planning permission from the Town Planning Board. Developments within this zone are subject to a maximum building height restriction as stipulated on the Plan, or the height of the existing building, whichever is the greater.

Historical Site Preserved for GIC Uses

9.10.7 This zoning covers the Island House site in Yuen Chau Tsai, which is a declared monument, and is intended to preserve the site for adaptive re-use for government, institution or community and related uses. Redevelopment of the existing historical building is not allowed in this particular "OU" zone. Any new development, or major addition, alteration and/or modification to the existing building requires planning permission from the Town Planning Board. Developments within this zone are subject to a maximum building height restriction as stipulated on the Plan, or the height of the existing building, whichever is the greater.

Railway

9.10.8 This zone is primarily to provide land for the use of railway stations and railway track. The Tai Po Market Station in Planning Area 6, the Tai Wo Station in Planning Areas 3 and 23 and the railway track of East Rail are under this zoning. Developments or redevelopments within this zone are subject to the maximum building height restriction as stipulated on the Plan, or the height of the existing building, whichever is the greater.

Railway Staff Quarters and Recreation Club

9.10.9 This zone covers the Trackside Villas in Planning Area 10 and is intended to provide land for railway staff quarters and recreation club. Developments or redevelopments within this zone are subject to a maximum domestic GFA of 11,200m², a maximum non-domestic GFA of 1,850m² and the building height restriction as stipulated on the Plan, or the GFA and height of the existing building, whichever is the greater.

Others

9.10.10 Other "OU" sites in Tai Po are as follows:

(a) a liquefied petroleum gas store in Planning Area 5;
(b) the sewage treatment works in Planning Area 26;
(c) the leachate pre-treatment works in Area 28;
(d) the existing petrol filling stations in Planning Areas 2, 3, 5, 12 and 22; and
(e) a bus depot site in Planning Area 33.

Developments or redevelopments within the above zones are subject to a maximum building height restriction as stipulated on the Plan or in the Notes, or the height of the existing building, whichever is the greater.

9.10.11 Minor relaxation of the plot ratio/GFA/building height restrictions for the "OU" zone may be considered by the Board on application under section 16 of the Town Planning Ordinance. The criteria given in paragraph 7.6 above would be relevant for assessment for minor relaxation of building height restrictions. Each application for minor relaxation of plot ratio/GFA/building height restrictions will be considered on its own merits.

9.11 "Green Belt" ("GB") : Total Area ~~1,262.54~~***1,258.67*** ha

9.11.1 The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

9.11.2 This zoning covers mainly steep hillsides in the peripheral areas which are of limited potential for urban type development and should be retained in their natural state. These areas nevertheless provide opportunities for additional outdoor passive recreational outlets.

9.11.3 There is a general presumption against development within this zone. Nevertheless, limited developments may be permitted if they are justified on strong planning grounds. Developments requiring planning permission from the Board will be considered on their individual merits taking into account the relevant Town Planning Board Guidelines.

9.12 "Conservation Area" ("CA") : Total Area 75.49 ha

9.12.1 This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment such as Site of Special Scientific Interest or Country Park from the adverse effects of development. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

9.12.2 There are five sites designated as "CA" on the Plan. The Tai Po Kau Headland near the coast of Tolo Harbour is a significant area of highly diverse woodland habitat with mature and rich lowland forest. A high

degree of protection is required to retain their inherent value.

9.12.3 The Tolo Pond Mangrove near Constellation Cove is zoned "CA" on the Plan in order to conserve its ecological value. The mangroves in this area are valuable habitats and should be protected from adverse effects of developments.

9.12.4 The inter-tidal ponds to the east and west of Tai Po Kau Headland consist of mangroves and mudflat which are the feeding habitats of egrets and herons. They represent the remaining semi-natural coastlines in Tolo Harbour worthy of protection.

9.12.5 There is another "CA" in Pai Mun Shan located in Area 40 of the Plan adjacent to the Tai Po Kau Nature Reserve. Mature woodlands and vegetated middle hill slopes which are worth preserving are found in this area. Its role as buffer zone and ecological linkage to other natural habitats should be well retained.

9.13 "Site of Special Scientific Interest" ("SSSI") : Total Area 43.50 ha

9.13.1 The planning intention of this zone is to conserve and protect the features of special scientific interest which are designated as Site of Special Scientific Interest (SSSI) and are important habitats for egrets and herons and for breeding of some rare butterflies which are protected under the Wild Animals Protection Ordinance. It intends to deter human activity or development within the SSSI. There is a general presumption against development in this zone. No developments are permitted unless they are needed to support the conservation of the features of special scientific interest in the SSSI, to maintain and protect the existing character of the SSSI, or for educational and research purposes.

9.13.2 There are two sites designated as "SSSI" on the Plan. The Fung Yuen Valley SSSI in Planning Area 29 was designated on 5 February 1980. The site is a well-forested ravine. Some rare plants are recorded in the site, e.g. *Illigera celebica* and *Aristolochia tagala*. The site is also an important breeding site for some rare butterflies.

9.13.3 The Tai Po Egretry, which is located at Planning Area 1 near Tai Po town centre, was designated as a SSSI on 13 August 1994. The site provides an important habitat for egrets and herons. The unique location of the SSSI and its closeness to the town centre provides an excellent opportunity to demonstrate the importance of wildlife conservation in the planning of the New Town.

9.14 "Country Park" ("CP") : Total Area 5.73 ha

9.14.1 The intention of this zone is to encourage passive recreation and tourism, protect vegetation and wildlife, preserve and maintain buildings and sites of historical or cultural significance and to provide facilities and services for the public enjoyment of the countryside. All uses and developments require consent from the Country and Marine Parks

Authority and approval from the Board is not required.

9.14.2 The zoned area is situated at Planning Area 38 on the southern side of the Tai Po New Town. The subject site is part of the Tai Mo Shan Country Park.

10. COMMUNICATIONS

10.1 Roads

10.1.1 The major road network, which comprises the trunk road (Tolo Highway) and major distributor roads, is shown on the Plan.

10.1.2 Tolo Highway is intended for uninterrupted long-distance traffic and forms part of the New Territories Circular Road system. It runs along the southern part of the Area and provides high-speed links to the Main Urban Areas and other parts of the New Territories. To cope with the growing traffic demand in the north-eastern region of the New Territories and those due to the cross boundary traffic movements on Tolo Highway, the Tolo Highway ~~will be~~ ***was*** widened ***from dual 3-lane to dual 4-lane*** in two stages. A 5.4km long section of ***Tolo Highway*** between ~~Sha Tin~~ ***Ma Liu Shui Interchange*** and ***Island House Interchange*** ~~Tai Po~~ was ~~widened from dual 3-lane to dual 4-lane and~~ completed in ~~August~~ 2003. Another 5.7km long section of Tolo Highway between Island House Interchange and Tai Hang ~~commenced in August 2009 and~~ ***was*** completed in ~~March~~ 2014. A 3.0km long section of Fanling Highway between Tai Hang and Wo Hop Shek Interchange ~~is being~~***was also*** widened from dual 3-lane to dual 4-lane~~.~~ ~~Construction commenced in July 2013 for completion of the major works in~~ ***and completed in*** 2019.

10.1.3 Access from Tolo Highway to the distributor roads system is provided at the Island House Interchange, the Tai Po South and North Interchanges. An access road linking the northern part of Pak Shek Kok ~~reclamation~~ area and the northbound carriageway of Tolo Highway was completed in 2003.

10.2 Railway

Tai Po is served by the East Rail which provides an important transport link between the Area, Kowloon and the eastern part of the New Territories. There are two railway stations serving the Area, one in Planning Area 6 (Tai Po Market Station) and the other in Planning Areas 3 and 23 (Tai Wo Station).

10.3 Public Transport

Public transport interchange facilities are provided at the two railway stations in Planning Area 6 and Planning Areas 3 and 23. A major bus terminus is provided in Planning Area 4 to serve the town centre developments whilst another one is located within the Tai Po Industrial Estate in Planning Area 26 to serve the industrial workers. Bus and minibus termini are also provided within

public housing estates and peripheral development areas.

10.4 Pedestrian and Cycle Networks

A comprehensive network of segregated cycle tracks and footpaths has been planned for the Area, which links all major land-use elements and provides links with the surrounding countryside. The cycle track network along Ting Kok Road, the section of Tolo Highway between Tai Po and Ma Liu Shui and within the town centre has been developed.

11. UTILITY SERVICES

11.1 Water Supply

Fresh water supply is provided by the existing ~~treatment works~~***Tai Po Water Treatment Works*** at Planning Area 21 via Tai Po Tau Fresh Water Primary Service Reservoir and eight other secondary service reservoirs and water tanks located at various locations of the Area. Salt water supply for flushing is provided by Tai Po Salt Water Pumping Station via two salt water service reservoirs at Pun Chun Yuen and Ha Hang.

11.2 Sewerage and Drainage Facilities

11.2.1 There is existing public sewerage in the major parts of the Area. The existing sewerage system collects and conveys sewage to Tai Po Sewage Treatment Works (STW) situated inside Tai Po Industrial Estate for treatment and disposal. To cater for the anticipated increase of sewage to be generated within the catchment area, phase I of the upgrading works for the STW has commenced in 2005 and was completed in 2010. Phase II of the upgrading works commenced in 2010 and was completed in 2014.

11.2.2 Provision of further public sewers within the Area has been planned under Stage I (Phase IIC) and Stage II of the "Tolo Harbour Sewerage of Unsewered Areas" project. ~~Stage I, Phase IIC will include sewerage works at Tai Po Road (near Hong Lok Yuen) and 10 villages alongside Ting Kok Road, while Stage II will include those at Cheung Shue Tan, Tai Po Mei, Lin Au, Tai Po Tau, Fung Yuen, CARE Village, Shan Tong New Village, Ha Wong Yi Au, Wong Nai Fai, Ma Wo, Ha Wun Yiu and San Uk Ka. The~~ Stage I, Phase IIC sewerage works commenced in 2009 was completed in 2015. ~~The~~ Stage II works ***are planned*** ~~is scheduled~~ for completion in ~~2021~~***phases***. ***Stage II, Phase I sewerage works at Shan Tong New Village and Ha Wun Yiu was completed in 2018, while Stage II, Phase II sewerage works at CARE Village and Ha Wong Yi Au were commenced in 2020 for completion in 2024. The sewerage works in remaining phases of Stage II including Cheung Shue Tan, Tai Po Mei, Lin Au, Tai Po Tau, Fung Yuen and Wong Nai Fai, Ma Wo, San Uk Ka are scheduled for completion in 2030.***

11.2.3 Drainage improvement works for the existing drainage systems in Tai

Po urban area and for Upper Tai Po River (near Wun Yiu) have been recommended in the "Stormwater Drainage Master Plan Study in Sha Tin and Tai Po" which is under the project "Drainage Improvement Works in Tai Po". The drainage improvement works in Tai Po urban area was completed in 2009, while the works for Upper Tai Po River was completed in 2012.

11.3 Electricity

The Area is currently supplied with electricity. Additional electricity supply can be provided to cater for future development in the Area by expanding the existing electricity network. Since there are 132kV and 400kV high voltage overhead lines passing through some regions inside the Area. Relevant guidelines in Chapter 7 of the Hong Kong Planning Standards and Guidelines regarding building developments in the vicinity of the 132kV and 400kV overhead lines and the corresponding safety clearances from these lines should be observed.

11.4 Gas Supply

There are existing town gas distribution network and piped liquefied petroleum gas systems in the Area and should be adequate to meet the demand of gas supply.

11.5 Telephone Service

There are three existing telephone exchanges located in Planning Areas 1 and 17, and Ting Kok respectively. These should be adequate in meeting the demand for telephone services.

12. CULTURAL HERITAGE

12.1 Several sites of archaeological interest ***(SAIs)*** are located within the Area, namely Cheung Shue Tan Site of Archaeological Interest, Tai Po Kau Stone Circle ***Site of Archaeological Interest***, Wun Yiu Site of Archaeological Interest, Wun Yiu Trackway ***Site of Archaeological Interest*** and Shek Kwu Lung Site of Archaeological Interest. Also, the Wai Tau Site of Archaeological Interest is situated in the close vicinity of the Area. There are ~~seven~~ ***eight*** declared monuments located within the Area. The declared monuments are Old District Office North, Island House, ***Old Tai Po Police Station,*** ~~Wun Yiu~~ ***Pottery Kilns at Wun Yiu Village***, Old Tai Po Market Railway Station, Man Mo Temple, Fan Sin Temple and King Law Ka Shuk. There are also graded ~~and proposed graded~~ historic buildings within the Area. On 19 March 2009, the Antiquities Advisory Board (AAB) released the list of 1,444 historic buildings, in which some buildings within the area have been ~~given proposed~~***accorded*** gradings. All the above declared monuments, graded~~ and proposed graded~~ historic buildings/structures and ~~sites of archaeological interest~~***SAIs*** are worthy of preservation. The AAB also released a list of new items in addition to the list of 1,444 historic buildings. These items are subject to grading assessment by the AAB. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the official website of the AAB at http://www.aab.gov.hk.

12.2 ***If there are any buildings/structures both at grade level and underground which were built on or before 1969, Antiquities and Monuments Office (AMO) of the Development Bureau (DEVB) should be alerted in an early stage or once identified.*** Prior consultation with the ~~Antiquities and Monuments Office (~~AMO~~) of the Leisure and Cultural Services Department~~ should be made if any ***works,*** developments, redevelopments or rezoning proposals ***may~~might~~*** affect the above ~~sites of archaeological interest~~***SAIs***, declared monuments, graded ~~and proposed graded~~ historic buildings/structures, new items pending grading assessment and their immediate environs ***as well as any other historic buildings/structures identified. If disturbance to the SAIs is unavoidable, prior agreement with AMO should be made on any measures for the protection of the SAIs, e.g. whether detailed Archaeological Impact Assessment (AIA) is required***. ***The AIA***~~An Assessment~~ shall ~~*be conducted to*~~ evaluate the archaeological impact imposed by the proposed works ~~if there is any development within the site of archaeological interest~~. If necessary, a ***qualified*** ~~professional~~ archaeologist shall ~~be engaged to~~ apply for a licence ~~from the Antiquities Authority~~ under the Antiquities and Monuments Ordinance (Cap. 53) for an archaeological ~~field~~ investigation ~~to evaluate whether the proposed works is acceptable from an archaeological preservation point of view and propose appropriate mitigation measures.~~ ***A proposal of the AIA shall be submitted to AMO for agreement prior to applying for the licence. Subject to the findings of AIA, appropriate mitigation measures shall be fully implemented by the project proponent in consultation with AMO.***

13. IMPLEMENTATION

13.1 Although existing uses non-conforming to the statutory zonings are tolerated, any material change of use and any other development/redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Board. The Board has published a set of guidelines for the interpretation of existing use in the urban and new town areas. Any person who intends to claim an "existing use right" should refer to the guidelines and will need to provide sufficient evidence to support his claim. The enforcement of the zonings mainly rests with the Buildings Department, the Lands Department and the various licensing authorities.

13.2 This Plan provides a broad land-use framework within which more detailed non-statutory plans for the Area are prepared by the Planning Department. These detailed plans are used within the Government as the basis for public works planning and site reservation within the Government. Disposal of sites is undertaken by the Lands Department. Public works projects are co-ordinated by the Civil Engineering and Development Department in conjunction with the client departments and the works department, such as the Highways Department and the Architectural Services Department. Implementation of these public works projects will be subject to the availability of resources. In the course of implementation of the Plan, the Tai Po District Council would also be consulted as appropriate.

13.3 Planning applications to the Board will be assessed on individual merits. In general, the Board's consideration of the planning applications will take into account all relevant planning considerations which may include the departmental

outline development plans/layout plans, and guidelines published by the Board. The outline development plans and layout plans are available for public inspection at the Planning Department. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning applications can be downloaded from the Board's website and are available from the Secretariat of the Board; and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

TOWN PLANNING BOARD
AUGUST ~~2018~~*2021*

Attachment V of
RNTPC Paper No. 7/21

土木工程拓展署
Civil Engineering and Development Department

Agreement No. CE 61/2017 (CE)

Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po - Feasibility Study

Final Planning Report for Rezoning Exercise

August 2021

ATKINS
Member of the SNC-Lavalin Group

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

Document Title Page

Client: **Civil Engineering and Development Department**	Contract No. (if any):
Project Title: **Agreement No. CE 61/2017 (CE)** **Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study**	Project No.: **5165339**
Document No.: **5165339-OR087-00**	Controlled Copy No.:
Document Title: **Final Planning Report for Rezoning Exercise**	
Covering Letter/Transmittal Ref. No.: **5165339/20.10/OC372/RW/HF/zc**	Date of Issue: **24 August 2021**

Revision, Review and Approval Records

			Wong		
00	First Issue	Various / Aug 2021	Peter WONG / Aug 2021	Howard FUNG / Aug 2021	Richard WONG / Aug 2021
Rev	Description	Prepared by / date	Checked by / date	Reviewed by / date	Approved by / date

TABLE OF CONTENTS

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Project Background

1.1.1 In accordance with the 2017 Policy Address, the Chief Executive announced that the Government will continue to rezone sites, increase development intensity and conduct holistic land use reviews to make optimal use of land.

1.1.2 To meet this policy objective, a number of potential public housing sites have been identified by the Government and the site at To Yuen Tung of Tai Po (the Site) is one of these potential sites. The Site is currently zoned "Green Belt" ("GB") on the approved Tai Po Outline Zoning Plan (OZP) No. S/TP/28. Civil Engineering and Development Department (CEDD) is tasked to conduct an Engineering Feasibility Study (EFS) to determine the scope of the Infrastructure Works including site formation works to form the Site for public housing development, to assess the various impacts due to the provision of the public housing development and its associated infrastructures and to recommend the mitigation measures to keep the potential impacts to a minimum and within the acceptable level of the current standard / regulation. The EFS shall take into account the cumulative demands / impacts from adjoining existing, planned and committed developments to establish the recommended Infrastructure Works and the required mitigation measures. Under this Assignment, deliverables are to be produced to confirm the technical feasibility of the development so as to support the statutory plan amendment for the Site. Outputs of this Assignment shall also satisfy the requirements of the relevant departments, authorities and organizations. The Site Location Plan and Master Layout Plan of the Site are shown in **Figure 1.1** and **Figure 1.2** respectively.

1.1.3 The Site is generally a densely vegetated hillside with light density of residents of To Yuen Tung Village. The Site is identified as having potential to be rezoned for residential use in order to help meet the housing production target.

1.2 Scope of the Project

1.2.1 This Project is to conduct for timely completion of all the necessary studies, inquiries and assessments for the required EFS for the purpose of examining the engineering feasibility of developing public housing at To Yuen Tung and supporting the statutory plan amendment for the Site and coming up with the recommended Infrastructure Works and the respective implementation schedules supporting timely the proposed developments at the Site.

1.3 Purpose of the Report

1.3.1 The "Planning Report for Rezoning Exercise" (this Report) shall consist of the following:

(a) essential information to identify the possible problems, introduce the assessment methodologies, illustrate the analyses, summarize the findings and propose mitigation measures / recommended works. The interim deliverables have to be satisfied by relevant departments that there would be no insurmountable impact arising from the Development including, but not limited to, the following aspects:

i. Traffic impact

ii. Drainage impact

iii. Sewerage impact

iv. Water supply impact

v. Natural terrain hazards

vi. Geological and geotechnical appraisal assessment

vii. Environmental impact

viii. Quantitative risk assessment

ix. Landscape and Visual impact

x. Ecological impact

xi. Air ventilation impact

xii. Impact on cultural heritage (if any)

(b) a layout plan to illustrate the proposed public housing development, and other government, institutional and community (GIC) facilities within the Site to support the OZP amendments based on the result of the technical assessments.

2. SUBJECT SITE AND ITS SURRONDING CONTEXT

2.1 Subject Site and Its Surrounding Area

2.1.1 The Site in To Yuen Tung is bounded immediately to the north by Ma Wo Road, to the east by Tat Wan Road, to the south by Tolo Highway and a knoll, and to the west by Ma Shing Path and The Balmoral (a private residential development).

2.1.2 The Site is generally a sloping site covered by vegetation. The lowest point is at the northeast corner (**+14mPD**) and the highest point is at the top of the natural slope (**+62mPD**). The Site contains a number of registered slope features. There are a number of concrete footpaths within the Site that lead to a few village settlements, abandoned cultivated areas, urn graves, and graves. There are no streams or water bodies identified within the Site.

2.1.3 The site boundary has been reviewed at the beginning of this Feasibility Study. In order to better utilize the Site for housing development, the site boundary near the junction of Ma Wo Road and Tat Wan Road has been slightly extended.

2.1.4 The Site is bounded by Ma Wo Road, Tat Wan Road, Tolo Highway and Ma Shing Path to the north, east, south and west respectively. There is a knoll to the south-east of the Site which is considered not suitable for housing development due to the following observations/constraints:

- The knoll is covered with dense trees and vegetation, hence further enlarge the site for development will require cutting more trees and woodland;
- There are 10 trees of species of conservation interest (i.e. *Aquilaria sinensis* and *Ixonanthes reticulata*) located immediately outside the site boundary. They would not be affected under the current proposed site boundary;
- Existing graves are found at the top of the knoll and near Tat Wan Road;
- There is more than 30m level difference between the Tolo Highway and the ground level near Tai Po River, hence substantial site formation works is required if the site boundary is extended to the southeastern side;
- Part of the southern portion of the knoll near the Tolo Highway falls within the Ha Wun Yiu Village Environs Boundary; and
- The existing knoll may act as a topographic noise barrier to the future development.

2.2 Statutory Planning Context

2.2.1 The Site currently falls within an area zoned “GB” on the approved Tai Po OZP No. S/TP/28. The prevailing OZP is shown on the **Figure 2.1**.

2.2.2 The planning intention of “GB” zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

2.3 Site Accessibility

2.3.1 The Site is located at the north of the Tolo Highway and bounded by Ma Wo Road, Tat Wan Road, and Ma Shing Path.

2.3.2 The adjacent housing estates and bus terminus are currently linked up by at-grade walkway system along Tat Wan Road. The existing walkway network connecting Wan Tau Tong Estate and its bus terminal to the Site's northeast, Uptown Plaza and the PTI next to the Tai Po Market MTR Station to its north. The walkway network could further extend to Kwong Fuk Road, Po Heung Street and Wan Tau Street by the at-grade pedestrian crossings.

2.3.3 There is GMB stop (Route No. 20S) adjacent to the Site along Ma Wo Road. There are also bus terminuses at Wan Tau Tong Estate and Tai Po Market MTR Station locating at around 500m and 950m walking distance away from the Site respectively. The existing bus/ GMB terminus outside MTR station provides services of 12 bus routes, 13 green mini-bus routes. There is also a taxi stand located outside the Exit B of Tai Po Market MTR Station.

2.3.4 The GMB route no. 20S which stops at Ma Wo Road currently providing feeder service to the Tai Po Market MTR Station.

2.3.5 There is a taxi stand located near the bus terminus of Wan Tau Tong Estate. The taxi stand could accommodate maximum of 2 taxis.

2.3.6 Public transport facilities and pedestrian connectivity serving the proposed Development is illustrated in **Figure 2.2**.

2.4 Land Status

2.4.1 The majority of the Site falls within unallocated Government Land and some Government Land Licenses without formal allocation. Therefore, consent from the relevant authorities as well as the tenants and the allocatees should be sought before commencement of works. Under this Project, the proposed Site Formation and Infrastructure Works will be carried out at both government lands and private lands. Therefore, land acquisition of private land is required. **Table 2.1** below summarizes the private lands to be affected.

Table 2.1 Affected Land Lots

Lot ID	Type of Land	Estimated area within the Site (m^2)
DD22 Lot845	Private Lot	484
DD22 Lot846	Private Lot	277
DD22 Lot847	Private Lot	244
DD22 Lot848	Private Lot	1034

2.4.2 Lengthy site clearance process of the To Yuen Tung Village and graves may delay the project implementation programme and mitigation measures will be proposed to avoid unnecessary delay.

2.4.3 To Yuen Tung Village under the Rural Representative Election Ordinance (Cap. 576) is located with the Site. Consultation with the Tai Po Rural Committee is required.

3. PROPOSED DEVELOPMENT SCHEME

3.1 Site Formation Layout

3.1.1 The Site's elevations range from about +14mPD to +62mPD. Therefore, to create a platform(s), given the site's current conditions, will require lots of earthworks and retaining structures. These can be costly, lengthen the programme and create lots of excess spoil. The use of soil nails and L-shaped retaining walls will allow the slopes to be steeper, but these solutions have a large footprint that may extend beneath the platform area. Therefore, the future residential buildings cannot be placed over the footprint due to their foundations potentially clashing with the soil nails or base of the L-shaped retaining wall.

3.1.2 The platform options have been evaluated by a comprehensive analysis with a quantitative multi-criteria approach. The key criteria have been identified according to the project requirement and objectives.

3.1.3 After reviewing different consideration of the option alternatives, the option with three platforms with levels of +27.3mPD, +20.5mPD and +14.5mPD is recommended as the preferred platform option. Site formation works compose of slope cutting with soil nails and retaining walls have been proposed to maximise the developable area. The proposed site formation layout and sections are shown in **Figures 10.1 to 10.3**.

3.2 Preliminary Development Layout

3.2.1 According to the preliminary development layout as shown in **Figure 1.2**, three housing blocks with a maximum height of **+135mPD** are proposed on the podium where retail, kindergarten and other ancillary facilities will be accommodated. Social welfare facilities are proposed to be accommodated at the base of one of the housing blocks. Adequate open space will also be provided to the residents at podium garden. A carpark block with a height of **+56mPD** and an 18-classroom primary school with a height of **+49mPD** are also proposed along the Ma Shing Path to minimise the visual impact to the adjacent private development to the west.

3.2.2 The Site is surrounded by residential and GIC developments and major roads (**Figure 3.1**). Vehicles accessing the Site will travel via the development access at Ma Wo Road either heading northward to Nam Wan Road, Kwong Fuk Road, Po Heung Street, Tai Po Tai Wo Road and Ting Kok Road or heading southward to Tolo Highway to/from other districts. The proposed development is considered compatible with the surrounding developments.

3.2.3 The preliminary development parameters are summarized in **Table 3.1**.

Table 3.1 – Development Parameters

Parameters	
Site Area:	
EFS Study Area	Approx. 3.64 ha
Net Site Area (Proposed Housing Site)	Approx. 1.51 ha
Maximum Building Height (in mPD)	+135mPD
Maximum Permitted Plot Ratio:	
Total Plot Ratio	6.8
Domestic Plot Ratio	*6.5*
Non-Domestic Plot Ratio(1)	*0.3*
Maximum Gross Floor Area (GFA):	

Parameters	
Total GFA	102,680m^2
Domestic GFA	*98,150m^2*
Non-Domestic GFA(1)	*4,530m^2*
Kindergarten	850m^2
Retail	2,800m^2
Estate Management & Ancillary Facilities	880m^2
Welfare Facilities(1) & (2)	7,500m^2
Average Flat Size	Approx. 41m^2
Number of Flats	About 2,400
Design Population(3)	About 6,480

Remarks: (1) Floor space constructed or intended for use solely as GIC facilities and ancillary parking facilities are excluded from PR/GFA calculation.
(2) Details of welfare facilities to be provided are subject to review and will be determined by relevant departments at detailed design stage.
(3) 10% design buffer has been considered in the technical assessments to allow flexibility at later design stage.

3.2.4 The list of proposed welfare facilities is summarized in **Table 3.2**.

Table 3.2 – Proposed Welfare Facilities

No.	Proposed Welfare Facilities(1)
1	Neighbourhood Elderly Centre
2	100-p Residential Care home for Elderly (RCHE)
3	Parents/ Relatives Resources Centre
4	A set of office base for on-site Pre-school Rehabilitation Services (OPRS)
5	60-p Special Child Care Centre (SCCC)
6	100-p Child Care Centre (CCC)
7	Specialised Co-parenting Support Centre (New Territories East Cluster)
8	60-p Day Care Centre for the Elderly (DE)

Remarks: (1) Social welfare facilities will be subject to detailed design by HD in consultation with relevant Government departments.

3.2.5 Traffic improvement works have been proposed based on the traffic impact assessment in this study. They include the improvement works to Ma Shing Path and 3 road junctions as indicated in **Figure 3.2**. The findings of the traffic impact assessment for the development are detailed in Section 4 below.

3.2.6 The proposed development scheme achieves an optimised balance between environmental impacts and urban design with the following merits:

- The three public housing blocks (including welfare facilities in Block C) are located away from Tolo Highway such that noise impact from the heavy traffic is less severe.
- Locating the three public housing blocks along the northern edge of the Site also permits the smallest impact on the existing knoll covered with dense vegetation.
- The proposed 18-classroom school site situated at the southwest of the Site with a smaller building mass serves as a buffer between the proposed public housing development and the adjacent private development to the west.

3.2.7 Technical assessments conducted have demonstrated that the proposed development is feasible from traffic and transport, environmental and ecology, air ventilation, geotechnical, landscape and visual, as well as utility service perspectives. The findings of these assessment have confirmed that the proposed development would not cause insurmountable problems. The findings of the technical assessments for the development are detailed in Sections 4 to 17 below.

3.2.8 The anticipated completed year of site formation works is 2029, while the anticipated completed year for the Development is 2032/2033.

4. PRELIMINARY TRAFFIC IMPACT ASSESSMENT

4.1 Introduction

4.1.1 This assessment aims to assess the adequacy of the existing transport infrastructure and networks and to forecast new provisions or improvement works required to support the proposed development.

4.1.2 The study area covers the major junctions along Ma Wo Road, Tat Wan Road, Nam Wan Road, Po Heung Street, Kwong Fuk Road, Tai Po Tai Wo Road, Tai Po Road Yuen Chau Chai, Po Nga Road, Ting Kok Road and slip roads to Tolo Highway.

4.2 Approach and Methodology of the TIA

Area of Influence (AOI)

4.2.1 The agreed Area of Influence (AOI) for assessment under this study is presented in **Figure 4.1**, which covers total of 14 key junctions and road links as listed in **Table 4.1** below.

Table 4.1 Identified Existing Key Junctions and Road Links with Junction Performance

Ref.	Location	Control Method	RC/DFC (1)	
			AM Peak	PM Peak
J1	Tat Wan Road / Slip Road from Tolo Highway	Signal	>300%	>300%
J2	Tat Wan Road / Slip Road to Tolo Highway	Signal	90%	>300%
J3	Tat Wan Road / Ma Wo Road	Signal	93%	109%
J4	Tat Wan Road / Nam Wan Road	Signal	41%	44%
J5	Kwong Fuk Road Slip Road [Tai Po Road Yuen Chau Chai/ Slip Road to Tolo Highway]	Priority	0.63	0.57
J6	Kwong Fuk Road Roundabout	Roundabout	0.82	0.66
J7	Nam Wan Road / Kwong Fuk Road	Signal	-20%	-6%
J8	Kwong Fuk Road/ Po Heung Street	Signal	123%	89%
J9	Tai Po Tai Wo Road/ Nam Wan Road	Signal	8%	26%
J10	Tai Po Tai Wo Road/ Po Heung Road	Signal	63%	58%
J11	Tai Po Tai Wo Road/ Ting Kok Road	Signal	37%	37%
J12	Tai Po Tai Wo Road/ Po Nga Road	Signal	-26%	-22%
J13	Tat Wan Road / Fung Wan Road	Signal	78%	123%
J14	Ma Wo Road / Ma Shing Path	Priority	0.18	0.09

Remarks: (1) 'Reserve Capacity' (RC) for signal controlled junctions and 'Design Flow to Capacity' (DFC) Ratio for the priority controlled junctions. Negative RC below 0% and DFC over 1.00 indicates overload conditions.

Traffic Survey and Existing Junction Capacity Assessment

4.2.2 Manual classified traffic count surveys have been conducted on a normal weekday in May of 2018 during the morning and evening peak period at the identified key junctions and road links. The peak hour traffic of the local area would be occurred during 0730 to 0830 and 1745 to 1845 in the morning and evening periods respectively. Appropriate allowance for other factors such as daily and monthly variation and school holiday had been taken into account in the junction capacity assessment.

4.2.3 Junction capacity assessments were carried out at the key junctions as listed in **Table 4.1** based on the observed peak hour traffic flows. Most of the identified key junctions are operating with spare capacities during the peak hour periods except junctions of Nam Wan Road/ Kwong Fuk Road (J7) and Tai Po Tai Wo Road/ Po Nga Road (J12).

Traffic and Transport Modelling

4.2.4 The background traffic forecasts for the design year 2039 were projected by applying a growth rate to the existing traffic flows obtained from traffic surveys taking into account the traffic generations of adjacent planned / committed developments. The growth rate was determined with reference to the historical traffic growth trend of the major roads in the vicinity of the proposed development, 2015-based Base District Traffic Model (BDTM) and 2016-based Territory Population and Employment Data Matrices (TPEDM) planning data of Tai Po area.

Assumptions for Traffic Forecast

4.2.5 The anticipated completed year for the Development is on 2032/33, while the design completion year in the feasibility study is on 2033/34 for allowance of flexibility. For the purposes of the Study, it has been assumed that full occupation of the subject development will occur in 2034. Therefore, it is proposed to adopt 2039 (5 years after completion of the previous assumed in-take year) as the design year for this TIA study to produce conservative assessment results.

4.2.6 Furthermore, the major developments under planning within the local area will also be considered in the traffic forecast, including a private housing development (TPTL243) located at Ma Wo Road under construction and the proposed sports centre in Area 6.

4.2.7 Trip generation of the Development were estimated based on the proposed development schedule and relevant trip rates provided in 'Traffic Rates for Residential Developments at 95% Confidence Level' of the Transport Planning and Design Manual (TPDM) and the trip generation survey results. The traffic generations were then assigned to the surrounding road network and superimposed onto the reference traffic forecasts to create the design year forecasts for assessment at design years.

Provision on Public Transport Services

4.2.8 Provision of new services has been investigated in this study to cater for the future passenger demand to be generated by the Development.

4.2.9 The peak demand per direction of pedestrian trips would be the generation trip of 993 ped/30-minute during the morning peak hour. This peak pedestrian demand per direction will be adopted to derive the provision of public transport services for the Development during the peak period. As the development pedestrian trips would involve several transport modes, the estimated peak pedestrian trip has been further breakdown according to the overall population characteristics and modal split of Yat Nga Court, Tak Nga Court and King Nga Court presented in the 2011 Population Census results. It is assumed all the estimated pedestrian trips during peak 30-minute are made by the working population and students of the Development and its breakdown by transport mode are summarized in **Table 4.2**.

Table 4.2-Pedestrian Generation by Transport Mode

Population Type	Pedestrian Trip (ped/30-min) (1)	Development Pedestrian Trip by Transport Mode (ped/30-min)						
		MTR	Bus	PLB	Walk	School Bus	Others	Total
Modal Split of Adjacent Housing Estate (2)								
Working	-	60.5%	21.0%	3.5%	6.7%	-	8.2%	100%
Student	-	18.0%	22%	-	45.0%	9.0%	6.0%	100%
The Development								
Working	745	452	156	26	50	0	61	745
Student	248	44	55	0	112	22	15	248
Total		**496**	**211**	**26**	**162**	**22**	**76**	**993**

Remarks: (1) Breakdown of population type according to the population characteristics of Yat Nga Court, Tak Nga Court and King Nga Court as present in the 2011 Population Census results.
(2) Refer to the overall mode split of King Nga Court presented in the 2011 Population Census results.

4.2.10 As the Site is located approx. 950m walking distance away from the nearest MTR station (Tai Po Market Station), the estimated MTR trips have been considered as Bus/ PLB trips for feeder services to the MTR station. According to the population census results, the proportion of PLB mode in the modal split of student trips have not provided. In order to produce a conservative assessment result, the mode of 'Others' for the student trip has been considered for estimating the PLB trip in this study. With the above estimated bus and PLB demand, the required public transport provision for serving the Development are tabulated in **Table 4.3**.

Table 4.3-Required Public Transport Provision During Peak 30-minute

Public Transport Type	Capacity (passenger/ service)	Estimated Passenger Demand (1)	Required no. of Service
Bus	130	211	2
PLB	19	41	3
Additional Trip for MTR Feeder Services (2)			
Bus Feeder Service	130	496	4
PLB Feeder Service	19		27

Remarks: (1) Passenger demand of Bus including the estimated pedestrian trips by 'Bus' in **Table 4.2**. Passenger demand of PLB including the estimated overall pedestrian trips by 'PLB' and 'Others' derived by student modal split.
(2) Two scenarios of different mode of feeder services will be assessed for pedestrian trips by 'MTR' in **Table 4.2**.

4.2.11 The Site is located within walking distance to Wan Tau Tong Estate bus terminus and it is predicted that the bus or PLB passenger trips generated by the Development will walk to Wan Tau Tong Estate or via the bus/ PLB feeder service to other areas.

4.2.12 The result also revealed that additional 4 nos. of bus per 30mins or 27 nos. of PLB per 30 mins will be estimated to deal with the MTR passenger trips generated by the Development. Considering the additional traffic volume towards the nearby road network, it is anticipated that bus services will be recommended to accommodate the MTR passenger demand without additional PLB's services.

4.2.13 To cope with the future public transport demand of 748 passengers per 30-minute generated by the Site, 1 number of new franchised bus route is required. New feeder bus services to/from Tai Po Market MTR Station is proposed to discharge the passenger demand onto the nearest mass transit services. The proposed bus routes will be running in both western and eastern directions along Ma Wo Road from the Site and also serving the passenger demand of the local area along the proposed routes.

4.3 Traffic Impact Assessment

4.3.1 The operational performance of roads, junctions and pedestrian facilities have been assessed based on the traffic forecast produced according to the procedures outlined in TPDM under both Reference (without the Development) and Design (with the Development) scenarios at the design years. Road link performance will be indicated in terms of volume-to-capacity (V/C) ratio. Junction performance will be indicated in terms of Reserve Capacity (RC) for signalized junctions and Design Flow-to-Capacity (DFC) Ratio for priority junctions.

Junction Operational Assessment

4.3.2 Junction operational assessment has been carried out at the key junctions and road links for the year 2039 Reference and Design scenarios. The results of different assessment scenarios are shown in **Table 4.4.**

Table 4.4 Year 2039 Junction Performance

Ref.	Location	RC/DFC (1)			
		Reference Scenario		Design Scenario	
		AM Peak	PM Peak	AM Peak	PM Peak
J1	Tat Wan Road / Slip Road from Tolo Highway	223%	217%	184%	183%
J2	Tat Wan Road / Slip Road to Tolo Highway	36%	280%	19%	212%
J3	Tat Wan Road / Ma Wo Road	30%	42%	-4%	16%
J4	Tat Wan Road / Nam Wan Road	9%	11%	-3%	3%
J5	Kwong Fuk Road Slip Road [Tai Po Road Yuen Chau Chai/ Slip Road to Tolo Highway]	0.81	0.73	0.84	0.75
J6	Kwong Fuk Road Roundabout	1.60	0.83	1.65	0.83
J7	Nam Wan Road / Kwong Fuk Road	-37%	-26%	-38%	-26%
J8	Kwong Fuk Road/ Po Heung Street	79%	51%	76%	49%
J9	Tai Po Tai Wo Road/ Nam Wan Road	-19%	-1%	-19%	-1%
J10	Tai Po Tai Wo Road/ Po Heung Road	31%	27%	29%	26%
J11	Tai Po Tai Wo Road/ Ting Kok Road	9%	9%	9%	9%
J12	Tai Po Tai Wo Road/ Po Nga Road	-41%	-37%	-41%	-37%
J13	Tat Wan Road / Fung Wan Road	34%	69%	18%	56%
J14	Ma Wo Road / Ma Shing Path	0.32	0.15	0.34	0.15

Remarks: (1) 'Reserve Capacity' (RC) for signal controlled junctions and 'Design Flow to Capacity' (DFC) Ratio for the priority controlled junctions. Negative RC below 0% and DFC over 1.00 indicates overload conditions.

4.3.3 As shown in the above table, seven of the identified key junctions, including the signal controlled junctions of Tat Wan Road/ Ma Wo Road (J3), Tat Wan Road/ Nam Wan Road (J4), Nam Wan Road/ Kwong Fuk Road (J7), Tai Po Tai Wo Road/ Nam Wan Road (J9), Tai Po Tai Wo Road/ Ting Kok Road (J11), Tai Po Tai Wo Road/ Po Nga Road (J12) and roundabout junction of Kwong Fuk Road roundabout (J6), would be operated approaching and/or over its capacity limit in year 2039 with the Development. However, the result also revealed that the junction capacity of junctions J7, J9, J11 and J12 with development traffic would be remained unchanged as compared with the case without the Development. In order to enhance the operational performance of the problematic junctions, improvement measures have been studied.

Pedestrian Walkway Assessment

4.3.4 It is assumed majority of the pedestrian trip would be accessing the Site via the proposed walkway connecting the adjacent housing development. The Level-of-Service (LOS) of the key section of footpath along Ma Wo Road and Tat Wan Road as shown in **Figure 4.2** has also been assessed and summarised in the **Table 4.5**.

Table 4.5 Footpath Performance

Footpath	Peak Pedestrian Demand (ped/hr)	Clear Footpath Width (m)	Effective Footpath Width (m)	Peak Pedestrian Flow Rate (ped/min/m)	LOS (1)
P1	1,093	2.5	1.5	12.14	A
P2	246	3.6	2.6	1.58	A
P3	280	4.5	3.5	1.33	A
P4	201	4.2	3.2	1.04	A
P5	469	4.0	3.0	2.60	A
P6	434	3.5	2.5	2.90	A
P7	541	2.8	1.7	5.31	A

Remarks: (1) The LOS in the Highway Capacity Manual (HCM-version 2000) is the way to assess the width of footpath for pedestrian movements. The HCM LOS is primarily based on the density of people in a given space and has six levels. LOS A means pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.

4.3.5 As shown in the assessment results in **Table 4.5**, all the key footpath sections will be operated with sufficient capacity to cater for the anticipated pedestrian demand of the Development. Therefore, the Development would be well served by the current walkway system.

Construction Traffic Impact Assessment

4.3.6 Operational assessment has been carried out at the identified key junction and road links for the year 2029 Reference and Construction scenarios during the critical construction period while the highest traffic demand will be generated by the Site. The assessment results for the two scenarios are shown in **Table 4.6**.

Table 4.6 Year 2029 Junction Performance During Construction Stage

Ref.	Location	Reserve Capacity			
		Reference Scenario		Construction Scenario	
		AM Peak	PM Peak	AM Peak	PM Peak
J1	Tat Wan Road / Slip Road from Tolo Highway	257%	247%	234%	224%
J2	Tat Wan Road / Slip Road to Tolo Highway	49%	>300%	40%	254%
J3	Tat Wan Road / Ma Wo Road	41%	54%	37%	50%

4.3.7 As shown in the above table, all the junctions along the construction traffic routing would be operated within its capacity limit in year 2029 during the critical construction stage. It is anticipated that the construction activities of the Site would not induce insurmountable traffic impacts on the surrounding road network.

4.4 Mitigation Measures

4.4.1 As discussed in the TIA report, three of the identified key junctions (including Junctions J3, J4 and J6) will be operating over their capacities in the design year of 2039 with completion of the Development. Junction improvement proposals have

been studied to alleviate the foreseeable traffic problems.

Junction J3 – Tat Wan Road/ Ma Wo Road

4.4.2 The junction of Tat Wan Road/ Ma Wo Road (J3) will be operating over its capacity in year 2039 with completion of the Development. It is proposed to widen the eastbound carriageway of Ma Wo Road as shown in **Figure 4.3** to enhance the operating capacity.

4.4.3 The junction will be improved by constructing an additional channeling island to separate the proposed split movements (i.e splitting the left-turn traffic movements at eastbound of Ma Wo Road eastbound) and provide refuge for pedestrian to wait. Setting back of existing road kerb is required in this proposal.

Junction J4 – Tat Wan Road/ Nam Wan Road

4.4.4 The junction of Tat Wan Road/ Nam Wan Road (J4) will be operating over its capacity in year 2039 with completion of the Development. It is proposed to widen the northbound carriageway of Tat Wan Road as shown in **Figure 4.4** to enhance its operating capacity. Setting back of kerb is required in order to implement the road widening proposal. As such, the planter area at Tat Wan Road western side would be modified in order to maintain the current width of Tat Wan Road western footpath.

4.4.5 The junction will be improved by providing a longer queuing reservoir for the left-turn traffic of northbound of Tat Wan Road. Setting back of existing road kerb and minor amendment of road marking are required in this proposal.

4.4.6 Set back of northern kerb at Nam Wan Road will be required in order to provide adequate road space for two right-turn traffic from the northbound carriageway of Tat Wan Road. Adjacent general lay-by will be slightly shifted as shown in **Figure 4.4**.

Junction J6 – Kwong Fuk Road Roundabout

4.4.7 Kwong Fuk Road roundabout junction (J6) will be operating over its capacity under 2039 Reference Case, and the junction capacity will be further dropped due to the induced additional development traffic. To reduce the traffic loading reaching the roundabout junction, an exclusive free flow traffic lane at the arm of Kwong Wang Street is proposed as shown in **Figure 4.5** to segregate Kwong Wang Street traffic heading to Tolo Highway direction from the roundabout junction.

4.4.8 To ensure a smooth traffic merging for Kwong Wang Street traffic from the proposed exclusive traffic lane to Tai Po Road (Yuen Chau Tsai) eastbound carriageway, the planter area at the north-eastern corner of the roundabout junction would be modified to accommodate the additional traffic lane at the road section of Tai Po Road (Yuen Chau Tsai) eastbound carriageway from its junction with Kwong Fuk Road roundabout junction to its junction with Tolo Highway.

Vehicular Access and Proposed Lay-bys at Ma Wo Road and Ma Shing Path

4.4.9 One vehicular access of the Development is proposed at the north of the Site at Ma Wo Road, and Ma Shing Path will be designed to act as the access road to the proposed primary school.

4.4.10 In order to cater for the pick-up/drop-off demand to be generated by the proposed primary school located at the existing cul-de-sac of the Ma Shing Path, a general lay-by and related footpath are proposed on the eastern side of Ma Shing Path near the entrance of the proposed school.

4.4.11 Moreover, new provision of lay-by for intermediate bus stops would be provided at the north of the Development to provide the required services. The proposed length of lay-by could provide stacking space for one bus. The preliminary layout of the lay-bys are illustrated in **Figure 3.1**.

Footpath to Graves

4.4.12 An existing footpath access to grave-concentrated area at the top of the knoll was identified within the study area. It is therefore proposed to re-provide a footpath outside the housing site boundary for access to the graves. Location of the proposed footpath is shown in **Figure 10.1**.

4.5 Summary

4.5.1 Junction operational assessment has been carried out for 14 key junctions and road links within the AOI for the design year of 2039. Out of which, 7 key junctions are assessed to be operated approaching and/or over capacity with the Development, but the junction capacity of 4 of them will remain unchanged as compared with the case without the Development. Hence, improvement measures are proposed for the remaining 3 problematic key junctions approaching and/or over their capacities due to the additional traffic generated by the Development (i.e. J/O Tat Wan Road/ Ma Wo Road (J3), Tat Wan Road/ Nam Wan Road (J4) and Kwong Fuk Road roundabout junction (J6)).

4.5.2 The junction operational assessment has also demonstrated that all the junctions along the construction traffic routing would be operated within their capacity limits in year 2029 during the critical construction stage. It is anticipated that the construction activities of the Site would not induce insurmountable traffic impacts on the surrounding road network.

4.5.3 To cater for the pick-up/drop-off demand to be generated by the proposed primary school located at the existing cul-de-sac of the Ma Shing Path, a general lay-by and related footpath are proposed on the eastern side of Ma Shing Path near the entrance of the proposed school.

4.5.4 The Site is located about 950m walking distance away from Tai Po Market Station, and it is anticipated that majority of future residents accessing the MTR Station will rely on feeder services. In order to cater for the public transport demand generated from the Development, the operation of franchised bus service on Ma Wo Road is recommended, and a 13m long lay-by is proposed at the north of the site on Ma Wo Road for an intermediate bus stop.

4.5.5 The pedestrian walkway assessment reveals that all the key footpath sections would be operated with sufficient capacity to cater for the anticipated pedestrian demand of the Development. .

4.5.6 It is concluded that the Development is acceptable from traffic point of view with the implementation of the proposed traffic improvement schemes.

5. PRELIMINARY DRAINAGE IMAPCT ASSESSMENT

5.1 Introduction

5.1.1 The preliminary Drainage Impact Assessment (DIA) intend to introduce a methodical and systematic approach to identify, assess and mitigate potential adverse drainage impacts, and develop an optimum drainage scheme to support the proposed development and infrastructure works.

5.1.2 Findings and recommendations of the DIA are presented in Preliminary Drainage Impact Assessment Report. A summary of the assessment is presented in sections below.

5.2 Methodology

5.2.1 The design criteria for this Assignment are based on standards as set out in the DSDs Stormwater Drainage Manual (SDM). Table 10 of the SDM provides the recommended design return periods based on flood levels for the various drainage systems, as shown in **Table 5.1**.

Table 5.1 Recommended Design Return Period

Intensively Used Agricultural Land	2 – 5 Years
Village Drainage including internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

5.2.2 According to SDM, the largest pipe size or the equivalent diameter in case of a box culvert will normally be less than 1.8 m for an “Urban Drainage Branch System” in which it collects runoff from the urban area and conveys stormwater to a trunk drain, river or sea. The existing drainage systems affected by the Project and proposed drains within the development are identified with pipe diameter less than 1.8m and are therefore classified as Urban Drainage Branch Systems, which should be designed with flood protection level of 50 years return period. Pipes with size or box culverts with an equivalent diameter equal to or larger than 1.8 m for an ‘Urban Drainage Trunk System’ and collects stormwater from branch drains and/or river inlets, and conveys the flow to outfalls in river or sea. The existing Tai Po River are identified with dimension greater than 1.8m pipe diameter and are therefore classified as Urban Drainage Trunk Systems, which should be designed with flood protection level of 200 years return period. The determination of flood levels in the Fluvial-Tidal Zone for this Assignment are based on standards as set out in the SDM. Table 11 of the SDM provides the recommended Cases I and II for the various flood level return period, as shown in **Table 5.2**.

Table 5.2 Determination of Flood Level in the Fluvial-Tidal Zone

Flood Level Return Period	Case I	Case II
200 years	200-year rain + 10-year sea level	10-year rain + 200-year sea level
100 years	100-year rain + 10-year sea level	10-year rain + 100-year sea level
50 years	50-year rain + 10-year sea level	10-year rain + 50-year sea level

Flood Level Return Period	Case I	Case II
10 years	10-year rain + 2-year sea level	2-year rain + 10-year sea level
5 years	5-year rain + 2-year sea level	2-year rain + 5-year sea level
2 years	2-year rain + 2-year sea level	-

5.3 Existing Drainage System

5.3.1 The Site falls within drainage catchment area of Tai Po River. Based on the DSD drainage record, there are existing 450mm to 675mm dia. drains along Ma Shing Road joining the existing two cells 3500(W) x 3350(H) box culvert at Ma Wo Road. The existing box culvert conveys the collected drainage along Ma Wo Road and Tat Wan Road which discharges into Tai Po River ultimately. At the southwest of the junction of Ma Wo Road and Tat Wan Road, there is an existing 300mm dia. drain via. catchpit SCH1000137 that receives surface runoff from the Study Area and conveys to the existing box culvert. Also, there is an existing 525mm dia. drain via. catchpit SCH1000021 at Tat Wan Road receives surface runoff from slopes behind the Site and conveys to the existing box culvert.

5.4 Potential Drainage Impacts

5.4.1 The condition of the existing drains from manholes SMH1047420 to SGJ1020120, which are the direct downstream of the proposed connection drain for the Development, is assessed.

5.4.2 It is noted that the existing downstream drains sizing from 450mm to 525mm dia. from manholes SMH1047420 to SMH1047422 and SMH1047423 to SMH1047427 would be under capacity after the additional discharge from the proposed Development.

5.4.3 According to the assessment, it is considered that the section of existing 450mm to 525mm dia. drains along Ma Shing Path will be overloaded after the Development and upgrading works is required to mitigate the impact. It is estimated that the Site will convey additional surface runoff to the existing box culvert of less than 1% of the design capacity of the existing two cells 2300(W) x 1800(H) and two cells 3500(W) x 3350(H) box culverts. The further downstream existing two cells 3500(W) x 3350(H) box culvert and Tai Po River has sufficient capacity to accommodate the additional drainage generated from the Development and upgrading works is considered not necessary.

5.5 Proposed Drainage System

5.5.1 New individual drains will be required to convey drainage flow from proposed school, carpark block and housing development respectively to the public drainage system.

5.5.2 The proposed 600mm dia. drain will collect drainage from the proposed school and connect to existing manhole SMH1047422. At the proposed carpark block, the 300mm dia. drain will collect drainage and connect to existing manhole SMH1047424. The 600mm dia. drain is proposed at the new access road, connecting Ma Wo Road, to collect the drainage from the proposed housing development. The proposed 600mm dia. drain will run northwards and connect to existing box culvert at Ma Wo Road. Preliminary design drawing **Figure 5.1** shows the layout of the proposed drainage system for the Development.

5.5.3 As site formation works will take place within the Site, the existing catchpit SCH1000137 and downstream pipe connecting to the existing box culvert which are located northeast of the Site would be demolished. Additional surface runoff from the proposed slopes at the south of the Development will be collected into the existing catchpit SCH1000021 and the existing 525mm dia. pipe will convey the flow into the box culvert.

5.5.4 It is proposed to on-line upgrade the existing 450mm to 675mm dia. drains to sizes ranging 525mm to 750mm dia. in precast concrete pipes from manholes SMH1047420 to SGJ1020120. The proposed 375mm, 525mm, 300mm and 600mm dia. drains will convey surface runoff from the proposed slope, school, carpark block and housing development respectively to the existing drainage system. In addition, it is proposed to on-line upgrade the existing 300mm dia. drain to 450mm dia. precast concrete pipe from SMH1000071 to SMH1000072. The extent of upgrading works is as shown in **Figure 5.1.**

5.5.5 The drainage flow of the Site contributes insignificant amount to the design capacities of the existing box culvert below Ma Wo Road and Tai Po River and no adverse drainage impact is anticipated.

5.6 Conclusion

5.6.1 Three new drains, including 14m of 525mm dia., 14m of 300mm dia., and 13m of 600mm dia. drains have been proposed to connect the drainage system from the school, carpark block and housing development respectively to the existing drainage at Ma Shing Path and Ma Wo Road.

5.6.2 Existing downstream drainage on Ma Shing Path have been assessed. About 100m of drainage on-line upgrading works from SMH1047420 to SGJ1020120 (existing pipes sizing from 450mm to 675mm dia.) is required along Ma Shing Path. About 30m of drainage on-line upgrading works of 300mm dia. drain to 450mm dia. Is required from SMH1000071 to SMH1000072.

5.6.3 The drainage flow of the Site contributes insignificant amount to the design capacities of the existing box culvert below Ma Wo Road and Tai Po River and no adverse drainage impact is anticipated.

6. PRELIMINARY SEWERAGE IMAPCT ASSESSMENT

6.1 Introduction

6.1.1 The preliminary Sewerage Impact Assessment (SIA) intend to introduce a methodical and systematic approach to identify, assess and mitigate potential adverse sewerage impacts, and develop an optimum drainage scheme to support the proposed development and infrastructure works.

6.1.2 Findings and recommendations of the SIA are presented in Preliminary Sewerage Impact Assessment Report. A summary of the assessment is presented in sections below.

6.2 Methodology

6.2.1 The SIA study has been carried out in accordance with EPD's Report No. EPD/TP 1/05 "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning" (GESF). The recommended unit flow factors and peaking factors have been adopted to estimate the sewage flow.

6.2.2 The roughness values for slimed sewers or roughness value that suits the pipe material were adopted with reference to Table 5 of DSD's "Sewerage Manual Part 1".

6.2.3 The sewage flow of welfare facilities, parking facilities and retails are assumed to be 20% of the domestic flow of the Development and a design allowance of 10% has been included to cater for potential increase of sewage flow to suite the development of the Project.

6.2.4 Under 2016-based TPEDM, the study area of the SIA covers the PDZ 196, 197,198, 199 and 434. The trend of populations projection of years 2016, 2021, 2026, 2031, 2036 and 2041 for PDZ 196, 197,198, 199, and 434 has been studied.

6.2.5 The anticipated completion year including execution of investigation, design and construction of the site formation works and construction works by the HD is 2032/33. The population growth rate increases by 2.2% (by pro-rata of TBEDM 2031-year and 2036-year forecast) will be considered to study the impact of the existing and proposed sewerage system for the proposed design completion year of 2033/34.

6.3 Existing Sewerage System

6.3.1 Based on the DSD drainage record, there is an existing 225mm dia. sewer along Ma Shing Path and Ma Wo Road located next to the Site. Tai Yuen Sewage Pumping Station and Tai Po Sewage Treatment Works are located at the further downstream of the mentioned sewers.

6.4 Potential Sewerage Impacts

6.4.1 It is noted that the existing downstream sewers, 225mm dia. sewer from manholes FMH1035446 to FMH1000348 and 600mm dia. sewer from manholes FMH1000349 to FMH1000326 and 900mm dia. Sewer from manholes FMH1000273 to FMH1000218 would be under capacity after the additional discharge from the proposed Development.

6.4.2 It is estimated that the Site will generate ADWF of about 1,952 m^3/day, which is

approximate 1.6% of the design capacities of Tai Yuen Sewage Pumping Station and Tai Po Sewage Treatment Works, it is considered that the amount of additional sewage flow generated by the Site is insignificant and will not induce adverse sewerage impact.

6.5 Proposed Mitigation Measures

6.5.1 Following mitigation measures are proposed:

- Construct around 70m of 375mm dia. duplicate sewer from manholes FMH1035446 to FMH1000351;
- On-line upgrade around 135m of 225mm dia. sewer to 375mm dia. (from manholes FMH1000351 to FMH1000350);
- Permanently divert the section of sewer from manholes FMH1000350 to FMH1000348, which encroaches the Site and are under capacity, by constructing around 55m of 375mm dia. new sewer from manholes FMH1000350 to FMH1000349 and demolish the existing sewer;
- Online-upgrade around 350m of 600mm dia. sewer to 750mm dia. (from manholes FMH1000349 to FMH1000259).
- Online-upgrade around 909m of 900mm dia. sewer to 1050mm dia. (from manholes FMH1000260 to FMH1000218).

6.5.2 The extent of upgrading works is as shown in **Figures 6.1 to 6.3**.

6.5.3 Also, the population growth factor (i.e. increased by 2.2%) has been taken into account in the design of mitigation measures.

6.5.4 The proposed sewerage improvement works would be carried out under the site formation works for the proposed housing development at To Yuen Tung. The management and maintenance of the proposed sewerage works would be carried out by relevant government departments.

6.6 Conclusion

6.6.1 A preliminary sewerage study has been undertaken for the Site falling within the sewerage catchment of Tai Po Sewage Treatment Works.

6.6.2 Existing downstream sewerage up to manhole FMH1000221 have been assessed. About 1422m of upgrading works from is required along Ma Shing Path, Ma Wo Road, Tat Wan Road and Nam Wan Road.

6.6.3 The sewage flow of the Site contributes insignificant amount to the design capacities of the existing Tai Yuen Sewage Pumping Station and Sewage Treatment Works and no adverse sewerage impact is anticipated.

7. PRELIMINARY WATER SUPPLY IMPACT ASSESSMENT

7.1 Introduction

7.1.1 The preliminary Water Supply Impact Assessment (WSIA) assessment aims to assess the short-term and long-term impacts on the water supply system arising from the proposed developments, formulate an achievable and cost-effective water supply proposal with implementation strategy to support the proposed developments.

7.1.2 The anticipated completed year for the Development is on 2032/33, while the design completion year in the feasibility study is on 2033/34 for allowance of flexibility.

7.1.3 Findings and recommendations of the WSIA are presented in Preliminary Water Supply Impact Assessment Report. A summary of the assessment is presented in sections below.

7.2 Methodology

7.2.1 The WSIA study has been carried out in accordance with WSD's DI No. 1309 and Manual of Mainlaying Practice 2012. The design parameters and peak demand factors have been adopted for the design of proposed water supply systems of the development as described below.

Water Supply Unit Demand

7.2.2 The following fresh and flushing water unit demands are adopted (shown in **Table 7.1**) in estimating the water demand of the development.

Table 7.1 Fresh and Flushing Water Unit Demand

Development Type	Unit	Fresh Water		Flushing Water
		Fresh Water	Service Trade	
Domestic				
Public Rental/ Subsidized Sale Flat	l/h/d	230*	50	70
Private R1	l/h/d	230	50	70
Non-domestic				
School	l/h/d	25	--	25
J11 Community, Social & Personal Services***	l/h/d	210	--	70
G/IC / Commercial Facilities**	l/m^2 GFA/d	20	--	7
Irrigation				
Irrigation	l/m^2 net/d	7	--	--

Remarks: * Fresh water unit demand 230l/h/d is adopted for the public rental type government housing estates for conservative design.
** Details of the / commercial facilities is not available during the preparation of the Report.
*** Commercial activities of J11 Community, Social & Personal Services in GESF Table T-2 is referred for the institutional staff.

Service Reservoir Capacity

7.2.3 The service reservoir capacities required are as follows:

- Fresh Water System – 80% of mean daily demand for interconnected supply zones with critical consumers;
- Flushing Water System – 25% of mean daily demand.

Distribution Main Capacity

7.2.4 The capacity of the distribution main should be sufficient for the following peak demands.

- Fresh Water System – 3 times mean daily demand;
- Flushing Water System – 2 times mean daily demand.

Residual Head

7.2.5 Minimum residual heads at extremity of system:

- Fresh Water System – 20m (new developments), 30m (existing developments);
- Flushing Water System – 15m.

Fire Fighting

7.2.6 The fire fighting requirement for the residential zone is 6,000m^3/d. Adequacy for fire fighting is also checked for the distribution main under mean daily demand + fire fighting.

7.3 Existing Water Supply System

Existing Fresh Water Supply System

7.3.1 The Site falls within the existing supply zone of existing Pun Chun Yuen Fresh Water Service Reservoir (FWSR). The existing Pun Chun Yuen FWSR has the design capacity of 68,000m^3 (i.e. 80% of 85MLD mean daily demand) with Top Water Level (TWL) of +98.5mPD approximately. It is noted that the approx. mean output rate of Pun Chun Yuen FWSR was approximately 74MLD currently, based on the flow data from Sep 2017 to Aug 2018.

7.3.2 The existing capacity of the pump set of Tai Po FWPS which feed Pun Chun Yuen FWSR and Tai Po Tau FWSR is 260MLD and planned to be upgraded with capacity of 400MLD. The upgrading works is planned to be completed in 2021.

7.3.3 Under present condition, there is a DN250 fresh water main at Ma Wo Road, feeding the existing premises within the study area via the DN80 freshwater distribution main. The DN250 fresh water main is tee from the DN450 fresh water main running along Tat Wan Road with the source from Pun Chun Yuen FWSR.

Existing Salt Water Supply System

7.3.4 The Site falls within the existing supply zone of existing Pun Chun Yuen Salt Water Service Reservoir (SWSR). The existing Pun Chun Yuen SWSR has the design capacity of 3,200m^3 (i.e. 25% of 12.8MLD mean daily demand) with Top Water Level (TWL) of +80mPD approximately.

7.3.5 The maximum output of Tai Po Salt Water Pumping Station (Tai Po SWPS) is 37MLD (i.e. 3 nos. pump set, 2D+1S), with capacity of 194L/s @ 91m head. The salt water is drawn from Tolo Harbour to distribute to consumers and feed various salt water reservoirs including Pun Chun Yuen SWSR and Ha Hang SWSR. The average daily output of Tai Po SWPS was approx. 28.21MLD based on the flow data from Dec 2018 to Feb 2019.

7.3.6 No existing salt water distribution main is identified within the Site.

7.3.7 It is noted that there is a DN200 salt water main at Ma Wo Road, tee from the DN250 salt water main running along Tat Wan Road with the source from Pun Chun Yuen SWSR.

7.4 Assessment to Water Demand

7.4.1 The fresh water and flushing water demands for the proposed development are estimated based on the residential population and land use. The breakdown of the demand projection is summarized in **Table 7.2** below.

Table 7.2 Summary of the Water Demands for proposed development

Development Type	Estimated Population	Adopted Population* / Area (m2)	Fresh Water (l/h/d)		Total Fresh Water Demand (MLD)	Flushing Water (l/h/d)	Total Flushing Water Demand (MLD)
			Fresh Water	Service Trade			
Domestic Demand							
Public Housing	6,480	7,128*	230	50	1.996	70	0.499
Non-domestic Demand							
School (18-CR)	540	594*	25	-	0.015	25	0.015
Kindergarten (6-CR)	180	198*	25	-	0.005	25	0.005
School Staff	59	64*	210	-	0.014	70	0.005
G/IC Complex / Commercial Facility **		TBC	-	--	0.399**	--	0.100**
Irrigation							
Irrigation		6,000	7	--	0.042	--	--
				Total (MLD)	**2.470**		**0.623**
				Adopted Total Demand (MLD)	**2.48**		**0.63**

Remarks: * The projected population is derived from the estimated population provided by the user departments with inclusion of 10% variation for design flexibility.
** For the demand of non-domestic facilities to be confirmed, an additional 20% of the domestic water demand is assumed for assessment in conservative.

7.4.2 The estimated total Mean Daily Demand (MDD) of fresh water for the Development would be approximately 2.48MLD (i.e. 2,480m^3/day). The estimated total Mean Daily

Demand (MDD) of flushing water for the Development would be approximately 0.63MLD (i.e. 630m^3/day).

7.5 Potential Water Supply Impacts

Fresh Water Service Reservoir Capacity

7.5.1 Under 2016-based TPEDM, the supply zone of existing Pun Chun Yuen FWSR covers the PDZ 194~199 and 434. For assessment purpose, the said PDZ zones are adopted for the analysis of the water demand projections of Pun Chun Yuen FWSR. The trend of populations for years 2016, 2026, 2031, 2036 and 2041 have been summarized in **Table 7.3** below. The estimated domestic, commercial and institutional population would increase and there is decrease in the industrial population.

Table 7.3 Population and Fresh Water Demand Projection arising from Population Growth based on the TPEDM (Pun Chun Yuen FWSR)

	Domestic Demand	Industrial Demand	Commercial Demand	Institutional Demand	Total Population	Water Demand Projection
2016	-	-	-	-	-	-
2026	4%	-33%	2%	3%	4%	3%
2031	1%	-41%	0%	3%	1%	0%
2036	-1%	-48%	1%	5%	1%	-1%
2041	-1%	-49%	3%	5%	1%	0%

7.5.2 Since the projected fresh water demand would be slightly decreased from Yr 2031 to 2036, condition under Yr 2031 is reviewed for conservative purpose. The mean daily fresh water demand to be fed by Pun Chun Yuen FWSR for Years 2026, 2031, 2036 and 2041 are projected based on the TPEDM.

7.5.3 It is noted that the existing Pun Chun Yuen FWSR with the total capacity of 68,000m^3 could meet the additional fresh water demand for the Site at To Yuen Tung after 2033/2034 intake year. The existing Pun Chun Yuen FWSR could also meet the additional fresh water demand with the consideration of the interfacing development at Ma Wo Road after intake in 2033/2034.

Salt Water Service Reservoir Capacity

7.5.4 Under 2016-based TPEDM, the supply zone of existing Pun Chun Yuen SWSR covers the PDZ 196, 198~199 and 434. The PDZ zones are adopted for the analysis similar to section 7.5.1. The trend of populations for years 2016, 2026, 2031, 2036 and 2041 have been studied. The estimated domestic, industrial, commercial and institutional population would increase.

7.5.5 Since the projected salt water demand would be slightly decreased from Yr 2031 to 2036, condition under Yr 2031 is reviewed for conservative purpose. The mean daily flushing water demand to be fed by Pun Chun Yuen SWSR for Years 2026, 2031, 2036 and 2041 are estimated based on the TPEDM.

7.5.6 It is noted that the existing Pun Chun Yuen SWSR with the total capacity of 3,200m^3 could meet the additional flushing water demand for Site at To Yuen Tung after 2033/2034 intake year. The existing Pun Chun Yuen SWSR could also meet the additional flushing water demand with the consideration of the interfacing

development at Ma Wo Road after intake in 2033/2034.

7.6 Proposed Mitigation Measures

Fresh Water Supply System

7.6.1 The estimated mean daily fresh water demand of the Site is 2,480m^3/day and the peak flow for the fresh water distribution main is 7,440m^3/day (i.e. 0.0861m^3/s). One connection of DN300 fresh water main is proposed to distribute the fresh water for the whole Site. Assuming there is no fire service flow, the estimated peak flow velocity of the proposed DN300 fresh water main is 1.379m/s approximately. A DN300 fresh water main is proposed to connect to the existing DN450 fresh water main at Tat Wan Road, to be fed from Pun Chun Yuen FWSR. Based on the preliminary hydraulic calculation, the estimated residual head for the development at level +27.3mPD at Ma Shing Path would be larger than 20m. The proposed fresh water mains are shown in **Figure 7.1**.

Salt Water Supply System

7.6.2 The estimated mean daily flushing water demand of the Site is 630m^3/day and the peak flow for the flushing water distribution main is 1,260m^3/day (i.e. 0.0146m^3/s). One DN150 salt water main is proposed to distribute the flushing water for the Site. The estimated peak flow velocity of the proposed DN150 flushing water main is 0.975m/s approximately.

7.6.3 A DN150 salt water main is proposed to connect to the existing DN250 salt water main at Tat Wan Road, fed by the existing Pun Chun Yuen SWSR. Based on the preliminary hydraulic calculation, the residual head for the development at level +27.3mPD at Ma Shing Path would be larger than 15m. The proposed salt water mains are shown in **Figure 7.2**.

7.7 Conclusion

7.7.1 With consideration of the above preliminary fresh and flushing water supply schemes, the proposed development at To Yuen Tung will not cause insurmountable impact to the proposed development. The fresh water and flushing water supply arrangements / details/ assessments are subject to further study and review among relevant departments in the investigation and design stage.

8. PRELIMINARY NATURAL TERRAIN HAZARD STUDY

8.1 General

8.1.1 Preliminary assessment identifies a natural hillside upslope of the southeastern and eastern parts of the Site and comprises a rounded hilltop with planar to convex slopes below. The Site meets the Alert Criteria for a NTHS, set out in GEO Report 138 (2016), given that the angular elevation of the proposed facilities (Group 1a - residential) to the natural hillside is greater than 20° and it is within 50 m of natural hillslopes with slope angles greater than 15°.

8.1.2 The Site and the NTHS study area are shown on **Figure 8.1**. The NTHS study area is natural terrain catchments located above the proposed cut slopes.

8.2 Screening for Natural Terrain Hazard Study

8.2.1 The latest site layout plan indicates the proposed site platform and associated cut slopes, and these are shown in **Figure 8.1**. The remaining natural terrain catchments which are located above the proposed cut slopes are screened for NTHS purposes.

8.2.2 The Site meets the 'Inclusion guidelines' for NTHS given that the proposed residential development comprises Facility Group 1a (in accordance with Table 2.2 in GEO Report No. 138, 2nd Edition (Ho & Roberts, 2016) and the Site has natural terrain sloping at >15° within 100m distance of the proposed facilities.

8.2.3 In addition, the 'Alert criteria' is met as the Site has an angular elevation to the natural terrain of >20° and lies within 50m of 'ground' sloping at >15°. **Figure 8.2** shows two profiles through the Site and study area. Angular elevation profiles of up to 24° are indicated based on the angles between the proposed development site boundary (proposed cut slope crest) and the natural hillside above.

8.2.4 Some localised portions of natural terrain within the site boundary do not form natural terrain catchments to the proposed development platform (i.e. they are not overlooking the development platform) and as such, these do not meet the Alert criteria and NTHS is not required. These areas are illustrated in **Figure 8.1**.

8.3 Natural Terrain Hazard Assessment

Debris Flows (DF)

8.3.1 There are no well-defined depressions or drainage lines therefore it is considered that the hazard from DF is negligible.

Open Hillslope Landslides (OHL)

8.3.2 The study area contains gently-inclined, rounded, gently concave or convex planar slopes composed of residual soil. There is no evidence of previous erosion or instability within the study area. Consequently, it is considered that the hazard from OHL is negligible.

Deep Seated Landslides (DSL)

8.3.3 There is no evidence of DSL based on the API and field mapping within the Site and natural terrain study area. There are no large landslide features based on the Scott

Wilson study (1999) in the vicinity of the study area. Consequently, it is considered that the hazard from deep seated landslides is negligible.

Other Hazard Types - Rock Fall (RF) & Boulder Fall (BF)

8.3.4 GEO Report No. 138 (Ho & Roberts, 2016), states that "For boulders affecting new developments, it is necessary to establish that there would be a significant risk before any further action is taken to deal with the boulders." In the context of boulder falls, the term "significant risk" should mean that a Group 1, 2 or 3 facility is at risk, and ".... the presence of potentially unstable boulders, as evidenced by any known signs of potential boulder falls from API or field inspection (e.g. accumulation of recent boulder falls at the hillslope toe), or boulder field with known instability, as evidenced by past boulder fall records, on the hillside close to the new development."

8.3.5 Except for a few locally exhumed corestones, there are no boulders within the study area from API and field inspections. Furthermore, those features are all embedded and stable. Given that there are no recorded boulder falls within the study area, and no boulder fields with known instability, it is considered that the hazard from rock fall and boulder fall is negligible.

8.3.6 Consequently, it is considered that the hazard from landslides or rock/boulder falls in the study area is negligible.

8.4 Special Consideration for Dealing with Planar Hillside Catchments

8.4.1 According to Section 2.3.6 of GEO Report No. 138 (2nd Edition), the requirement for NTHS would not be imposed on new development sites if the principles (shown below) are met with respect to planar hillside catchments. The principles are:

a. the hillside catchment(s) directly overlooking the site is planar in nature, i.e. devoid of topographic depressions or drainage lines;

b. the natural hillside overlooking the subject site has an angular elevation of <25° (i.e. the first criterion regarding angular elevation of the Alert Criteria is relaxed from 20° to 25°; the second criterion regarding ground slope angle remains unchanged);

c. there are no recent ENTLI records and reported landslide incidents within and in the immediate vicinity of the hillside catchment(s);

d. there are no Class A and B relict ENTLI records within and in the immediate vicinity of the hillside catchment(s);

e. there are no obvious signs of distress (e.g. tension crack) within and in the immediate vicinity of the hillside catchment(s) from API or vantage point observations; and

f. there are no obvious signs of boulder fall hazard or evidence of severe surface erosion within and in the immediate vicinity of the hillside from a review of aerial photographs. An example would be to see if there are any recent boulder falls

on the hillslope by reviewing different years of aerial photos (e.g. year 1963 for baseline and recent years for latest conditions).

8.4.2 For the study area, all of the principles are met except item (b) (given that this Site has an angular elevation profile of 24°) and item (d) given the presence of ENTLI Class B relicts to the south of the study area. Therefore, based on Section 2.3.6 of GEO Report No. 138 (2nd Edition), the special considerations for dealing with planar hillside catchments are not satisfied.

8.5 Summary

8.5.1 The NTHS concludes that natural terrain hazards to the Site are negligible. As such, a strategy to mitigate natural terrain hazards is not considered necessary for the Site.

8.5.2 The scope of NTHS should be further reviewed when detailed layout of the proposed development is available in the subsequent stage for detailed screening of natural terrain hazards.

9. PRELIMINARY GEOLOGICAL AND GEOTECHNICAL APPRAISAL ASSESSMENT

9.1 Introduction

9.1.1 The preliminary Geological and Geotechnical Appraisal Assessment (GGAA) aims to review a general description of the particulars and characteristics of geology and geotechnical features encountered at and in the vicinity of the Site which could affect or be affected by the Development, and to review the existing Ground Investigation (GI) information and available GEO publication to identify any presence of geological faults affecting disposition of housing blocks and associated structures.

9.1.2 Various aspects related to the geotechnical assessment will be discussed, including desk study, impact on existing registered geotechnical features with proposed mitigation strategy.

9.2 Desk Studies

Regional Geology

9.2.1 The regional geological information has been gained from the geological map (Sheet 7 of the 1:20,000 Series) and the memoirs.

9.2.2 Alluvium and Tuffaceous Siltstone were found in the eastern and northern portion of the Site, respectively. Remaining area was Coarse Ash Crystal Tuff (Lapilli Lithic-Bearing).

Historical Site Investigation

9.2.3 Historical SI records and their associated laboratory tests were obtained from the GIU of CEDD.

9.2.4 Six historical boreholes are available within the Site. However, three of them are located at the boundary line of the Site. Further existing SI records are available outside of the Site, which have also been reviewed. The existing GI plan is shown in **Figure 9.1**.

9.2.5 A review of these historical SI records indicates that the stratigraphy beneath the Site is up to 2.5 m of Fill, up to 3.5m of Residual Soil and up to 2 m of Colluvium, with unconfined thickness of Completely Decomposed, Highly Decomposed, and Highly to Moderately Decomposed Siltstone (CDS, C/HDS, HDS & H/MDS) and Completely Decomposed Tuff (CDT) underlaying. Moderately to Slightly Decomposed Siltstone (M/SDS) and Moderately to Slightly and Slightly Decomposed Tuff (M/SDT & SDT), the top of which are considered as rockhead, were also identified.

9.2.6 Piezometers were installed in existing boreholes within and near to the Site. However, only seven-days and fourteen-days groundwater monitoring are available for the existing boreholes (Drillhole Nos. TP6/11, GB1P & GB3P) in the southeastern and western portion of the Site.

Existing Features

9.2.7 The are 19 existing man-made slopes / retaining walls (Registered Features) that would affect or be affected by the Project. These are 16 cut slopes, 1 fill slope and 2 retaining wall. The registered feature location plan is shown in **Figure 9.2**.

9.2.8 Detailed searches of the Slope Information System (SIS), Landslide Preventive Measures Information System (LPMIS) in the GEO, and SMRIS of Lands Department have been undertaken.

9.2.9 Registered Feature Nos. 7NW-B/C218, CR222 and CR656 are affected by the Site and not be removed entirely by the proposed site formation works.

9.3 Project-Specific Site Investigation

9.3.1 Project-specific SI were carried out from 18 December 2018 to 14 January 2019. The general descriptions of the project specific SI's findings indicated that the stratigraphy beneath the Site is up to 8.05m of Residual Soil and up to 1.5 m of Colluvium, with unconfined thickness of Completely Decomposed, Highly Decomposed and Highly to Moderately Decomposed Siltstone (CDS, HDS & H/MDS) underlaying. Moderately Decomposed and Slightly Decomposed Siltstone (MDS & SDS), the top of which are considered as rockhead, were identified in all SI. The three project-specific drillholes (BH01 to BH03) are indicated as as-built drillhole (GE/2017/12.26) shown in **Figure 9.1**.

9.4 Groundwater Condition

9.4.1 The available historical and project-specific groundwater monitoring records show that the highest recorded groundwater level varies from 17.85 m to 20.35 m below ground level.

9.4.2 Piezometers were installed in three historical boreholes and three project-specific drillholes within the Site. However, only seven-days and fourteen-days groundwater monitoring are available.

9.5 Summary

9.5.1 It is considered that from a geotechnical perspective, the proposed development is feasible although there are constraints and risks in relation with site investigation, rockhead levels and earthwork balance.

9.6 Further GI Works

9.6.1 In order to minimize the uncertainties in association with ground conditions and hydrogeological regime for subsequent detailed design in next stage, further ground investigation and laboratory testing works are recommended.

9.6.2 The objectives of the GI works are summarized in **Table 9.1** below and proposed GI location plan is shown in **Figure 9.1**.

Table 9.1 Objective of Proposed GI Works

GI Reference	Objectives
ABH01 to ABH02, ABH04 to ABH06, ABH08 to ABH10	For site formation, slope and retaining walls design.
ABH03	For stability assessment and necessary slope upgrading works for Feature No. 7NW-B/CR656
ABH07	For stability assessment and necessary slope upgrading works for Feature No. 7NW-B/CR222
ABH11	For stability assessment and necessary slope upgrading works for Feature No. 7NW-B/C218

9.6.3 The proposed termination criteria of the drillholes is at least 5m into the grade III or better rock, with a total core recovery of more than 85% of the grade. The termination depth of the trial pits is 3 m from the existing ground level.

9.6.4 Standpipes and piezometers shall be installed in all drillholes for monitoring groundwater levels. Automatic groundwater monitoring is recommended to obtain the water data for at least one wet season.

10. PRELIMINARY SITE FORMATION ASSESSMENT

10.1 Introduction

10.1.1 This Preliminary Site Formation Assessment intent to assess the site formation requirements for the proposed development and suggest recommendations with consideration in spatial constraints, in relation to the site formation for the proposed development.

10.2 Site Formation Design Considerations

10.2.1 The platform options have been evaluated by a comprehensive analysis with a quantitative multi-criteria approach. Proposed site formation level has been reviewed while considering the existing topography and access allowed to the adjacent area. The key criteria have been identified according to the project requirement and objectives.

10.2.2 After reviewing different considerations of the option alternatives, the option with three platforms with levels of +27.3mPD, +20.5mPD and +14.5mPD is recommended as the preferred platform option.

10.3 Proposed Site Formation

10.3.1 The site formation general arrangement is shown in **Figures 10.1 to 10.3.**

10.3.2 Combination of bored pile wall and retaining wall is proposed to retain the soil behind the platforms at the southern portion of the Site. About 82 numbers of 3m diameter bored pile wall with maximum 12m retaining height is expected. The size of bored pile wall is subject to review in the detailed design stage.

10.3.3 Slope cutting in maximum 45 degree is proposed above the bored pile wall. Soil nailing is proposed to stabilize the cut slope and 1.5m wide maintenance berms are proposed on the cut slope. The maximum height of the proposed cut slope height is around 30m. It is estimated about 1,450 number of 10 to 20m long soil nails are needed.

10.3.4 Maximum 7m height inverted T-shaped retaining wall is proposed between the platforms for the proposed school, platforms for the proposed housing development and Ma Shing Path.

10.3.5 Maximum 30-degree temporary cut slopes will be formed to cater for the level difference between platforms and the existing roads at the study boundary.

10.3.6 Maximum 30-degree permanent cut slope will be formed to cater for the level difference between platform at +14.5mPD and the Tat Wan Road at the study boundary.

10.3.7 The major portion of existing Registered Features 7NW-B/CR656 in the northwest study boundary along Ma Shing Path will be demolished. Portion of the Feature near the private development, The Balmoral, will be retained.

10.3.8 It is estimated that the total excavation is about 400,000m^3 including approximate 23,000m^3 rock excavation and 377,000m^3 soil excavation. Approximately 300m^3 fill material is expected to form the proposed platform. Hence, the total excess spoil is

399,700 m^3.

10.4 Site Formation Assessment

Impact on Existing Registered Features

10.4.1 There are three Registered Features (7NW-B/C218, 7NW-B/CR222 and 7NW-B/CR656) that affect or are affected by the Site and not be removed entirely by the proposed site formation works.

10.4.2 Registered Feature No. 7NW-B/C218 has been already checked and accepted by GEO.

10.4.3 Major portion of existing Registered Features 7NW-B/CR656 will be demolished and portion of the Feature near The Balmoral will be retained. According to the records from the Buildings Department, Feature No. 7NW-B/CR656 is a soldier pile wall with 50 deg cut slope with soil nail at crest, and the area behind the remaining portion of the Feature no. 7NW-B/CR656 after site formation works, is an existing flat ground / mild slope. Therefore, it is proposed that the cut slope from the site formation works abutting the area is an intermediate cut slope that does not required soil nail stabilization. The proposed site formation works will not affect the design assumption, such that the remaining portion is up to current standard.

10.4.4 Stability of the Registered Feature No. 7NW-B/CR222 is reviewed. The summary of the stability assessment is provided in **Table 10.1**.

Table 10.1 Summary of stability assessments

Registered Feature No.	Slope Type	Minimum FOS from Stability Assessment
7NW-B/CR222	Cut Slope and Retaining Wall	1.453

Stability of Underlying Materials

10.4.5 The excavated material on Site will contain Fill, Alluvium (<1 m think layer near existing streams), Colluvium, CDS, MDS, CDT and MDT. Perhaps some of the Fill, Alluvium and Colluvium will be unsuitable for re-use, but the CDS, MDS, CDT and MDT can be re-used for filling operations.

10.4.6 The material underlying the finished platforms will either be newly placed granular Fill or natural ground comprising CDS, MDS, CDT or MDT. These materials are all considered suitable for building upon, and settlements or heave due to site formation works are not anticipated.

Minimisation of Disposal of Materials

10.4.7 In view of the large amount of earthwork, the site formation level and the slope work have been reviewed to minimize the excavated material generation and maximize the on-site reuse of the generated materials. The excavated materials are generally classified into the following categories:

- Broken concrete/ granular materials

- Inert soft material
- Rock
- Alluvium

10.4.8 Some C&D material will be generated from the demolition of existing structures, tree felling and site clearance of existing ground surface. The C&D materials shall be sorted on-site and be separated into different groups according to WBTC No. 31/2004 for Trip Ticket System for disposal of C&D Materials. The inert portion such as rock and concrete can be reused as fill materials to reduce the need for imported fill materials. The remaining portion such as timber and steel sheeting regarded as the non-inert portion of C&D materials will be removed off site and disposed at recycling facilities or landfill in accordance with WBTC 4/98A.

10.4.9 Reuse of the inert soil, rock and concrete as fill materials can reduce the transportation cost required for the excess spoil and imported fill materials.

10.4.10 The disposal of non-inert materials will be spread out in the long implementation programme of the whole project.

10.4.11 Hill cutting and excavation for site formation of the platform also generate C&D materials which are mainly in-situ fill materials, inert soil, rock and alluvium. On-site sorting can be arranged such that inert materials which fulfill the standard as stipulated in Clause 6.09 of General Specification for Civil Engineering Works (2006 Edition) can be reused as general fill materials on-site.

10.4.12 Based on the available GI information, it is anticipated that some rock will be also excavated from the hill cutting. These rocks can be reused as rock fill or granular fill after sorting and crushing.

10.5 Conclusions and Recommendations

10.5.1 The Preliminary Site Formation Assessment shall be reviewed following additional data and further calculations (e.g. detailed design calculations). Modifications can be made to optimize the layout and site formation works as further specific data become available.

10.5.2 The site formation assessment is based on the available information at the time of writing this report. The following recommendations are suggested for the later stages of the Project.

Layout and Site Formation Assessment

10.5.3 The PELP and Preliminary Site Formation Assessment are to be reviewed following additional data and further calculations (e.g. detailed design calculations). Modifications can be made to optimize the layout and site formation works as further specific data become available.

Site Investigation

10.5.4 In order to minimize the uncertainties in association with ground conditions and hydrogeological regime for subsequent detailed design in next stage, further ground investigation and laboratory testing works are recommended.

10.5.5 The existing and project-specific SI works shown in **Figure 9.1** were considered to be sufficient for the purpose of Feasibility Study. However, further SI is required for the site formation design, natural terrain mitigation measures design and stability assessment of registered features.

Natural Terrain Hazard

10.5.6 Under this study, a NTHS has been carried out to the review level and no mitigation works is required. The scope of NTHS should be further reviewed when detailed layout of the proposed development is available in the subsequent stage for detailed screening of natural terrain hazards. Following which, further natural terrain hazard assessment (including detailed field mapping and additional ground investigation works) should be carried out to review the findings, refine and quantify mobility assessment for detailed design purposes.

11. PRELIMINARY ENVIRONMENTAL REVIEW

11.1 General

11.1.1 The preliminary environmental report has been prepared to provide an initial assessment and evaluation of the environmental impacts associated with site formation and infrastructure works, including: Air Quality, Noise, Water Quality and Waste Management.

11.2 Identification of Potential Designated Projects under the EIAO

11.2.1 The proposed residential development will accommodate a population of about 6,480 after full occupation and the total area of the Site is approximately 3.6 hectares. The project is not classified as a designated project (DP) under Item 1 or 2 of Schedule 3 to the EIAO.

11.2.2 The proposed infrastructure works will not fall partly or wholly in an existing or gazetted proposed country park or special area, a conservation area, an existing or gazetted proposed marine park or marine reserve, a site of cultural heritage, and a site of special scientific interest. The project is not classified as a DP under Category Q.1, Schedule 2 to the EIAO.

11.2.3 There are no other designated project (DP) elements identified or other material change to existing/ exempted DP(s) under the Environmental Impact Assessment Ordinance (EIAO) except for the three junction modifications. The three junction modifications, Junction J3 – Tat Wan Road/ Ma Wo Road, Junction J4 – Tat Wan Road/ Nam Wan Road and Junction J6 - Kwong Fuk Road Roundabout are considered as minor modification of exempted DP.

11.3 Air Quality

Air Sensitive Receivers

11.3.1 The identified representative first tier Air Sensitive Receivers (ASRs) from the site boundary within 500m that may be affected by the works involved under this Assignment have been identified and summarized and listed in **Table 11.1**. The locations of these ASRs are shown in **Figure No. 11.1**.

Table 11.1 Selected Representative Air Sensitive Receivers

ASR ID	Description	Approximate horizontal distance from Site Boundary (m)	Nature of use
Existing ASRs			
A01	American School Hong Kong	58	School
A02	Wan Hang House, Wan Tau Tong Estate	63	Residential
A03	Tak Nga Court	53	Residential
A04	10, Ha Wun Yiu	90	Residential
A05	Tower 1, The Balmoral,	2	Residential
A06	Block 31, Grand Dynasty View	21	Residential
A07	Block 7, Classical Gardens II	32	Residential
A08	Open Space in Area 6, Tai Po	20	Recreational Uses
Planned ASRs			
A09	Proposed Sports Centre in Area 6, Tai Po	21	Communal

ASR ID	Description	Approximate horizontal distance from Site Boundary (m)	Nature of use
A10	Private Residential Development at Ma Wo Road (TPTL 243)	237	Residential
A11	Domestic Block A of the Planned Housing Development	-	Residential
A12	Domestic Block B of the Planned Housing Development	-	Residential
A13	Domestic Block C of the Planned Housing Development	-	Residential
A14	Proposed School of the Planned Housing Development	-	School
A15	Proposed Welfare Facility at 1/F to 5/F Block C in the Planned Housing Development	-	Residential /Communal/Office
A16	Proposed Kindergarten at G/F Block C in the Planned Housing Development	-	School

Impact Identification and Evaluation

Construction Phase

11.3.2 The construction activities will involve use of different construction plant, which will inevitably generate dust that may affect the ASRs nearby. The anticipated construction activities will not take place on the entire site concurrently, but to be undertaken at moving multiple work fronts spread across the work site. Careful scheduling and planning of the construction activities will be implemented as necessary to avoid overlapping of dusty construction activities. With the implementation of the dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation, good site practices and the mitigation measures, dust emissions from the construction activities is expected to be readily controlled, and no adverse fugitive dust impacts during the construction phase is expected to occur.

11.3.3 The Contractor will be required to properly maintain the construction plants in a good condition to minimize impacts due to exhaust emissions. Wherever possible, connection to the main power supply should be considered to minimize the need for use of diesel fuel generator. To minimize SO_2 emission from construction plants and equipment, liquid fuel (mostly diesel) with a sulphur content of less than 0.005% by weight should be used in construction plants or vehicles as stipulated in the Air Pollution Control (Fuel Restriction) Regulation. In addition, all plant and vehicles used in conjunction with the construction works shall be subject to a regular maintenance and testing regime to demonstrate that they are compliant with current emissions thresholds. All regulated machines and non-road vehicles shall comply with Air Pollution Control (Non-road Mobile Machines (Emission)) Regulation June 2015. Allowing only approved or exempted NRMMs including regulated machines and non-road vehicles with a label issued by EPD to be used on site, no adverse air quality impacts due to exhaust emissions from the proposed construction activities are expected to occur.

Operational Phase

11.3.4 During operation phase, the key air pollution source is expected to be vehicular emissions from the nearby road traffic within the 500m air quality study area and the potential nuisance from the carpark block in the Development. The nearby roads

include Tolo Highway located to the south of the Site, Tat Wan Road to the east and Ma Wo Road to the north.

11.3.5 Tolo Highway is an Expressway (EX) with reference to the Transport Department's publication Annual Average Daily Traffic (AADT) Census 2018. The section of Tolo Highway near the Site is on viaduct. Horizontal distance measured from the edge of the viaduct to the nearest site boundary is about 5 m. The future development block layout will consider the required buffer distance from road kerb and based on the preliminary layout included for this draft PER, over 20m buffer distance from the kerb of Tolo Highway is provided. With reference to the recommended buffer distances from roads as stipulated in Table 3.1 of Chapter 9 of the HKPSG, there is sufficient buffer distance from road kerb of Tolo Highway to the nearest Air Sensitive Uses of the future development (i.e. over 20m) and the buffer requirement as recommended in the HKPSG could be met. As such, adverse vehicular emission impact from Tolo Highway to the future development at the Site is not expected to occur. The recommended buffer zones according to HKPSG is shown in **Figure 11.2**.

11.3.6 Tat Wan Road is a District Distributor (DD) with reference to TD's AADT Census 2018. With reference to Table 3.1 of Chapter 9 of the HKPSG, recommended buffer distance from the road kerb of local road to air sensitive uses is 10 m. Based on the preliminary layout included for this draft PER, about 13 m buffer distance from the kerb of Tat Wan Road is provided and the buffer requirement as recommended in the HKPSG could be met. Adverse vehicular emission impact from Tat Wan Road to the future development at the Site is not expected to occur.

11.3.7 Ma Wo Road and Ma Shing Path are local roads leading to the existing residential developments located to the west of the Site. The separation distance from road kerb of the two roads with road works to the air sensitive use is above 5m. With reference to Table 3.1 of Chapter 9 of the HKPSG, recommended buffer distance from the road kerb of local road to air sensitive uses is 5 m. There is sufficient separation distance from the kerb of Ma Wo Road and Ma Shing Path to the future residential use and the buffer requirement as recommended in the HKPSG could be met. Adverse vehicular emission impact from Ma Wo Road and Ma Shing Path to the future development in the Site is not expected to occur.

11.3.8 The surrounding land uses are mainly residential development, village houses, schools and open areas. No industrial emissions sources that will potentially affect the future development are identified within the air quality study area.

11.3.9 As advised by HKHA, the proposed carpark block will be semi-opened and will not require artificial ventilation at this early stage. At the detailed design stage, HKHA should refer to ProPECC PN 2/96 for guidelines on ventilation system so as to ensure good air quality within the proposed carpark block. The outlet of the ventilation system (if any) should be properly located so as to avoid imposing nuisance to the nearby air sensitive receiver. With these measures, it is expected that the potential air quality impact associated with the proposed carpark block to the nearby ASRs is minimal. The air quality impact on the proposed carpark block will be further reviewed in the EAS to be undertaken by HKHA at a later stage based on detail scheme layout information.

Mitigation Measures

Mitigation Measures - Construction Phase

11.3.10 To ensure that dust emissions are minimized during the construction phase of the Project, relevant dust control requirements stipulated in Air Pollution Control

(Construction Dust) Regulation should be implemented.

11.3.11 For excavated material and stockpiling areas,

- Proper and regular watering should be provided for all exposed and excavated work sites.
- Open stockpiles - should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.
- All excavated or stockpile of dusty materials should be entirely covered by impervious sheeting or sprayed with water to ensure that the entire surface is wet. They should be sprayed with water immediately prior to any loading or transfer activities. These materials should be removed, backfilled or reinstated where practicable.
- After the removal of stockpiles, the remaining dusty material should be sprayed with water and cleared from the surface of roads. Stockpiling areas of dusty materials should not be extended beyond the pedestrian barriers, fencing or traffic cones.

11.3.12 For transport and removal of materials,

- Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.
- Immediately before leaving a construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.
- The areas where vehicle washing activities are carried out and the section of the construction site between the vehicle washing facilities and the exit should be paved with concrete or bituminous materials.

11.3.13 For construction works within works sites,

- The areas where vehicle washing activities are carried out and the section of the construction site between the vehicle washing facilities and the exit should be paved with concrete or bituminous materials.
- Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.
- Surfaces with proposed drilling, cutting, polishing or other mechanical breaking operations should be sprayed with water or dust suppression chemicals continuously.
- At locations where scaffolding is to be erected around the perimeter of a building under construction, dust screens, sheeting, netting or a canopy should be provided.
- All skip hoists for transport material should be totally enclosed by impervious sheeting.
- Provide hoarding of not less than 2.4m high from ground level along site boundary which is next to a road or other public area.

11.3.14 For access road,

- All main haul roads should be paved with concrete, bituminous materials or metal sheets, and regularly sprayed with water or dust suppression chemicals to maintain the road surface to be wet.
- Imposition of speed controls for vehicles on site haul roads.

11.3.15 For handling of cement

- Stock of more than 20 bags of cement should be covered entirely by impervious sheeting or placed in a covered area with the top and three sides enclosed.
- A completely enclosed facility should be used for the loading, unloading, transfer, handling or storage activities of cement. All vents or exhausts should be fitted with fabric filter or equivalent air pollution control system.

11.3.16 For control on non-road mobile machinery

- Non-road Mobile Machinery should be approved or exempted with a label issued by EPD. The label should be displayed at a conspicuous position of the machine or vehicle. Non-road vehicles are required to meet the Euro V emission standards and smoke requirements as stipulated under the Air Pollution Control (Vehicle Design Standards) (Emission) Regulations.

11.3.17 For site cleanliness and tidiness

- The requirements stipulated in the Works Branch Development Bureau Technical Circular (Works) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness should be followed as far as practicable to enhance the cleanliness and tidiness of construction sites.

11.3.18 For additional measures near ASR A05 (Tower 1, The Balmoral)

- In addition to the site hoarding, dust screen should be erected between the Development and ASR A05 along the site boundary when construction works were undertaken near ASR A05.
- No stockpiling of dusty materials should be placed near ASR A05 (i.e. within 50m from the ASR).

Mitigation Measures - Operation Phase

11.3.19 The proposed development is not an air polluting use. Thus, no adverse air quality impact is anticipated during the operational phase of the Project. No mitigation measure is expected to be required during operational phase.

Conclusion

11.3.20 With the implementation of the dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation, good site practices and the mitigation measures, no adverse fugitive dust impacts during the construction phase is anticipated.

11.3.21 The proposed development is not an air polluting use. Thus, no adverse air quality impact is anticipated during the operational phase of the Project. No mitigation measure is expected to be required during operational phase.

11.3.22 With reference to Table 3.1 of the HKPSG, it is expected that the recommended

buffer distance from Ma Shing Path, Ma Wo Road, Tat Wan Road and Tolo Highway will be provided and adverse vehicular emission impact on the proposed housing development is not expected.

11.4 Noise

Noise Sensitive Receivers

11.4.1 The Noise Study Area includes the area within 300m from the Project Boundary. For review of construction phase noise impacts, representative Noise Sensitive Receivers (NSR) within the Study Area have been identified. The list of the existing and planned NSRs and their locations are presented **Table 11.2**. The locations of these NSRs are shown in **Figures 11.3 to 11.7.**

Table 11.2: Selected Representative Noise Sensitive Receivers

NSR ID	Description	Approximate horizontal distance from Site Boundary (m)	Nature of use	Figure No.
Existing Noise Sensitive Receiver				
N01	American School Hong Kong	58	Educational	Figure 11.3 and Figure 11.5
N02a	Wan Hang House, Wan Tau Tong Estate	63	Residential	
N02b	Tai Po Baptist Kindergarten	63	Educational	
N03a	Tak Nga Court	56	Residential	
N03b	Brightland International Kindergarten	56	Educational	
N04	10, Ha Wun Yiu	90	Residential	
N05	Tower 1, The Balmoral	3	Residential	
N06	Block 31, Grand Dynasty View	25	Residential	
N07	Block 7, Classical Gardens II	32	Residential	
N08a	Yat Nga Court Block B	273	Residential	
N08b	Lee Andre Memorial Anglo-Chinese Kindergarten	273	Educational	
N09a	Yat Nga Court Block A	343	Residential	
N09b	Zebedee International Preschool and Nursery	343	Educational	
N10	Uptown Plaza Block 4	520	Residential	
N11	Wong Shiu Chi Secondary School	811	Educational	
Planned Noise Sensitive Receiver				
BLKA_01-BLKA_18	Domestic Block A of the Planned Housing Development	-	Residential	Figure 11.4
BLKB_01-BLKB-18	Domestic Block B of the Planned Housing Development	-	Residential	
BLKC_01-BLKC-18	Domestic Block C of the Planned Housing Development	-	Residential	
SCHOOL_01 – SCHOOL_19	Proposed School of the Planned Housing Development	-	Educational	Figure 11.6
WELFARE_01 - WELFARE_18	Proposed Welfare Facility at 1F to 5F Block C in the Planned Housing Development	-	Educational/Clinic/ Residential/Office	
KD_01 – KD_18	Proposed Kindergarten at GF Block C in the Planned Housing Development		Educational	Figure 11.7

Impact Identification and Evaluation

Construction Noise

11.4.2 During construction phase, it is expected that the use of Powered Mechanical Equipment (PME) for the proposed site formation and excavation works would likely cause potential construction noise impact on the identified NSRs located in the vicinity of the Site.

11.4.3 Construction noise impact has been assessed following the methodology prescribed in GW-TM. As a conservative approach, the worst-case construction noise impact is assumed that all the proposed PMEs for each construction activity are operating concurrently.

11.4.4 To predict the construction noise impact, the Site will be divided into different work areas in different construction activity. For bore pile wall construction, concurrent activities will be carried out at three adjoining works areas at any time due to a limited number of PMEs and narrow working space. Therefore, the assessment has adopted the total SWLs of the nearest three adjoining work areas to the representative NSRs. However, for the bored pile wall construction near the NSR N05 (Tower 1, The Balmoral), the works would be carried out in phases. For conducting Leveling/Excavation Works and Slope Works, it is assumed that construction activities at four works areas would be taken place concurrently, thus the noise levels at NSR are predicted by adding up the SWLs of all concurrent work areas. For the Construction of Retaining Wall and Road Improvement, sewerage, drainage, water supply and utilities diversion works, the SWLs are calculated by the nearest working area to the representative NSRs. Various combination of works located close to the NSRs have been considered and the maximum SWLs generated from the Project works are adopted and represented the worst-case construction noise level at the NSRs.

11.4.5 The construction activities of the Project taking place concurrently within 300m of a given NSR are considered to contribute to the cumulative impact at the NSR. Any construction activities of the work areas working place within 300m of a given NSR are included in the assessment. Exceedances of the construction noise criteria ($L_{eq\ (30\ min)}$ 75 dB(A) for residential premises and 70 dB(A) for educational institutions (65 dB(A) during examination periods)) are predicted at representative NSRs in the absence of mitigation measures.

Fixed Plant Noise

11.4.6 Existing fixed noise sources with 300m study area were identified by desktop study following with a site visit dated 27 November 2018. The fixed noise sources are identified in Wan Tau Tong Neighborhood Community Centre (FN1) (120m from site boundary) and Wan Tau Tong Shopping Centre (FN2) (200m from site boundary). Since the fixed noise sources are screened by the existing Wang Hang house, there will be no direct line-of-sight from the planned NSRs to these existing fixed noise sources. According to on site observation, the prevailing background noise at the Site is considered to be traffic noise. Moreover, no additional fixed noise source except the electrical and mechanical (E&M) plant for the proposed building blocks and the proposed car park block will be developed in the Project. Hence, no adverse noise impact to the planned NSRs due to the operation of existing fixed plants is expected.

11.4.7 Other existing fixed noise source (open carparks, FN3 - Short Term Tenancy No. 1807 & FN4 - Short Term Tenancy No. 1779) was identified at the north of the proposed site (Ma Wo Road). Since the open car park was on a short term basis and

only for parking of light vehicles, adverse noise impact is not anticipated.

Road Traffic Noise

11.4.8 The road traffic noise impact on the proposed housing development, welfare facility, school and kindergarten have been predicted based on the latest layout. In the absence of layout plans for the development, as a worst-case scenario, representative noise sensitive facades of the housing blocks have been selected for the assessment. For the proposed welfare facility, school and kindergarten, the general arrangement of rooms and their uses have not yet been confirmed at this stage. As such, the predicted noise levels are compared against noise criteria for various potential uses, where applicable, e.g., 70 dB(A) for domestic premises including temporary housing accommodation, 65 dB(A) for educational institutions and 55 dB(A) for diagnostic rooms and wards of hospitals, clinics and convalescences. The actual noise criteria of the various rooms can only be determined once the layout for the welfare facility and schools have been finalized.

11.4.9 The selected existing and planned NSRs for the road traffic noise assessment are presented in **Figures 11.4 to 11.7**.

11.4.10 A bus lay-by in Ma Wo Road will be slightly shifted toward the north of the proposed development and the additional roundabout will be added in Ma Shing Path. Results indicate that representative existing NSRs at Blocks 30 and 31, Grand Dynasty View (A01-A06) and Block 1, The Balmoral (B01-B03) could comply with the respective noise criterion (i.e 70 dB(A) for domestic premises). These NSRs will not be exposed to adverse traffic noise impacts arising from the proposed minor modification at Ma Shing Path.

11.4.11 The predicted noise levels at the representative planned NSRs on domestic floors of the proposed development range from 49 dB(A) to 73 dB(A) which exceed the noise criterion for residential premises by up to 3 dB(A).

11.4.12 The predicted noise levels for the school range from 51 dB(A) to 62 dB(A). For school building, the predicted noise levels are compared against noise criteria for educational institutions (i.e.65 dB(A)). No exceedance of noise criteria is anticipated for the proposed school.

11.4.13 For kindergarten, the predicted noise levels from 48 dB(A) to 74 dB(A), which exceed the noise criterion for education by up to 9 dB(A).

11.4.14 The predicted noise levels for welfare facility range from 49 dB(A) to 73 dB(A). Some of the predicted noise levels for welfare facility are expected to exceed the noise criterion for diagnostic rooms and wards of hospitals, clinics, convalescences and residential care home for the elderly (55 dB(A)) and educational institutions including kindergartens, nurseries and all other where unaided voice communication is required (65 dB(A)) or all domestic premises including temporary housing accommodation, hotels and hostels and offices (70dB(A)).

Mitigation Measures

Mitigation Measures - Construction Noise

11.4.15 In order to minimize the predicted adverse noise impacts arising from construction activities, noise mitigation measures such as proper scheduling of construction activities, use of Quality Powered Mechanical Equipment (QPME) and quieter working methods, temporary/movable noise barriers, acoustic materials with noise

mitigating properties or noise enclosure and zoning of works should be incorporated or provided if applicable.

Use of "Quiet" Plant and Working Methods

11.4.16 The Contractor is suggested to adopt QPME with lower Sound Power Levels as incorporated in the Construction Noise Impact Assessment (Mitigated Scenario), in order to minimize the potential noise impact from the operation.

11.4.17 The use of QPME associated with the construction works is prescribed in Environmental Protection Department (EPD) which contain the SWLs for quiet PME. These QPMEs are available in the market and have been successfully applied to other projects with noticeable noise reduction performance.

Use of Temporary Noise Barrier and Enclosure (with Sufficient Ventilation)

11.4.18 It is recommended to alleviate noise nuisance generated from the operation of PMEs with the use of temporary noise barriers. In general, temporary noise barriers located close to the noise generating parts of the PMEs would reduce the noise levels by 5 to 10 dB(A) depending on the actual design with reference to Paragraph 4.6 of Environmental Impact Assessment Ordinance (EIAO) Guidance Note No. 9/2010. A 5 dB(A) reduction for movable plant and 10 dB(A) for stationary plant have been adopted in the assessment. The temporary noise barriers with material's surface mass at least 7 kg/m^2 is recommended to achieve the screening effect. Acoustic mat will be used for other plant items such as oscillators and a 10 dB(A) noise reduction is anticipated. The Contractor shall be responsible for design of the noise barrier with due consideration given to the size of the PME and the requirement of intercepting the line of sight between the NSRs and PME.

11.4.19 The use of noise enclosure with sufficient ventilation and surface mass at least 10 kg/m^2 has been proposed to shelter relative static PMEs such as generator. Section 4.6 of the EIAO Guidance Note No. 9/2010 also suggests noise enclosure can achieve 15 dB(A) noise reduction.

11.4.20 On top of the above-mentioned mitigation measures, the good site practices should be incorporated in the construction contracts, such as:

- Quiet/well-maintained plant and working methods should be used. Noisy equipment, such as generators, should be located as far away as possible from the NSRs and noise barrier or enclosures should be provided whenever necessary;
- Machines and plant should be shut down or throttled down to a minimum between works periods when being in intermittent use;
- Silencers or mufflers on construction equipment should be properly maintained;
- Scheduling the noisy construction works outside school examination periods and avoiding simultaneous operation of noisy equipment; and
- Material stockpiles, site hoardings, site office and other structures should be effectively utilized to screen noise from the construction works.

<u>Mitigation Measures - Fixed Plant Noise</u>

11.4.21 The planned fixed noise source shall be designed to meet the HKPSG noise standards (i.e. ANL -5 or the prevailing background noise whichever is lower). It is also recommended to locate the fixed noise sources in enclosed structure like plant room with acoustic louvers.

11.4.22 The Operator shall make reference to the "Good Practices on Ventilation System Noise Control" published by EPD to minimize the noise nuisance arising from the operation of ventilation system as far as practicable.

11.4.23 The proposed carpark block and its associated E&M plants would be properly designed and located away from the planned and existing NSRs, so that they will have no direct line-of sight the noise sources. Whilst, the existing open car park was on a short term basis and only for parking of light vehicles The potential noise impact from these fixed noise sources could be addressed by the design of building orientation and layout which will be further reviewed in the EAS to be undertaken by HKHA at a later stage based on detail scheme layout information.

11.4.24 With proper design of the planned fixed noise source, adverse noise impact is not expected to occur. It is suggested to consider and explore the following tentative noise mitigation measures during detailed design stage, so that noise emitted from these fixed plants could be further alleviated:

- Mechanical plants should be placed and enclosed inside a building structure;
- Proper selection of quieter plants aiming to reduce the tonal noise affecting the NSRs;
- Installation of silencer/acoustic enclosure/acoustic louver for the exhaust of ventilation system; and
- Openings of ventilation systems should be located away from NSRs as far as practicable.

Mitigation Measures - Road Traffic Noise

11.4.25 The maximum predicted noise levels at the representative NSRs on domestic floors of the proposed development range from 49 dB(A) to 73 dB(A) which exceed the noise criterion for residential premises by up to 3 dB(A).

11.4.26 Noise tolerant buildings like retail building or carpark are recommended to be arranged between the carriageway and the residential development with a view to screening off the traffic noise impact to the domestic premises.

11.4.27 Acoustic window (top-hung type or baffle type) is recommended to mitigate the predicted adverse noise impacts at the proposed housing development. According to the Final report of the Acoustic Design and Performance Evaluation of the Acoustic Window (ADPWAW) undertaken by Hong Kong Housing Authority, the noise reduction of different types of acoustic window systems for different flat types ranges from 3.5 dB(A) to about 8 dB(A). Hong Kong Housing Authority has no comment on adopting Modular Flat Design (MFD) in the public housing development which acoustic window as stated in ADPWAW can be adopted as mitigation measures.

11.4.28 Provision of acoustic window could provide at least 3.5 dB(A) noise attenuation based on ADPWAW. With the implementation of acoustic window for the planned NSR facing to Ma Wo Road and Tat Wan Road, the predicted road traffic noise levels at the representative NSRs on domestic floors of the proposed development range from 49 dB(A) to 70 dB(A), which comply with the relevant noise standard.

11.4.29 At the time of preparation of this assessment, the layout schemes for the proposed welfare facility and kindergarten was unavailable. The noise planning standards and assessment locations for proposed welfare facility was selected generally only for assessment purpose. As adverse road traffic noise impact for the proposed welfare

facility and kindergarten are expected to occur at the façade having a line-of-sight to the concerned road, non-sensitive uses are hence proposed at these locations through careful layout design. If sensitive uses at these locations are unavoidable, the provision of acoustic insulation in accordance with Section 4.3.10 of Chapter 9 of the HKPSG is proposed as the last resort to abate the road traffic noise impact. Provision of Type III openable well-gasketted window (with 12mm laminated pane, or transmission loss of 33 dB or above in 250 Hz octave-band and sound transmission class (STC) 38 or above) is recommended. Further review of the noise impacts and mitigation measures for the proposed welfare facility and kindergarten will be conducted in the EAS to be undertaken by HKHA at a later stage.

11.4.30 As mentioned in above sections, all possible and practicable noise mitigation measures have been considered. Alternative noise mitigation measures that considered not practicable or ineffective are explained as follows:

Noise Barrier at road side of Ma Wo Road

11.4.31 As there are bus stops and bus lay-bys along Ma Wo Road, erecting vertical noise barriers at their roadsides would obstruct the convenience of transport of nearby residents and future residents in the proposed development. Roadside noise barriers may not be practicable and this can be reviewed in the EAS as appropriate.

Noise Barrier at Site Boundary

11.4.32 In view of the separation distance between the site boundary and nearby roads, extensive cantilever noise barrier has to be constructed at the site boundary for screening traffic noise from Ma Wo Road and Tat Wan Road and alleviating the residual traffic noise impact. Due to ventilation, daylight ad visual impact, and taking into account difficulties in maintenance, extensive cantilever noise barrier facing nearby roads may not be practicable and this can be reviewed in the EAS as appropriate.

Conclusion

Construction Phase

11.4.33 Assessment on the construction noise associated with the use of PME for different phases of construction works has been conducted. With the implementation of practical mitigation measures including good site management practices, use of movable noise barrier and full enclosure, use of quieter PME, and careful arrangement of specific construction activities during the examination period, no unacceptable impact arising from the construction of the Project is anticipated.

Operational Phase

11.4.34 Operational road traffic noise impact on planned noise sensitive uses on domestic floors of the proposed development has been predicted for the worst-case year. Possible mitigation measures shall be further studied at the later stage under separate study in the EAS to be undertaken by HKHA. The potential road traffic noise impacts from nearby roads can be mitigated by a combination of noise mitigation measures including but not limited to: (i) Arrange noise tolerant building between the carriageway and the residential development; (ii) To provide acoustic window for domestic dwellings predicted with noise exceedance and (iii) To explore and incorporate architectural fin and end-wall.

11.4.35 Some of the predicted noise levels for welfare facility are expected to exceed the

noise criterion for diagnostic rooms and wards of hospitals, clinics, convalescences and residential care home for the elderly (55 dB(A)) and educational institutions including kindergartens, nurseries and all other where unaided voice communication is required (65 dB(A)) or all domestic premises including temporary housing accommodation, hotels and hostels and offices (70dB(A)). Noise mitigation measures have been explored and recommended. HKHA will conduct an EAS for further review and implementation of recommended noise mitigation measures for the welfare facility.

11.4.36 No exceedance of noise criteria is anticipated for the proposed school. The noise assessment of the proposed school shall be further reviewed in the PER to be conducted by ASD in accordance with CAD at a later stage. For Kindergarten, the predicted noise levels are exceeded the noise criteria for educational institutions (i.e. 65 dB(A)). Noise mitigation measures have been explored and recommended in **Section 11.4.29.** HKHA will conduct an EAS for further review and implementation of recommended noise mitigation measures for the Kindergarten.

11.4.37 Noise impact from planned fixed plant could be effectively mitigated by implementing noise control measure at source during the detailed design stage. With proper design and practicable mitigation measures, the planned fixed plant noise shall comply with the HKPSG standards (i.e. ANL – 5 or the prevailing background whichever is lower) and no insurmountable and adverse noise is anticipated. Since the existing open car park was on a short term basis and only for parking of light vehicles, adverse noise impact from the existing carparks is not anticipated. Therefore, adverse noise impact due to operation of fixed noise sources is not anticipated. HKHA will conduct an EAS for further review the potential noise impact from the existing and planned fixed noise source as well as the implementation of recommended noise mitigation measures with due consideration on the building orientation and layout.

11.5 Water Quality

Water Sensitive Receivers

11.5.1 Based on desktop study and findings of site survey, the Site is located within the Tolo Harbour and Channel WCZ. Tai Po River and scattered streams have been identified as Water Sensitive Receivers (WSR) within the 500m Water Quality Study Area. The Tai Po River is Downstream to the Site and leads to the Tolo Harbour. Location of the identified WSRs are illustrated in **Figure 11.8**.

Impact Identification and Evaluation

Construction Phase

11.5.2 Constructions works would generally involve the following activities:

- Site clearance, tree removal;
- Formation of haul road, soil/rock excavation;
- Slope works, construction of retaining wall and bored piles;
- Road improvement works;
- Sewerage, drainage and water supply works; and
- Utilities diversions

Construction Site Runoff

11.5.3 Construction site runoff could potentially be generated from all parts of the site during rainy season. The surface runoff might be polluted by the following events:

- Construction site runoff from site surface, earth working and stockpiles;
- General construction activities;
- Chemical spillages from oil, solvents and other chemicals; and
- Sewage effluent from on-site construction workforce.

11.5.4 During periods of heavy rain, site runoff would wash away soil particles and the runoff is generally characterized by high concentrations of suspended solids (SS). Release of uncontrolled site runoff would increase the SS levels and turbidity in the nearby water environment and the identified WSR.

11.5.5 Wind blown dust are expected to be generated from exposed soil surface in the construction works areas. It is possible that wind blown dust would fall directly onto the nearby water bodies when there are strong winds. Dispersion of dust within the works areas may increase the SS levels in surface runoff causing potential impact to the nearby sensitive receivers.

11.5.6 Construction runoff and drainage may cause impacts to local water quality. Increase in SS arising from the construction site could block the drainage channels and may result in local flooding when heavy rainfall occurs. High concentrations of suspended degradable organic material in river water could lead to a reduction in Dissolved Oxygen (DO) levels in the water column. All site discharges will be pre-treated as necessary, in accordance with the WPCO and the conditions of the Wastewater Discharge License.

11.5.7 It is important that proper site practice and good site management are adhered to in accordance with ProPECC PN 1/94 Construction Site Drainage to prevent run-off with high level of SS from entering the surrounding waters. With the implementation of appropriate measures to control run-off and drainage from the construction site (such as provision of silt traps), disturbance of water bodies would be avoided and deterioration in water quality would be minimal.

General Construction Activities

11.5.8 Land-based construction works have the potential to cause water pollution and there are various types of construction activities that may generate wastewater. These include general cleaning and polishing, wheel washing and dust suppression. These types of wastewater would contain high concentrations of SS. Water quality impacts could also result from the accumulation of solid and liquid waste such as packaging and construction materials, and sewage effluent from the construction work force involved with the construction works.

11.5.9 Provided that site drainage would be well-maintained and good construction practices would be observed in accordance with ProPECC PN 1/94 Construction Site Drainage such that litter, fuel and solvents are managed, stored and handled properly, the effects on water quality from general construction activities are expected to be minimal.

Accidental Spillage

11.5.10 A large variety of chemicals may be used during construction activities. These may include surplus adhesives, spent paints, petroleum products, spent lubrication oil, grease and mineral oil, spent acid and alkaline solutions/solvent and other chemicals. Accidental spillage of chemicals in the works areas may contaminate the surface soils. The contaminated soil particles may be washed away by construction site runoff or storm runoff causing water pollution. Provided that mitigation measures are properly implemented to minimize and control accidental spillage (such as provision of petrol interceptors), no adverse impact on the identified WSRs is anticipated.

Sewage effluent from on-site construction workforce

11.5.11 During construction, sewage will be generated from on-site workforce sanitary facilities. Chemical toilets should be provided on-site for collection and temporary storage of sewage. The collected sewage should be tankered away by a licensed waste collector for off-site disposal at sewage treatment plants. No sewage discharge on site is anticipated during construction phase.

Operation Phase

Sewage Disposal

11.5.12 During the operation phase, potential impacts will be the discharge of wastewater from the proposed development. All domestic wastewater will be discharged to the planned public sewerage system when it is in operation, therefore there will be no adverse water quality impact during operation phase.

Storm Water Discharge

11.5.13 During operation phase, the entire site area will be paved impermeable surfaces within the Site. Adverse operation water quality impact due to surface runoff is not expected.

Mitigation Measures

Mitigation Measures - Construction Phase

11.5.14 It is important that appropriate measures are implemented to control site runoff with high SS content and drainage from entering the nearby water bodies. Proper site management is essential to minimize surface water runoff and soil erosion.

11.5.15 The guidelines stipulated in the ProPECC PN 1/94 issued by EPD should be observed to minimize the potential water quality impacts. Good housekeeping and stormwater best management practices, as detailed below, should be implemented to ensure that all construction runoff is well controlled and no unacceptable impact on the WSRs arises due to the construction works of the Project.

11.5.16 The Contractor shall apply for a discharge licence under the WPCO and any discharge should be complied the term and conditions of the licence.

Construction Site Runoff

11.5.17 Exposed soil areas should be minimized to reduce the potential for increased siltation, contamination of runoff and erosion. Construction runoff related impacts associated

with the construction activities can be readily controlled through the use of appropriate mitigation measures which include but are not limited to:

- Minimized the volume of site runoff;
- Catch pits, perimeter channels, intercepting channels should be used to intercept any surface runoff for further treatment;
- Use of sediment traps or other treatment facility to reduce SS content; and
- Adequate maintenance of drainage systems to prevent flooding and overflow.

General Construction Activities

11.5.18 Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptor with peak storm bypass.

11.5.19 Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor. Oil leakage or spillage should be contained and cleaned up immediately. Waste engine oil, lubricating oil and diesel from repair/maintenance of construction machineries/vehicles should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance (WDO).

Accidental Spillage

11.5.20 All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the nearby water bodies.

11.5.21 Any service shop and maintenance facilities should be located on sealed surfaces, and sumps and petrol interceptors provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges

Sewage effluent from on-site construction workforce

11.5.22 Chemical toilets should be provided on-site for collection and temporary storage of sewage. The collected sewage should be tankered away by a licensed waste collector for off-site disposal at sewage treatment plants. No sewage discharge on site is anticipated during construction phase.

Mitigation Measures - Operation Phase

Sewage Disposal

11.5.23 All domestic wastewater will be discharged to the planned public sewerage system when it is in operation. According to the Preliminary Sewage Impact Assessment Report, the Site will fall within the sewerage catchment of Tai Po Sewage Treatment Works. The sewage flow of the development site contributes insignificant amount to the design capacities of the existing Tai Yuen Sewage Pumping Station and Sewage Treatment Works, and no adverse sewerage impact is anticipated, therefore there will be no adverse water quality impact during operation phase.

Runoff from development

11.5.24 During operation phase, the entire site area will be paved impermeable surfaces within the Site. According to the Preliminary Drainage Impact Assessment Report, the drainage flow of the Site contributes insignificant amount to the design capacities of the existing box culvert below Ma Wo Road and Tai Po River and no adverse drainage impact is anticipated. Adverse operational water quality impact due to surface runoff is not expected with the mitigation measures mentioned in **Sections 11.5.25 – 11.5.28** below to prevent water quality impact from surface runoff:

11.5.25 Screening facilities such as standard gully grating and trash grille, with spacing capable of screening off large substances such as fallen leaves and debris should be provide at the inlet of drainage system.

11.5.26 Road gullies with standard design and slit traps should be incorporated during the detail design to remove SS content in stormwater runoff.

11.5.27 Good management measures such as regular cleaning and sweeping of road surface/pavement is proposed. Such cleaning should be carried out before forecasted heavy rainfall.

11.5.28 Manholes, gullies and ditches should be inspected and cleaned regularly (ideally in a monthly basis).

Conclusion

11.5.29 With the implementation of the mitigation measures and good site practices mentioned above, adverse water quality impacts are not expected during construction and operation phase of the Project.

11.6 Waste Management

Identification and Evaluation of Wastes Implications

11.6.1 The construction works associated with the site formation and infrastructural works for the Project include site clearance, site formation and slope works and are expected to result in the generation of a variety of wastes which can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials;
- Chemical wastes; and
- General refuse.

Construction Phase

Construction and Demolition Material

11.6.2 Major C&D material will be generated from site formation works and will likely comprise of excavated soil. The preliminary estimated quantity of C&D materials to be generated by the Project will exceed 50,000m^3. Therefore, Construction and Demolition Materials Management Plan (C&DMMP) is required in a later stage in accordance with Section 4.1.3 of Chapter 4 of PAH for Civil Engineering Works.

11.6.3 The inert C&D materials that are generated will be reused on site as far as practicable.

The estimated quantity of inert C&D materials to be reused has been provided in **Table 11.3**.

11.6.4 It is considered that the surplus inert C&D material which cannot be reused during the construction of the Project will be disposed of at the appropriate public fill reception facilities available at the time of construction, subject to the necessary approval of the Public Fill Committee (PFC) provided under the jurisdiction of the CEDD.

11.6.5 Non-inert C&D material will be separated from inert C&D materials. The non-inert C&D materials would be reused and recycled as much as possible before disposal of at landfill. The estimated quantities of inert and non-inert C&D materials to be generated and disposed are summarized in **Table 11.3**. It should be noted that the quantities are subject to change based on the final design for the Project.

Table 11.3 Quantity of C&D materials to be generated and Proposed Outlets

Construction Activity	Total C&D Materials (m^3)	Inert C&D Materials Generated (m^3)(1)	Inert C&D Materials reused (m^3)(1)	Inert C&D Materials to be disposed (m^3)(1)	Non-inert C&D Material to be disposed (m^3)(2)
Site clearance, tree removal	37,000	1,850	0	1,850	35,150
Formation of Haul Road and soil/rock excavation	361,000	342,950	8,000	334,950	18,050
Slope works, construction of retaining wall and bored piles	44,000	41,800	0	41,800	2,200
Road improvement works	700	665	332	333	35
Sewerage, drainage and water supply works	2900	2755	1377	1378	145
Utilities diversions	300	285	142	143	15
Total	**445,900**	**390,305**	**9,851**	**380,454**	**55,595**
Proposed outlets for the C&D materials			Reuse in the site or other project required filling materials	Public Fill Reception Facilities	Landfill

Remarks: 1. Inert C&D Materials include: soil and rock, broken concrete, asphalt, bitumen and granular materials.
2. Non-inert C&D Materials include: vegetation, bamboo, timber, paper and plastic.

Chemical Waste

11.6.6 It is anticipated that potential plant and vehicle maintenance will generate a small amount of chemical waste during the construction period that will require disposal. Typically, these include:

- Solid wastes, such as empty fuel/lubricant drums, used oil/air filters and scrap batteries; and
- Liquid wastes, such as waste oils/grease, spent solvents/detergents, which may be halogenated, and possibly spent acid/alkali from battery maintenance.

11.6.7 The volume of chemical waste that will be generated will depend upon the total number of plant and vehicles, and how much maintenance actually required to be carried out on site by the Contractor. Considering the nature and scale of the construction works, it is expected that only small quantities of chemical waste (i.e. a few hundred litres per month) will be generated.

11.6.8 Provided the waste is properly handled, stored and disposed of, no unacceptable impacts are expected.

General Refuse

11.6.9 The construction workforce is expected to generate refuse such as waste papers, plastic packaging and possibly food wastes. Such refuse will be collected on-site, separately from C&D material by an appropriate waste collector employed by the Contractor. It is expected that there will be no canteen provided on-site.

11.6.10 The approximate number of construction workers for this Project is estimated to be 40 people per day during construction phases. With reference to the Monitoring of Solid Waste in Hong Kong 2018, the municipal solid waste disposal rate is 1.53 kg per capita per day. Based on the above assumptions, the estimated quantity of waste generated during construction will be approximately 60 kg per day.

11.6.11 Prior to disposal off-site, such wastes will have to be temporarily put in a suitably covered storage area where it will have to be regularly cleaned and maintained to avoid attracting vermin and pests. With proper on-site handling and storage as well as regular disposal of these wastes, no adverse impacts are anticipated.

Operation Phase

11.6.12 During operation phase, the Site will be residential and accommodate a population of a few thousand. The identified waste types include:

- Municipal solid waste from residents and the proposed school; and
- Chemical waste from maintenance works.

11.6.13 The proposed residential development will accommodate a population of about 6480 and the proposed school will be assumed to occupy about 780 people after full occupation. With reference to the Monitoring of Solid Waste in Hong Kong 2018, the municipal solid waste disposal rate is 1.53 kg per capita per day. Based on the above assumptions, the estimated quantity of waste generated during operation will be approximately 11,200 kg per day.

11.6.14 The waste is expected to potentially comprise of food waste, paper, wood, plastic, etc. Waste separation provisions are recommended to be included within Site so that waste could be sorted for material recovery as far as practicable (e.g. plastics, metals, glass, etc.). Different containers should be provided for the storage of different recyclable materials and the remaining waste types collected and stored in the Refuse Collection Point (RCP) and disposed of in a landfill/refuse transfer stations by waste collector.

Chemical Waste

11.6.15 Minor maintenance works will be conducted by estate management and are expected to generate minimal amount of chemical waste. All chemical waste generated shall be properly collected and disposed of in accordance with Waste Disposal (Chemical Waste) (General) Regulation.

11.6.16 Estate management will need to register with EPD as a Chemical Waste Producer (CWP), as presented in EPD's "*A Guide to the Registration of Chemical Waste Producers*". Chemical waste should be collected by licensed chemical waste collectors and disposed of at the Chemical Waste Treatment Centre (CWTC) in Tsing Yi or other licenced chemical waste treatment facility. The handling, storage and

disposal of chemical waste should make reference to EPD's *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. With the proper storage, handling and disposal of this waste type, no adverse environmental impact is anticipated.

Mitigation Measures

Construction Phase – Mitigation Measures

11.6.17 It is anticipated that adverse waste management related impacts will not be encountered, provided that good site practices are adhered to by the Contractor. In line with the Hong Kong Government's position on waste minimization, the practice of avoiding and minimizing waste generation and waste recycling should be adopted as far as practicable throughout the Project construction process. Recommended mitigation measures to be implemented throughout the course of the construction phase of the Project includes:

(i) An on-site environmental coordinator employed by the Contractor should be identified prior to the outset of the work. Prior to commencement of the Project, the environmental coordinator shall prepare a Waste Management Plan (WMP) as part of the Environmental Management Plan in accordance with the requirements set out in the ETWB TCW No. 19/2005, Environmental Management on Construction Sites, for the Engineer's Representative (ER) approval. The WMP shall include monthly and yearly Waste Flow Tables (WFT) that indicate the amounts of waste generated, recycled and disposed of (including the final disposal location), which will be regularly updated.

(ii) The Contractor's waste management practices and effectiveness shall also be audited by the Engineer on regular basis.

(iii) The reuse/recycling of all materials on site shall be investigated and exhausted prior to treatment/disposal off-site;

(iv) Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimization;

(v) Open stockpile of C&D material should be covered with tarpaulin sheetings to prevent runoff and dust generation.

(vi) All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill will comprise stone, rock, masonry, brick, concrete and soil which is suitable for land reclamation and site formation whilst non-inert materials include all other wastes generated from the construction process such as plastic packaging and vegetation (from site clearance);

(vii) The Contractor shall be responsible for identifying what materials can be recycled/reused, whether on-site or off-site. In the event of the latter, the Contractor shall make arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the landfill whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if no use of the inert material can be found on-site, the materials can be delivered to a public fill reception facility after obtaining the appropriate license;

(viii) In order to monitor the disposal of C&D materials and solid waste at public fill reception facilities and landfill respectively, and to control fly-tipping, a trip ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of DEVB TCW No. 6/2010 "Trip Ticket System for Disposal of Construction and Demolition Material";

(ix) Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a chemical waste producer if chemical wastes such as spent lubricants, paints, etc. are generated on-site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated on-site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by the EPD;

(x) A sufficient number of covered bins shall be provided on-site for the containment of general refuse to prevent visual impacts and nuisance to the sensitive surroundings. These bins shall be cleared daily and the collected waste disposed of to the nearest refuse transfer station. Further to the issue of ETWB TCW No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the Project works;

(xi) Sufficient recycling bins should be placed at prominent places at the construction site to encourage recycling. A 4-bin recycling system for paper, metals, plastics and glass should be adopted. All recyclable materials should be collected by recyclers;

(xii) Toolbox talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; and

(xiii) The Contractor shall comply with all relevant statutory requirements and Guidelines and their updated versions that may be issued during the course of the Project construction.

Operation Phase – Mitigation Measures

Municipal solid waste from residents

11.6.18 Waste separation provisions are recommended to be included within Site so that waste could be sorted for material recovery as far as practicable (e.g. plastics, metals, glass, etc.). Different containers should be provided for the storage of different recyclable materials and the remaining waste types collected and transported to the

nearest Landfill/Refuse Transfer Stations by waste collector.

11.6.19 Municipal solid waste should be stored properly in covered bins and collected by waste collectors on a daily basis. With proper collection procedure implemented, no adverse impacts are anticipated.

11.6.20 In order to minimize potential odour nuisance from the management and transportation of waste, refuse collection vehicles with metal tailgate cover and waste water sump tank should be used. At least daily collection should be arranged by the waste collector for disposal of.

Chemical Waste

11.6.21 All chemical waste shall be properly stored in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste before collection for disposal by a licensed chemical waste collector.

Conclusion

11.6.22 The construction activities associated with the proposed works will generate a variety of wastes including inert and non-inert C&D materials, chemical wastes and general refuse. The estimated quantities of total C&D material to be generated by the Project is approximately 445,900 m^3 while the estimated quantities of chemical waste and general refuse is a few hundred litres per month and 60kg per day respectively. With the implementation of the mitigation measures, adverse impacts due to the storage, handling and transportation of C&D materials and general refuse is not expected. It is expected that the quantity of chemical waste, such as lubricating oil and solvent produced from plant maintenance would be small and adverse impacts due to the storage, handling and disposal of chemical waste is also not expected. C&DMMP would be prepared in accordance with Section 4.1.3 “Construction and Demolition Materials” of the Project Administration Handbook for Civil Engineering Works.

11.6.23 For operation phase, the estimated quantity of waste generated during operation will be approximately 10,800 kg per day. With the implementation of the recommended mitigation measures, adverse impact due to the handling, storage and disposal of municipal solid waste from residents and chemical waste from maintenance works during operation phase is not expected.

11.7 Land Contamination

Relevant Legislations, Standards & Guidelines

11.7.1 This assessment has been undertaken based on the following:

- The Practice Guide for Investigation and Remediation of Contaminated Land, dated August 2011 issued by the EPD;
- Guidance Note for Contaminated Land Assessment and Remediation, dated August 2007 issued by the EPD; and
- The Guidance Manual for use of Risk-Based Remediation Goals for Contaminated Land Management, dated December 2007 issued by the EPD.

Assessment Methodology

11.7.2 In order to identify and undertake an initial evaluation of the potential land contamination impacts within the Site, the following tasks have been undertaken:

- A Desktop Study of the Site, with a view to reviewing and identifying current and historical land uses; and
- Completion of site visit to the Site, to identify and document the existing land uses, and to observe the general environmental conditions associated with the Project and the surrounding areas.

11.7.3 The following sources of information have been collated and reviewed during the Desktop Study:

- Representative historical aerial photographs (1963 - 2018) and topographic map of the Site were reviewed;
- Information on Dangerous Goods and Incident Reports from the Fire Services Department (FSD);
- Information on any registered Chemical Waste Producers from the EPD Regional Office;
- Representative photographs of features that were taken during site visit of the Site;

Identification of Potential Land Contamination

11.7.4 Historical aerial photographs and topographic maps were reviewed to identify previous land uses at the Site and any previous contaminative activities. The Site was a rural area with agricultural until 1980s. The surrounding area of the Site was developed into high-rise residential buildings, but the Site remained as a hilly woodland with a few village houses.

11.7.5 A site visit was conducted on 27th November 2018 to identify, where possible, potential sources of land contamination within and in the vicinity of the Site based on existing land uses/operations. The purpose of the visit was to identify signs of suspected land contamination, such as signs of staining or discoloration of the ground surface at the Site and any odours.

11.7.6 The Site was a hilly woodland. A few footpath was available within the Site for access to village. A few village houses were observed on site. No sign of surface staining or spillages were observed in the Site. No potentially contaminative activities were carried out in the Site.

11.7.7 A request was made to the FSD regarding the following:

- Records of any Dangerous Goods Store(s) within the Site Areas; and
- Records of any reported accidents or spillage/leakage within the Site Areas.

11.7.8 A response from the FSD was received on 12 October 2018. FSD advised that neither records of dangerous goods license, fire incidents nor incidents of spillage/leakage of dangerous goods were found in connection with the Site.

11.7.9 No chemical spillage / leakage was recorded by EPD Environmental Compliance Division Regional Office (North) Tai Po in the Site in the past five years from 2018.

11.7.10 The EPD office was also consulted with regards to any records of Chemical Waste Producers (CWP). According to the EPD's records, there were no CWP was registered for the Site in the past five years from 2018.

11.7.11 Previous site occupation included residential and agricultural. No potential land contaminating activity or sign of contamination were identified during site visit and historical review. No potential land contaminating hotspot such as generator and transformer was identified during site visit. No potential land contamination is expected in the Site.

11.7.12 The Site and works area were covered by vegetation, woodland and some low-rise building structures in the past. The proposed sewerage, drainage and water mains are located on the existing paved road. Based on the review of historical aerial photographs, there are no identified existing land uses with potential land contamination concern within and in the vicinity of the Site, such as vehicle repair workshops and petrol stations. Therefore, potential land contamination is not anticipated in the Site and works area for the proposed sewerage, drainage and water mains.

Conclusion

11.7.13 The land contamination assessment was undertaken by reviewing historical and current land uses and site visit. No potential land contamination impacts have been identified based on the review of the past and present land-uses on site. There is no need for further investigation on potential land contamination.

12. PRELIMINARY QUANTITATIVE RISK ASSESSMENT

12.1 Introduction

12.1.1 A high pressure underground town gas pipeline running along Tolo Highway which is close to the proposed public housing development at To Yuen Tong, Tai Po is identified.

12.1.2 The preliminary quantitative risk assessment (QRA) study intends to assess the risks posed by the pipeline and to ensure their individual risk and societal risk level comply with the Hong Kong Risk Guideline and relevant guidelines, taking into account the proposed public housing development.

12.2 Background Information

High Pressure Underground Pipeline

12.2.1 According to the Hong Kong and China Gas Company (HKCG), there is an existing high pressure underground pipeline running along Tolo Highway where the proposed public housing development will be located. The pipeline is 600mm in diameter with a wall thickness of 12.7mm. The pipeline operates at 35 barg and it is buried at least 1.1m below ground level. The alignment of the underground pipeline and the proposed housing development are shown in **Figure 12.1** below.

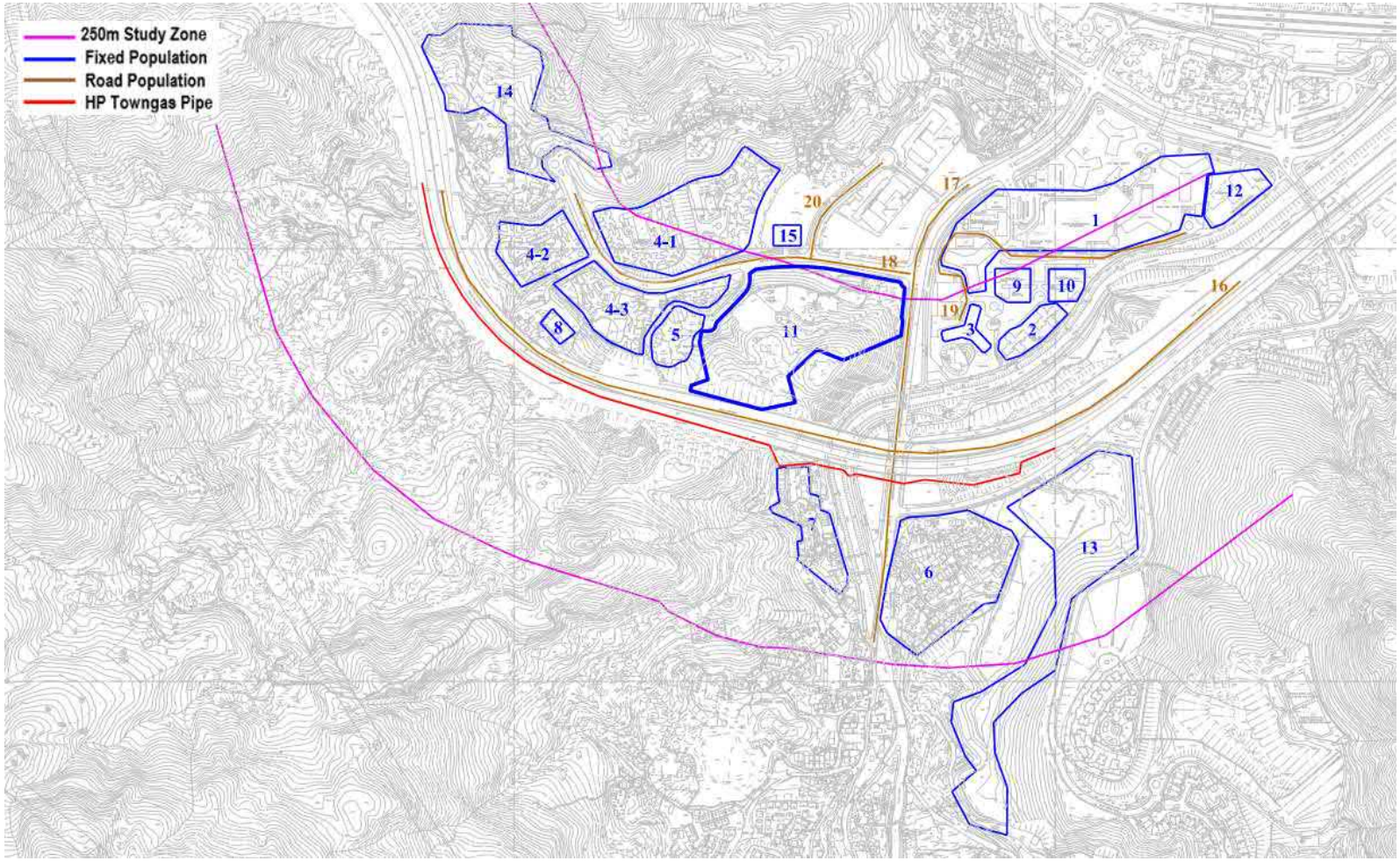
Proposed Public Housing Development

12.2.2 The Site for the proposed public housing development is located at To Yuen Tung, Tai Po (shown as item 11 in **Figure 12.1)**. The public housing development will provide around 2,400 units (a 10% design buffer has been allowed in the number of units for design flexibility, i.e. not more than 2,640 units). In addition, a school and community and social welfare facilities will also be provided.

Town Gas

12.2.1 Town gas is a mixture mainly consisting of hydrogen, methane, carbon dioxide and carbon monoxide. It is flammable due to the presence of hydrogen and methane. It is also toxic in nature due to the presence of carbon monoxide. Since town gas is lighter than air, it will rise and dissipate in air upon leakage.

Figure 12.1 Population Map



12.3 Hazard Identification and Frequency Assessment

High Pressure Underground Pipeline

12.3.1 According to the Hong Kong and China Gas Company, there is no historical record of town gas leakage from the high pressure pipeline. Therefore, international database needs to be reviewed to identify the potential causes of leakage from the pipeline. In this study, the 10th Gas Pipeline Incidents Report from the European Gas Pipeline Incident Data Group (EGIG) has been made reference.

12.3.2 Based on the database, the six major causes of the leakage incident and their contribution are given in **Table 12.1**.

Table 12.1: Major Causes of Leakage and their Contribution

Cause	Contribution (1970 to 2016) (%)
External Interference	46.5
Corrosion	16.7
Construction Defects/Material Failure	16.5
Hot Tap	4.5
Ground Movement	8.4
Others and Unknown	7.4

Meteorological Data

12.3.3 Meteorological data have been obtained from Tai Po Tau Weather Station for 2017 where wind speed, stability class, weather class and wind direction are available. The probability for each weather class at a particular wind direction have been used for the study.

Event Tree Analysis

12.3.4 Fault sequences with individual frequencies have been generated using event tree analysis. Event tree have been developed to systematically identify the sequence of development of ultimate hazardous events after an initial leakage incident. The possible ultimate hazardous events include fireball, jet fire, flash fire and toxic release.

Orientation

12.3.5 Orientation refers to the direction of the town gas being ejected from the pipeline. For the high pressure underground pipeline, the release could happen in vertical and incline (i.e. 45º) direction.

Ignition Probability

12.3.6 When flammable gas is released from the pipeline, the gas can be immediately ignited upon release. If immediate ignition does not happen, the gas will disperse

in the atmosphere to form gas plume which could be ignited upon meeting an ignition source (i.e. delayed ignition). Un-ignited gas will disperse along the distance with dilution by air.

12.3.7 The ignition probability can be estimated by referring to Cox, Lees and Ang model.

Ignition Source

12.3.8 RiskTool is capable of using ignition information to predict the probability of a flammable cloud being ignited (delayed ignition) as the cloud moves downwind over an ignition source. The following offsite ignition sources include the roads and population area.

12.4 Consequence Analysis

12.4.1 Consequence analysis includes both source term modeling and dispersion modeling.

12.4.2 Source term modeling is a model used to describe how materials are discharged from the process (e.g. pipeline). It provides a description of the discharge rate, the total quantity discharged and the state of the discharge (i.e. solid/liquid/gas).

12.4.3 Dispersion modeling is subsequently used to describe how the material is transported and dispersed downwind. Software Phast 8.0, which is coded by DNV, has been used to conduct both the source term and dispersion modeling for different physical effects including fireball, flash fire, jet fire, vapor cloud explosion (VCE), thermal radiation and toxicity.

12.5 Risk Results

Individual Risk

12.5.1 The individual risk result for the high pressure underground town gas pipeline is shown in **Figure 12.2** below. The highest individual risk level is 1E-8 per year which is much lower than the 1E-5 per year. It is complied with the Hong Kong Risk Guideline.

Figure 12.2 Individual Risk Contour

Societal Risk

12.5.2 The societal risk level for both Construction and Operation phases of the proposed public housing development are within "Acceptable" region based on Hong Kong Risk Guidelines and PD8010 Part 3 FN Criterion as shown on **Figure 12.3 to Figure 12.6** below respectively.

12.6 Conclusion

12.6.1 A QRA study has been conducted for the Underground High Pressure Town Gas Pipeline, taking into account the construction and operation phases of the proposed public housing development.

12.6.2 It could be concluded that both individual risk and societal risk level are in compliance with the Hong Kong Risk Guidelines and PD 8010 Part 3, no further mitigation measure is required.

Figure 12.3 FN Curve in comparison with HK Risk Guideline (Construction Phase)

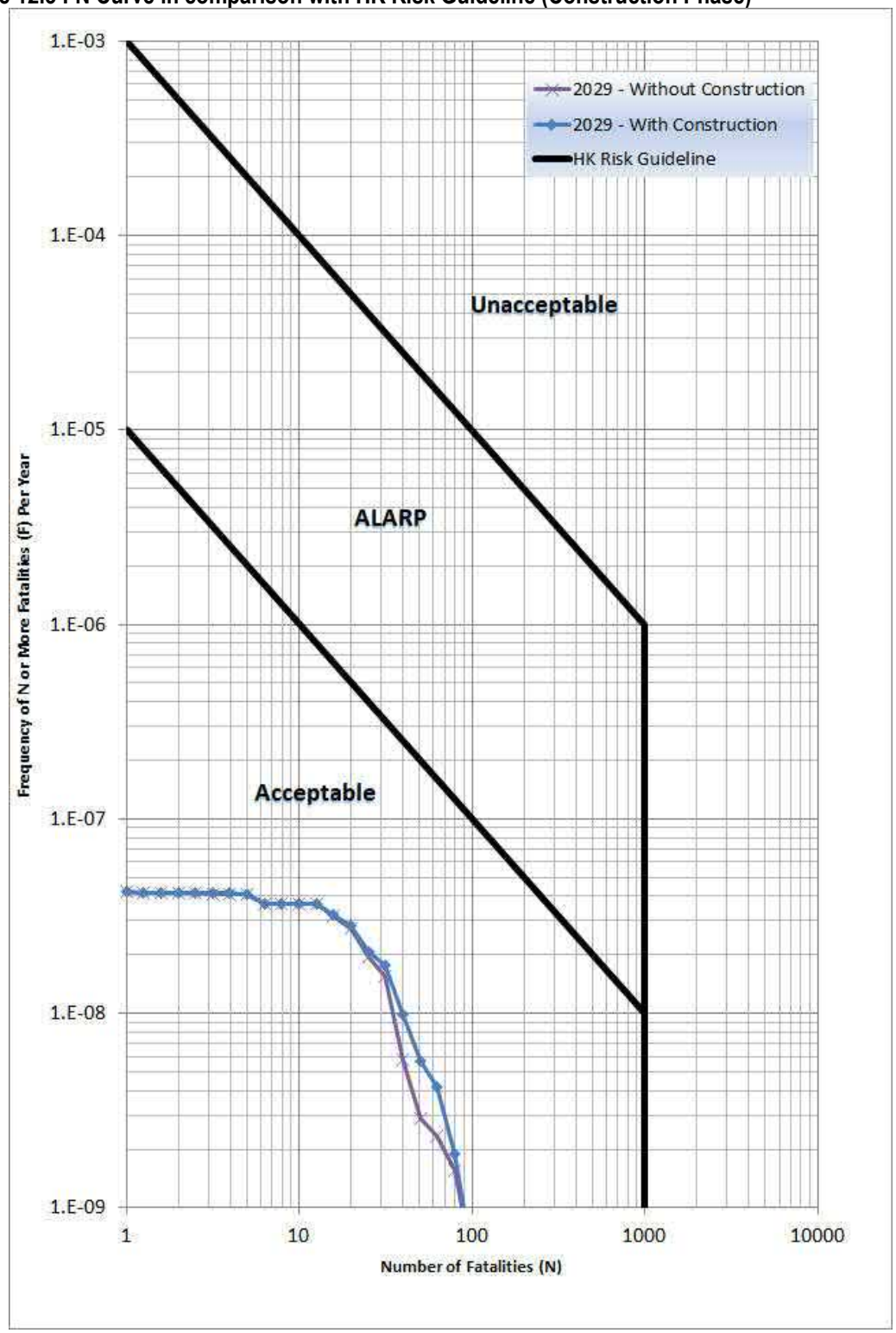


Figure 12.4 FN Curve in comparison with PD8010 Part 3 (Construction Phase)

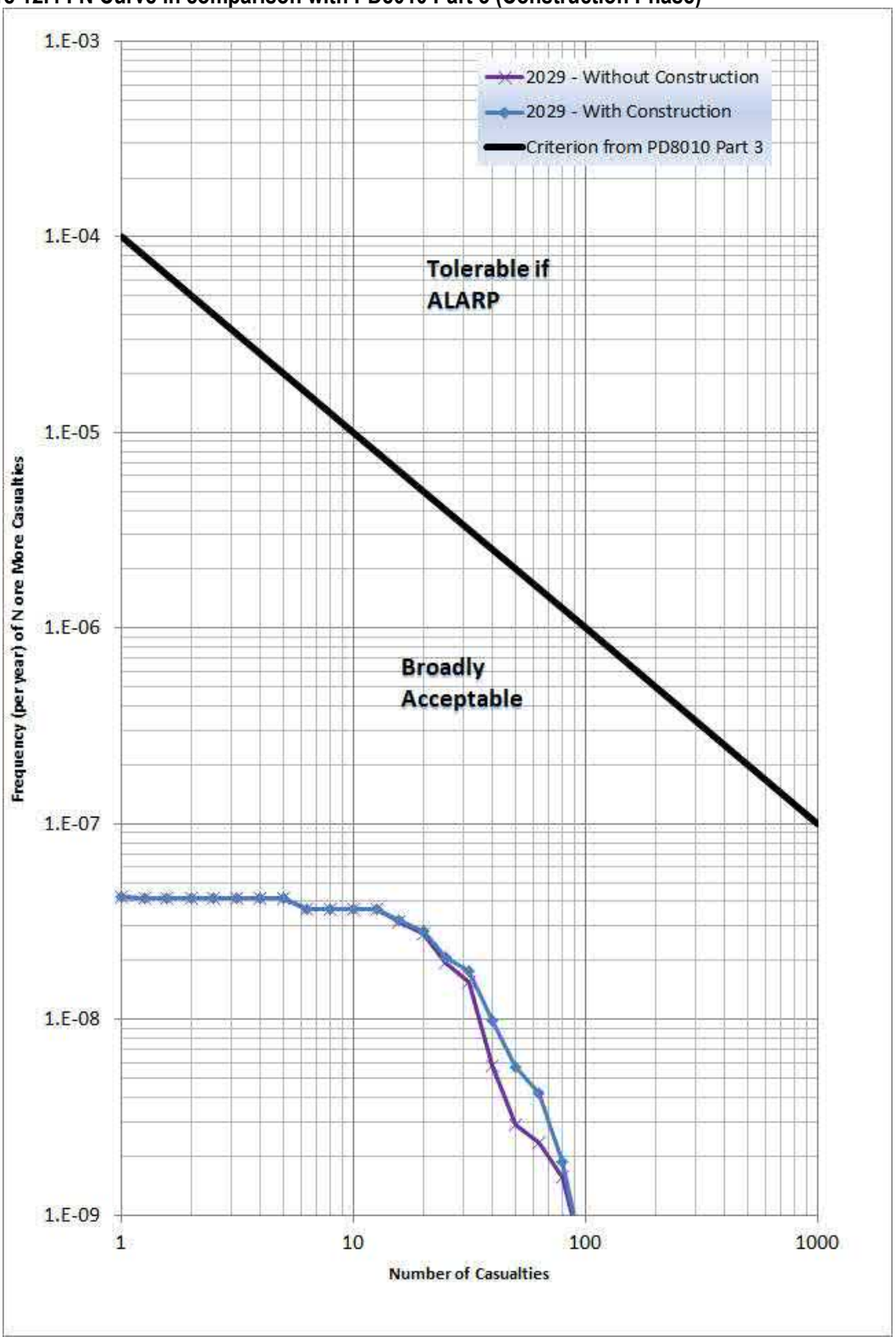


Figure 12.5 FN Curve in comparison with HK Risk Guideline (Operation Phase)

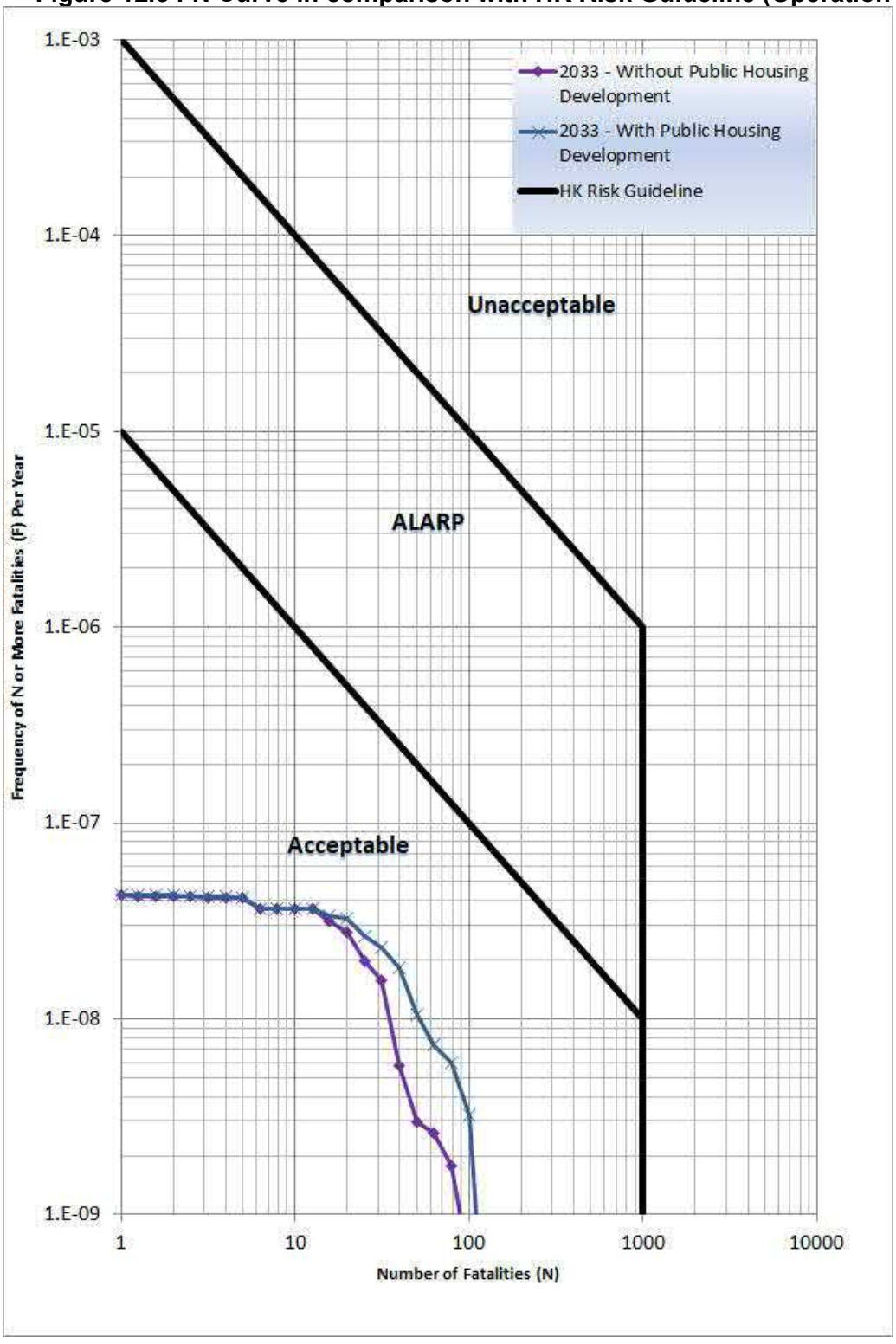
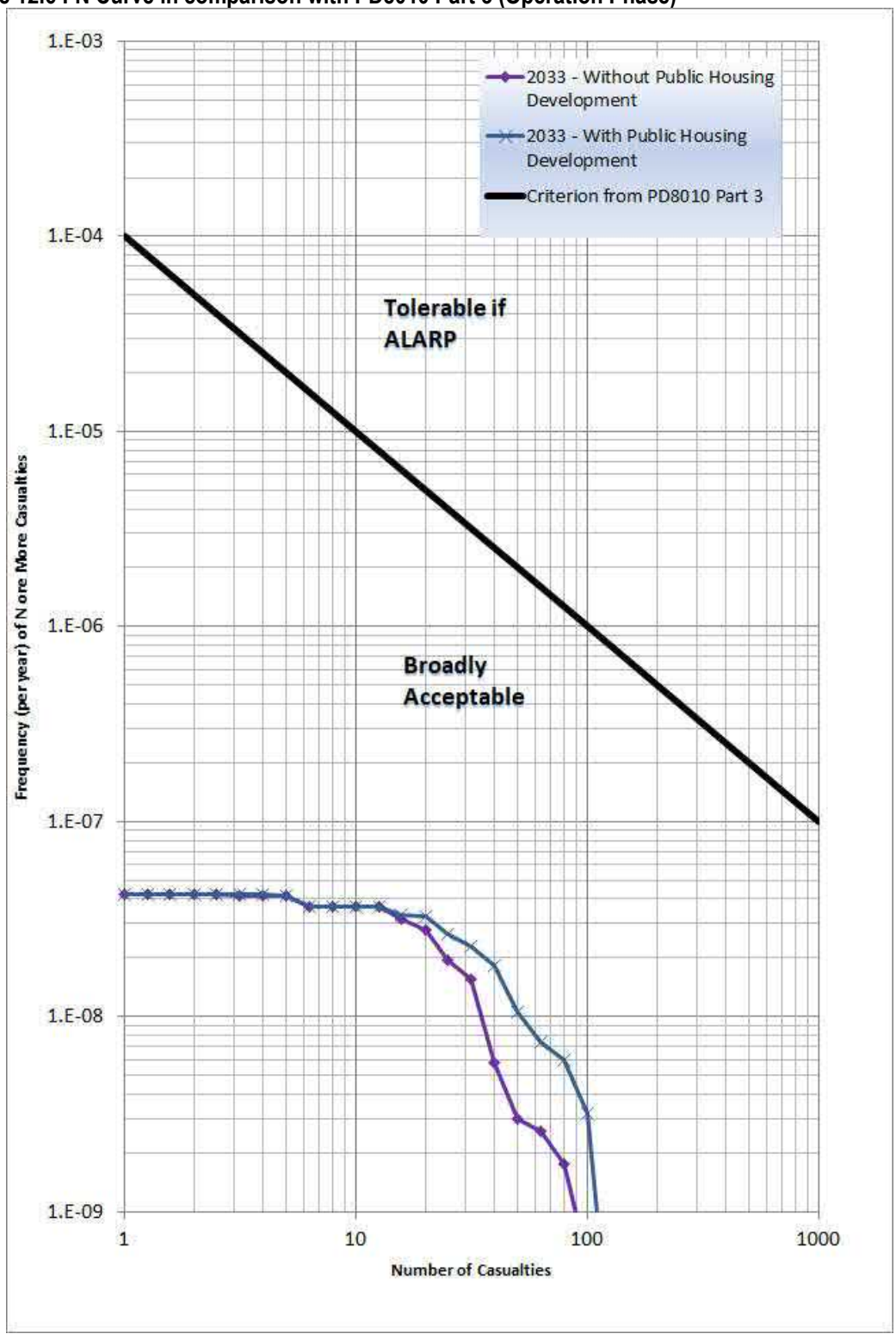


Figure 12.6 FN Curve in comparison with PD8010 Part 3 (Operation Phase)



13. PRELIMINARY LANDSCAPE AND VISUAL IMPACT ASSESSMENT

13.1 Introduction

13.1.1 This chapter presents the assessment of the potential landscape and visual impacts associated with the proposed development. Key Landscape Resources (LRs), Landscape Character Areas (LCAs) and Visually Sensitive Receivers (VSRs) that are likely to be affected due to the proposed development are identified, and the potential landscape and visual impacts are assessed and evaluated.

13.2 Assessment Methodology

Preliminary Landscape Impact Assessment (LIA) Methodology

13.2.1 The methodology for this Preliminary LIA is based on *EIAO Guidance Note No. 8/2010*. The landscape impacts have been assessed according to the following procedures:

- Identification of the Baseline Landscape Resources (LRs) and Landscape Character Areas (LCAs) found within the Study Area
- Assessment of the Degree of Sensitivity of the LRs and LCAs
- Identification of Potential Sources of Landscape Change
- Prediction of the Magnitude of Landscape Change
- Identification of Potential Landscape Mitigation Measures
- Prediction of Landscape Impact Significance
- Prediction of Acceptability of Impacts

Preliminary Visual Impact Assessment Methodology

13.2.2 The methodology follows the requirements set out in Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to the Town Planning Board (*TPB PG-No.41*). Appraisal of visual impacts is not objective science but is based upon a structured and reasoned evaluation of predicted impacts, informed by professional judgement and experience. The methodology adopted for this visual appraisal consists of:

- Identification of Baseline Conditions (Assessment Area, Visual Elements and Resources and Viewing Points);
- Identification of Potential Sources of Impact;
- Identification of Potential Mitigation Measures;
- Appraisal of Significance of Visual Impacts; and
- Evaluation of Overall Visual Impact.

13.3 Summary of Tree Survey and Tree Treatment

Introduction

13.3.1 Tree survey within and in the immediate vicinity of the Site (i.e. inside and within 10m of the Site) and the extent of road widening works has been carried out.

Existing Condition of the Trees

13.3.2 A total of **1,414no.** trees were surveyed, including **1,334no.** trees within and in the vicinity of the Site, and **80no.** trees associated with road widening works at the junctions of Ma Wo Road and Tat Wan Road; of Nam Wan Road and Tat Wan Road; and of Kwong Wang Street and Tai Po Road – Yuen Chau Tsai.

13.3.3 The surveyed tree species within and in the vicinity of the Site are summarised in **Table 13.1** below in order of quantity present:

Table 13.1 – Summary of Tree Species within and in the Vicinity of the Site

Scientific Name	Chinese Name	Quantity	% of Total Quantity	Origin	Conservation Status
Alangium chinense	八角楓	173	12.97%	Native	Nil
Aporosa dioica	銀柴	121	9.07%	Native	Nil
Schefflera heptaphylla	鵝掌柴	89	6.67%	Native	Nil
Machilus gamblei	黃心樹	81	6.07%	Native	Nil
Acacia confusa	台灣相思	78	5.85%	Exotic	Nil
Acronychia pedunculata	山油柑	69	5.17%	Native	Nil
Machilus sp.	潤楠(屬)	68	5.10%	Native	Nil
Dimocarpus longan	龍眼	65	4.87%	Exotic	Nil
Macaranga tanarius var. *tomentosa*	血桐	48	3.60%	Native	Nil
Cratoxylum cochinchinense	黃牛木	42	3.15%	Native	Nil
Clausena lansium	黃皮	35	2.62%	Exotic	Nil
Cinnamomum camphora	樟	34	2.55%	Native	Nil
Ficus hispida	對葉榕	33	2.47%	Native	Nil
Canthium dicoccum	魚骨木	24	1.80%	Native	Nil
Ficus variegata var. *chlorocarpa*	青果榕	21	1.57%	Native	Nil
Litsea monopetala	假柿樹	21	1.57%	Native	Nil
Celtis sinensis	朴樹	20	1.50%	Native	Nil
Sterculia lanceolata	假蘋婆	18	1.35%	Native	Nil
Ixonanthes reticulata	黏木	17	1.27%	Native	• Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status

Scientific Name	Chinese Name	Quantity	% of Total Quantity	Origin	Conservation Status
					in China: Vulnerable) • Listed on the China Plant Red Data Book as a "Vulnerable" species
Machilus chekiangensis	浙江潤楠	14	1.05%	Native	Nil
Ficus microcarpa	細葉榕	11	0.82%	Native	Nil
Ilex rotunda	鐵冬青	11	0.82%	Exotic	Nil
Rhus succedanea	野漆樹	11	0.82%	Native	Nil
Bauhinia x blakeana	洋紫荊	10	0.75%	Native	Nil
Citrus maxima	柚	10	0.75%	Exotic	Nil
Bridelia tomentosa	土蜜樹	7	0.52%	Native	Nil
Leucaena leucocephala	銀合歡	7	0.52%	Exotic	Nil
Litchi chinensis	荔枝	7	0.52%	Exotic	Nil
Litsea cubeba	木薑子	7	0.52%	Native	Nil
Syzygium hancei	韓氏蒲桃	7	0.52%	Native	Nil
Aleurites moluccana	石栗	6	0.45%	Exotic	Nil
Garcinia oblongifolia	嶺南山竹子	6	0.45%	Native	Nil
Michelia x alba	白蘭	6	0.45%	Exotic	• Scheduled under Cap 96
Microcos nervosa	破布葉	6	0.45%	Native	Nil
Pygeum topengii	臀果木	6	0.45%	Native	Nil
Acacia auriculiformis	耳果相思	5	0.37%	Exotic	Nil
Aquilaria sinensis	土沉香	5	0.37%	Native	• Protected under Cap 586 • Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) • Listed on the China Plant Red Data Book as an "Vulnerable" species
Carallia brachiata	竹節樹	5	0.37%	Native	Nil
Endospermum chinense	黃桐	5	0.37%	Native	Nil

Scientific Name	Chinese Name	Quantity	% of Total Quantity	Origin	Conservation Status
Machilus pauhoi	刨花潤楠	5	0.37%	Native	Nil
Mangifera indica	芒果	5	0.37%	Exotic	Nil
Viburnum odoratissimum	珊瑚樹	5	0.37%	Native	Nil
Averrhoa carambola	楊桃	4	0.30%	Exotic	Nil
Choerospondias axillaris	南酸棗	4	0.30%	Native	Nil
Elaeocarpus hainanensis	水石榕	4	0.30%	Exotic	Nil
Ficus binnendijkii	阿里垂榕	3	0.22%	Exotic	Nil
Juniperus chinensis 'Kaizuca'	龍柏	3	0.22%	Exotic	Nil
Ligustrum sinense	山指甲	3	0.22%	Exotic	Nil
Morus alba	桑樹	3	0.22%	Native	Nil
Sapium discolor	山烏桕	3	0.22%	Native	Nil
Schima superba	木荷	3	0.22%	Native	Nil
Scolopia saeva	廣東刺柊	3	0.22%	Native	Nil
Zanthoxylum avicennae	簕欓花椒	3	0.22%	Native	Nil
Archidendron clypearia	猴耳環	2	0.15%	Native	Nil
Canarium pimela	烏欖	2	0.15%	Exotic	Nil
Diospyros morrisiana	羅浮柿	2	0.15%	Native	Nil
Dracaena fragrans	巴西鐵樹	2	0.15%	Exotic	Nil
Eriobotrya japonica	枇杷	2	0.15%	Exotic	Nil
Eucalyptus exserta	窿緣桉	2	0.15%	Exotic	Nil
Liquidambar formosana	楓香	2	0.15%	Native	Nil
Melicope pteleifolia	蜜茱萸	2	0.15%	Native	Nil
Phyllanthus emblica	餘甘子	2	0.15%	Native	Nil
Archontophoenix alexandrae	假檳榔	1	0.07%	Exotic	Nil
Bischofia javanica	秋楓	1	0.07%	Native	Nil
Carica papaya	木瓜	1	0.07%	Exotic	Nil
Claoxylon indicum	白桐樹	1	0.07%	Native	Nil
Cleistocalyx nervosum	水翁	1	0.07%	Native	Nil
Diospyros kaki	柿	1	0.07%	Exotic	Nil
Elaeocarpus balansae	大葉杜英	1	0.07%	Exotic	Nil
Elaeocarpus sylvestris	山杜英	1	0.07%	Native	Nil
Eucalyptus tereticornis	細葉桉	1	0.07%	Exotic	Nil
Ilex rotunda var. *microcarpa*	小果鐵冬青	1	0.07%	Native	Nil
Lindera communis	香葉樹	1	0.07%	Native	Nil
Litsea glutinosa	潺槁樹	1	0.07%	Native	Nil

Scientific Name	Chinese Name	Quantity	% of Total Quantity	Origin	Conservation Status
Machilus breviflora	短序潤楠	1	0.07%	Native	Nil
Mallotus paniculatus	白楸	1	0.07%	Native	Nil
Osmanthus fragrans	桂花	1	0.07%	Exotic	Nil
Osmanthus matsumuranus	牛矢果	1	0.07%	Native	Nil
Pinus massoniana	馬尾松	1	0.07%	Native	Nil
Sapium sebiferum	烏桕	1	0.07%	Native	Nil
Sarcosperma laurinum	肉實樹	1	0.07%	Native	Nil
Syzygium jambos	蒲桃	1	0.07%	Exotic	Nil
Tetradium glabrifolium	楝葉吳茱萸	1	0.07%	Native	Nil
Trema orientalis	異色山黃麻	1	0.07%	Native	Nil
Dead tree	死樹	34	2.55%	Unknown	Nil
	Total	**1,334**	**100%**		

13.3.4 The species of trees in this tree survey for proposed road widening works at the junctions of Ma Wo Road and Tat Wan Road, of Nam Wan Road and Tat Wan Road, and of Kwong Wang Street and Tai Po Road – Yuen Chau Tsai are summarised in **Table 13.2** below:

Table 13.2 – Summary of Tree Species within and in the vicinity of Road Widening Works

Scientific Name	Chinese Name	Quantity	% of Total Quantity	Origin	Conservation Status
Juniperus chinensis	圓柏	38	47.50%	Exotic	Nil
Eucalyptus exserta	窿緣桉	7	8.75%	Exotic	Nil
Ravenala madagascariensis	旅人蕉	7	8.75%	Exotic	Nil
Aleurites moluccana	石栗	6	7.50%	Exotic	Nil
Senna siamea	鐵刀木	6	6.25%	Exotic	Nil
Leucaena leucocephala	銀合歡	3	3.75%	Exotic	Nil
Hyophorbe lagenicaulis	酒瓶椰子	3	3.75%	Exotic	Nil
Bauhinia x blakeana	洋紫荊	2	2.50%	Native	Nil
Cinnamomum camphora	樟	2	2.50%	Native	Nil
Ficus hispida	對葉榕	2	2.50%	Native	Nil
Archontophoenix alexandrae	假檳榔	1	1.25%	Exotic	Nil
Cinnamomum burmannii	陰香	1	1.25%	Native	Nil
Ficus microcarpa	細葉榕	1	1.25%	Native	Nil
Juniperus chinensis 'Kaizuca'	龍柏	1	1.25%	Exotic	Nil
Macaranga tanarius var. *tomentosa*	血桐	1	1.25%	Native	Nil
	Total	**80**	**100%**		

13.3.5 There are no existing trees included in the *Register of Old and Valuable Trees*. **1no.** of the existing *Ficus microcarpa* tree (**T3**) is with DBH greater than **1,000mm.**

13.3.6 Moreover, a total of **28no.** existing Trees of Conservation Interest are found within and in the vicinity of the Site, as listed in **Table 13.3** and shown on **Figure 13.1**. The tree assessment schedule and tree survey photographs of existing Trees of Conservation Interest are presented in **Appendix A** and **Appendix B** respectively.

Table 13.3 – Existing Trees of Conservation Interest

Scientific Name	Chinese Name	Quantity	% of the Population	Origin	Conservation Status
Michelia x *alba*	白蘭	6	0.45%	Exotic	• Scheduled under Cap 96
Ixonanthes reticulata	黏木	17 (including 2 trees with DBH above 500mm)	1.27%	Native	• Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) • Listed on the China Plant Red Data Book as a "Vulnerable" species
Aquilaria sinensis	土沉香	5	0.37%	Native	• Protected under Cap 586 • Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) • Listed on the China Plant Red Data Book as an "Vulnerable" species
	Total	**28**	**2.09%**		

Summary of Tree Treatment

13.3.7 **Table 13.4** summarises the proposed tree treatments to the existing trees inside and within 10m of the Site, and those affected by the road widening works. The proposed tree treatments are illustrated in **Figures 13.1 to 13.3**.

Table 13.4 – Summary of Tree Treatments

Location	Tree Proposed to be				
	Retained	**Retained with minor pruning**	**Felled**	**Transplanted**	**Total**
(i) Within or in the Vicinity of the Site	339	0	994	1	1,334
(ii) Within Road Widening Works Extent	37	4	21	18	80
Total	**376**	**4**	**1,015**	**19**	**1,414**

13.3.8 **Table 13.5** summarises the proposed treatments to Trees of Particular Interest.

All trees are within or in the vicinity of the Site.

Table 13.5 – Summary of Treatments to Trees of Particular Interest

Tree Species	Status	Tree Proposed to be		
		Retained	Felled	Total
Aquilaria sinensis [土沉香]	Conservation Interest	5	0	5
Ficus microcarpa [細葉榕]	Tree due to large Size	0	1	1
Ixonanthes reticulata [黏木]	Conservation Interest	9	8	17
Michelia x *alba* [白蘭]	Conservation Interest	3	3	6
	Total	**17**	**12**	**29**

Tree Planting Proposal

13.3.9 A new tree planting proposal is provided based on the proposed Outline Landscape Plan layout. The details of the proposal are provided in the Tree Survey Report.

13.3.10 The tree species selection aims to blend the proposed landscaping with the surrounding environment ecologically and visually as far as practical. The suggested tree species include *Bischofia javanica* (秋楓), *Cleistocalyx nervosum* (水翁), *Machilus chekiangensis* (浙江潤楠), *Ilex rotunda var. microcarpa* (小果鐵冬青), etc. The tree planting palette to be implemented is subject to the detailed landscape design.

13.3.11 As discussed in the Preliminary Ecological Assessment Report, the proposed site formation and infrastructure works would result in a loss of 1.95 ha woodland of moderate ecological value.

13.3.12 It is recommended to mitigate such impact by off-site compensatory measures on a like-to-like basis, and undertake woodland compensation planting with a ratio not less than 1.95ha at the unallocated government land at Lin Au. (see **Figure 14.3**) Sufficient justification shall be provided in case of incapable of providing 1:1 woodland compensation.

13.3.13 As presented in **Table 13.4**, felling of 1,015 number of trees may be required during the construction stage of the project. A minimum of 178 number of new trees are proposed to be planted within the development site and engineered slopes. Since it is assessed that there is limited space within the site boundary (outside the areas for housing and school developments) for tree compensation, it is proposed to plant more new trees at the off-site woodland compensation area at Lin Au.

13.3.14 The Appendix A of the DEVB TC(W) No. 4/2020 - Tree Preservation has specified the compensatory planting requirement for government project, in which as far as possible it should be of a ratio not less than 1:1 in terms of number, i.e. the number of compensatory trees within the Site and off-site shall not be lower than that of the number of trees felled. A minimum no. of 1,015 trees would be required to

compensate for the trees under the Project. Sufficient justification shall be provided in case of incapable of providing 1:1 tree compensation.

13.3.15 Accordingly, by making reference to the "right species at the right place" principle as depicted in the "*Guiding Principles on Use of Native Plant Species in Public Works Projects*", i.e., planting suitable species (or species mix) in sites with suitable condition, it is recommended to plant a minimum no. of 1,015 trees in Lin Au with a mix of native tree species such as *Schima superba, Sterculia lanceolata, Schefflera heterophylla, Phyllanthus emblica*, *Liquidambar formosana, Michelia x alba and Ixonanthes reticulata*. The proposed new tree planting at Lin Au is mainly in seedling form to be planted in a woodland matrix arrangement of mixed trees species at minimum 4m spacing typical.

13.3.16 The details requirement and arrangement of the new tree planting, including the exact locations of the planting site, planting quantity, species mix and plant sizes, should be further developed during the detail design stage of the study and before the submission of the Tree Preservation and Removal Proposal for approval.

13.3.17 A minimum of 5 years post-planting monitoring programme should be undertaken by the contractor appointed by the project department to monitor the establishment of the compensated woodlands and new trees. It is anticipated that post-planting maintenance after the establishment of the woodland and trees would be minimal and similar to other vegetation on non-allocated government land on hillside, and required on an "as needed" basis.

13.3.18 LandsD will consider granting temporary land allocation for the off-site woodland compensation in Lin Au without a regular maintenance party and will be prepared to take over such sites from allocatees after maintenance period or full establishment of the trees subject to further review at the detailed design stage.

13.4 Preliminary Landscape Impact Assessment

Existing Landscape Resources

13.4.1 The baseline **Landscape Resources (LRs)** that fall within the Landscape Impact Assessment Areas together with their sensitivities to the changes are listed in **Table 13.1**. The locations of these LRs are mapped in **Figures 13.4** and **13.5**. For ease of reference, each of the LRs is given a reference identification number (Reference ID).

Existing Landscape Character Area

13.4.2 The baseline **Landscape Character Areas (LCAs)** that fall within the Landscape Impact Study Area together with their sensitivities to the changes are listed in **Table 13.2**. The locations and the characters of these LCAs are mapped and illustrated in **Figures 13.6** and **13.7**. For ease of reference, each of the LCAs is given a reference identification number (Reference ID).

13.4.3 There are **6** Landscape Character Types within the Study Area which are represented by a total of eleven Landscape Character Areas in different geographical locations.

Potential Sources and Magnitude of Landscape Change

13.4.4 The magnitude of unmitigated impacts on **LRs** and **LCAs** associated with the construction and operation of the Development are assessed and described in **Table 13.6** and **Table 13.7** respectively.

Construction and Operational Mitigation Measures

13.4.5 The proposed mitigation measures for Construction Phase (labelled **CMx**) and Operation Phase (labelled **OMx**), together with the associated funding, implementation, management and maintenance agencies, are tabulated in **Tables 13.8** and **13.9** respectively.

13.4.6 The Conceptual Outline Landscape Plan is provided in **Figure 13.8**. The proposed mitigation measures are annotated on plan in **Figures 13.9 to 13.11 -** Combined Landscape and Visual Mitigation Measures Plans 1, 2 and 3, in cross-sections in **Figures 13.12** and **13.13.**

Prediction of Significance of Landscape Impacts

13.4.7 The potential significances of the landscape impacts during the Construction and Operation Phases, before and after mitigation, are provided in **Tables 13.6** and **13.7.**

Overall Assessment of Landscape Impacts

13.4.8 The implementation of the recommended mitigation measures will assist in the creation of an attractive new housing development that minimises adverse impacts on neighbours as far as practical, and will, to some extent, help in mitigating the three principal landscape impacts caused by the Development, namely the adverse impacts of **Substantial** significance on landscape resources **LR1A – Natural Hillside with Woodland (within and in the vicinity of the Site)** and **LR2A – Engineered Hillsides with Woodland (within the Site)** and upon the landscape character area **LCA2-A – Upland and Hillside Landscape – Within and Adjacent to the Site**.

13.4.9 The impact on **LR1A** represents a loss of approximately **8.5%** of that landscape resource type (i.e. Natural Hillsides with Woodland) within the Study Area.

13.4.10 The impact on **LR2A** represents a loss of approximately **17.8%** of that landscape resource type (i.e. Engineered Hillsides with Woodland) within the Study Area.

13.4.11 The impact on **LCA2-A** represents a loss of approximately **8.0%** of that landscape character type (i.e. Upland and Hillside Landscape) within the Study Area.

13.4.12 Other impacts are very minor in nature and considered to be of either **Slight** or **Insubstantial** significance after mitigation as shown in **Tables 13.6** and **13.7**.

13.4.13 In conclusion, although there are adverse impacts of substantial significance upon two landscape resources and one landscape character area, these are mitigated to a certain degree by the proposed mitigation measures which results in moderate significance. Therefore, these impacts are not considered to be “too excessive” given that the hillside and woodland are not unique and represent relatively small

percentages of similar landscape resource types and landscape character types found in the Study Area (and tiny percentages of similar landscape resource types and landscape character types found in Hong Kong) and furthermore the benefits gained by the project Development include public housing that is badly needed within the community. Therefore, the landscape impacts are categorised as **acceptable with mitigation measures**.

Table 13.6 – Significance of Impacts on Landscape Resources (LRs) during the Construction and Operation Phases, and Residual Impacts After Mitigations

Reference ID.	Landscape Resource (LR)	Receptor Sensitivity (Low/ Medium/ High)	Magnitude of Change (Large/Intermediate/Small/ Negligible/None) During Construction and Operation Phases *BEFORE Mitigations*		Impact Significances *BEFORE Mitigations* (Substantial/Moderate/Slight/ Insubstantial/None)		Proposed Mitigation Measures	Impact Significances *AFTER Mitigations* (Substantial/Moderate/Slight/Insubstantial/ None)		
			Construction Phase	Operation Phase	Construction Phase	Operation Phase		Construction Phase	Operation Phase	
									Day 1	After 10 Years
LR1A	Natural Hillsides with Woodland (within and in the Immediate Vicinity of the Site)	High	Large	Large	Substantial	Substantial	Construction: CM1, CM6 Operation: OM3, OM4, OM5, OM7, OM8	Substantial	Substantial	Moderate
LR1B	Natural Hillsides with Woodland (beyond Site)	High	None	None	None	None	-	None	None	None
LR2A	Engineered Hillsides with Woodland (within the Site)	High	Large	Large	Substantial	Substantial	Construction: CM1 Operation: OM3, OM5	Substantial	Substantial	Moderate
LR2B	Engineered Hillsides with Woodland (beyond Site)	High	Negligible	Negligible	Insubstantial	Insubstantial	Operation: OM8, OM9	Insubstantial	Insubstantial	Insubstantial
LR3	Natural Hillsides With Scrublands / Grasslands / Cultivated Lands	High	None	None	None	None	-	None	None	None
LR4A	Residential Areas with Amenity Areas / Landscape Areas (Existing)	Medium	None	None	None	None	-	None	None	None
LR4B	Residential Areas with Amenity Areas / Landscape Areas (Under Construction)	Medium	None	None	None	None	-	None	None	None
LR5	Schools with Amenity Landscaping	Low	None	None	None	None	-	None	None	None
LR6	Village Type Development with Vegetated Areas	Medium	None	None	None	None	-	None	None	None

Reference ID.	Landscape Resource (LR)	Receptor Sensitivity (Low/ Medium/ High)	Magnitude of Change (Large/Intermediate/Small/ Negligible/None) During Construction and Operation Phases ***BEFORE Mitigations***		Impact Significances ***BEFORE Mitigations*** (Substantial/Moderate/Slight/ Insubstantial/None)		Proposed Mitigation Measures	Impact Significances ***AFTER Mitigations*** (Substantial/Moderate/Slight/Insubstantial/ None)		
			Construction Phase	Operation Phase	Construction Phase	Operation Phase		Construction Phase	Operation Phase	
									Day 1	After 10 Years
LR7A	Public Open Spaces / Sitting Out Areas with Amenity Landscaping	**Medium**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LR7B	Public Open Spaces	**Medium**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LR8	Public Streets with Amenity Landscaping	**Medium**	**Small**	**Small**	**Slight**	**Slight**	Construction: CM1, CM2, CM3, CM6, CM7 Operation: OM9	**Slight**	**Slight**	**Slight**
LR9	Engineered Slopes along Highways with Vegetated Surfaces	**Low**	**Small**	**Small**	**Insubstantial**	**Insubstantial**	Operation: OM8	**Insubstantial**	**Insubstantial**	**Insubstantial**
LR10	Petrol Filling Station with Amenity Landscape	**Low**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LR11	Streams	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LR12	Tai Po River (Channelised)	**Medium**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**

Table 13.7 – Significance of Impacts on Landscape Character Areas (LCAs) during the Construction and Operation Phases, and Residual Impacts After Mitigations

ID.	Landscape Character Area (LCA)	Receptor Sensitivity (Low/ Medium/ High)	Magnitude of Change (Large/Intermediate/Small/ Negligible/None) During Construction and Operation Phases *BEFORE Mitigations*		Impact Significances *BEFORE Mitigations* (Substantial/Moderate/Slight/ Insubstantial/None)		Proposed Mitigation Measures	Impact Significances *AFTER Mitigations* (Substantial/Moderate/Slight/Insubstantial/ None)		
			Construction Phase	Operation Phase	Construction Phase	Operation Phase		Construction Phase	Operation Phase	
									Day 1	After 10 Years
LCA1-A	Settled Valley Landscape – Wun Yiu and environs	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LCA1-B	Settled Valley Landscape – along Tai Po River	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LCA2-A	Upland and Hillside Landscape – Within and adjacent to the Site	**High**	**Large**	**Large**	**Substantial**	**Substantial**	Construction: CM1, CM6 Operation: OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	**Substantial**	**Moderate**	**Moderate**
LCA2-B	Upland and Hillside Landscape – West of Pan Chung Tsuen	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LCA2-C	Upland and Hillside Landscape - Southwest of Tolo Highway	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LCA2-D	Upland and Hillside Landscape – East of Shan Tong Road	**High**	**None**	**None**	**None**	**None**	-	**None**	**None**	**None**
LCA3-A	Urban Peripheral Village Landscape – Pan Chung Tsuen, Ma Wo and Ma Wo Road	**High**	**Negligible**	**Negligible**	**Insubstantial**	**Insubstantial**	Construction: CM1, CM2, CM3, CM6, CM7 Operation: OM9	**Insubstantial**	**Insubstantial**	**Insubstantial**

ID.	Landscape Character Area (LCA)	Receptor Sensitivity (Low/ Medium/ High)	Magnitude of Change (Large/Intermediate/Small/ Negligible/None) During Construction and Operation Phases *BEFORE Mitigations*		Impact Significances *BEFORE Mitigations* (Substantial/Moderate/Slight/ Insubstantial/None)		Proposed Mitigation Measures	Impact Significances *AFTER Mitigations* (Substantial/Moderate/Slight/Insubstantial/ None)		
			Construction Phase	Operation Phase	Construction Phase	Operation Phase		Construction Phase	Operation Phase	
									Day 1	After 10 Years
LCA4-A	Residential Urban Landscape – Upper Ma Wo Road	**Medium**	**None**	**None**	**None**	**None**	**-**	**None**	**None**	**None**
LCA4-B	Residential Urban Landscape – Wan Tau Tong Estate, Tai Po Market Station Development, Tat Wan Road and Nam Wan Road	**Medium**	**Negligible**	**Negligible**	**Insubstantial**	**Insubstantial**	Construction: CM1, CM2, CM3, CM6, CM7 Operation: OM9	**Insubstantial**	**Insubstantial**	**Insubstantial**
LCA4-C	Residential Urban Landscape – New Mid-Rise Development on Shan Tong Road	**Medium**	**None**	**None**	**None**	**None**	**-**	**None**	**None**	**None**
LCA4-D	Residential Urban Landscape – Wang Fuk Court	**Medium**	**Negligible**	**Negligible**	**Insubstantial**	**Insubstantial**	Operation: OM9	**Insubstantial**	**Insubstantial**	**Insubstantial**
LCA5-A	Transportation Corridor Landscape – Tolo Highway	**Low**	**Small**	**Small**	**Insubstantial**	**Insubstantial**	Operation: OM8	**Insubstantial**	**Insubstantial**	**Insubstantial**
LCA5-B	Transportation Corridor Landscape – MTR East Rail Line	**Low**	**None**	**None**	**None**	**None**	**-**	**None**	**None**	**None**
LCA5-C	Transportation Corridor Landscape – Tai Po Road	**Low**	**Negligible**	**Negligible**	**Insubstantial**	**Insubstantial**	Operation: OM9	**Insubstantial**	**Insubstantial**	**Insubstantial**
LCA6-A	Residential Urban Fringe Landscape – Kwong Fuk Park	**Medium**	**None**	**None**	**None**	**None**	**-**	**None**	**None**	**None**

Table 13.8 - Proposed Construction Phase Mitigation Measures

Reference ID	Landscape & Visual Mitigation Measures	Funding Agency	Implementation Agency	Management and Maintenance Agency
CM1	**Minimised construction areas and temporary works areas**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM2	**Minimised construction period**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM3	**Minimised construction traffic**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM4	**Erection of decorative screens/construction hoardings**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM5	**Avoidance of excessive height and massing of construction buildings**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM6	**Protection of retained trees and transplanting of affected trees where practical**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA
CM7	**Control of Night Lighting**	ArchSD, CEDD & HKHA	Relevant Contractor	ArchSD, CEDD & HKHA

Table 13.9 - Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures	Funding Agency	Implementation Agency	Management and Maintenance Agency
OM1	**Sensitive building design in terms of scale, height and massing**	HKHA	HKHA	HKHA
OM2	**Sensitive architectural treatment of building façades**	HKHA	HKHA	HKHA
OM3	**Provision of amenity planting & 30% greenery area within the Public Housing Development Site**	HKHA	HKHA	HKHA
OM4	**Provision of amenity planting & 20% greenery area within the School Site**	EDB	ArchSD	EDB/ Future School SSB
OM5	**Street level shade tree planting (within the Site Boundary)**	HKHA	HKHA	HKHA
OM6	**Sensitive architectural treatment of pedestrian zone building edges facing public roads**	HKHA	HKHA	HKHA
OM7	**Tree planting in toe planter**	CEDD	CEDD	EDB/ Future School SSB/ HKHA
OM8	**Landscape treatment of formed engineered slope and retaining walls**	CEDD	CEDD	EDB/ Future School SSB/ HKHA
OM9	**Remedial planting along Ma Wo Road, Tat Wan Road, Nam Wan Road, Kwong Wang Street and Tai Po Road – Yuen Chau Tsai**	CEDD	CEDD	LCSD

Notes:
1. The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.
2. "ArchSD" stands for "Architectural Services Department".
3. "CEDD" stands for "Civil Engineering and Development Department".
4. "EDB" stands for "Education Bureau".
5. "HKHA" stands for "Hong Kong Housing Authority".
6. "LCSD" stands for "Leisure and Cultural Services Department".
7. "SSB" stands for "School Sponsoring Body".

13.5 Preliminary Visual Impact Assessment

Assessment Area

13.5.1 The Visual Envelope (VE) is the area within which any part of the proposed project (including the proposed road widening works) can be seen. The VE is delimited by a combination of nearby high-rise residential blocks, surrounding hill slopes and distant ridgelines which restrict the VE to an area within a **5.5km** radius of the Site (see **Figures 13.14** and **13.15**).

Key Public Viewing Points

13.5.2 Eleven Key Public Viewing Points within the VE have been identified. These are listed in **Table 13.10**. Their respective locations are shown in **Figures 13.14** and **13.15**. The photos of Public Viewing Points are shown in **Figures 13.16 to 13.26**.

Potential Sources of Visual Impact

13.5.3 Potential sources of visual impact caused by the proposed Development include the following:

- Site formation works that involve the removal of extensive areas of existing natural hillside and woodland in order to create the development platforms.
- The proposed Development that comprises three public housing blocks with a height of **+135.0mPD**, a carpark block at a height of about **+56.0mPD**and a 18-classroom school at a height of about **+49mPD**, the associated vehicular and pedestrian accesses and engineered slopes on the south hillside of the Development. The proposed site layout and the section of the Development are illustrated in **Figures 10.1** to **10.3** of this report.
- Road improvement works that involve construction of internal roads and modification of existing Ma Wo Road and Ma Shing Path.
- Road widening works that involve modification of short sections of road at the junction of Ma Wo Road and Tat Wan Road, and the junction of Nam Wan Road and Tat Wan Road.

Appraisal of Visual Change

13.5.4 The visual impacts of the proposed Development on the key public viewing points are summarised in **Table 13.10**.

Proposed Visual Mitigation Measures

13.5.5 The proposed landscape and visual mitigation measures for the Operation Phase are tabulated in **Table 13.9** together with the associated funding, implementation, management and maintenance agencies and the proposed implementation programme. Please refer to **Figures 13.9 to 13.13** for the combined mitigation measures for landscape and visual.

Overall Assessment of Visual Impacts

13.5.6 The scale and height of the proposed Development is generally compatible and visually coherent with the existing Tai Po urban landscape, although the location of the Development in land zoned "Green Belt" at the southern edge of Tai Po town creates some adverse visual impacts on the immediate surroundings due to the loss of the hillside greenery as well as the erection of the three tall public housing blocks that will create some visual obstruction of existing views from nearby viewing points to the surrounding landscape backdrop.

13.5.7 In total 11 viewing points (VPs) were assessed, 7 of which are predicted to experience visual impacts of **Slight** or **Insubstantial** significance primarily due to their considerable distances from the Site, another 3 of which (**VPs 2.1, 2.2** and **2.4**) are predicted to experience visual impacts of **Moderate** significance owing to their closer proximity to the Site and the scale of the Development affecting the local visual composition and creating some visual obstruction of the landscape backdrop, and the remaining **VP 2.3** is predicted to experience visual impacts of **Substantial** significance due to the very close proximity to the Site. Despite mitigation measures, including sensitive building design and treatment, and amenity planting, are being proposed to reduce the visual impacts as much as practical, the physical bulk of the buildings projecting above the horizon will still be very dominant, therefore the residual visual impact will remain **Substantial** after mitigations.

13.5.8 The scale and height of the proposed Development is generally compatible and visually coherent with the existing Tai Po urban landscape. Most of the key public viewing points will experience insubstantial impacts, while those that will receive moderate to substantial impacts are within south Tai Po town due to their close proximity to the Project Site.

13.5.9 In overview, and in accordance with the parameters described in *TPB PG-No.41*, the overall visual impact significance of the proposed Development is considered **Slightly Adverse**.

Table 13.10 – Magnitude of Visual Change during Operation Phase Before and After Mitigations

Reference ID	Key Visual Sensitive Receivers (VSRs)	Receptor Sensitive to Visual Change (High/ Medium/ Low)	Duration and Frequency of Impacts (Temporary/ Permanent & Intermittent/ Continuous)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible/ None)	Degree of Visibility of Source(s) of Visual Impact (Full/Partial/ Obscured) & Distance Between Viewers & Nearest Source(s) of Impact	Potential Blockage of Existing View (Full/ Partial/ Slight/ Negligible /None)	Visual Impact Significance ***Before Mitigations*** (Substantial/ Moderate/Slight/ Insubstantial/ None)	Proposed Operation Phase Mitigation Measures	Impact Significances ***After Mitigations*** (Substantial/Moderate/Slight/ Insubstantial/None)	
									Operation Phase	
									Day 1	After 10 years
VP1.1	View from Wilson Trail No.7 (South of the Site)	High	Permanent, Continuous	Small	Partial, 1.6km	Negligible	Slight	OM1, OM2	Insubstantial	Insubstantial
VP1.2	View from Grassy Hill Peak	High	Permanent, Continuous	Negligible	Partial, 3.2km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP1.3	View from Maclehose Trail No.8 (Southwest of the Site)	High	Permanent, Continuous	Negligible	Partial, 3.8km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP1.4	View from Tai To Yan Peak	High	Permanent, Continuous	Negligible	Partial, 4.7km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP1.5	View from Pak Tai To Yan Peak	High	Permanent, Continuous	Negligible	Partial, 4.6km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP1.6	View from Cloudy Hill (North of the Site)	High	Permanent, Continuous	Negligible	Partial, 2.8km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP1.7	View from Wilson Trail No.8 (West of the Site)	High	Permanent, Continuous	Negligible	Partial, 0.9km	Negligible	Insubstantial	OM1, OM2	Insubstantial	Insubstantial
VP2.1	View from Wun Yiu Minibus Station	Medium	Permanent, Continuous	Intermediate	Partial, 400m	Slight	Moderate	OM1, OM2	Moderate	Moderate
VP2.2	View from Tai Po River Promenade	High	Permanent, Continuous	Intermediate	Partial, 70m	Partial	Moderate	OM1, OM2	Moderate	Moderate
VP2.3	View from Junction of Tat Wan Road and Ma Wo Road	Medium	Permanent, Continuous	Large	Full, 60m	Full	Substantial	OM1, OM2, OM5, OM6	Substantial	Substantial
VP2.4	View from Podium Garden at Tai Po Complex	High	Permanent, Continuous	Intermediate	Partial, 520m	Slight	Moderate	OM1, OM2	Moderate	Moderate

14. PRELIMINARY ECOLOGICAL IMPACT ASSESSMENT

14.1 Ecological Baselines

General Description

14.1.1 As shown in the **Figure 14.1**, the site formation area, which is primarily a wooded habitat composed with a mix of plantation, orchard and woodland, is wholly surrounded by developed area including the Tat Wan Road and a high-rise housing (Wan Tau Tong Estate) on the east, the Tolo Highway in the south, the Ma Shing Path and mid-rise housing (The Balmoral) on the west, as well as the Ma Wo Road and the open carparks on the north. Nevertheless, a wooded area is located on the northwest corner of the 500m Study Area; and the southern part of the Study Area, i.e., area south of the Tolo Highway, is composed of a mosaic of village houses, cultivated field, wasteland, woodland and plantation. The channelized Tai Po River which is mostly covered by concrete and run alongside the Tat Wan Road in the south before turning eastward towards the Tolo Harbour, and there are several mountain streams on the west and southwest parts of the Study Area that are far beyond from the Site and would not be affected by the proposed development.

Literature Review

14.1.2 A literature review and ecological field survey has been undertaken to establish the ecological baseline of the 500m Study Area; and the surveying/sampling strategy as well as the methodological approach has made reference to the EIAO GN 7/2010 and 10/2010. Given that the potential ecological impact of the proposed site formation and infra-structure works would primarily relate to land-taking and disturbance, as such expect to be localised and confined to the Site and their immediate vicinities, the survey have focused on describing the habitat characteristics of the potential affected area as well as the presence of any species of conservation interest within and in the vicinity of the areas to be directly or indirectly affected by the project.

Ecological Baseline Survey

14.1.3 On the other hand, based on the guiding principle stated in the Section 3.2 and 3.3 of the EIAO Guidance Note No. 7/2010, and considered the site characteristics of the Study Area as a whole as described above, a methodology paper on the baseline ecological survey, which covered a 4 months period in the wet season, has been prepared for AFCD's review and comment before the commencement of the data collection process.

Ecological Habitat

14.1.4 6 habitat types have been categorised and delineated within the Study Area, and their respective coverage is presented in **Table 14.1** below and illustrated in **Figure 14.2**.

Table 14.1 Ecological Habitat within the Study Area and Sites of the Project

Habitat	Study Area /ha	Sites (1)/ha
Woodland	25.83	1.95
Plantation	11.87	0.65
Shrubland-Grassland Mosaic	15.98	0
Cultivated Land	3.00	0
Developed Area	60.88	1.58
Watercourse	2.91	0

Remarks: (1) Sites include the areas within the boundary of "Site Formation" and "Infrastructure" as shown in **Figure 14.2**.

Flora and Fauna

Flora

14.1.5 A flora survey focused on the potential impacted area has been undertaken in this study to describe the floristic characteristics of the habitats and identify the presence of any plant species of conservation interest within the Study Area, and a total number of 356 plant species has been recorded, among which 4 species of conservation interest has been recorded, namely the Incense Tree *Aquilaria sinensis* (土沉香), the shrub Hong Kong Pavetta *Pavetta hongkonensis* (香港大沙葉), the climbing plant Luofushan Joint-fir *Gnetum luofuense* (羅浮買麻藤), as well as the Small Persimmon *Diospyros vaccinioides* (小果柿). On the other hand, the tree *Ixonanthes reticulata* (黏木), a species considered as vulnerable in China but common in Hong Kong, was recorded during the tree survey undertaken for this project. The exotic tree White Champaca *Michelia x alba* (白蘭), which is also listed under the Forestry Regulations (Cap. 96), were found planted among the village area and the woodland would not be considered as species of conservation interest in the assessment.

14.1.6 *Aquilaria sinensis* is common in Hong Kong but under the threat of illegal felling and over-exploitation in southern China including Hong Kong. This species is scheduled under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and listed in the "Rare and Precious Plants of Hong Kong"; and it is also listed as "Vulnerable" in the IUCN Red List and Red List of China Higher Plants, and included in the Illustration of Rare & endangered plant in Guangdong Province. Wild individual of this species in China is under State protection (Category II). 29 no. of this species in different growing stages were recorded at the woodland within the site formation area, but their DBH are all < 95mm and most of the recorded plants are seedlings ranged from 30cm to 1.2m in height, and appeared in healthy condition. Nonetheless, trunk damage has also been noted for some plants >2m tall. On the other hand, 30 plants with dbh <95mm and 5 trees has also been recorded in the woodland beyond the site formation boundary during the ecological survey and tree survey respectively.

14.1.7 The tree *Ixonanthes reticulata* is locally common but listed as "Vulnerable" in IUCN Red List as well as Red List of China Higher Plants. Eleven individuals of this species which were all in fair or good condition has been recorded among the woodland within the site formation area and 6 individuals were recorded in the woodland outside the site formation area during the tree survey undertaken in this project.

14.1.8 Three Hong Kong Pavetta *Pavetta hongkonensis* were found in the under-storey of the woodland, and it is listed under the Cap.96, and one of them was recorded within the site formation area. The shrub Small Persimmon *Diospyros vaccinioides* is listed as "Critically Endangered" in the IUCN Red List, and "Endangered" in the Red List of China Higher Plants. This species is very common on the hillside of Hong Kong and 3 patches composed with ~ 12 plants were found scattered among the shrubland-grassland mosaic on the hillside at the southwestern part of the Study Area.

14.1.9 The climber Luofushan Joint-fir *Gnetum luofuense* is locally common but listed as "Near Threatened" by the IUCN Red List because of the threat from habitat loss, and 2 patches of this species were found among the woodland within the site formation area.

Fauna

14.1.10 A total of 5 mammals, 28 birds, 8 herpetofauna, 28 butterflies, 9 odonates, 3 freshwater fishes and 1 crustacean have been recorded during the ecological field survey within the Study Area; among which 9 of them has been considered as species of conservation interest locally, nationally or internationally. However, all of them are considered to be common/very common and/or widely distributed in Hong Kong, except the butterfly forget-me-not (咖灰蝶) which has been listed as very rare in the AFCD's biodiversity database.

14.1.11 All of the bats are protected in Hong Kong by the Cap. 170, and both of the Short-nosed Fruit Bat *Cynopterus sphinx* (短吻果蝠) and Japanese Pipistrelle *Pipistrellus abramus* (東亞家蝠) are very common and widely distributed in urban and countryside areas throughout Hong Kong. Two records of each bat species were made during the survey.

14.1.12 The exotic and introduced Pallas's Squirrel *Callosciurus erythraeus* (赤腹松鼠) is common in Hong Kong and fairly widely distributed in woodlands in the New Territories, and it is protected locally under the Cap. 170. Two sightings of this animal were made in the woodland and one sighting was made in the plantation and within the site formation area.

14.1.13 A low abundance of four bird species of conservation interest were noted during the field survey, in which the two ardeids species Little Egret (小白鷺) (5 individuals) and Chinese Pond Heron (池鷺) (a single individual) were occasionally found foraging, roosting or perching within the Tai Po River, and 2 records of the Chinese Hwamei (畫眉) were made at the woodland within the site formation area. The two ardeids have been categorised as "potential regional concern" and "regional concern" for their restrictedness in breeding and/or roosting sites, and the latter is protected under the Cap. 586. All of these three species are common and widely distributed in Hong Kong.

14.1.14 On the other hand, 6 sightings of Black Kite (黑鳶) soaring over the Study Area have been made during the survey, especially in area south of the Highway. This species is protected in Hong Kong under the Cap. 170 and Cap. 586, and it is also a "Class II" protected animal under Special State Protection in China; and it is common and widely distributed in Hong Kong. The restrictedness in breeding and/or roosting sites of this species is considered as a local concern by Fellowes.

14.1.15 The butterfly Forget-me-not *Catochrysops strabo* (咖灰蝶) is considered to be very

rare by AFCD because its local population has been dramatically reduced in recent years, and two individuals were recorded in the engineering slope west of the Site Formation area. This species inhabit open habitat and can be found in wasteland and shrubland.

14.1.16 8 endemic freshwater crabs *Cryptopotamon anacoluthon* (鰓刺溪蟹) which is listed as "Vulnerable" in the IUCN Red List were recorded in a semi-natural stream near the western boundary of the Study Area. This species is widely distributed within Hong Kong and usually be found in shaded shallow streams with clear or unpolluted, fast-flowing waters, rocky substratum, and leaf-litters, etc.

14.2 Ecological Impacts

14.2.1 Based on the recommended site formation scheme and layout plan of the project, as well as the ecological baseline established for the Site, the key ecological impacts of the proposed site formation and infra-structure project where ecological mitigation would be required has been identified, including:

- Loss of 1.95 ha Woodland with moderate ecological value
- Potential direct loss of floral species of conservation interest within or adjacent to the site formation area.

14.2.2 The habitat map and species of conservation interest of the preliminary ecological impact assessment is presented in **Figure 14.2**.

14.3 Mitigation Measures

Mitigation for Direct Loss of Woodland

14.3.1 It has been identified that the site clearance and land-taking processes during the construction phase would result in a loss of 1.95 ha woodland. Ecological mitigation measures would be required such that unacceptable residual ecological impact would not be resulted from the proposed development. Given the land use conflict between in-situ woodland conservation and the proposed site formation work, it is recommended to mitigate such impact by off-site compensatory measures on a like-to-like basis, and undertake woodland compensation planting with a ratio not less than 1.95ha at the unallocated government land at Lin Au, where the area is mostly covered by a mosaic of shrubland-grassland and the compensated habitat could form a continuous woodland cover with the existing woodland on the hillside when the trees matured. Sufficient justification shall be provided in case of incapable of providing 1:1 wood land compensation. The potential area for woodland compensation in Lin Au is shown in **Figure 14.3**.

14.3.2 A detailed Woodland Compensatory Plan (WCP) should be prepared by a Plant Ecologist with relevant experience and submitted to AFCD and the future maintenance department for review during the Investigation and Detail Design stage of the project and before the commencement of the site clearance work. The WCP should detail the planting approach including the planting plan, planting schedule and programme, as well as the monitoring and maintenance requirements.

14.3.3 The necessity and nature of any pre-planting site preparation works, such as weeding and soil improvement, should also be reviewed during the preparation of the WCP, and the proposed planting schedule should make reference to the "Guiding Principles on Use of Native Plant Species in Public Works Projects" issued by the Greening Office, DEVB, and include a mix of native tree, shrub, herbaceous ground covers as well as climbing plants wherever practicable.

14.3.4 Wherever possible, the compensatory planting should be scheduled at the earliest stage of the construction program, and a minimum of 5 years post-planting monitoring programme should be undertaken by the contractor appointed by the project department to monitor the establishment of the compensated woodlands. It is anticipated that post-planting maintenance after the establishment of the woodland would be minimal and similar to other vegetation on unallocated government land on hillside, and required on an "as needed" basis.

Mitigation for Potential Direct Loss of Flora of Conservation Interest

14.3.5 Four floral species of conservation interest has been recorded within the secondary woodland to be directly affected under the recommended site formation scheme during the ecological survey, and the following mitigation measures are recommended to avoid, minimize and if necessary compensate the loss of those species under the project.

14.3.6 During the detail design stage of the project, the engineer should explore the opportunities to refine the site boundary as such to preserve *in-situ* those plants located near the edge of the work site boundary identified in this feasibility study to minimize the number of those plants to be affected by the project.

14.3.7 Furthermore, before the commencement of any site clearance work, a detailed baseline vegetation survey with the objective to identify the presence and location of floral species of conservation interest, including but not limited to those recorded in this Study, should be undertaken by an experienced Plant Ecologist with at least 3 years' experience in vegetation survey in woodland habitat. The survey should cover all work areas to be directly impacted by the proposed development, as well as 5m from the work site boundary to earmark any floral species of conservation interest recorded. The detail vegetation survey should also follow the numbering/tagging and reporting requirements for tree survey as stipulated in the prevailing technical circular on tree preservation, and the results should be presented in a plant schedule and location plan regardless the size or form of the recorded species.

14.3.8 The suitability for transplanting the recorded plant should be assessed on an individual basis and make reference to the evaluation criteria as suggested in the "Guidelines for Tree Transplanting" issued by the Tree Management Office, DEVB as far as applicable; and a "Transplanting Proposal for Flora of Conservation Interest" detailed with the transplanting arrangement, such as program, operation; location of the receptor sites (preferably in the similar habitats adjacent to the Site or within the woodland compensation area), as well as the monitoring requirements should be prepared by a Plant Ecologist with relevant experience and submitted to AFCD as well as the future maintenance department of the transplanted plants for review before the commencement of the transplanting work.

14.3.9 Should any of those plants is unavoidably be felled under the project, compensatory planting with a ratio not less than 1:1 in terms of quantity, should

be undertaken during the woodland compensatory planting.

Mitigation Measures for Potential Disturbance to Habitat and Species adjacent to the Site

14.3.10 In order to avoid and/or minimize the potential disturbance to the nearby habitats and the inhabit wildlife, mitigation measures related to good site practice and construction approach during the site clearance work and site management are summarized in **Table 14.2** below.

Table 14.2 Ecological Mitigation Measures Recommended for the Construction Stage

Objectives	Measures
Disturbance Avoidance	Good site practice: • Properly democratize the site boundary with fencing to prevent any infringement into the adjacent habitats; • Avoid soil storage or stockpiling of any material against trees adjacent to the Site; • Prohibit on-site burning of waste; • Excavated material should be properly covered or promptly disposed • Staff training/toolbox talks on the ecological importance of the adjacent habitats • Prohibit extraction of water from the adjacent stream courses for whatever use during the construction process or by the site staff • Prohibit feeding of wild animals (notably wild boar), and fruits and food remains, should be properly stored in appropriate receptacles, and disposed daily • The *Livistona chinensis* trees within the Site should be checked for the presence of any roosted bat by an Ecologist; and those trees could only be felled in the absence of any roosted bats.
Minimization of Disturbance to Wildlife	• cut down vegetation in stages before groundwork takes place to disperse any wildlife that is sheltering in the immediate area of the work • Wherever feasible, the site clearance and ground work should be proceeded south- or east-ward and preferably in one direction as such to minimize the temporal habitat fragmentation during the site clearance process and maintain a passage for wildlife.

14.3.11 Furthermore, promptly and effective implementation of mitigation measures related to the control of noise, dust and waste management as recommended in the Preliminary Environmental Review Report would also lower the potential disturbance to the ecological environment of the areas adjacent to the Site.

14.4 Summary

With the implementation of the recommended mitigation measures, unacceptable residual impact would not be anticipated from the loss of ecological habitats and potential disturbance to wildlife caused by the proposed site formation and infra-structure works.

15. PRELIMINARY AIR VENTILATION ASSESSMENT

15.1 General

15.1.1 In order to demonstrate that the proposed development has considered various air ventilation aspects and that there is no adverse impact on the pedestrian level in the vicinity of the Site, a qualitative Expert Evaluation on Air Ventilation (AVA) was conducted to support the rezoning proposal from air ventilating point of view.

15.2 Proposed Development Proposal

15.2.1 The development will consist of three T-shape domestic blocks with a building height of +135mPD and a low-rise podium block (consisting of retail accommodations at around +21mPD). There is also a carpark block (around +56mPD) and 18 class room school with outdoor sport court to be constructed within the development. The preliminary master layout plan of the proposed development is shown on **Figure 15.1** below**.**

Building Disposition

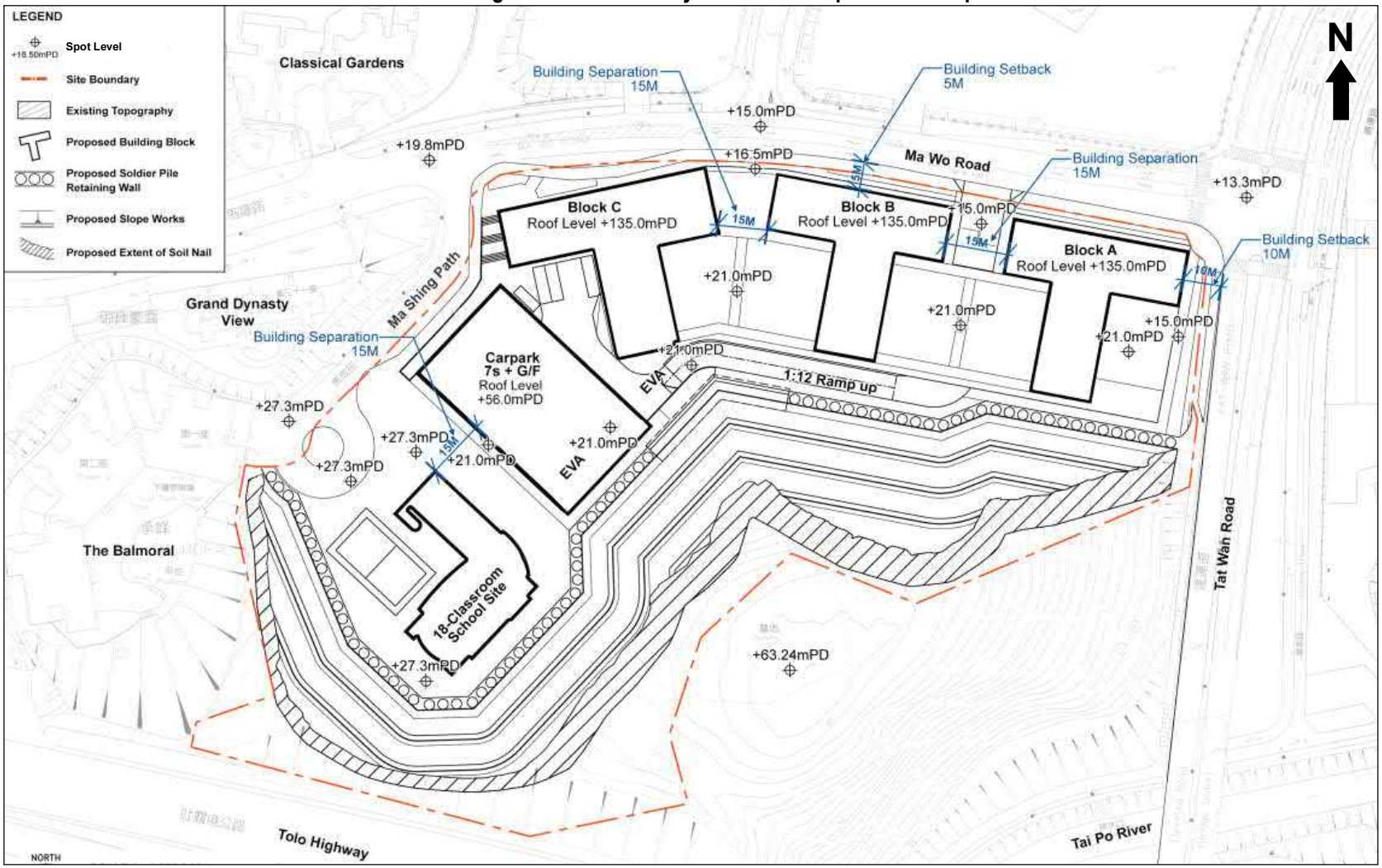
15.2.2 As illustrated by **Figure 15.1** below, 15m wide building separation between the carpark block and school is provided for ESE and SE prevailing winds to maintain good ventilation within the Site.

15.2.3 In addition, a 15m wide building separation between the domestic blocks are created for SSW and S prevailing winds. Furthermore, the podium rooftop is reduced to 21mPD for effective wind penetration.

Podium Setback

15.2.4 The podium of proposed development will be set back according to SBD guidelines to enhance wind environmental quality at pedestrian level and mitigate street canyon effects. Approx. 10m wide distance is kept from the centerline of the adjacent roadway (Tat Wan Road) to allow SSW and S prevailing wind from the slope of Tai Mo Shan and Grassy Hill to circulate through Tat Wan Road and thus permitting wind penetration towards Tai Po inner areas.

Figure 15.1 Master Layout Plan of Proposed Development



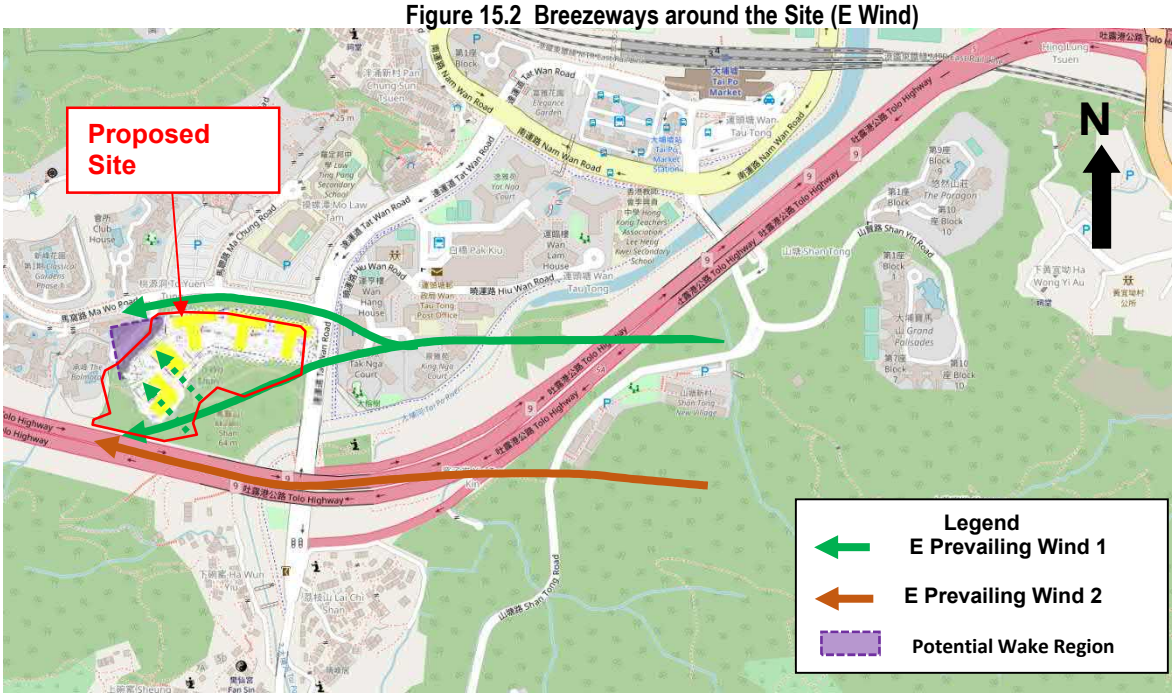
15.3 Evaluation of the wind environment under proposed development layout

E Prevailing Wind

15.3.1 As illustrated by **Figure 15.2** below, the E wind (green arrow) will be divided into two streams by the development's domestic towers (yellow area). A portion of the wind will be diverted and travels along Ma Wo Road towards Classical Garden Phase 1 whilst the other portion flows through the Site and circulates along Tolo Highway and towards the Tai Po upper regions.

15.3.2 Since the proposed development may block some portion of wind from the E prevailing direction, potential wake regions which covers Grand Dynasty View Block 30 and 31 is anticipated However, building separations (green dotted arrow) are designated between the school and carpark block, and between carpark block and domestic block C to mitigate against this adverse ventilation impact.

Figure 15.2 Breezeways around the Site (E Wind)



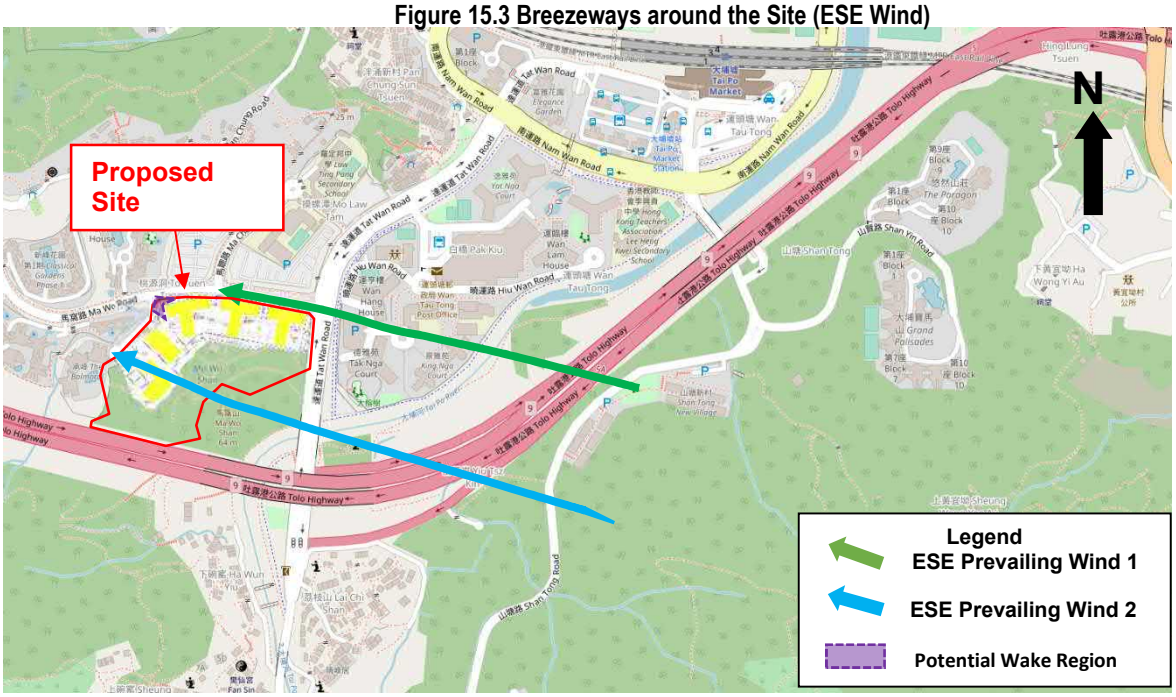
ESE Prevailing Wind

15.3.3 The overall wind environment of the proposed design scenario will be similar to that of existing condition. As illustrated by **Figure 15.3** below, the proposed development creates a building separation between carpark block and school for ESE prevailing winds to maintain good ventilation.

15.3.4 A portion of the wind coming from Sheung Wong Yi Au will flow through the building separation at north of the proposed development and enters Ma Wo Road whilst the remaining portion of wind circulates through building separation between the carpark block and school, and reaches Ma Shing Path towards the Balmoral development.

15.3.5 As a result, it is expected that there will be no problematic areas under ESE prevailing wind conditions since sensitive receivers are not located within proximity of air stagnant regions.

Figure 15.3 Breezeways around the Site (ESE Wind)



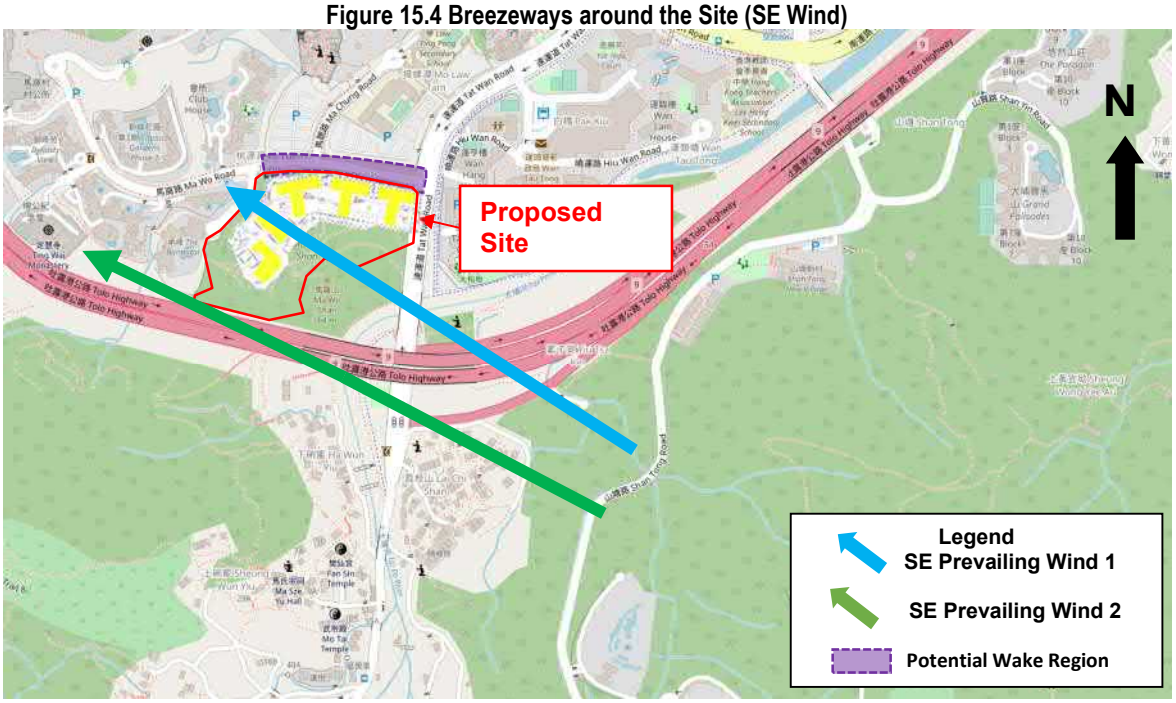
SE Prevailing Wind

15.3.6 In comparison to existing conditions, the wind environment around the Site will be moderately modified under the proposed design scenario. As illustrated by **Figure 15.4** below, the SE wind 1 (blue arrow) coming from Sheung Wong Yi Au will be diverted by the proposed development's domestic tower (yellow area). A portion of the wind will penetrate through the building separation between domestic bock C and carpark block, and then skim over the low-rise podium block towards the Classical Garden development.

15.3.7 Moreover, a portion of the SE prevailing wind from Sheung Wong Yi Au will flow through Tolo Highway and the Site, reaching neighboring developments at the western side of the Site including, Balmoral, Ting Wai Monastery and Dynasty View.

15.3.8 Wind environment on Ma Wo Road will be slightly affected since part of the road is situated at potentially air stagnant regions within proximity to the proposed development (purple area). However, these adverse impacts will be mitigated by provision of wind corridors within the proposed development. Building separations (15m) are designated between domestic block A, B and C for ventilation preservation. Therefore, it is expected that the ventilation performance of the proposed scenario and existing conditions will be of similar order of magnitude.

Figure 15.4 Breezeways around the Site (SE Wind)



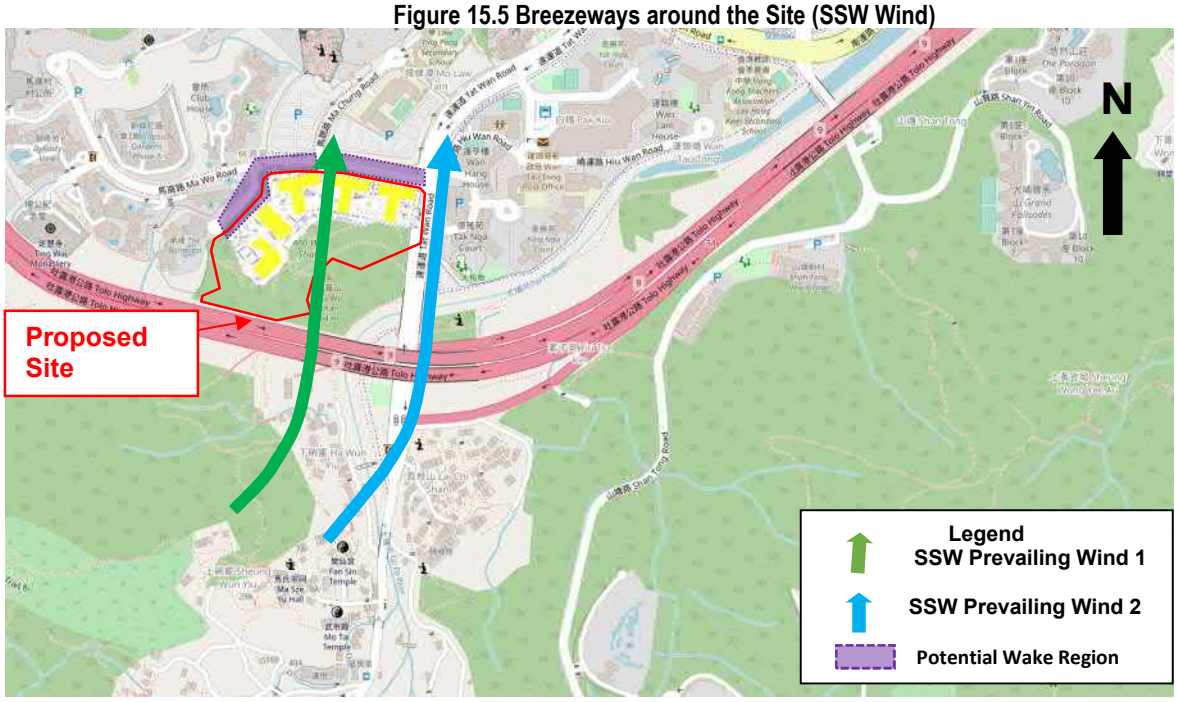
SSW Prevailing Wind

15.3.9 The wind environment around the Site will be moderately modified under the proposed design scenario. As illustrated by **Figure 15.5** below, the SSW wind 1 (green arrow) coming from slope of Tai Mo Shan will be diverted by the domestic towers of the proposed development (yellow area). A portion of the wind will penetrate through building separation between the domestic bock B and domestic bock C and skim over the low-rise podium block towards Ma Chung Road.

15.3.10 A portion of wind (blue arrow) coming from Tai Mo Shan will flow through the building separation at the east of the proposed development and enters Tat Wan Road towards Yat Nga Court.

15.3.11 Building separations (15m) are designated between domestic blocks to mitigate against any possible adverse ventilation impact. This allow the provision of wind corridors within the proposed housing development to mitigate any ventilation impact to adjacent built environment.

Figure 15.5 Breezeways around the Site (SSW Wind)



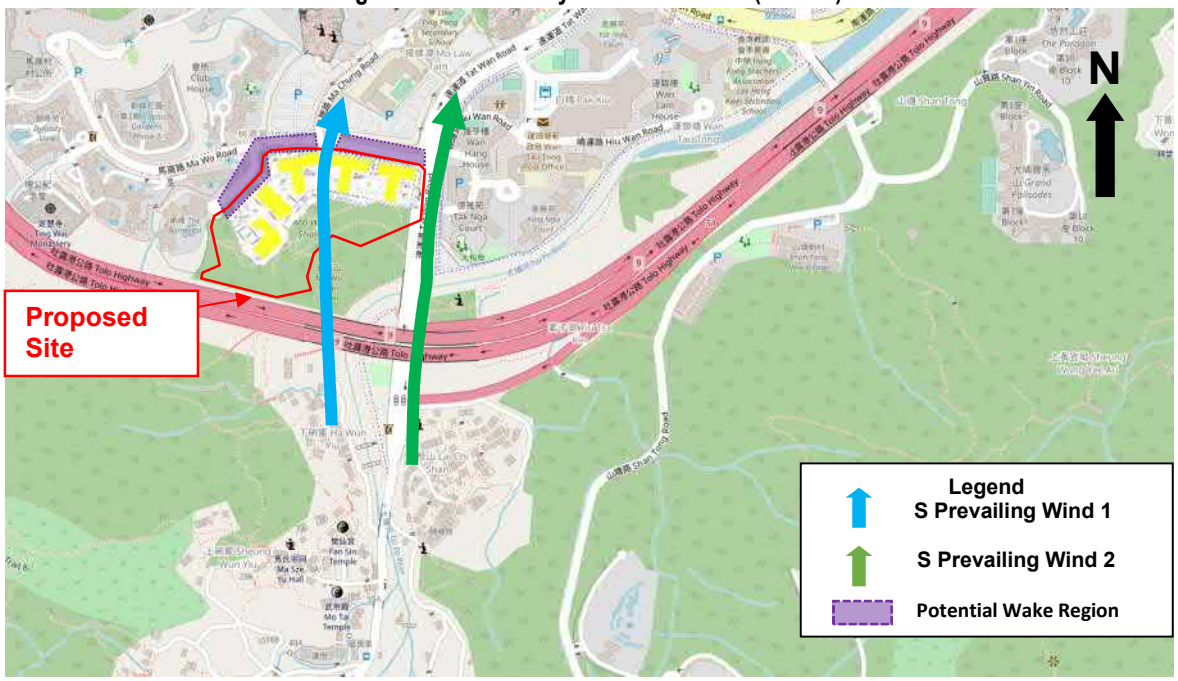
S Prevailing Wind

15.3.12 In comparison to existing conditions, the overall wind environment under the proposed design scenario will be similar of a similar pattern under SSW prevailing wind. As illustrated by **Figure 15.6** below, the S wind 1 (blue arrow) coming from slope of Tai Mo Shan will be diverted by domestic towers (yellow area) within the development. A portion of the wind will penetrate through the building separation between domestic bock B and domestic bock C, and then skim over the low-rise podium block towards Ma Chung Road.

15.3.13 A portion of wind (green arrow) coming from Tai Mo Shan will circulate through the building separation at the eastern side of the proposed development and enters Tat Wan Road towards Yat Nga Court.

15.3.14 Building separations (15m) are designated between domestic blocks to mitigate against any possible adverse ventilation impact. This allow the provision of wind corridors within the proposed housing development to mitigate any ventilation impact to adjacent built environment. Therefore, it is expected that ventilation performance of the proposed scenario and existing conditions will be of similar order of magnitude.

Figure 15.6 Breezeways around the Site (S Wind)



15.4 Recommendation for the proposed development design in Study Area

15.4.1 Based on the analysis in section 15.3, potential wind problematic areas have been identified as Ma Wo Road and Grand Dynasty View Block 30 and 31 under S, SE, SSW, E prevailing wind directions. In addition, a series of mitigation measures such as building separations and building setback have been incorporated into the proposed housing development to minimize adverse ventilation impacts on sensitive receivers and the surrounding environment.

15.4.2 To further minimize ventilation impacts on the surrounding sensitive receivers and improve wind environment of the Site, it is recommended that the following mitigation and improvement measures to be considered at later detailed design stage of the project:

- The permeability of the proposed development should be at least 20% to enhance ventilation performance at the pedestrian level (as defined under *APP-152 Sustainable Building Design Guidelines*).
- Cool materials should be adopted in pavements and building facades to reduce solar absorption. In addition, cool sinks such as trees and water body should also be provided, where appropriate for pedestrian level thermal comfort.

Further Study

15.4.3 As the area of Site at To Yuen Tung is about 3.6 hectares and consists only of three domestic towers (135mPD), low-rise podium block (around 21mPD), school and carpark block (56mPD) only, it is expected that adverse ventilation impact on surrounding pedestrian areas will not be significant, subsequent to provision of mitigation measures previously prescribed.

15.4.4 To further enhance the surrounding wind environment, quantitative AVA should be carried out at the detailed design stage to demonstrate that the wind performance of the future scheme is no worse off than the current scheme and for scheme design optimization.

15.5 Conclusion

15.5.1 According to the wind data analysis, annual prevailing wind of the Site are coming from ESE, E and SE directions, whilst summer prevailing winds are originating from SE, SSW and S directions. A total of 5 wind directions are considered in the qualitative analysis for both existing conditions and the proposed development design scenarios.

15.5.2 In essence, two building separations in alignment with ESE and SE annual prevailing wind directions have been designated (in alignment with Ma Shing Path) and these allow wind penetration through the Site and then air circulation to major roads and sensitive receivers.

15.5.3 Furthermore, two additional building separations in alignment with S and SSW summer prevailing wind directions will also be employed designated (in alignment with Ma Chung Road and Tat Wan Road) and these allow wind penetration through the Site and then air circulation to major roads and sensitive receivers.

15.5.4 In addition, proposed approx. 10m wide podium setback from centreline of Tat Wan Road allows SSW and S summer prevailing wind from the slope of Tai Mo Shan and Grassy Hill to be adequately maintained and hence mitigating against adverse ventilation impacts at Tat Wan Road and Tai Po inner areas.

15.5.5 In conclusion, with the provision of wind enhancement measures prescribed, it is expected that adverse ventilation impact on the Site and surrounding pedestrian

areas will be alleviated.

15.5.6 To further enhance the surrounding wind environment, quantitative AVA should be carried out at the detailed design stage to demonstrate that the wind performance of the future scheme is no worse off than the current scheme and for scheme design optimization.

16. PRELIMINARY ASSESSMENT ON EXISTING UTILITIES

16.1.1 Various utility undertakers and relevant Government Departments have been consulted on their existing and planned utilities in and around the vicinity of Development, which are listed as follows:

- Chevron Hong Kong Limited (Chevron);
- CLP Power Hong Kong Limited (CLP);
- Electrical and Mechanical Services Department (EMSD);
- ExxonMobil Corporation (ExxonMobil)
- The Hong Kong and China Gas Company Limited (Towngas);
- Hong Kong Broadband Network Limited (HKBN);
- Hong Kong Telecommunications Limited (HKT);
- Hong Kong Cable Television Limited (Cable TV);
- Highways Department (Lighting Cable);
- MTR Corporation Limited (MTRCL); and
- TraxComm Limited (TraxComm);

16.1.2 After examination of the utilities records obtained from the undertakers stated above, it is found that utilities of the following utility undertakers will be affected by the proposed site formation works of the Development:

- CLP Power Hong Kong Limited (CLP);
- Hong Kong Telecommunications Limited (HKT);
- Highways Department (Lighting Cable).

16.1.3 The existing CLP, HKT and lighting cables within the Site are to be removed and/or diverted. To avoid affecting the commencement of the site formation works for Development, approval for the necessary diversions of the CLP/HKT/LT cables shall be obtained from the relevant Government Departments and utility undertakers. The new cables will be connected to the existing power supply network at Ma Wo Road near the north of the Development.

16.1.4 The demolishing/or removal programme of existing CLP, HKT and LT systems within the Site shall be agreed with CEDD, HD, HAD, CLP, HKT, HyD and other relevant departments.

17. HERITAGE ASSESSMENT

17.1 General

17.1.1 The identified heritage sites near the Site and the proposed road junction improvement works are shown in **Figure 17.1** and **Figure 17.2**.

17.1.2 Five declared monuments and two sites of archaeological interest are found. The information is listed in **Table 17.1** below:

Table 17.1 Summary of Declared Monuments and Sites of Archaeological Interest

Heritage Site	Heritage Value
Old District Office (North)	Declared Monument
Old Tai Po Police Station	Declared Monument
Fan Sin Temple	Declared Monument
Wun Yiu Pottery Kilns	Declared Monument
Island House	Declared Monument
Wun Yiu Trackway	Site of Archaeological Interest
Wun Yiu	Site of Archaeological Interest

17.2 Impact on Heritage

17.2.1 With reference to previous study, Wun Yiu Village was once a centre of porcelain industry in the New Territories. As early as the Ming dynasty (1368-1644), clans of Man and Tse had started manufacturing the blue and white porcelain. The Ma clan, a group of Hakka people originated from Changle county in Guangdong Province, settled in Tai Po and purchased the kilns from the Man clan in 1674 (the 13th year of Kangxi reign of the Qing dynasty). The industry declined in the early 20th century due to the competition from good quality and inexpensive porcelain produced by other coastal kilns in Guangdong. The kilns at Wun Yiu finally ceased to operate in 1932.

17.2.2 The nearest heritage site is the Wun Yiu Site of Archaeological Interest which is about 80m south to the site boundary at To Yuen Tung, as shown in **Figure 17.1**. The declared monument, Wun Yiu Pottery Kilns is about 270m from the development. With reference to the previous study by AMO, most of the identified key porcelain production processes were located around the Wun Yiu Pottery Kilns and to the south and west of the kilns. The proposed development will not encroach into the Wun Yiu Site of Archaeological Interest and the site boundary is distant from the declared monument, Wun Yiu Pottery Kilns.

17.2.3 With reference to the Environmental Review Report (November 2008) under *Agreement No. CE 58/2000 Design and Construction Assignment for Widening of Tolo Highway/ Fanling Highway Between Island House Interchange and Fanling Supplementary Agreement No.3*, no direct or indirect impact on Wun Yiu Site of Archaeological Interest was anticipated during both the construction and operation phases of road widening works at Tolo Highway since Wun Yiu Site of Archaeological Interest is far away (more than 50m) from the widening works. No reported archaeological findings were reported during the widening of Tolo Highway near this development which was completed on 2014.

17.2.4 Since the Wun Yiu Site of Archaeological Interest is originated from the Wun Yiu Kilns (270m from the development) and the Wun Yiu Site of Archaeological

Interest was segregated from this development by Tolo Highway which pose significant disturbance on the soil profile, no impact on the Wun Yiu Site of Archaeological Interest and Pottery Kilns at Wun Yiu Village are anticipated from this development.

17.2.5 The existing hillside within the site boundary will be excavated to form the platforms for the proposed development. The site formation general arrangement is shown in **Figures 10.1 to 10.3**. The maximum excavation depth is around 37m, which is excavated from the ground level at +64mPD to the proposed platform level at +27.3mPD as shown in Section A in **Figure 10.2**. Due to close proximity from Tolo Highway to the excavation works, monitoring stations such as ground settlement markers and tilting markers will be proposed in Tolo Highway during construction phase to control the ground movement. The Wun Yiu Site of Archaeological Interest is located at a substantial distance from the proposed excavation works. No adverse impact would be anticipated on the archaeological site during construction phase.

17.2.6 No impact would be anticipated on the archaeological resources during the operational phase due to the archaeological resources being away from this development.

17.2.7 Furthermore, as a precautionary measure, further archaeological impact assessment will be carried out in detailed design stage.

17.2.8 No building or structures which were built on or before 1969 was identified at this stage within the site boundary. AMO will be alert if any buildings / structures both at grade level and underground which were built on or before 1969 were identified on site.

17.3 Summary

17.3.1 There is no heritage site partly or wholly within the site boundary (inclusive of works area). There is also no heritage site within 50m of the site boundary (inclusive of works area). The heritage site refers to all declared monuments, proposed monuments, graded historic sites/building, sites of archaeological interest and Government historic sites identified by AMO.

17.3.2 No cultural heritage impacts are expected to occur during construction and operational phases of the Project.

18. IMPLEMENTATION PROGRAMME

18.1 Key Milestone and Activities

18.1.1 The milestone dates of the key activities for this project are summarized in **Table 18.1** below.

Table 18.1 Milestone Dates of the Key Activities

Keu Activities	Milestone Dates
Completion of Rezoning Exercise	Q3 2022
Commencement of Investigation Phase	Q4 2021
Commencement of Detailed Design Phase	Q4 2022
Completion of Land Resumption / Land Clearance	Q3 2025
Commencement of Construction Phase (Site Formation and Infrastructure Works)	Q2 2024
Completion of Site Formation Works for Site Handover to HD	Q1 2029
Completion of Public Housing Construction	Q1 2033

18.1.2 The proposed implementation programme as shown in **Table 18.1** above would be further reviewed in later investigation and design stage of the Project.

19. CONCLUSIONS

19.1.1 In conclusion, various technical assessments have demonstrated the feasibility of the proposed site formation and infrastructure works with incorporation of the appropriate mitigation measures identified.

FIGURES

NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

STUDY BOUNDARY

Rev.	Date	Description	By	Chk'd	App'd
D	01/19	FIFTH ISSUE	HF	RW	DF
C	11/18	FOURTH ISSUE	HF	CJ	DF
B	09/18	THIRD ISSUE	HF	CJ	DF
A	08/18	SECOND ISSUE	HF	CJ	DF
-	04/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

SITE LOCATION PLAN

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	HF	WMC	CJ	DF
Original Size: A1	Date: APR 2018	Date: APR 2018	Date: APR 2018	Date: APR 2018

Drawing Number: FIGURE 1.1

Revision: D

Copyright © Atkins Limited

User name: CHOW6256 Date:30/01/2019 Time: 11:10:23
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-CIV-0001.dgn

NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.
2. SCHEMATIC PLAN SUBJECT TO DETAILED DESIGN.

LEGEND:

- STUDY BOUNDARY
- +21.0 — SPOT LEVEL (mPD)
- +135.0 — MAX. BUILDING HEIGHT (mPD)
- PROPOSED RESIDENTIAL BLOCKS
- PROPOSED 18-CR SCHOOL

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

MASTER LAYOUT PLAN

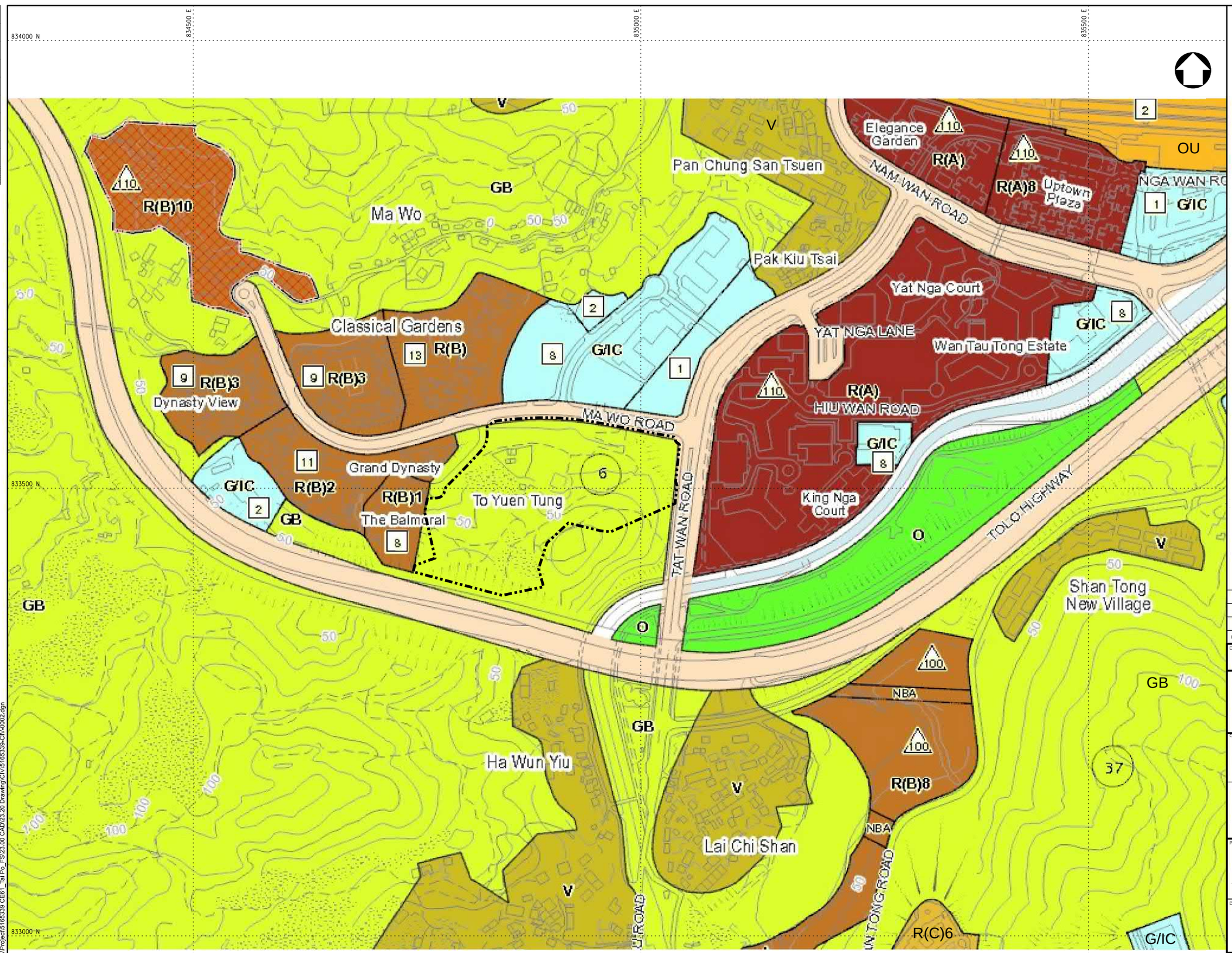
Scale	Designed	Drawn	Checked	Authorised
1 : 1000	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 1.2

Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:24-Oct-19 Time: 11:21:09 AM
Filename: P:\CNHK\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-CIV-0003.dgn



NOTES:

1. THE PLANNING LAYOUT OF THIS DRAWING IS REFERRED TO "STATUTORY PLANNING PORTAL 2" FROM THE TOWN PLANNING BOARD WEBSITE.

LEGEND:

- STUDY BOUNDARY
- OU — Other Specified Uses
- O — Open Space
- V — Village Type Development
- G/IC — Government, Institution or Community
- R(C) — Residential (Group C)
- GB — Green Belt
- R(A) — Residential (Group A)
- R(B) — Residential (Group B)
- 5 — Maximum Building Height (In Number of Storeys)
- 140 — Maximum Building Height (In Metres Above Principal Datum)
- 1 — Planning Area Number

Rev.	Date	Description	By	Chk'd	App'd
B	03/19	THIRD ISSUE	PC	RW	DF
A	11/18	SECOND ISSUE	PC	RW	DF
-	08/18	FIRST ISSUE	PC	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

OUTLINE ZONING PLAN

Scale	Designed	Drawn	Checked	Authorised
1 : 2000	PC	WMC	CJ	DF
Original Size	Date	Date	Date	Date
A1	AUG 2018	AUG 2018	AUG 2018	AUG 2018

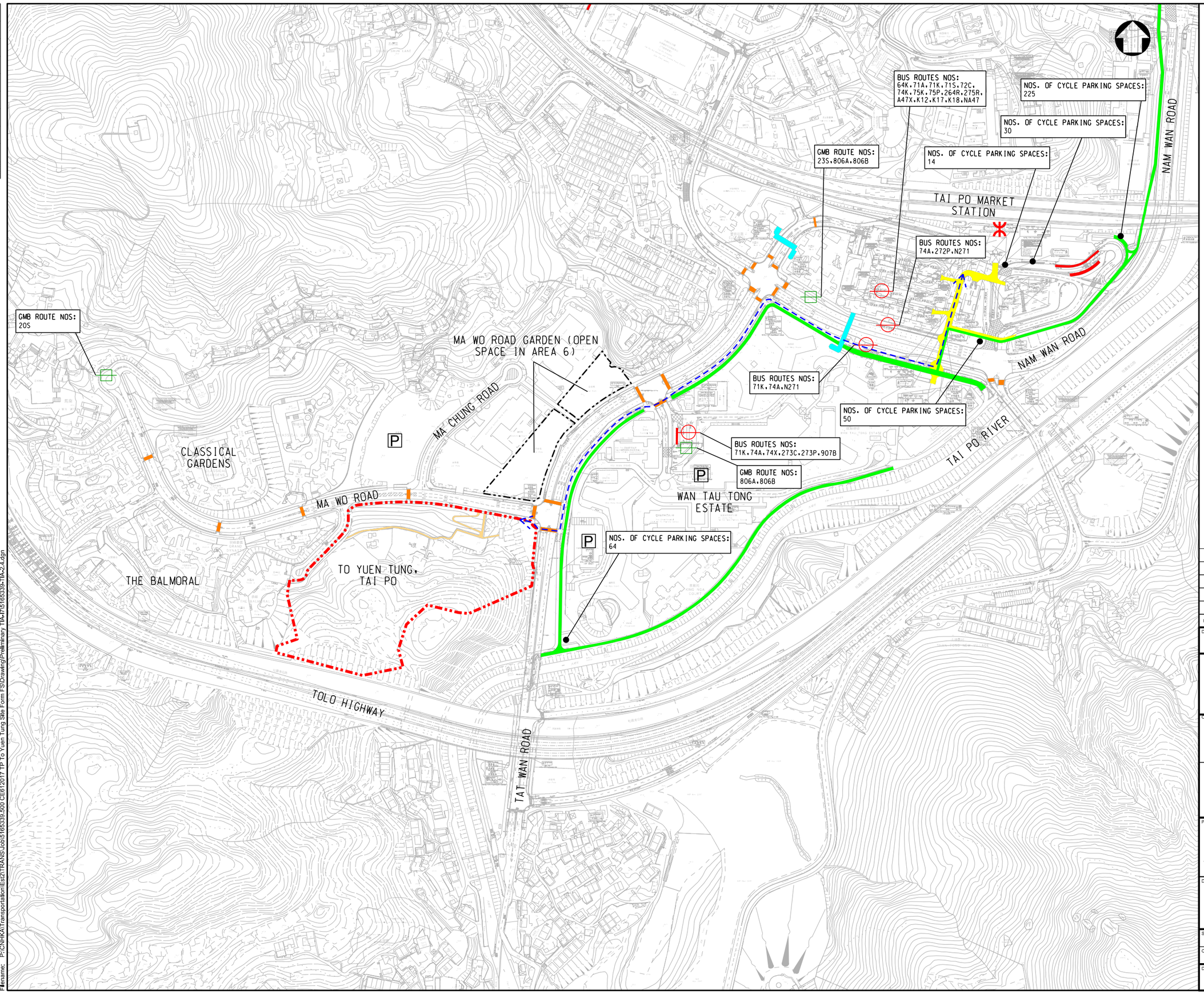
Drawing Number: FIGURE 2.1

Revision: B

0 50 100 m
1 : 2 000 SCALE BAR

Copyright © Atkins Limited

User name: CHOW6256 Date:01/04/2019 Time: 11:25:12
Filename: P:\CNHK\AProject\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-CIV-0002.dgn



Rev.	Date	Description	By	Chk'd	App'd
D	12/20	FIFTH ISSUE	SC	JY	DF
C	02/20	FORTH ISSUE	SC	JY	DF
B	02/20	THIRD ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
PUBLIC TRANSPORT FACILITIES AND PEDESTRIAN CONNECTIVITY

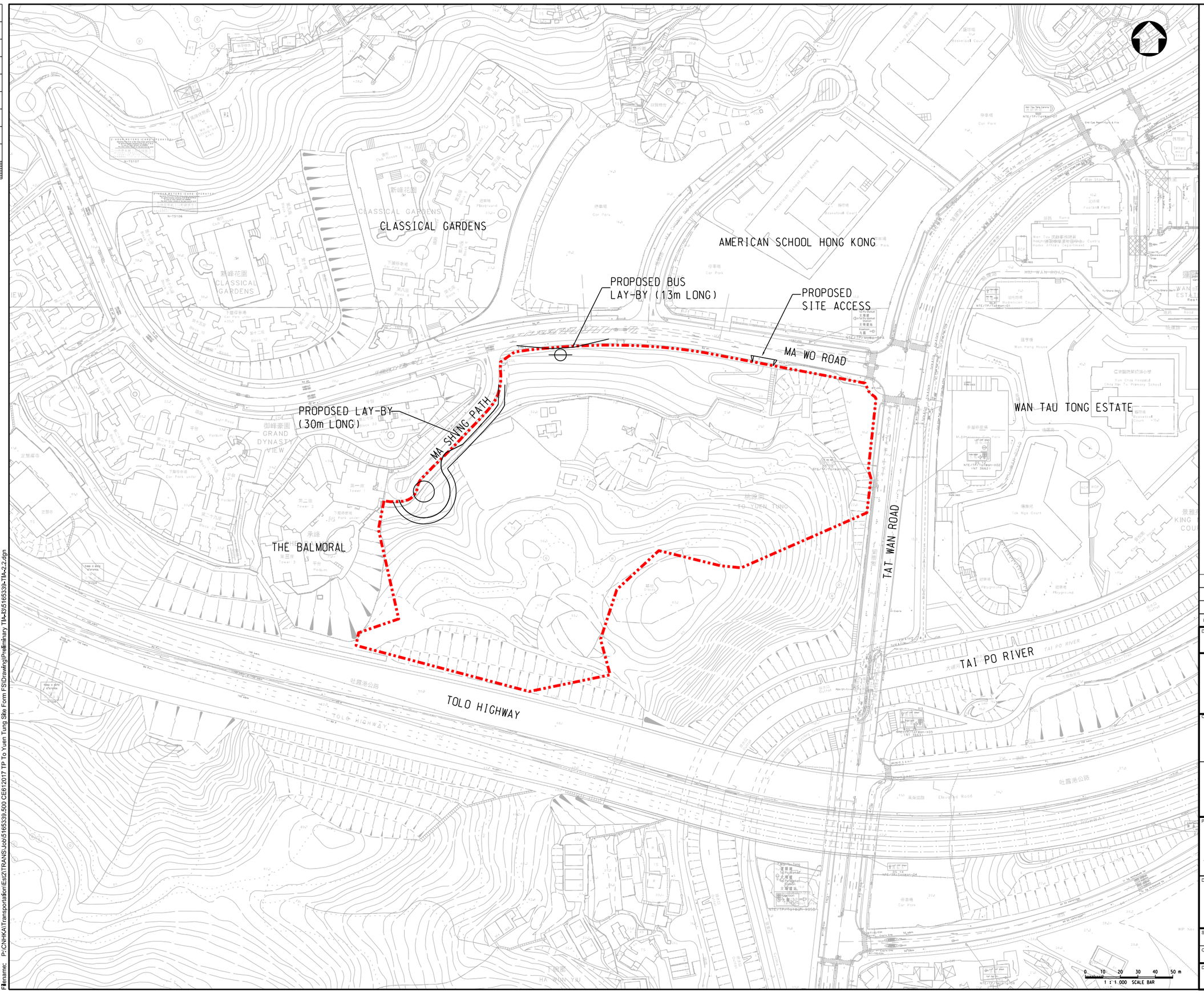
Scale	Designed	Drawn	Checked	Authorised
N.T.S.	SC	KH	JY	DF
Original Size: A1	Date: DEC 2020	Date: DEC 2020	Date: DEC 2020	Date: DEC 2020

Drawing Number: FIGURE 2.2

Revision: D

Copyright © Atkins Limited

User name: CHUI8732 Date:13-Aug-21 Time: 9:09:39 AM
Filename: P:\CNHKA\Transportation\Eng2\TRANS\Job\5165339,500 CE612017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA-P\5165339-TIA-2.4.dgn



LEGEND:

- STUDY BOUNDARY
- PROPOSED BUS LAYBY

Rev.	Date	Description	By	Chk'd	App'd
B	02/20	THIRD ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title
PROPOSED TRAFFIC IMPROVEMENT WORKS AROUND THE STUDY BOUNDARY

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	SC	KH	JY	DF
Original Size	Date	Date	Date	Date
A1	FEB 2020	FEB 2020	FEB 2020	FEB 2020

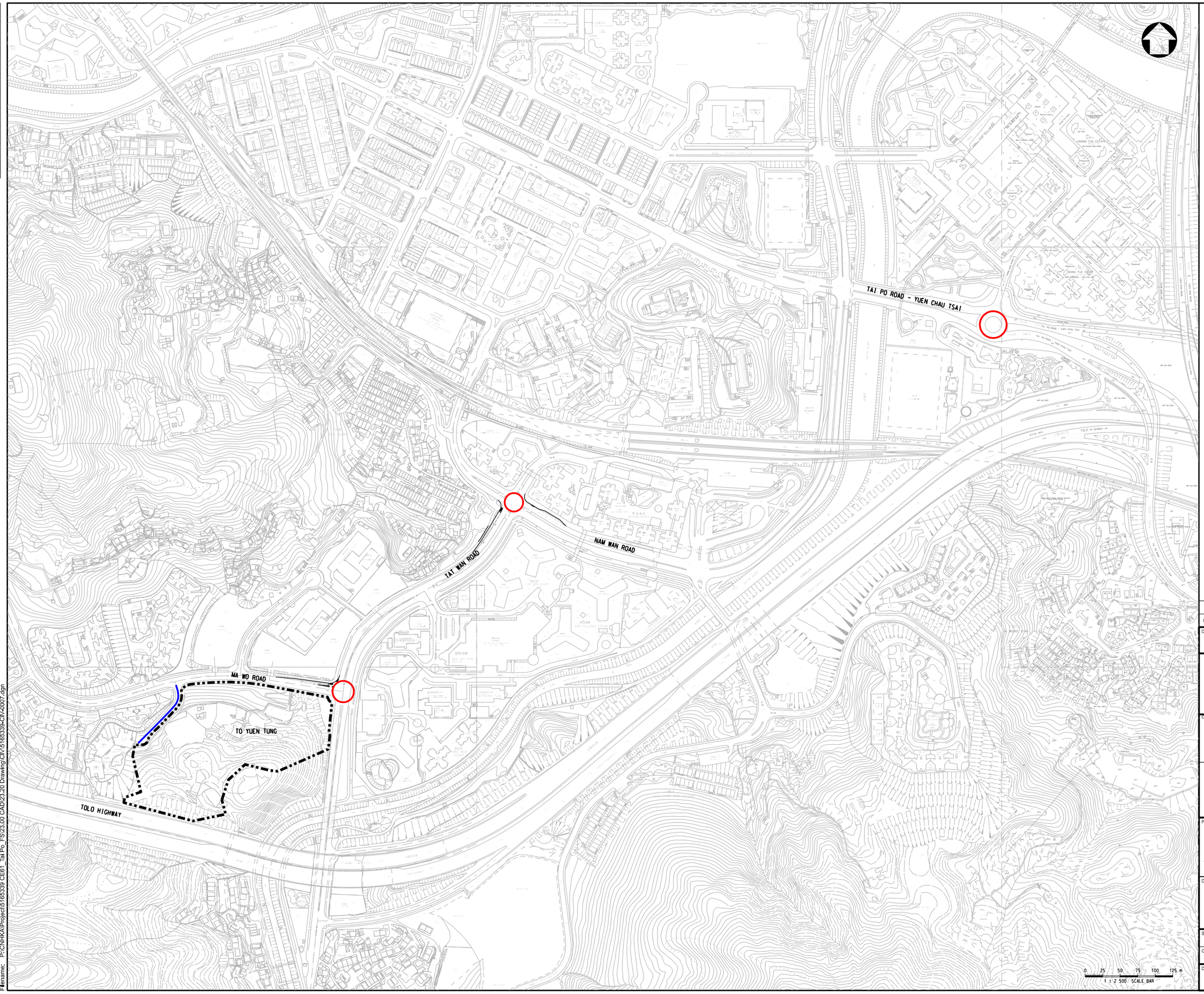
Drawing Number: FIGURE 3.1

Revision: B

Copyright © Atkins Limited

Millimetres 0 10 100

User name: CHUI8732 Date:13-Feb-20 Time:10:22:34 AM
FileName: P:\CNHKA\Transportation\Est2\TRANS\Job\5165339,500,CE61\2017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA-J\5165339-TIA-2.2.dgn



Millimetres 100 0 10

LEGEND:

- SITE BOUNDARY
- PROPOSED JUNCTION IMPROVEMENT WORKS
- PROPOSED PORTION OF ROAD IMPROVEMENT WORKS

Rev.	Date	Description	By	Chk'd	App'd

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
PROPOSED TRAFFIC IMPROVEMENT WORKS

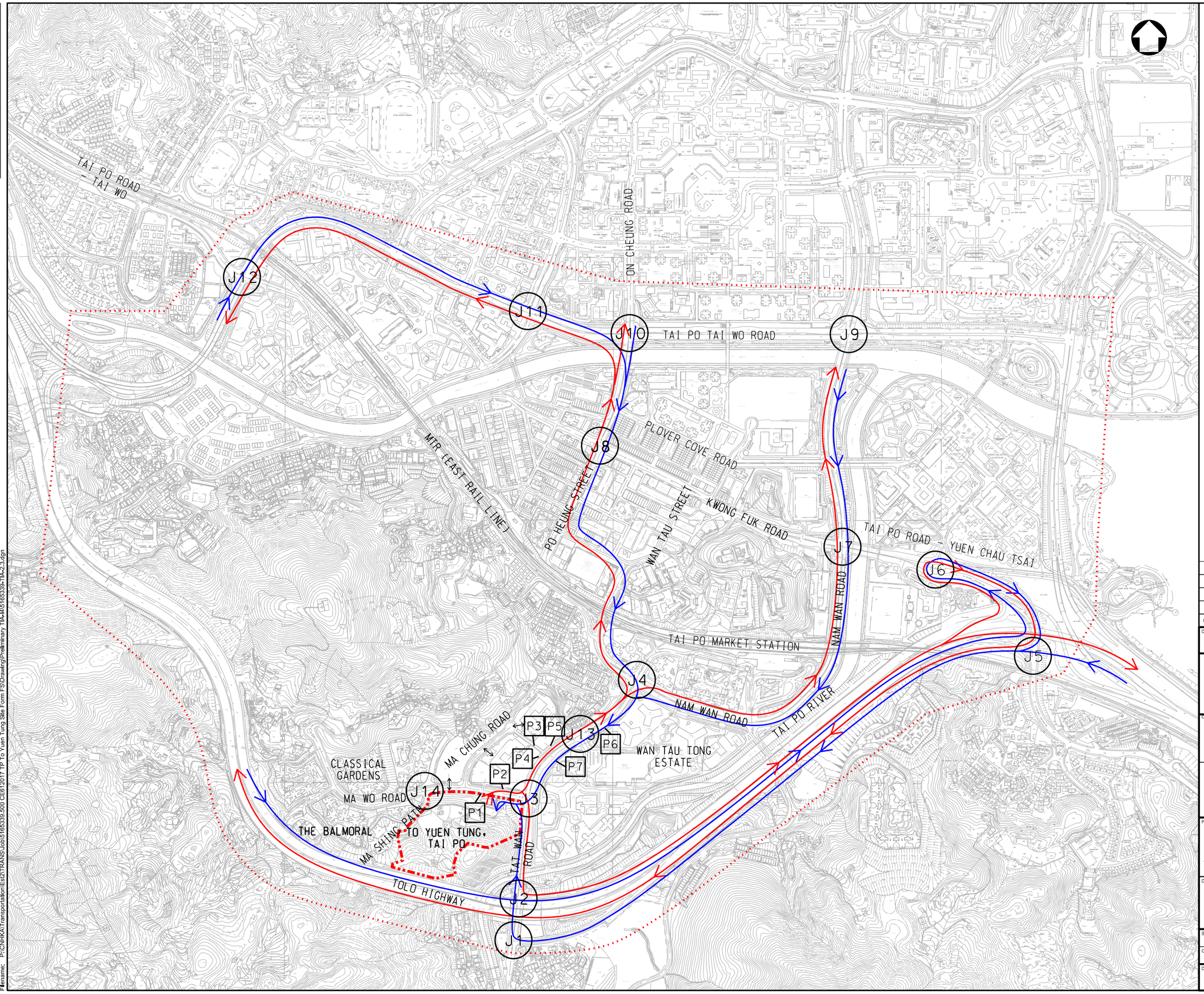
Scale	Designed	Drawn	Checked	Authorised
1:2500	HF	WMC	CJ	DF
Original Size: A1	Date: AUG 2021	Date: AUG 2021	Date: AUG 2021	Date: AUG 2021

Drawing Number: FIGURE 3.2

Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:12-Aug-21 Time:01:59:48 PM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-CIV-0007.dgn



LEGEND:

- J1 — CRITICAL JUNCTION
- P1 — CRITICAL FOOTPATH
- AREA OF INFLUENCE (AOI)
- STUDY BOUNDARY
- DEVELOPMENT TRIPS MAJOR INGRESS ROUTING
- DEVELOPMENT TRIPS MAJOR EGRESS ROUTING

Rev.	Date	Description	By	Chk'd	App'd
C	06/20	THIRD ISSUE	SC	JY	DF
B	02/20	THIRD ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
MAJOR VEHICULAR ACCESS ROUTES AND KEY JUNCTIONS

Scale	Designed	Drawn	Checked	Authorised
N.T.S.	SC	KH	JY	DF
Original Size: A1	Date: JUN 2020	Date: JUN 2020	Date: JUN 2020	Date: JUN 2020

Drawing Number: FIGURE 4.1

Revision: C

Copyright © Atkins Limited

User name: CHIU8732 Date:09-Jun-20 Time: 10:41:11 AM
Filename: P:\CNHK\Transportation\Est2\TRANS\Job\5165339.500 CE61/2017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA-I45165339-TIA-2.3.dgn

Millimetres 100 10 0

LAW TING PONG SECONDARY SCHOOL

AMERICAN SCHOOL HONG KONG

CLASSICAL GARDENS

THE BALMORAL

WAN TAU TONG ESTATE

YAT NGA COURT

PAN CHUNG SAN TSUEN

PAK KIU TSAI

TO YUEN TUNG

MA WO ROAD

MA SHING PATH

TOLO HIGHWAY

TAI PO RIVER

TAT WAN ROAD

MA CHUNG ROAD

HIU WAN ROAD

P1 100

P2 246

P3 280

P4 152

P5 420

P6 321

P7 217

LEGEND:

STUDY BOUNDARY

10 HOURLY PEDESTRIAN FLOW DURING AM PEAK HOUR (Ped/hr)

KEY FOOTPATH AND PEDESTRIAN WALKWAY

Rev.	Date	Description	By	Chk'd	App'd
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title
EXISTING PEDESTRIAN FLOW

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	SC	KH	JY	DF
Original Size	Date	Date	Date	Date
A1	DEC 2018	DEC 2018	DEC 2018	DEC 2018

Drawing Number: FIGURE 4.2

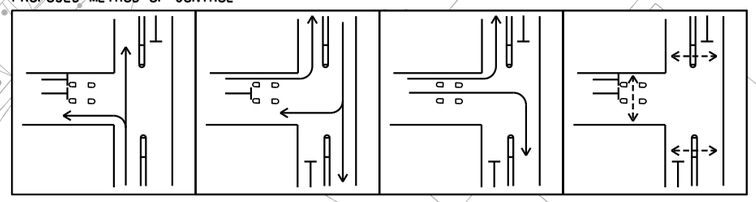
Revision: A

0 10 20 30 40 50 m
1 : 1 000 SCALE BAR

User name: chow5492 Date:05/12/2018 Time: 17:58:36
Filename: P:\CNHKA\Transportation\Est2\TRANS\Job\5165339.500 CE61\2017 TP To Yuen Tung Site Form FSD\drawing\Preliminary TIA-I2\5165339-TIA-3.2.dgn

Copyright © Atkins Limited

PROPOSED METHOD OF CONTROL



LEGEND:

STUDY BOUNDARY

PROPOSED DEMOLISH OF PLANTER

PROPOSED WIDENING OF CARRIAGWAY

3.0m

3.5m

3.5m

R15.0

MA WO ROAD

PROPOSED SITE ACCESS

SUBJECT SITE

TAT WAN ROAD

AN ROAD

Tai Po Market 大埔墟
Tai Po Market Station 大埔墟站
Kowloon 九龍

籃球場 Basketball Court

停車場 Car Park

LORRY PARKINGS

Multi-storey

PROPOSED CYCLE TIME

AM PEAK	PM PEAK
110 SEC.	96 SEC.

0 5 10 m
1 : 250 SCALE BAR

Rev.	Date	Description	By	Chk'd	App'd
C	02/20	FORTH ISSUE	SC	JY	DF
B	12/19	THIRD ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PROPOSED JUNCTION IMPROVEMENT - J/O TAT WAN ROAD/ MA WO ROAD (J3)

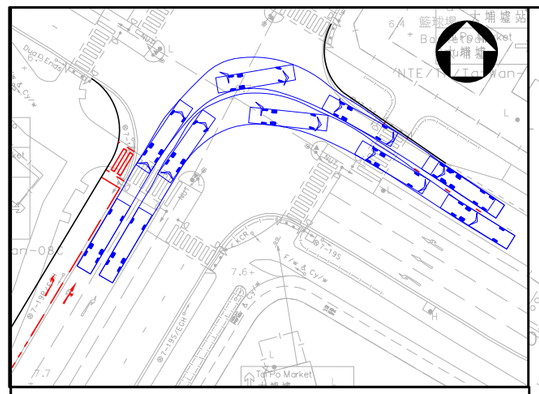
Scale	Designed	Drawn	Checked	Authorised
1 : 250	SC	KH	JY	DF
Original Size: A1	Date: FEB 2020	Date: FEB 2020	Date: FEB 2020	Date: FEB 2020

Drawing Number: FIGURE 4.3

Revision: C

Copyright © Atkins Limited

User name: CHUJ8732 Date:13-Feb-20 Time: 2:29:41 PM
Filename: P:\CN\HKA\Transportation\Est2\TRANS\Job\5165339,500 CE612017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA+B\5165339-TIA-8.1.dgn



SWEPT PATH ANALYSIS OF 12.8M BUS

PROPOSED SETBACK OF KERBLINE

PROPOSED WIDENING OF CARRIAGWAY

PROPOSED SETBACK OF FOOTPATH

R 9m

R 10m

10.9m

富雅花園
ELEGANCE GARDEN

第二座
Block 2

第三座
Block 3

第四座
Block 4

TAT WAN ROAD

NAM WAN ROAD

Cycling Track

NTE/TP/NamWan-07B

NTE/TP/TatWan-08C

NTE/TP/TatWan-10A

NTE/TP/NamWan-06A

Station 大埔墟站
Uptown Plaza 新達廣場
Wan Tau Tong Estate 運頭塘邨 Kowloon 九龍
Tai Po Market 大埔墟
Tai Po Market Station 大埔墟站
Tai Po Centre 大埔中心

休憩處 Sitting-out Area

逸榮閣

PROPOSED CYCLE TIME

AM PEAK	PM PEAK
128 SEC.	110 SEC.

0 5 10 m
1 : 250 SCALE BAR

Rev.	Date	Description	By	Chk'd	App'd
B	09/20	SECOND ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY
Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

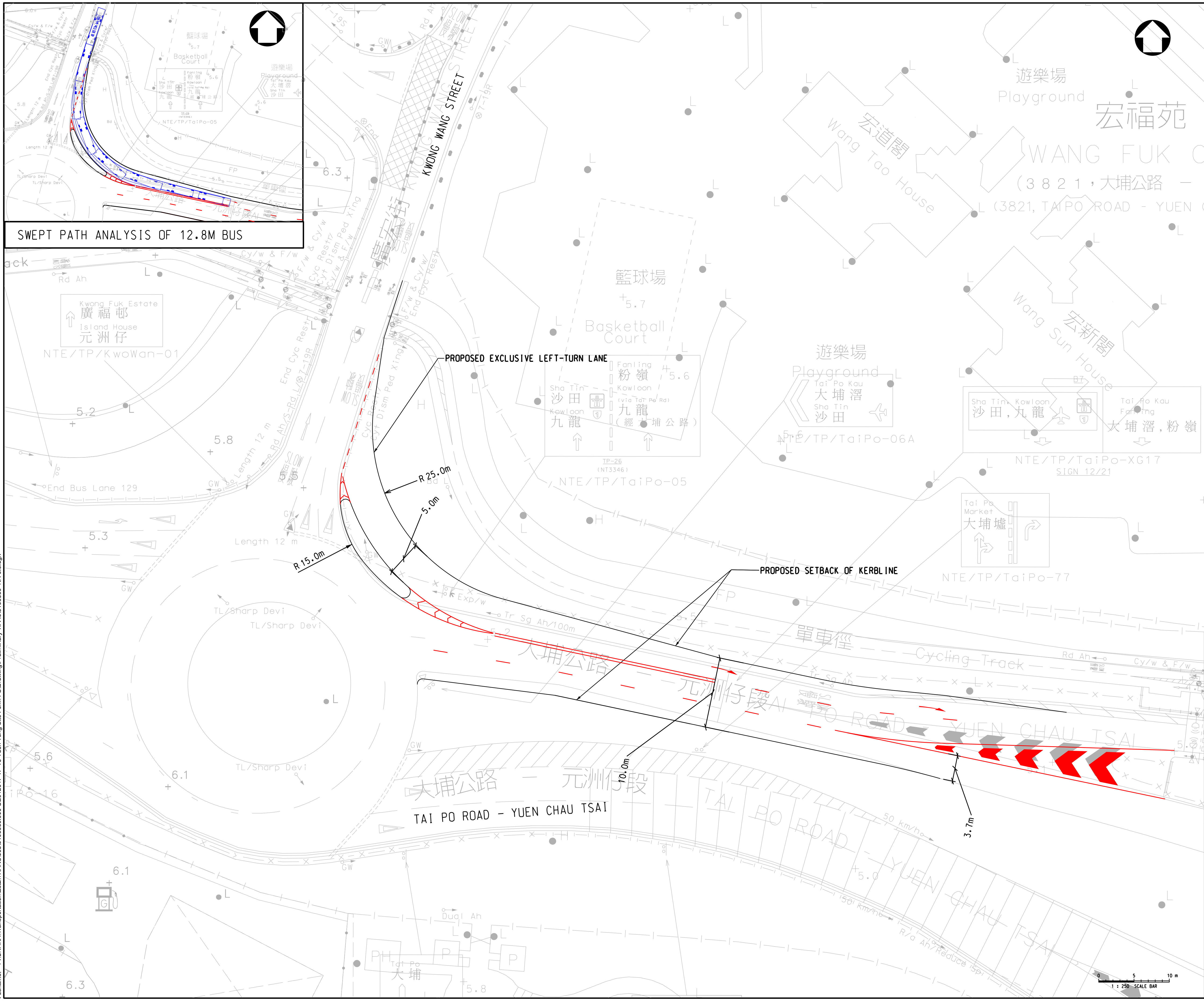
Drawing Title
PROPOSED JUNCTION IMPROVEMENT - J/O NAM WAN ROAD/ TAT WAN ROAD (J4)

Scale	Designed	Drawn	Checked	Authorised
1 : 250	SC	KH	JY	DF
Original Size: A1	Date: DEC 2018	Date: DEC 2018	Date: DEC 2018	Date: DEC 2018

Drawing Number: FIGURE 4.4
Revision: B

Copyright © Atkins Limited

User name: CHUJ8732 Date:14-Sep-20 Time: 12:13:11 PM
Filename: P:\CNHKA\Transportation\Est2\TRANS\Job\5165339.500.CE612017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA-J5\5165339-TIA-6.2.dgn



Rev.	Date	Description	By	Chk'd	App'd
B	09/20	THIRD ISSUE	SC	JY	DF
A	12/18	SECOND ISSUE	SC	JY	DF
-	08/18	FIRST ISSUE	SC	JY	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS

Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PROPOSED JUNCTION IMPROVEMENT - J/O KWONG FUK ROAD ROUNDABOUT (J6)

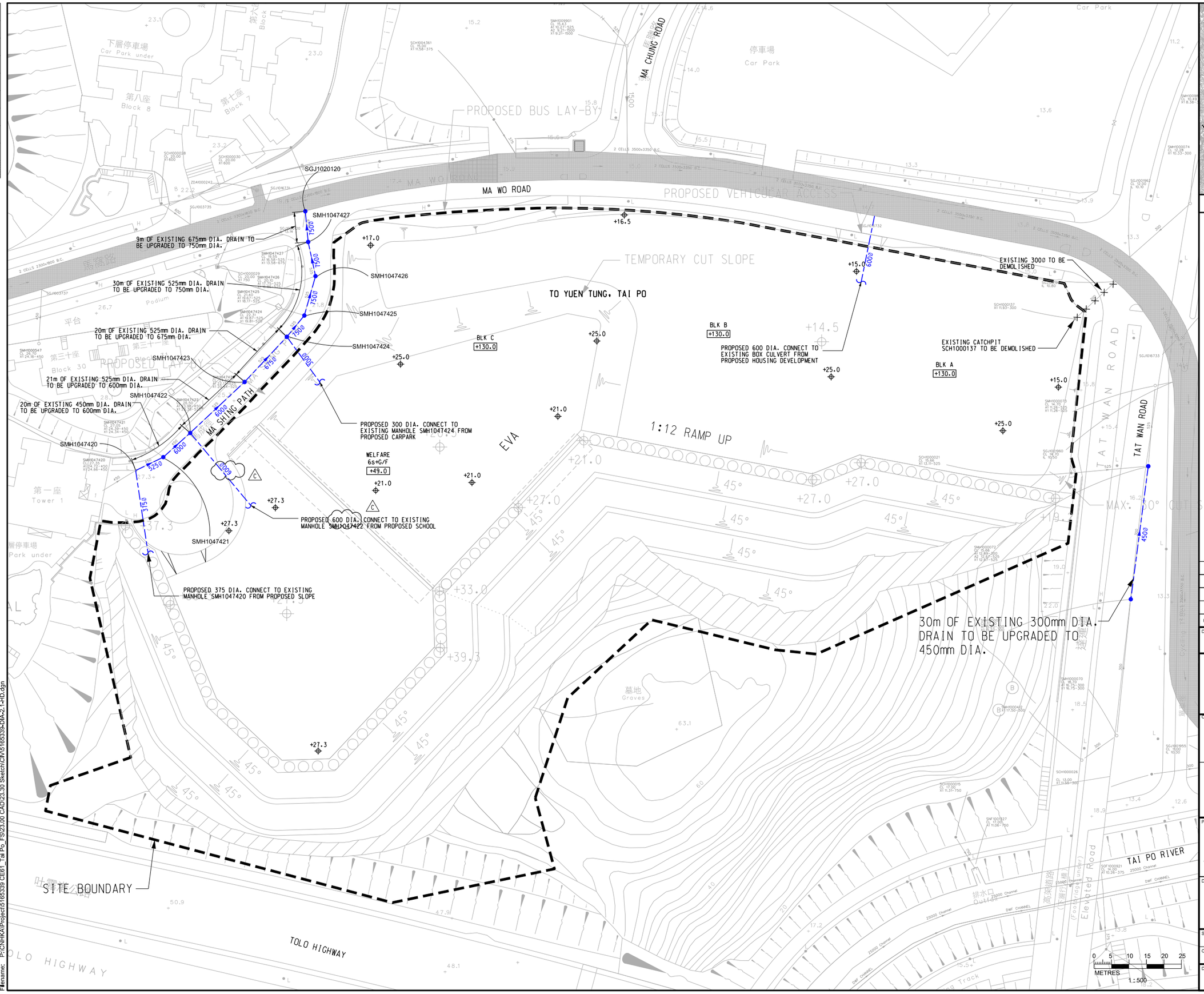
Scale	Designed	Drawn	Checked	Authorised
1 : 250	SC	KH	JY	DF
Original Size	Date	Date	Date	Date
A1	DEC 2018	DEC 2018	DEC 2018	DEC 2018

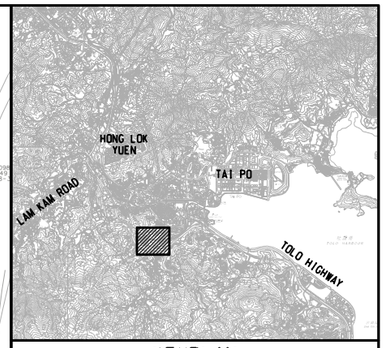
Drawing Number: FIGURE 4.5

Revision: B

Copyright © Atkins Limited

User name: CHUJ8732 Date:14-Sep-20 Time: 10:55:44 AM
Filename: P:\CNHKA\Transportation\Est2\TRANS\Job\5165339.500 CE612017 TP To Yuen Tung Site Form FS\Drawing\Preliminary TIA-I\5165339-TIA-6.3.dgn





KEYPLAN

LEGEND:

- STUDY BOUNDARY
- EXISTING STORM SYSTEM NETWORKS
- EXISTING DRAIN TO BE DEMOLISHED
- PROPOSED DRAINAGE WORKS

Rev.	Date	Description	By	Chk'd	App'd
C	03/21	FOURTH ISSUE	WSL	CJ	DF
B	12/19	THIRD ISSUE	WSL	CJ	DF
A	10/19	SECOND ISSUE	WSL	CJ	DF
-	01/19	FIRST ISSUE	WSL	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PROPOSED DRAINAGE SYSTEM

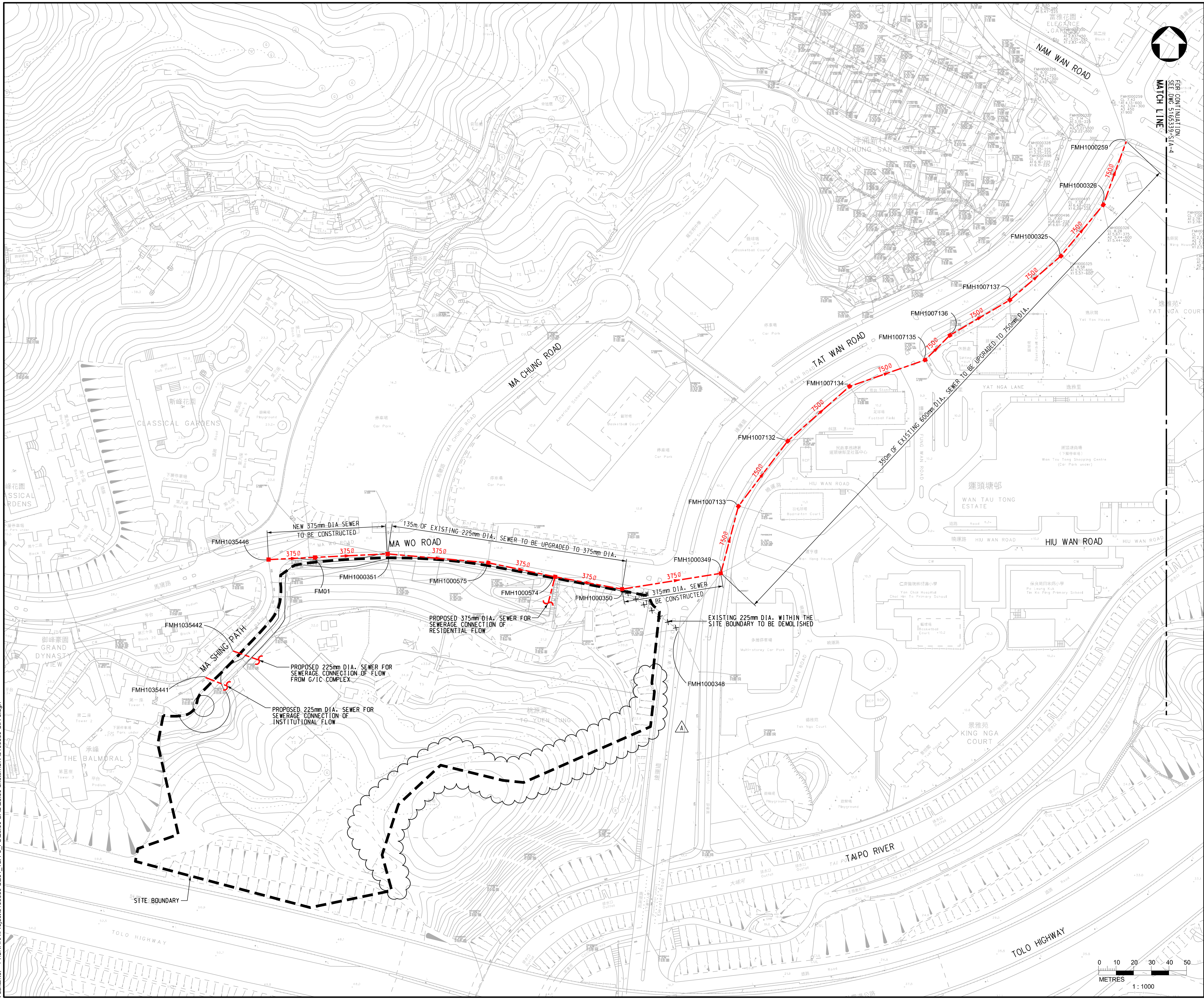
Scale	Designed	Drawn	Checked	Authorised
1 : 500	WSL	AC	CJ	DF
Original Size	Date	Date	Date	Date
A1	JAN 2019	JAN 2019	JAN 2019	JAN 2019

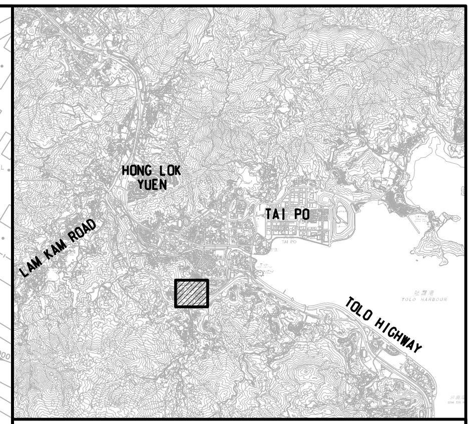
Drawing Number: FIGURE 5.1

Revision: C

Copyright © Atkins Limited

User name: CHEUI8306 Date:3/16/2021 Time: 7:28:47 PM
Filename: P:\CNHK\Projects\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CIV\5165339-DIA-2_1-HD.dgn


NAM WAN ROAD
MATCH LINE
FOR CONTINUATION SEE DWG 5165339-SIA-4
FMH1000259
FMH1000326
FMH1000325
FMH1007137
FMH1007136
FMH1007135
FMH1007134
FMH1007132
FMH1007133
FMH1000349
FMH1000350
FMH1000348
FMH1000574
FMH1000575
FMH1000351
FM01
FMH1035446
FMH1035442
FMH1035441
750Ø
375Ø
TAT WAN ROAD
MA CHUNG ROAD
MA WO ROAD
HIU WAN ROAD
MA SHING PATH
TAIPO RIVER
TOLO HIGHWAY
YAT NGA LANE
YAT NGA COURT
KING NGA COURT
WAN TAU TONG ESTATE
CLASSICAL GARDENS
GRAND DYNASTY VIEW
THE BALMORAL
350m OF EXISTING 600mm DIA. SEWER TO BE UPGRADED TO 750mm DIA.
NEW 375mm DIA SEWER TO BE CONSTRUCTED
135m OF EXISTING 225mm DIA. SEWER TO BE UPGRADED TO 375mm DIA.
NEW 375mm DIA. SEWER TO BE CONSTRUCTED
PROPOSED 375mm DIA. SEWER FOR SEWERAGE CONNECTION OF RESIDENTIAL FLOW
EXISTING 225mm DIA. WITHIN THE SITE BOUNDARY TO BE DEMOLISHED
PROPOSED 225mm DIA. SEWER FOR SEWERAGE CONNECTION OF FLOW FROM G/IC COMPLEX
PROPOSED 225mm DIA. SEWER FOR SEWERAGE CONNECTION OF INSTITUTIONAL FLOW
SITE BOUNDARY
0 10 20 30 40 50
METRES
1 : 1000



KEYPLAN

LEGEND:

STUDY BOUNDARY

EXISTING SEWERAGE SYSTEM

PROPOSED SEWERAGE SYSTEM

Rev.	Date	Description	By	Chk'd	App'd
A	09/18	SECOND ISSUE	WSL	CJ	DF
-	08/18	FIRST ISSUE	NB	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS

Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PROPOSED SEWERAGE SYSTEM
(SHEET 1 OF 3)

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	NB	AC	CJ	DF
Original Size: A1	Date: AUG 2018	Date: AUG 2018	Date: AUG 2018	Date: AUG 2018

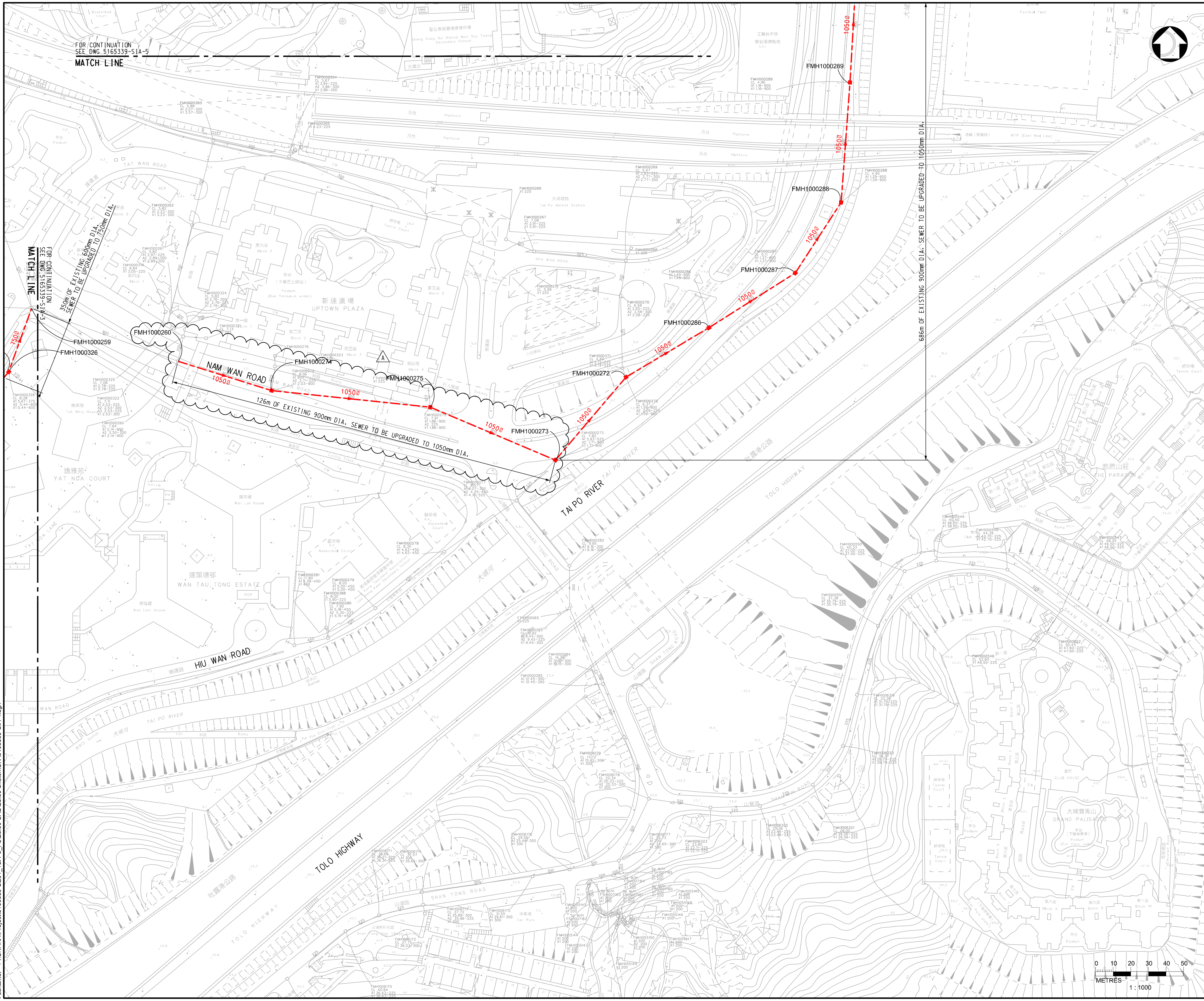
Drawing Number: FIGURE 6.1

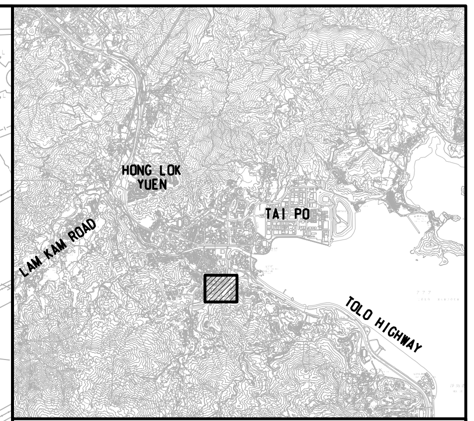
Revision: A

Copyright © Atkins Limited

User name: CHEU8306 Date:3/12/2019 Time: 3:14:47 PM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CIV\5165339-SIA-3.dgn

Millimetres 0 10 100





KEYPLAN

LEGEND:

- STUDY BOUNDARY
- EXISTING SEWERAGE SYSTEM
- PROPOSED SEWERAGE SYSTEM

Rev.	Date	Description	By	Chk'd	App'd
A	10/19	SECOND ISSUE	WSL	CJ	DF
-	03/19	FIRST ISSUE	WSL	CJ	DF

Drawing Status: FEASIBILITY STUDY — Suitability: –

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
PROPOSED SEWERAGE SYSTEM
(SHEET 2 OF 3)

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	WSL	AC	CJ	DF
Original Size A1	Date MAR 2019	Date MAR 2019	Date MAR 2019	Date MAR 2019

Drawing Number: FIGURE 6.2 — Revision: A

Copyright © Atkins Limited

User name: CHEU8306 Date:10/23/2019 Time: 11:34:43 AM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\Civil\5165339-SIA-4.dgn

Millimetres 100 10 0

PLOVER COVE ROAD

KWONG FUK ROAD

TAI PO ROAD - YUEN CHAU TSAI

NAM WAN ROAD

TAI PO RIVER

FMH1000218

FMH1000219

FMH1000220

FMH1000295

FMH1000291

FMH1000290

FMH1000289

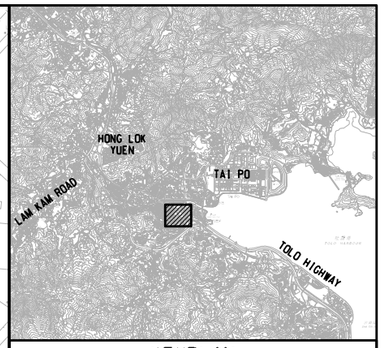
1050Ø

686m OF EXISTING 900mm DIA. SEWER TO BE UPGRADED TO 1050mm DIA.

FOR CONTINUATION
SEE DWG 5165339-SIA-4

MATCH LINE

0 10 20 30 40 50
METRES
1 : 1000



KEYPLAN

LEGEND:

- STUDY BOUNDARY
- EXISTING SEWERAGE SYSTEM
- PROPOSED SEWERAGE SYSTEM

Rev.	Date	Description	By	Chk'd	App'd
-	03/19	FIRST ISSUE	WSL	CJ	DF

Drawing Status: **FEASIBILITY STUDY**

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
PROPOSED SEWERAGE SYSTEM (SHEET 3 OF 3)

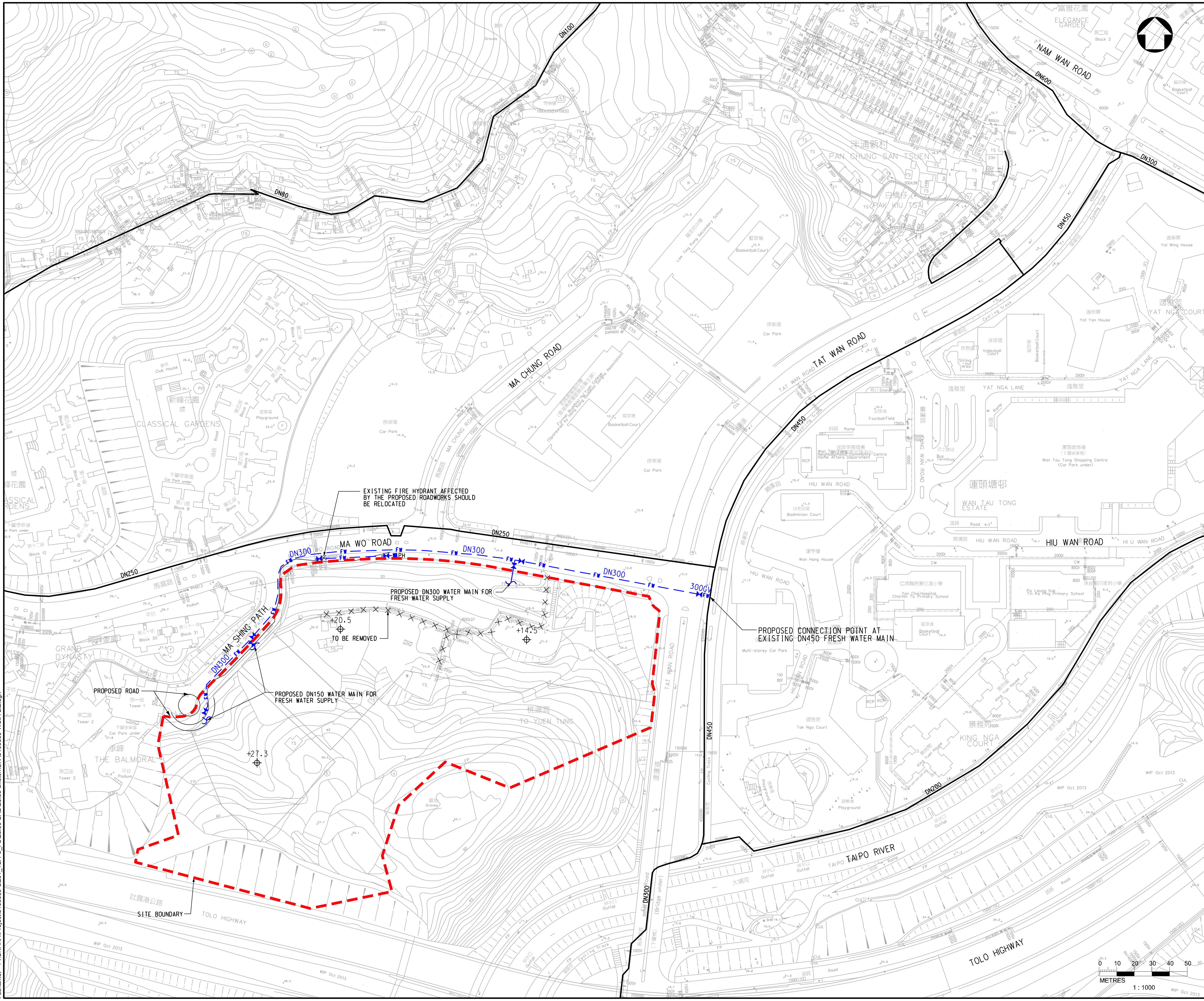
Scale	Designed	Drawn	Checked	Authorised
1 : 1000	WSL	AC	CJ	DF
Original Size: A1	Date: MAR 2019	Date: MAR 2019	Date: MAR 2019	Date: MAR 2019

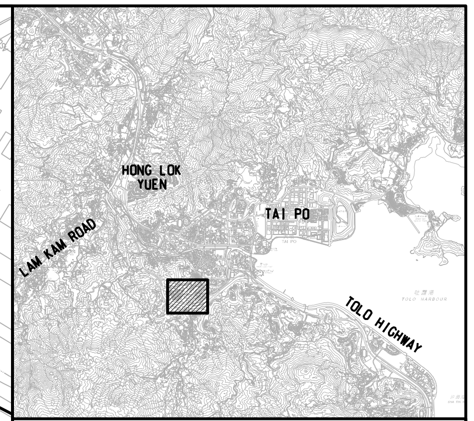
Drawing Number: FIGURE 6.3

Revision: -

Copyright © Atkins Limited

User name: CHEU8306 Date:3/12/2019 Time:3:16:57 PM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CW5165339-SIA-5.dgn





KEYPLAN

LEGEND:

- STUDY BOUNDARY
- EXISTING FRESH WATER MAINS
- EXISTING FRESH WATER MAINS TO BE ABANDONED
- PROPOSED FRESH WATER MAIN (FW)
- PROPOSED FIRE HYDRANT (PH)
- PROPOSED GROUND LEVEL (+25.0)

Rev.	Date	Description	By	Chk'd	App'd
A	10/18	SECOND ISSUE	XJY	CJ	DF
-	08/18	FIRST ISSUE	XJY	CJ	DF

Drawing Status: FEASIBILITY STUDY — Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: 土木工程拓展署 CEDD Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

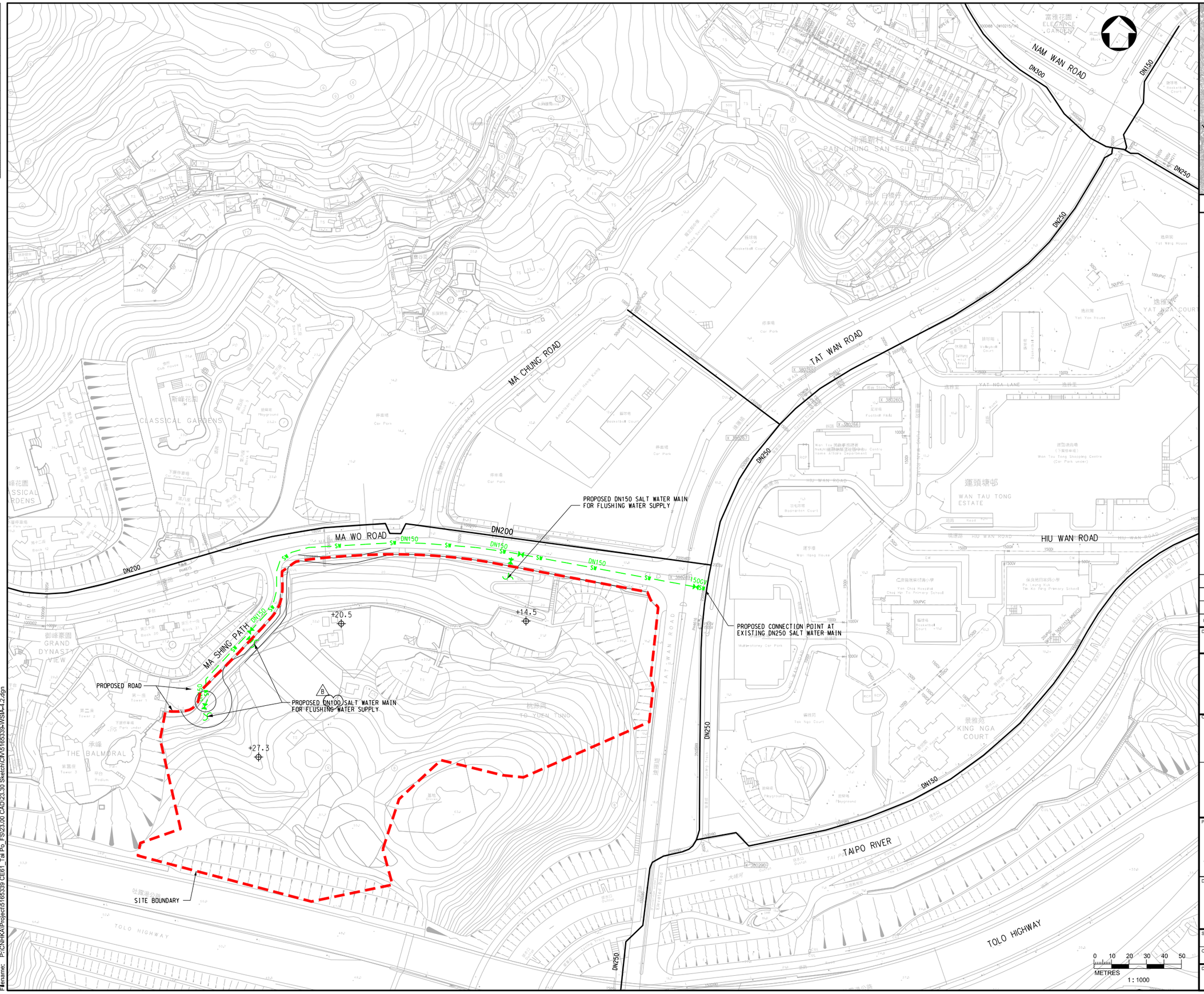
Drawing Title:
PROPOSED FRESH WATER MAINS

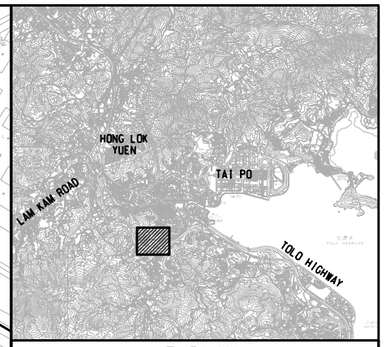
Scale	Designed	Drawn	Checked	Authorised
1 : 1250	XJY	AC	CJ	DF
Original Size A1	Date AUG 2018	Date AUG 2018	Date AUG 2018	Date AUG 2018

Drawing Number: FIGURE 7.1 — Revision: A

Copyright © Atkins Limited

User name: CHEU8306 Date:12/3/2018 Time: 8:53:38 PM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CIV\5165339-WSIA-2.2.dgn





KEYPLAN

LEGEND:

- STUDY BOUNDARY
- EXISTING SALT WATER MAINS
- SW — PROPOSED SALT WATER MAIN
- +26.0 — PROPOSED GROUND LEVEL

Rev.	Date	Description	By	Chk'd	App'd
B	03/21	THIRD ISSUE	XJY	CJ	DF
A	10/18	SECOND ISSUE	XJY	CJ	DF
-	08/18	FIRST ISSUE	XJY	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PROPOSED SALT WATER MAINS FOR FLUSHING

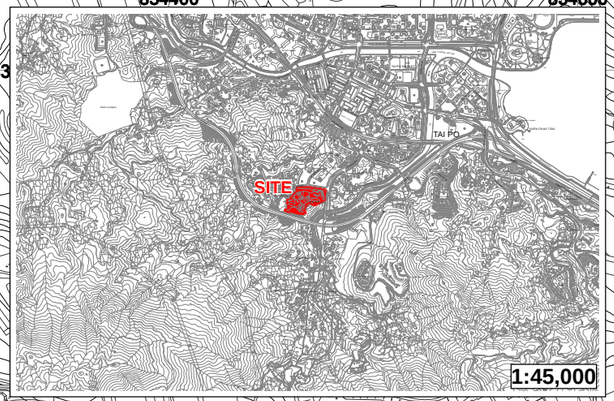
Scale	Designed	Drawn	Checked	Authorised
1 : 1250	XJY	AC	CJ	DF
Original Size	Date	Date	Date	Date
A1	AUG 2018	AUG 2018	AUG 2018	AUG 2018

Drawing Number: FIGURE 7.2

Revision: B

Copyright © Atkins Limited

User name: CHEUB306 Date:3/16/2021 Time:5:28:20 PM
FileName: P:\CNHK\Project\5165339 CE61_Tai Po_FS\22.00 CAD\23.30 Sketch\CN\5165339-WSIA-4.2.dgn



Legend

- NTHS Study Area
- Site boundary
- Proposed cut slope crest

Note:Base map features are taken from the LIC 1:1,000 scale topographic plans (dated 2010) and LIC 1:5,000 scale topographic plans (dated 2004)

This drawing is not to be used in whole or part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions

Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

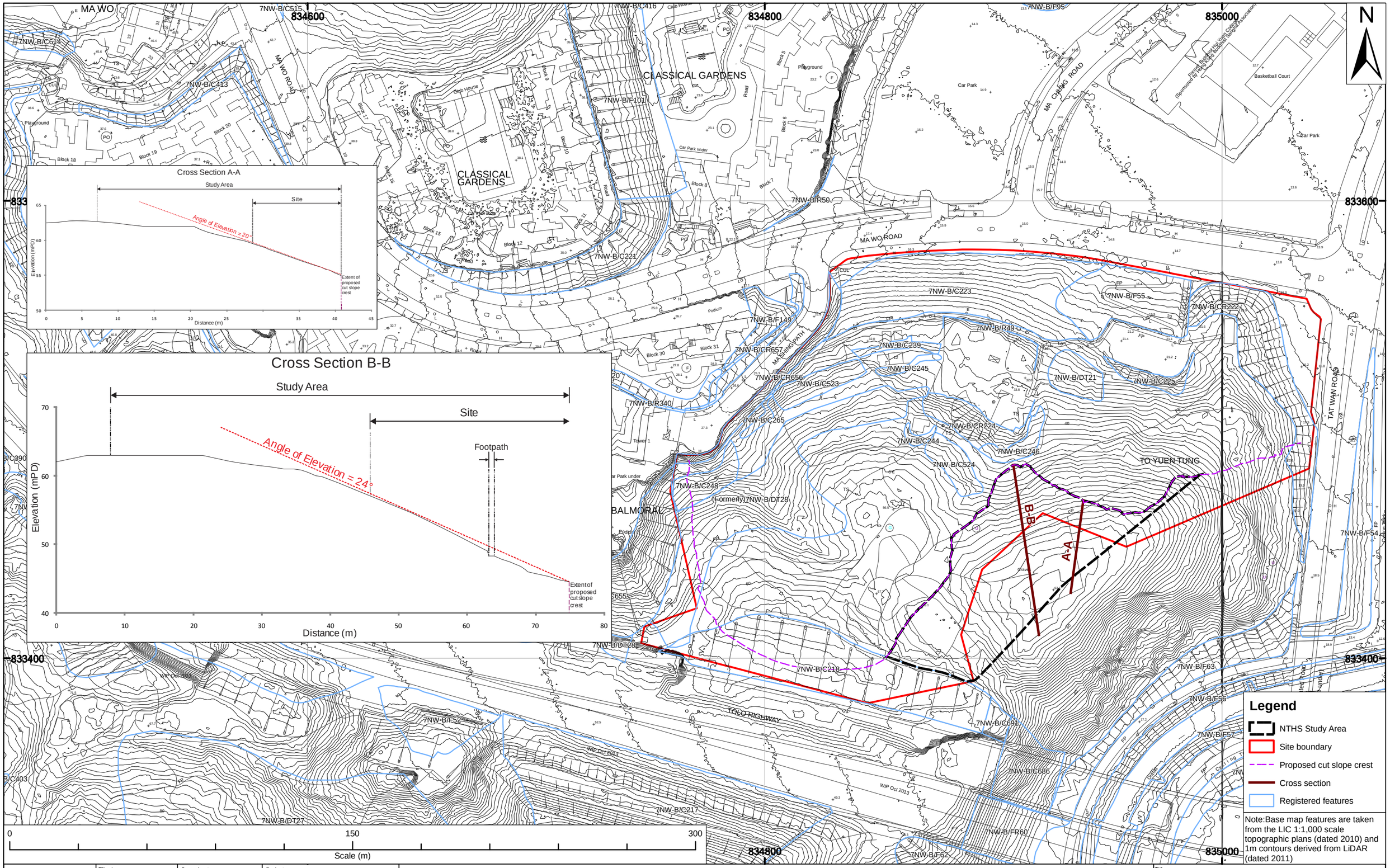
Consultant: ATKINS — Member of the SNC-Lavalin Group

Sub Consultant: GeoRisk Solutions

Project: **Agreement No. CE 61/2017 (CE) Site Formation and Infrastructre Works for Development at To Yuen Tung, Tai Po - Feasibility Study**

FIGURE 8.1: NTHS STUDY AREA

Title: Site Location Plan			
Designed: JG	Drawn: JG	Checked: RT	Approved: JH
Scale: 1:3,000 @ A3		Job No.: P0171	
Date: Jan. 2019		Figure No.: Figure 8.1	Rev: 02



Legend

- NTHS Study Area
- Site boundary
- Proposed cut slope crest
- Cross section
- Registered features

Note:Base map features are taken from the LIC 1:1,000 scale topographic plans (dated 2010) and 1m contours derived from LiDAR (dated 2011)

This drawing is not to be used in whole or part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions

Client: CEDD — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

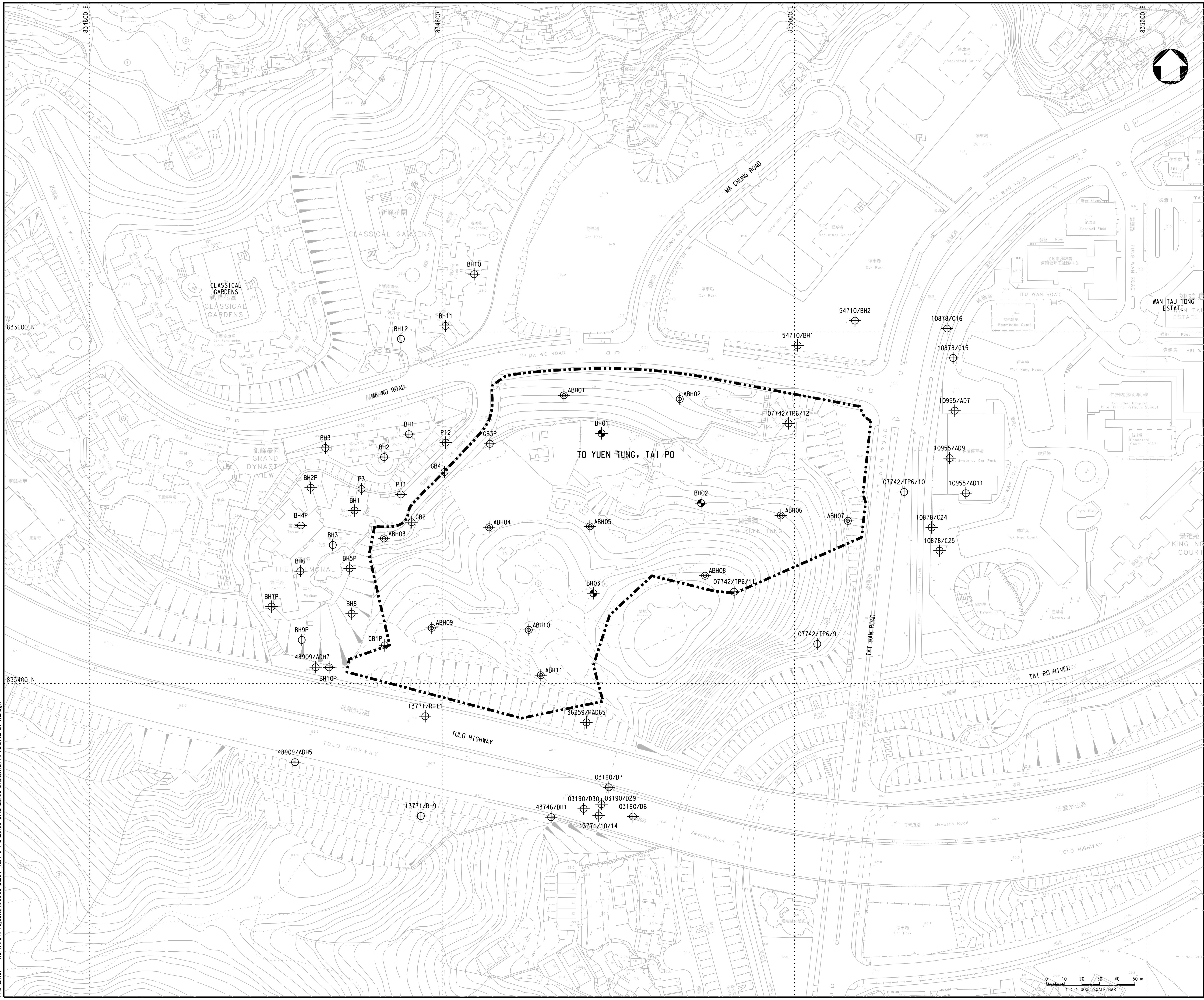
Consultant: ATKINS — Member of the SNC-Lavalin Group

Sub Consultant: GeoRisk Solutions

Project: **Agreement No. CE 61/2017 (CE) Site Formation and Infrastructre Works for Development at To Yuen Tung, Tai Po - Feasibility Study**

Figure 8.2: Angular Elevation Plan

Title: Site Location Plan			
Designed: JG	Drawn: JG	Checked: JH	Approved: JH
Scale: 1:1,500 @ A3		Job No.: P0171	
Date: Jan. 2019		Figure No.: 5165339/GEO/0903c	Rev: 02



LEGEND:

STUDY BOUNDARY
AS-BUILT DRILLHOLE (GE/2017/12.26)
EXISTING DRILLHOLE
PROPOSED DRILLHOLE

Rev.	Date	Description	By	Chk'd	App'd
-	01/19	FIRST ISSUE	HF	RW	DF

Drawing Status: FEASIBILITY STUDY
Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
EXISTING AND PROPOSED G.I. LOCATION PLAN

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	HF	WMC	RW	DF
Original Size A1	Date JAN 2019	Date JAN 2019	Date JAN 2019	Date JAN 2019

Drawing Number: FIGURE 9.1
Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:29/01/2019 Time: 16:11:14
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CIV\FIGURE GI-1.2.dgn

NOTES:

1. COORDINATES ARE IN REFERENCE WITH THE HONG KONG 1980 GRID.
2. THE HISTORICAL LANDSLIDE CATCHMENTS, ENHANCED NATURAL TERRAIN LANDSLIDE INVENTORY (ENTLI), AND LANDSLIDE INCIDENTS WERE TAKEN FROM GINFO ON 21 MAY 2018.

LEGEND:

- STUDY BOUNDARY
- EXISTING REGISTERED FEATURES TO BE ENTIRELY REMOVED
- EXISTING REGISTERED FEATURES TO BE PARTLY REMOVED AND MODIFIED
- EXISTING REGISTERED FEATURES NOT AFFECTED BY SITE FORMATION WORKS

Rev.	Date	Description	By	Chk'd	App'd
-	01/19	FIRST ISSUE	PC	RW	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
IMPACT OF REGISTERED FEATURES

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	PC	WMC	RW	DF
Original Size: A1	Date: JAN 2019	Date: JAN 2019	Date: JAN 2019	Date: JAN 2019

Drawing Number: FIGURE 9.2

Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:30/01/2019 Time:16:28:32
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-GEO-1.6.dgn

NOTES:

1. ALL COORDINATES ARE IN HONG KONG (1980) GRID SYSTEM.
2. ALL LEVEL REFER TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE STATED.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. FOR SECTIONS, REFER TO DRAWING NOS. 5165339-PO-2013 & 2014.

LEGEND:

- SITE BOUNDARY
- CUT SLOPE WITH MAX. ANGLE
- FORMATION LEVEL (mPD)
- BORED PILE WALL
- RETAINING WALL
- SOIL NAIL EXTENT
- EXISTING FOOTPATH TO BE RE-PROVIDED

Rev.	Date	Description	By	Chk'd	App'd
B	03/19	THIRD ISSUE	HF	RW	DF
A	01/19	SECOND ISSUE	HF	RW	DF
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
SITE FORMATION LAYOUT PLAN

Scale	Designed	Drawn	Checked	Authorised
1 : 1000	HF	WMC	CJ	DF
Orlginal Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

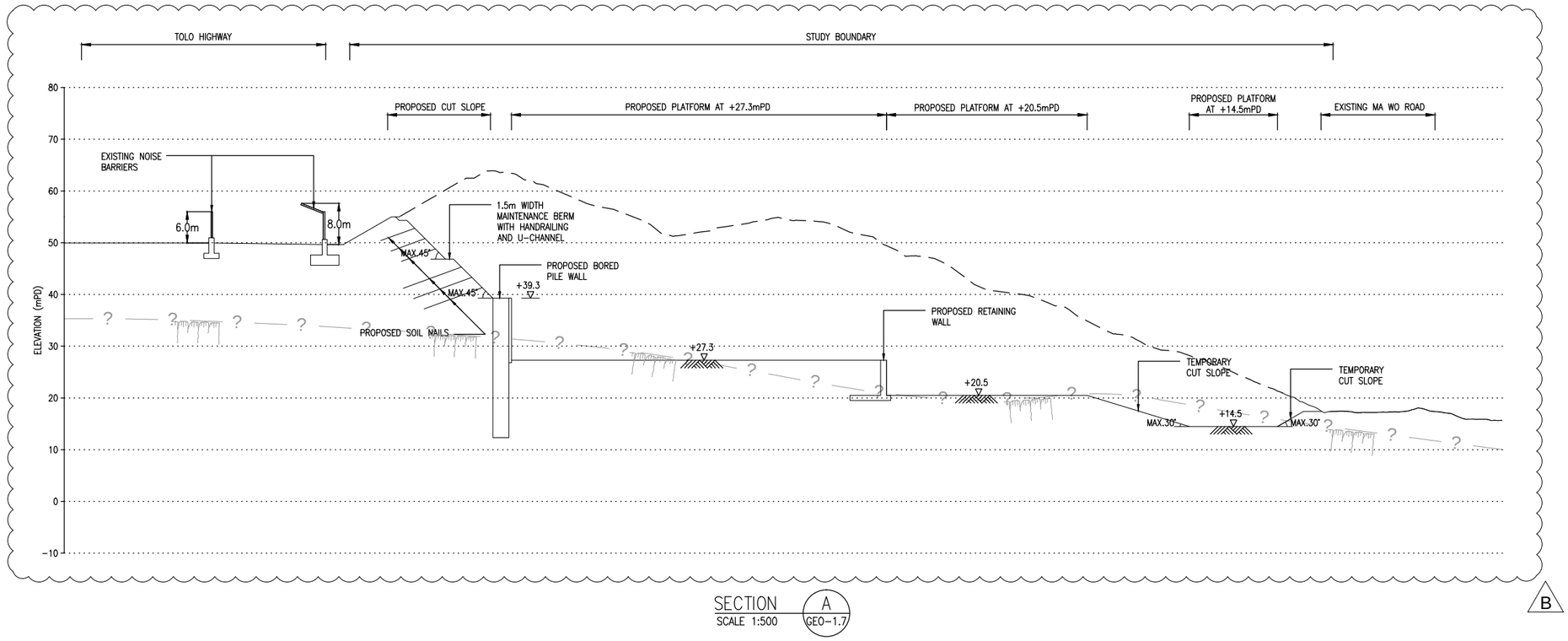
Drawing Number: FIGURE 10.1

Revision: B

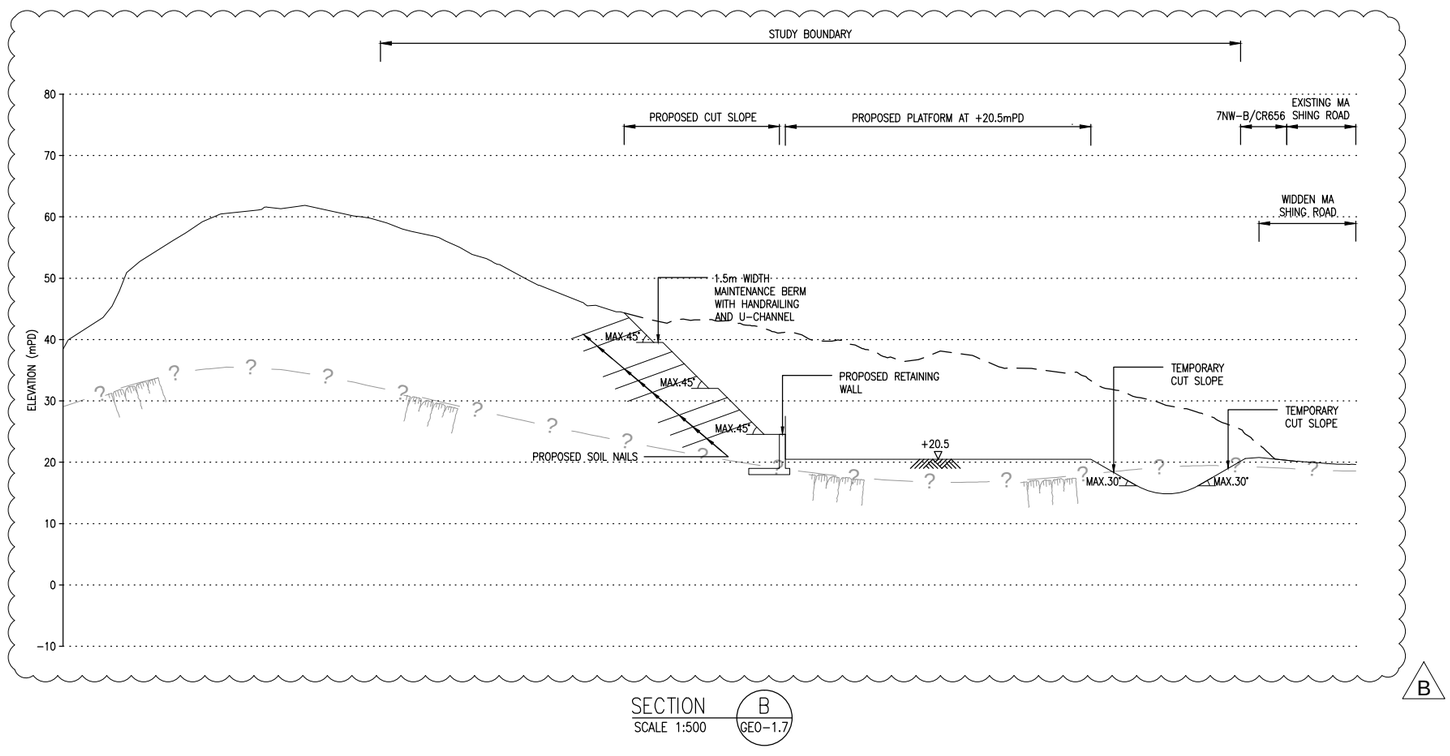
Copyright © Atkins Limited

User name: LUIC9803 Date:16-Jan-20 Time:5:20:40 PM
FIlename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-GEO-1.7.dgn

DO NOT SCALE



SECTION A
SCALE 1:500 GEO−1.7



SECTION B
SCALE 1:500 GEO−1.7

0 5 10 15 20 25 m
1 : 500 SCALE BAR

NOTES:

1. ALL LEVEL REFER TO HONG KONG PRINCIPAL DATUM(mPD) UNLESS OTHERWISE STATED.
2. ROCKHEAD IS DEFINED AS OVER 5m OF CONTINUOUS GRADE I TO III WITH EQUAL TO OR GREATER THAN 85% TOTAL CORE RECOVERY (TCR).
3. FOR PLAN, REFER TO DRAWING NO. 5165339−GEO−1.7.
4. THE GEOLOGICAL PROFILES WILL BE VERIFIED WITH THE PROPOSED GROUND INVESTIGATION WORKS.

LEGEND:

INFERRED ROCKHEAD LEVEL

EXISTING SLOPE PROFILE

FINAL FORMATION LEVEL

Rev.	Date	Description	By	Chk'd	App'd
B	FEB 2019	THIRD ISSUE	HF	RW	DF
A	SEP 2018	SECOND ISSUE	HF	CJ	DF
-	AUG 2018	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY
Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title
SECTIONS (SHEET 1 OF 2)

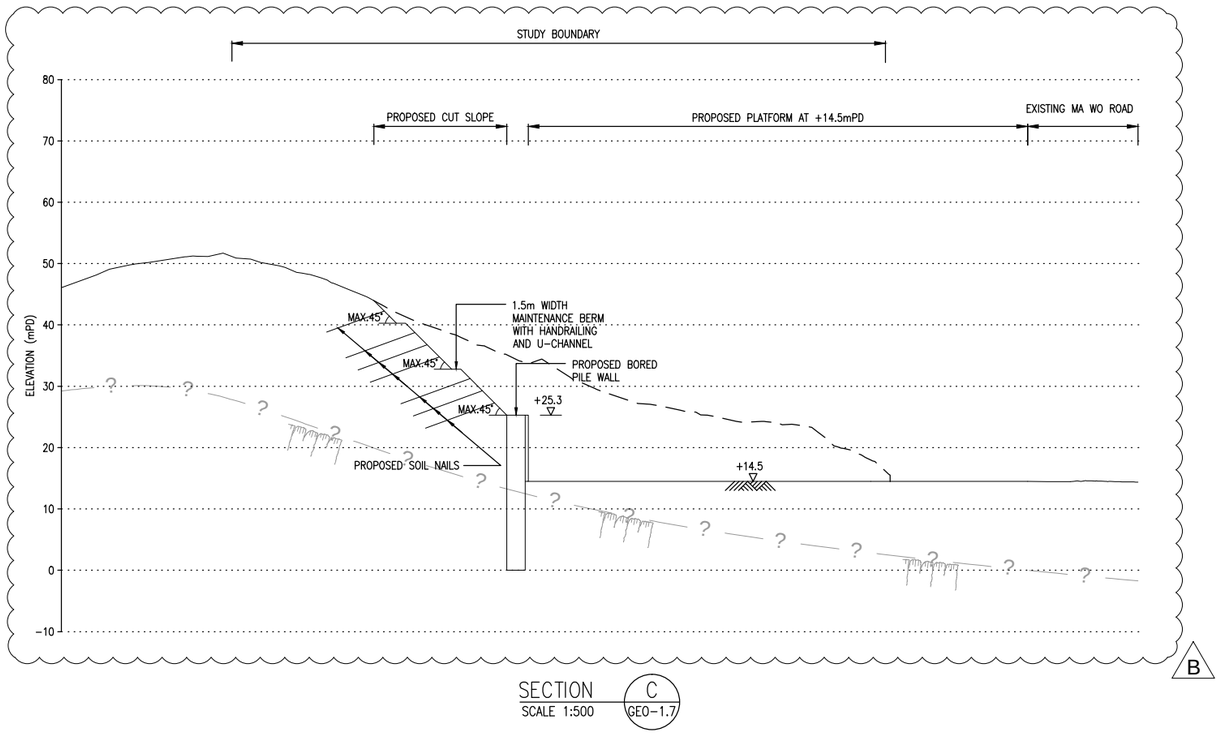
Scale	Designed	Drawn	Checked	Authorised
1:500	HF	WMC	CJ	DF
Original Size	Date	Date	Date	Date
A1	AUG 2018	AUG 2018	JAN 2019	AUG 2018

Drawing Number: FIGURE 10.2
Revision: B

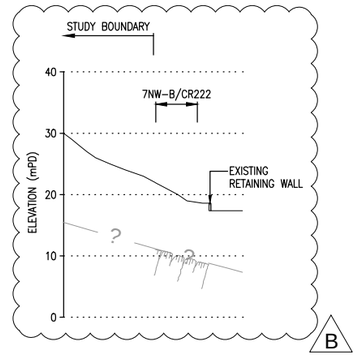
Copyright © Atkins Limited (2018)

User name: Chan, Philip Date:25 March 2019 14:01:29
Filename: P:\CN\HKA\Project\5165339 CE61_Tai Po_FS\28.00 Working And Temporary\Geotechnical\Option 2\D\Rev C\5165339-PO-2013B

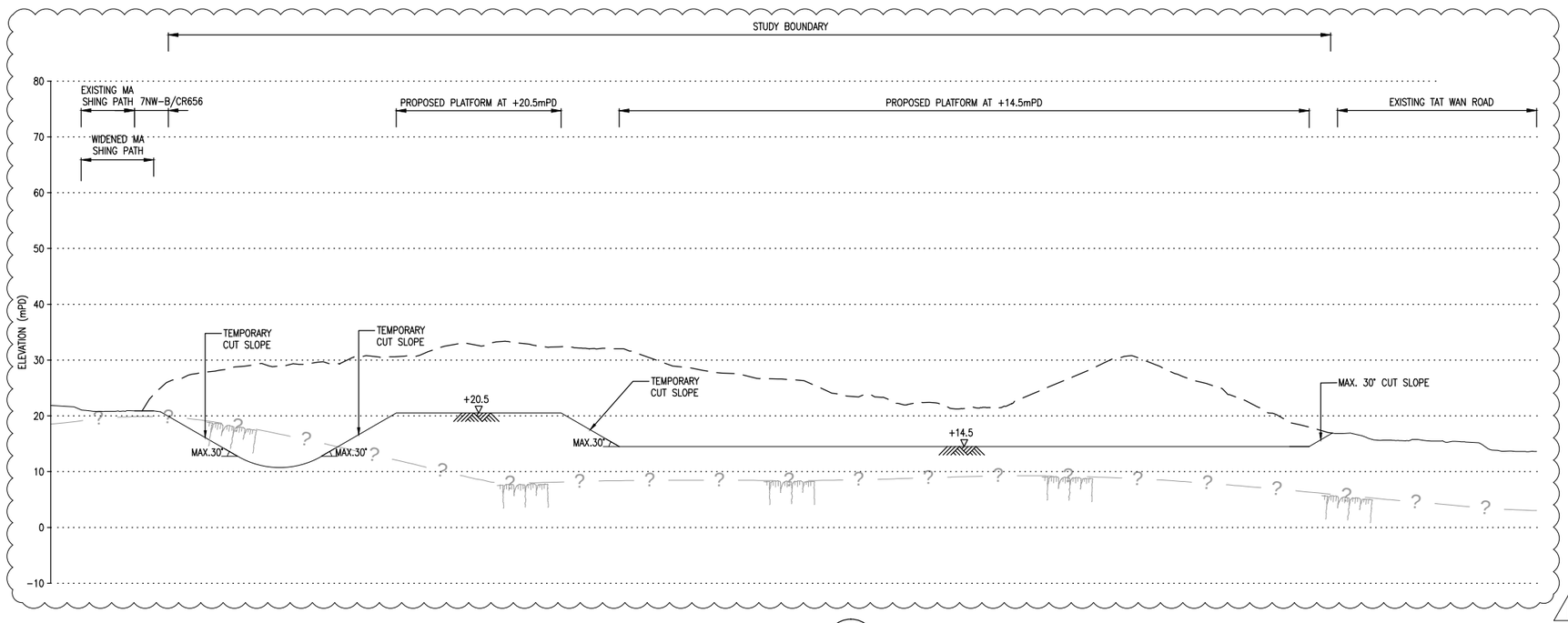
DO NOT SCALE



SECTION C
SCALE 1:500 GEO-1.7



SECTION E
SCALE 1:500 GEO-1.7



SECTION D
SCALE 1:500 GEO-1.7

0 5 10 15 20 25 m
1 : 500 SCALE BAR

NOTES:

1. ALL LEVEL REFER TO HONG KONG PRINCIPAL DATUM(mPD) UNLESS OTHERWISE STATED.
2. ROCKHEAD IS DEFINED AS OVER 5m OF CONTINUOUS GRADE I TO III WITH EQUAL TO OR GREATER THAN 85% TOTAL CORE RECOVERY (TCR).
3. FOR PLAN, REFER TO DRAWING NO. 5165339-PO-1007.
4. THE GEOLOGICAL PROFILES WILL BE VERIFIED WITH THE PROPOSED GROUND INVESTIGATION WORKS.

LEGEND:

INFERRED ROCKHEAD LEVEL

EXISTING SLOPE PROFILE

FINAL FORMATION LEVEL

Rev.	Date	Description	By	Chk'd	App'd
B	FEB 2019	THIRD ISSUE	HF	RW	DF
A	SEP 2018	SECOND ISSUE	HF	CJ	DF
-	AUG 2018	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY
Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO
- FEASIBILITY STUDY

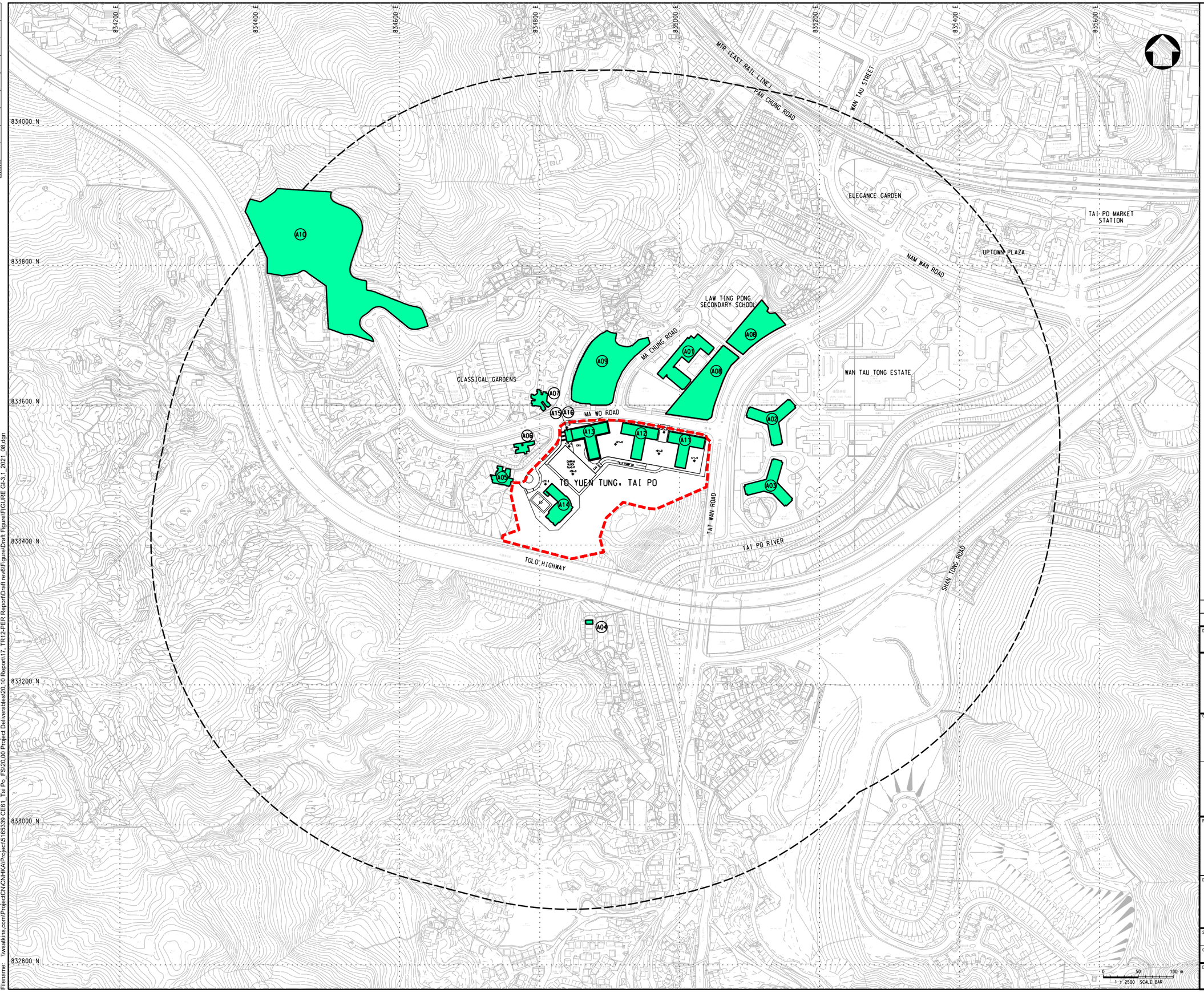
Drawing Title
SECTIONS (SHEET 2 OF 2)

Scale	Designed	Drawn	Checked	Authorised
1:500	HF	WMC	CJ	DF
Original Size: A1	Date: AUG 2018	Date: AUG 2018	Date: AUG 2018	Date: AUG 2018

Drawing Number: FIGURE 10.3
Revision: B

Copyright © Atkins Limited (2018)

User name: Chan, Philip Date:08 March 2019 10:24:43
Filename: P:\CN\HKA\Project\5165339 CE61_Tai Po_FS\28.00 Working And Temporary\Geotechnical\Option 2\D\Rev C\5165339-PO-2014B



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- 500m AIR QUALITY STUDY AREA
- AIR SENSITIVE RECEIVER

LOCATION OF AIR SENSITIVE RECEIVER:

A01	AMERICAN SCHOOL HONG KONG
A02	WAN HANG HOUSE, WAN TAU TONG ESTATE
A03	TAK NGA COURT
A04	10, HA WUN YIU
A05	TOWER 1, THE BALMORAL
A06	BLOCK 31, GRAND DYNASTY VIEW
A07	BLOCK 7, CLASSICAL GARDENS II
A08	MA WO ROAD GARDEN
A09	PROPOSED SPORTS CENTER IN AREA 6, TAI PO
A10	PRIVATE RESIDENTIAL DEVELOPMENT AT MA WO ROAD (TPTL 243)
A11	DOMESTIC BLOCK A OF THE PLANNED HOUSING DEVELOPMENT
A12	DOMESTIC BLOCK B OF THE PLANNED HOUSING DEVELOPMENT
A13	DOMESTIC BLOCK C OF THE PLANNED HOUSING DEVELOPMENT
A14	PROPOSED SCHOOL OF THE PLANNED HOUSING DEVELOPMENT
A15	PROPOSED WELFARE BUILDING AT 1/F TO 5/F BLOCK C IN THE PLANNED HOUSING DEVELOPMENT
A16	PROPOSED KINDERGARTEN AT G/F BLOCK C IN THE PLANNED HOUSING DEVELOPMENT

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
REPRESENTATIVE AIR SENSITIVE RECEIVER

Scale	Designed	Drawn	Checked	Authorised
1 : 2500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 11.1

Revision: -

Copyright © Atkins Limited

User name: CHOW01748 Date: 8/16/2021 Time: 6:11:29 PM
Filename: \\wsatkins.com\Project\CNGNHK\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev6\Figure\Draft Figure\FIGURE GI-3.1_2021_08.dgn

NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

SITE BOUNDARY

BUFFER FOR AIR QUALITY SETBACK

5m BUFFER FROM MA WO ROAD (LOCAL DISTRIBUTOR)

5m BUFFER FROM MA SHING PATH (LOCAL DISTRIBUTOR)

10m BUFFER FROM TAT WAN ROAD (DISTRICT DISTRIBUTOR)

20m BUFFER FROM TOLO HIGHWAY (EXPRESSWAY)

BLK A +135.0

BLK B +135.0

BLK C +135.0

WF 5s+G/F +49.0

EVA

CARPAK BLOCK 7s+G/F +56.0

18-CR SCHOOL SITE

TO YUEN TUNG, TAI PO

1:12 RAMP UP

MA WO ROAD

MA CHUNG ROAD

TAT WAN ROAD

TOLO HIGHWAY

TAI PO RIVER

CLASSICAL GARDENS

下層停車場 Car Park under

第八座 Block 8

第七座 Block 7

停車場 Car Park

馬窩路

平台 Podium

第三十座 Block 30

Block 31

馬成徑

MA SHING PATH

第一座 Tower 1

墓地 Graves

吐露港公路

排水口 Outfall

高架道路 (天橋/行人橋) Elevated Road (Footbridge under)

單車徑 Cycling Track

834800 E

835000 E

833600 N

833400 N

0 10 100 Millimetres

SCALE BAR 1 : 500 0 5 10 15 18 20 25 m

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS

Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署 Civil Engineering and Development Department

土木工程處 房屋工程組 Civil Engineering Office Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

RECOMMENDED BUFFER ZONES

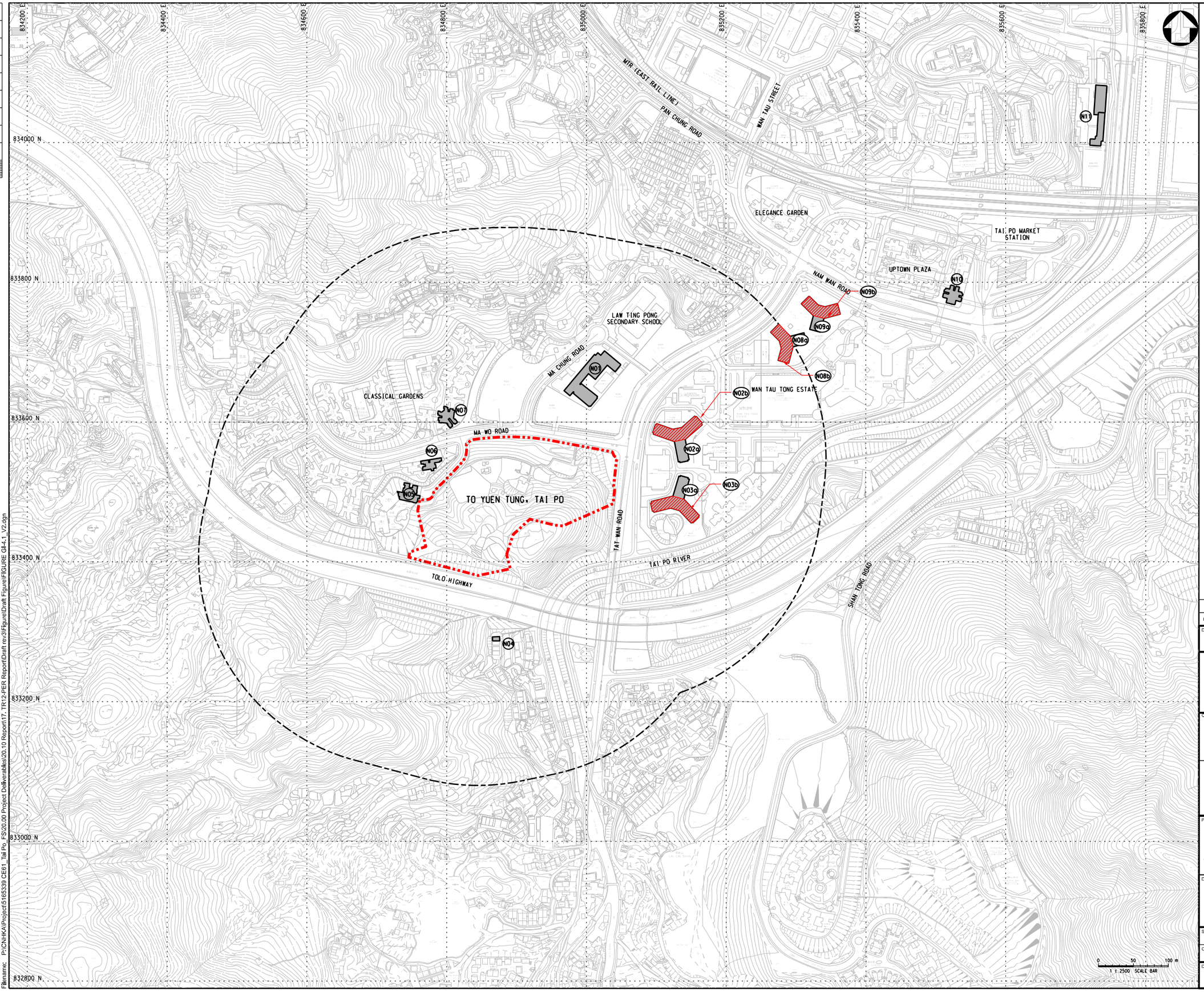
Scale	Designed	Drawn	Checked	Authorised
1 : 500	HF	WMC	CJ	DF
Original Size	Date	Date	Date	Date
A1	NOV 2018	NOV 2018	NOV 2018	NOV 2018

Drawing Number: FIGURE 11.2

Revision: -

Copyright © Atkins Limited

User name: KWOK6432 Date:4/21/2020 Time: 1:55:51 PM
Filename: P:\CN\HKA\Projects\51\65339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17_TR12-PER Report\Draft rev3\Figure\Draft Figure\FIGURE GH-3.2.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.
2. N02b, N03b, N08b AND N09b ARE KINDERGARTEN LOCATED AT THE GROUND FLOOR OF WAN HANG HOUSE, TAK NGA COURT, BLOCK B YAT NGA COURT AND BLOCK A YAT NGA COURT RESPECTIVELY.

LEGEND:

- SITE BOUNDARY
- 300m NOISE STUDY AREA
- NOISE SENSITIVE RECEIVER
- NOISE SENSITIVE RECEIVER AT THE GROUND FLOOR OF BUILDINGS

LOCATION OF NOISE SENSITIVE RECEIVER:

N01	AMERICAN SCHOOL HONG KONG
N02a	WAN HANG HOUSE, WAN TAU TONG ESTATE
N02b	TAI PO BAPTIST KINDERGARTEN[2]
N03a	TAK NGA COURT
N03b	BRIGHTLAND INTERNATIONAL KINDERGARTEN[2]
N04	10, HA WUN YIU
N05	TOWER 1, THE BALMORAL
N06	BLOCK 31, GRAND DYNASTY VIEW
N07	BLOCK 7, CLASSICAL GARDENS II
N08a	YAT NGA COURT BLOCK B
N08b	LEE ANDREW MEMORIAL ANGLO-CHINESE KINDERGARTEN[2]
N09a	YAT NGA COURT BLOCK A
N09b	ZEBEDEE INTERNATIONAL PRESCHOOL AND NURSEY[2]
N10	UPTOWN PLAZA BLOCK 4
N11	WONG SHIU CHI SECONDARY SCHOOL

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY
Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client
CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

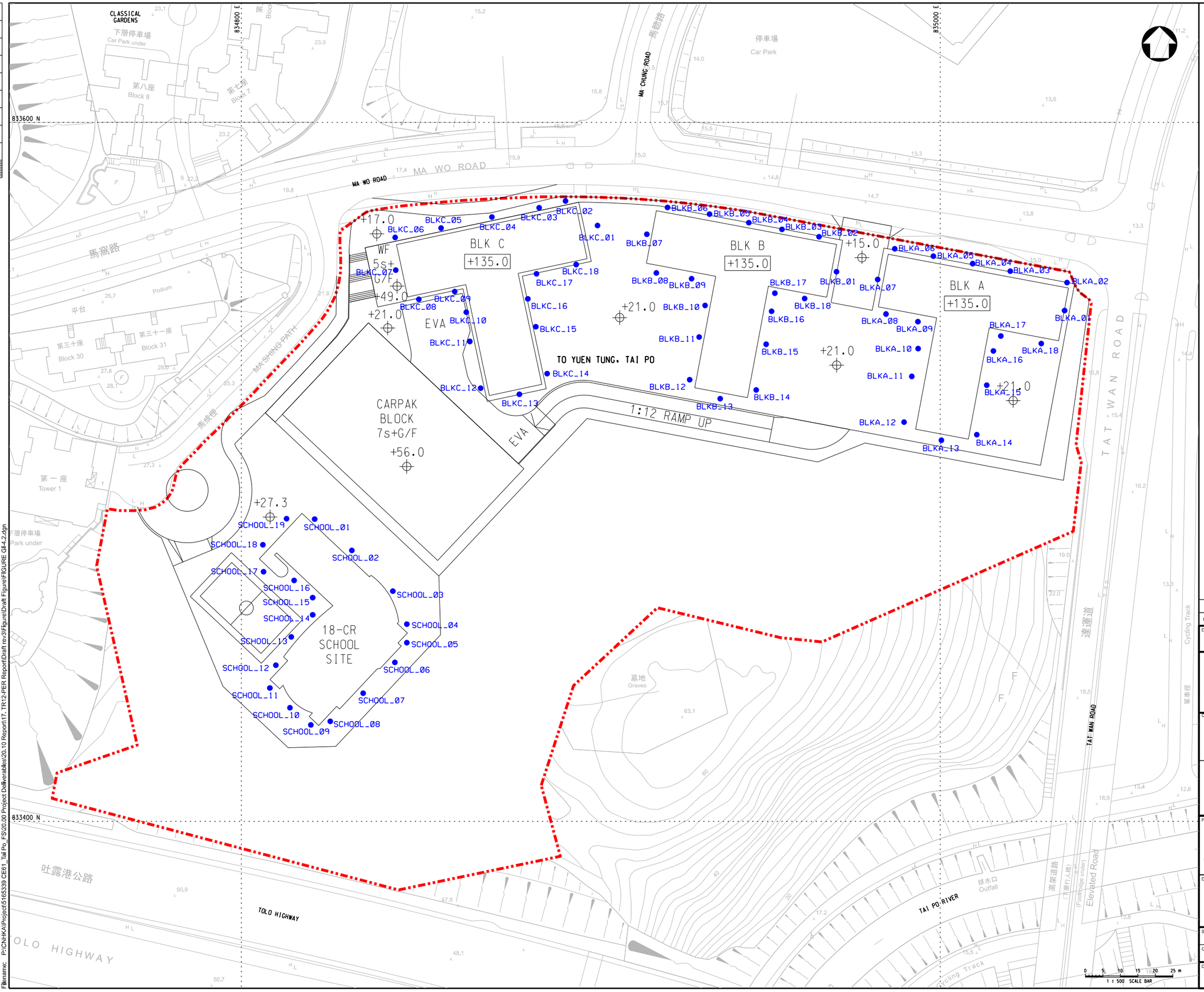
Drawing Title
REPRESENTATIVE NOISE SENSITIVE RECEIVER

Scale	Designed	Drawn	Checked	Authorised
1 : 2500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 11.3
Revision: -

Copyright © Atkins Limited

Millimetres 100 0 10
User name: KWOK6432 Date:5/29/2020 Time: 3:06:55 PM
Filename: P:\CNHK\AIProject\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev3\Figure\Draft Figure\FIGURE GI-4.1_V2.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

SITE BOUNDARY

NOISE ASSESSMENT POINT

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PLANNED NOISE SENSITIVE RECEIVER (RESIDENTIAL)

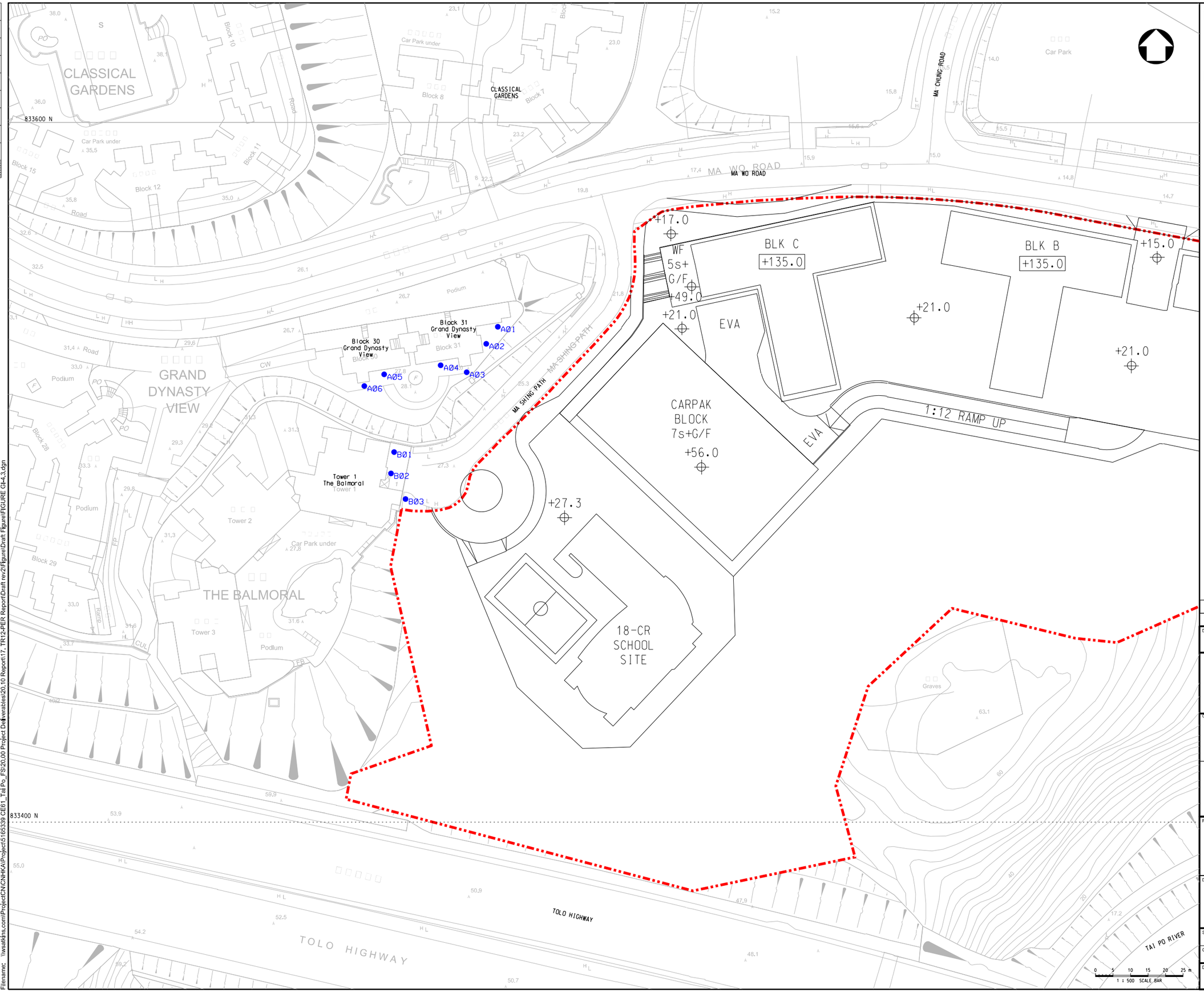
Scale	Designed	Drawn	Checked	Authorised
1 : 500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 11.4

Revision: -

Copyright © Atkins Limited

User name: KWOK6432 Date:5/18/2020 Time: 5:21:15 PM
Filename: P:\CN\HK\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev3\Figure\Draft Figure\FIGURE GH-4.2.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

SITE BOUNDARY

NOISE ASSESSMENT POINT

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS

Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

EXISTING NOISE SENSITIVE RECEIVER (RESIDENTIAL)

Scale	Designed	Drawn	Checked	Authorised
1 : 500	HF	WMC	CJ	DF
Orig'nal Size: A1	Date: FEB 2020	Date: FEB 2020	Date: FEB 2020	Date: FEB 2020

Drawing Number: FIGURE 11.5

Revision: -

Copyright © Atkins Limited

User name: CHOW1748 Date:18-Feb-20 Time:11:25:49 AM
Filename: \\wsatkins.com\Project\CN\CNHKA\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev20\Figure\Draft Figure\FIGURE GH4.3.dgn

NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- NOISE ASSESSMENT POINT
- LOCATION OF WELFARE FACILITY

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PLANNED NOISE SENSITIVE RECEIVER (WELFARE FACILITY AND SCHOOL)

Scale	Designed	Drawn	Checked	Authorised
1 : 500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 11.6

Revision: -

1 : 500 SCALE BAR (0, 5, 10, 15, 20, 25 m)

Copyright © Atkins Limited

User name: CHOW1748 Date:18-Feb-20 Time:11:28:35 AM
Filename: \\wsatkins.com\Project\CN\CNHKA\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20_10 Report\17_TR12-PER Report\Draft rev20\Figure\Draft Figure\FIGURE GH-4.4.dgn

NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- NOISE ASSESSMENT POINT
- LOCATION OF KINDERGATEN

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

PLANNED NOISE SENSITIVE RECEIVER (KINDERGARTEN)

Scale	Designed	Drawn	Checked	Authorised
1 : 500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

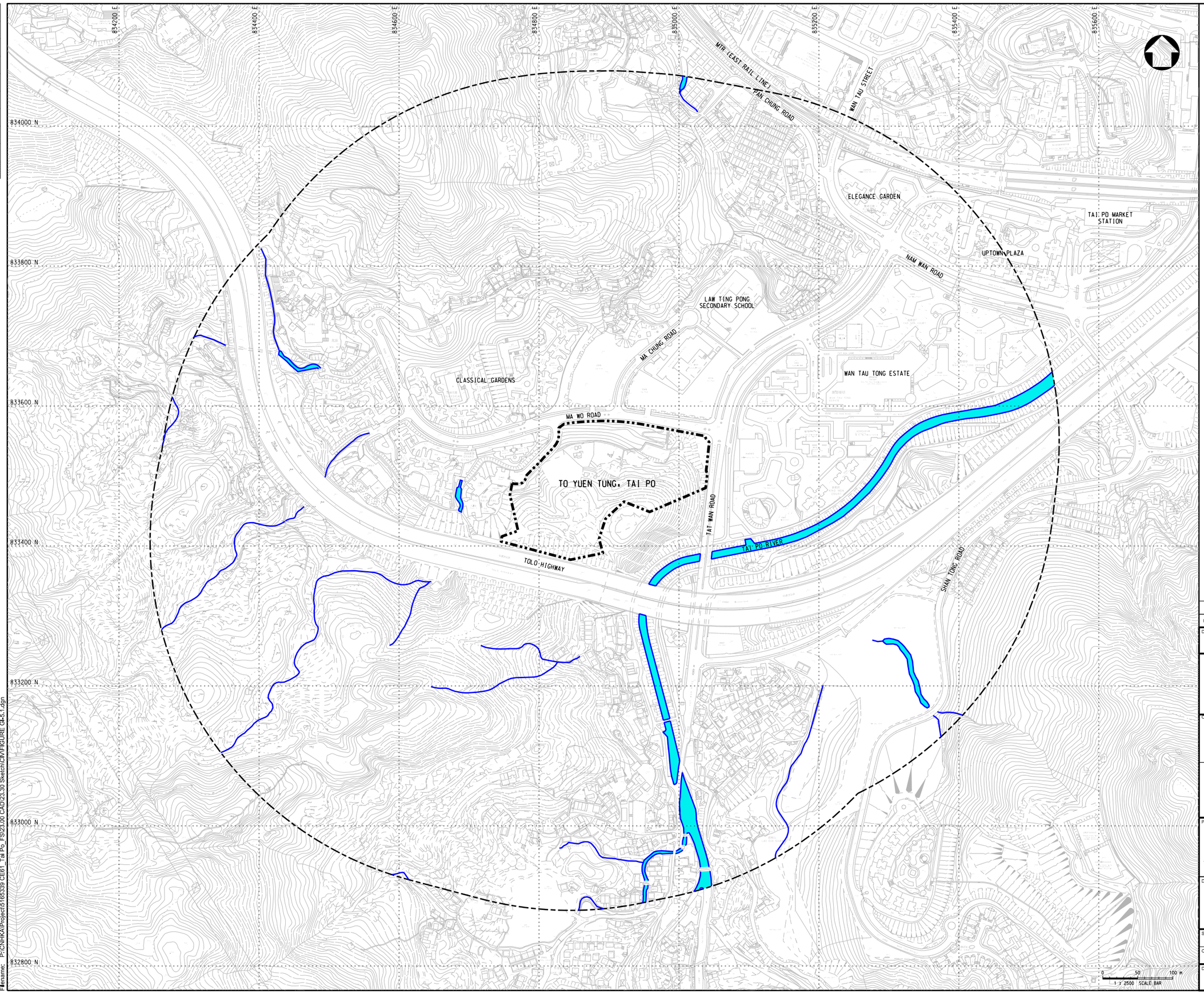
Drawing Number: FIGURE 11.7

Revision: -

1 : 500 SCALE BAR

Copyright © Atkins Limited

User name: CHOW17748 Date: 18-Feb-20 Time: 11:27:39 AM
Filename: \\wsatkins.com\Project\CN\CNHKA\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev2\Figure\Draft Figure\FIGURE GH4.5.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- 500m WATER QUALITY STUDY AREA
- WATER SENSITIVE RECEIVER

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

REPRESENTATIVE WATER SENSITIVE RECEIVER

Scale	Designed	Drawn	Checked	Authorised
1 : 2500	HF	WMC	CJ	DF
Original Size: A1	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018	Date: NOV 2018

Drawing Number: FIGURE 11.8

Revision: -

Copyright © Atkins Limited

User name: chow6256 Date:27/11/2018 Time:17:12:03
FIlename: P:\CN\HKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.30 Sketch\CN\FIGURE GI-5.1.dgn

Trees with DBH at or above 500mm within and in the vicinity of the Site

Tree ID	Scientific Name	Chinese Name	DBH (mm)	Proposed Treatment
T1	*Celtis sinensis*	朴樹	954	Fell
T2	*Machilus gamblei*	黃心樹	954	Fell
T3	*Ficus microcarpa*	細葉榕	1273	Fell
T4	*Machilus gamblei*	黃心樹	954	Fell
T8	*Acacia confusa*	台灣相思	636	Fell
T34	*Cinnamomum camphora*	樟	572	Retain
T35	*Cinnamomum camphora*	樟	500	Retain
T54	*Acacia confusa*	台灣相思	636	Fell
T79	*Acacia confusa*	台灣相思	509	Fell
T94	*Acacia confusa*	台灣相思	636	Fell
T108	*Acacia confusa*	台灣相思	636	Fell
T148	*Ficus microcarpa*	細葉榕	500	Fell
T167	*Ficus microcarpa*	細葉榕	700	Fell
T191	*Aleurites moluccana*	石栗	500	Fell
T237	*Cinnamomum camphora*	樟	572	Fell
T286	*Ficus microcarpa*	細葉榕	800	Fell
T485	*Machilus* sp.	潤楠(屬)	500	Fell
T619	*Machilus* sp.	潤楠(屬)	572	Fell
T720	*Machilus* sp.	潤楠(屬)	500	Fell
T733	*Choerospondias axillaris*	南酸棗	636	Fell
T734	*Choerospondias axillaris*	南酸棗	541	Fell
T937	*Cinnamomum camphora*	樟	600	Retain
T952	*Cinnamomum camphora*	樟	526	Fell
T1103	*Endospermum chinense*	黃桐	636	Retain
T1123	*Ixonanthes reticulata*	黏木	528	Retain
T1360	*Ixonanthes reticulata*	黏木	530	Retain
T1517	*Cinnamomum camphora*	樟	636	Fell

Trees of Conservation Interests within and in the vicinity of the Project Site

Scientific Name	Chinese Name	Tree ID	DBH (mm)	Proposed Treatment
Aquilaria sinensis	土沉香	T591	159	Retain
		T1115	190	Retain
		T1128	254	Retain
		T1324	190	Retain
		T1447	190	Retain
Ixonanthes reticulata	黏木	T1123	528	Retain
		T1142	318	Fell
		T1154	315	Retain
		T1164	222	Fell
		T1168	445	Fell
		T1177	222	Fell
		T1195	190	Fell
		T1203	190	Fell
		T1228	189	Fell
		T1279	318	Retain
		T1325	350	Retain
		T1329	381	Retain
		T1330	350	Retain
		T1360	530	Retain
		T1364	318	Retain
		T1381	318	Fell
		T1470	286	Retain
Michelia x *alba*	白蘭	T257	254	Retain
		T356	318	Fell
		T405	413	Fell
		T500	400	Fell
		T697	381	Retain
		T936	381	Retain

WELFARE
Roof Level
5S+G/F
+49.0

BLOCK C
Roof Level
+135.0mPD

BLOCK B
Roof Level
+135.0mPD

BLOCK A
Roof Level
+135.0mPD

CARPARK BLOCK
7s + G/F
Roof Level
+56.0mPD

18CR-SCHOOL SITE
Roof Level
+49.9mPD

1:10 Ramp

Ma Wo Road
MA WO ROAD

Ma Shing Path

Grand Dynasty View

TAT WAN ROAD

Tat Wan Road

Tolo Highway

+19.8mPD
+15.0mPD
+13.3mPD
+27.3mPD
+21.0mPD
+63.24mPD

T3 DBH >1,000mm

NORTH

SCALE 1 : 1,000@A3
0 10 20 30 40 50m

Note:
Details of the tree survey refer to **Tree Survey Report** in **Annex A** of this Report.

LEGEND

- Project Site Boundary
- Tree Survey Boundary
- Extent of Road Widening Works
- Existing Tree within Tree Survey Boundary Proposed to be Retained
- Existing Tree within Tree Survey Boundary Proposed to be Felled
- Existing Tree within Tree Survey Boundary Proposed to be Transplanted
- Tree with DBH at or above 500mm

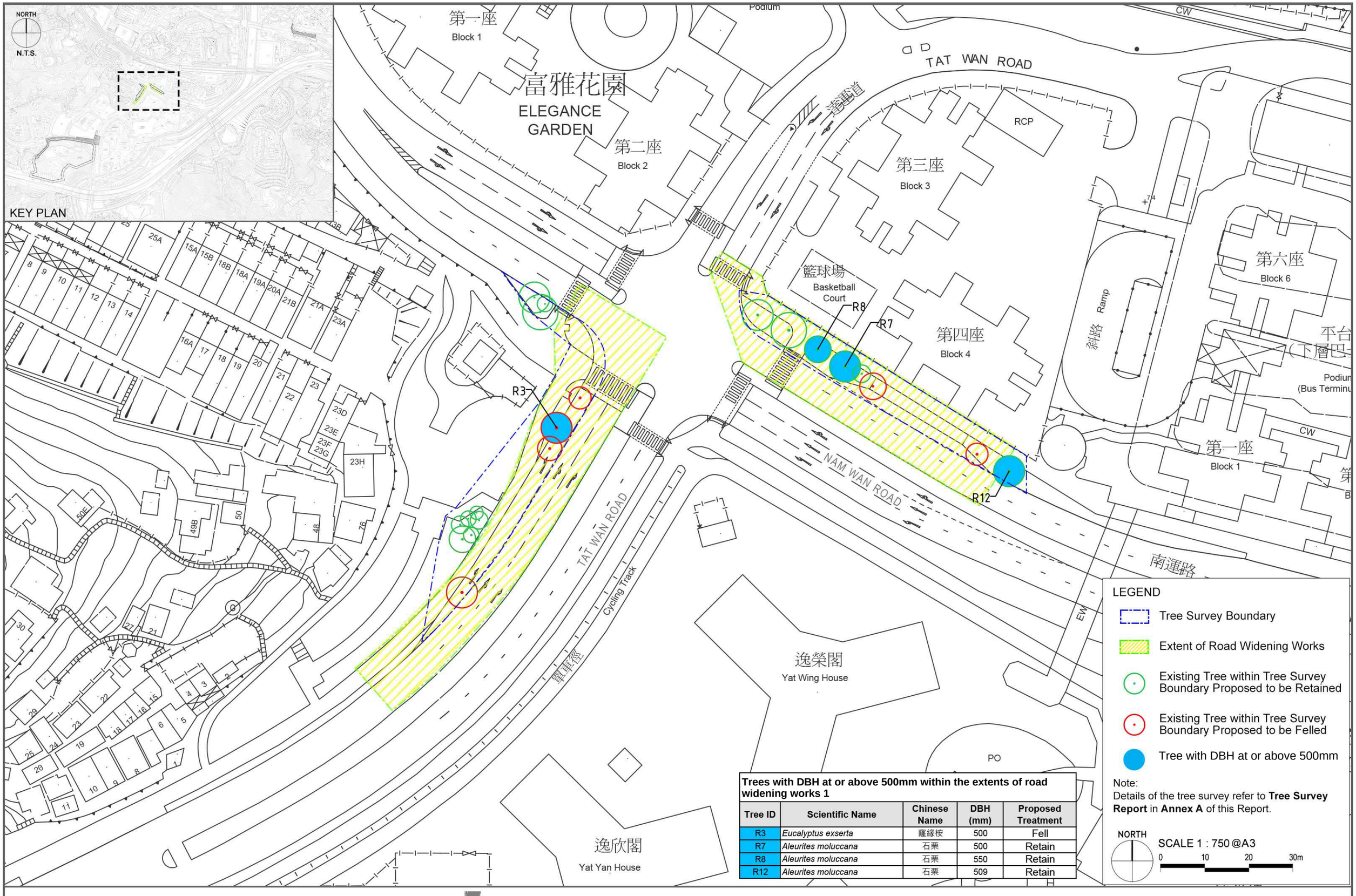
Trees of Conservation Interests:

- *Michelia alba*
- *Ixonanthes reticulata*
- *Ixonanthes reticulata* (with DBH at or above 500mm)
- *Aquilaria sinensis*
- Cut Slope with Max. Angle
- Formation Level (mPD)
- Bored Pile Wall
- Soil Nail Extent

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.1 - Tree Treatment Plan (Within and In the Vicinity of the Site)



Trees with DBH at or above 500mm within the extents of road widening works 1

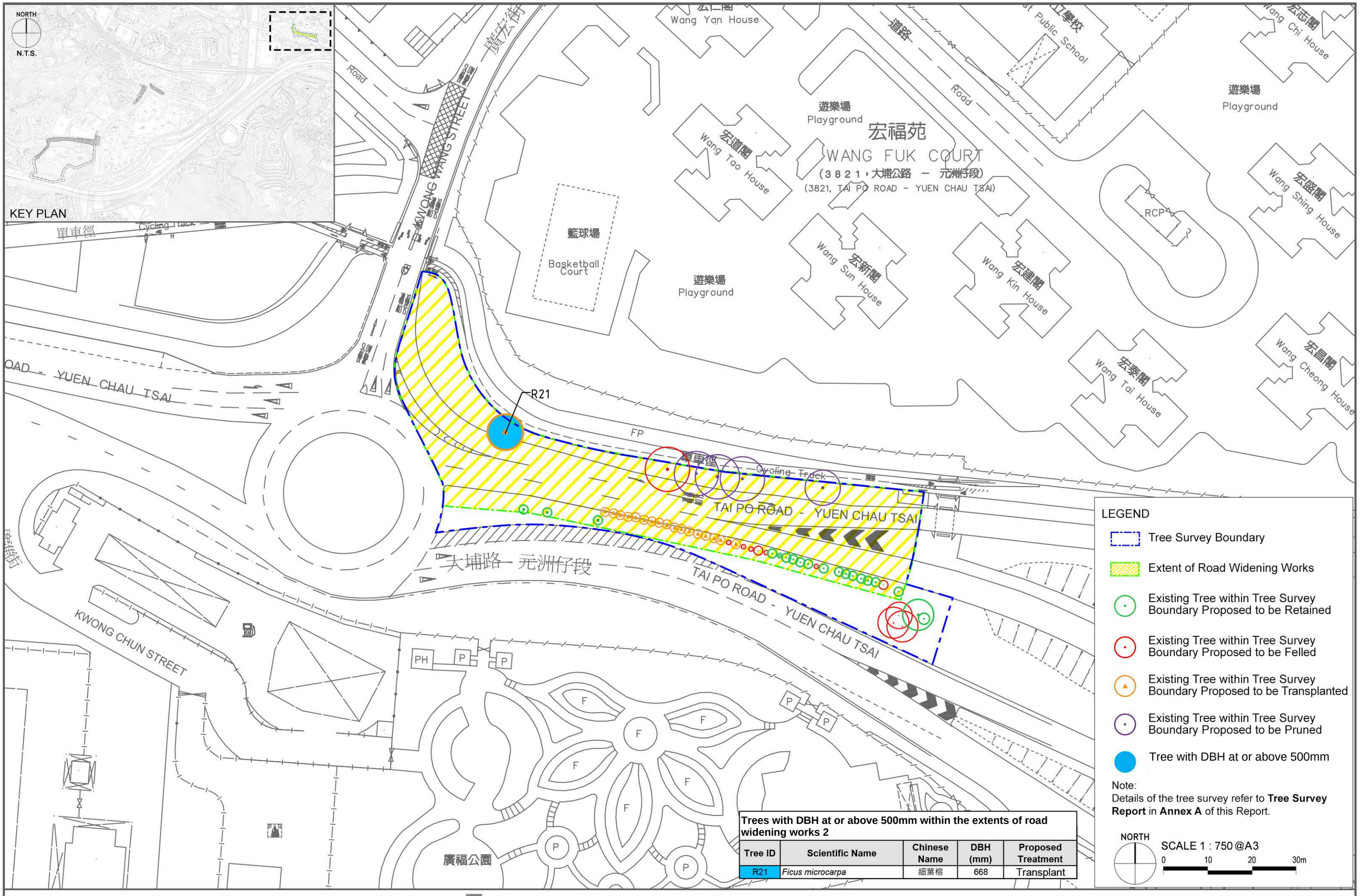
Tree ID	Scientific Name	Chinese Name	DBH (mm)	Proposed Treatment
R3	*Eucalyptus exserta*	窿緣桉	500	Fell
R7	*Aleurites moluccana*	石栗	500	Retain
R8	*Aleurites moluccana*	石栗	550	Retain
R12	*Aleurites moluccana*	石栗	509	Retain

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Ubis 雅邦 Limited

Figure 13.2 - Tree Treatment Plan (Within Tree Survey Area for Road Widening Works 1)



Trees with DBH at or above 500mm within the extents of road widening works 2

Tree ID	Scientific Name	Chinese Name	DBH (mm)	Proposed Treatment
R21	*Ficus microcarpa*	細葉榕	668	Transplant

LEGEND

- Tree Survey Boundary
- Extent of Road Widening Works
- Existing Tree within Tree Survey Boundary Proposed to be Retained
- Existing Tree within Tree Survey Boundary Proposed to be Felled
- Existing Tree within Tree Survey Boundary Proposed to be Transplanted
- Existing Tree within Tree Survey Boundary Proposed to be Pruned
- Tree with DBH at or above 500mm

Note:
Details of the tree survey refer to **Tree Survey Report** in **Annex A** of this Report.

NORTH
SCALE 1 : 750 @A3
0 10 20 30m

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Urbis 雅邦 Limited

Figure 13.3 - Tree Treatment Plan (Within Tree Survey Area for Road Widening Works 2)

NORTH

N.T.S.

KEY PLAN

LEGEND

- Landscape Study Area (500m From the Project Site Boundary)
- Project Site Boundary
- Extent of Road Widening Works

Landscape Resources		
Reference ID	**Description**	**Sensitivity to Change (Low/ Medium/ High)**
LR1A	Natural Hillsides with Woodland (within and in the Immediate Vicinity of the Site)	High
LR1B	Natural Hillsides with Woodland (beyond Site)	High
LR2A	Engineered Hillsides with Woodland (within the Site)	High
LR2B	Engineered Hillsides with Woodland (beyond Site)	High
LR3	Natural Hillsides with Scrublands / Grasslands / Cultivated Lands	High
LR4A	Residential Areas with Amenity Landscaping (Existing)	Medium
LR4B	Residential Areas with Amenity Landscaping (Under Construction)	Medium
LR5	Schools with Amenity Landscaping	Low
LR6	Village Type Development with Vegetated Areas	Medium
LR7A	Public Open Spaces / Sitting Out Areas with Amenity Landscaping	Medium
LR7B	Public Open Spaces	Medium
LR8	Public Streets with Amenity Landscaping	Medium
LR9	Engineered Slopes along Highways with Vegetated Surfaces	Low
LR11	Streams	High
LR12	Tai Po River (Channelised)	Medium

NORTH

SCALE 1 : 5,000@A3

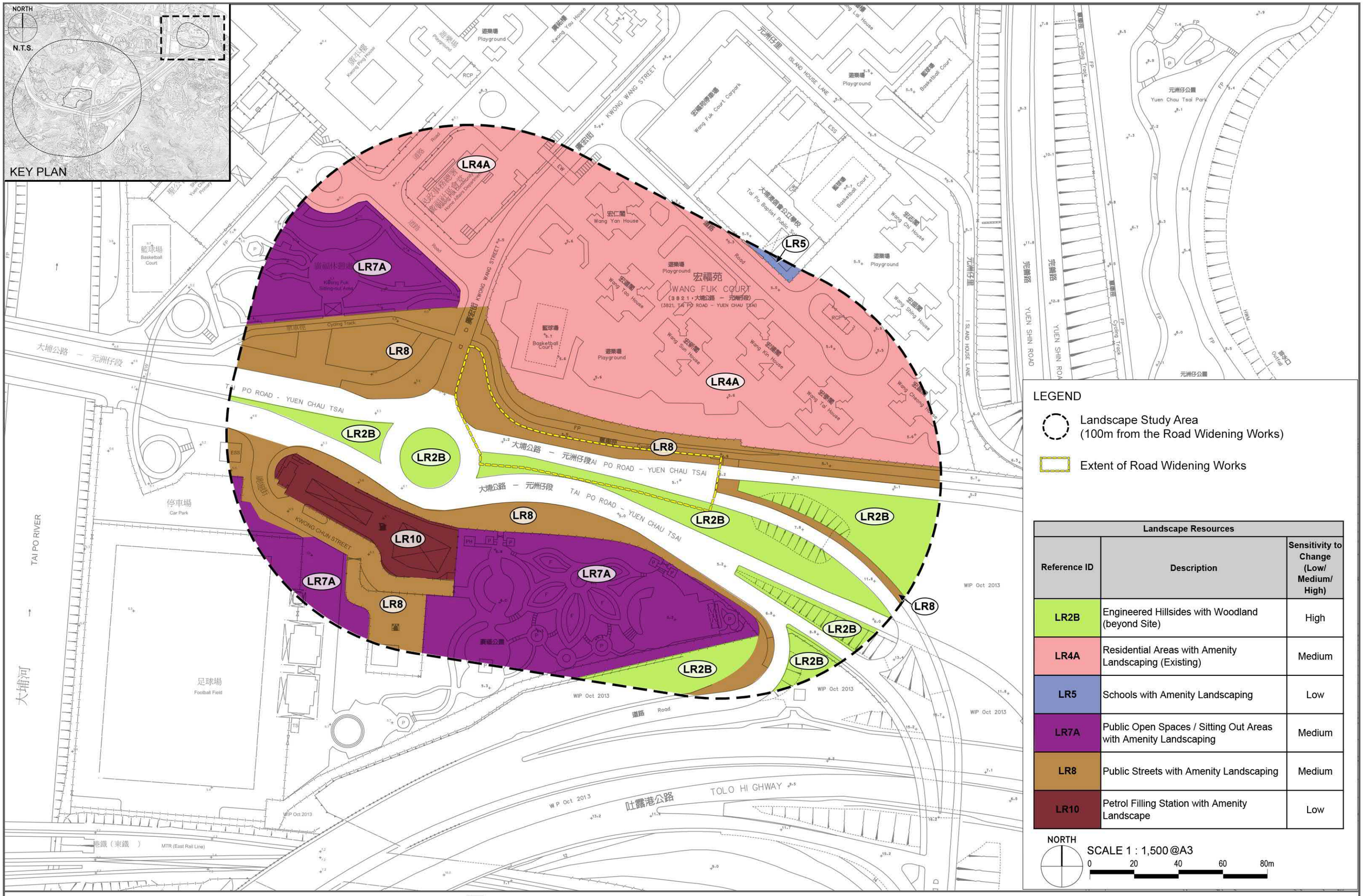
0 50 100 150 200 250m

ATKINS

Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.4 - Landscape Resources Map 1



Landscape Resources		
Reference ID	Description	Sensitivity to Change (Low/ Medium/ High)
LR2B	Engineered Hillsides with Woodland (beyond Site)	High
LR4A	Residential Areas with Amenity Landscaping (Existing)	Medium
LR5	Schools with Amenity Landscaping	Low
LR7A	Public Open Spaces / Sitting Out Areas with Amenity Landscaping	Medium
LR8	Public Streets with Amenity Landscaping	Medium
LR10	Petrol Filling Station with Amenity Landscape	Low

NORTH

SCALE 1 : 1,500 @A3

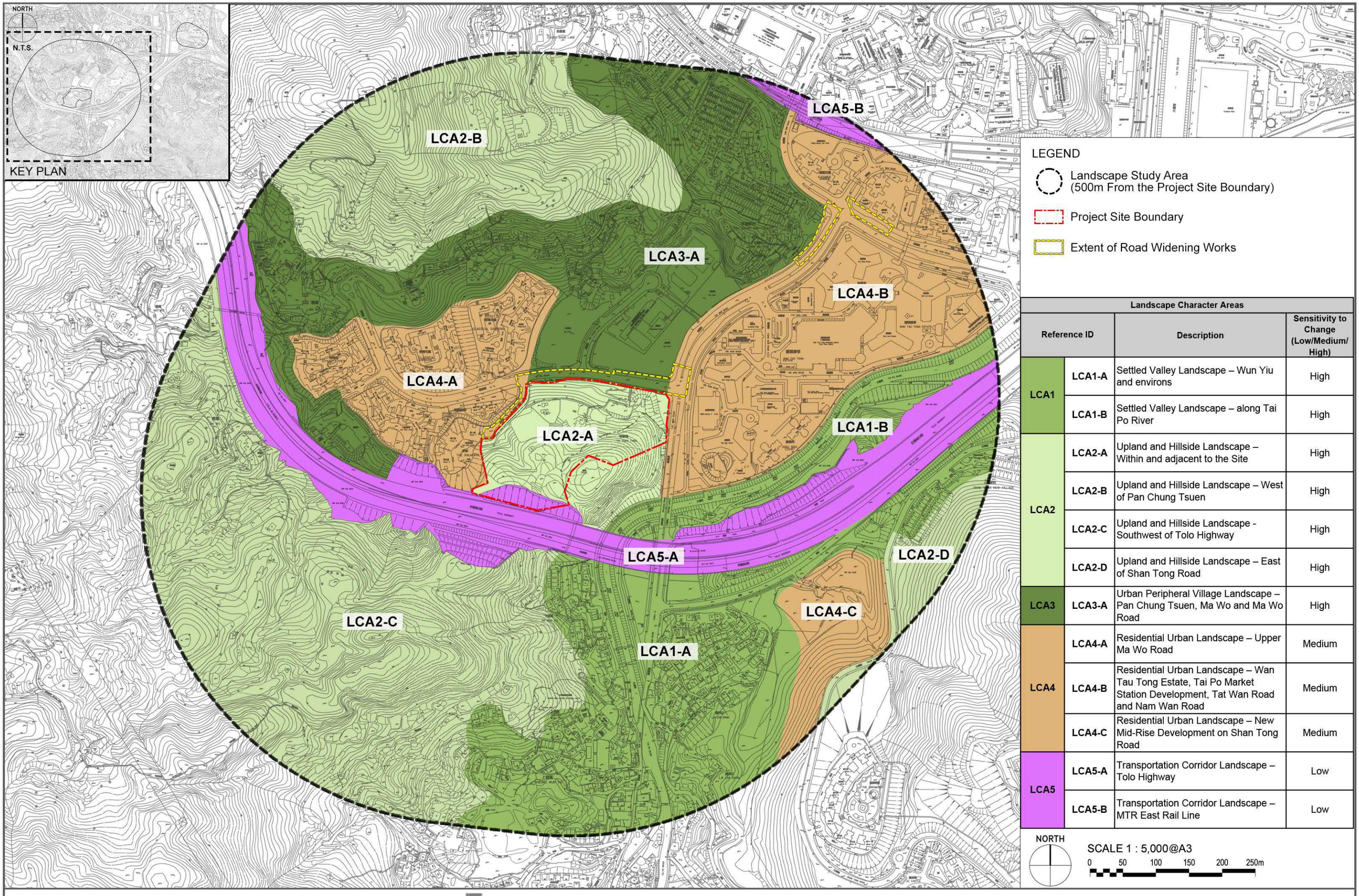
0 20 40 60 80m

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Urbis 雅邦 Limited

Figure 13.5 - Landscape Resources Map 2



Landscape Character Areas			
Reference ID		**Description**	**Sensitivity to Change (Low/Medium/ High)**
LCA1	**LCA1-A**	Settled Valley Landscape – Wun Yiu and environs	High
	LCA1-B	Settled Valley Landscape – along Tai Po River	High
LCA2	**LCA2-A**	Upland and Hillside Landscape – Within and adjacent to the Site	High
	LCA2-B	Upland and Hillside Landscape – West of Pan Chung Tsuen	High
	LCA2-C	Upland and Hillside Landscape - Southwest of Tolo Highway	High
	LCA2-D	Upland and Hillside Landscape – East of Shan Tong Road	High
LCA3	**LCA3-A**	Urban Peripheral Village Landscape – Pan Chung Tsuen, Ma Wo and Ma Wo Road	High
LCA4	**LCA4-A**	Residential Urban Landscape – Upper Ma Wo Road	Medium
	LCA4-B	Residential Urban Landscape – Wan Tau Tong Estate, Tai Po Market Station Development, Tat Wan Road and Nam Wan Road	Medium
	LCA4-C	Residential Urban Landscape – New Mid-Rise Development on Shan Tong Road	Medium
LCA5	**LCA5-A**	Transportation Corridor Landscape – Tolo Highway	Low
	LCA5-B	Transportation Corridor Landscape – MTR East Rail Line	Low

NORTH

SCALE 1 : 5,000@A3

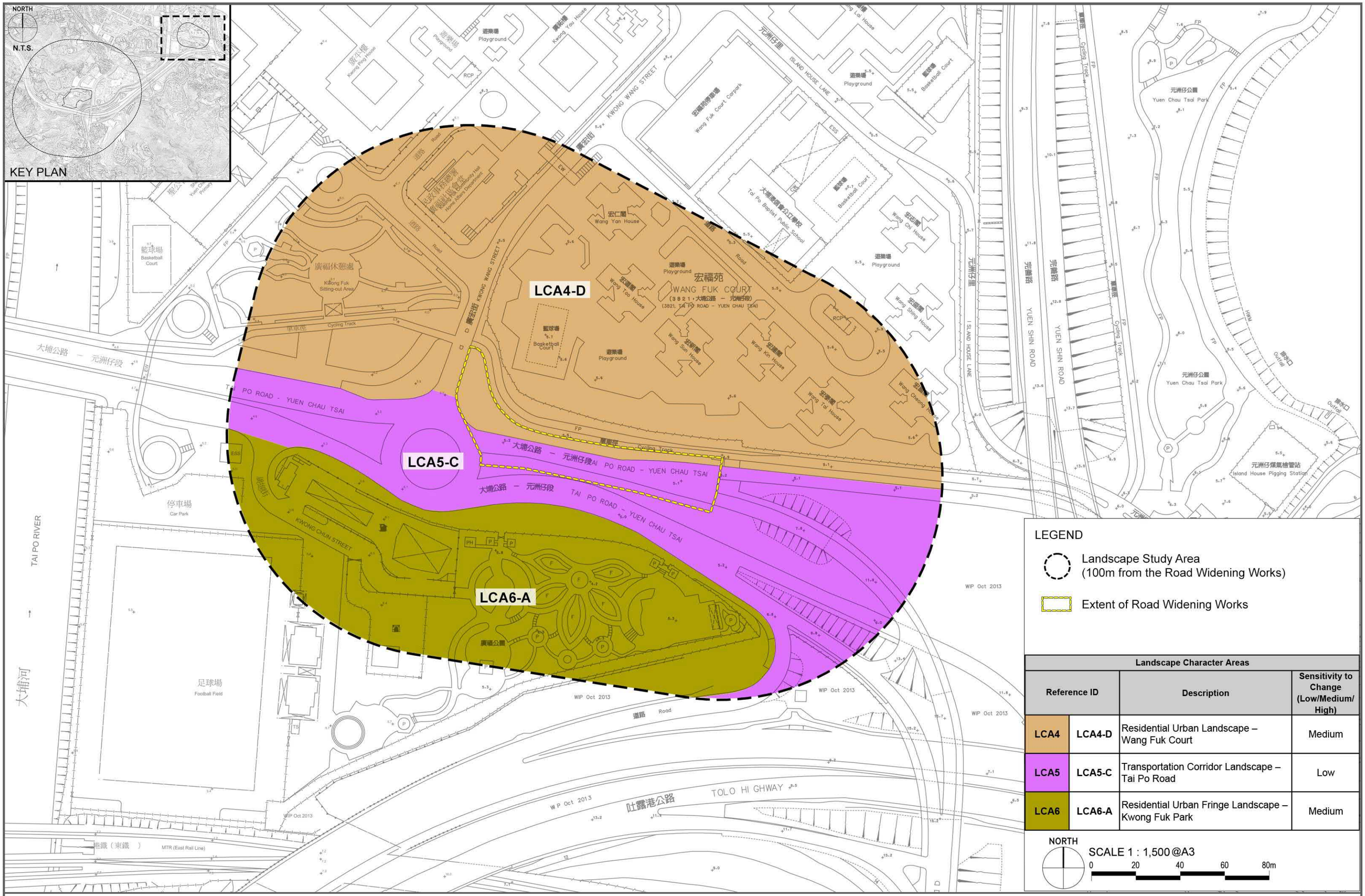
0 50 100 150 200 250m

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Urbis 雅邦 Limited

Figure 13.6 - Landscape Characters Area Map 1



Landscape Character Areas			
Reference ID		Description	Sensitivity to Change (Low/Medium/ High)
LCA4	LCA4-D	Residential Urban Landscape – Wang Fuk Court	Medium
LCA5	LCA5-C	Transportation Corridor Landscape – Tai Po Road	Low
LCA6	LCA6-A	Residential Urban Fringe Landscape – Kwong Fuk Park	Medium

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.7 - Landscape Characters Area Map 2

LEGEND

1 Podium Landscaped Area
2 Streetside Landscape (facing Tat Wan Road and Ma Wo Road)
3 School Site Landscaped Area
4 Tree and Shrub Planting in Slope Planters
5 Hydroseeding with Shrubs, Groudcovers & Grasses on Engineered Slope
6 Planting on Hillside above cut slopes to blend with Existing Vegetation
7 Development's Vehicular Entrance
8 Sitting-out Area on Roof of Carpark Block
9 School Entrance

Project Site Boundary
Podium Feature Trees + Amenity Trees
Wall / Slope Screening Trees
Street Tree
Self Clinging Climbing Plants along the base of Retaining Walls

Note:
- Schematic plan and subject to detailed design.
- Tree number and species within Housing development is indicative only.

Welfare 5s + G/F
Roof Level +49.0mPD

Block C
Roof Level +135.0mPD

Block B
Roof Level +135.0mPD

Block A
Roof Level +135.0mPD

Carpark Block 7s + G/F
Roof Level +56.0mPD

18CR-School Site
Roof Level +49.0mPD

Ma Wo Road
Ma Shing Path
Grand Dynasty View
The Balmoral
Vehicular Access
1:10 Ramp
Tat Wan Road
Tolo Highway

+15.0mPD
+14.8mPD
+13.3mPD
+7.0mPD
+27.3mPD
+27.0mPD
+27.0mPD
+17.5mPD
+19.2mPD
+39.3mPD
+33.0mPD
+39.3mPD
+63.1mPD

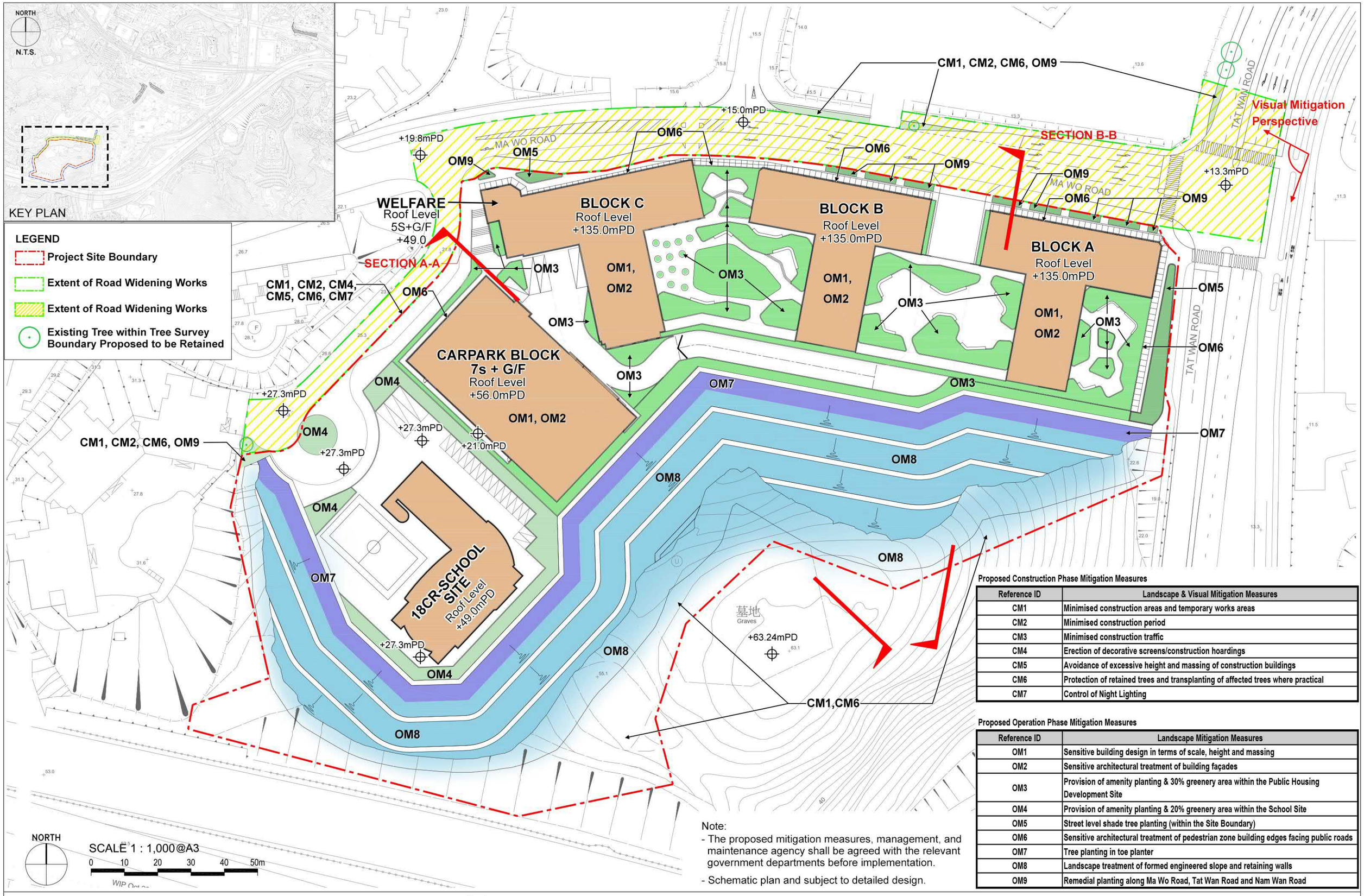
NORTH

SCALE 1:500@A1; 1:1,000@A3
0 10 20 30 40 50m

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.8 - Conceptual Outline Landscape Plan



Note:
- The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.
- Schematic plan and subject to detailed design.

Proposed Construction Phase Mitigation Measures

Reference ID	Landscape & Visual Mitigation Measures
CM1	Minimised construction areas and temporary works areas
CM2	Minimised construction period
CM3	Minimised construction traffic
CM4	Erection of decorative screens/construction hoardings
CM5	Avoidance of excessive height and massing of construction buildings
CM6	Protection of retained trees and transplanting of affected trees where practical
CM7	Control of Night Lighting

Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
OM1	Sensitive building design in terms of scale, height and massing
OM2	Sensitive architectural treatment of building façades
OM3	Provision of amenity planting & 30% greenery area within the Public Housing Development Site
OM4	Provision of amenity planting & 20% greenery area within the School Site
OM5	Street level shade tree planting (within the Site Boundary)
OM6	Sensitive architectural treatment of pedestrian zone building edges facing public roads
OM7	Tree planting in toe planter
OM8	Landscape treatment of formed engineered slope and retaining walls
OM9	Remedial planting along Ma Wo Road, Tat Wan Road and Nam Wan Road

Proposed Construction Phase Mitigation Measures

Reference ID	Landscape & Visual Mitigation Measures
CM1	Minimised construction areas and temporary works areas
CM2	Minimised construction period
CM6	Protection of retained trees and transplanting of affected trees where practical

Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
OM9	Remedial planting along Ma Wo Road, Tat Wan Road and Nam Wan Road

Notes:

1. The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.

Trees with DBH at or above 500mm Retained within the extents of road widening works 1

Tree ID	Scientific Name	Chinese Name	DBH (mm)	Proposed Treatment
R7	*Aleurites moluccana*	石栗	500	Retain
R8	*Aleurites moluccana*	石栗	550	Retain
R12	*Aleurites moluccana*	石栗	509	Retain

LEGEND

- Extent of Road Widening Works
- Existing Tree within Tree Survey Boundary Proposed to be Retained
- Tree with DBH at or above 500mm

NORTH

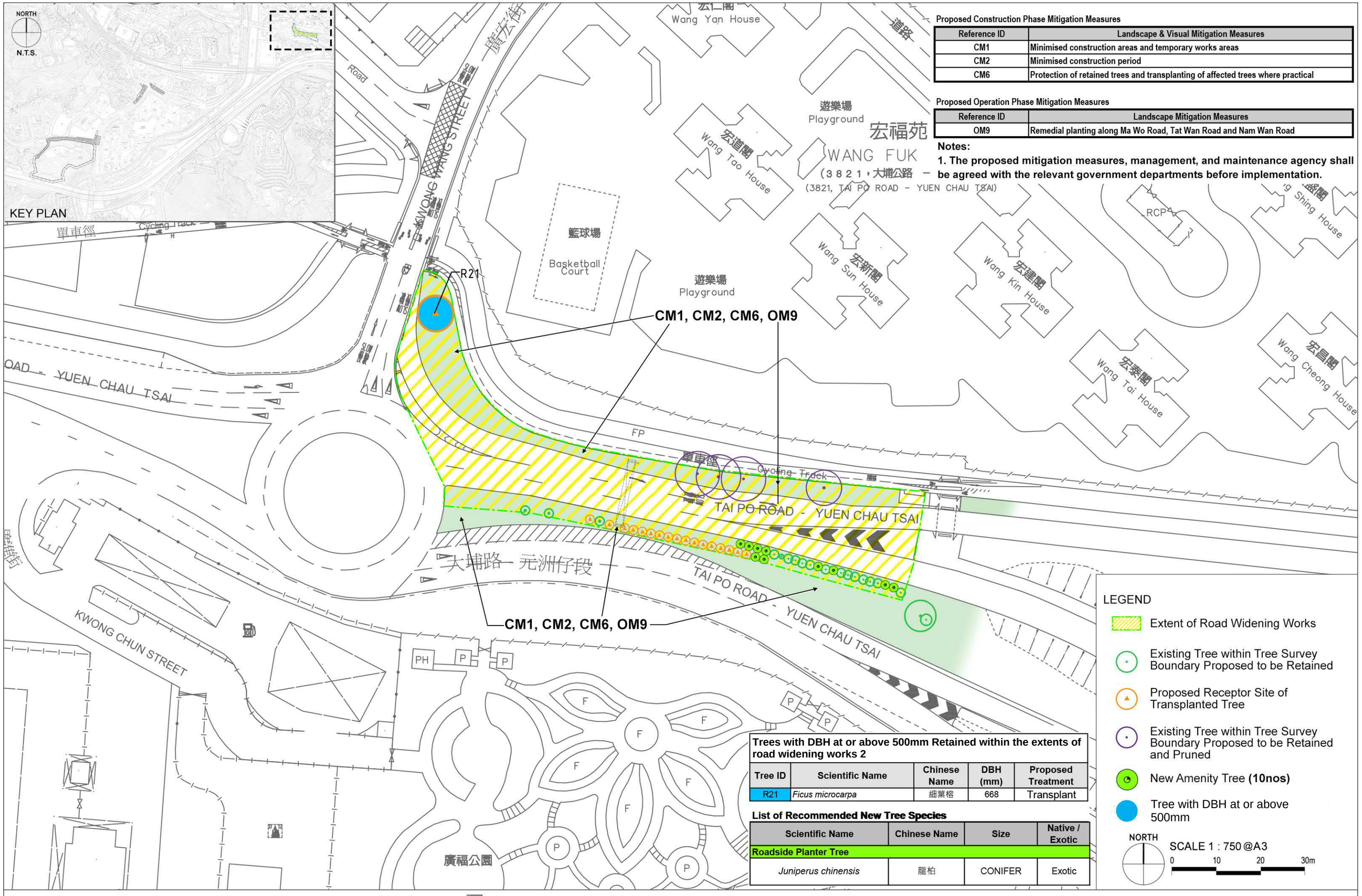
SCALE 1 : 750 @A3

0 10 20 30m

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.10 - Proposed Mitigation Measures Plan 2 (Construction and Operation Phases)



Proposed Construction Phase Mitigation Measures

Reference ID	Landscape & Visual Mitigation Measures
CM1	Minimised construction areas and temporary works areas
CM2	Minimised construction period
CM6	Protection of retained trees and transplanting of affected trees where practical

Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
OM9	Remedial planting along Ma Wo Road, Tat Wan Road and Nam Wan Road

Notes:

1. The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.

Trees with DBH at or above 500mm Retained within the extents of road widening works 2

Tree ID	Scientific Name	Chinese Name	DBH (mm)	Proposed Treatment
R21	*Ficus microcarpa*	細葉榕	668	Transplant

List of Recommended New Tree Species

Scientific Name	Chinese Name	Size	Native / Exotic
Roadside Planter Tree			
Juniperus chinensis	龍柏	CONIFER	Exotic

LEGEND

- Extent of Road Widening Works
- Existing Tree within Tree Survey Boundary Proposed to be Retained
- Proposed Receptor Site of Transplanted Tree
- Existing Tree within Tree Survey Boundary Proposed to be Retained and Pruned
- New Amenity Tree **(10nos)**
- Tree with DBH at or above 500mm

NORTH

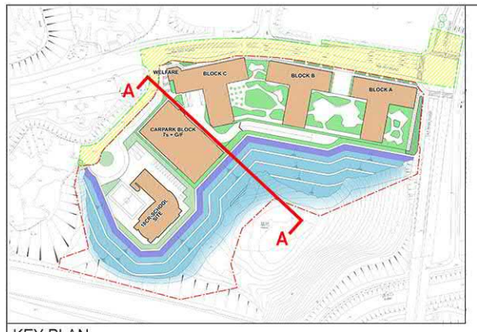
SCALE 1 : 750 @A3

0 10 20 30m

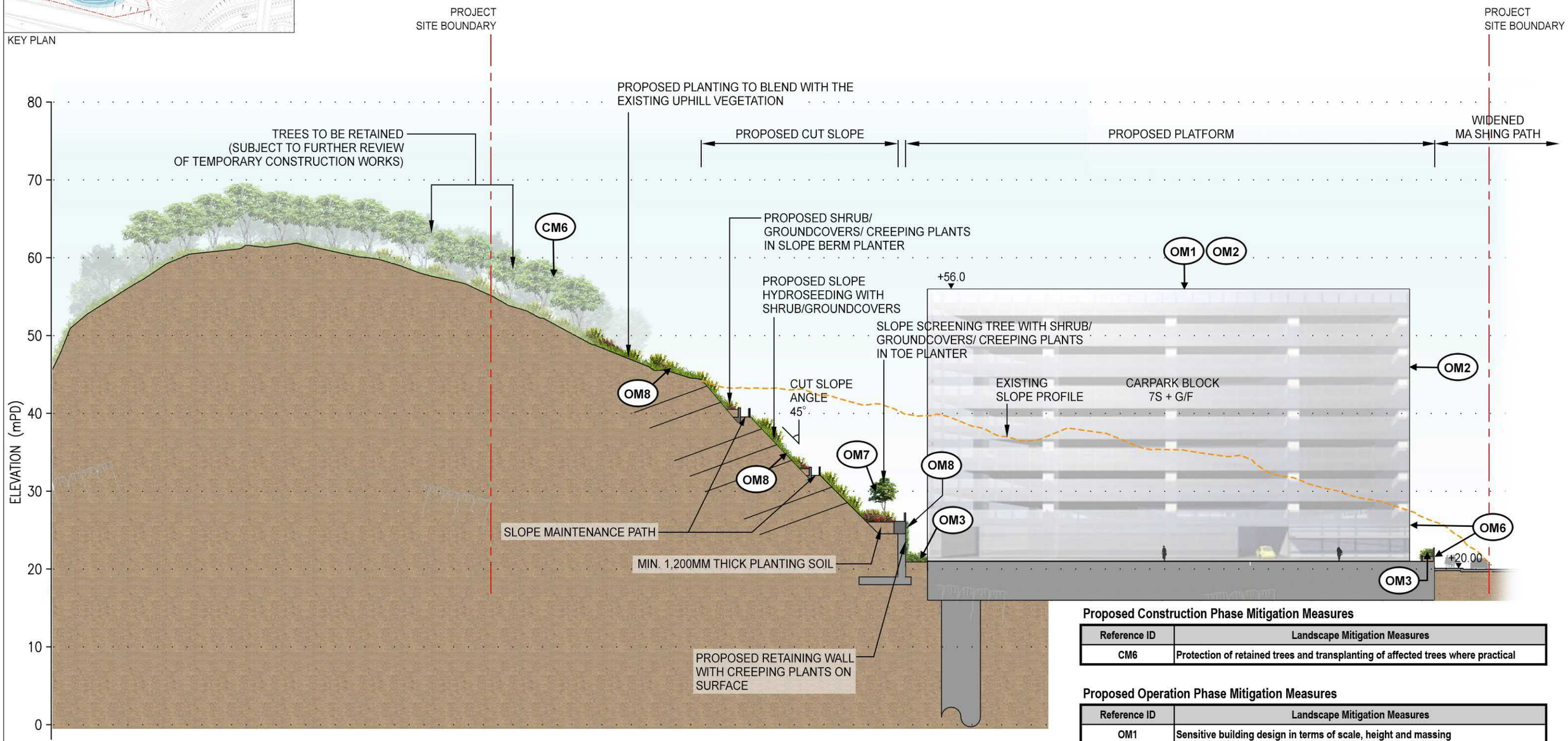
ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.11 - Proposed Mitigation Measures Plan 3 (Construction and Operation Phases)



KEY PLAN



SCALE 1 : 500@A3

0 10 20 30m

Note:

- The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.
- Schematic section and subject to detailed design.
- Tree number and species within Housing development is indicative only

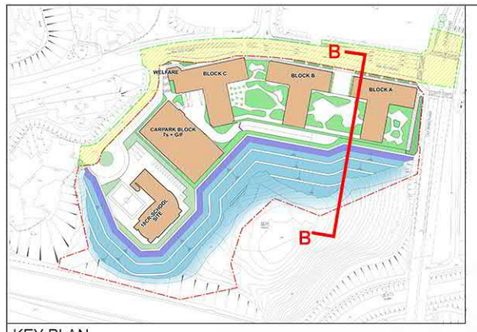
Proposed Construction Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
CM6	Protection of retained trees and transplanting of affected trees where practical

Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
OM1	Sensitive building design in terms of scale, height and massing
OM2	Sensitive architectural treatment of building façades
OM3	Provision of amenity planting & 30% greenery area within the Public Housing Development Site
OM6	Sensitive architectural treatment of pedestrian zone building edges facing public roads
OM7	Tree planting in toe planter
OM8	Landscape treatment of formed engineered slope and retaining wall

Figure 13.12 - Proposed Mitigation Measures Section A-A



KEY PLAN

PROJECT SITE BOUNDARY

PROJECT SITE BOUNDARY

PROPOSED PLANTING TO BLEND WITH THE EXISTING UPHILL VEGETATION

PROPOSED CUT SLOPE

PROPOSED PLATFORM

WIDENED MA WO ROAD

TREES TO BE RETAINED (SUBJECT TO FURTHER REVIEW OF TEMPORARY CONSTRUCTION WORKS)

CM6

PROPOSED SHRUB/ GROUNDCOVERS/ CREEPING PLANTS IN SLOPE BERM PLANTER

PROPOSED SLOPE HYDROSEEDING AND GROUNDCOVERS

HOUSING BLOCK

HOUSING BLOCK

OM1 OM2

SLOPE SCREENING TREE WITH SHRUB/GROUNDCOVERS/ CREEPING PLANTS IN TOE PLANTER

CUT SLOPE ANGLE 45°

PROPOSED COVERED WALKWAY

CHILDREN'S PLAYGROUND ON PODIUM

PROPOSED PODIUM FEATURE TREE

PROPOSED PODIUM AMENITY TREE

OM3

OM3

PROPOSED CIRCULATION PATH

EXISTING SLOPE PROFILE

OM6

STREETSCAPE WITH TREE PLANTING

OM9

OM8

OM8

OM7

OM8

SLOPE MAINTENANCE PATH

MIN. 1,200MM THICK PLANTING SOIL

PROPOSED SOLDIER PILE RETAINING WALL WITH CREEPING PLANTS ON SURFACE

MIN. 1,200MM THICK PLANTING SOIL

SHOP/RETAIL

ELEVATION (mPD)

80
70
60
50
40
30
20
10
0
−10

SCALE 1 : 500@A3

0 10 20 30m

Proposed Construction Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
CM6	Protection of retained trees and transplanting of affected trees where practical

Proposed Operation Phase Mitigation Measures

Reference ID	Landscape Mitigation Measures
OM1	Sensitive building design in terms of scale, height and massing
OM2	Sensitive architectural treatment of building façades
OM3	Provision of amenity planting & 30% greenery area within the Public Housing Development Site
OM6	Sensitive architectural treatment of pedestrian zone building edges facing public roads
OM7	Tree planting in toe planter
OM8	Landscape treatment of formed engineered slope and retaining walls
OM9	Remedial planting along Ma Wo Road, Tat Wan Road and Nam Wan Road

Note:

- The proposed mitigation measures, management, and maintenance agency shall be agreed with the relevant government departments before implementation.
- Schematic section and subject to detailed design.
- Tree number and species within Housing development is indicative only

Figure 13.13 - Proposed Mitigation Measures Section B-B

LEGEND

- Project Site Boundary
- Visual Envelope
- Maclehose Trail
- Wilson Trail
- Tai To Yan Path
- Key Public Viewing Point
- +590mPD — High Point
- +590mPD (no. 416) — High Point with Survey Station & Station Number

VP1.5
+480mPD
Pak Tai To Yan Peak

+480mPD
(no. 416)

+468mPD

+566mPD
(no. 415)

VP1.4
+566mPD
Tai To Yan Peak

+440mPD
(no. 66)

+288mPD
(no. 528)

VP1.6
+288mPD
Cloudy Hill

VP1.7
+150mPD
Wilson Trail No.8

+282mPD
(no. 526)

+588mPD
(no. 507)

VP1.1
+155mPD
Wilson Trail No .7

+438mPD

+784mPD

+680mPD

VP1.3
+766mPD
Maclehose Trail No.8

+957mPD
(no. 67.2)

+647mPD
(no. 506)

VP1.2
+647mPD
Grassy Hill Peak

Refer to Figure 5.2b - Key Public Viewing Points in the Vicinity of the Site

大埔
TAI PO

吐露港
TOLO HARBOUR

沙田海
SHA TIN HOI

1:30,000 @A3
0 0.5 1 1.5km

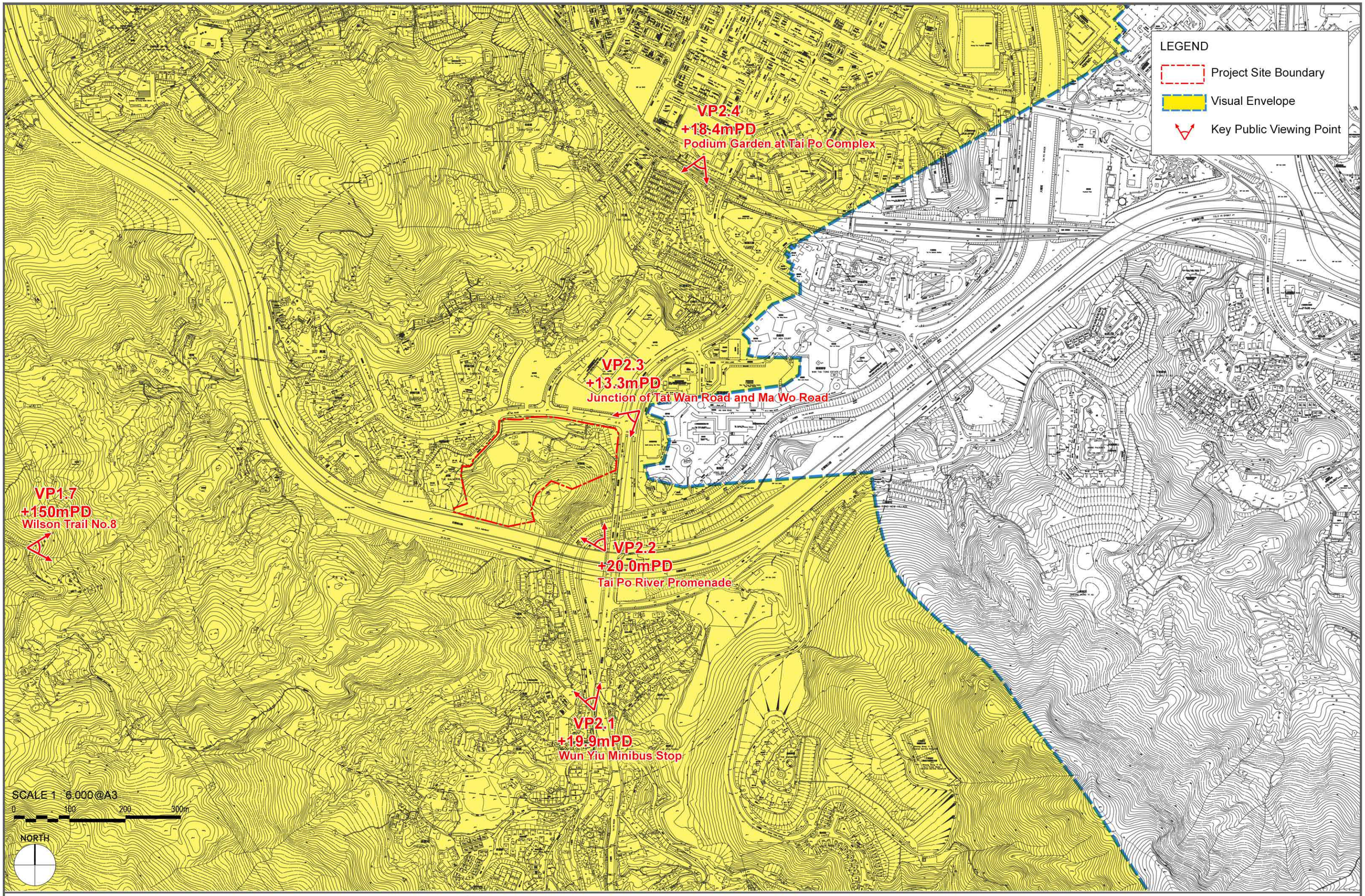
NORTH

ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Urbis Limited 雅邦

Figure 13.14 - Visual Envelope and Key Public Viewing Points

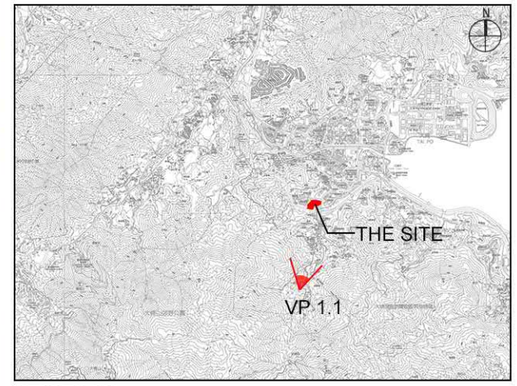


ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Figure 13.15 - Key Public Viewing Points in the Vicinity of the Site

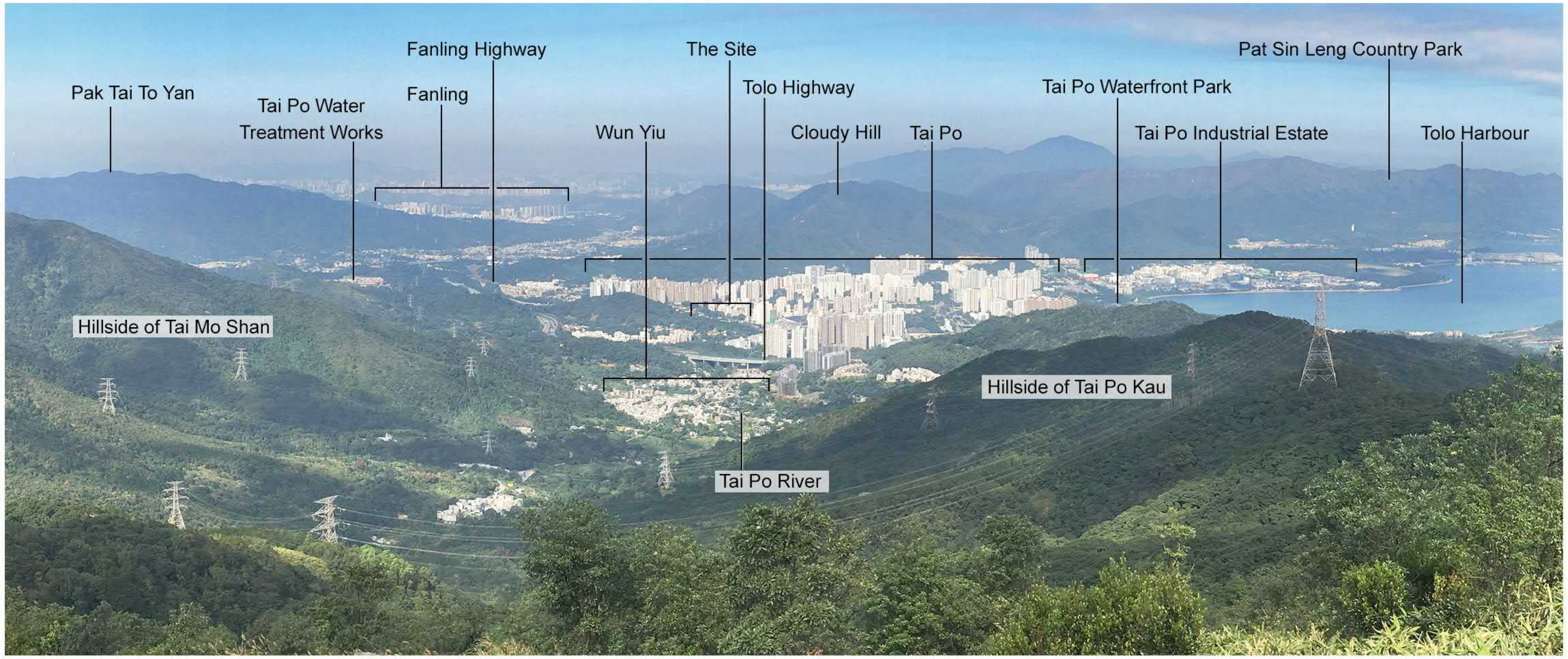
VP1.1 - Existing View from Wilson Trail No.7 (South of the Site) (at elevation of +155mPD and at a distance of 1.6km)



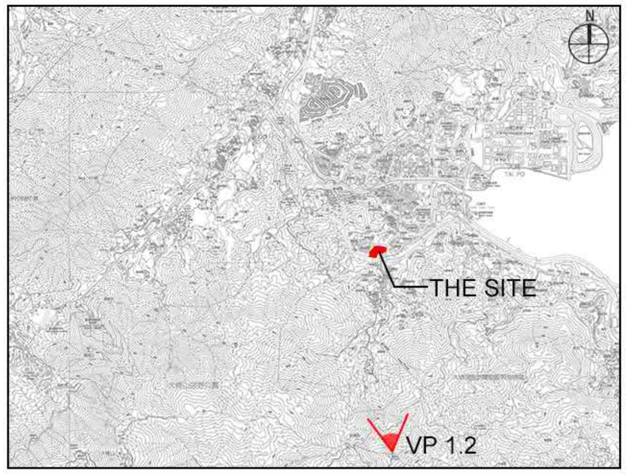
KEY PLAN

VP1.1 - View from Wilson Trail No.7 (South of the Site) after development (at elevation of +155mPD and at a distance of 1.6km)

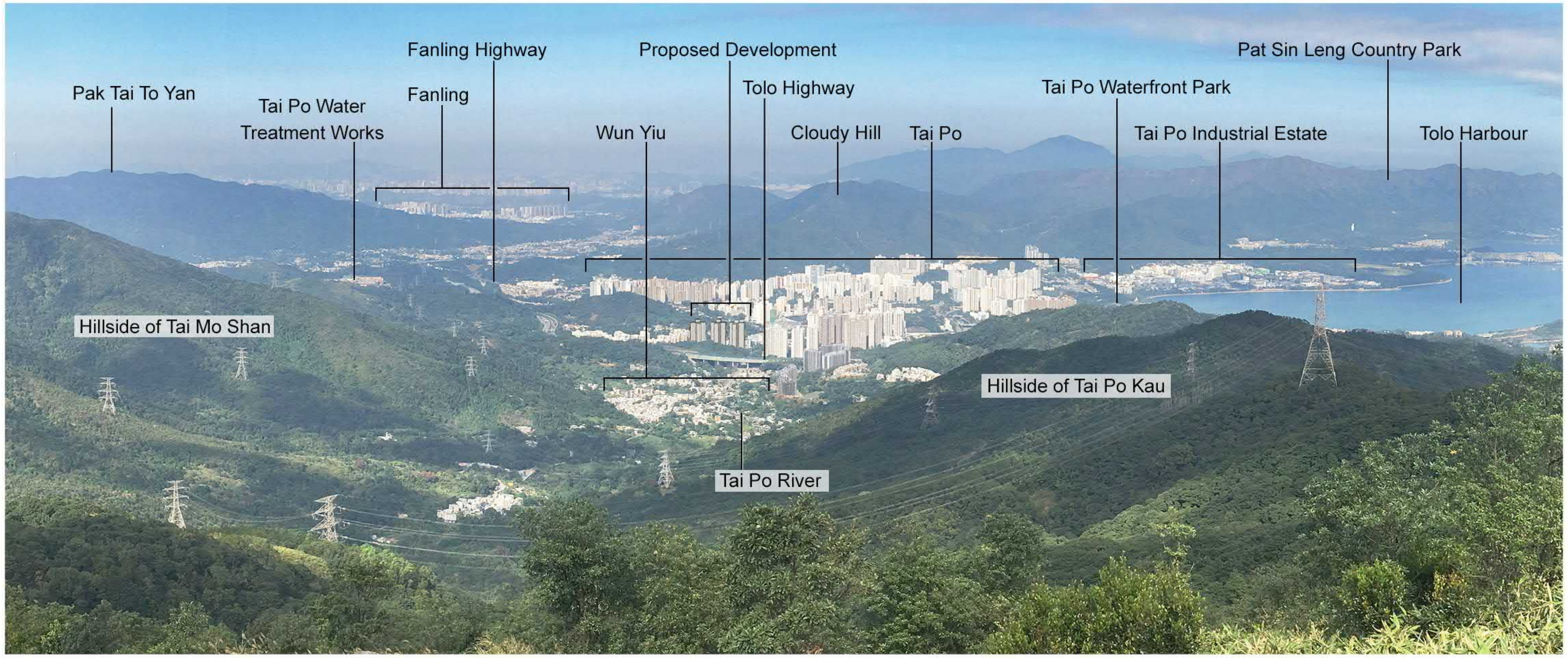
Figure 13.16 - Public Viewing Point VP1.1 - Wilson Trail No. 7 (South of the Site)



VP1.2 - Existing View from Grassy Hill Peak (at elevation of +647mPD and at a distance of 3.2km)

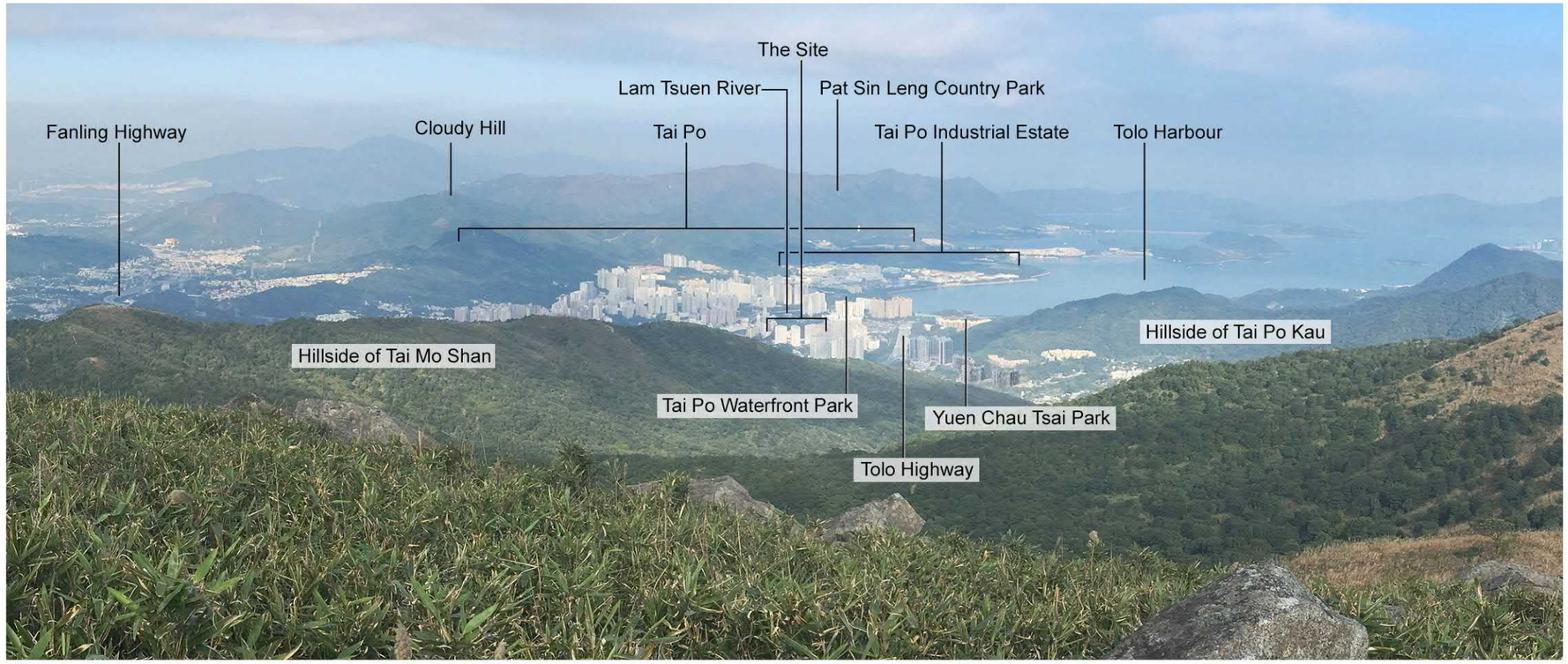


KEY PLAN

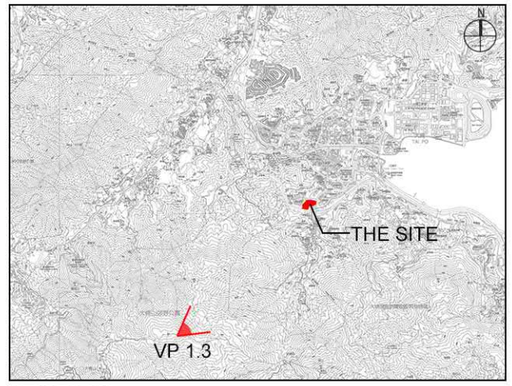


VP1.2 - View from Grassy Hill Peak after development (at elevation of +647mPD and at a distance of 3.2km)

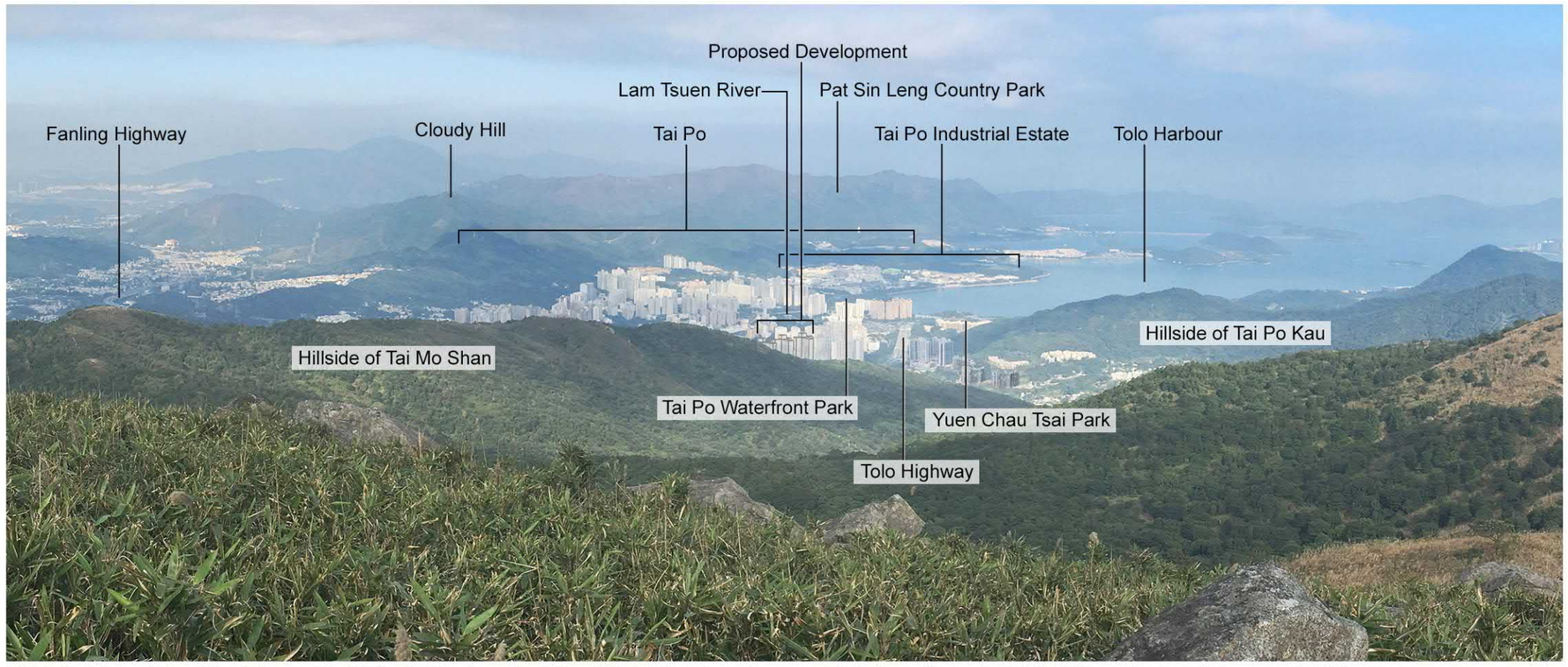
Figure 13.17 - Public Viewing Point VP1.2 - Grassy Hill Peak



VP1.3 - Existing View from Maclehose Trail No.8 (Soutwest of the Site) (at elevation of +766mPD and at a distance of 3.8km)



KEY PLAN

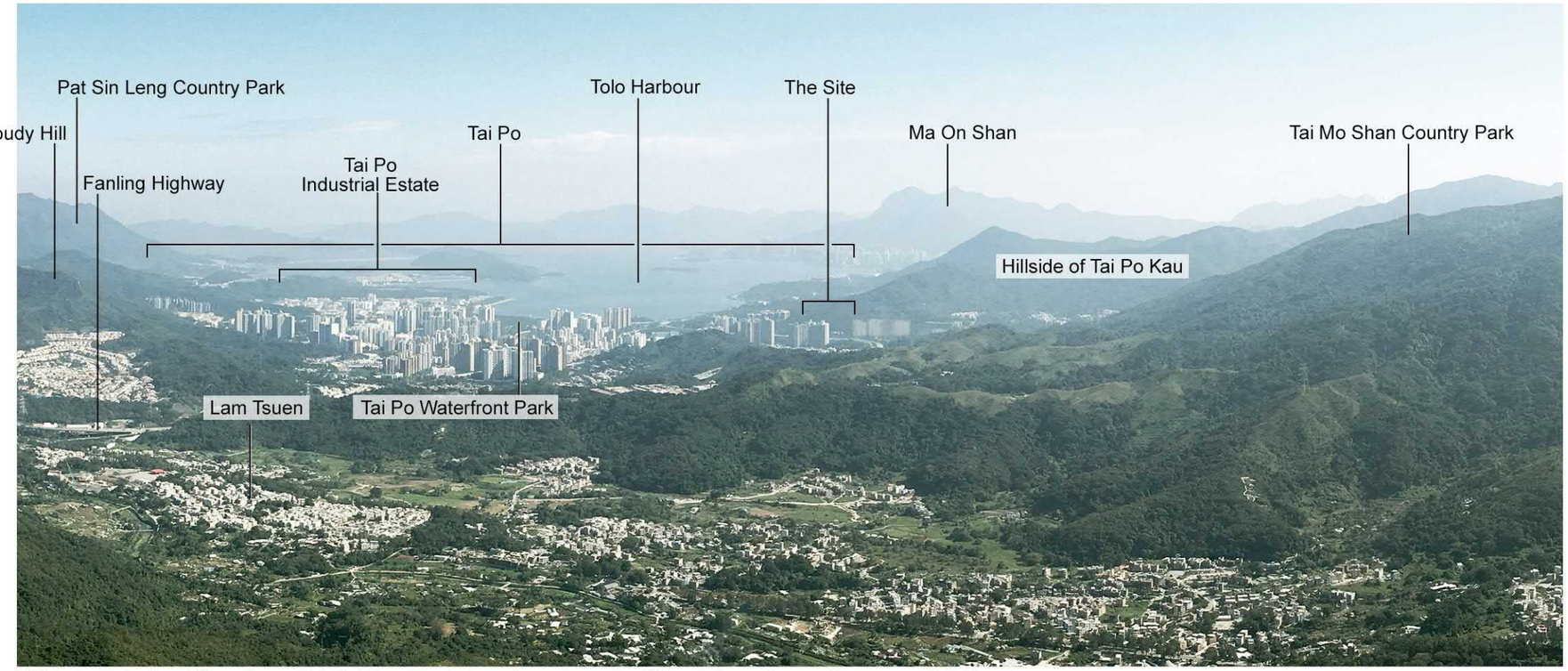


VP1.3 - View from Maclehose Trail No.8 (Soutwest of the Site) after development (at elevation of +766mPD and at a distance of 3.8km)

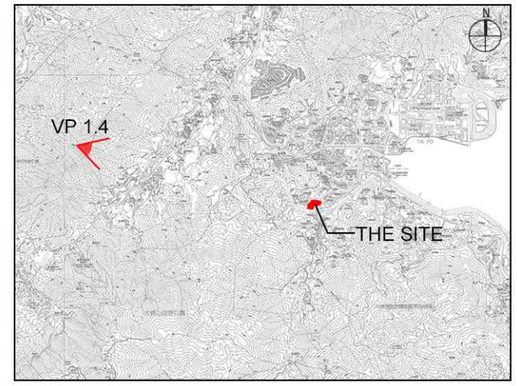
ATKINS
Member of the SNC-Lavalin Group

Agreement No. CE 61/2017 (CE)
Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

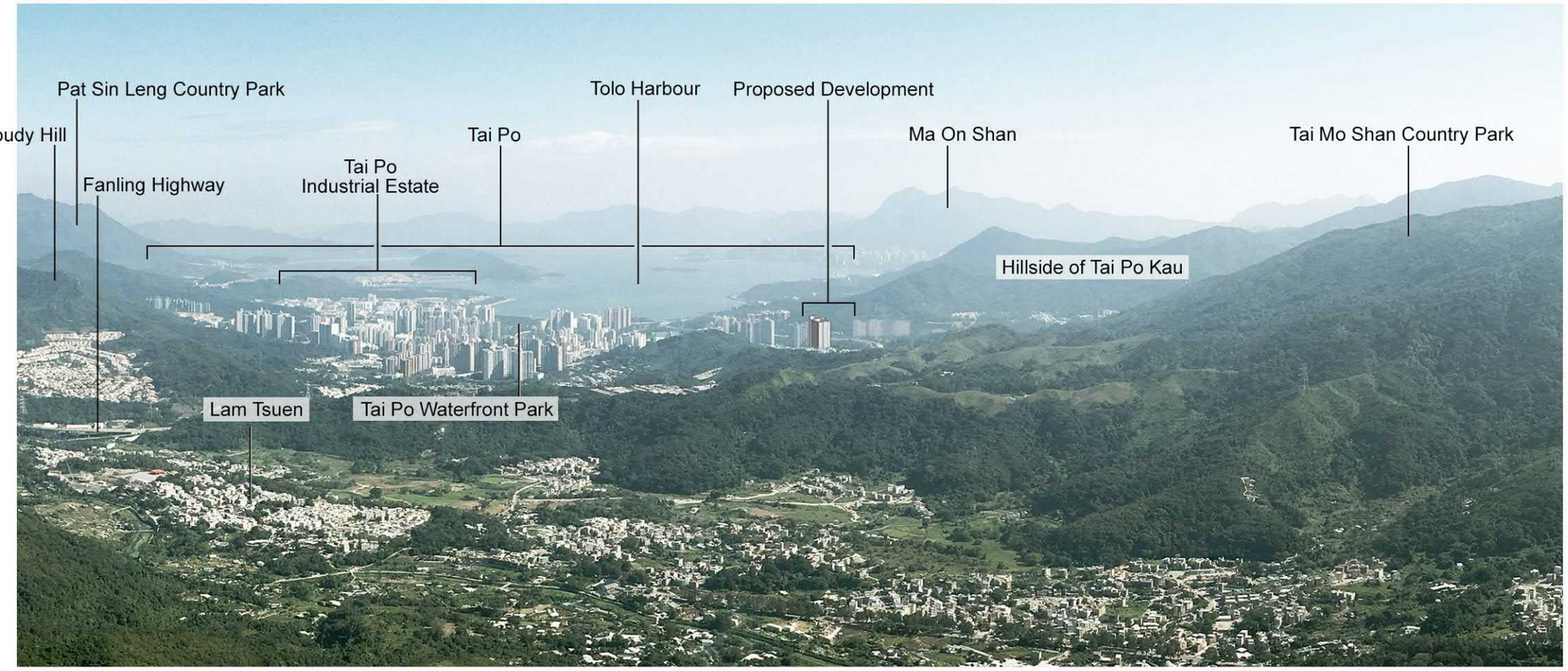
Figure 13.18 - Public Viewing Point VP1.3 - Maclehose Trail No. 8 (Southwest of the Site)



VP1.4 - Existing View from Tai To Yan Peak (at elevation of +566mPD and at a distance of 4.7km)

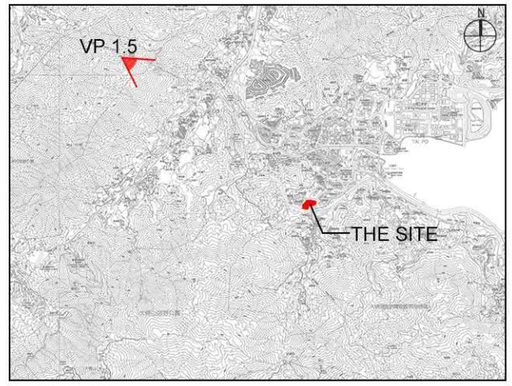


KEY PLAN



VP1.4 - View from Tai To Yan Peak after development (at elevation of +566mPD and at a distance of 4.7km)

Figure 13.19 - Public Viewing Point VP1.4 - Tai To Yan Peak

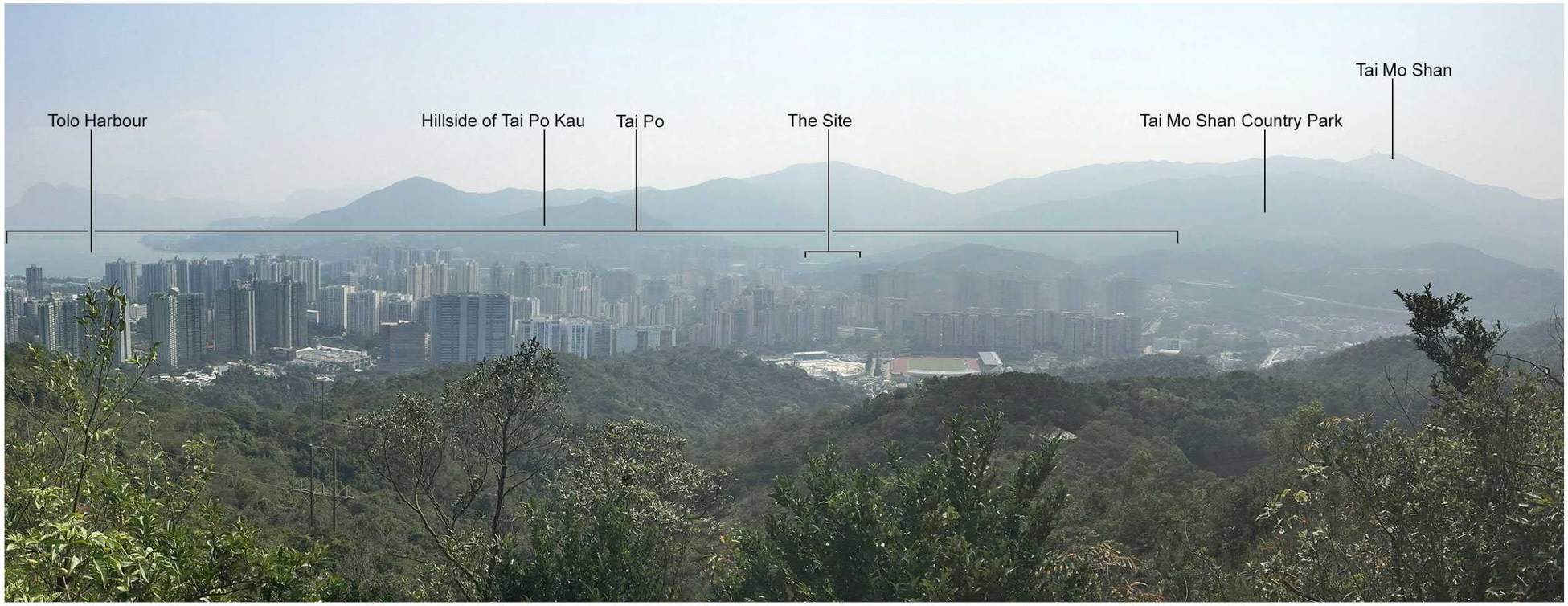


KEY PLAN

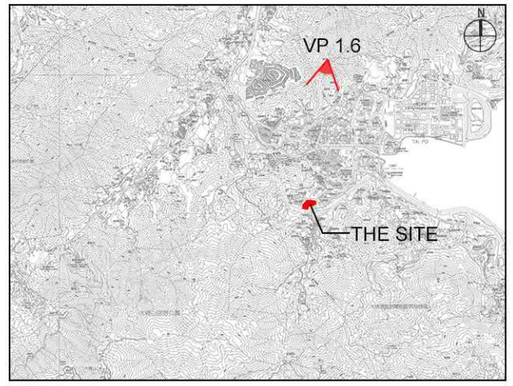
VP1.5 - Existing View from Pak Tai To Yan Peak (at elevation of +480mPD and at a distance of 4.6km)

VP1.5 - View from Pak Tai To Yan Peak after development (at elevation of +480mPD and at a distance of 4.6km)

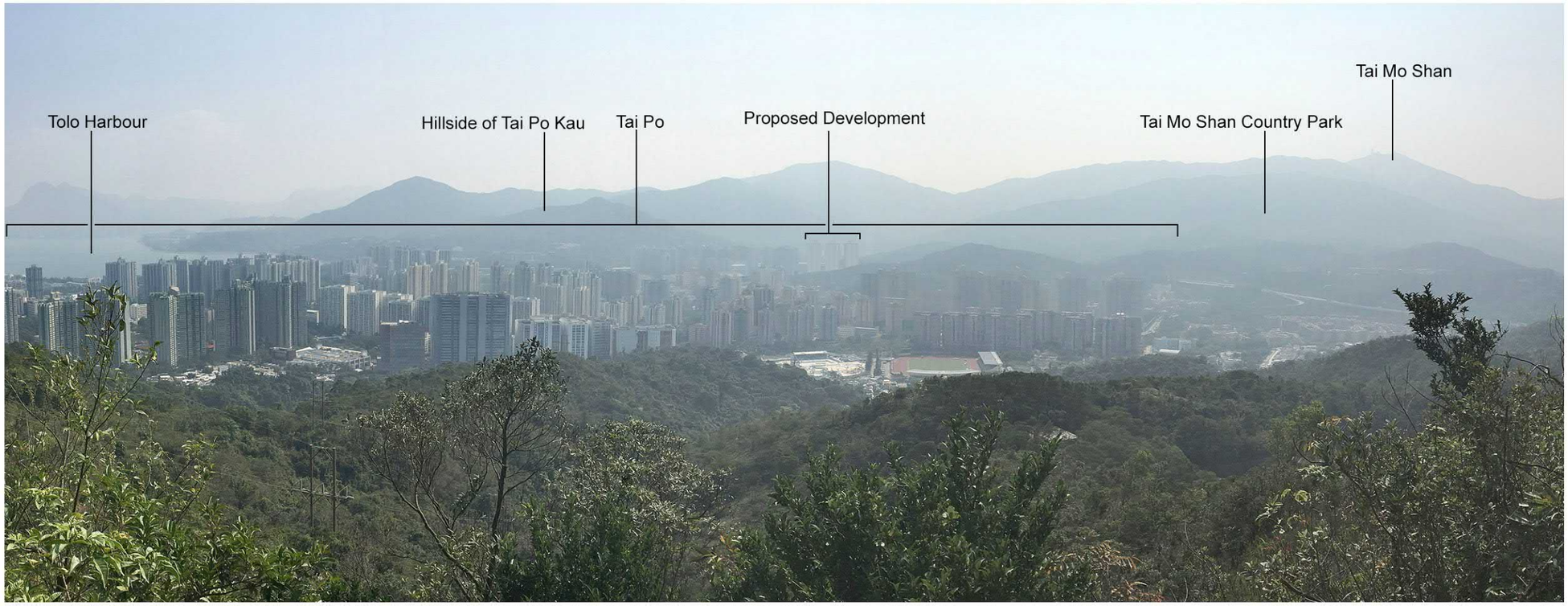
Figure 13.20 - Public Viewing Point VP1.5 - Pak Tai To Yan Peak



VP1.6 - Existing View from Cloudy Hill (North of the Site) (at elevation of +288mPD and at a distance of 2.8km)



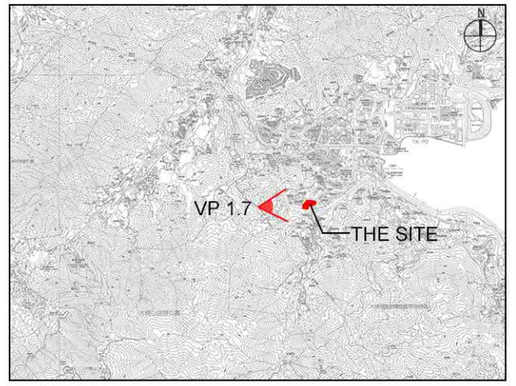
KEY PLAN



VP1.6 - View from Cloudy Hill (North of the Site) after development (at elevation of +288mPD and at a distance of 2.8km)

Figure 13.21 - Public Viewing Point VP1.6 - Cloudy Hill (North of the Site)

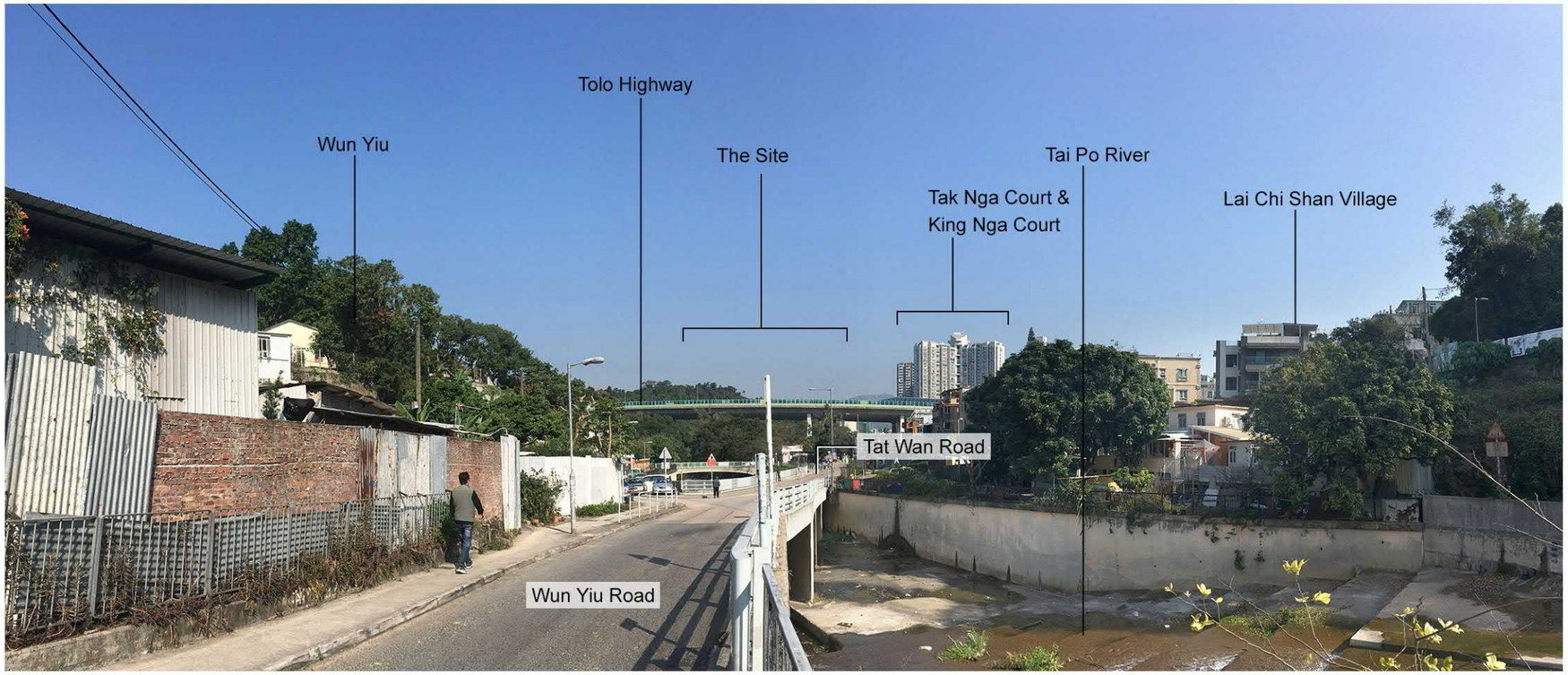
VP1.7 - Existing View from Wilson Trail No.8 (West of the Site) (at elevation of +150mPD and at a distance of 0.9km)



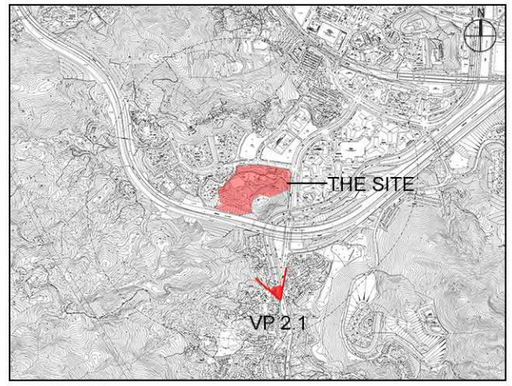
KEY PLAN

VP1.7 - View from Wilson Trail No.8 (West of the Site) after development (at elevation of +150mPD and at a distance of 0.9km)

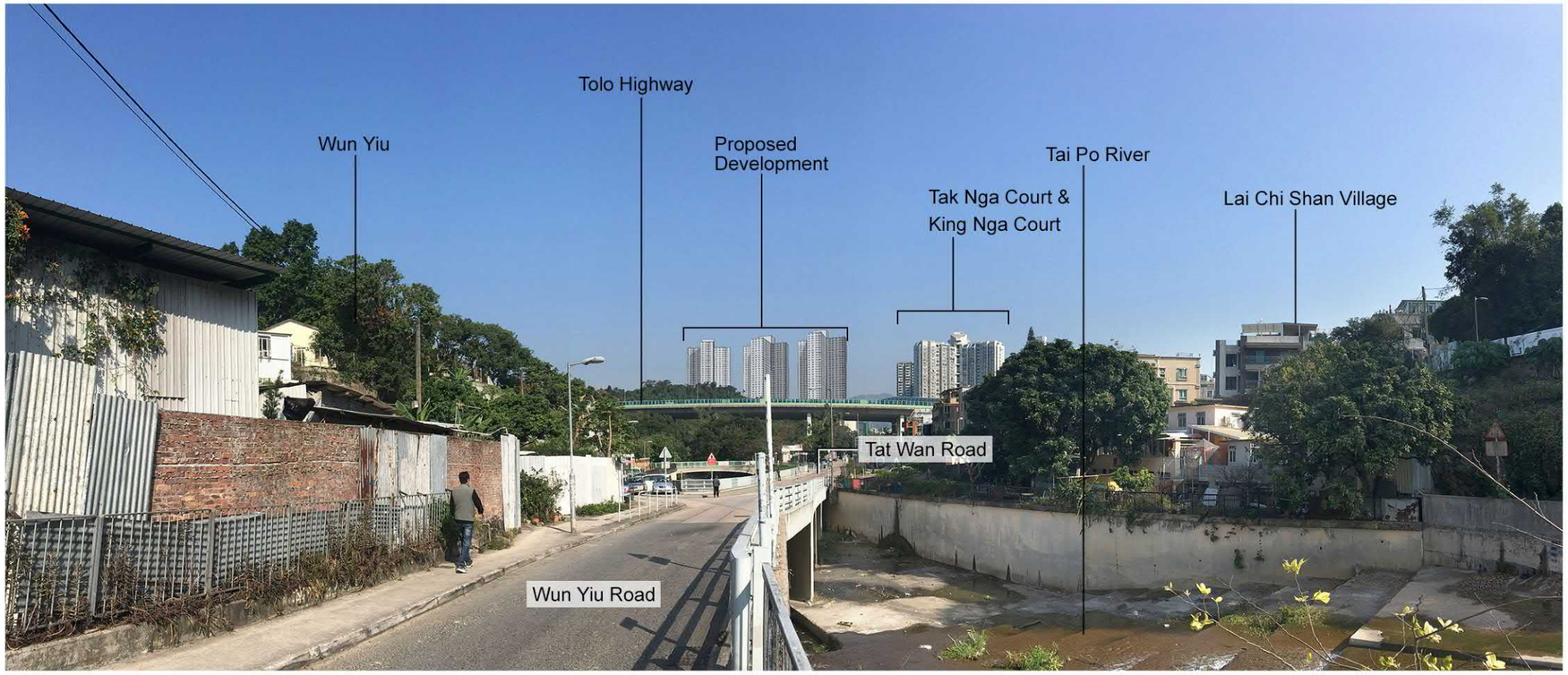
Figure 13.22 - Public Viewing Point VP1.7 - Wilson Trail No. 8 (West of the Site)



VP2.1 - Existing View from Wun Yiu Minibus Stop (at elevation of +19.9mPD and at a distance of 400m)

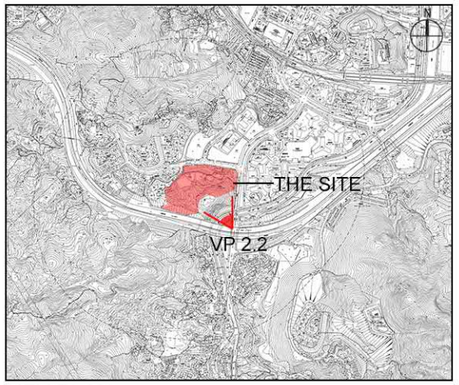


KEY PLAN



VP2.1 - View from Wun Yiu Minibus Stop after development (at elevation of +19.9mPD and at a distance of 400m)

Figure 13.23 - Public Viewing Point VP2.1 - Wun Yiu Minibus Stop

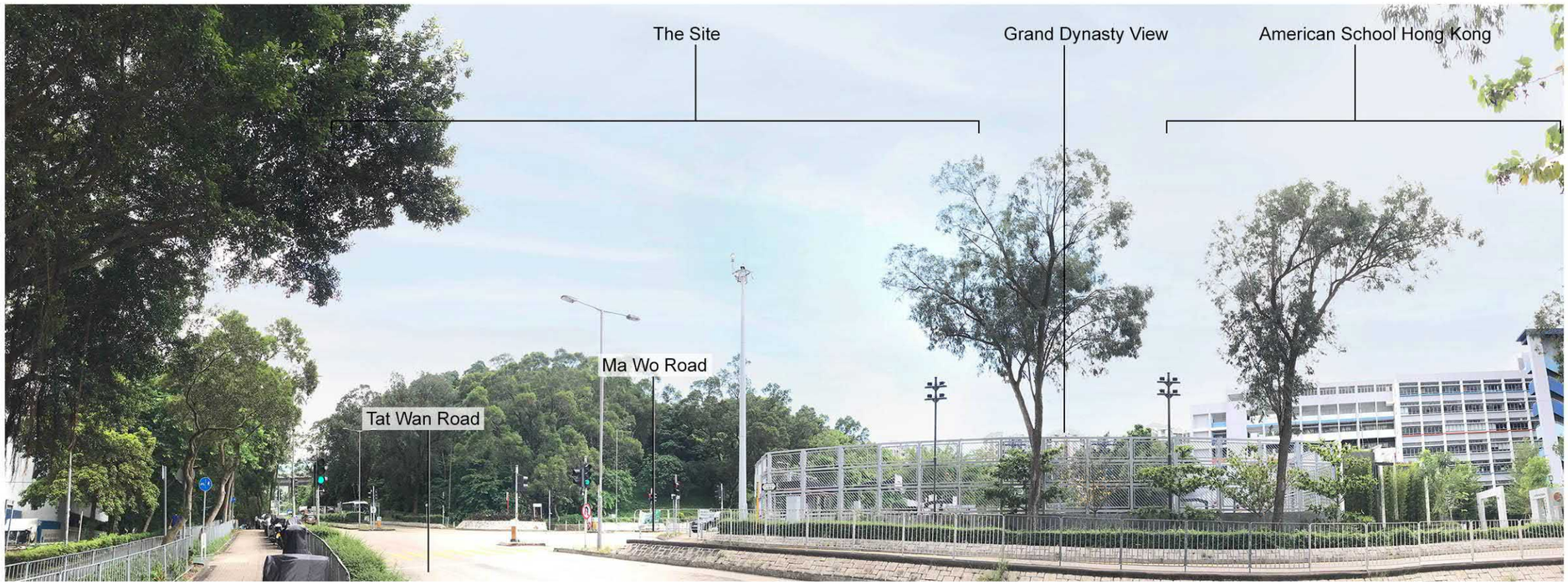


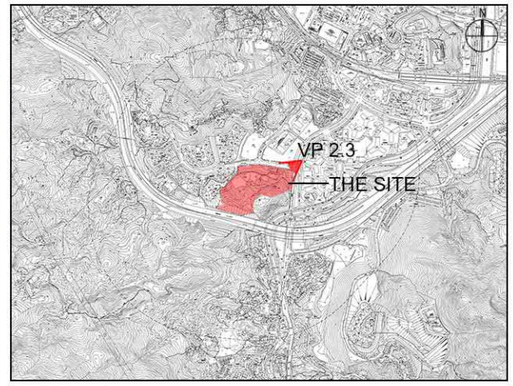
KEY PLAN

VP2.2 - Existing Intersection of Tat Wan Road and Tai Po River Promenade (at elevation of +20mPD and at a distance of 70m)

VP2.2 - View from Intersection of Tat Wan Road and Tai Po River Promenade after development (at elevation of +20mPD and at a distance of 70m)

Figure 13.24 - Public Viewing Point VP2.2 - Tai Po River Promenade

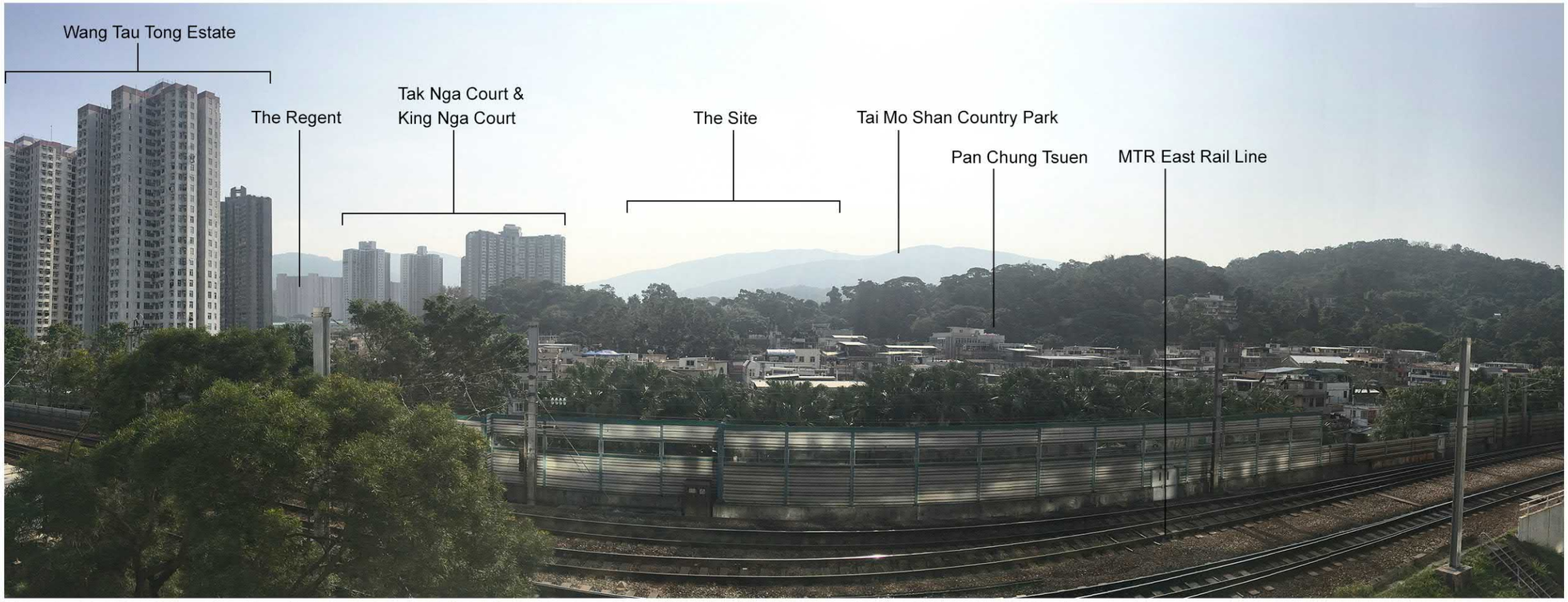




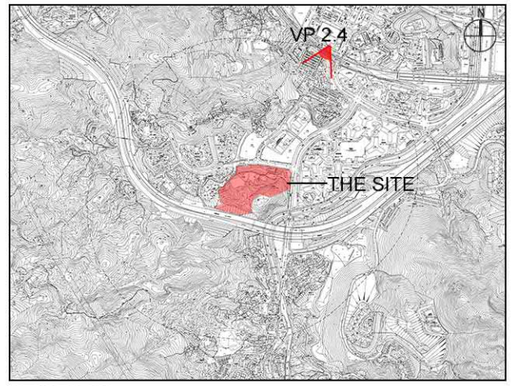
KEY PLAN

VP2.3 - Existing View from Junction of Tat Wan Road and Ma Wo Road (at elevation of +13.3mPD and at a distance of 60m)

VP2.3 - View from Junction of Tat Wan Road and Ma Wo Road after development (at elevation of +13.3mPD and at a distance of 60m)



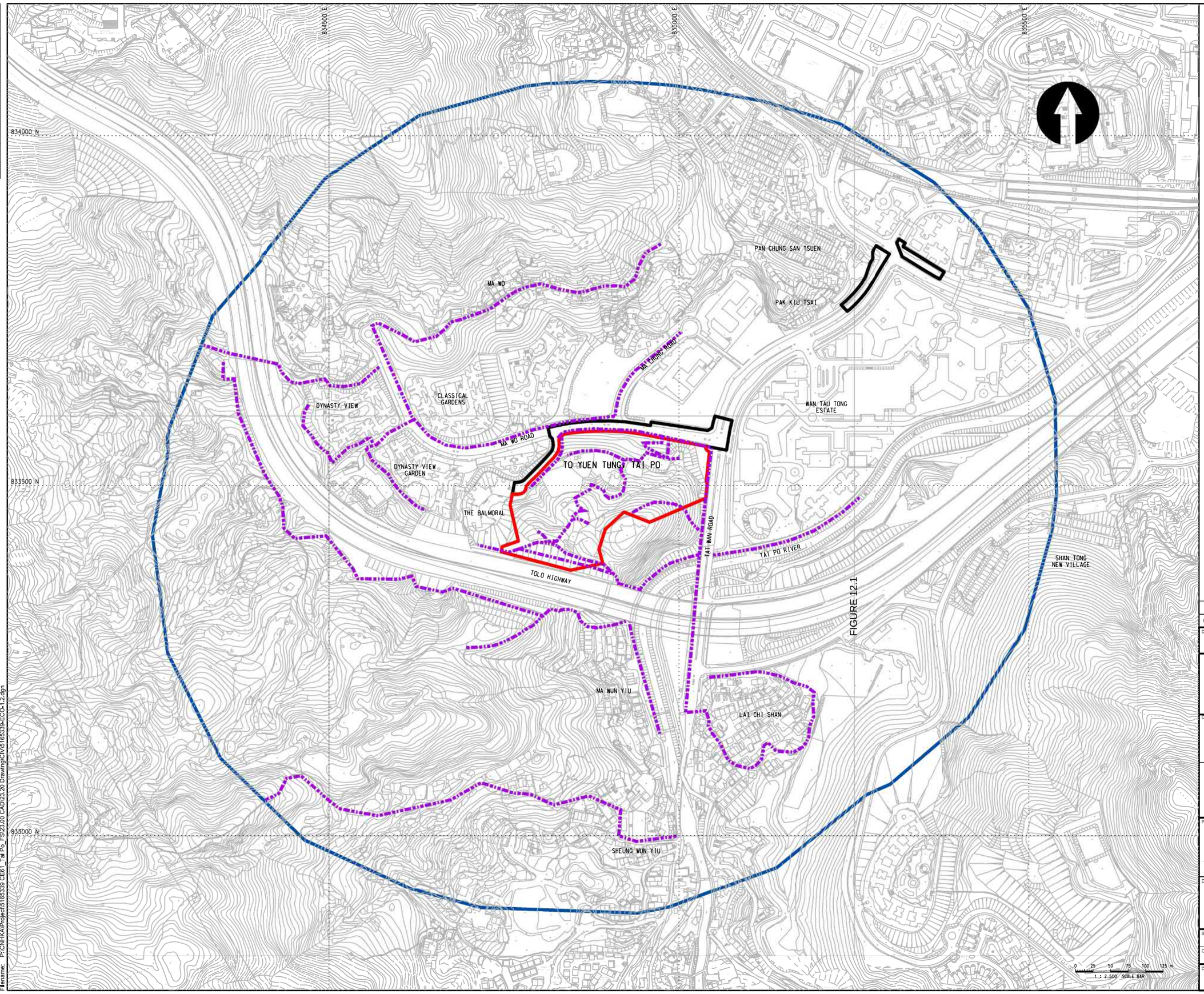
VP2.4 - Existing View from Podium Garden at Tai Po Complex (at elevation of +18.4mPD and at a distance of 520m)



KEY PLAN

VP2.4 - View from Podium Garden at Tai Po Complex after development (at elevation of +18.4mPD and at a distance of 520m)

Figure 13.26 - Public Viewing Point VP2.4 - Podium Garden at Tai Po Complex



LEGEND:

- SITE FORMATION
- INFRA-STRUCTURE
- 500M STUDY AREA
- TRANSECT

Rev.	Date	Description	By	Chk'd	App'd
-	12/18	FIRST ISSUE	PC	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: 土木工程拓展署 Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
500m STUDY AREA AND SURVEY TRANSECT

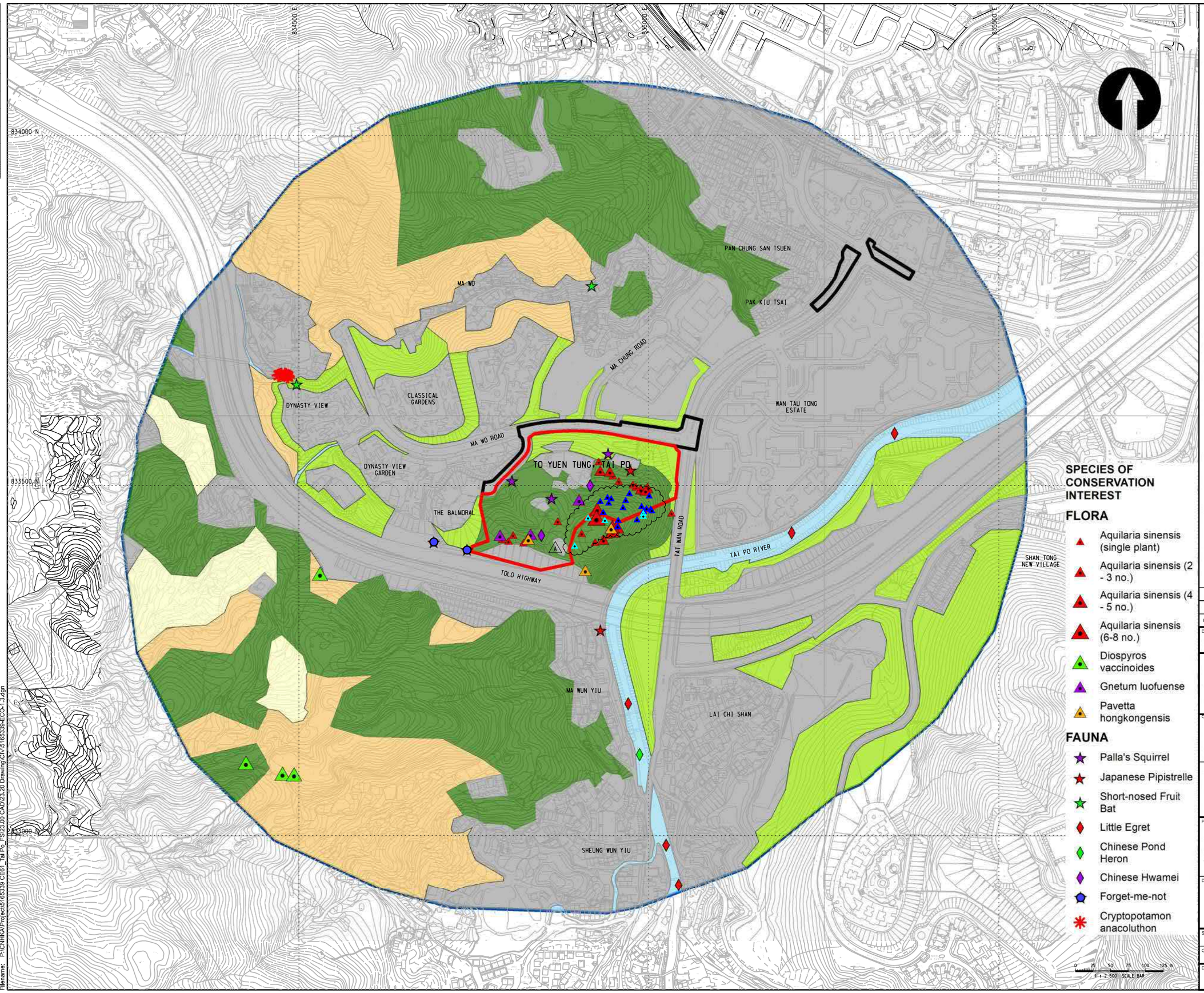
Scale	Designed	Drawn	Checked	Authorised
1 : 2500	PC	LCH	CJ	DF
Original Size: A1	Date: DEC 2018	Date: DEC 2018	Date: DEC 2018	Date: DEC 2018

Drawing Number: FIGURE 14.1

Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:11/09/2019 Time:11:29:19
Filename: P:\CN\HKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-ECO-1.2.dgn



Rev.	Date	Description	By	Chk'd	App'd
A	01/20	SECOND ISSUE	PC	RW	DF
-	12/18	FIRST ISSUE	PC	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client: 土木工程拓展署 Civil Engineering and Development Department (CEDD)

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title:
CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title:
HABITAT MAP AND SPECIES OF CONSERVATION INTEREST

Scale	Designed	Drawn	Checked	Authorised
1 : 2500	PC	LCH	CJ	DF
Original Size	Date	Date	Date	Date
A1	DEC 2018	DEC 2018	DEC 2018	DEC 2018

Drawing Number: FIGURE 14.2

Revision: A

Copyright © Atkins Limited

User name: CHOW6256 Date:15-Jan-20 Time: 3:51:35 PM
Filename: P:\CNHK\AProject\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV\5165339-ECO-1.3.dgn

833000 E

833500 E

834000 E

833500 N

833000 N

LIN AU

SHEK LIN ROAD

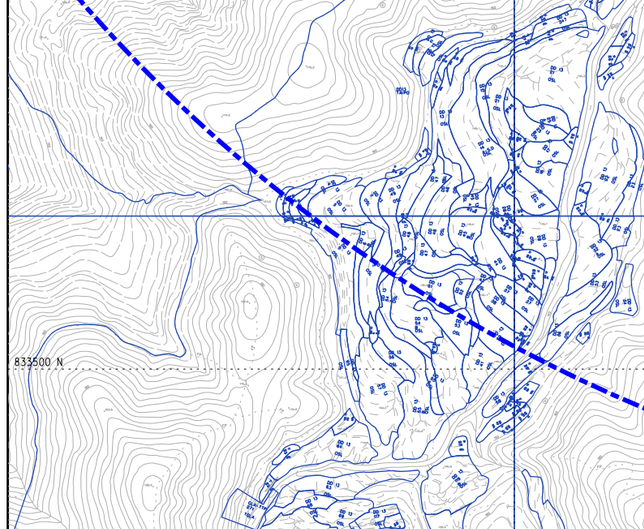
WILSON TRAIL

WILSON TRAIL

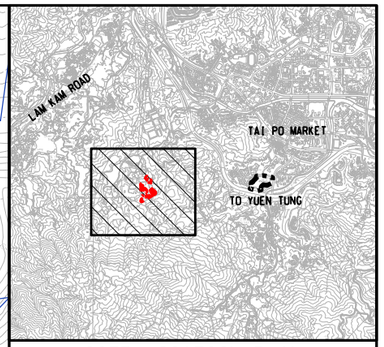
1000m RADIUS CONSULTATION ZONE OF TAI PO WATER TREATMENT WORKS

0 10 100 Millimetres

0 50 100 m
1 : 2 000 SCALE BAR



AERIAL PHOTO



SITE LOCATION PLAN
SCALE 1:80000

NOTES:

1. ALL COORDINATES ARE IN HONG KONG (1980) GRID SYSTEM.
2. ALL LEVELS REFER TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE STATED.

LEGEND:

LIMIT OF WORK SITE AREA

LOT BOUNDARY

Rev.	Date	Description	By	Chk'd	App'd
-	11/20	FIRST ISSUE	HF	RW	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

LAND REQUIREMENT PLAN FOR OFFSITE WOODLAND COMPENSATION AND NEW TREE PLANTING AT LIN AU, TAI PO

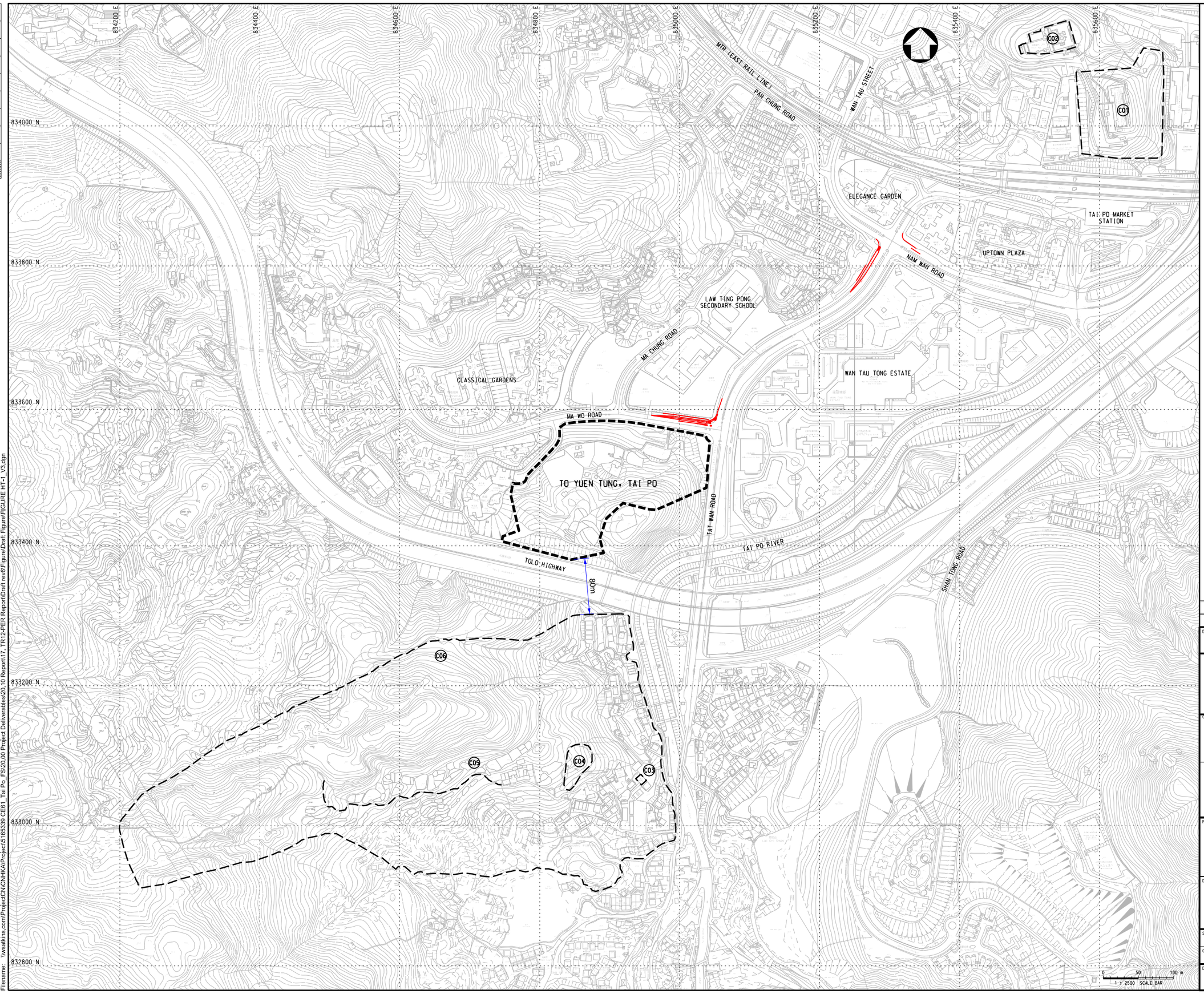
Scale	Designed	Drawn	Checked	Authorised
1 : 2000	PC	LCH	CJ	DF
Original Size: A1	Date: NOV 2020	Date: NOV 2020	Date: NOV 2020	Date: NOV 2020

Drawing Number: FIGURE 14.3

Revision: -

Copyright © Atkins Limited

User name: CHOW6256 Date:10-Nov-20 Time: 02:18:34 PM
Filename: P:\CNHKA\Project\5165339 CE61_Tai Po_FS\23.00 CAD\23.20 Drawing\CIV5165339-LRS-1.5.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- PROPOSED ROAD IMPROVEMENT WORKS
- IDENTIFIED HERITAGE SITE

IDENTIFIED HERITAGE SITE

CO1	OLD DISTRICT OFFICE (NORTH), DECLARED MONUMENT
CO2	OLD TAI PO POLICE STATION, GRADE 1 HISTORIC BUILDING (PROPOSED DECLARATION AS MONUMENT ENDORSED BY THE ANTIQUITIES ADVISORY BOARD ON 11 MARCH 2021)
CO3	FAN SIN TEMPLE, DECLARED MONUMENT
CO4	WUN YIU POTTERY KILNS, DECLARED MONUMENT
CO5	WUN YIU TRACKWAY, SITE OF ARCHAEOLOGICAL INTEREST
CO6	WUN YIU, SITE OF ARCHAEOLOGICAL INTEREST

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

IDENTIFIED HERITAGE SITE NEAR PROJECT SITE AND JUNCTIONS J3 AND J4

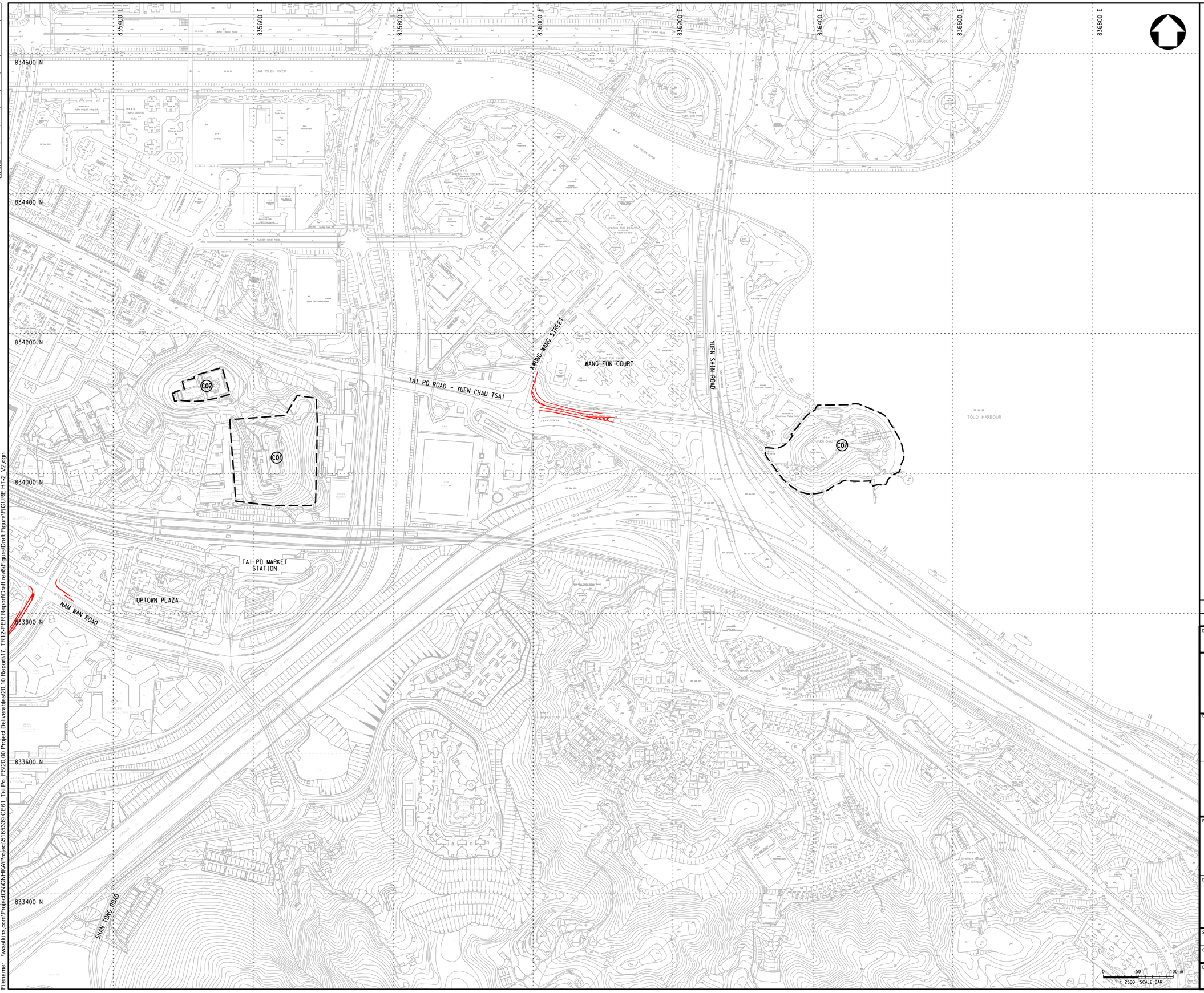
Scale	Designed	Drawn	Checked	Authorised
1 : 2500	RC	WMC	CJ	DF
Original Size: A1	Date: MAR 2021	Date: MAR 2021	Date: MAR 2021	Date: MAR 2021

Drawing Number: FIGURE 17.1

Revision: -

Copyright © Atkins Limited

Millimetres 0 10 100
User name: CHOW1748 Date:4/26/2021 Time:5:21:48 PM
Filename: \\wsatkins.com\Project\CN\CNHKA\Project\51653\39 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev6\Figure\Draft Figure\FIGURE HT-1_V3.dgn



NOTES:

1. SITE BOUNDARY WOULD BE SUBJECT TO REVIEW THROUGHOUT THE COURSE OF THIS ASSIGNMENT.

LEGEND:

- SITE BOUNDARY
- PROPOSED ROAD IMPROVEMENT WORKS
- IDENTIFIED HERITAGE SITE

IDENTIFIED HERITAGE SITE

- C01 OLD DISTRICT OFFICE (NORTH), DECLARED MONUMENT
- C02 OLD TAI PO POLICE STATION, GRADE 1 HISTORIC BUILDING (PROPOSED DECLARATION AS MONUMENT ENDORSED BY THE ANTIQUITIES ADVISORY BOARD ON 11 MARCH 2021)
- C07 ISLAND HOUSE, DECLARED MONUMENT

Rev.	Date	Description	By	Chk'd	App'd
-	11/18	FIRST ISSUE	HF	CJ	DF

Drawing Status: FEASIBILITY STUDY

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

CEDD 土木工程拓展署
Civil Engineering and Development Department

土木工程處
房屋工程1組
Civil Engineering Office
Housing Projects 1 Unit

Project Title

CE 61/2017 (CE)
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT TO YUEN TUNG, TAI PO - FEASIBILITY STUDY

Drawing Title

IDENTIFIED HERITAGE SITE NEAR PROJECT SITE AND JUNCTION J6

Scale	Designed	Drawn	Checked	Authorised
1 : 2500	RC	WMC	CJ	DF
Original Size	Date	Date	Date	Date
A1	MAR 2021	MAR 2021	MAR 2021	MAR 2021

Drawing Number: FIGURE 17.2

Revision: -

Copyright © Atkins Limited

Millimetres 0 10 100
User name: CHOW1748 Date:4/22/2021 Time:5:50:23 PM
Filename: \\wsatkins.com\Project\CN\CNHKA\Project\5165339 CE61_Tai Po_FS\20.00 Project Deliverables\20.10 Report\17. TR12-PER Report\Draft rev6\Figure\Draft Figure\FIGURE HT-2_V2.dgn

APPENDIX A

TREE ASSESSMENT SCHEDULE
(FOR TREES OF PARTICULAR INTEREST)

Tree Assessment Schedule (For Trees of Particular Interest)

Project Title: Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po - Feasibility Study

Date of Tree Survey: 31 October, 2, 5, 7 & 9 November 2018; 8, 16, 22, 24 January 2019; 14 & 15 October 2020

Surveyed by: WAN Chin Hei (ISA Cert. No. HK-0965A); WONG Wing Yee (ISA Certified Arborist No. HK-0532A); WONG Ching Shun (ISA Certified Arborist No. HK-0848A); Anny LI (ISA CA. No. HK-0993A)

Dwg. No. of Tree Survey Plan	Tree No.	Responsible Department to Provide Expert Advice	Species		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status	Recommended Treatment	Top of Soil Level (mPD)	Additional Remarks
			Scientific name	Chinese name	height (m)	DBH (mm)	crown spread (m)		(good/fair/poor)			(high/ medium/ low)	Remarks				
TSR-TS04	T3	AFCD	*Ficus microcarpa*	細葉榕	12	1273	10	Fair	Fair	Fair	Fair	Low	No access	Nil***	Fell	44.97	Hangers and broken branches observed
TSR-TS01	T257	LCSD	*Michelia x alba*	白蘭	7	254	4	Fair	Fair	Fair	Fair	Low	Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Retain (In the Vicinity of the Site*)	27.84	In planting pit.
TSR-TS02	T356	AFCD	*Michelia x alba*	白蘭	9	318	5	Poor	Poor	Fair	Fair	Low	Poor form; Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Fell	33.62	Dead branches & stubs observed
TSR-TS04	T405	AFCD	*Michelia x alba*	白蘭	10	413	5	Poor	Poor	Fair	Poor	Low	Poor form & structure; Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Fell	45.34	Uprooted
TSR-TS03	T500	AFCD	*Michelia x alba*	白蘭	6	400	4	Poor	Poor	Poor	Poor	Low	On slope **, poor form, health & structure; Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Fell	57.09	Severely damaged by typhoon, large main trunk broken, leaving a large wound tree stump, no obvious tree crown, epicormics remained growing on broken branches
TSR-TS03	T591	AFCD	*Aquilaria sinensis*	土沉香	9	159	4	Fair	Fair	Fair	Fair	Low	On slope **	● Protected under Cap. 586 as an "Appendix II Species" ● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	56.54	Poor taper, slightly bent trunk, wound due to vandalism on trunk
TSR-TS04	T697	AFCD	*Michelia x alba*	白蘭	8	381	5	Fair	Fair	Fair	Fair	Low	Fair form; Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Retain	53.78	On slope
TSR-TS04	T936	AFCD	*Michelia x alba*	白蘭	14	381	10	Good	Fair	Fair	Fair	Low	On slope **; Tree species of low survival rate after transplanting; tree species commonly available from commercial nursery stock	● Scheduled under Cap 96	Retain	24.68	On slope. Crooked trunk
TSR-TS04	T1115	AFCD	*Aquilaria sinensis*	土沉香	9	190	3	Fair	Fair	Fair	Fair	Low	On slope **	● Protected under Cap. 586 as an "Appendix II Species" ● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	60.85	On slope. Cover with climber. Crooked trunk.
TSR-TS04	T1123	AFCD	*Ixonanthes reticulata*	黏木	10	528	8	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain	57.75	On slope, codominant trunks.
TSR-TS04	T1128	AFCD	*Aquilaria sinensis*	土沉香	9	254	4	Fair	Fair	Fair	Fair	Low	On slope **	● Protected under Cap. 586 as an "Appendix II Species" ● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	58.16	On slope.

(Adapted from DEVB TCW No. 7/2015 Appendix B for the format of tree assessment schedule)

Tree Assessment Schedule (For Trees of Particular Interest)

Project Title: Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po - Feasibility Study

Date of Tree Survey: 31 October, 2, 5, 7 & 9 November 2018; 8, 16, 22, 24 January 2019; 14 & 15 October 2020

Surveyed by: WAN Chin Hei (ISA Cert. No. HK-0965A); WONG Wing Yee (ISA Certified Arborist No. HK-0532A); WONG Ching Shun (ISA Certified Arborist No. HK-0848A); Anny LI (ISA CA. No. HK-0993A)

Dwg. No. of Tree Survey Plan	Tree No.	Responsible Department to Provide Expert Advice	Species		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status	Recommended Treatment	Top of Soil Level (mPD)	Additional Remarks
			Scientific name	Chinese name	height (m)	DBH (mm)	crown spread (m)		(good/fair/poor)			(high/ medium/ low)	Remarks				
TSR-TS02	T1142	AFCD	*Ixonanthes reticulata*	黏木	10	318	5	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	43.78	On slope, wound on trunk.
TSR-TS04	T1154	AFCD	*Ixonanthes reticulata*	黏木	10	315	5	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	60.16	On slope. Cover with climber.
TSR-TS04	T1164	AFCD	*Ixonanthes reticulata*	黏木	9	222	4	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	50.71	On slope.
TSR-TS04	T1168	AFCD	*Ixonanthes reticulata*	黏木	10	445	5	Good	Good	Good	Good	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	48.73	Climbers found at tree crown.
TSR-TS04	T1177	AFCD	*Ixonanthes reticulata*	黏木	10	222	4	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	49.17	On slope
TSR-TS04	T1195	AFCD	*Ixonanthes reticulata*	黏木	9	190	5	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	49.35	On slope.
TSR-TS04	T1203	AFCD	*Ixonanthes reticulata*	黏木	8	190	4	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	54.84	On slope, codominant trunks.
TSR-TS04	T1228	AFCD	*Ixonanthes reticulata*	黏木	9	189	4	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	52.45	On slope, climbers on tree, multi-stems.
TSR-TS04	T1279	AFCD	*Ixonanthes reticulata*	黏木	10	318	6	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	50.34	On slope.
TSR-TS04	T1324	AFCD	*Aquilaria sinensis*	土沉香	8	190	5	Fair	Fair	Fair	Fair	Low	On slope **	● Protected under Cap. 586 as an "Appendix II Species" ● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	46.04	On slope, climbers on tree.
TSR-TS04	T1325	AFCD	*Ixonanthes reticulata*	黏木	10	350	6	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	45.60	On slope.

(Adapted from DEVB TCW No. 7/2015 Appendix B for the format of tree assessment schedule)

Tree Assessment Schedule (For Trees of Particular Interest)

Project Title: Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po - Feasibility Study

Date of Tree Survey: 31 October, 2, 5, 7 & 9 November 2018; 8, 16, 22, 24 January 2019; 14 & 15 October 2020

Surveyed by: WAN Chin Hei (ISA Cert. No. HK-0965A); WONG Wing Yee (ISA Certified Arborist No. HK-0532A); WONG Ching Shun (ISA Certified Arborist No. HK-0848A); Anny LI (ISA CA. No. HK-0993A)

Dwg. No. of Tree Survey Plan	Tree No.	Responsible Department to Provide Expert Advice	Species		Measurements			Amenity value	Form	Health condition	Structural condition	Suitability for transplanting		Conservation status	Recommended Treatment	Top of Soil Level (mPD)	Additional Remarks
			Scientific name	Chinese name	height (m)	DBH (mm)	crown spread (m)		(good/fair/poor)			(high/ medium/ low)	Remarks				
TSR-TS04	T1329	AFCD	*Ixonanthes reticulata*	黏木	10	381	6	Fair	Good	Good	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain	46.58	On slope.
TSR-TS04	T1330	AFCD	*Ixonanthes reticulata*	黏木	10	350	5	Fair	Good	Good	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain	43.34	On slope.
TSR-TS04	T1360	AFCD	*Ixonanthes reticulata*	黏木	17	530	14	Good	Good	Good	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	38.88	2 trunks with included bark.
TSR-TS04	T1364	AFCD	*Ixonanthes reticulata*	黏木	10	318	5	Good	Good	Good	Good	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	39.56	On slope.
TSR-TS04	T1381	AFCD	*Ixonanthes reticulata*	黏木	10	318	6	Good	Good	Good	Good	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Fell	38.47	On slope.
TSR-TS04	T1447	AFCD	*Aquilaria sinensis*	土沉香	8	190	4	Poor	Poor	Fair	Fair	Low	On slope **, poor form	● Protected under Cap. 586 as an "Appendix II Species" ● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Near Threatened) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain (In the Vicinity of the Site*)	46.13	On slope, climbers on tree, asymmetric tree crown.
TSR-TS04	T1470	AFCD	*Ixonanthes reticulata*	黏木	9	286	5	Fair	Fair	Fair	Fair	Low	On slope **	● Recorded in AFCD's book "Rare and Precious Plants of Hong Kong" (2003) (Status in China: Vulnerable) ● Listed on the China Plant Red Data Book as an "Vulnerable" species	Retain	59.91	On slope. 3 trunks. Climbers on tree.

Legend

T999	Tree of Conservation Interest Within the Site (For Trees of Conservation Interest And/Or Mature Tree With DBH At Or Above 500mm)
T999	Tree of Conservation Interest In the Vicinity of the Site (For Trees of Conservation Interest And/Or Mature Tree With DBH At Or Above 500mm)
T999	Mature Tree Within the Site (For Trees of Conservation Interest And/Or Mature Tree With DBH At Or Above 500mm)

Note

* "Trees In the Vicinity of the Site" are trees located outside the Study Boundary but within the Tree Survey Area. The Tree Survey Area includes the area defined by the Study Boundary and the area projected 10m from the Study Boundary.

** According to Development Bureau's Guidelines on Tree Transplanting (September 2014), "trees growing on slopes, retaining walls or areas where formation of a root ball of reasonable size is not practical are considered not transplantable.

*** Not listed in any relevant list of conservation status.

(Adapted from DEVB TCW No. 7/2015 Appendix B for the format of tree assessment schedule)

APPENDIX B

TREE SURVEY PHOTOGRAPHS (FOR TREES OF PARTICULAR INTEREST)

Agreement No. CE61/2017 (CE) Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study

Tree Survey Photographs (For Trees of Particular Interest)

T3, *Ficus macrocarpa* (細葉榕), to be fell

T3, *Ficus macrocarpa* (細葉榕), to be fell

T3, *Ficus macrocarpa* (細葉榕), to be fell

T257, *Michelia x alba* (白蘭), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T257, *Michelia x alba* (白蘭), to be retained

T356, *Michelia x alba* (白蘭), to be fell

T356, *Michelia x alba* (白蘭), to be fell

T356, *Michelia x alba* (白蘭), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T405, *Michelia x alba* (白蘭), to be fell

T405, *Michelia x alba* (白蘭), to be fell

T405, *Michelia x alba* (白蘭), to be fell

T405, *Michelia x alba* (白蘭), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T405, *Michelia x alba* (白蘭), to be fell

T405, *Michelia x alba* (白蘭), to be fell

T500, *Michelia x alba* (白蘭), to be fell

T500, *Michelia x alba* (白蘭), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T500, *Michelia x alba* (白蘭), to be fell

T500, *Michelia x alba* (白蘭), to be fell

T591, *Aquilaria sinensis* (土沉香), to be retained

T591, Aquilaria sinensis (土沉香), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T591, Aquilaria sinensis (土沉香), to be retained

T697, *Michelia x alba* (白蘭), to be retained

T697, *Michelia x alba* (白蘭), to be retained

T936, *Michelia x alba* (白蘭), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T936, *Michelia x alba* (白蘭), to be retained

T936, *Michelia x alba* (白蘭), to be retained

T1115, *Aquilaria sinensis* (土沉香), to be retained

T1115, *Aquilaria sinensis* (土沉香), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1123, *Ixonanthes reticulata* (黏木), to be retained

T1123, *Ixonanthes reticulata* (黏木), to be retained

T1128, *Aquilaria sinensis* (土沉香), to be retained

T1128, *Aquilaria sinensis* (土沉香), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1142, *Ixonanthes reticulata* (黏木), to be fell

T1142, *Ixonanthes reticulata* (黏木), to be fell

T1154, *Ixonanthes reticulata* (黏木), to be retained

T1154, *Ixonanthes reticulata* (黏木), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1164, *Ixonanthes reticulata* (黏木), to be fell

T1164, *Ixonanthes reticulata* (黏木), to be fell

T1168, *Ixonanthes reticulata* (黏木), to be fell

T1168, *Ixonanthes reticulata* (黏木), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T1168, *Ixonanthes reticulata* (黏木), to be fell

T1177, *Ixonanthes reticulata* (黏木), to be fell

T1177, *Ixonanthes reticulata* (黏木), to be fell

T1195, *Ixonanthes reticulata* (黏木), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T1195, *Ixonanthes reticulata* (黏木), to be fell

T1203, *Ixonanthes reticulata* (黏木), to be fell

T1203, *Ixonanthes reticulata* (黏木), to be fell

T1228, *Ixonanthes reticulata* (黏木), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T1228, *Ixonanthes reticulata* (黏木), to be fell

T1279, *Ixonanthes reticulata* (黏木), to be retained

T1279, *Ixonanthes reticulata* (黏木), to be retained

T1324, *Aquilaria sinensis* (土沉香), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1324, *Aquilaria sinensis* (土沉香), to be retained

T1325, *Ixonanthes reticulata* (黏木), to be retained

T1325, *Ixonanthes reticulata* (黏木), to be retained

T1329, *Ixonanthes reticulata* (黏木), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1329, *Ixonanthes reticulata* (黏木), to be retained

T1330, *Ixonanthes reticulata* (黏木), to be retained

T1330, *Ixonanthes reticulata* (黏木), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1360, *Ixonanthes reticulata* (黏木), to be retained

T1360, *Ixonanthes reticulata* (黏木), to be retained

T1360, *Ixonanthes reticulata* (黏木), to be retained

T1364, *Ixonanthes reticulata* (黏木), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1364, *Ixonanthes reticulata* (黏木), to be retained

T1364, *Ixonanthes reticulata* (黏木), to be retained

T1364, *Ixonanthes reticulata* (黏木), to be retained

T1381, *Ixonanthes reticulata* (黏木), to be fell

Tree Survey Photographs (For Trees of Particular Interest)

T1381, *Ixonanthes reticulata* (黏木), to be fell

T1447*, Aquilaria sinensis* (土沉香), to be retained

T1447, *Aquilaria sinensis* (土沉香), to be retained

T1470, *Ixonanthes reticulata* (黏木), to be retained

Tree Survey Photographs (For Trees of Particular Interest)

T1470, *Ixonanthes reticulata* (黏木), to be retained

Asia Pacific Presence

Hong Kong
13th Floor Wharf T&T Centre
Harbour City
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: (852) 2972 1000
Fax: (852) 2890 6343
General E-mail: info.hk@atkinsglobal.com

Beijing
10/F, Tower A, Gemdale Plaza
No. 91 Jianguo Road, Chaoyang District
Beijing 100022
China
Tel: (86) 10 5965 1000
Fax: (86) 10 5965 1001
General E-mail: info.cn@atkinsglobal.com

Shanghai
Unit 2204-2210, Ciro's Plaza
No. 388 West Nanjing Road
Shanghai 200003
China
Tel: (86) 21 6080 2100
Fax: (86) 21 6080 2101
General E-mail: info.cn@atkinsglobal.com

Shenzhen
Unit 01-02 & 11-16, 35/F Shun Hing Square
Jie Fang Road, Luo Hu District
Shenzhen 518008
China
Tel: (86) 755 3332 0668
Fax: (86) 755 3332 0669
General E-mail: info.cn@atkinsglobal.com

Chengdu
Unit 05, 28/F, T2, Raffles Square
No. 3, Section 4, South Renmin Road
Wuhou District
Chengdu 610041
China
Tel: (86) 28 8620 2130
Fax: (86) 28 8620 2132
General E-mail: info.awc@atkinsglobal.com

Singapore
8 Cross Street
#24-01, PWC Building
Singapore 048424
Tel: (65) 6227 6433
Fax: (65) 6227 9344
General E-mail: info.sg@atkinsglobal.com

Sydney
Level 12, Suite 12.02
50 Berry Street
North Sydney
NSW 2060
Australia
Tel: (61) 2 8002 0300
Fax: (61) 2 8920 8322
General E-mail: info.au@atkinsglobal.com

Perth
Level 13, AMP Building
140 St. Georges Terrace
Perth
WA 6000
Australia
Tel: (61) 8 9322 8080
Fax: (61) 8 9322 8070
General E-mail: info.perth@atkinsglobal.com

Ho Chi Minh City
Unit 1316, 13/F, Kumho Asiana Plaza
39 Le Duan Street
District 1, Ho Chi Minh City
Vietnam
Tel: (848) 6288 8700
DDI:(848) 6288 8972
Fax: (848) 6288 8701
General E-mail: info.vn@atkinsglobal.com

Kuala Lumpur
Suite 8.01, Level 8, Menara Binjai
No 2 Jalan Binjai, 50450 Kuala Lumpur
Malaysia
Tel: (603) 2386 7858
Fax: (603) 2386 7711
General E-mail: info.my@atkinsglobal.com

Bangalore
10th Floor, Safina Towers
3 Ali Asker Road
Bangalore, Karnataka - 560052
India
Tel: (91) 80 4019 9199
Fax: (91) 80 4147 5822
General E-mail: india.office@atkinsglobal.com

Delhi
19 Floor - Tower C, DLF Cyber Greens
DLF Cyber City, DLF Phase - III
Gurgaon, Haryana - 122 002
India
Tel: (91) 124 384 7199
Fax: (91) 124 401 4550
General E-mail: india.office@atkinsglobal.com

www.atkinsglobal.com

ATKINS
Member of the SNC-Lavalin Group

Extracted Minutes of 673rd Meeting of the
Rural and New Town Planning Committee held on 11.6.2021

Agenda Item 5

Section 12A Application

[Open Meeting (Presentation and Question Sessions Only)]

Y/TP/28	Application for Amendment to the Approved Tai Po Outline Zoning Plan No. S/TP/28, To Rezone the Application Site from "Residential (Group C) 10" to "Residential (Group B)11", Various lots in D.D. 34 and D.D. 36 and adjoining Government land, Tsiu Hang, Tai Po (RNTPC Paper No. Y/TP/28D)

11. The Secretary reported that the application was submitted by Ford World Development Limited, which was a subsidiary of Henderson Land Development Company Limited (HLD). AECOM Asia Company Limited (AECOM) was one of the consultants of the applicant. The following Members had declared interests on the item:

Dr C.H. Hau	-	having current business dealings with HLD, and being an employee of the University of Hong Kong which had received a donation from a family member of the Chairman of HLD before, and having past business dealings with AECOM;
Mr K.K. Cheung	-	his firm having current business dealings with HLD;
Mr Peter K.T. Yuen	-	being a member of the Board of Governors of the Hong Kong Arts Centre which had received a donation from an Executive Director of HLD before;
Mr Stephen L.H. Liu *(the Vice-chairman)*	-	being a member of the Council of Hong Kong Polytechnic University (PolyU) which had obtained sponsorship from HLD before; and
Dr Lawrence K.C. Li	-	being the Deputy Chairman of the Council of the PolyU which had obtained sponsorship from HLD before.

12. The Committee noted that Dr Lawrence K.C. Li had tendered an apology for being unable to attend the meeting and Mr Stephen L.H. Liu had not yet arrived to join the meeting. As the interest of Dr C.H. Hau was direct, the Committee agreed that he should leave the meeting temporarily during the deliberation session. As the interests of Messrs Peter K.T. Yuen and Stephen L.H. Liu were indirect and Mr K.K. Cheung had no involvement in the application, the Committee agreed that Messrs Peter K.T. Yuen and K.K. Cheung could stay in the meeting and Mr Stephen L.H. Liu could join the meeting upon his arrival.

Presentation and Question Sessions

13. The following representatives from the Planning Department (PlanD) and the applicant's representatives were invited to the meeting at this point:

PlanD

Ms Jessica H.F. Chu	-	District Planning Officer/Sha Tin, Tai Po and North (DPO/STN)
Ms Kathy C.L. Chan	-	Senior Town Planner/Sha Tin, Tai Po and North (STP/STN)
Mr Harris K.C. Liu	-	Town Planner/Sha Tin, Tai Po and North (TP/STN)

Applicant's Representatives

Ford World Development Limited

Dr Owen Yue

Townland Consultants Limited

Ms Cindy Tsang

Mr Vincent Lau

MVA Hong Kong Limited

Mr Alan Pun

Mr Carson Chow

Scenic Landscape Studio Limited

Mr Chris Foot

Applicant's Representatives

Ramboll Hong Kong Limited

Mr Tony Cheng

AECOM Asia Company Limited

Mr Willie Wan

Studio Raymond Chau Architecture Limited

Mr Raymond Chau

14. The Chairman extended a welcome and explained the procedures of the meeting. He then invited PlanD's representative to brief Members on the background of the application.

15. With the aid of a PowerPoint presentation, Ms Jessica H.F. Chu, DPO/STN, presented the application and covered the following aspects as detailed in the Paper:

(a) background to the application;

(b) proposed amendment to the approved Tai Po Outline Zoning Plan (OZP) No. S/TP/28 to rezone the application site (the Site) from "Residential (Group C) 10" ("R(C)10") to "Residential (Group B)11" ("R(B)11") to relax the maximum plot ratio (PR) restriction from 1.2 to 3.6 while maintaining the existing maximum building height (BH) restrictions of 55mPD and 65mPD for proposed residential development;

(c) departmental comments were set out in paragraph 9 of the Paper;

(d) during the six statutory publication periods of the application and further information, a total of 7,253 public comments were received, including 7,070 objecting comments from the Tai Po Rural Committee (TPRC), the Vice-chairman of TPRC, Indigenous Inhabitant Representative of Tai Po Mei, the incumbent Tai Po District Council Member, Green Sense,

Education University of Hong Kong, the Incorporated Owners / Owners' Committees of the nearby residential developments at Deerhill Bay and Pak Shek Kok (PSK), and individuals; 160 supporting comments from individuals; and 23 comments from Mass Transit Railway Corporation Limited and individuals expressing views on the application. Major views were set out in paragraph 10 of the Paper; and

(e) the Planning Department (PlanD)'s views – PlanD had no in-principle objection to the application based on the assessments set out in paragraph 11 of the Paper. The applicant proposed that, upon completion of land exchange, the northern portion of the Site (Site A) would be surrendered to the Government and the southern portion (Site B) would be for its own private residential development. The proposed residential use was not incompatible with the surrounding land uses and the proposed PR of 3.6 was considered comparable to the medium-density residential developments in PSK and a site nearby sharing the same access road (Yau King Lane) that was rezoned with the same PR restriction of 3.6 in 2017. The existing BH restrictions of 55mPD and 65mPD for Site A and Site B respectively and the stepped height profile were to be maintained. A number of traffic mitigation measures were proposed to accommodate the additional traffic and transport demand and such mitigation measures would be implemented before any population intake. The applicant also proposed the provision of social welfare facilities (SWFs) and basement public vehicle parks (PVPs) on both Site A and Site B to address the needs of the community. The Transport Department (TD) had no in-principle objection to and the Social Welfare Department supported the application. The requirements of building separations, relevant technical assessments, implementation of mitigation measures and provision of SWFs and PVPs could be specified in the lease conditions governing the respective sites. Other concerned government departments had no objection to or no adverse comments on the application. Since the applicant had demonstrated the technical feasibility to develop Site A and Site B up to a maximum gross floor area (GFA) of 50,981m^2 and 80,217m^2 respectively, it was recommended that Sites A and B be subject to individual GFA and BH restrictions under two

"R(B)" sub-zones. Regarding the public comments received, the comments of concerned departments and the planning assessments above were relevant.

[Ms Winnie W.M. Ng joined the meeting during PlanD's presentation.]

16. The Chairman then invited the applicant's representatives to elaborate on the application. With the aid of a PowerPoint presentation, Ms Cindy Tsang, the applicant's representative, made the following main points:

(a) the Site was the subject of a previously approved rezoning application No. Y/TP/24 for relaxation of the then maximum PR restriction from 0.6 to 1.2. That application was in line with the government policy to allow doubling the domestic PR for rural sites to increase housing land supply;

(b) after approval of the previous application, planning circumstances had changed. Residential developments with domestic PR of 3 to 3.6 were built in the PSK area and in 2017, a nearby site in Pok Yin Road / Yau King Lane was rezoned from "Government, Institution or Community" to "R(B)9" with GFA restriction equivalent to a PR of 3.6. The current planning application to relax the PR of the Site to 3.6 was in line with the changing planning context and would help meet the pressing demand for more housing land;

(c) according to the indicative development scheme, approximately 2,198 flats would be provided at the Site, which was 1,403 flats (176%) more than those under the OZP compliant scheme at a PR of 1.2. About 1,286 flats would be provided by the applicant at Site B within a short period of time while development at Site A would be subject to Government's development programme;

(d) the proposed development would optimise valuable land resources. It demonstrated a sustainable building design and high-quality living environment could be achieved under the proposed development

parameters;

(e) the proposed "R(B)11" zoning and maximum PR of 3.6 were compatible with the existing residential zoning patterns and the surrounding land uses. BH restrictions of 55mPD and 65mPD respectively in the northern and southern portions of the Site currently imposed on the OZP would be maintained, which was lower than the site platforms of Deerhill Bay which ranged from 61mPD in the north to 75mPD in the south (i.e. 6m and 10m higher than the respective BH restrictions of the Site);

(f) existing and planned Government, institution and community facilities within Tai Po area would be sufficient to cater for the increased population generated from the proposed development;

(g) SWFs would be provided at both Site A and Site B as public planning gain, which were equivalent to about 5% of the total GFA of the respective sites. PVPs would also be provided to serve the surrounding neighbourhood. SWFs and PVPs were proposed as Column 1 uses under the proposed Notes for the "R(B)11" zone;

(h) the indicative scheme with design measures to enhance air ventilation would allow wind permeability and avoid visual obstruction to residents at Deerhill Bay. The indicative scheme showed that the design requirements for enhancing air ventilation purpose stipulated in the Explanatory Statement of the OZP for the Site could generally be incorporated and future residents would not be subject to adverse road traffic and railway noise impacts;

(i) there would be no undesirable landscape, infrastructure, traffic, air ventilation or environmental impacts; and

(j) there would be no undesirable planning precedent, as the rezoning application would help address housing shortage problem and there would be significant public planning gains.

[The Vice-chairman and Mr K.W. Leung joined the meeting during the presentation of the applicant's representative.]

17. As the presentations of PlanD's representative and the applicant's representative were completed, the Chairman invited questions from Members.

18. Some Members raised the following questions to PlanD's representatives:

(a) whether the proposed relaxation of PR on the Site would induce adverse visual and air ventilation impacts as raised in the objecting public comments from residents of Deerhill Bay;

(b) whether the area between Site A and the Deerhill Bay site could be included as part of the proposed development;

(c) what traffic mitigation measures had been proposed;

(d) details of land disposal arrangement for Site A; and

(e) noting that majority of the land (about 60%) was owned by the Government, whether public interests would be compromised under the land exchange arrangement proposed by the applicant.

19. In response, Ms Jessica H.F. Chu, DPO/STN, made the following main points:

(a) as shown in Drawings Z-10 and Z-12 of the Paper, the proposed BH restrictions of 55mPD at the northern portion and 65mPD at the southern portion of the Site were respectively lower than the site platform levels of House 11 (at 61mPD) and the ground level of Tower 3 (68.7mPD) of Deerhill Bay and there were six building separations proposed as visual corridor and wind enhancement features. Therefore, no significant visual or air ventilation impacts were envisaged. In fact, the existing BH restrictions on the OZP would be maintained;

(b) the area between Site A and Deerhill Bay site was a woodland area within the lot boundary of Deerhill Bay site, which was zoned "R(C)5" on the OZP;

(c) the applicant had proposed a number of traffic mitigation measures in the Traffic Impact Assessment (TIA), including junction improvement works along Chong San Road and at Chak Cheung Street roundabout, provision of a public transport terminus (PTT) and bus laybys along Yau King Lane and provision of a bus turn-around facility at the northern tip of Site A (which was needed as the section of Tai Po Road further north of Site A had very steep gradient). According to the TIA, these measures would be sufficient to accommodate additional traffic flow arising from the proposed development and would facilitate the provision of new public transport services to serve the future residents;

(d) upon completion of land exchange with the applicant, Site A would be surrendered to the Government. The Government would decide on the most suitable option for disposal of the site. The proposed scheme submitted under the current application was only indicative and mainly served to demonstrate that a layout with the proposed PR and BHs and with provision of SWFs and PVPs was technically feasible. If Site A was later disposed of through land sale, relevant lease conditions could be imposed to ensure implementation of the proposed mitigation measures, SWFs and PVPs. The future developer of Site A could take forward the development based on the indicative scheme or other development scheme as long as it complied with the restrictions of the OZP and the lease conditions; and

(e) the Site had been zoned "R(C)" for residential use since 1983. It comprised government land and private lots owned by the applicant and others. Under both the current and previous applications, the applicant proposed a land exchange arrangement to facilitate using the entire site for development, by surrendering private lots at Site A to the Government for the regrant of Site B for its own private development. It should be noted

that under the previously approved application, the applicant owned about 30% of the Site whilst about 10% of the Site was private lots owned by others; the applicant had now acquired more private land and currently owned about 40% of the Site. In any case, the key planning considerations of the current application should be whether the proposed increase in PR from 1.2 to 3.6 was acceptable from land use compatibility perspective and whether it was technically feasible, rather than the detailed land ownership or land administration matters. If the application was approved, the statutory plan-making process under the Town Planning Ordinance to incorporate the zoning amendment to the OZP would follow, while the Lands Department (LandsD) would process the applicant's land exchange application and relevant development parameters and technical requirements could be imposed under the lease. Land premium would be charged in accordance with the established criteria.

20. In response to a Member's enquiry, Ms Cindy Tsang, the applicant's representative, stated that under the proposed scheme, only landscape features were planned at the central plaza and no commercial facility would be provided thereat.

21. As the applicant's representatives had no further points to raise and there were no further questions from Members, the Chairman informed the applicant's representatives that the hearing procedure for the application had been completed and the Committee would deliberate on the application in their absence and inform the applicant of the Committee's decision in due course. The Chairman thanked the representatives from PlanD and the applicant for attending the meeting. They left the meeting at this point.

[Dr C.H. Hau left the meeting temporarily at this point.]

Deliberation Session

22. The Chairman remarked that in considering the current application for amendment to OZP involving relaxation of maximum PR restriction of the Site, the key planning considerations should be on land use compatibility, technical feasibility and the planning gains taking into account comments from relevant government departments and the

public. The land administration matters would be dealt with by LandsD according to the established procedures.

23. In response to some Members' questions on the procedure and assessment criteria for land exchange applications, Mr Alan K.L. Lo, Assistant Director/Regional 3, LandsD, advised that one of the general criteria for consideration of land exchange applications was whether the government land involved was capable of reasonable separate development and that would be examined in detail when a land exchange application was submitted. Furthermore, the land exchange application would be subject to payment of premium, which would be assessed based on the enhancement in land value after the land exchange, taking into account all relevant factors including the cost and revenue aspects, the public facilities to be provided, the restrictions imposed under the lease and other statutory provisions.

24. On a Member's question about the Government's policy for land resumption, the Chairman said that the Government would consider acquisition of private land by way of land resumption for public projects such as those in New Development Area (NDA), road scheme, public housing development or social welfare facility. For the current case, as Site A would be surrendered to the Government by way of land exchange, there was flexibility for the Government to decide on the type of housing to be developed thereat. Mr Alan K.L. Lo, Assistant Director/Regional 3, LandsD, added that under the 'Enhanced Conventional New Town Approach', LandsD would consider land exchange applications for sites planned for private developments in NDAs according to relevant Practice Note but such applications must not affect the overall development programme of the NDAs.

25. In response to a Member's concern on the potential traffic impacts, Mr Ken K.K. Yip, Chief Traffic Engineer/New Territories East, TD, said that, according to the submitted TIA, traffic mitigation measures were proposed to mitigate the traffic impacts. These included improvement works at a few road junctions, a bus turn-around facility at the northern tip of Site A as bus could not maneuvoer further up to Tai Po Road, and a PTT at Yau King Lane for enhanced bus services. The TIA demonstrated that subject to the satisfactory implementation of the proposed traffic mitigation measures before population intake of the Site, the proposed development would not create adverse traffic impacts. TD agreed with the findings of the TIA and had no in-principle objection to the application.

26. Members generally had no objection to the application. A Member said that the current application enabled an increase in housing land supply on the Site and should be supported. Noting the same land exchange arrangement would be applied to the current application and the previously approved application, the same Member said that it might be prudent for the Government to clearly explain the land administration arrangement to the public to address the public concern on suspicion of collusion and transfer of benefits between the Government and the developer.

27. After deliberation, the Committee decided to agree to the application for rezoning the Site from "R(C)10" to an appropriate zoning with stipulation of maximum PR/GFA and BH. Amendments to the approved Tai Po OZP No. S/TP/28, together with the revised Notes and Explanatory Statement, would be submitted to the Committee for consideration prior to gazetting under section 5 of the Town Planning Ordinance.

[Dr C.H. Hau rejoined the meeting at this point.]

Attachment VII of
RNTPC Paper No. 7/21

Provision of Major Community Facilities and Open Space in Tai Po Outline Zoning Plan

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision (including Existing Provision)	
District Open Space	10 ha per 100,000 persons[#]	29.12 ha	41.28 ha	41.87 ha	+12.75 ha
Local Open Space	10 ha per 100,000 persons[#]	29.12 ha	55.07 ha	60.30 ha	+31.18 ha
Secondary School	1 whole-day classroom for 40 persons aged 12-17	355 classrooms	566 classrooms	566 classrooms	+211 classrooms
Primary School	1 whole-day classroom for 25.5 persons aged 6-11	463 classrooms	506 classrooms	614 classrooms	+151 classrooms
Kindergarten/ Nursery	34 classrooms for 1,000 children aged 3 to under 6	151 classrooms	221 classrooms	251 classrooms	+100 classrooms
District Police Station	1 per 200,000 to 500,000 persons	1	1	1	0
Divisional Police Station	1 per 100,000 to 200,000 persons	2	1	1	-1
Hospital	5.5 beds per 1,000 persons[^]	1,646 beds	1,599 beds	2,399 beds	+753 beds
Clinic/Health Centre	1 per 100,000 persons	3	2	4	+1
Child Care Centre	100 aided places per 25,000 persons[#@]	1,165 places	297 places	689 places	-476 places
Integrated Children and Youth Services Centre	1 for 12,000 persons aged 6-24[#]	4	7	7	+3
Integrated Family Services Centre	1 for 100,000 to 150,000 persons[#]	2	2	2	0
District Elderly Community Centres	One in each new development area with a population of around 170,000 or above[#]	N.A.	1	1	N.A.

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision (including Existing Provision)	
Neighbourhood Elderly Centres	One in a cluster of new and redeveloped housing areas with a population of 15,000 to 20,000 persons, including both public and private housing[#]	N.A.	7	8	N.A.
Community Care Services (CCS) Facilities	17.2 subsidised places per 1,000 elderly persons aged 65 or above[#*@]	1,581 places	365 places	575 places	-1,006 places
Residential Care Homes for the Elderly	21.3 subsidised beds per 1,000 elderly persons aged 65 or above[#@]	1,958 beds	805 beds	1,159 beds	-799 beds
Library	1 district library for every 200,000 persons	1	1	2	+1
Sports Centre	1 per 50,000 to 65,000 persons[#]	4	5	7	+3
Sports Ground/ Sport Complex	1 per 200,000 to 250,000 persons[#]	1	1	1	0
Swimming Pool Complex – standard	1 complex per 287,000 persons[#]	1	1	2	+1

Note:

The planned resident population in Tai Po Planning Area would be about 291,200. If including transients, the overall planned population is about 299,300. All population figures have been adjusted to the nearest hundred.

\# The requirements exclude planned population of transients.

^ The provision of hospital beds is to be assessed by the Hospital Authority on a regional basis.

* The planning standard of community care services (CCS) facilities (including both centre-based and home-based) is population-based. There is no rigid distribution between centre-based CCS and home-based CCS stated in the Elderly Services Programme Plan. Nonetheless, in general, 60% of CCS demand will be provided by home-based CCS and the remaining 40% will be provided by centre-based CCS.

@ This is a long-term goal and the actual provision would be subject to the consideration of the Social Welfare Department in the planning and development process as appropriate.

August 2021

Attachment VIII of
RNTPC Paper No. 7/21

Motion Passed by
the Planning, Housing and Works Committee of the Tai Po District Council

臨時動議:

大埔區議會規劃、房屋及工程委員會反對有關部門在未有充分諮詢大埔居民的情況下，於大埔桃源洞發展公營房屋。

動議人: 毛家俊議員
和議人: 蘇達良議員及陳振哲議員

大埔南分區委員會
羅曉楓社區服務處
香港經濟民生聯盟
Business and Professionals Alliance for Hong Kong
地址：大埔洋涌村 165 號地下
電話：2457 8028　傳真：2524 3028　手提：
電郵：lohiufungoffice@gmail.com

致　沙田、大埔及北區規劃專員
朱霞芬女士

強烈關注桃源洞公屋發展對社區
的環境噪音、交通負荷、道路車位及公共文康設施等影響

早於 2017 年，本人曾在區議會上指出政府在桃源洞及馬窩村加建大量插針樓，增加當區逾萬人口，是漠視當區承載力及居民感受；及後，2019 年，發展局及運房局到訪區議會時，本人亦重申新峰一帶的社區設施及交通配套嚴重不足，亦指出根據規劃文件，把山坡改劃建屋，所涉及的土地平整及地基鞏固工程的所需技術較高，時間及成本亦相對地高，但對周邊的滋擾大，亦未能盡用土地空間，故不建議有關方案。惟當時政府回應本人，指有關規劃須等待可行性研究報告出爐，故是項議題需留待新一屆區議會方再討論。

然而，2020 年新一屆區議會上場，從未有區議員主動地在議會上就桃源洞改建公屋一事作出關注和跟進，直到 2020 年年 7 月政府遞交相關文件時，才如夢初醒；更甚，本應代表新峰花園的區議員，亦早已辭職離任，棄居民於不顧，議席懸空，當區居民的意見無無走入區議會之中，遑論向局方反映任何意見及訴求。

本人作為大埔南分區會成員及當區前任議員，望能為新峰居民略盡綿力，故於 8 月上旬以自資方式向新峰花園 1-2 期、御峰苑、御峰豪園及承峰合共郵寄 1200 份問卷調查，並在 8 月 19 日截止限期前，成功收回的有效問卷數為 234 份，當中，有 94%的受訪者對桃源洞建屋計劃表示反對。

同時，在眾多反對申述中，最多受訪者關注的馬窩路負荷問題及新峰花園公並交通配套不足；其次是加建插針樓會破壞原有安寧的居住環境。

大埔南分區委員會
羅曉楓社區服務處
地址：大埔洋涌村 165 號地下
電話：2457 8028　傳真：2524 3028　手提：
電郵：lohiufungoffice@gmail.com

香港經濟民生聯盟
Business and Professionals Alliance for Hong Kong

由於桃源洞房屋規劃對新峰花園，及對大埔南整體社區規劃發展有深遠影響，因此本人特此來函，望　貴署派員出席 8 月 25 日的大埔南分區會會議，就此發展規劃所帶來的環境噪音、交通負荷、道路車位及公共文康設施等影響，向眾委員作詳細闡述，以釋除公眾疑慮。同時，本人亦要求 貴署把是次問卷調查結果，列入城市規劃委員會審議此土地發展大綱時的考慮因素之中。謝謝。

如對上述事項有任何查詢，歡迎致電　　與本人聯絡，謝謝。

大埔南分區委員會 副主席
羅曉楓 謹啟
二零二一年八月十九日