Attachment I of
MPC Paper No. 3/23

圖例
NOTATION

ZONES / 地帶

COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
INDUSTRIAL	I	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	G/IC	政府、機構或社區
OPEN SPACE	O	休憩用地
OTHER SPECIFIED USES	OU	其他指定用途
GREEN BELT	GB	綠化地帶
COASTAL PROTECTION AREA	CPA	海岸保護區
COUNTRY PARK	CP	郊野公園

COMMUNICATIONS / 交通

RAILWAY AND STATION	鐵路及車站
RAILWAY AND STATION (UNDERGROUND)	鐵路及車站（地下）
RAILWAY AND STATION (ELEVATED)	鐵路及車站（高架）
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
BOUNDARY OF COUNTRY PARK	郊野公園界線
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 (IN NUMBER OF STOREYS)	最高建築物高度（樓層數目）
PETROL FILLING STATION	加油站
NON-BUILDING AREA	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	1.37	0.22	綜合發展區
RESIDENTIAL (GROUP A)	73.38	11.96	住宅（甲類）
INDUSTRIAL	6.19	1.01	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	70.58	11.50	政府、機構或社區
OPEN SPACE	20.98	3.42	休憩用地
OTHER SPECIFIED USES	88.15	14.37	其他指定用途
GREEN BELT	180.78	29.46	綠化地帶
COASTAL PROTECTION AREA	5.88	0.96	海岸保護區
COUNTRY PARK	115.43	18.81	郊野公園
MAJOR ROAD ETC.	50.81	8.29	主要道路等
TOTAL PLANNING SCHEME AREA	613.55	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２０２１年５月４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 4 MAY 2021

Ms Wendy LEUNG 梁蘊儀女士
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柴灣（港島規劃區第２０區）分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
HONG KONG PLANNING AREA No. 20 - CHAI WAN - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺

0 100 200 400 600 800 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/H20/25

Attachment II of
MPC Paper No. 3/23

圖例
NOTATION

ZONES		地帶
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
INDUSTRIAL	I	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	G/IC	政府、機構或社區
OPEN SPACE	O	休憩用地
OTHER SPECIFIED USES	OU	其他指定用途
GREEN BELT	GB	綠化地帶
COASTAL PROTECTION AREA	CPA	海岸保護區
COUNTRY PARK	CP	郊野公園

COMMUNICATIONS		交通
RAILWAY AND STATION	車站 STATION	鐵路及車站
RAILWAY AND STATION (UNDERGROUND)	車站 STATION	鐵路及車站（地下）
RAILWAY AND STATION (ELEVATED)	車站 STATION	鐵路及車站（高架）
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
BOUNDARY OF COUNTRY PARK		郊野公園界線
BUILDING HEIGHT CONTROL ZONE BOUNDARY		建築物高度管制區界線
MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	△120	最高建築物高度（在主水平基準上若干米）
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	1	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 & %		用途
	公頃 HECTARES	% 百分率	
COMPREHENSIVE DEVELOPMENT AREA	1.04	0.17	綜合發展區
RESIDENTIAL (GROUP A)	75.75	12.35	住宅（甲類）
INDUSTRIAL	6.19	1.01	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	70.20	11.44	政府、機構或社區
OPEN SPACE	20.98	3.42	休憩用地
OTHER SPECIFIED USES	88.15	14.37	其他指定用途
GREEN BELT	179.15	29.20	綠化地帶
COASTAL PROTECTION AREA	5.88	0.96	海岸保護區
COUNTRY PARK	115.43	18.81	郊野公園
MAJOR ROAD ETC.	50.78	8.27	主要道路等
TOTAL PLANNING SCHEME AREA	613.55	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/H20/25 的修訂
AMENDMENTS TO APPROVED PLAN No. S/H20/25

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 B	▦	修訂項目Ｂ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柴灣（港島規劃區第２０區）分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
HONG KONG PLANNING AREA No. 20 - CHAI WAN - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺

米 METRES 100 0 200 400 600 800 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/H20/25A

HONG KONG PLANNING AREA NO. 20

~~APPROVED~~*DRAFT* CHAI WAN OUTLINE ZONING PLAN NO. S/H20/25*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 "Coastal Protection 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, Mass Transit Railway station entrance, Mass Transit Railway structure below ground level, 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 "Coastal Protection 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, 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.

HONG KONG PLANNING AREA NO. 20

~~APPROVED~~*DRAFT* CHAI WAN OUTLINE ZONING PLAN NO. S/H20/25*A*

Schedule of Uses

S/H20/25***A***

COMPREHENSIVE DEVELOPMENT AREA

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 Commercial Bathhouse/Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Flat Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel House Information Technology and Telecommunications Industries Institutional Use (not elsewhere specified) Library Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances 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 Research, Design and Development Centre Residential Institution School Shop and Services Social Welfare Facility Training Centre Utility Installation for Private Project

Planning Intention

This zone is intended for comprehensive development/redevelopment of the area for residential and/or commercial uses with the provision of open space 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.

(please see next page)

COMPREHENSIVE DEVELOPMENT AREA (cont'd)

Remarks

(1) 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" or~~ "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;

(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 within the area;

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

(vi) programmes of development in detail;

(vii) an environmental 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) 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;

(xi) a visual impact assessment to examine any possible visual impacts 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.

(2) 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.

(please see next page)

COMPREHENSIVE DEVELOPMENT AREA (cont'd)

Remarks (cont'd)

~~(3) On land designated "Comprehensive Development Area", 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. The provision for development/redevelopment to the height of the existing building is not applicable to part of the Chai Wan Flatted Factory site which is subject to a maximum building height of 21mPD, as stipulated on the Plan.~~

(**4*3***) On land designated "Comprehensive Development Area (1)", 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 gross floor area of 86,268m^2 and the maximum building height, in terms of metres above Principal Datum, as stipulated on the Plan, or the gross floor area and the height of the existing building, whichever is the greater.

(~~5~~***4***) In determining the maximum gross floor area for the purposes of paragraph (**4*3***) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room, caretaker's office and caretaker's quarters, or 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. Any floor space that is constructed or intended for use solely as public transport facilities, or GIC facilities, as required by the Government, may also be disregarded.

(~~6~~**5**) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and gross floor area restrictions stated in paragraph~~s~~ (3)~~ and (4)~~ above 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) 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) Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances 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) Religious Institution School (not elsewhere specified) Shop and Services (not elsewhere specified) Training Centre

(please see next page)

RESIDENTIAL (GROUP A) (cont'd)

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.

Remarks

(1) On land designated "Residential (Group A)" ("R(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 metres above Principal Datum, as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(2) On land designated "R(A)1", 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.

(3) A minimum 30m wide non-building area to the south of Hing Man Estate shall be provided as stipulated on the Plan. In addition, a minimum 20m wide non-building area shall be provided within Tsui Wan Estate (covering part of Tsui Wan Street), and a minimum 10m wide non-building area shall be provided from the lot boundary of Greenwood Terrace fronting Hong Man Street as stipulated on the Plan.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (1) and (2) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(5) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restrictions as stipulated on the Plan or stated in paragraph (3) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

INDUSTRIAL

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 Art Studio (excluding those involving direct provision of services or goods) Bus Depot Cargo Handling and Forwarding Facility (not elsewhere specified) Eating Place (Canteen, Cooked Food Centre only) Government Refuse Collection Point Government Use (not elsewhere specified) Industrial Use (not elsewhere specified) Information Technology and Telecommunications Industries Office (Audio-visual Recording Studio, Design and Media Production, Office Related to Industrial Use only) 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 Vehicle Repair Workshop Warehouse (excluding Dangerous Goods Godown)	Broadcasting, Television and/or Film Studio Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only) Concrete Batching Plant Container Vehicle Park/Container Vehicle Repair Yard Dangerous Goods Godown Eating Place (not elsewhere specified) (in wholesale conversion of an existing building only) Educational Institution (ground floor only except in wholesale conversion of an existing building) Exhibition or Convention Hall Industrial Use (Bleaching and Dyeing Factory, Electroplating/Printed Circuit Board Manufacture Factory, Metal Casting and Treatment Factory/Workshop only) Institutional Use (not elsewhere specified) (in wholesale conversion of an existing building only) Marine Fuelling Station Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Off-course Betting Centre Offensive Trades Office (not elsewhere specified) Open Storage Petrol Filling Station Pier Place of Entertainment (ground floor only except in wholesale conversion of an existing building) Place of Recreation, Sports or Culture (not elsewhere specified) Private Club Public Clinic (in wholesale conversion of an existing building only) Religious Institution (ground floor only except in wholesale conversion of an existing building) Ship-building, Ship-breaking and Ship-repairing Yard Shop and Services (not elsewhere specified) (ground floor only, except in wholesale conversion of an existing building and Ancillary Showroom[#] which may be permitted on any floor) Training Centre Vehicle Stripping/Breaking Yard Wholesale Trade

(please see next page)

INDUSTRIAL (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:
Eating Place Educational Institution Exhibition or Convention Hall Institutional Use (not elsewhere specified) Off-course Betting Centre Office Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Religious Institution Shop and Services Training Centre	Social Welfare Facility (excluding those involving residential care)

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 industrial uses to ensure an adequate supply of industrial floor space to meet demand from production-oriented industries. Information technology and telecommunications industries, office related to industrial use, and selected uses akin to industrial production and would not compromise building and fire safety are also always permitted in this zone.

Remarks

(1) On land designated "Industrial", 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 12 and the maximum building height, in terms of metres above Principal Datum, as stipulated on the Plan, or the plot ratio and the height of the existing building, whichever is the greater.

(2) In determining the maximum plot ratio for the purpose of paragraph (1) 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.

(please see next page)

INDUSTRIAL (cont'd)

Remarks (cont'd)

(3) 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 (1) 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 (1) above may thereby be exceeded.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and plot ratio restrictions stated in paragraph (1) 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 Boarding Establishment
Animal Quarantine Centre (in Government building only)	Animal Quarantine Centre (not elsewhere specified)
Broadcasting, Television and/or Film Studio	Columbarium
Cable Car Route and Terminal Building	Correctional Institution
Eating Place (Canteen, Cooked Food Centre only)	Crematorium
Educational Institution	Driving School
Exhibition or Convention Hall	Eating Place (not elsewhere specified)
Field Study/Education/Visitor Centre	Flat (not elsewhere specified)
Flat (Government Staff Quarters only) (for "G/IC(4)" only)	Funeral Facility
Government Refuse Collection Point	Helicopter Landing Pad
Government Use (not elsewhere specified)	Helicopter Fuelling Station
Hospital	Holiday Camp
Institutional Use (not elsewhere specified)	Hotel
Library	House
Market	Marine Fuelling Station
Mass Transit Railway Depot (for "G/IC(3)" only)	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Pier	Off-course Betting Centre
Place of Recreation, Sports or Culture	Office
Public Clinic	Petrol Filling Station
Public Convenience	Place of Entertainment
Public Transport Terminus or Station	Private Club
Public Utility Installation	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Public Vehicle Park (excluding container vehicle)	Refuse Disposal Installation (Refuse Transfer Station only)
Recyclable Collection Centre	Residential Institution
Religious Institution	Sewage Treatment/Screening Plant
Research, Design and Development Centre	Shop and Services (not elsewhere specified)
School	Utility Installation for Private Project
Service Reservoir	Zoo
Social Welfare Facility	
Training Centre	
Wholesale Trade	

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

(1) On land designated "Government, Institution or Community" ("G/IC") and "G/IC(4)", 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 or number of storeys, as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(2) On land designated "G/IC(1)", 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 4 storeys, except a drill tower up to 9 storeys, or the height of the existing building, whichever is the greater.

(3) On land designated "G/IC(2)", 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 (including roof-top structures) as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(4) On land designated "G/IC(3)", 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 8 storeys, excluding the Mass Transit Railway depot below, or the height of the existing building, whichever is the greater.

(5) A minimum 30m wide non-building area shall be provided to the north of the Sai Wan Service Reservoir as stipulated on the Plan.

(6) In determining the relevant maximum number of storey(s) for the purposes of paragraphs (1) and (2) above, any basement floor(s) may be disregarded.

(7) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (1) to (4) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(8) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restriction as stipulated on the Plan or stated in paragraph (5) 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 Field Study/Education/Visitor Centre Park and Garden Pavilion Pedestrian Area Picnic Area Playground/Playing Field Promenade Public Convenience Sitting Out Area Zoo	Barbecue Spot Cable Car Route and Terminal Building Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances 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.

OTHER SPECIFIED USES

For "Business" only

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

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 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)
Hotel
Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
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)

For "Business" only (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

Schedule II: for industrial or industrial-office building @

Ambulance Depot
Art Studio (excluding those involving direct provision of services or goods)
Bus Depot
Cargo Handling and Forwarding Facility (not elsewhere specified)
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)

Broadcasting, Television and/or Film Studio
Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only)
Educational Institution (ground floor only)
Industrial Use (not elsewhere specified)
Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Off-course Betting Centre
Office (not elsewhere specified)
Petrol Filling Station
Place of Entertainment (ground floor only)
Place of Recreation, Sports or Culture (not elsewhere specified)
Private Club
Religious Institution (ground floor only)
Shop and Services (not elsewhere specified) (ground floor only except Ancillary Showroom* which may be permitted on any floor)
Training Centre
Vehicle Repair Workshop
Wholesale Trade

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

Office

(please see next page)

OTHER SPECIFIED USES (cont'd)

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

(1) 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 12, and the 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. The provision for development/redevelopment to the height of the existing building is not applicable to an area between Chai Wan Industrial Centre and Minico Building which is subject to a maximum building height of 23mPD, as stipulated on the Plan.

(2) A minimum 3m wide non-building area shall be provided from the lot boundary of 45 Kut Shing Street and 10 Hong Man Street fronting Hong Man Street, and 4m from the lot boundary of 44 Lee Chung Street and 40 Lee Chung Street fronting Hong Man Street as stipulated on the Plan.

(3) In determining the relevant maximum plot ratio for the purposes of paragraph (1) 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.

(4) Where the permitted plot ratio as defined in the 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 (1) 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 (1) above may thereby be exceeded.

(5) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and plot ratio restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(6) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restriction as stipulated on the Plan or stated in paragraph (2) 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 "Cargo Handling Area" only

Cargo Handling Area Public Convenience	Government Use Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is intended to reserve land for cargo handling area use.

Remarks

(1) 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.

(2) In determining the maximum number of storey(s) for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) 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 "Cemetery" only

Columbarium	Place of Recreation, Sports or Culture
Crematorium	Public Transport Terminus or Station
Funeral Facility	Public Utility Installation
Government Use	Religious Institution
Grave	Shop and Services
Public Convenience	Utility Installation for Private Project

Planning Intention

This zone is intended to reserve land for cemetery use.

Remarks

(1) 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.

(2) In determining the maximum number of storey(s) for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) 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 "Columbarium" only

Columbarium	Public Utility Installation
Garden of Remembrance	Utility Installation for Private Project
Government Use	

Planning Intention

This zone is primarily for land intended for columbarium and garden of remembrance use.

Remarks

(1) 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.

(2) In determining the maximum number of storey(s) for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (1) 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 "Mass Transit Railway Comprehensive Development Area" only

Ambulance Depot
Eating Place
Educational Institution (in a commercial building or in the purpose-designed non-residential portion+ of an existing building only)
Exhibition or Convention Hall
Flat
Government Use (not elsewhere specified)
House
Mass Transit Railway Depot
Library
Off-course Betting Centre
Office
Place of Entertainment
Place of Recreation, Sports or Culture
Private Club
Public Clinic
Public Transport Terminus or Station
Public Utility Installation
Public Vehicle Park (excluding container vehicle)
Residential Institution
School (in a free-standing purpose-designed school building, in a commercial building or in the purpose-designed non-residential portion+ of an existing building only)
Shop and Services
Social Welfare Facility
Training Centre
Utility Installation for Private Project

Broadcasting, Television and/or Film Studio
Commercial Bathhouse/Massage Establishment
Educational Institution (not elsewhere specified)
Government Refuse Collection Point
Hotel
Institutional Use (not elsewhere specified)
Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Petrol Filling Station
Pier
Public Convenience
Recyclable Collection Centre
Religious Institution
School (not elsewhere specified)

\+ Excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room.

Planning Intention

This zone is intended to demarcate the Heng Fa Chuen residential site and its adjoining area.

(please see next page)

OTHER SPECIFIED USES (cont'd)

For "Mass Transit Railway Comprehensive Development Area" only (cont'd)

Remarks

(1) 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, and a maximum gross floor area of 425,000m² for residential use and 26,750m² for commercial use, or the height and gross floor area of the existing building, whichever is the greater.

(2) In determining the maximum gross floor area for the purposes of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room or caretaker's office and caretaker's quarters or 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. Any floor space that is constructed or intended for use solely as rail depot and station, public transport facilities, and GIC facilities, as required by the Government, may also be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and gross floor area restrictions stated in paragraph (1) 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 "Refuse Transfer Station" only

Refuse Transfer Station	Government Use (not elsewhere specified) Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is intended to reserve land for the purpose of a refuse transfer station.

Remarks

(1) 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.

(2) In determining the maximum number of storey(s) for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) 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 All Other Sites (Not Listed Above)

As Specified on the Plan	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is intended to identify land reserved for purposes as specified on the plan.

Remarks

(1) 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 or number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(2) In determining the maximum number of storey(s) for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) 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 Country Park* Government Use (Police Reporting Centre only) Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Public Convenience Tent Camping Ground Wild Animals Protection Area	Animal Boarding Establishment Barbecue Spot 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 Funeral Facility Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp House Marine Fuelling Station Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances 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 the conservation of the existing natural environment amid the built-up areas/at the urban fringe, to safeguard it from encroachment by urban type development, and to provide additional outlets for passive recreational activities. There is a general presumption against development within this zone.

COASTAL PROTECTION 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) Nature Reserve Nature Trail On-Farm Domestic Structure Picnic Area Wild Animals Protection Area	Barbecue Spot Field Study/Education/Visitor Centre Government Use Holiday Camp House (Redevelopment only) Pier Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Tent Camping Ground Utility Installation for Private Project

Planning Intention

This zoning is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion.

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

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 house which was in existence on the date of the first publication in the Gazette of the notice of the draft Chai Wan Outline Zoning Plan No. S/H20/16.

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.

Attachment IV of
MPC Paper No. 3/23

HONG KONG PLANNING AREA NO. 20

~~APPROVED~~*DRAFT* CHAI WAN OUTLINE ZONING PLAN NO. S/H20/25*A*

EXPLANATORY STATEMENT

HONG KONG PLANNING AREA NO. 20

~~APPROVED~~*DRAFT* CHAI WAN OUTLINE ZONING PLAN NO. S/H20/25*A*

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HONG KONG PLANNING AREA NO. 20

~~APPROVED~~*DRAFT* CHAI WAN OUTLINE ZONING PLAN NO. S/H20/25*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*** Chai Wan Outline Zoning Plan (OZP) No. S/H20/25***A***. It reflects the planning intention and objectives of the Town Planning Board (the Board) for the various land use zonings of the Plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURES

2.1 On 9 August 1957, the draft Chai Wan Outline Development Plan No. LH20/1/2, being the first statutory plan covering the Chai Wan area, was gazetted under the Town Planning Ordinance (the Ordinance). Since then, the plan had been amended many times to reflect the changing circumstances and updated land use development.

2.2 On 6 September 1988, the Chai Wan OZP No. S/H20/4 was approved by the then Governor in Council under section 9(1)(a) of the Ordinance. On 6 November 1990, the then Governor in Council referred the approved OZP to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. Since then, the OZP had been amended ten times and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances.

2.3 On 26 November 2002, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Chai Wan OZP, which was subsequently renumbered as S/H20/15. On 8 July 2003, the CE in C referred the approved Chai Wan OZP No. S/H20/15 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. On 21 October 2004, the draft Chai Wan OZP No. S/H20/16 was 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 Chai Wan OZP, which was subsequently renumbered as S/H20/17. On 20 June 2006, the CE in C referred the approved Chai Wan OZP No. S/H20/17 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was amended three times and exhibited for public inspection under section 5 or 7 of the Ordinance.

2.5 On 5 February 2013, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Chai Wan OZP, which was subsequently renumbered as S/H20/21. On 29 April 2014, the CE in C agreed to refer the approved Chai Wan 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.

2.6 On 5 September 2017, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Chai Wan OZP, which was subsequently renumbered as S/H20/23. On 7 January 2020, the CE in C referred the approved Chai Wan OZP 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 17 January 2020 under section 12(2) of the Ordinance.~~***The OZP was subsequently amended once and exhibited for public inspection under section 5 of the Ordinance.***

~~2.7 On 19 June 2020, the draft Chai Wan OZP No. S/H20/24, incorporating amendments mainly to rezone a site at the junction of Sun Yip Street and Siu Sai Wan Road from "Government, Institution or Community" ("G/IC") to "G/IC(4)", and to rezone a site at Cheung Man Road from "Green Belt" and an area shown as 'Road' to "Residential (Group A)" ("R(A)"), was exhibited for public inspection under section 5 of the Ordinance. During the plan exhibition period, a total of 2 valid representations were received. On 1 September 2020, the Board published the representations for three weeks for public comment and a total of 4 valid comments were received. After giving consideration to the representations and comments on 29 January 2021, the Board decided not to uphold the representations.~~

2.~~8~~***7*** On 4 May 2021, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Chai Wan OZP, which was subsequently renumbered as S/H20/25. ~~On 14 May 2021, the approved Chai Wan OZP No. S/H20/25 (the Plan) was exhibited for public inspection under section 9(5) of the Ordinance.~~***On 8 November 2022, the CE in C referred the approved OZP No. S/H20/25 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The reference back of the approved OZP was notified in the Gazette on 18 November 2022 under section 12(2) of the Ordinance.***

2.8 On XX XXXX 2023, the draft Chai Wan OZP No. S/H20/25A (the Plan), incorporating amendments mainly to rezone a site to the south of Chai Wan Swimming Pool from "Green Belt" and "Government, Institution or Community" ("G/IC") to "Residential (Group A)" ("R(A)"), and to rezone the existing Wah Yan House, Wah Ha Estate to the immediate west of the Mass Transit Railway (MTR) Chai Wan Station from "Comprehensive Development Area" to "R(A)", 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 zonings and major transport networks so that development and redevelopment within the Planning Scheme Area (the Area) can be put under statutory planning control.

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

3.3 Since the Plan is to show broad land use zonings, there would be cases that small strips of land not intended for building development purposes and carry no development right under the lease, such as the areas restricted 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 Chai Wan area and not to overload the road network in this area.

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 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 Area is located in the eastern part of Hong Kong Island. It is bounded by Heng Fa Chuen to the north, Tai Tam Country Park to the west, and Shek O Country Park to the south. To the east, it extends to the waterfront. The boundary of the Area is shown by a heavy broken line on the Plan. It covers an area of about 614 hectares of land. Developments in the Area are mainly on land reclaimed from the sea, with reclamation started in 1961.

5.2 Chai Wan has been predominantly a public housing area. There exist a number of public rental housing estates, Home Ownership Schemes (HOS) and Private Sector Participation Schemes (PSPS) developments. Nevertheless, there are also a number of private residential developments, such as Heng Fa Chuen on top of and adjacent to the ~~Mass Transit Railway (~~MTR~~)~~ depot and Island Resort in Siu Sai Wan.

5.3 Chai Wan is also one of the major industrial areas on Hong Kong Island. Industrial developments are located around Lee Chung Street near MTR Chai Wan Station and adjacent to the cargo handling basin.

5.4 Siu Sai Wan has been developed mainly for residential uses with some government, institution and community (GIC) uses. Public rental housing estates, HOS and PSPS developments have been developed along the foothills of Pottinger Peak. Adjoining it is the Siu Sai Wan reclamation area which has been developed for both public and private housing, sports ground, open space and GIC facilities.

5.5 The hillside to the south along Cape Collinson Road is dominated by cemeteries including crematorium and columbarium uses. The Area also covers parts of Shek O Country Park and Tai Tam Country Park.

6. POPULATION

Based on the 2016 Population By-census, the population of the Area was estimated by the Planning Department as about 173,200. It is estimated that the planned population of the Area would be about ~~168,962~~***177,000***.

7. BUILDING HEIGHT RESTRICTIONS IN THE AREA

7.1 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 obstructing air ventilation. In order to provide better planning control on the development intensity and building height upon development/redevelopment, to prevent excessively tall or out-of-context buildings and to meet public aspirations for greater certainty and transparency in the statutory planning system, a review of the Chai Wan OZP has been undertaken with a view to incorporating appropriate building height restrictions on the Plan for various development zones.

7.2 The review has taken into account urban design considerations and various factors including preservation of public view to the ridgelines, the stepped height concept in general as recommended in the Urban Design Guidelines, the local topography and characteristics, local wind environment, compatibility of building masses in the wider setting, as well as the need to strike a balance between public interest and private development rights.

7.3 Building height restrictions of 35 to 100 metres above Principal Datum (mPD) are generally adopted for the "Other Specified Uses" ("OU"), "G/IC" and "Industrial" ("I") sites located at the central waterfront around the Basin area. Specific "OU" and "G/IC" sites directly abutting the waterfront are restricted to more stringent height restrictions to maintain the low-rise character of waterfront developments. Further inland in the Chai Wan Town Centre area, maximum height of 100 to 120mPD are adopted in order to achieve a stepped building height profile and to preserve the existing view to the ridgelines.

7.4 Following the topography of the area which rises further uphill in the northern, western and southern peripheries, and against the mountain backdrop, higher building height restrictions of 70 to 140mPD and 160 to 210mPD are adopted

respectively for the Pamela Youde Nethersole Eastern Hospital under "G/IC" zoning at the northern periphery and the "R(A)" zones located in the southern periphery of the area in Siu Sai Wan/areas north of Cape Collinson Road as well as in the western periphery area near the foothills of Mount Parker.

7.5 Specific building height restrictions for the "G/IC" and "OU" zones in terms of number of storeys or mPD, which mainly reflect the building heights of existing and committed developments, have been incorporated into the Plan to provide visual and spatial relief to the high density environment of the Area.

7.6 An Expert Evaluation on Air Ventilation Assessment (AVA) has 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 and non-building area restrictions as well as the building gap requirements incorporated into the Plan have taken the findings of the AVA into consideration.

7.7 In general, the major prevailing annual wind comes from the north-east and east directions, and the prevailing summer wind mainly comes from the south-west, south, south-east to east directions. There are strong northeast-southwest and east-southwest channelling effects at or near the ground level due to the surrounding topography and the area's proximity to the waterfront.

7.8 To facilitate better air ventilation in the Area, the AVA has recommended that existing open space and low-rise GIC or OU sites and the major breezeways should be maintained to allow penetration of wind inland. Non-building areas (NBAs) and building gaps are stipulated on the Plan to facilitate the air ventilation at major ventilation corridors. Furthermore, future developments are encouraged to adopt suitable design measures to minimize any possible adverse air ventilation impacts. These include greater permeability of podiums, wider gap between buildings, building set-back to create air/wind path for better ventilation and minimizing the blocking of air/wind flow through positioning of building towers and podiums to align with the prevailing wind directions, as appropriate.

7.9 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 and to cater for circumstances with specific site constraints. Each planning application for minor relaxation of building height restrictions 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 improvements;

(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 Plan; 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.

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

NBAs

7.11 In order to facilitate ventilation along major corridors, 3 NBAs are designated in the area:

(a) a 30m wide NBA is designated to the south of Hing Man Estate to facilitate air ventilation along the southwest-northeast air corridor. It will facilitate the valley wind to flow over the 4-storeyed Chai Wan Health Centre across Chai Wan Road towards the proposed NBA along Hong Man Street;

(b) NBAs are designated along Hong Man Street to facilitate the flowing of valley winds from the southerly quarters. These comprise a 10m wide NBA from the lot boundary of Greenwood Terrace, 3m wide NBAs from the lot boundary of 45 Kut Shing Street and 10 Hong Man Street fronting Hong Man Street, 4m wide NBAs from the lot boundary of 44 Lee Chung Street and 40 Lee Chung Street fronting Hong Man Street with the 6m wide footpath between them; and

(c) a 20m wide NBA within Tsui Wan Estate (covering part of Tsui Wan Street) is designated to facilitate the air ventilation along the major southwest-northeast air path and the penetration of sea breeze between the waterfront and the inland.

Building Gap~~s~~

7.12 Gap~~s~~ between buildings play***s*** a key role in creating air paths by appropriate design and disposition of building blocks.

~~(a) A 5m wide setback requirement within the "CDA" zone above 21mPD (about 15m above ground level) along the northwestern side of the existing Chai Wan Flatted Factory is imposed. With wind channeling through the existing 3-storeyed Telephone Exchange Building at Cheung Lee Street to Chui Hang Street, Lee Chung Street and the existing open-air bus terminus at Ning Foo Street, the proposed setback together with Chui Hang Street will create a~~

~~20m wide building gap to facilitate air ventilation along the major southwest-northeast air path; and~~

~~(b)~~ A 15m wide building gap above 23mPD (about 15m above ground level) between two existing industrial buildings, namely Chai Wan Industrial Centre and Minico Building, is introduced taking account of the existing building gap above podium level for air/wind penetration as well as visual permeability, and to facilitate the air ventilation along the major southwest-northeast air path.

7.13 As the designation of NBAs is primarily for the purpose of above ground air ventilation, the NBA requirements will not apply to underground developments. No above ground structure is allowed except for landscape feature, boundary fence/boundary wall that is designed to allow high air porosity, and minor structure for footbridge connection or covered walkway may be allowed. Moreover, minor relaxation clause has been incorporated in the Notes of the relevant zones to allow minor relaxation of the NBA and building gap requirements as shown on the Plan or stipulated in the Notes of the Plan under exceptional circumstances.

8. LAND USE ZONINGS

8.1 Comprehensive Development Area ("CDA") : Total Area ~~1.37~~***1.04*** ha

8.1.1 This zone is intended for comprehensive development/redevelopment of the area for residential and/or commercial uses with the provision of open space 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.

8.1.2 This zone covers ~~two~~***a*** site~~s, one located to the immediate west of the MTR Chai Wan Station and the other one~~ at Chai Wan Road near Siu Sai Wan Road. Pursuant to section 4A(1) of the Ordinance, any development within the "CDA" zone would require 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 for the approval of the Board pursuant to section 4A(2) of the Ordinance. A copy of the approved MLP would be available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.

~~8.1.3 The "CDA" site to the immediate west of the MTR Chai Wan Station is for the conservation and conversion of the Chai Wan Flatted Factory (CWFF) building for public rental housing use. The conservation and conversion project of the CWFF building is already completed.~~

8.1.~~4~~***3*** The "CDA(1)" site at Chai Wan Road near Siu Sai Wan Road covers part of the bus depot, formerly occupied by the China Motor Bus (CMB), and the adjoining bus terminus. It is intended for

comprehensive development/redevelopment for residential and/or commercial uses with the provision of supporting facilities. While a maximum building height restriction of 140mPD is imposed, a stepped height profile should be adopted for future development. To ensure that the development will be of compatible scale, a maximum total gross floor area of 86,268m^2 is specified in the Notes of the Plan.

8.1.~~5~~***4*** Minor relaxation of the gross floor area and building height restrictions may be considered by the Board on application. Each application will be considered on its own merits.

8.2 Residential (Group A) ("R(A)") : Total Area ~~73.38~~***75.75*** ha

8.2.1 This zoning is intended primarily for high-density residential developments. Commercial uses such as shops, services and eating places are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.

8.2.2 Public housing projects include public rental housing estates, HOS and PSPS and a few private residential developments are within this zone. Major community facilities and open space as well as commercial facilities are provided within these public housing developments to serve the needs of the residents.

8.2.3 Developments and redevelopments within the "R(A)" zone are subject to building height restrictions as stipulated on the Plan or the height of the existing building, whichever is the greater. Following the topography of the area and adopting the urban design principle of stepped heights, residential developments within the zone are restricted to the range of 100mPD to 120mPD at the town centre and the Siu Sai Wan waterfront area (with the exception of Island Resort); 100mPD to ~~140~~***190***mPD at the inland area in Siu Sai Wan and along the foothills of Pottinger Peak in the south and Mount Parker in the west and 160 to 210mPD for the uphill location in the western periphery area near Mount Parker.

8.2.4 Island Resort on the waterfront of Siu Sai Wan is a private residential development with a public transport interchange and public car park and is zoned "R(A)1" on the Plan. The existing building height of the development at 193mPD is considered incompatible and incongruous with the surrounding developments and the waterfront setting. In order to respect the urban design principle for maintaining lower building heights on the waterfront to avoid out-of-context and incompatible developments, a maximum building height of 140mPD is imposed on this "R(A)1" site. Future redevelopment to the existing building height is not permitted.

8.2.5 A non-building area of 30m wide is designated to the south of Hing Man Estate to facilitate valley wind from the southwest to penetrate into the inland area. Two non-building areas of 10m and 20m wide are imposed within Greenwood Terrace and Tsui Wan Estate (covering part

of Tsui Wan Street) respectively to facilitate valley wind from the southwest to the northeastern part of the area.

8.2.6 ***Wah Yan House, Wah Ha Estate to the immediate west of MTR Chai Wan Station is a public rental housing. It was converted from the ex-Chai Wan Factory Estate (CWFE), which is the last "H" type factory building in Hong Kong under the management of the Housing Development (HD) and a Grade 2 historic building. A maximum building height of 25mPD is imposed on this site to reflect the as-built condition.***

8.2.~~6~~***7*** ~~An AVA Expert Evaluation (AVA EE (2016)) has been carried out for the "R(A)" site at the junction of Chai Wan Road, Wing Ping Street and San Ha Street. The AVA EE (2016) indicates that tower setbacks and permeability design of domestic block on top of the podium should be incorporated in the proposed development to alleviate the potential ventilation impact to the surrounding area. A planning brief has been prepared to guide the development of the site.~~

8.2.~~7~~***8*** An AVA has been carried out for the "R(A)" site at Cheung Man Road. Several mitigation measures have been proposed in the AVA including two empty bays at podium level and a tower setback from Cheung Man Road to alleviate the potential ventilation impact to the surrounding area. A further quantitative AVA should be carried out by ~~the Housing Department~~ ***HD*** at the detailed design stage for scheme optimization and the requirement will be set out in a planning brief which is to guide the development of the site.

8.2.9 A quantitative AVA has been carried out for the "R(A)" site to the south of the Chai Wan Swimming Pool. Several mitigation measures have been proposed in the AVA including building separations between the residential towers and minimisation of bulk podiums to alleviate the potential ventilation impact to the surrounding area. A further quantitative AVA may be carried out by HD at the detailed design stage for scheme optimization and the requirement will be set out in a planning brief which is to guide the development of the site.

8.2.~~8~~***10*** Minor relaxation of the building height restrictions and the non-building area requirements may be considered by the Board on application. Each application will be considered on its own merits.

8.3 Industrial ("I") : Total Area 6.19 ha

8.3.1 This zone is intended primarily for general industrial uses to ensure an adequate supply of industrial floor space to meet demand from production-oriented industries. Information technology and telecommunications industries, office related to industrial use, and selected uses akin to industrial production and would not compromise building and fire safety are always permitted in this zone. However, general commercial and office uses, other than those permitted in the purpose-designed non-industrial portion on the lower floors of an

existing building will require permission from the Board.

8.3.2 Industrial developments to the east and south of the Basin are subject to a maximum plot ratio of 12 having regard to the traffic condition in the area and a maximum building height of 100mPD. Established industrial developments are mainly located in the vicinity of Wing Tai Road, Ka Yip Street, Fung Yip Street and On Yip Street.

8.3.3 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.

8.3.4 Minor relaxation of the building height and plot ratio restrictions may be considered by the Board on application. Each application will be considered on its own merits.

8.4. Government, Institution or Community ("G/IC") : Total Area ~~70.58~~***70.20*** ha

8.4.1 This zone is intended primarily for the provision of GIC 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. Such developments, particularly for those which are low-rise, serve to provide visual and spatial relief to the densely built-up environment of the Area.

8.4.2 Existing facilities include the Siu Sai Wan Complex, Youth Square, a swimming pool complex, a health centre, a technical institute, a divisional police station, two fire stations, some service reservoirs, a fresh water pumping station, a salt water pumping station, a switching cum pumping station, electricity sub-stations, a refuse collection point, a cooked food centre, a telephone exchange, churches and a number of primary and secondary schools. In addition, there are two existing correctional services institutions, i.e. Lai Chi Rehabilitation Centre and Cape Collinson Correctional Institution. The police rank-and-file quarters are located near Yue Wan Estate. The Fire Services Department Staff Quarters are located at Fei Tsui Road. A minimum 30m wide non-building area to the north of the Sai Wan Service Reservoir shall be provided to facilitate the flowing of valley wind.

8.4.3 A standard sports ground is provided in the Siu Sai Wan reclamation area primarily to meet the district demand and to serve as the main venue for school athletic events.

8.4.4 The "G/IC(3)" site at Heng Fa Chuen is subject to a maximum building height of 8 storeys, excluding the Mass Transit Railway depot, for the provision of land for the depot with GIC facilities above.

8.4.5 The "G/IC(4)" site at the junction of Sun Yip Street and Siu Sai Wan Road is reserved for a composite development of ambulance depot and departmental quarters. Responsive building design such as appropriate building set back distances from Siu Sai Wan Road Garden and Siu Sai Wan Road, vertical greening and permeable building design should be adopted at the detailed design stage to minimize the visual impact brought by the proposed development. A quantitative AVA has been carried out for the proposed development. Several mitigation measures, including various tower and podium setbacks, have been proposed in the assessment to alleviate the potential impact on the pedestrian wind environment. The project proponent should take into account these proposed mitigation measures in devising the future development scheme.

8.4.6 A site to the north of Lok Man Road is occupied by Pamela Youde Nethersole Eastern Hospital (the Eastern Hospital). Maximum building height restrictions of 120mPD and 140mPD have been imposed for the southern and northern parts of the site respectively to reflect their respective existing heights. For Chai Wan Laundry located at the western part of the Hospital, a building height of 120mPD has been imposed generalizing the building height of the adjacent Main Block/Pathology Block and having regard to the Hospital's expansion plan. The eastern portion of the Hospital, which is under the Hospital's helicopter flight path, is zoned "G/IC(2)" and building height restrictions of 70mPD and 100mPD, including roof-top structures, are imposed.

8.4.7 For the Hong Kong Institute of Vocational Education north of Shun Tai Road, a building height restriction of 55mPD is imposed for the Institute portion. As for the staff quarters in the northern part of the site, which is zoned "G/IC(2)" on the Plan, a building height restriction of 70mPD, including roof-top structures, is imposed as the area is under the helicopter flight path of the Eastern Hospital.

8.4.8 Some sites to the north of the cargo handling area in Chai Wan East are reserved for future GIC developments including a site at the junction of Sheung Mau Street and Sheung On Street for a joint-user government building. Due consideration should be given to incorporating suitable landscaping treatment and innovative design elements in the future development of these sites to enhance the environment near the waterfront. This area is under the helicopter flight path of the Eastern Hospital and is zoned "G/IC(2)" with a maximum building height restriction of 70mPD, including roof-top structures, so as to safeguard the operation of helicopters and to facilitate the penetration of sea breeze into the inland area. The Government Flying Services should be consulted on any development on the sites under the flight path.

8.4.9 Law Uk near the junction of Chai Wan Road and Kut Shing Street has been developed into a folk museum.

8.4.10 Development and redevelopment within the "G/IC", "G/IC(1)", "G/IC(2)" and "G/IC(3)" zones are subject to maximum building height restrictions as stipulated on the Plan/in the Notes, or the height of the existing building, whichever is the greater. Minor relaxation of the building height restrictions and the non-building area requirement may be considered by the Board on application. The Government Flying Services should be consulted on any application for minor relaxation of building height restrictions for "G/IC(2)" sites. Each application will be considered on its own merits.

8.5 Open Space ("O") : Total Area 20.98 ha

8.5.1 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.

8.5.2 Chai Wan Park which occupies a central location in Chai Wan has provided a wide range of recreational facilities to serve the population in the Area. As part of the Wan Tsui Estate redevelopment, a site to its south has been developed as a public park.

8.5.3 Within the Siu Sai Wan reclamation area, open spaces are planned near Harmony Garden as well as along the waterfront for the convenience of the public and for their enjoyment of sea view. Another site at Sheung On Street near the waterfront is also reserved for open space development.

8.5.4 Open spaces are also provided within public housing estates, and within private residential developments such as Heng Fa Chuen and Island Resort. These open spaces do not fall within areas zoned "O". Smaller pockets of open spaces are reserved and developed at suitable locations to provide as far as possible an even distribution of recreational facilities within the Area.

8.6 Other Specified Uses ("OU") : Total Area 88.15 ha

8.6.1 Heng Fa Chuen and the adjoining area are zoned "OU(Mass Transit Railway Comprehensive Development Area)". Heng Fa Chuen is a comprehensive commercial/residential development on top of and adjacent to the MTR depot. Adequate open space and community facilities have been provided within the development to serve the residents. Having regard to the existing building height and its waterfront location, a stepped height of 70mPD and 90mPD are imposed for the lower platform near the waterfront and for the upper platform above the MTR Heng Fa Chuen Station respectively. A maximum domestic and non-domestic GFA of 425,000m^2 and 26,750m^2 respectively for residential and commercial uses is also imposed.

8.6.2 The industrial sites to the west of MTR Chai Wan Station ~~(except for the Chai Wan Flatted Factory site)~~ and the sites at Sun Yip Street in Siu Sai Wan are designated for "Business" use (totaling 5.56 ha) to allow

flexibility in the use of existing industrial and industrial-office (I-O) buildings as well as in the development of new buildings for both commercial and clean industrial uses. The planning intention of the "OU(B)" zone is 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 the existing industrial or I-O buildings within this zone.

8.6.3 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 building and in existing industrial areas 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.

8.6.4 Having regard to the traffic capacity in the two "OU(Business)" areas, a plot ratio restriction of 12 is imposed on the "OU(Business)" zones. A building height restriction of 120mPD for the "OU(Business)" zones to the west of MTR Chai Wan Station and those clustered around Sun Yip Street is imposed.

8.6.5 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.

8.6.6 Other specified uses in the Area include a public filling barging point, a cargo handling area, a refuse transfer station, liquefied petroleum gas cum petrol filling stations, oil depot, cemeteries and columbarium. These facilities are subject to building height restrictions as stipulated on the Plan.

8.6.7 A 3m wide non-building area from the lot boundary of 45 Kut Shing Street and 10 Hong Man Street, and 4m wide non-building area from the lot boundary of 44 Lee Chung Street and 40 Lee Chung Street, all fronting Hong Man Street are imposed. In addition, a building gap of 15m wide above 23mPD (about 15m above ground level) is imposed between Chai Wan Industrial Centre and Minico Building.

8.6.8 Minor relaxation of the plot ratio and building height restrictions, and the non-building area ***and building gap*** requirements, may be considered by the Board on application. Each application will be considered on its own merits.

8.7 Green Belt ("GB") : Total Area ~~180.78~~***179.15*** ha

8.7.1 The planning intention of this zone is primarily for the conservation of

the existing natural environment amid the built-up areas/at the urban fringe, to safeguard it from encroachment by urban type development, and to provide additional outlets for passive recreational activities. There is a general presumption against development within this zone.

8.7.2 This zone covers the steep hillsides to the west and south-west where, because of difficult topography, urban type development as well as extensive recreational uses are not possible. However, the area contributes visually to the environment of the district. Development within this zone will be carefully controlled and development proposals will be assessed on individual merits taking into account the relevant Town Planning Board Guidelines.

8.7.3 There is a large site to the north of the Area which was originally part of Lei Yue Mun Barracks. A portion of the site has been turned into Lei Yue Mun Park to serve as a natural break between the built-up areas of Chai Wan and Shau Kei Wan, apart from providing some recreational outlets for the residents.

8.8 Coastal Protection Area ("CPA") : Total Area 5.88 ha

8.8.1 This zoning is intended to conserve, protect and retain the natural coastlines and the sensitive coastal natural environment, including attractive geological features, physical landform or area of high landscape, scenic or ecological value, with a minimum of built development. It may also cover areas which serve as natural protection areas sheltering nearby developments against the effects of coastal erosion.

8.8.2 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 the development is an essential infrastructure project with overriding public interest may be permitted.

8.8.3 This zone comprises mainly areas of natural coastlines with attractive coastal features such as boulders and rocky shore. These areas of high scenic quality should be protected from development. Falling within this area are undeveloped coastal areas mainly below the 20 metre contour, including the coastal areas of Cape Collinson and Ngan Wan southwards towards Tso Tui Wan.

8.9 Country Park ("CP") : Total Area 115.43 ha

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. This zone covers parts of Tai Tam Country Park and Shek O Country Park which fall within the planning scheme boundary of the Plan. The Country Parks contribute to the conservation of the natural environment. Both passive and active recreational outlets are available

within the Country Parks.

9. COMMUNICATIONS

9.1 Roads

Chai Wan Road and Island Eastern Corridor are major roads connecting the Area to other parts of Hong Kong Island. It is also proposed to widen Cape Collinson Road.

9.2 Mass Transit Railway (MTR)

The Area is served by the MTR Island Line with Chai Wan Station and Heng Fa Chuen Station. The railway is elevated and traverses the Area in a north-south direction.

9.3 Public Transport Termini

There are several existing public transport termini within the Area, including the ones at MTR Chai Wan Station, Siu Sai Wan Estate, Heng Fa Chuen, Sheung On Street and within the Island Resort.

10. UTILITY SERVICES

10.1 Fresh water supply to the Area is served by five fresh water service reservoirs beside the Eastern Hospital, Heng Fa Chuen, Shan Tsui Court, Hing Wah Estate and Siu Sai Wan Estate respectively. Salt water supply to the Area is served by a salt water service reservoir to the east of Fung Wah Estate.

10.2 There is a sewage screening plant and a refuse transfer station at Sun Yip Street.

10.3 Three electricity substations are located respectively at Shing Tai Road, Chai Wan Road and Cheung Lee Street to serve the Area. There is a telephone exchange to the west of Lee Chung Street to provide telephone services to the community.

10.4 No great difficulty is envisaged in meeting the future requirements for services and public utilities.

11. CULTURAL HERITAGE

11.1 Law Uk and Rock Carving at Cape Collinson are declared monuments. ***The*** ~~Chai Wan Factory Estate~~ ***ex-CWFE (currently known as Wah Yan House, Wah Ha Estate)*** at No. 2 Kut Shing Street is a Grade 2 historic building. Meng Tak Primary School, Old Portion at No. 1 Cheung Man Road, the Cape Collinson Muslim Cemetery, Mosque and the Cape Collinson Light house are Grade 3 historic buildings.

11.2

On 19 March 2009, the Antiquities Advisory Board (AAB) released the list of 1,444 historic buildings, in which the buildings/structures within the Area have been accorded gradings. There are also a number of new items in addition to the list of 1,444 historic buildings. These items are subject to grading assessment by AAB. Details of the list of 1,444 historic buildings and new items for grading assessment have been uploaded onto the official website of the AAB at http://www.aab.gov.hk. ***Information of the declared monuments, site of archaeological interest and Government historic sites identified by Antiquities and Monuments Office (AMO) can be obtained from the official websites of AAB and AMO.***

11.3 Prior consultation with the ~~Antiquities and Monuments Office (~~AMO~~)~~ should be made if any development, redevelopment or rezoning proposals ***which may***~~might~~ affect the declared monuments, ~~graded~~ historic buildings/structures ***graded by AAB***, new item~~(s)~~ pending grading assessment ***by AAB or site of archaeological interest, Government sites identified by AMO, any other historic buildings/structures identified, both at grade and underground,*** and their immediate environs.

12. IMPLEMENTATION

12.1 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.

12.2 The 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 as the basis for public works planning and site reservation within Government departments. 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 departments, such as the Highways Department and the Architectural Services Department. In the course of implementation of the Plan, the Eastern District Council would be consulted as appropriate.

12.3 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 the 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

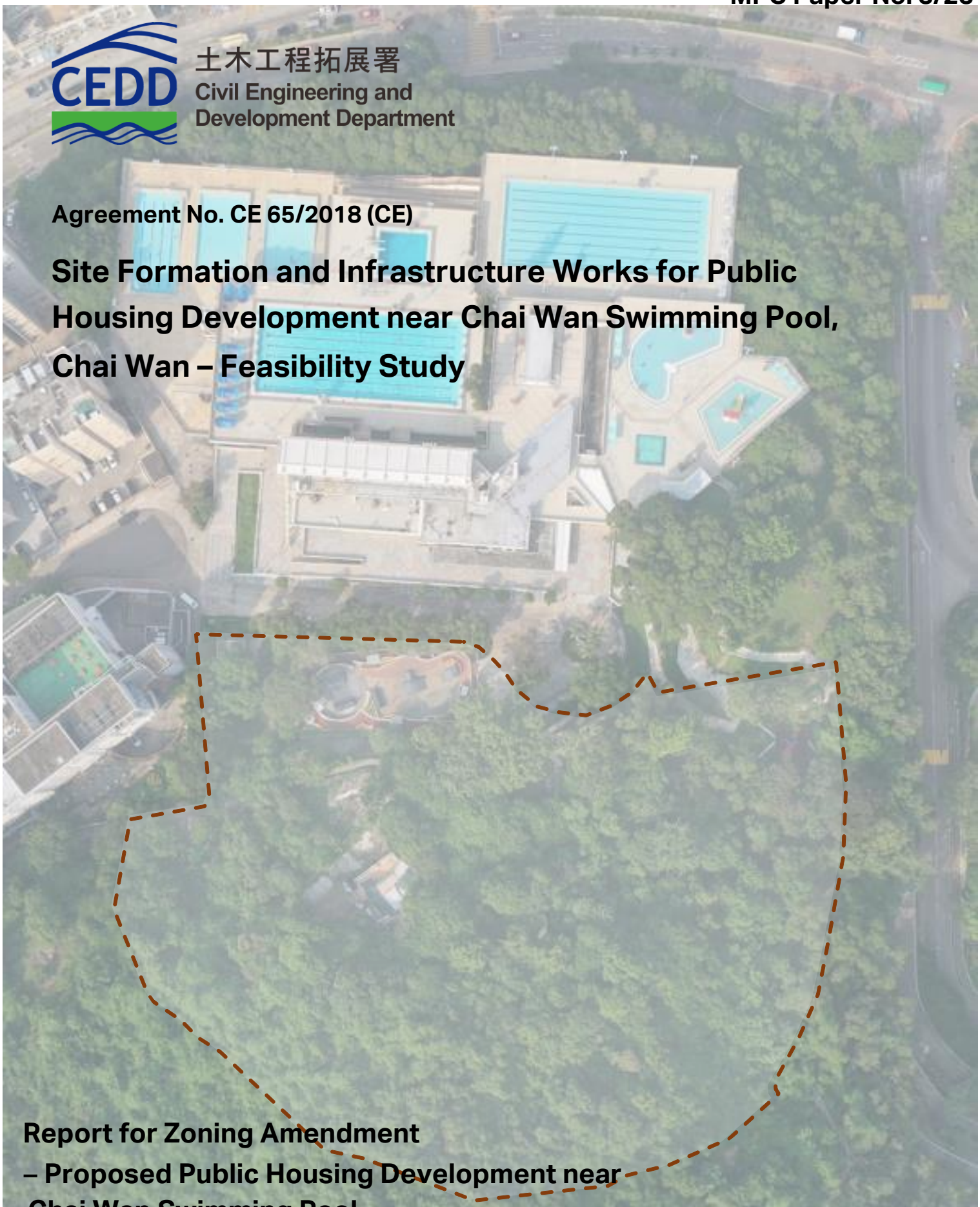
downloaded from the Board's website and are available from the Secretariat of the Board and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

TOWN PLANNING BOARD
~~**MAY 2021**~~***XXX 2023***

土木工程拓展署
Civil Engineering and Development Department

Agreement No. CE 65/2018 (CE)

Site Formation and Infrastructure Works for Public Housing Development near Chai Wan Swimming Pool, Chai Wan – Feasibility Study



Report for Zoning Amendment – Proposed Public Housing Development near Chai Wan Swimming Pool (Final) (AS3-WP4-04)

March 2023

AECOM

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FIGURES

60604418/CW_AS3_WP4/FIGURE 11.1 Location of Existing Graves, Shrine, Kam Taps and Tin Hau Temple

ABBREVIATION

The following table lists out the abbreviated titles of Government bureau, departments, offices, statutory bodies and public organizations mentioned in this Brief:

Abbreviation	Full title
CEDD	Civil Engineering and Development Department
DEVB	Development Bureau
DSD	Drainage Services Department
EPD	Environmental Protection Department
GEO	Geotechnical Engineering Office of CEDD
HD	Housing Department
HyD	Highways Department
LandsD	Lands Department
LCSD	Leisure and Cultural Services Department
TD	Transport Department
TPB	Town Planning Board
WSD	Water Supplies Department

The following table lists out the meaning of abbreviation for expressions adopted in this Brief:

Abbreviation	Full meaning
AOI	Area of influence for conducting Preliminary Traffic and Transport Impact Assessment
AVA	Air Ventilation Assessment
B/Ds	Government Bureaux/ Departments
C&D materials	Construction and Demolition Materials
DEVB TC(W)	Development Bureau Technical Circular (Works)
DIA	Drainage Impact Assessment
EFS	Engineering Feasibility Study
GA	Geotechnical Assessment
GB	Green Belt
GIC	Government, Institution and/or Community
GLA	Government Land Allocation
GMB	Green Mini Bus
LCAs	Landscape Character Areas
LCRS	Land Contamination and Remediation Study
LRs	Landscape Resources
NTHS	Natural Terrain Hazard Study
OVT	Old and Valuable Trees
OZP	Outline Zoning Plan
PTI	Public Transport Interchange
SFA	Site Formation Assessment
SI works	All ground investigation and/or marine investigation
SIA	Sewerage Impact Assessment
TTIA	Traffic and Transport Impact Assessment
UIS	Utilities Impact Study
WSIA	Water Supply Impact Assessment

1. INTRODUCTION

1.1 Background

1.1.1 Following the policy directive under the Policy Address, the Government would adopt a multi-pronged approach to build up land reserve with a view to meeting housing and other development needs. To meet and expedite housing land supply in the short and medium terms, the Government has conducted reviews on an on-going basis, including reviews on the government land currently vacant, under Short Term Tenancies (STT) or different short-term or government uses, as well as the reviews on "Green Belt" ("GB") sites, with a view to identifying more suitable sites for conversion to residential use. A number of potential public housing sites have been identified by the Government, which include the site near Chai Wan Swimming Pool in Chai Wan. Civil Engineering and Development Department (CEDD) is tasked to conduct an engineering feasibility study (EFS) to examine the engineering feasibility of developing public housing at the sites.

1.1.2 An EFS is required for the aforementioned individual site to determine the scope of the infrastructural works including site formation works to make available the formed land for proposed public housing development, to assess the various impacts due to the provision of these infrastructures and proposed public housing developments and to recommend the mitigation measures to keep the potential impacts due to the development within the acceptable level of the current standard/regulation. The EFS shall take into account the cumulative demand/impact of other adjoining existing, planned, committed and possible developments to establish the recommended infrastructural works and the required mitigation measures.

1.1.3 In April 2019, CEDD commissioned AECOM Asia Company Limited (AECOM) to undertake Agreement No. CE 65/2018 (CE) – Site Formation and Infrastructure Works for Public Housing Development near Chai Wan Swimming Pool, Chai Wan – Feasibility Study (hereafter referred as "the Project") to examine the technical feasibility of the potential housing sites.

1.1.4 This report focuses on the site at Chai Wan (the Site). The boundary of the Study area, the Site and proposed housing development is shown in **Figure 1.1**.

1.2 Purpose and Structure of the Report

1.2.1 The purpose of this Report is to facilitate re-zoning exercise including essential information of the Developments and Infrastructure Works to identify possible problems, introduce the assessment methodologies, recommend development parameters (including domestic and non-domestic gross floor area/ plot ratio, building height, number of flats and population, provision of GIC facilities/ open space, illustrate the findings of the impact assessments and address various issues/concerns such as planning intention, land use compatibility, development intensity and building height, adequacy of infrastructure and provision of GIC facilities to support the proposed housing development, and propose the mitigation measures, if required, to minimize the impacts identified.

1.2.2 Apart from this introductory section, the sections of this report are as follows:

Section 2:	The Site and Its Surrounding Context – to review the Site and its surrounding areas for identification of key issues and constraints to be addressed in formulating the development proposal;
Section 3:	Proposed Development Scheme – to introduce the proposed scheme with development parameters for the public housing development and the notional layout;
Sections 4 to 11:	Various Technical Assessments – to provide a summary of findings and recommendations of various technical assessments for the proposed housing development including traffic and transport, drainage, sewerage, water supply, utilities, geotechnical, site formation, environment, landscape and visual impacts, air ventilation, and land requirement; and
Section 12:	Conclusion

2. THE SITE AND ITS SURROUNDING CONTEXT

2.1 Study Area and Location

2.1.1 The Site has an area of about 2.3 hectares (i.e. 'Site Boundary' in **Figure 2.1**) at the southern fringe of the existing Chai Wan community, and is located to the immediate south of existing Chai Wan Swimming Pool. The northeastern portion of the Site is currently occupied by the exiting Chai Wan Pool-side Garden and skateboard ground, while the southern portion of the Site is the foothill of Pottinger Peak, being occupied by slopes and natural terrain. Tin Hau Temple is found on the slope with the Site. San Ha Street Playground is located to the immediate west at the platformed area by the foothill. The Cape Collison Chinese Permanent Cemetery is located on top of the slope. The Site has a level difference of about 52m ranging from approximately +24mPD to +76 mPD.

2.2 Statutory Planning Context

2.2.1 The Site currently falls within an area zoned "Green Belt" ("GB") and "Government, Institution or Community" ("G/IC") on the approved Chai Wan Outline Zoning Plan (OZP) No. A/H20/25. As "GB" and "G/IC" zones are not intended for high-density residential developments, it is considered necessary to rezone the Site to "R(A)" to facilitate the proposed public housing development (see **Figure 2.2**).

2.3 Surrounding Areas

2.3.1 A small upslope natural hillside overlooks the Site, comprising northeast facing hillslope. The natural slope generally has moderate gradient of 20-30°, but locally over 35° at man-made features. The toe boundary of natural slope generally is aligned at +76mPD to +83mPD, which is the southwest boundary of the Site. The highest elevation of natural slope is ranging from +94mPD to +97mPD at the southwest boundary, which is defined by Cape Collinson Road. Two rounded local spurs generally define both flanks of the study area. Man-made slopes (i.e. Nos. 11SE-D/FR67 and 11SE-D/FR69) at downslope sides of the road generally occupy the upper portion of natural hillside.

2.3.2 Natural habitats identified within and near the Site (i.e. mixed woodland and natural watercourses) are found to be important ecological resources. In particular, the mixed woodland is found to be of moderate to high ecological value due to its floristic structure and diversity, and its importance for existing wildlife as a foraging and resting habitat, as well as an ecological corridor that allows movement across the greater landscape. Similarly, natural watercourse, which is located to the west of the Site, is found to be of moderate ecological value given its naturalness and its value to a few fauna species of conservation importance. As such, pre-emptive measures are considered and applied during the early stage of planning and notional layout development, including the inclusion of a minimum 15 m buffer zone on both sides of the watercourse, which would be excluded from the boundary of the proposed development scheme to prevent direct impact on the watercourse and its riparian habitat (see **Figure 2.1**). In addition, a minimum 15 m ecological corridor to the south of the Site is also maintained to preserve the mixed woodland habitat between the Site and existing Cape Collison Road to serve as an ecological corridor and allow a linkage for the wildlife across different wooded habitats.

2.4 Site Accessibility

2.4.1 The Site can be accessed by an 8m-wide unnamed road, which currently serves as the emergency vehicular access (EVA) of the Chai Wan Swimming Pool and connects to the cul-de-sac of San Ha Street to its west. San Ha Street is connected Wing Ping Street and further to Chai Wan Road at its western end. To the east of the Site is Hiu Tsui Street, an estate road of the neighbouring Hiu Tsui Court. However, with the man-made slope in between of about 10-20m level difference, the Site is currently not accessible from Hiu Tsui Street.

2.4.2 The proposed housing development is located approximately 950m from the center of Chai Wan MTR Station. It will be served mainly by public transport, including franchised buses, public light buses and taxis, which would provide linkage between the Chai Wan MTR Station and the proposed development. The nearest Green Mini Bus (GMB) stop is located on Wing Ping Street. Two Public Transport Interchange (PTI) and bus stops of over 20 bus routes are also available at Chai Wan Road within 300m from the proposed housing development.

2.5 Land Status

2.5.1 Based on the information collected from the LandsD, the land status of the Site is shown in **Figures 2.3** and **2.4**. The Site is located within Government land and no resumption of private land is required for the proposed housing development. Government Land Allocations (GLAs) granted to the Chai Wan Swimming Pool and Chai Wan Pool-side Garden including skateboard ground (GLA-HK 317) and Park/Sitting Out Area/Open Space (GLA-THK 1979) as well as 12 nos. of slope features fall within the site boundary. In addition, one government license has been granted to Chai Wan Kai Fong Welfare Association Limited for Tin Hau Temple and there are some graves, kam taps, urns or shrines within the Site (**Figure 11.1**).

3. PROPOSED DEVELOPMENT SCHEME

3.1 Scope of the Proposed Development

3.1.1 The scope of the proposed development at the Site includes public housing development and retail, welfare, amenities and G/IC facilities, which would support the residents of the housing development and the local community. In order to formulate the proposed development scheme and layout, different B/Ds have been consulted on the site requirements of different aspects.

3.1.2 The proposed infrastructure works of the proposed development at the Site include but not limited to:-

(a) site formation works of about 1.9 ha area for public housing development

(b) geotechnical works including slope works, natural terrain hazard mitigation measures and construction of retaining structures if required;

(c) roadworks;

(d) ancillary works including drainage and sewerage, waterworks, landscape works, environmental mitigation measures, etc.

(e) land decontamination works (if any); and

(f) reprovision of skateboard ground of Chai Wan Pool-side Garden within the Site.

3.2 Proposed Development Parameters

3.2.1 The proposed housing development is intended to be developed as either public rental housing (PRH) or subsidised sale flat (SSF) with provision of ancillary retail, social welfare and kindergarten facilities. A summary of the development parameter of the proposed housing development is provided in **Table 3.1**. **Figure 3.1** shows the proposed notional layout plan of the proposed housing development.

Table 3.1 – Summary of Proposed Development Parameters [(1)]

Site Boundary Area	About 2.3 ha [(2)]
Proposed Rezoning Area	About 2.01 ha
Proposed Housing Development Area **Gross Area** **Net Area**	 About 1.9 ha About 1.5 ha
Housing Type	Public Rental Housing (PRH) or Subsidised Sale Flat (SSF)
Plot Ratio	Not more than 8 [(3)]
Gross Floor Area (GFA) **Domestic GFA**	 PRH: 123,440 m^2 or SSF: 109,300 m^2
Maximum Building Height	+190 mPD
Flat Size	PRH 40m^2 or SSF 50m^2
Maximum No. of Flats [(4)]	PRH: about 3,086 or SSF: about 2,186
No. of Domestic Blocks	3
Greenery Coverage	Minimum 20 % of the housing area
Estimated Population [(5)]	PRH: 8,332 or SSF: 5,902

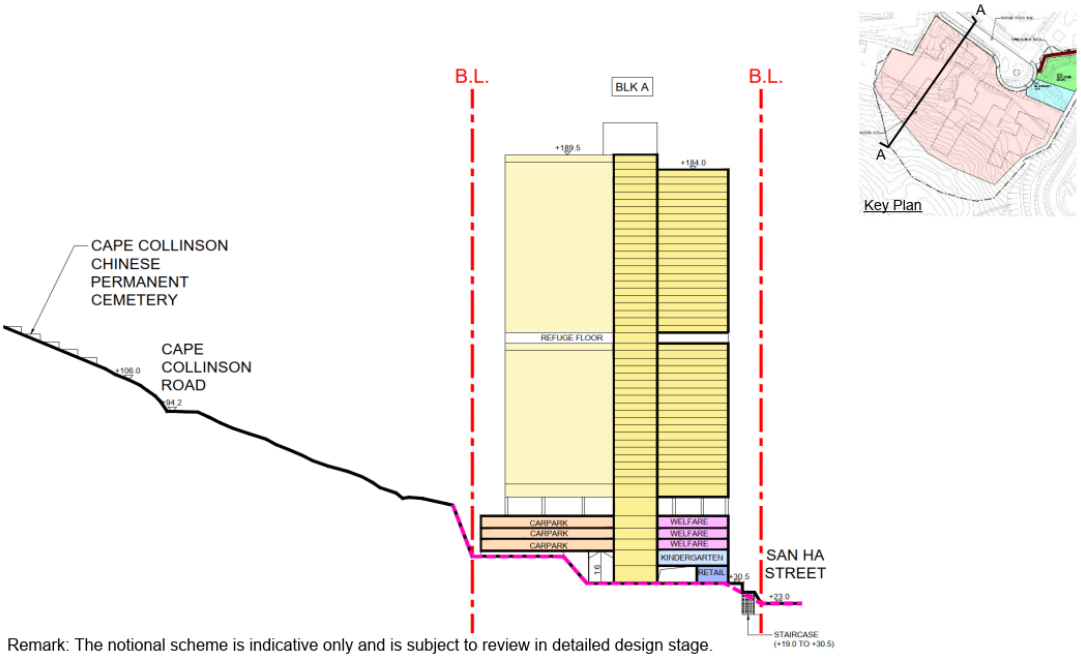
Other Facilities(6)	Social Welfare Facilities, Retail and Kindergarten
Anticipated completion year of public housing development	2033/34

Notes:

(1) The proposed development parameters are subject to review at detailed design stage.
(2) The site boundary includes proposed public housing development, the provision of skateboard ground, DSD maintenance yard and the pedestrian walkway.
(3) According to B(P)R, the maximum plot ratio for Class A site is 8.
(4) The maximum number of flats is restricted by the road junction performance analysis at Wing Ping Street/ Chai Wan Road- Junction J4, which is the most critical one according to the findings of the traffic assessment. Taking into account of the traffic generated from planned and committed of nearby developments and a 10% reserved capacity should be maintained at J4 as agreed by TD, the maximum allowable traffic generated from the proposed housing development was attained. To allow design flexibility at later design stage, a maximum of 10% increase in the flat number would be considered for technical assessment purpose.
(5) Assuming 2.7 person per flat.
(6) The Net Operational Floor Area (NOFA) of the proposed social welfare facilities is about 3,116m^2, equivalent to gross floor area (GFA) of about 6,232m^2 (i.e. about 5% of the attainable domestic GFA is reserved for the provision of social welfares within the housing site under the notional scheme), retail facilities of about 615m^2 and 6-classrooms kindergarten

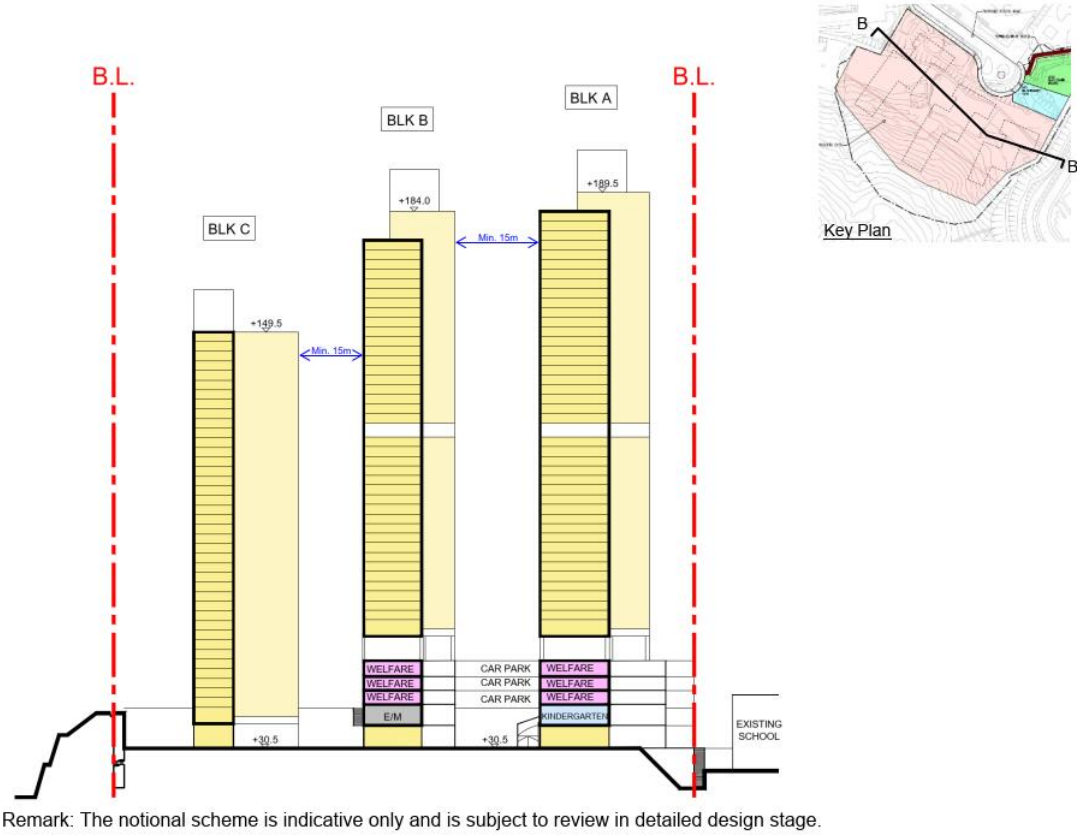
3.3 Built Form and Layout

3.3.1 Under the notional layout, three residential towers are proposed, i.e. two residential towers with 44 domestic storeys and 42 domestic storeys on top of a 6-storey podium at western part of the Site, and one residential tower of 40 domestic storeys at eastern part of the Site. Podium design would enable flexible space planning for ancillary car park, retail, social welfare and kindergarten facilities in support of the public housing development and the local community. The proposed building height of +190mPD for the residential towers above the podium (ranging from +149.5mPD to +189.5mPD) is recommended taking into account the compatibility with surrounding contexts and key public viewers located within the assessment area. Although the proposed scheme would create a certain degree of visual impacts, with mountainous backdrop of Pottinger Peak, the proposed development with recommended mitigation measures incorporated into design layout is considered acceptable from the visual perspective. Also, with the good air ventilation design measures adopted in the building design, the possible air ventilation impact arising from the proposed development on the surroundings would be minimized. Section plans of the proposed housing development are shown in **Exhibits 3.1** and **3.2**, which are subject to further review at detailed design stage.



Remark: The notional scheme is indicative only and is subject to review in detailed design stage.

Exhibit 3.1 – View Plan along Section A-A



Remark: The notional scheme is indicative only and is subject to review in detailed design stage.

Exhibit 3.2 – View Plan along Section B-B

3.3.2 A pedestrian walkway, running along the proposed reprovisioning site of skateboard ground to facilitate the pedestrians travelling to Chai Wan west.

3.4 Provision of GIC Facilities

3.4.1 According to the Chief Executive's 2020 Policy Address, 5% of the domestic GFA can be set aside for the provision of social welfare facilities. According to the notional scheme, not less than 5% of the attainable domestic GFA will be reserved for the provision of social welfare facilities within the proposed housing development which is subject to further review at detailed design stage. The potential provision of social welfare facilities at the Site is summarised in **Table 3.2**.

Table 3.2 – Potential Social Welfare Facilities to be provided at the Site

Type of Facilities	Net Operating Floor Area (NOFA)
Integrated Community Centre for Mental Wellness (ICCMW) (for reprovisioning)	304m^2
100-place Residential Care Home for the Elderly (RCHE) cum 30-p Day Care Unit (DCU)	1,444m^2
60-place Day Care Centre for the Elderly (DE)	358m^2
50-place Day Activity Centre (DAC)	319m^2
50-place Hostel for Severely Mentally Handicapped Persons (HSMH)	691m^2

Remark: 1m^2 of NOFA is roughly equal to 2m^2 of GFA. The exact provision of social welfare facilities is subject to further review.

3.4.2 The existing skateboard ground at Chai Wan Pool-side Garden within the Site will be affected by the proposed housing development. The re-provision of the skateboard ground is therefore required. Subject to final design review, an approximate area of 1,200m^2 LCSD Skateboard Ground is proposed to be re-provided at the existing Chai Wan Pool Side Garden.

3.4.3 To divert the additional runoff due to the proposed development at the Site as well as to intercept the runoff from the upper catchment, subject to final design review, an approximate area of 800m^2 DSD maintenance yard with retention tank underneath is proposed to be constructed at the north-eastern side of the Site, adjacent to the reprovisioning site of Skateboard Ground. The retention tank will be located underneath the proposed DSD maintenance yard to hold the additional runoff within the Site during a rainstorm and discharge to downstream drainage system through pumping system in later stage.

3.5 Car Parking Provision

3.5.1 The parking and loading/unloading (L/UL) facilities for the proposed housing development generally are provided in accordance with the Hong Kong Planning and Standard Guidelines (HKPSG) requirement for parking provision as well as special requirement by relevant users. Based on the proposed development parameters in **Table 3.1** above, the parking and L/UL provision for the proposed housing development is presented in **Table 3.3** below. Detailed breakdown of the ancillary parking and L/UL provision are discussed in **Section 4.5**.

Table 3.3 – Provision of Ancillary Carparking and L/UL(1) according to HKPSG and Social Welfare Department's (SWD) Requirements

Proposed Public Housing Development	Provision of Parking and L/UL Bay according to HKPSG(2) and SWD's Requirement	Required No. of Parking Space and L/UL(3)
Domestic Development (PRH or SSF)	Car Parking *(HKPSG Parking requirement = GPS X R1 X R2* *GPS = 1 car space per 4 - 7 flats* *R1 = 0.52 for all Subsidised Housing* *R2 = 1 for outside a 500m-radius of rail station)*	PRH: 253 – 442 or SSF: 179 – 313
	Motorcycle Parking *(HKPSG Parking requirement =* *1 space per 110 - 250 flats)*	PRH: 14 – 31 or SSF: 10 – 22
	LGV Parking *(HKPSG Parking requirement =* *1 LGV space per 260 flats)*	PRH: 14 or SSF: 10
	Visitor Parking *(HKPSG Parking requirement =* *Up to 5 spaces per block)*	15
	L/UL Bay (for MGV/HGV/Coach Parking) *(HKPSG Parking requirement =* *2 share-use L/UL bays per block)*	6
Non-Domestic Development (Retail Facilities)	Car Parking (HKPSG Parking requirement = 1 car parking per 150-300m^2 GFA)	2 – 5

Proposed Public Housing Development	Provision of Parking and L/UL Bay according to HKPSG(2) and SWD's Requirement	Required No. of Parking Space and L/UL(3)
Social Welfare Facilities(4)	Private light bus (PLB) Parking for Residential Care Home for the Elderly (RCHE) cum Day Care Unit (DCU); Elderly Day Care Centre (DE); Hostel for Severely Mentally Handicapped Persons (HSMH); and Day Activity Center (DAC)	2
	PLB L/UL Bay for RCHE cum DCU, HSMH and DAC	1

Notes:

(1) The required ancillary carparking and U/UL provision in this report is based on HKPSG and SWD's requirement, and subject to review and confirmation with relevant departments at detailed design stage.
(2) According to the Notes of Table 11 Section 1 of HKPSG Ch.8, "One person/two persons flats shall be excluded from the calculation of the overall parking provision of private car, motorcycle parking spaces and shared-use spaces for LGV and light bus. Car parking provision shall be further reviewed in detailed design stage subject to the flat mix.
(3) For assessment purpose, the no. of flats has incorporated 10% increase. (i.e. 3,086+10% (PRH) and 2,186+10%(SSF) no. of flats are adopted in parking and L/UL provision calculation.) "One person/two persons" flat is not assumed.
(4) Due to site constraints, SWD agreed a minimum of 2 parking spaces for PLB and 1 L/UL bay will be provided for the abovementioned welfare facilities. The designated parking spaces will be allocated to RCHE cum DCU and DE while the loading/unloading bay will be shared use by all welfare facilities. The exact internal transport provision of social welfare facilities is subject to review and confirmation with relevant departments at detailed design stage.

3.6 Pedestrian and Vehicular Access

3.6.1 As mentioned in **Section 3.3.2**, a proposed pedestrian walkway running along the proposed reprovisioning site of skateboard ground will be provided to connect to Siu Sai Wan Road, which would facilitate the pedestrians travelling to Chai Wan west and reduce the walking distance to the PTI/bus terminal near Siu Sai Wan Plaza.

3.6.2 In order to provide a proper access for the proposed development, it is proposed to upgrade the existing 8.0m wide EVA and extend San Ha Street with minor modifications to the footpath of Chai Wan Swimming Pool. Furthermore, a layby of around 60m is provided along the proposed public road with two passing bays at the east end of San Ha Street. The layby and bays are provided to cater for the servicing and L/UL needs of the general public.

3.7 Technical Assessment for the Proposed Housing Development at the Site

3.7.1 According to the proposed housing development scheme as mentioned in this Section, the Consultant has conducted the preliminary technical assessments in various aspects to identify the development constraints and demonstrate the technical feasibility of the proposed housing development to support the proposed zoning amendment at the Site. The ensuing sections would provide a summary of the findings of the preliminary technical assessments.

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4. TRAFFIC AND TRANSPORT ASPECTS

4.1 Introduction

4.1.1 Preliminary Traffic and Transport Impact Assessment (TTIA) has been conducted to assess the adequacy of the existing transport infrastructure and networks and to forecast new provisions or improvement works required to support the housing developments in future. This section provides a summary of the key findings in the preliminary TTIA.

4.2 Existing Condition

Existing Road Network

4.2.1 The roads providing access to the proposed development include San Ha Street, Wing Ping Street, Chai Wan Road and Wing Tai Road.

4.2.2 San Ha Street and Wing Ping Street are both single two lanes local distributor roads. San Ha Street runs in the east-west direction while Wing Ping Street runs north-south. San Ha Road directly connects with Wing Ping Street to the east and connects with Chai Wan Road to the west. San Ha Street currently serves several nearby residential developments and educational facilities. Wing Ping Street connects San Ha Street with Chai Wan Road and Wing Tai Road.

4.2.3 Chai Wan Road is a dual-three primary distributor road and runs in the east-west direction. It connects with Siu Sai Wan Road to the east to serve to the Siu Sai Wan area. Chai Wan Road extends all the way to Shau Kei Wan area to the west.

4.2.4 Wing Tai Road is a local distributor road that runs in the northwest-southeast direction and is connected to the Island Eastern Corridor to the north and Chai Wan Road to the south.

Existing Traffic Condition

4.2.5 The proposed Area of Influence (AOI) is shown in **Figure 4.1** and in order to review and assess the existing traffic condition within the vicinity of the proposed development, classified traffic counts were conducted at the following key road junctions:

- J1 – Siu San Wan Road/Sun Yip Street
- J2 – San Ha Street/Wing Ping Street
- J3 – Wing Ping Street/ Hong Ping Street
- J4 – Wing Ping Street/Chai Wan Road
- J5 – Chai Wan Road/Wing Tai Road
- J6 – Wing Tai Road/Ka Yip Street
- J7 – Siu Sai Wan Road/Hiu Tsui Street
- J8 – Chai Wan Road/San Ha Street
- J9 – Chai Wan Road/Wan Tsui Road/Island Eastern Corridor (IEC)
- J10 – Siu Sai Wan Road/Harmony Road
- J11 – Sun Yip Street/On Yip Street/Siu Sai Wan Road
- J12 – Fung Yip Street/On Yip Street
- J13 – Fung Yip Street/Sheung On Street
- J14 – Ka Yip Street/Sheung On Street
- J15 – Kam Yuen Lane/Chai Wan Road
- J16 – Yee Shun Street/Chai Wan Road
- J17 – Yee Tai Street/Chai Wan Road

4.2.6 The locations of the above key junctions are shown in **Figure 4.1**. The likely vehicular access to/from the proposed development via the existing road network is also shown in **Figure 4.1**.

4.2.7 Classified traffic surveys were carried out on 26th September 2019 from 07:30-10:00 and 14:30 to 19:30. The classification of the various vehicle types included motorcycles, private, cars, taxis, light goods, medium/heavy goods, container trucks, coaches, minibuses, and franchised buses. Based on the results of the weekday surveyed flows, the AM and PM peak hour were from 0730-0830hr and 1645-1745hr respectively.

4.2.8 Junction capacity analyses have been carried out at the key junctions and are summarised in **Table 4.1**.

Table 4.1 - Performance of Key Junctions in 2019

Junction		Type	2019 Existing	
			AM	PM
J1	Siu San Wan Road/Sun Yip Street	Signal	42%	73%
J2	San Ha Street/Wing Ping Street	Priority	0.37	0.25
J3	Wing Ping Street/ Hong Ping Street	Priority	0.07	0.05
J4	Wing Ping Street/Chai Wan Road	Signal	11%	22%
J5	Chai Wan Road/Wing Tai Road	Signal	100%	68%
J6	Wing Tai Road/Ka Yip Street	Signal	21%	74%
J7	Siu Sai Wan Road/Hiu Tsui Street	Priority	0.27	0.34
J8	Chai Wan Road/San Ha Street	Signal	49%	88%
J9	Chai Wan Road/Wan Tsui Road/IEC	Roundabout	1.04	0.74
J10	Siu Sai Wan Road/Harmony Road	Signal	96%	115%
J11	Sun Yip Street/On Yip Street/Siu Sai Wan	Priority	0.76	0.58
J12	Fung Yip Street/On Yip Street	Priority	0.33	0.40
J13	Fung Yip Street/Sheung On Street	Priority	0.63	0.84
J14	Ka Yip Street/Sheung On Street	Signal	56%	50%
J15	Kam Yuen Lane/Chai Wan Road	Signal	91%	118%
J16	Yee Shun Street/Chai Wan Road	Priority	0.39	0.46
J17	Yee Tai Street/Chai Wan Road	Priority	0.10	0.09

Notes:

(1) Figures shown represent “Reserve Capacity” for the signal-controlled junctions and “Design Flow to Capacity" ratio for the priority junctions and roundabouts.

(2) For signalised junctions, RC>0% indicates that the junction is operating with capacity and RC≤0% indicates that the junction is operating over/at capacity.

(3) For priority junctions or roundabouts, DFC<1 indicates that the junction is operating within capacity and DFC ≥1 indicates that the junction is operating over/at capacity.

4.2.9 As shown in **Table 4.1**, apart from one road junction, all other junctions were found to operate with adequate spare capacity during the AM and PM peaks. The roundabout at Chai Wan Road/Wan Tsui Road/IEC (J9) was found to operate slightly over capacity in the AM peak. This indicates that even without the proposed development, J9 would have some capacity problems, as such, junction improvements are required to resolve the capacity issues. The proposed junction improvement for J9 is schematically illustrated in **Figure 4.2**.

4.3 Future Traffic Condition

4.3.1 As mentioned previously, the tentative completion year for public housing development is anticipated to occur by 2033/34. With reference to TD's TIA Guidelines of Development Circular 1/2011, the design year for the traffic forecast is proposed to be set at least 3 years after the planned completion of the development. Hence, the development design year is taken as 3 years after full occupation or 2036. It should be noted that the actual D&C TIA will provide a more updated completion year and hence design year for analysis at a later stage.

4.3.2 The road network within Chai Wan is anticipated to remain essentially the same as per that of the existing. No major planned highway infrastructures are anticipated. However, there is a committed road improvement scheme under the development at 391 Chai Wan Road for the J/O Wing Ping Street/Chai Wan Road (J4). The improvement measures would be completed before commencement of site formation works in 2029 tentatively. The proposed junction layouts will be adopted in all future design year assessments.

4.3.3 Since there are no major changes to the road network in the vicinity of the proposed development, the background traffic forecasts for the future years were derived by applying traffic growth rates to the surveyed traffic flows.

4.3.4 In deriving the most appropriate growth rates, detailed analysis of the 2016-based Territorial Population and Employment Data Matrix (TPEDM) were undertaken. Overall, the projected population and employment figures from TPEDM for Chai Wan show a decreasing trend from 2016 to all the future years[1]. However, the projected data shows marginal growth of 0.01% from 2021 to 2036[2]. As such, it is proposed to apply the growth rates in a conservative approach to obtain the design year traffic flows.

4.3.5 In addition, other major planned or committed developments in the vicinity of the proposed development were also included to ascertain the accumulated impacts. The location of the other planned/committed developments are shown in **Figure 4.3**. The accumulated impact of five nearby planned and committed development in the vicinity of the proposed development were included as follow:

- Private Housing Development at 391 Chai Wan Road
- Dip Tsui Court at Chai Wan Road
- Yue Chun House, Yue Wan Estate (Refurbished public housing block at Wing Tai Road)
- FSD Departmental Quarter cum Ambulance Depot (near Sun Yip Street)
- Siu San Wan Community Health Centre (Siu Sai Wan Road)

[1] According to the 2016-based TPEDM, the population and employment figures for Chai Wan in the year of 2016 is 216,600, while the projected figures in the year of 2021, 2026, 2031 and 2036 are 213,400, 210,750, 215,100 and 213,600 respectively.
[2] The projected population and employment figures in the year of 2021 and 2036 are 213,400 and 213,600 respectively. The growth trend from 2021 to 2036 is estimated as 0.01% (i.e. 200/213,400/15years)*100%= 0.006% ~ 0.01%).

4.4 Traffic and Transport Impact Assessment (TTIA)

Development Traffic Impact Assessment

4.4.1 Development traffic impact assessment has been carried out for the design year 2036 as summarised in **Table 4.2**.

Table 4.2 – Key Junction Performance for 2036

Junction		Type	2036 Background		2036 With Development	
			AM	PM	AM	PM
J1	Siu San Wan Road/Sun Yip Street	Signal	34%	67%	34%	67%
J2	San Ha Street/Wing Ping Street	Priority	0.37	0.26	0.43	0.29
J3	Wing Ping Street/ Hong Ping Street	Priority	0.07	0.05	0.07	0.05
J4#	Wing Ping Street/Chai Wan Road	Signal	2%	13%	-5%	4%
J5	Chai Wan Road/Wing Tai Road	Signal	80%	63%	80%	63%
J6	Wing Tai Road/Ka Yip Street	Signal	9%	63%	6%	54%
J7	Siu Sai Wan Road/Hiu Tsui Street	Priority	0.27	0.34	0.27	0.34
J8	Chai Wan Road/San Ha Street	Signal	37%	76%	37%	76%
J9	Chai Wan Road/Wan Tsui Road/IEC	Roundabout	1.06	0.75	1.10	0.75
J10	Siu Sai Wan Road/Harmony Road	Signal	88%	113%	88%	113%
J11	Sun Yip Street/On Yip Street/Siu Sai Wan	Priority	0.79	0.59	0.79	0.59
J12	Fung Yip Street/On Yip Street	Priority	0.33	0.40	0.33	0.40
J13	Fung Yip Street/Sheung On Street	Priority	0.63	0.84	0.63	0.84
J14	Ka Yip Street/Sheung On Street	Signal	56%	50%	56%	50%
J15	Kam Yuen Lane/Chai Wan Road	Signal	78%	107%	78%	107%
J16	Yee Shun Street/Chai Wan Road	Priority	0.42	0.48	0.42	0.48
J17	Yee Tai Street/Chai Wan Road	Priority	0.12	0.09	0.15	0.11

Notes:

(1) Figures shown represent “Reserve Capacity” for the signal-controlled junctions and “Design Flow to Capacity ratio for the priority junctions and roundabout.

(2) For signalised junctions, RC>0% indicates that the junction is operating with capacity and RC≤0% indicates that the junction is operating over/at capacity.

(3) For priority junctions or roundabouts, DFC<1 indicates that the junction is operating within capacity and DFC≥1 indicates that the junction is operating over/at capacity.

(4) # Committed road improvement measures under private housing development at 391 Chai Wan Road are adopted for analysis of J4, which would be completed before commencement of site formation works in 2029 tentatively.

4.4.2 The results of **Table 4.2** reveal that two key junctions, namely J/O Wing Ping Street/Chai Wan Road (J4) and the roundabout at Chai Wan Road/Wan Tsui Road/IEC (J9) would operate over capacity while the J/O Wing Tai Road/Ka Yip Street (J6) would be nearing capacity with the proposed development. All the other remaining junctions would still perform satisfactorily and with spare capacity. Therefore, junction improvement measures are required for J4, J6 and J9 to alleviate the future traffic conditions.

Proposed Junction Improvements

4.4.3 Junction improvement measures are proposed for J/O Wing Ping Street/Chai Wan Road (J4) and J/O Wing Tai Road/Ka Yip Street (J6) and the roundabout at Chai Wan Road/Wan Tsui Road/IEC (J9).

J/O Wing Ping Street/Chai Wan Road (J4)

4.4.4 The proposed improvement at J4 involves the modification work of the pedestrian crossing at Wing Ping Street and revised road markings along Chai Wan Road. In addition, it is also proposed to ban vehicles >7m from left-turning into Wing Ping Street from Chai Wan Road westbound. The proposed junction improvements for J4 are shown in **Figure 4.4**. With this arrangement, if a 12m long fire engine needs to take left turn from Chai Wan Road to Wing Ping Street under emergency, the fire engine could take left turn from the mid-lane of Chai Wan Road and stop at the hatch line area near the island for clearing off the vehicles at northbound of Wing Ping Street. When the northbound of Wing Ping Street is free of vehicles, the fire engine could make use of the northbound for left turning to Wing Ping Street. Or the fire engine can detour of approximately 1.1km to junction J8 and take left turn from Chai Wan Road to San Ha Street to reach Wing Ping Street.

4.4.5 With the banned left-turn movement, the >7m long vehicles are required to route to J/O Chai Wan Road/San Ha Street (J8) to make this left-turn instead. As such, the diverted traffic are required to travel along Chai Wan Road through J/O Chai Wan Road/Wing Tai Road (J5), J/O Chai Wan Road/Kam Yuen Ln (J15), J/O Chai Wan Road/Yee Shun Street (J16) to reach J/O Chai Wan Road/San Ha Street (J8) instead of along Wing Ping Street via J/O Wing Ping Street/Hong Ping Street (J2) and J/O Wing Ping Street/San Ha Street (J3).

J/O Chai Wan Road/San Ha Street (J8)

4.4.6 The >7m long vehicles from J/O of Wing Ping Street/Chai Wan Road left turn as mentioned above is diverted to J8, thus a left-turn lane and modification of MOC are proposed from Chai Wan Road westbound to San Ha Street southbound. Due to the existing tight turning radius at the corner of J8 for Chai Wan Road westbound left-turning into San Ha Street, it is proposed to set back the corner with revised road markings. Further, pedestrian crossings are widened to serve more pedestrians. The proposed junction improvements for J8 are shown in **Figure 4.5**.

J/O Wing Tai Road/Ka Yip Street (J6)

4.4.7 The proposed junction improvements for J6 involves only changes to the AM peak signal time plan to the same as PM peak time.

Roundabout at Chai Wan Road/Wan Tsui Road/IEC (J9)

4.4.8 As described previously, it is proposed to provide an exclusive left turn lane for Chai Wan Road eastbound to Island Eastern Corridor by modifying the associated traffic islands and road markings to alleviate the capacity problems at this roundabout. The proposed improvement scheme for J9 is shown in **Figure 4.2**.

4.4.9 A summary of the junction performance for the proposed improvement schemes are presented in **Table 4.3**. Those junctions that are affected by the banning of the >7m vehicles from left turning into Wing Ping Street at J4 are also assessed and presented.

Table 4.3 – Junction Improvements for Full Development Stage (2036)

Junction		Type	Without Improvement		With Improvement	
			AM	PM	AM	PM
J2	San Ha Street/Wing Ping Street	Priority	0.43	0.29	0.41	0.24
J3	Wing Ping Street/ Hong Ping Street	Priority	0.07	0.05	0.07	0.05
J4	Wing Ping Street/Chai Wan Road	Signal	-5%	4%	10%	19%
J5	Chai Wan Road/Wing Tai Road	Signal	80%	63%	80%	63%
J6	Wing Tai Road/Ka Yip Street	Signal	6%	54%	18%	54%
J8	Chai Wan Road/San Ha Street	Signal	37%	76%	19%	73%
J9	Chai Wan Road/Wan Tsui Road/IEC	Roundabout	1.10	0.75	0.72	0.52
J15	Kam Yuen Lane/Chai Wan Road	Signal	78%	107%	78%	107%
J16	Yee Shun Street/Chai Wan Road	Priority	0.42	0.48	0.42	0.48

Notes:

(1) Figures shown represent "Reserve Capacity" for the signal-controlled junctions and "Design Flow to Capacity ratio for the priority junctions and roundabout.
(2) For signalised junctions, RC>0% indicates that the junction is operating with capacity and RC≤0% indicates that the junction is operating over/at capacity.
(3) For priority junctions or roundabouts, DFC<1 indicates that the junction is operating within capacity and DFC≥1 indicates that the junction is operating over/at capacity.

4.4.10 Overall, all junctions would operate with spare capacity with the proposed improvement schemes.

4.5 Ancillary Parking Provision

4.5.1 The internal transport provision of the proposed housing development is calculated with reference to parking provision standards in Chapter 8 of HKPSG Standard, as shown in **Table 4.4**. The proposed internal transport provisions for domestic and non-domestic development and social welfare facilities are summarised in **Table 4.4** and **Table 4.5** respectively.

Table 4.4 – Provision of Parking and L/UL Facilities for Domestic Development according to HKPSG Requirement

Facilities	HKPSG(1)	Required Provision (PRH) (2)	Required Provision (SSF) (2)
Car Parking	Parking requirement = GPS X R1 X R2 GPS = 1 car space per 4 - 7 flats R1 = 0.52 for all Subsidised Housing R2 = 1 for outside a 500m-radius of rail station	253 - 442 spaces	179 - 313 spaces
Motorcycle Parking	1 space per 110 - 250 flats	14 – 31 spaces	10 – 22 spaces
LGV Parking	1 LGV space per 260 flats	14 spaces	10 spaces
MGV/HGV/ Coach Parking	2 share-use L/UL bays per block	6 bays	6 bays
Visitor Parking	Up to 5 spaces per block	15 spaces	15 spaces

Notes:

(1) According to the Notes of Table 11 Section 1 of HKPSG Ch.8, "One person/two persons" flats shall be excluded from the calculation of the overall parking provision of private car, motorcycle parking spaces and shared-use spaces for LGV and light bus. Car parking provision shall be further reviewed in detailed design stage subject to the flat mix.
(2) For assessment purpose, the no. of flats has incorporated 10% increase. (i.e. 3086+10% (PRH) and 2186+10%(SSF) no. of flats are adopted in parking and L/UL provision calculation.) "One person/two persons" flat is not assumed.

Table 4.5 – Provision of Parking and L/UL Facilities for Non-Domestic and Welfare Facilities according to HKPSG and SWD's minimum requirements

Facilities	Provision according to HKPSG Requirement	Provision according to SWD's minimum requirement (1)
Non-Domestic Facilities		
Retail	2 – 5 spaces *(1 car space per 150 – 300 m2 GFA)*	Not applicable
Social Welfare Facilities(1)		
Residential Care Home for the Elderly (RCHE) cum Day Care Unit (DCU)	Not applicable	2 spaces + 1 L/UL bay
Elderly Day Care Centre (DE)		
Integrated Community Centre for Mental Wellness (ICCMW)		
Hostel for Severely Mentally Handicapped Persons (HSMH) and Day Activity Center (DAC)		

Notes:

(1) Due to site constraints, SWD agreed a minimum of 2 parking spaces for PLB and 1 L/UL bay will be provided for the abovementioned welfare facilities. The designated parking spaces will be allocated to RCHE cum DCU and DE while the loading/unloading bay will be shared use by all welfare facilities. The exact internal transport provision of social welfare facilities is subject to review and confirmation with relevant departments at detailed design stage.

4.6 Pedestrian and Public Transport Facilities

Pedestrian Facilities

4.6.1 The pedestrian network within the vicinity of the proposed housing development is well connected with footpaths along the roads, footbridges and pedestrian crossings. **Figure 4.6** shows the existing pedestrian facilities and the connectivity of pedestrian route to the nearby public transport network. A 3.5m wide footpath has been provided along the newly formed public road for the residents of the proposed housing development to access the adjacent roads. The public road will also serve the relocated skateboard ground and as the EVA for Chai Wan Swimming Pool.

4.6.2 In general, it is considered that the current provision of pedestrian facilities is convenient for the residents of the proposed housing development and the local community to access the nearby areas and public transport facilities. The existing footpaths along San Ha Street are sufficient to cater for the proposed housing development and local demand.

Pedestrian Flow Analysis – Proposed Pedestrian Walkway

4.6.3 To further enhance the pedestrian connectivity with surrounding areas, an pedestrian walkway running along the relocated skateboard ground is proposed to serve as an alternative route at the crest of the slope on the western side of Hiu Tsui Street to connect with the footway on the southern side of Siu Sai Wan Road. The proposed pedestrian walkway connecting the relocated skateboard ground to the Siu Sai Wan Road (in red line) is shown in **Figure 4.7**. The proposed pedestrian walkway is approx. 150m in length.

4.6.4 For conservative analysis, pedestrian flows based on PRH are adopted and all pedestrians to use the proposed pedestrian walkway are assumed in level-of-service (LOS) assessment. In addition, there will be 665 additional pedestrian flow in AM peak and PM peak respectively due to the non-domestic facilities. The results are summarized in **Table 4.6**.

Table 4.6 – Pedestrian Level-of-Service (LOS) on Proposed Pedestrian Walkway

	Hourly Pedestrian flows			Actual Width (m)	Effective Width (m)	Flow Rate (ped/min/m)	Level-of-Service (LOS)
	Domestic	Non-domestic Facilities	Total				
AM Peak	1,290	464	1,754	3	2	14.6	A
PM Peak	1,663	464	2,127			17.7	B

Remark: 10% increase in the flat number is assumed for assessment purpose.

4.6.5 The proposed pedestrian walkway to operate within capacity level is expected.

Pedestrian Flow Analysis – Pedestrian Crossing on Wing Ping Street at J4

4.6.6 Pedestrian level-of-crossing on Wing Ping Street at J4 has been assessed incorporating pedestrian survey flows from Transport Department. The pedestrian hourly flows of 2,445 in AM peak and 2,722 in PM peak are less than 4m wide pedestrian crossing capacity level of 2,400 – 4,800 given in Transport Planning and Design Manual. Therefore, the pedestrian crossing on Wing Ping Street with all pedestrian flows (conservative analysis approach) from the proposed public housing development are expected to operate within capacity level.

Public Transport Facilities

4.6.7 The proposed housing development is located approximately 950m from the center of Chai Wan MTR Station, which will be served by public transport including franchised buses, public light buses and taxis. The nearest GMB stop is located on Wing Ping Street. Two PTIs/ bus terminus and bus stops of over 20 bus routes are also available at Chai Wan Road within 300m from the proposed development. The aforementioned public transport services would provide a linkage between the Chai Wan MTR Station and the proposed housing development. The locations of the existing public transport facilities in vicinity of the proposed development are presented in **Figure 4.8**.

4.6.8 In general, the proposed development will be well served by the existing public transport facilities.

4.7 Conclusion

4.7.1 Traffic and transport impact including the provision of pedestrian and public transport facilities due to the proposed housing development are assessed under the Preliminary TTIA. All key junctions around the Site are operating within capacity with the proposed housing development and road improvement works in place.

4.7.2 Car parking and L/UL facilities have been proposed in accordance with the latest HKPSG as well as the relevant departments' requirements.

4.7.3 The current provisions of pedestrian facilities are convenient to access the nearby public transport facilities and are considered to be sufficient to cater for the proposed development. In general, the proposed housing development is well served by existing public transport facilities.

4.7.4 In sum, the overall traffic assessment has shown that with the proposed housing development and proposed junction improvements in place, the key junctions will operate satisfactorily. The proposed housing development is therefore supported from traffic engineering point of view.

5. INFRASTRUCTURE ASPECT

5.1 Introduction

5.1.1 Preliminary Drainage Impact Assessment (DIA), Sewerage Impact Assessment (SIA), Water Supply Impact Assessment (WSIA) and Utilities Impact Study (UIS) have been carried out to assess the potential impacts in different aspects arising from the proposed housing development. This section provides a summary of the key findings in the preliminary DIA, SIA, WSIA and UIS.

5.2 Drainage

Existing Drainage Network

5.2.1 The Site is located within the Eastern Catchment of the Hong Kong Island. The nearest branch drains to the Site include a 450mm dia. pipe laid in the drainage reserve between Caritas Chai Wan Marden Foundation Secondary School and Precious Blood Secondary School and a 900mm dia. pipe runs along the San Ha Street. Both branch drains are finally discharged to the downstream trunk drain runs along Chai Wan Road with size of 2-cell 4880mmx2790mm box culvert and 3-cell 5000mmx3350mm box culvert respectively.

5.2.2 A layout plan of existing drainage network is shown in **Figure 5.1**. A potential discharge route for collecting the runoff from the Site is identified, which is discharge to drainage system starts from San Ha Street to box culvert at Chai Wan Road. The discharge route is investigated under this Study regarding the hydraulic profile to ensure no adverse impact on the route and its associated branch system.

Existing Drainage Catchment

5.2.3 Surface runoff from the Site is proposed to be discharged to the adjacent branch system, of which the respective existing catchment area of ~30ha is extracted from hydraulic model of Drainage Master Plan (DMP) Review for the assessment. Surface runoff of the existing catchment is collected by the branch system and discharge to trunk drains of box culvert at Chai Wan Road.

Drainage Impact Assessment

5.2.4 The Site includes the proposed public housing development, DSD maintenance yard, reprovision of skateboard ground and associated slope formation, of which the runoff coefficient adopted for each area and estimated runoff under 50yr rainwater return period with climate change up to mid of 21st century is tabulated in **Table 5.1** below. For conservative, uphill artificial slope is considered as fully paved while 30% of housing site area is considered as unpaved in this assessment.

Table 5.1 – Estimated runoff within the Site

Type	Area (m^2)	Runoff Coefficient	Runoff (m^3/s)
Public Housing Development	~10,900	1.00	0.79
	~4,700	0.4	0.14
Skateboard ground	~1,300	1.00	0.09
DSD maintenance yard	~900	1.00	0.07
Slope	~4,000	1.00	0.29
Total			1.38

5.2.5 Surface runoff from the Site is proposed to be discharged to the adjacent branch system with the potential discharge route, of which the respective existing catchment area of ~30ha is extracted from hydraulic model of DMP Review for the assessment. With consideration of the site boundary, it is noted that an area of ~1,000m^2 is situated outside the existing drainage catchment, which is reserved for future LCSD skateboard ground and should be included in the proposed drainage system under the Project.

5.2.6 The respective sub-catchment under DMP study where the Site locate is further delineated with consideration of the Development. Details of the catchment delineation and runoff direction from affected catchment is shown in **Exhibit 5.1** below.

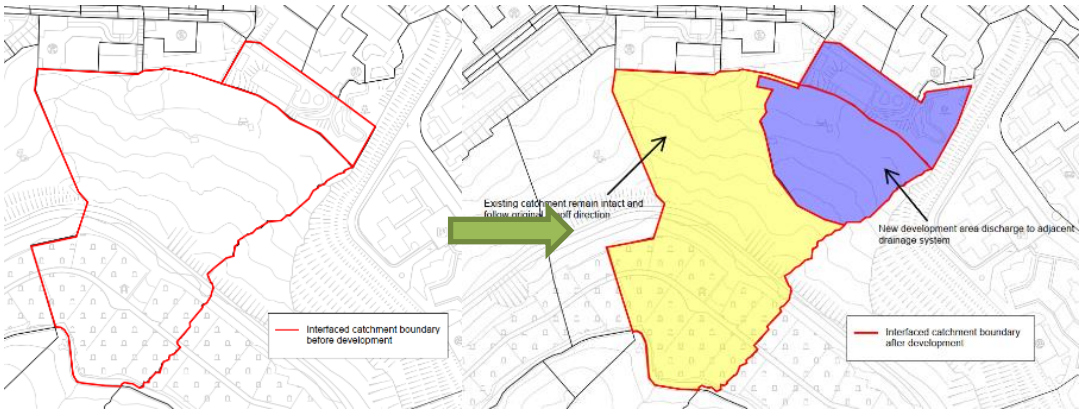

Exhibit 5.1 – Catchment delineation and proposed drainage arrangement under the Development

5.2.7 Assessment for hydraulic performance of the existing drainage system with consideration of the proposed development in place is carried out. The comparison of paved/unpaved area and associated runoff before and after development is summarized in **Table 5.2** below.

Table 5.2 – Runoff and area comparison before and after development

	Before development [1]	**After development [2]**	**Increase [3]=[2]-[1]**
Paved area (ha)	~3	~4.3	~1.3
Unpaved area (ha)	~4	~2.8	~-1.2
Total (ha)	~7	~7.1	~0.1*
Total runoff volume (m^3)	~9,500	~11,200	~1,700

Remark: *Additional area near Chai Wan Poolside Garden compared with existing catchment

Proposed Mitigation Measures

5.2.8 The change of runoff coefficient due to the proposed development will cause water level rise in the discharge route, and it is foreseeable that rise of the water level will have drainage impact on branch system adjoining the discharge route, which is located at low topography area with heavy traffic flow.

5.2.9 According to Table 5.2, the total additional runoff from the development is ~1,700m^3. To avoid worsening existing drainage condition at downstream, it is proposed to construct a new maintenance yard adjacent to the proposed public housing development to hold the additional runoff within the Site during a rainstorm and discharge it to downstream drainage system through pumping system.

5.2.10 Details of the proposed retention tank size and associated pumping system are listed in **Table 5.3a** and **Table 5.3b** below.

Table 5.3a – Details of proposed retention tank

Retention tank size	20m (L) x 20m (W) x 4.5m (D)
Ground level	30mPD
Bottom level	25.5mPD

Table 5.3b – Details of proposed pumping system

Design capacity	0.73m^3/s
Design head	4m
Cut-in level	28.2mPD
Cut-off level	25.5mPD

5.2.11 Typical layout of proposed retention tank and pump system is shown in **Exhibit 5.2**.

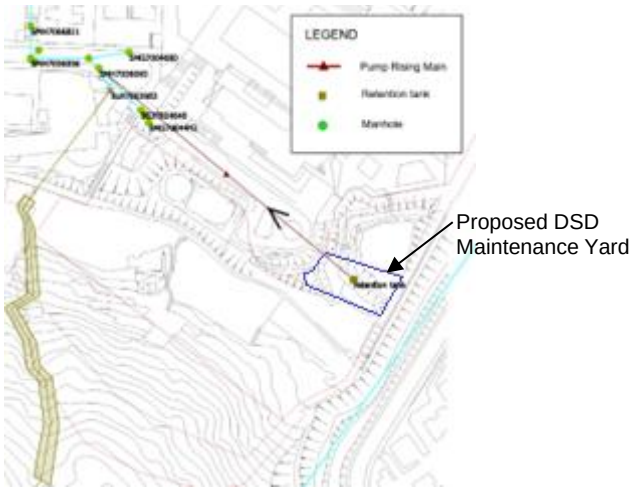

Exhibit 5.2 – Typical layout of proposed retention and pump system

5.2.12 Hydraulic modelling for the mitigation proposal is carried out. It is assumed the pump flow from retention tank will be discharged to the discharge route via the rising main. It is noted that with the help of retention system, the water level along the discharge route can be maintain below max. value under baseline condition, with a decrease ranges 3-40mm and immediate downstream peak flow maintained at around 2.75m^3/s, and it is therefore those branch system adjoining to the discharge route will not be affected by the development.

Summary

5.2.13 With the provision of DSD's maintenance yard and help of retention system, it is concluded that the proposed development is technical feasible and no insurmountable impacts will be resulted.

5.3 Sewerage

Existing Sewerage Facilities

5.3.1 According to DSD sewerage record plan, the Site is located within the catchment area (thereafter as "Chai Wan catchment") of Chai Wan Preliminary Treatment Works (CWPTW). Two sewerage branches are identified along San Ha Street, which is located in front of SKH Chai Wan Saint Michael's Primary School and Precious Blood Secondary School respectively, for sewage discharge from the Site. Layout plan for the existing sewerage branches adjacent to the Site is shown in **Figure 5.2**.

Sewerage Impact Assessment

5.3.2 For conservative consideration, planning data of 2036 scenario has been adopted for assessment of existing sewerage facilities and CWPTW. It is found that CWPTW has adequate capacity to cater the development of the Site in 2036, therefore, no upgrading works at the CWPTW will be required.

5.3.3 Due to the proposed development at the Site, an additional ADWF 2,083 m^3/d is added to the existing sewerage system. The sewerage network from the identified branch to CWPTW is extracted from existing sewerage system for simplification and assessment purpose. Sewerage connection at the existing sewerage branches at San Ha Street has been considered, of which the sewage from the Site can be discharged to the 600mm dia. sewer near SKH Chai Wan Saint Michael's Primary School.

5.3.4 It is noted the proposed connection branches involved existing problematic sewers in the vicinity of development area. In this regard, it is suggested that upgrading for those existing problematic sewers should be explored under a wider context of study, such as Sewerage Master Plan (SMP) review etc. Proposed upgrading works under this Project will only target at those problematic sewers caused by the proposed development. The total length of problematic sewers caused by the proposed development is approximate 46.5m.

Proposed Mitigation Measures

5.3.5 In this regard, only the triple sewers with diameter of 300mm from manhole FMH7032466 to FMH7032467 locate at Chai Wan Road are and Sun Yip Street proposed to be upgraded to diameter of 400mm.

5.3.6 Under the proposal and with consideration of the estimated ADWF from the Site, a 375mm dia. sewer with length of approximate 400m is proposed to collect sewage from proposed sewerage terminal manholes of the Site and connect to existing manhole FMH7054942 at 2.820mPD in front of SKH Chai Wan Saint Michael's Primary School. Plug-end will be completed and provided before the tentative population intake in 2033-34 for the connection pipe. The proposed sewers layout is shown in **Figure 5.3**.

Summary

5.3.7 By upgrading a section of existing sewer and connecting the new sewerage system to existing sewerage network, it is concluded that the proposed development is technical feasible and no insurmountable impacts will be resulted.

5.4 Water Supply

Existing Waterworks Facilities

5.4.1 The Site is located within the interconnected fresh water supply zone of Chai Wan North Fresh Water Service Reservoir (CWNFWSR) (Capacity = 21,184 m^3/d; TWL = +85.34 mPD; IL = +79.24 mPD) and Chai Wan North No.2 Fresh Water Service Reservoir (CWN#2FWSR) (Capacity = 10,792 m^3/d; TWL = +86.00 mPD; IL = +78.95 mPD). CWNFWSR and CWN#2FWSR are located at distance of 1,300m and 1,500m from the Site respectively and provide fresh water supply to the Site through an interconnected network.

5.4.2 An existing DN150 fresh water supply main is running along San Ha Street to serve roadside fire hydrants and existing developments, which tees off from the ring main at the junction of Wing Ping Street and San Ha Street. The existing fresh water supply system layout is shown in **Figure 5.4.**

5.4.3 The Site is located within the salt water supply zone of balanced tank system consists of Siu Sai Wan Salt Water Pumping Station (SSWSWPS) (Output capacity uprated to 41,700 m^3/d) and Chai Wan Salt Water Service Reservoir (CWSWSR) (Capacity = 4,655 m^3/d; TWL = +71.628 mPD; IL = +66.218 mPD). SSWSWPS and CWSWSR are located at distance of 700m and 1,400m from the Site respectively and provide salt water supply to the Site through balancing tank system.

5.4.4 An existing DN150 salt water supply main is running along San Ha Street to serve roadside fire hydrants and existing developments, which tees off from the ring main at the junction of Wing Ping Street and San Ha Street. The existing salt water supply system layout is shown in **Figure 5.5**.

Water Supply Impact Assessment

5.4.5 The Site will be served by existing CWNFWSR and CWN#2FWSR through interconnected fresh water supply zone. The total fresh water mean daily demand (MDD) of the Site is 2,184m^3/day, the baseline fresh water MDD of the supply zone in 2036 is 20,483m^3/d. Therefore, the total projected fresh water MDD with Development in 2036 is 20,483+2,184=22,667m^3/d, which is smaller than the total designed MDD of 42,634m^3/d and it is concluded that the existing supply source can cater the Development in 2036.The existing fresh water supply network within the supply zone of CWNFWSR and CWN#2FWSR is simplified to facilitate this assessment.

5.4.6 Due to the proposed development, residual head decreases along the fresh water supply main with a range from ~0.9 to 9m and ~0.05 to 1.16m for normal and fire-fighting condition respectively. The maximum residual head decrease happens at Node F12 which near the junction of Chai Wan Road and Wing Ping Street for both normal and fire-fighting condition.

5.4.7 Under normal condition, the residual heads at each node of the fresh water supply network for scenario before and after the Development is higher than 20m as required by WSD DI1309. The minimum residual head is ~39m at Node F1 nears the French International School before the Development and ~28m at proposed Node F13 in front of the Site after the Development.

5.4.8 Under fire-fighting condition, the residual heads at each node of the fresh water supply network for scenario before and after the Development is higher than 17m as required by WSD DI1309. The minimum residual head is ~39m at Node F1 nears the French International School before the Development and ~45m at the proposed Node F13 in front of the Site after the proposed development in place.

5.4.9 The Site falls within the supply zone a balancing tank system consisting of SSWSWPS and CWSWSR. However, the baseline salt water MDD under 2036 without the proposed development is 27,657m^3/d, which is larger than the designed MDD of CWSWSR and it is considered the CWSWSR has inadequate capacity to cater existing planned salt water demand prior to the proposed development. An additional reservoir capacity of (27,657-18,620) x 25%=2,260m^3 is required to cater the baseline salt water MDD in 2036.

5.4.10 By further taking into consideration of the estimated salt water MDD of the proposed development, the total salt water MDD of the supply zone is 27,657+684=28,341m^3/d. In this regard, an additional reservoir capacity of (28,341-18,620) x 25%=2,430m^3 is required. Compared with the additional reservoir capacity based on baseline salt water MDD, further additional reservoir capacity induced by the proposed development is 2,430-2,260=170m^3.

5.4.11 With consideration of a safety margin of 20%, the required capacity of SSWSWPS is estimated as 28,341x120%=34,009m^3/d. The designed capacity of SSWSWPS is 41,700m^3/d under this assessment, which is larger than the required capacity of 34,009m^3/d.

5.4.12 Due to the proposed development, the residual head decreases along the salt water supply main with a range from ~0.02 to 0.17m and ~0.01 to 0.05m for normal and fire-fighting condition respectively. Under both normal condition and fire-fighting condition, the maximum residual head decrease happens at Node S6, which near SKH Chai Wan Saint Michael's Primary School.

5.4.13 Under normal condition, the residual heads at each node of the salt water supply network for scenario before and after the proposed development is higher than 15m as required by WSD DI1309. The minimum residual head is ~43m before the proposed development at Node S1 which is located near the Hing Wah Estate and is ~34m after the proposed development at proposed Node S12 in front of the Site.

5.4.14 Under fire-fighting condition, the residual heads at each node of the salt water supply network for scenario before and after the proposed development is higher than 17m as required by WSD DI1309. The minimum residual head is ~44m before the proposed development at Node S1 which is located near the Hing Wah Estate and is ~21m after the proposed development at proposed Node S12 in front of the Site.

Proposed Water Supply Works

5.4.15 A DN300 pipe of around 280m is proposed to tee-off from existing DN400 supply main at the junction of Wing Ping Street and Chai Wan Road to facilitate the proposed development. The alignment of the proposed DN300 is shown in **Figure 5.6**.

5.4.16 A DN150 pipe of around 150m is proposed to be connected with the existing DN150 salt water pipe at San Ha Street, which tees off from existing DN600 supply ring main at the junction of Wing Ping Street and Chai Wan Road to facilitate the proposed development of the Site. The alignment of the proposed DN150 is shown in **Figure 5.7**.

Summary

5.4.17 By connecting the new water supply system to existing water supply network, it is concluded that the proposed development is technical feasible and no insurmountable impacts will be resulted.

5.5 Utilities

5.5.1 Apart from the existing drainage, sewerage and water supplies systems as mentioned in Sections 5.2 to 5.4 above, potential conflicts between the proposed development and the existing and planned utilities including power supply, gas supply, telecommunication and street lighting are identified.

5.5.2 According to the available utility records, the existing overhead LV electricity cable and will be affected by the proposed housing development at the Site. Permanent diversion is required. The location is subject to change in detailed design stage. The layouts of existing and planning utilities are presented in **Figures 5.8** to **Figure 5.12**.

5.5.3 Arrangement of the diversion scheme should be investigated in the design phase. Sufficient lead time should be given to the utility undertakers to carry out diversion and removal.

5.5.4 During the preliminary feasibility stage, only HKE, HKCG and HGC provided their existing utilities information in and around the vicinity of the Site. In the design phase, adequate spaces should be provided to accommodate additional utilities in case other utility undertakers have expressed interest to provide their service to the proposed housing development site.

5.5.5 HKE advised that the power supply infrastructure is expected to be adequate to cater for the anticipated load demand of the proposed public housing development. The estimated project planning and execution time is about 2-3 years. Detailed load estimation, project programme and other relevant information for the proposed housing development shall be provided to HKE to facilitate their planning in detailed design stage.

5.5.6 In conclusion, the provision of the existing utilities would not impose insurmountable constraints on the proposed housing development at the Site.

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6. GEOTECHNICAL AND SITE FORMATION ASPECTS

6.1 Introduction

6.1.1 Preliminary Geotechnical Assessment (GA) and Natural Terrain Hazard Study (NTHS) have been conducted to identify all potentially significant ground and geotechnical engineering constraints, recommend corresponding solutions and confirm the technical and economic feasibility of the proposed housing development. All potential risks arising from natural terrain hazards have been studied, identified and evaluated, the need for hazard mitigation measures has been assessed.

6.1.2 Preliminary Site Formation Assessment (SFA) has also been conducted to assess the site formation requirements for the proposed housing development and present recommendations in relation to site formation for the proposed housing development.

6.1.3 This section provides a summary of the key findings in the preliminary GA, NTHS and SFA.

6.2 Geology and Hydrogeology

Site Geology

6.2.1 According to the Hong Kong Geological Survey (HKGS) 1:20,000 Solid and Superficial Geology Map Sheet 11 (GEO, 2012), the Site is predominantly underlain by eutaxitic fine ash vitric tuff (Krc_fvt) of Che Kwu Shan Formation, which is Cretaceous in age.

6.2.2 Debris flow deposits (Qd) are recorded at middle portion of the Site (along a topographic depression which exist prior to anthropogenic activities) and the topographic depressions at downslope within lower portion of the Site.

6.2.3 No geological structures have been recorded within or in close proximity of the Site. A northwest-southeast trending photolineament has been delineated at 150m downslope of Study Area, at the lower portion of the Site. A NE-SW trending fault has been recorded at about 350m to northwest.

6.2.4 Extract of published geological map Sheet 11 at the Site is presented in **Figure 6.1**.

Ground Conditions

6.2.5 Existing GI data within the Site were found in GEO. According to existing GI information, the whole site is determined to be comprised of fill, topsoil, colluvium, completely decomposed volcanic (CDV), highly decomposed volcanic (HDV), and moderately decomposed volcanic (MDV) to fresh volcanic. A few metres of fill material/ topsoil were encountered in all existing drillholes and trial pit within the site boundary. Colluvium, underlain by CDV, HDV, and MDV to fresh volcanic were then encountered at varied depth in the vertical drillholes and trial pit.

6.2.6 Project-specific GI works have been proposed for this Study. The project-specific GI works involve 12 no. of drillhole (DH1 to DH12) and 5 nos. of trial pits (TP1 to TP5) within the Site and the natural terrain overlooking the Site. Discontinuity data was collected by acoustic televiewer in 8 nos. of drillholes during project-specific ground investigation. The discontinuities surveyed in each drillhole were analysis and several joint sets were identified in the ground investigation report. These identified joint sets can be grouped into several major joint sets (S1 to S7) and some minor joint sets.

6.2.7 Joint set S1 is a sub-horizontal joint set which can be identified in all drillholes. Joint sets S2 and S3 are sub-vertical joint sets dipping to east/west. Joint sets S4 and S5 are generally dipping north/south and steeply dipping at 54-80°. The N-S or E-W dipping joint sets can be widely identified in drillholes.

6.2.8 Joint set S6 is dipping at about 30-60° with dipping direction of about 300°. Joint set S7 is generally sub-vertical and dipping towards 320°. Joint set S6 generally presents in the drillhole at upslope (southern) portion, while joint set S7 mainly presents in lower (northern portion). These two joint sets may be related to each other but slightly vary in dip/dip direction throughout the site.

Geological Strata

6.2.9 Based on the existing and project-specific GI information, the subsoil underneath the Site generally consists of completely to highly decomposed tuff (CDT to HDT), underlain by moderately to slightly decomposed tuff (MDT to SDT). A thin layer of colluvium generally overlying saprolite.

6.2.10 Fill is encountered within the Site in most of project-specific drillholes except DH3, DH4 and DH6. The thickness of Fill materials ranges from 0.15 (TP5) to 1.5 m (DH12). Fill is also encountered in all existing drillholes and trial pits at man-made slope features located at downslope of Cape Collinson Road. Fill materials up to 3.59m thick (31454-BH3) exist at the upper portion of registered fill slope 11SE-D/FR69.

6.2.11 Colluvium is encountered within the Site in most of project-specific drillholes except DH9 and DH12. The thickness of the colluvium varies between 0.5 m (DH8) and 4.5 m (DH11). The colluvium is typically described as stiff, brown to reddish brown, clayey sandy silt, with some fine to coarse gravel, cobble and boulder sized rock fragments.

6.2.12 Residual soil is locally encountered in the vicinity of Site, at the rounded local spurs to the east. The thickness of residual soil is recorded to be 1m (3448-BH11). Residual soil was described as soft, brown, sandy clayey silt.

6.2.13 The colluvium is generally underlain by saprolitic soil mantle (i.e. completely to highly decomposed tuff). The saprolite varies in thickness from 0.6 m (27897-B3) to 12.7m (22512-BH26). The CDT is generally described as extremely weak to very weak, yellowish to reddish brown, completely decomposed tuff (very stiff sandy silt with some fine to medium gravel sized rock fragments). The HDT is generally described as weak, yellowish to reddish brown, highly decomposed tuff (angular fine to coarse gravel and cobble sized rock fragments).

6.2.14 The bedrock of tuff is encountered between 4.05m (DH8) and 12.8m (DH12) below ground level. The rock types encountered in the GI stations generally correlate with the published geological map.

Groundwater Monitoring Records

6.2.15 Groundwater monitoring records of the standpipes and piezometers installed at the drillhole under project-specific GI works. Groundwater monitoring records of the standpipes and piezometers installed at the project-specific drillholes show that the highest measured groundwater levels are 8.40 m below ground level, 4.45 m below ground level and 7.42 m below ground level at three drillholes throughout the groundwater monitoring period. The remaining standpipes/piezometers are dry during the monitoring period.

Registered Man-made Features

6.2.16 According to the slope information from Ginfo of CEDD, there are a total of 14 registered man-made features (Feature Nos. 11SE-D/C160, 11SE-D/C161, 11SE-D/C187, 11SE-D/C188, 11SE-D/C452, 11SE-D/C453, 11SE-D/C456, 11SE-D/C459A, 11SE-D/C459B, 11SE-D/C564, 11SE-D/C599, 11SE-D/C736, 11SE-D/R112, 11SE-D/R121 and 11SE-D/R29) located within or in the immediate vicinity of the Site. 7 features are maintained by government departments (including HD and ArchSD), 1 feature is maintained by both ArchSD and private party and 5 features are solely maintained by private parties. The maintenance responsibility of Feature No. 11SE-D/C736 is under review by Lands Department when this report is issued. The locations of the man-made slope features are presented in **Figure 6.2**.

6.3 Preliminary Geotechnical Assessment

6.3.1 Geotechnical constraints of the site are imposed by the varying rockhead. However, it is concluded that there shall be no adverse effect added on to the Site with the current available information. However, extra caution and further recommendation shall be provided regarding the constraints during investigation and detailed design stage.

6.3.2 The properties for each soil or rock type are summarized in **Table 6.1** and **Table 6.2**.

Table 6.1 – Summary Table of Properties for Soil

Soil Stratum	Effective Cohesion, c' (kPa)	Friction Angle, φ' (°)	Average SPT N-Value (No. of blow)	Average Permeability (m/s)
Fill	0	33	-	6.88E-07
COLL	3	35	14.9	4.97E-07
CDT	5	35	37.6	6.60E-07
HDT	5	37	81.3	7.42E-07

Table 6.2 – Summary of Rock Compressive Strength

Rock/ Grading	From UCS Test / Correlated from PLT		
	Mini (MPa)	Max(MPa)	Avg (MPa)
Tuff/ III	39.1	210.0	80.8
Tuff / II/III	7.3	367.5	118.0
Tuff / II	11.2	260.0	114.1

6.3.3 Based on the result of kinematic analysis, the proposed rock slope portion facing 075° may be susceptible to planar failure (J3), toppling failure (J2), and intersection of joint sets W13, W34 and W35 may give rise to wedge failure. For proposed rock slopes portion facing 035°, intersection of joint sets W34, W35, W25 and W24 may give rise to wedge failure. In addition, planar failure may occur due to local variation in joint orientation of J5, and intersection of joint sets W15, W24, W25, W34, W35 and W45 may give rise to wedge failure at the rock slope portion facing 335°.

6.3.4 Detailed rock mapping survey shall be carried out to identify any potential unstable rock blocks during construction stage. Preventive works, such as rock dowels, buttresses, dentition, scaling/removal of loose blocks and provision of wire mesh, may be required to upgrade the rock slope portions.

Geotechnical Appraisal of Registered and New Man-made Slopes

6.3.5 There are 5 new man-made slopes and retaining walls to be formed under the development according to the preliminary site formation plan.

6.3.6 The man-made features likely to affect or be affected by the development are reviewed based on GEO Technical Circular Note No. 15 (TGN 15).

6.3.7 As the toe boundary of Study Area is the crest of proposed cut slope of site formation works, the presence of boulders and localized oversteepened slope is recommended to be reviewed in later stage if the site formation boundary confirmed.

6.4 Natural Terrain Hazard Assessment

6.4.1 Screening has been carried out based on the recommendation of GEO Report No. 138 (2nd Edition), to examine whether the Site may be subject to natural terrain hazards from the Study Area. The Study Area has been delineated which generally fulfilled the "Inclusion" guidelines as stated in Section 2.3.2 of GEO Report No. 138 (2nd Edition).

6.4.2 Six potential natural terrain hazard models, including open hillslope failure, topographic depression failure, channelized debris flow, boulder fall, rock fall and deep-seated failure, have been investigated for the Study Area, if it is recommended for further study. A design event approach has been adopted for each of the hazard model of the Study Area. In addition, landslide risks posed from hillside pocket is reviewed where previous anthropogenic disturbance exists.

6.4.3 The Study Area was evaluated based on the "Alert Criteria" as stated in GEO Report No. 138 (2nd Edition). The Site involving proposed public housing development at the toe of Study Area. According to Table 2.2 of GEO Report 138 (2nd Edition), the proposed public housing development is classified as Facility Group 1(a), and therefore, criterion (a) of Alert Criteria is fulfilled for the Site of these facilities. As this project is a feasibility study and the layout of development is not yet confirmed, the development platform based on the latest site formation scheme is adopted for the evaluation in criterion (b). According to the results of screening, the Study Area have an angular elevation more than 20° and meet the "Alert Criteria". As mentioned in Section 2.3.6 of GEO Report No. 138 (2nd Edition), special consideration for dealing with planar hillside catchment is considered for the OH catchment CW1. However, the Study Area has an angular elevation more than 25° and does not meet the special consideration.

6.4.4 Following the review of the background information, detailed API and observations from fieldwork, it is considered that the catchments CW1 and CW2 may poses potential topographic depression failure hazard to the Site and natural terrain mitigation measures may be required. In addition, it is probable that failure of fill bodies could occur. Preventive and protective mitigation strategies are plausible for the proposed development. The necessity, types, scale and extent of mitigation measures shall be reviewed in detailed design stage of site formation works.

6.4.5 The extent of the natural terrain study area shall be reviewed upon confirmation of the site boundary and site formation layout in the detailed design stage. The design approach and design requirements for each hazard models for the catchment are to be fully assessed in the Natural Terrain Hazard Assessment (NTHA) stage. Further studies of the natural terrain hazards are proposed, which shall include assessment and mitigation strategy upon additional information obtained, further analysis and design in the detailed design stage. Any recommendations concluded in this Report might be changed subject to the findings at detailed design stage of site formation works.

6.5 Proposed Site Formation Works

6.5.1 Due to the interpreted rockhead generally varies at level of about +25mPD to +60mPD at the site, the proposed platform level of the Site is at approximately +30.0 and +41.0mPD with 1 in 100 fall to provide adequate fall for surface runoff within the Site. By this, the rock cutting within the housing development could be kept to minimum, which would avoid prolonging the construction period and affecting the development schedule. There will be geotechnical features formed at the interface of the two platforms. Access to the Site will mainly come through the proposed slope and roundabout north to the Site. A series of soil and rock cut slope will be formed at western side and southern side of the Site. For eastern side of the Site, a combination of retaining structure and rock cut slope would be required. For the northeastern side of the Site adjoining to the existing Chai Wan Swimming Pool, a mass concrete retaining wall is required to support an access footpath. The site formation plan is shown in **Figure 6.3.**

Proposed Mass Concrete Retaining Wall

6.5.2 Due to the proposed development, the existing feature adjacent to the Chai Wan Swimming Pool, located at the north-eastern portion of the Site will be removed to provide adequate site formation area for the development. 4m wide L-shaped retaining walls are proposed to retain the swimming pool facility. Temporary excavation and filling as well as compaction works up to the proposed formation level is required for construction of the proposed retaining walls. The access path will be re-provided on the filled area on the north of the proposed retaining walls.

Proposed Retaining Wall with Pile Foundation

6.5.3 Due to the proposed development, the existing feature adjacent to the Chai Wan Swimming Pool, located at the north-eastern portion of the Site will be removed to provide adequate site formation area for the development. 3.5m wide mass concrete retaining wall is proposed to retain the swimming pool facility. Temporary excavation and filling as well as compaction works up to the proposed formation level is required for construction of the proposed retaining walls. The access path will be re-provided on the filled area on the north of the proposed retaining walls.

6.5.4 At the northeastern portion of the Site adjoining to slopes overlooking Hiu Tsui Street, the rockhead is relatively high based on the rockhead contour, rock cut slope with a mass concrete retaining wall founding on the rock slope is proposed to accommodate the level difference between the housing platform and at site boundary.

Proposed Bored Pile Wall

6.5.5 At the eastern portion of the Site, 2m diameter bored pile walls are proposed along the site boundary to retain the soil material from existing area above, while providing adequate site formation area for the development at the proposed ground below.

Proposed Filling Works to Achieve Proposed Formation Levels

6.5.6 The existing ground level is based on the surface topography, i.e. spot levels and level contour, as depicted in the 1:1000 scale government survey plans. Within the development area, some of the existing ground levels are lower than the required minimum formation levels. These areas will be filled to match with the adjacent road networks and the development area. Moreover, backfilling is required at excavated area after the construction of mass concrete retaining wall for the re-provision of access path at the north-eastern portion of the Site.

6.5.7 The fill volume is estimated with the proposed formation level. Based on preliminary estimate, a total of approximate 1,100m^3 of fill materials is required for the proposed housing development.

6.5.8 The record of material properties for slope filling or backfilling works shall be provided to the project proponent of the proposed housing development for reference before hand-over of the Site.

Proposed Cut Slopes and Cutting for Forming the Site

6.5.9 Due to the proposed development, the existing access road located at the northern portion of the Site will be expanded towards the Site. Cut with minor fill slope at the upper portion is proposed alongside the modified access road between the proposed housing development site and the expanded access road.

6.5.10 Within the proposed housing development site, some of the existing ground levels are higher than the required minimum formation levels. As the Site for the proposed housing development will be formed on platform, these areas will be cut to match with the adjacent road networks and the proposed housing development.

6.5.11 At the western and southern portions of the Site, newly formed soil cut slopes with maximum gradient of 50^{o} and rock cut slopes with maximum gradient of 80^{o} are proposed to overcome the high level difference over 30m between the proposed formation level and the existing ground level. Soil and rock cut slopes are also proposed at the interface of the housing platforms with different formation levels. Soil slope stabilization measures (e.g., soil nailing) and rock slope stabilization works will be proposed at these newly formed slopes to ensure the slope are designed up to current geotechnical safety standard.

6.5.12 At this preliminary stage, the amount of excavation due to cutting of the existing ground and proposed cut slopes is estimated at approximately 225,000m^3. Further breakdown of the estimated amount of excavation, including soil and rock excavation will be discussed.

6.6 Site Formation Assessment

Platform Option Assessment (POA)

6.6.1 Three options for the site formation were proposed and a screening system has been devised for the criteria adopted to screen out the preferred option for the Site. A summary table of the comparison of the options is presented in **Table 6.3**.

Table 6.3 – Summary of the comparison of the options

	Option 1	Option 2	Option 3
Geotechnical Constraints	Rock joint assessment is required during rock slope cutting and rock slope stabilization measures shall be proposed based on the results of assessment	Rock joint assessment is required during rock slope cutting and rock slope stabilization measures shall be proposed based on the results of assessment	Rock joint assessment is required during rock slope cutting and rock slope stabilization measures shall be proposed based on the results of assessment
Merits	Least excavation for the whole site	Provide a single level for the whole housing platform	eliminate the proposed bored pile wall
Volume of Excavation	~224,865 m^3	~285,486 m^3	~229,052 m^3
In Soil	~192,516 m^3	~204,595 m^3	~195,555 m^3
In Rock	~32,349 m^3	~80,891 m^3	~33,497 m^3
Volume of Filling Works	~1,137 m^3	~1,137 m^3	~1,137 m^3
Net Cut and Fill Balance	~223,728 m^3	~284,349 m^3	~227,915 m^3
Natural Terrain Hazard Mitigation Works	Preventive and protective mitigation strategies are plausible for the proposed development	Preventive and protective mitigation strategies are plausible for the proposed development	Preventive and protective mitigation strategies are plausible for the proposed development
Estimated Cost:			
Retaining Structure	30.1	33.1	18.7
Excavation Works	174.7	245.2	178.3
Total Estimated Cost ($M)	204.8	278.3	197.0
Estimated Time (month)	36	44	36

6.6.2 In comparison of the construction cost and time, the Option 2 is the largest amongst the three options. However, under Option 2, a single platform can be provided for the whole housing development. By placing the carpark facilities at a lower level, it can reduce the overall building block height with same housing flat numbers as compared with the case of having carpark on +30mPD.

6.6.3 Although Option 3 has a lower overall site formation cost compared to Option 1 due to the reduction of bored pile wall at the eastern boundary, but the extensive slope works would encroach on the existing slope works at Siu Sai Wan Estate, and the set back of proposed slope will greatly affect the housing block layout and the associated foundation works. As such, Option 3 is not recommended.

Formation of New Retaining Walls

6.6.4 Both cutting and filling works will be required for the construction of mass concrete retaining wall. Some of the geotechnical constraints specific to these works are summarized below:

- Excavation may be required in materials that have persistent weakness planes such as bedding, shear planes, foliation, cleavage etc. This can have implications for rock and soil slope stability, particularly if the weakness planes are adversely oriented with respect to the slope face.
- Whilst the majority of excavated soils are likely to be suitable for re-use of fill within the development area. Any unsuitable materials will need to be identified and either treated prior to re-use or removed from the Site.

Formation of New Rock Slope

6.6.5 Referring to the proposed site formation plan, there will be a proposed cut slope along the southern and western boundary of the Site. The proposed site formation plan shown that rock slope is proposed at the middle portion of the cut slope, which has a maximum slope angle of 80°.

6.6.6 In general, the proposed rock slope can be split into three portions, which facing 075°, 035° and 335° (slope dip direction).

6.6.7 Based on the result of kinematic analysis, the proposed rock slope portion facing 075° may be susceptible to planar failure (J3), toppling failure (J2), and intersection of joint sets W13, W34 and W35 may give rise to wedge failure. For proposed rock slopes portion facing 035°, intersection of joint sets W34, W35, W25 and W24 may give rise to wedge failure. In addition, planar failure may occur due to local variation in joint orientation of J5, and intersection of joint sets W15, W24, W25, W34, W35 and W45 may give rise to wedge failure at the rock slope portion facing 335°.

6.6.8 Detailed rock mapping survey shall be carried out to identify any potential unstable rock blocks during construction stage. Preventive works, such as rock dowels, buttresses, dentition, scaling/removal of loose blocks and provision of wire mesh, may be required to upgrade the rock slope portions.

Ground Settlement

6.6.9 Ground settlement can be induced by additional loads from filling, groundwater drawdown and nearby excavation works. Monitoring works should be carried out at sensitive receivers in the vicinity of the Site during construction.

Surface Drainage System

6.6.10 New U-channels of 900UC are proposed at the crest of proposed cut slopes and proposed bored pile walls to collect the runoff from the upslope catchment areas surrounding the Site. In addition, new U-channels of 300UC are proposed at each berm of the proposed cut slopes to collect the surface runoff from each slope batter. All the collected runoff will be diverted and discharged either to the existing drainage system at the northwest of the Site or to the proposed underground storage tank located at the northeast of the Site. No drainage reserve to be imposed within the proposed public housing site.

Groundwater Control

6.6.11 Due to relatively high groundwater level with respect to the proposed ground, it is likely that groundwater control will be required for many of the excavation works in low lying area. The hydrogeological conditions at the Site will need to be carefully investigated to ensure that groundwater control measures are adequate and do not have adverse impacts on nearby structures, facilities etc.

Phased Site Formation

6.6.12 The site formation works will start at the southern and eastern portion of the Site. The existing skateboard ground at the western portion will be retained until the availability of the reprovisioning site at the eastern portion of the Site. Detailed arrangement would be subject to further review at detailed design stage.

6.7 Conclusion

6.7.1 The site formation works for the Site have been reviewed and proposed. Although there are geological and geotechnical features/structures posing site constraints for the proposed housing development, it is considered that the Site is technically feasible for the proposed housing development as these constraints can be mitigated with engineering measures based on the current available information.

7. ENVIRONMENTAL ASPECT

7.1 Introduction

7.1.1 A Preliminary Environmental Review (ER) has been undertaken to identify and determine the possible environmental impacts in respect of air quality, noise, water quality, waste management, land contamination, cultural heritage and ecological impact arising from the proposed housing development and infrastructural works at the Site. According to preliminary ER, with the incorporation of the proposed relevant mitigation measures in the proposed housing development, there would have no insurmountable environment impacts on the surrounding areas. This section provides a summary of the key findings in the preliminary ER.

7.2 Air Quality

7.2.1 The potential fugitive and open dust impacts to air sensitive receivers (ASRs) located in the vicinity of the Site during construction phase of the proposed development would be arising from site clearance, site formation, excavation, infrastructure activities, filling, handling, transport, and wind erosion of dusty materials. No significant dust would be generated from the construction of superstructures. The major potential air quality impact during construction phase would be dust arising from excavation, material handling, haul roads, and wind erosion of exposed site areas and stockpiling areas. Proper dust suppression as stated in Air Pollution (Construction Dust) Regulation and good site practices shall be adopted to minimize the dust impacts.

7.2.2 Fuel combustion from the use of powered mechanical equipment (PME) during construction works is also a source of particulates. However, the number of such equipment required on-site will be limited under normal operation. The Air Pollution Control (Fuel Restriction) (Amendment) Regulation becomes effective on 1 October 2008. Diesel fuel users in industrial and commercial sectors have to switch to using ultra low sulphur diesel (ULSD) with a sulphur content of not more than 0.005% by weight. In addition, according to the Air Pollution Control (Non-road Mobile Machinery (NRMM)) (Emission) Regulation, starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites. The Contractor is required to ensure the adopted machines or non-road vehicle under the Project could meet the prescribed emission standards and requirement. Hence, with the implementation of the said Regulations, the emissions from PMEs are considered relatively low and will not cause adverse air quality impact to the surrounding ASRs.

7.2.3 Potential air quality impact on the proposed development during operation phase would be associated with the vehicular emissions from surrounding open roads. According to the notional layout, the requirements from the HKPSG has been considered in the notional layout. Separation distances between the residential buildings, skateboard ground and the road kerbs of surrounding roads are more than the required buffer distance. Therefore, adverse air quality impact on the proposed development from the vehicular emission is not expected.

7.2.4 The existing ASRs, namely Wah Yu Court and Chai Wan Swimming Pool, Park and Precious Blood Secondary School are located more than 5m buffer distance between the road kerb of the proposed site access road, which fulfils the requirement from HKPSG. Therefore, adverse air quality impact from the proposed site access road to ASRs in the vicinity is not expected.

7.2.5 Based on chimney survey conducted on 2 November 2020, no active industrial chimney is identified within 200m away from the boundary of the proposed development. According to Chapter 9 of HKPSG, the required buffer distance from industrial chimneys is 200m, therefore, potential air quality impact from industrial chimneys on the proposed development is not expected.

7.2.6 Appropriate dust suppression measures as stipulated in the *Air Pollution Control (Construction Dust) Regulation* and good site practices should be implemented to minimize any potential dust impact. In view of the limited scale of the proposed infrastructural works and implementation of mitigation measures, adverse dust impact at the ASRs would not be expected from the Project. During the operation phase of the Project, adverse air quality impact on the proposed development is not expected. Adverse air quality impact from the proposed site access road to ASRs in the vicinity is not expected, either.

7.3 Noise Impact

7.3.1 Traffic noise from the roads in the vicinity of the Site may have potential impact on the proposed development during the operation phase. Based on the notional layout of the proposed housing development, the roof level of the residential towers ranged from +149.5mPD to +189.5mPD. The podium level is about +55.5mPD. Typical floor to floor height of housing development of 2.75m is assumed.

7.3.2 Traffic noise levels are predicted using the methodology provided in the UK Department of Transport Calculation of Road Traffic Noise (CRTN) 1988. Road traffic noise levels are presented in terms of noise levels exceeded for 10% of the one-hour period during the peak traffic flow, i.e. L10,1hr dB(A). The traffic noise levels at the NSRs of the proposed development are predicted based on the traffic data of the year of maximum traffic projections within 15 years upon the planned population intake. According to “Hong Kong Population Projections 2020-2069” published by Census and Statistics Department, Hong Kong Population would increase to the peak in 2041 and then decline afterwards. Therefore, the maximum traffic projection in Year 2041 has been adopted.

7.3.3 The predicted noise levels at the building façades included a 3 dB(A) facade correction and other correction factors for effects due to gradient, distance, view angle, road surface and barriers.

7.3.4 The predicted noise levels of the representative noise sensitive receivers (NSRs) selected would range from 57 dB(A) to 59 dB(A) during day and evening time, and 54 dB(A) to 57 dB(A) during night-time, which shows that the noise levels at the proposed development would comply with the noise criterion of 65 dB(A) for day while exceedance would be observed at Block A and Block B during night time.

7.3.5 The major contributor of fixed plant noise during night time would be the chillers at the rooftop of MEGA iAdvantage. In order to mitigate the adverse impact of fixed noise during night time, acoustic window and architectural fin have been proposed for the facade predicted with noise exceedances. With incorporation of acoustic window and architectural fin in the future design of the proposed housing development, no insurmountable fixed noise impact is anticipated.

7.3.6 With the proper implementation of mitigation measures and good site practices, no insurmountable construction noise impact associated with the proposed development is anticipated.

7.4 Water Quality Impact

7.4.1 Water quality impacts from construction are associated with the general construction activities, construction site run-off, construction works in close proximity of inland waters, removal/diversion of watercourses, accidental spillage, and sewage from construction workforce. Impacts can be controlled by implementing the recommended mitigation measures. No adverse water quality impact is anticipated during the construction phase.

7.4.2 The key sources of potential water quality impact under the operation phase are run-off from the road surfaces and developed areas as well as the sewage generated from the development. It is anticipated that the water quality impacts associated with the operation phase could be minimized by appropriate mitigation measures such as adequate storm drainage system and best storm water management practices. No unacceptable water quality impacts are thus expected.

7.5 Waste Management

7.5.1 Waste management implications associated with the construction and operation of the proposed development are identified and assessed. Waste types generated by the construction activitiest would include C&D materials (from demolition of existing structures, excavation, and construction works), general refuse from workforce, and chemical waste from maintenance of construction plant and equipment. Provided that these wastes are handled, transported and disposed of using approved methods and that the recommended good site practices are strictly followed, adverse environmental impacts during the construction phase would not be anticipated.

7.5.2 During operation, the main waste types to be generated would be municipal solid waste and chemical waste. Recommendations have been made to ensure proper treatment and disposal of the waste.

7.6 Land Contamination

7.6.1 A site appraisal was conducted for the preliminary Land Contamination and Remediation Study (LCRS) Report to identify any current / historical potentially contaminating land uses within the works area for the Site. The LCRS has been submitted and approved by EPD in February 2022. The site appraisal, including site walkover and desktop review, was carried out with reference to the Guidance Note, Guidance Manual and Practice Guide.

7.6.2 A site appraisal, in the form of desktop review and site walkover was conducted from May 2019 to August 2021 under the LCRS to identify the past and current land uses within land contamination assessment area of the Site (Assessment Area). In addition, further review of the historical land uses within the Assessment Area was also conducted. Based on the findings of site appraisal and further review, no contaminating land uses or activities were identified within the Assessment Area. As such, no adverse land contamination impact to the proposed development is anticipated.

7.7 Ecology

7.7.1 The Site is located next to the Chai Wan Swimming Pool, which covers the existing Chai Wan Pool Side Garden and its skateboard ground as well as a piece of the wooded slope zoned “GB” between the Chai Wan Pool Side Garden and Cape Collinson Road. Habitats identified within the Site include mixed woodland, developed area, grassland and two natural watercourses to the immediate west (i.e. WA1 and WA2) (see **Figure 7.1**). No site of conservation importance was identified within the site.

7.7.2 Natural habitats identified within and near the Site (i.e. mixed woodland and natural watercourses) are found to be important ecological resources. In particular, the mixed woodland is found to be of moderate to high ecological value due to its floristic structure and diversity, and its importance for existing wildlife as a foraging and resting habitat, as well as an ecological corridor that allowed movement across the greater landscape. For the identified natural watercourses, WA1, which is located to the further west of the Site, was found to be of moderate ecological value given its naturalness and its value to a few fauna species of conservation importance, while WA2 to the immediate west of the Site is of low value. As such, pre-emptive measures are adopted during the early stage of planning and notional layout development, including the inclusion of a 15 m buffer zone on both sides of WA1, which would be excluded from the boundary of the proposed development scheme to prevent direct impact on WA1 and its riparian habitat. In addition, a 15 m exclusion zone to the south of the Site is also maintained to preserve the mixed woodland habitat between the Site and existing Cape Collison Road to serve as an ecological corridor and allow a linkage for the wildlife across different wooded habitats.

7.7.3 It is anticipated that loss of associated vegetation and flora of conservation importance associated with the mixed woodland habitat will occur with the proposed development in place. Appropriate mitigation measures have been recommended to minimise and/or compensate for the adverse effects resulted from the direct and indirect impacts on nearby natural habitats, vegetation, wildlife and other species of conservation importance, such as compensatory planting and preservation/ transplantation of flora of conservation importance where possible, as well as adoption of phasing and general good site practice.

7.7.4 In sum, with the implementation of the mitigation measures, the residual ecological impacts are expected to be low.

7.8 Cultural Heritage

7.8.1 A review on the cultural heritage resources and the assessment of potential direct and indirect impacts resulting from the construction and operation of the proposed development have been conducted. No features or resources with cultural heritage value have been identified within the Site.

7.8.2 A Tin Hau Temple under Chai Wan Kai Fong Welfare Association Limited is located within the Site, which is operated under the government license with no cultural heritage significance. It is proposed to be cleared for the proposed housing development.

8. LANDSCAPE ASPECT

8.1 Introduction

8.1.1 Preliminary Landscape Impact Assessment (LIA) has been conducted to assess the potential landscape impacts arising from the proposed housing development. This section provides a summary of the key findings in the preliminary LIA.

8.2 Summary of Broad-Brush Tree Survey

8.2.1 Based on the broad-brush tree survey (**Figures 8.1, 8.3 and 8.4**), it is estimated that there are approximately 2,118 nos. of existing trees surveyed in tree survey assessment area including 1,750 nos. of trees under 35 Tree Groups and 368 nos. of individual tree. Among these surveyed trees, there are 65 nos. of species identified (excluding dead trees), including 9 major tree species (i.e. *Acacia confusa, Ficus hispida, Leucaena leucocephala, Ligustrum sinense, Macaranga tanarius var. tomentosa, Mallotus paniculatus, Morus alba, Schefflera heptaphylla and Sterculia lanceolate*).

8.2.2 No registered OVT under DEVB TC(W) No. 5/2020 is found within the Site while 3 nos. of Trees of Particular Interest (TPIs) are found, including tree no. T59, *Ficus virens* with DBH over 1,000mm in Landscape Resource (LR) 2 – Open Space and 2 nos. of *Artocarpus hypargyreus* (白桂木) under Tree Group (TG) 21 in LR 1 – Hillside Woodland, which is listed in *Rare and Precious Plants of Hong Kong*.

8.3 Landscape Impact Assessment

8.3.1 8 nos. of LR and 5 nos. of Landscape Character Area (LCA) are identified to be potentially affected by the proposed development. Location of LRs and LCAs are shown in **Figures 8.1** and **8.2** respectively. The description with their sensitivities of LRs and LCAs are described in **Tables 8.1** and **8.2** below.

Table 8.1 – Baseline Landscape Resources (LRs) and their Sensitivity

LRs	Description	Sensitivity
LR1	**Hillside Woodland** This landscape resource is a network of dense woodland on natural terrain and man-made slope, which approximately covers 23,000m^2 area of the Site with 1,694 nos. of existing trees surveyed. In view of the presence of the dense woodland network, the ability to accommodate change for this LR is considered as low. It is mainly within the 'Green Belt' zone which serves as conserve existing natural environment, prevent encroachment by urban development. Common native trees are identified, such as *Ficus microcarpa, Ficus hispida, Ficus elastica, Mallotus paniculatus, Schefflera heptaphylla, Celtis sinensis* etc. of low / moderate amenity value and poor / average form, health and structural condition. No registered OVT is identified. 2 nos. of *Artocarpus hypargyreus* (白桂木) are identified, which are listed in *Rare and Precious Plants of Hong Kong.* 2 nos. of *Pavetta hongkongensis*, a flora species of conservation importance protected under the Forests and Countryside Ordinance (Cap. 96) are identified. Given the relative maturity of trees and importance to the overall landscape character, the sensitivity of this LR is considered as high.	High
LR2	**Open Space** This parkland landscape is located at the northern portion of the Site with an area of around 6,700m^2 with 177 nos. of existing trees surveyed. It includes a skateboard ground and a playground. Common plantation trees are identified, these include *Acacia confusa, Ficus microcarpa, Aleurites moluccana, Livistona chinensis* etc. of low / moderate amenity value and poor / average form, health, and structural condition. No registered OVT is identified. One tree of particular interest (T59, *Ficus virens)* with DBH over 1,000mm is located in this LR. In view of the identified species are commonly found in Hong Kong, the rarity of this LR	Medium

LRs	Description	Sensitivity
	is considered as low. In general, this LR has medium ability to accommodate change. The sensitivity of this LR is therefore considered as medium.	
LR3	**Residential Development** 44 nos. of existing trees are surveyed within the immediate surrounding of residential development area and it is relatively fragmented and limited. No registered OVT is identified. The Site is surrounded by residential development and industrial/ commercial institutional developments of compatible and commonly found landscape resource. In general, this LR has high ability to accommodate change. The sensitivity of this LR is therefore considered as low.	Low
LR4	**Grassland** A small piece of grassland is found within the Site with an area of around 800m^2 with 203 nos. of existing trees surveyed. It runs along the edge of the Chai Wan Pool Side Garden. Common tree species are identified including Ficus hispida, Macaranga tanarius var. tomentosa, and Sterculia lanceolata of low / moderate amenity value and poor / average form, health and structural condition. Plant species are mostly of semi mature to mature size. This LR is a common resource found in Hong Kong with a fair quality of landscape resource and a high ability to accommodate changes. The sensitivity of this LR is therefore considered as low.	Low
LR5	**Water Bodies** One natural watercourse (WA2) is identified within the project sites of poor water quality and low ecological value. Other watercourses are found off-site near Siu Sai Wan Fresh Water Service Reservoir and Cape Collinson Chinese Permanent Cemetery. Natural watercourses provide important ecological functions and habitats for a variety of wildlife. In general, this LR has medium ability to accommodate change. No registered OVT or rare tree species are identified. The sensitivity of this LR is therefore considered as medium.	Medium
LR6	**Industrial/ Commercial/ Institutional Development** Landscape areas and playground in schools for passive and active recreation in the Caritas Chai Wan Marden Foundation Secondary School, SKH Chai Wan Saint Michael's Primary School and Precious Blood Secondary School. Vegetation found or adjacent to the industrial development also provide amenity values toward the areas. Due to the heavily modified and common nature of this LR, the quality and rarity is considered as low. In general, this LR has a high ability to accommodate change. The sensitivity of this LR is therefore considered as low.	Low
LR7	**Major Transportation Corridor** Roadside planting areas mainly found along Chai Wan Road and Siu Sai Wan Road with tree and shrub planting. San Ha Street is relatively compact with small planting areas found. The quality of these vegetation is fair. No registered OVT is identified, the ability to accommodate change for this LR is considered as high. The sensitivity of this LR is therefore considered as low.	Low
LR8	**Cemetery/Columbarium** Cape Collinson Chinese Permanent Cemetery is located at the south side of the assessment of the area surrounded by the hillside vegetation in LR1. No registered OVT is identified. Due to the heavily modified and common nature of this LR, the quality and rarity is considered as low. The ability to accommodate change for this LR is considered as medium. The sensitivity of this LR is therefore considered as low.	Low

Remark: The figures and exact location of individual trees and flora species of conservation importance are approximate only and subject to review in the detailed design stage.

Table 8.2 – Baseline Landscape Character Areas (LCAs) and their Sensitivity

LCAs	Description	Sensitivity
LCA1	**Chai Wan Residential Urban Landscape Character Area** It is characterized by medium to high-rise residential estates on the edge of urban area. Fairly homogeneous and ordered landscape that is comprised of high built elements and soften by roadside greenery. One tree of particular interest (T59, *Ficus virens)* with DBH over 1,000mm is located in this LCA. Other tree species are also commonly found in Hong Kong including ornamental trees and palm especially along the slopes. This is a common landscape character in Hong Kong which has a medium compatibility to accommodate change. The sensitivity of this LCA is therefore considered as medium.	Medium
LCA2	**Industrial Urban Landscape** It is characterized by relatively large building footprint of industrial development. Very limited vegetation is found in the area. It is a common landscape resource. Its compatibility to accommodate change is high. The sensitivity of this LCA is therefore considered as low.	Low
LCA3	**Cemetery Landscape** This LCA is mainly occupied by the Cape Collinson Chinese Permanent Cemetery. Abundant greenery is present with strong sense of openness. Owing to the common nature of this landscape resource and being a heavily modified landscape, the quality is considered as low. Its compatibility to accommodate change is medium. The sensitivity of this LCA is therefore considered as low.	Low
LCA4	**Coastal Upland and Hillside Landscape** This LCA is characterized by relatively dense woodland on natural terrain and man-made slope. 2 nos. of *Artocarpus hypargyreus* (白桂木) are identified, which are listed in Rare and Precious Plants of Hong Kong. 2 nos. of *Pavetta hongkongensis*, a flora species of conservation importance protected under the Forests and Countryside Ordinance (Cap. 96) are identified. Due to the undeveloped nature, the landscape quality of this LCA is considered to be high and sensitive to change. Its compatibility to accommodate change is low. The sensitivity of this LCA is therefore considered as high.	High
LCA5	**Major Transportation Corridor** This LCA is characterized by major vehicular road along Chai Wan Road and Siu Sai Wan Road. Major features include footbridge, signage gantries, traffic islands and associated roadside buffer planting areas. Its compatibility to accommodate change is high. The sensitivity of this LCA is therefore considered as low.	Low

Remark: The figures and exact location of individual trees and flora species of conservation importance are approximate only and subject to review in the detailed design stage.

Significance of Unmitigated Landscape Impacts

8.3.2 The predicted impact arising from the proposed development at the Site would include approximately 1,234 nos. of existing trees. Among the affected trees, most of the trees within LR2 will be affected; while LR4 will be entirely removed, both due to direct conflict with the proposed works in these areas. Therefore, the magnitude of change to LR2 and LR4 are considered as large and the unmitigated landscape impact is considered as substantial and moderate respectively. The magnitude of change to LR1 within the Site will be large due to removal of significant amount of trees in foothill area (expect 2 nos. of *Pavetta hongkongensis*, a flora species of conservation importance protected under the Forests and Countryside Ordinance (Cap. 96) would be transplanted to the skateboard ground), whilst most of the trees outside the Site in this LR remain unaffected. The unmitigated landscape impact on LR1 is considered as substantial. On the other hand, a watercourse in LR5 will be affected by proposed works on the housing site, the magnitude of change to LR5 is considered to be intermediate and the unmitigated landscape impact on LR5 is considered as moderate. LR3 is anticipated to have a small magnitude of change and a slight unmitigated landscape impact as no registered OVT is identified and small nos. of trees affected. In addition, negligible magnitude of change is considered with an insubstantial unmitigated landscape impact at LR6, LR7 and LR8 as no vegetation will be affected by the proposed development.

8.3.3 Since LCA1 and LCA2 are highly developed as residential and industrial use, the compatibility of proposed development is high to the surrounding. Therefore, the magnitude of landscape change of LCA1 and LCA2 is considered as intermediate and negligible respectively with the unmitigated landscape impact as moderate and insubstantial respectively. Proposed development has no impact on LCA3 and LCA5; thus magnitude of change is negligible and unmitigated landscape impact are insubstantial. For the LCA4, removal of trees and topographical changes will occur due to proposed works in foothill area, and the magnitude of change and unmitigated landscape impact are considered to be intermediate and moderate respectively.

8.3.4 In view of the above, the proposed development is anticipated to have moderate landscape impact under unmitigated condition.

8.4 Proposed Landscape Mitigation Measures

8.4.1 With the implementation of proposed mitigation measures including preservation of existing vegetation, landscape treatment on slope, provision of protection of natural watercourse, trees planting, maximize greenery provision, aesthetical pleasing design of all man-made structures, and tree transplanting, the overall predicted residual landscape impact of the proposed development is therefore reduced to an acceptable level. The significance of the impacts on landscape resources and character areas, during the construction and operation phases before and after mitigation is provided in **Table 8.3**.

Table 8.3 – Significance of Landscape Impacts during Construction and Operation Phases

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)	Magnitude of Change (Negligible, Small, Intermediate, Large)	Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)	Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)		
						Construction	Operation	
							Day 1	Year 10
Landscape Resources								
LR1	Hillside Woodland	High	Large	Substantial	CM1, CM2, CM4, OM1, OM2	Moderate	Slight	Insubstantial
LR2	Open Space	Medium	Large	Substantial	CM1, CM2, OM1, OM2	Moderate	Slight	Insubstantial
LR3	Residential Development	Low	Small	Slight	N/A	Slight	Insubstantial	Insubstantial

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)	Magnitude of Change (Negligible, Small, Intermediate, Large)	Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)	Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)		
						Construction	Operation	
							Day 1	Year 10
LR4	Grassland	Low	Large	Moderate	OM2	Moderate	Slight	Insubstantial
LR5	Water Bodies	Medium	Intermediate	Moderate	CM3	Moderate	Moderate	Moderate
LR6	Industrial/ Commercial/ Institutional Development	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial
LR7	Major Transportation Corridor	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial
LR8	Cemetery/ Columbarium	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial
Landscape Character Areas								
LCA1	Chai Wan Residential Urban Landscape Character Area	Medium	Intermediate	Moderate	OM1, OM3	Moderate	Slight	Insubstantial
LCA2	Industrial Urban Landscape	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial
LCA3	Cemetery Landscape	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial
LCA4	Coastal Upload and Hillside Landscape	High	Intermediate	Moderate	CM2, CM4, OM1, OM3	Moderate	Slight	Insubstantial
LCA5	Major Transportation Corridor	Low	Negligible	Insubstantial	N/A	Insubstantial	Insubstantial	Insubstantial

8.5 Tree Treatment Proposal

8.5.1 It is estimated that there are approximately 1,254 trees within proposed public housing site and adjacent infrastructure area. Among these trees, 1,234 nos. (i.e. 1,162 nos. within the proposed public housing development site and 72 nos. within the site for proposed DSD maintenance yard, reprovisioned skateboard ground and proposed pedestrian walkway) to be affected by the proposed development, which are suggested to be transplanted or removed. Identified tree of large size - T59 and 2 nos. of rare species, *Artocarpus hypargyreus,* with height ranges from 5-7m, crown size from 3-7m under TG 21 are affected by proposed site formation and construction works. T59, a *Ficus virens*, is commonly found in Hong Kong. In consideration of its large size with measured crown size of about 18m and substantial root ball[3], there is low resilience in overcoming substantial stress and shock during transplanting. It is foreseeable that the survival rate of T59 after transplanting would be low. Therefore, the feasibility of transplanting T59 is also considered low. Furthermore, in view that T59 is in close proximity to the only possible ingress/egress point to the development site which would impose serious constraints to the proposed housing development, it is inevitably proposed to be removed. However, the 2 nos. of *Artocarpus hypargyreus* in TG21 which are listed in Rare and Precious Plants of Hong Kong and of 100-220mm DBH, have average conditions and are proposed to be transplanted.

8.5.2 Out of the 1,254 trees surveyed, 1108 trees are in poor condition in terms of amenity value (around 88%) and 80 trees are in poor condition in terms of health (around 7%).

8.5.3 Trees are considered low suitability for transplanting, when meeting one or more following conditions:

- Low amenity value;
- irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
- Low survival rate after transplanting;
- very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
- with evidence of over-maturity and onset of senescence;
- with poor health, structure or form (e.g. imbalanced form, leaning, with majorcavity/cracks/splits); or cavity/cracks/splits);
- undesirable species (e.g. *Leucaena leucocephala* which is an invasive exotic tree); or
- Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on steep slope).

Table 8.4 – Summary of Trees to be Affected

	Existing Trees	Trees to be retained	Trees to be transplanted	Tree to be removed
Within Proposed Housing Development Area	1,162	0	2	1,160
Site Boundary excluding Proposed Housing Development Area (including the reprovisioned Skateboard Ground, DSD Maintenance Yard and proposed pedestrian walkway)	92	20 (along the existing EVA)	0	72
Total	1,254	20	2	1,232

[3] As per the finding of the preliminary LVIA, the DBH of T59, *Ficus virens* is over 1,000mm. According to international practices, it is generally recommended that the ratio of rootball and trunk diameter would be in a range of 8:1 to 10:1.

Preliminary Compensatory Tree Planting Proposal

8.5.4 Any trees to be removed under the Project shall be compensated in accordance with DEVB TC(W) No. 4/2020 – Tree Preservation. Due to the project needs and the site constraints identified, a total of 1,232 nos. of trees would be inevitably affected in the Project, including the three trees to be transplanted. They are generally in poor to fair form, poor to fair health and low to medium amenity value. The summary of compensatory tree planting is summarized in **Table 8.5**.

Table 8.5 – Summary of Compensatory Tree Planting

Areas	Maintenance Department	Compensatory Trees to be planted (Approx.)
Proposed DSD retention tank	DSD	8
Reprovision of skateboard ground	LCSD	10
Proposed pedestrian walkway		6
Total		24

Remark: The compensatory tree planting outside the proposed housing site is subject to review in detailed design stage.

8.5.5 In view of the site constraint and slope works, limited space is available for on-site compensatory tree planting and 1:1 tree planting compensation ratio in terms of tree numbers may not be achieved.

8.5.6 New trees planting will be proposed within the proposed housing development newly built platform to enhance the amenity to vicinity of site. These trees are to be provided by the proposed public housing development under normal project greening provision and are not the proposed public housing development's commitment to tree compensation. The exact number of new tree planting would be subject to further review in detailed design stage.

8.5.7 Sufficient space shall be provided for the planting of compensatory trees taking into the account the adequate space required to cater for the establishment and healthy growth of the trees up to maturity.

8.5.8 Details of the compensatory planting proposal, including off-site planting will be explored at the detailed design stage in accordance with the relevant technical circular.

8.6 Conceptual Landscape Plan

8.6.1 Based on the latest layout of site formation and infrastructural works for the proposed public housing development, a conceptual Landscape design is prepared to demonstrate a possible arrangement but subject to review in detailed design stage. It is aimed to meet the HKPSG requirements as stated in Chapter 4 - Recreation, Open Space & Greening. Besides, a children's play area is provided as required under HKPSG. Please refer to **Figures 8.5, 8.6** and **Table 8.6**.

8.6.2 Maximization of greenery provision and tree planting between hillside and urban landscape is provided as an extension of the existing hillside greenery to create a comprehensive greenery network. Buffer landscape is provided at the periphery of site which serves to soften the hard edge of proposed structures and provide visual buffer to surrounding area.

8.6.3 New tree planting will be provided under the proposed public housing development in accordance with housing greening policy. The exact number of new tree planting would be subject to further review in detailed design stage.

Table 8.6 – Summary for HKPSG Requirements in Conceptual Landscape Plan

Housing Site Area		Approx. 19,576 m^2	
Estimated Population		Approx. 9,165 Persons (Estimated Population of PRH with 10% allowance as conservative approach)	
Provision of Open Space	**HKPSG Requirements**	**Required Percentage/ Ratio**	**Proposed Amount**
	Min. Local Open Space Required	1.0m^2 per Person	9,165 m^2
Provision of Green Coverage	Min. Greenery Area Required	20% of Housing Site Area (According to the prevailing new tree planting policy by Housing Department)	
Provision of Recreational Facilities	Children's Play Area	400 m^2 per 5000 population	734 m^2

Remark: The total area of open space, total greenery area, provision of recreational facilities, notional layout and landscape design are subject to review in detailed design stage.

8.7 Summary

8.7.1 With the implementation of proposed mitigation measures including compensatory tree planting, reinstatement of landscape areas, provision of aesthetical pleasing design of all man-made structures and provision of greenery within the housing site, the residual impact is considered not substantial in day 1 of operation and will further be reduced once the proposed tree planting become matures in year 10 of operation. The overall predicted residual landscape impact of the proposed development would therefore be reduced to an acceptable level.

9. VISUAL ASPECT

9.1 Introduction

9.1.1 Preliminary Visual Impact Assessment (VIA) has been conducted to assess the potential visual impacts arising from the proposed public housing development. This section provides a summary of the key findings in the Preliminary VIA.

9.2 Preliminary Visual Impact Assessment

9.2.1 The visual envelope (VE) of the proposed public housing development have been identified by desktop study maps, photographs and site visit to determine visibility of the Site from various locations. The topography of the Site is gradually steep at foothill. The VE is defined by hillside of Pottinger Peak at south side, waterbody at north and high-rise residential buildings at the east and west. The extent of the VE is indicated in **Figure 9.1**.

9.3 Existing Visual Condition and Key Visual Elements

9.3.1 Within the VE, the extensive hillside greenery network of Pottinger Peak, Cape Collinson Chinese Permanent Cemetery at mid-hillside, high-rise housing estates and waterbody with Tseung Kwan O at background are the key visual resources of the Site. The high-rise residential development is clustered along the natural hillside. Exiting hillside greenery network extends from seaside to Shek O Country Park, which serves as a unified backdrop for Chai Wan and creates a sense of wilderness and defines the rural essence. The continuous Cape Collinson Chinese Permanent Cemetery serves as a significant visual resource which helps separating the urban and natural landscape. The Cargo Handling Area is an essential visual resource along the waterfront and from the hillside.

9.4 Appraisal of Visual Change

9.4.1 Visual changes may be positive or negative and they are not necessarily mutually exclusive. The visual changes of each viewpoint (VP) can be assessed in terms of (i) visual composition, (ii) visual obstruction, (iii) effects on public views, and (iv) effects of visual resources.

9.4.2 The following public viewing points (VPs) are identified with reference to TPB PG No. 41, where it is easily accessible and popular to the public or tourists from different directions. When selecting the viewing points, priority is given to major public open space, public focal points, existing / future pedestrian nodes, key pedestrian / vehicular corridor and along the waterfront, which are considered as major visual sensitive viewing points.

- VP 1 – Siu San Wan Road Garden
- VP 2 – Sheung On Street Playground
- VP 3 – Cape Collinson Chinese Permanent Cemetery
- VP 4 – Siu Sai Wan Sports Ground
- VP 5 – Pottinger Peak Lookout

9.4.3 Photomontages from VP1 to VP5 for all scenarios are provided in **Figures 9.2** to **9.6**.

9.5 Evaluation of Overall Visual Impact

9.5.1 After the appraisal of the change of the VPs due to the proposed development, the visual impact with respect to different identified VPs are summarized in **Table 9.1** below.

Table 9.1 – Summary of Visual impact to corresponding viewing points

Viewing Point	Impact
VP1 – Siu San Wan Road Garden	Moderately adverse
VP2 – Sheung On Street Playground	Slightly adverse
VP3 – Cape Collinson Chinese Permanent Cemetery	Moderately adverse
VP4 – Siu Sai Wan Sports Ground	Moderately adverse
VP5 – Pottinger Peak Lookout	Slightly adverse

9.5.2 It is noted that there is no planned development nearby the Site, any cumulative landscape and visual impact are therefore not anticipated. Development scheme is proposed to have 40 to 44 domestic floors with approximate maximum building block heights of +190mPD (ranging from +149.5mPD to +189.5mPD), which have taken into account the compatibility with the surrounding contexts and the minimization of the possible impacts to key public viewers located within the assessment area. Although the proposed scheme with 40 to 44 domestic floors would create a certain degree of visual impacts, with large mountain face of Pottinger Peak as backdrop, the proposed development with incorporation of the following design measures shall be considered acceptable from the visual perspective.

i. Adoption of Good Design Measures

The proposed development shall be designed to create and define the spatial character of the Site. Further good design measure shall enhance permeability of the area which shall also act to increase ventilation, allow sunlight penetration and preserve views.

ii. Visual Compatibility of the Proposed Development

The proposed development shall be visually compatible with the adjacent landscape setting. The overall setting of the proposed development, including building layouts and forms, materials, finishing (e.g. colour theme, pattern, texture), shall be carefully designed and effectuated to match the adjoining environment, providing a compatible extension from the adjourning residential built-up areas.

iii. Maximization of Greenery Provision

Under the proposed development, the greening opportunities, in terms of trees and shrub planting etc. shall be maximized to soften the future development to maximize the greening opportunities and minimize any potential adverse visual changes.

9.5.3 With the incorporation of good design measures in the design layout, and taken into account on the sensitivity of public viewers, the visual composition, the visual resources, the effects on public viewers and the effects visual resources, it will not generate significantly adverse visual impact. The visual change caused by the proposed development is not significant when viewed from the identified VPs.

9.5.4 Other measures such as greening measures and facade treatments may be explored in subsequent architectural detailed design stage to further improve the overall aesthetics and visual interests of the proposed development.

9.5.5 In overall terms, the proposed development has no significant adverse visual impact. Efforts have been made to ameliorate the potential visual impact of the proposed development as far as possible. The resultant overall impact is therefore concluded as slightly to moderately adverse.

9.6 Summary

9.6.1 In overall terms, the proposed approx. maximum building height of +190mPD (ranging from +149.5mPD to +189.5mPD) have adverse effect on numerous public viewing points in various extent. Efforts have been made to ameliorate the potential visual impact of the proposed development as far as possible. The resultant overall impact is therefore concluded as slightly to moderately adverse.

9.6.2 All in all, the visual intrusion of the proposed development towards the existing viewpoints is inevitable with the magnitude ranging from slight to moderate degree. Its building height is found compatible with the adjacent existing buildings as illustrated in the photomontages. Although the proposed scheme with 40 to 44 domestic floors would create a certain degree of visual impact, with large mountain face of Pottinger Peak as backdrop, the proposed development with incorporation of the good design measures into design layout shall be considered acceptable from the visual perspective.

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10. AIR VENTILATION ASPECT

10.1 General

10.1.1 A quantitative air ventilation assessment (AVA) in the form of Initial Study has been carried out to access the potential impacts arising from the proposed housing development from air ventilation perspective. This section provides a summary of the key findings in the AVA.

10.2 Summary on Wind Availability and Air Ventilation Performance

Wind Availability

10.2.1 The annual prevailing wind at the Site is mainly dominated by wind coming from E, ENE, NE, ESE directions followed by wind from ESE, NNE, SSW, SW and SE directions, while majority of the summer wind are from the E, ESE, S, SW and WSW directions. These annual prevailing wind directions contribute to a total of 78.4% frequency occurrence. During summer season, the most dominant wind is from SW, SSW, S and E directions followed by ESE, SSE, WSW and SE wind. These summer winds have summed up to a 79.0% of occurrences. The aforementioned annual and summer wind directions are adopted for undergoing Computational Fluid Dynamics (CFD) simulations for assessing air ventilation impact of the proposed housing development at the Site.

Air Ventilation Performance

10.2.2 It is unavoidable that the appearance of the proposed development within the Site under the Proposed Scenario would result in decline in the wind environment at and near the Site as compared with the Baseline Scenario without any proposed developments. According to the findings of the AVA Initial Study, the Site Spatial Average Wind Velocity Ratio (SVRw) for Baseline Scenario is maintained at 0.18 under the annual prevailing wind from NNE, NE, ENE, E, ESE, SE, SSW and SW directions which amount to about 78.4% of the whole time in a year, while that of the Proposed Scenario is maintained at 0.15. Thus, the Proposed Scenario is considered to have a decline in terms of air ventilation performance in the vicinity of the Site under annual prevailing wind directions as compared to the Baseline Scenario.

10.2.3 The Local Spatial Average Wind Velocity Ratio (LVRw) for the Baseline Scenario is 0.18 under the annual wind directions stated above, and that of the Proposed Scheme is also maintained at 0.17. It can be concluded that the Proposed Scenario has also a decline in wind environment at the surroundings of the Site as compared to the Baseline Scenario under the major annual wind directions.

10.2.4 The SVRw for the Baseline Scenario is maintained at 0.14 under the summer prevailing wind from E, ESE, SE, SSE, S, SSW, SW and WSW directions which amount to about 79.0% of the whole time in a year, while that of the Proposed Scenario is increased to 0.16. It can be concluded that the Proposed Scenario performs better than the Baseline Scenario along the site boundaries during the summer seasons. The reasons behind the better wind performance under the Proposed Scenario are that under the summer prevailing wind directions, mainly dominated by wind from the southern and southwestern quadrants, there are wind improvements under the Proposed Scenario as compared to the Baseline Scenario along the site boundary facing the south-eastern side of the Chai Wan Swimming Pool, along the site boundary abutting the Hiu Tsui Street with strengthened wind channelling effects, as well as along the site boundary facing the terrain areas.

10.2.5 The LVRw for the Baseline Scenario is 0.15 under the same summer wind directions, and that of the Proposed Scenario is 0.15. The simulation results show that the summer wind environment is comparable between the Proposed Scenario and the Baseline Scenario.

10.2.6 It is reasonable and cannot be avoided that the presence of the proposed development under the Proposed Scenario would cause certain magnitude of decline in the wind environment at and near the Site as compared to the Baseline Scenario without the proposed developments. The wind decline has been reflected by the CFD modelling result in the Initial Study. Given that the building design of the proposed development within the Site has incorporated building separations in between the residential towers and the geographical location of the Site is located at the hill foot of the Pottinger Peak, the proposed development should have limited air ventilation impacts on the surroundings. In detailed design stage, it is anticipated that the future fine-tuning in building layouts would follow the general principles documented in the Sustainable Building Design Guidelines (SBDG). If necessary, a further quantitative AVA study may be carried out to compare the air ventilation performance between the current proposed building layout and the future fine-tuned building design layouts.

Recommendations for the Proposed Building Layouts at the Site

10.2.7 The presence of the proposed development under the Proposed Scenario would cause certain magnitude of decline in the wind environment at and near the Site as compared to the Baseline Scenario without the proposed development. The wind decline has been reflected by the CFD modelling results in the Initial Study, which can be observed along major roads including Chai Wan Road (TR7), On Yip Street (TR1), Sun Yip Street (TR2), Fu Hong Street (TR3), sideway of the Siu Sai Wan Road Garden (TR4) and along the Harmony Road (TR6). The major places identified to have wind decline within the Assessment Area under the Proposed Scenario as compared to the Baseline Scenario include but not limited to the Committed Residential/Commercial Developments near Sunview Industrial Building (TA1), Committed GIC Departmental Quarters near Honour Industrial Centre (TA2), Siu Sai Wan Sports Ground (TA3), Siu Sai Wan Road Garden (TA4), Harmony Garden (TA5), Siu Sai Wan Complex (TA6), The Chinese Foundation Secondary School (TA6a), Chai Wan Estate (TA8), Chai Wan Swimming Pool (TA10), areas nearby Siu Sai Wan Estate (TA11) and Hiu Tsui Court (TA12) as well as at the Chinese Permanent Cemetery (TA13).

10.2.8 Breaking down podium or a podium free design would be conducive to maintaining a good wind environment. However, due to other considerations including but not limited to provision of targeted flat numbers, provision of welfare facilities as requested by relevant government departments and ancillary parking facilities in accordance with HKPSG requirements, the design option of elimination/breaking down of podiums as well as adoption of terraced podium designs may not be feasible for the proposed housing development. In addition, given the site constraints of stepped platform and the accommodation of welfare and parking facilities within the proposed development, building design with incorporation of open void at grade is also considered not feasible. Nevertheless, several good air ventilation design measures, such as provision of building separations in between the residential towers and minimization of bulk podiums and can be incorporated into the building design of the proposed development within the Site with an attempt to alleviate the potential ventilation impact to the surroundings.

10.2.9 Some further general good design measures from the air ventilation aspect, if feasible, can also be considered for the purpose of fine-tuning the proposed development layouts in detailed planning and engineering stage, which are listed as follows:

- Building permeability should be duly incorporated in the proposed building design as far as practical.
- Incorporation of addition building setbacks to mitigate the wind impacts arising from the wind wakes generated by proposed buildings within the Site to the surrounding areas.
- Long continuous facades are suggested to be avoided, with shorter frontages of the proposed buildings facing the prevailing wind directions.

- Incorporation of greening measures with the overall greening coverage target (at least 20% greening ratio for site below 2ha and 30% for site over 2ha, preferably through tree planting at grade); and
- Make reference to the recommendations of design measures in SBDG.

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11. LAND REQUIREMENT ASPECT

11.1 Existing Land Use

11.1.1 The Site is located at the southern fringe of the existing Chai Wan community and by the foothill of Pottinger Peak. According to the approved Chai Wan OZP No. A/H20/25, the Site is mainly zoned "GB" and "G/IC".

11.2 Land Requirement

11.2.1 The land status within the Site including the boundary of the permanent Government Land Allocations, and the land requirements for the proposed housing development and the supporting infrastructure works namely the drainage works, sewerage works, waterworks, extended pedestrian walkway linkage, road junction improvement works and the associated slopeworks are shown in **Figures 2.3** to **2.4**.

Government Land Allocation

11.2.2 There are one permanent and one temporary Government Land Allocations located within the boundary of the Site, and the lands to be affected by the proposed development and infrastructure works are shown in **Figure 2.2**. The lands required for and GLAs affected by the infrastructure works at the Site are summarized in **Table 11.1.**

Table 11.1 - Government Land Allocations within the Site

Land Affected	Permitted Uses	Affectee	Area Required Temporarily (m^2)	Area Required Permanently (m^2)	Remarks
Permanent GLA-HK 317	Chai Wan Swimming Pool & Chai Wan Pool-side Garden (including skateboard ground)	LCSD	1,350	9,650	• About 1,350 m^2 of the lot will be temporarily required for infrastructure works. • About 9,650 m^2 of the lot will be permanently required for the proposed development.
Temporary GLA-THK 1979	Park/Sitting Out Area/Open Space	HAD	0	233	• The whole site will be permanently consumed by the proposed pedestrian walkway.
Total			**1,350**	**9,883**	

Affected Slope Features

11.2.3 The slope features that will be affected by the proposed development and the infrastructure works are shown in **Figure 2.2** and summarized in **Table 11.2**.

Table 11.2 - Slopes that may be affected

Slope Features to be affected	Current Maintenance Party	Future Status	Proposed Future Maintenance Party
11SE-D/C160	ArchSD	Permanently removed	N/A
11SE-D/C161	ArchSD	Permanently removed	N/A
11SE-D/C187	Private (CWIL 176)	Retained	Private (CWIL 176)
11SE-D/C452	ArchSD	Permanently removed	N/A

Slope Features to be affected	Current Maintenance Party	Future Status	Proposed Future Maintenance Party
11SE-D/C453	ArchSD + Private (CWIL 176)	Partly removed	ArchSD / HyD / Private
11SE-D/C456	ArchSD	Permanently removed	N/A
11SE-D/C459A	HD	Retained	HD
11SE-D/C459B	HD	Partly removed	HD
11SE-D/C564	ArchSD	Permanently removed	N/A
11SE-D/CR599	Private (CWIL 150)	Detailed study for the stability is recommended	Private (CWIL 150)
11SE-D/C736	ArchSD	Partly removed	ArchSD / HyD
11SE-D/C739	ArchSD	Partly removed	ArchSD / HyD
11SE-D/R29	ArchSD	Retained	ArchSD

11.2.4 Some of the above slope features will be permanently removed due to the site formation and infrastructure works.

11.2.5 A pedestrian walkway is proposed to connect the Site with Siu Sai Wan Road via the existing slopes no. 11SE-D/C736, 11SE-D/C739, 11SE-D/C453 and 11SE-D/C452. Pedestrian walkway is proposed to be located at the vacant land next the footpath of Siu Sai Wan Road. These features will be partly or permanently modified and their maintenance party are proposed to be partly changed to HyD based on the “owner-maintains” principle and the “beneficial-maintains” principle. Some new features will be created due to the proposed site formation works.

Affected Government Facilities and Land Licenses

11.2.6 A government facility (i.e.Chai Wan Pool-side Garden) under GLA-HK 317 will be affected by the infrastructure works and proposed housing development at the Site as shown in **Figure 2.2**.

11.2.7 While the existing Chai Wan Pool-side Garden will be permanently closed, its skateboard ground will be re-provisioned on-site at the eastern corner of the Site with the same footprint. Two sets of elderly facilities will also be re-provided within the reprovisioned skateboard ground.

11.2.8 In order to minimize the drainage impact to the downstream stormwater system, an underground stormwater storage tank will be provided within the Site next to the reprovisioned skateboard ground.

11.2.9 The existing Tin Hau Temple, which is located at the middle of the Site, will be cleared. The temple is currently operated under the Government land licence, which can be terminated by 3 months’ notice.

11.2.10 Graves, kam taps, urns or shrines are identified in the Site as shown in **Figure 11.1**.

Proposed Works outside the Site

11.2.11 In order to support the development, some infrastructure works have to be carried out outside the Site, including the drainage, sewerage and waterworks along the existing San Ha Street.

11.2.12 To mitigate the adverse traffic impacts due to the additional traffic flows of the proposed housing development, some road junction improvement works will be implemented, including the junction of Chai Wan Road/Wing Ping Street, junction of Chai Wan Road/San Ha Street and the Chai Wan Road roundabout.

11.2.13 The above infrastructure works are all situated at government land and should not involve any land resumption of private lands.

12. CONCLUSION

12.1.1 After conducting various technical assessments on the proposed development and infrastructure works at the Site, it is concluded that while the technical feasibility for the proposed development in terms of traffic, infrastructure, geotechnical, site formation, environmental, landscape, visual, air ventilation and land requirement has been ascertained, subject to the implementation of the recommended mitigation measures and improvement works, no insurmountable impacts arising from the proposed housing development and its infrastructural works would be resulted.

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Figure

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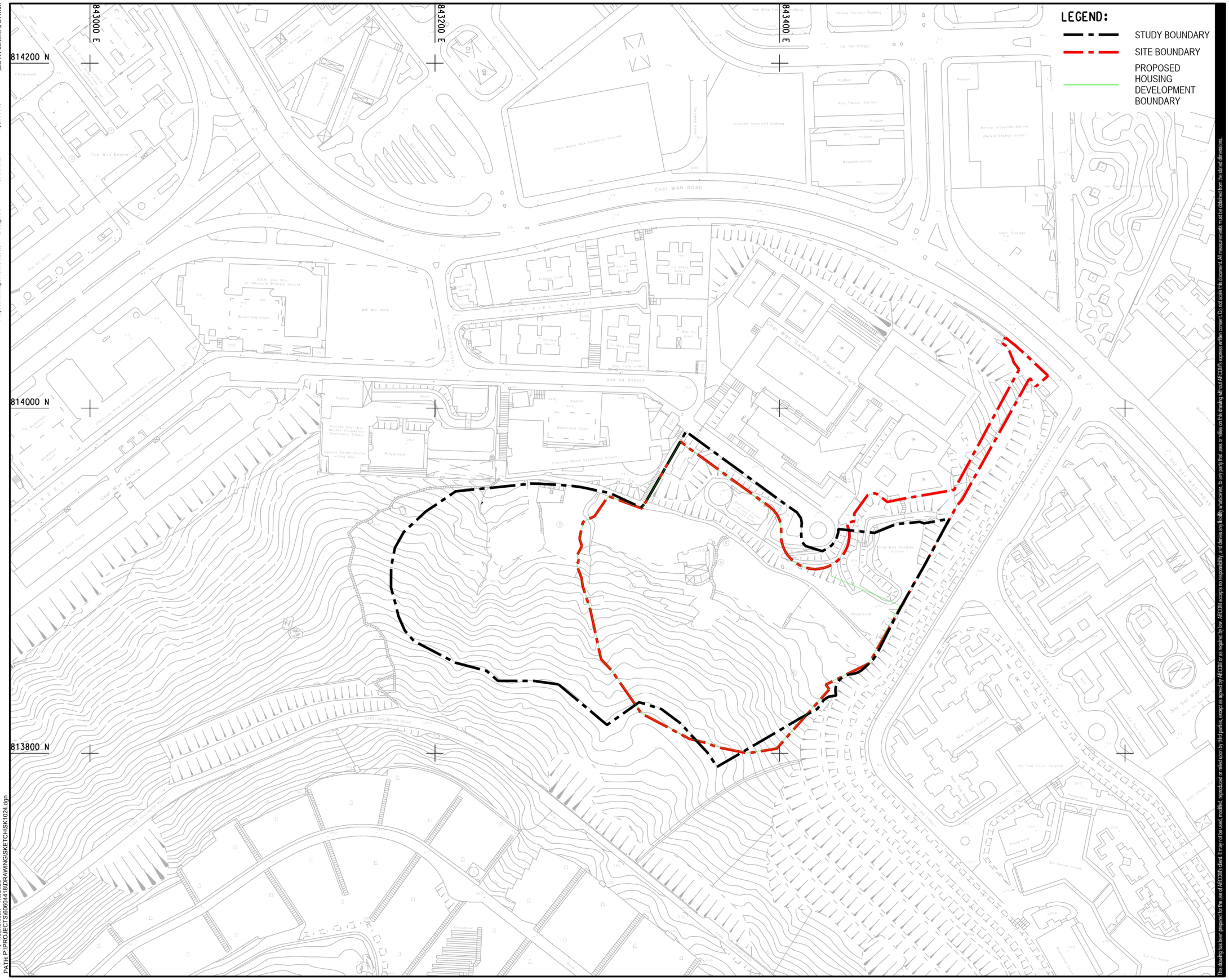

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SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1 : 1000	METRES

KEY PLAN
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SHEET TITLE
圖紙名稱

SITE LOCATION PLAN

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 1.1

ISO A1 594mm x 841mm

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Designer:

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843000 E

843200 E

843400 E

814200 N

814000 N

813800 N

LEGEND:

SITE BOUNDARY
(AREA OF ABOUT 2.3ha)

CHAI WAN ROAD

SAN HA STREET

CHAI WAN SWIMMING POOL

NATURAL STREAM TO BE PROTECTED(WA1)

MIN. 15m BUFFER ZONE FROM THE NATURAL STREAM (WA1)

15m 15m

SAN HA STREET PLAYGROUND

SKATEBOARD GROUND AT CHAI WAN POOL-SIDE GARDEN

HIU TSUI STREET

CHAI WAN POOLSIDE GARDEN

REPROVISION OF SKATEBOARD GROUND

PROPOSED DSD MAINTENANCE YARD

PROPOSED HOUSING DEVELOPMENT

HIU TSUI COURT

15m

MIN. 15m ECOLOGICAL CORRIDOR

CAPE COLLINSON ROAD

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DEVELOPMENT CONTEXT

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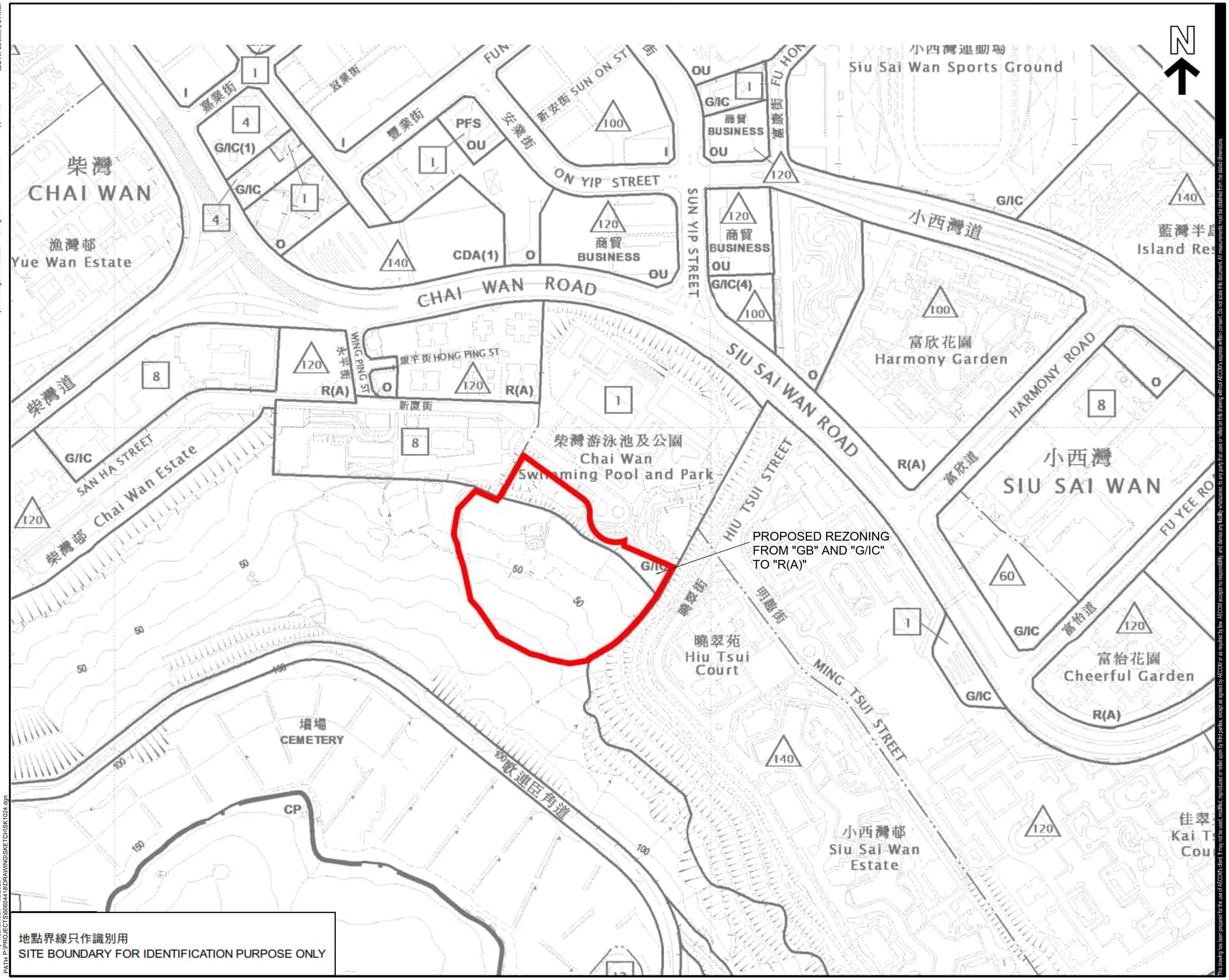

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SCALE 比例 | **DIMENSION UNIT** 尺寸單位

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AGREEMENT NO. 協議編號: CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

STATUTORY PLANNING CONTEXT

SHEET NUMBER
圖紙編號

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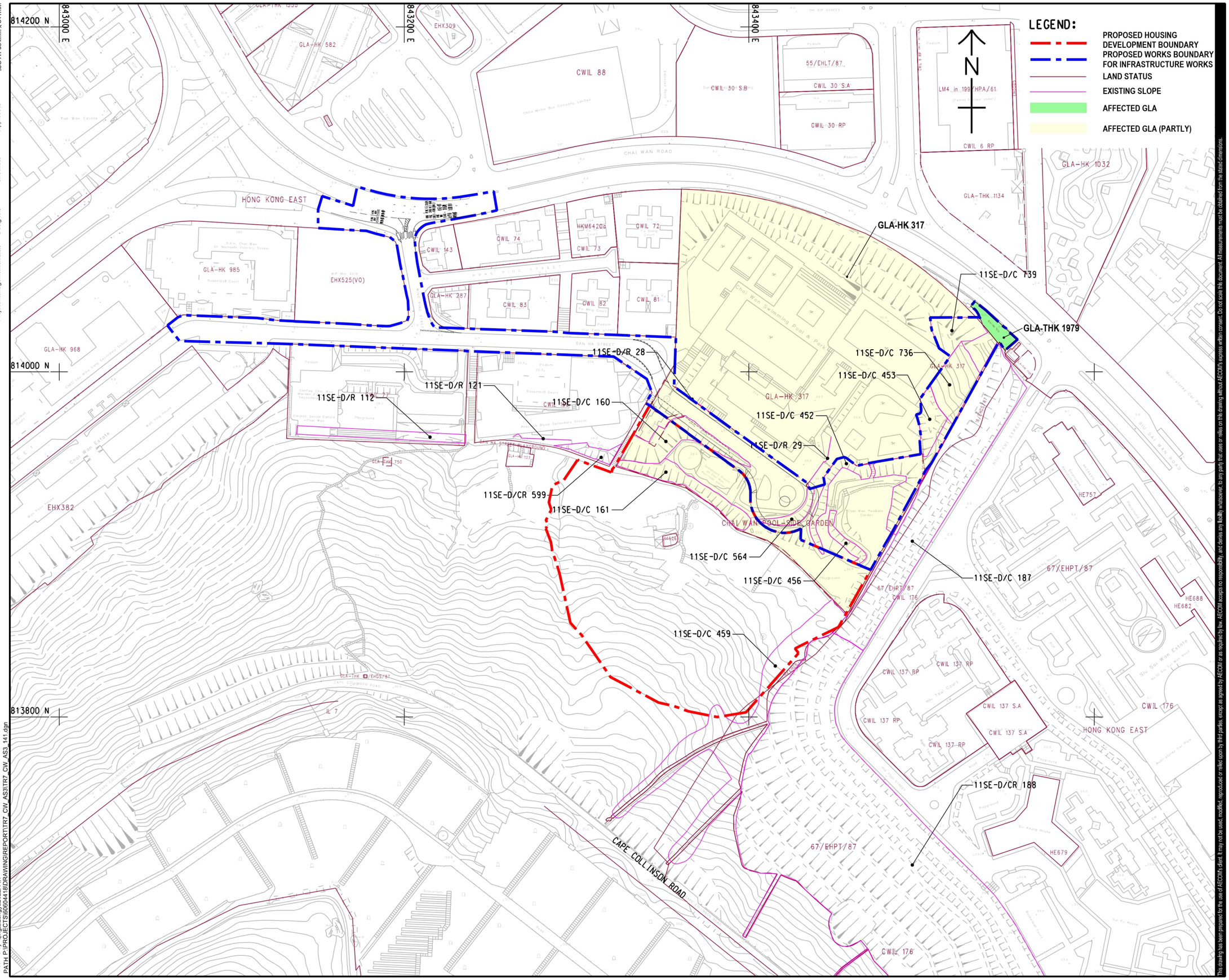

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SCALE 比例	DIMENSION UNIT 尺寸單位
A1 1 : 1000	METERS

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LAND REQUIREMENT PLAN

SHEET 1 OF 2

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 2.3

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SCALE 比例	DIMENSION UNIT 尺寸單位
A1 1 : 1000	METERS

KEY PLAN
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LAND REQUIREMENT PLAN

SHEET 2 OF 2

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圖紙編號

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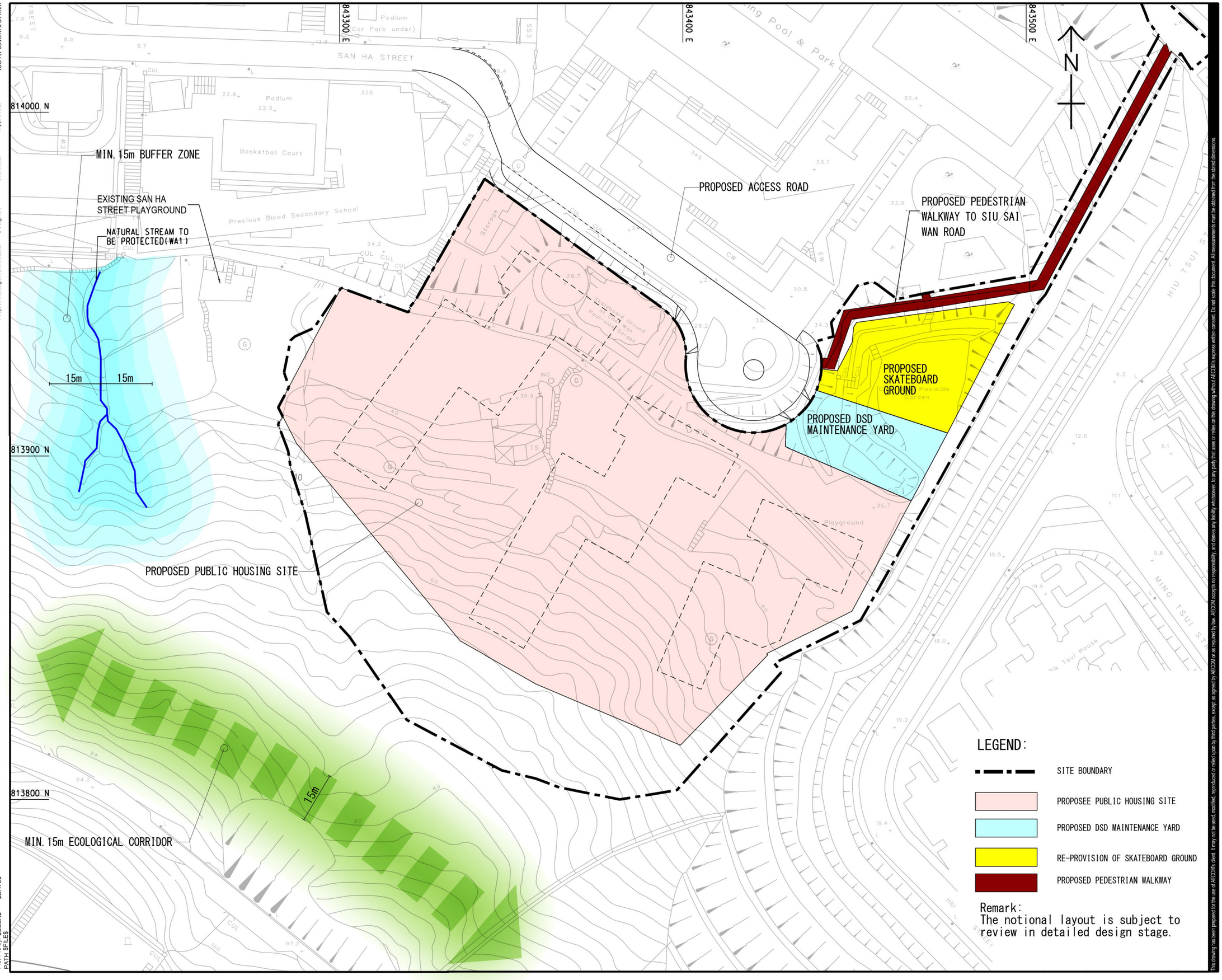

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SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
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圖紙名稱
NOTIONAL LAYOUT

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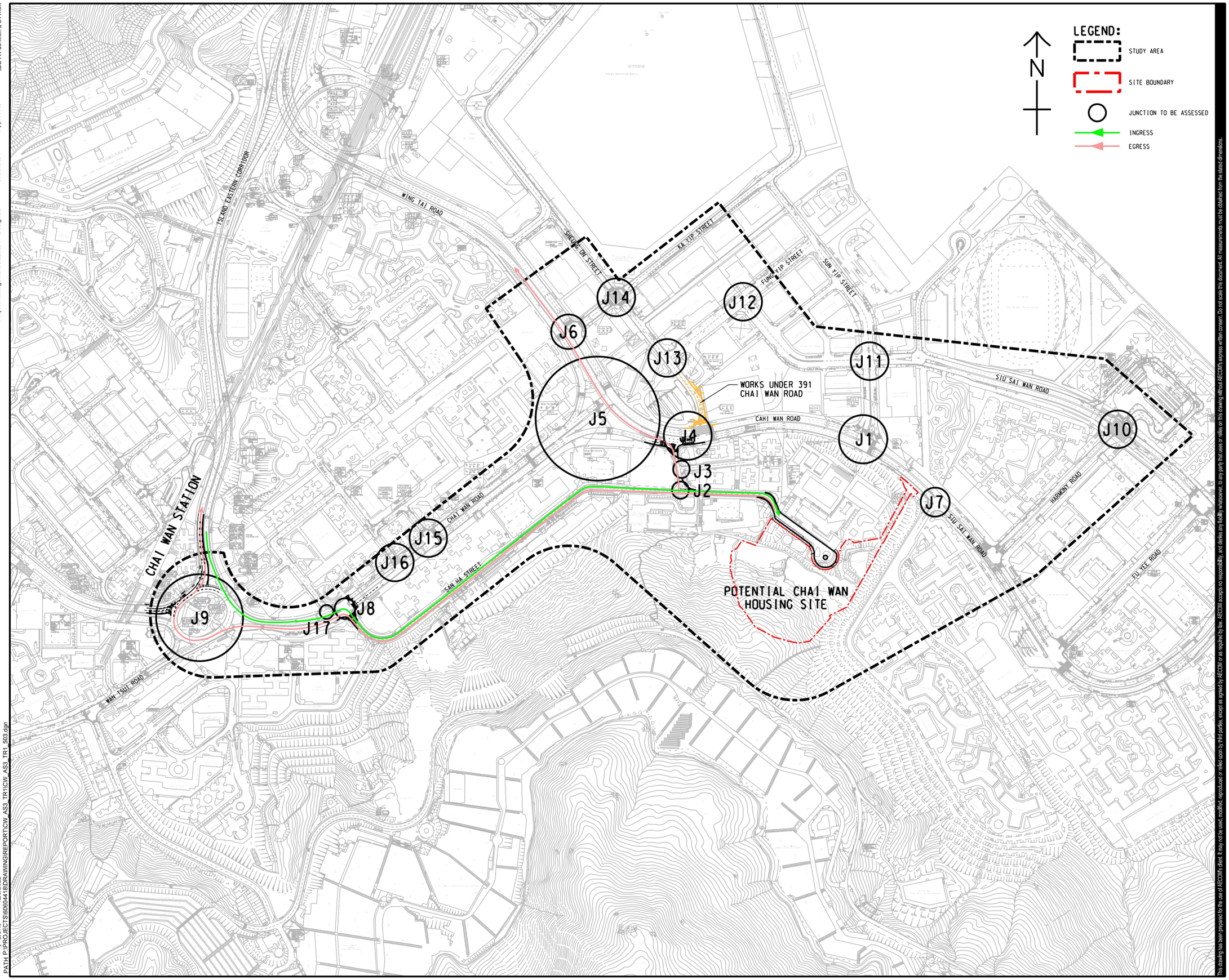

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PRELIMINARY

SCALE 比例
A3 1 : 5000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
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SHEET TITLE
圖紙名稱

AREA OF INFLUENCE AND TRAFFIC ROUTING

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 4.1

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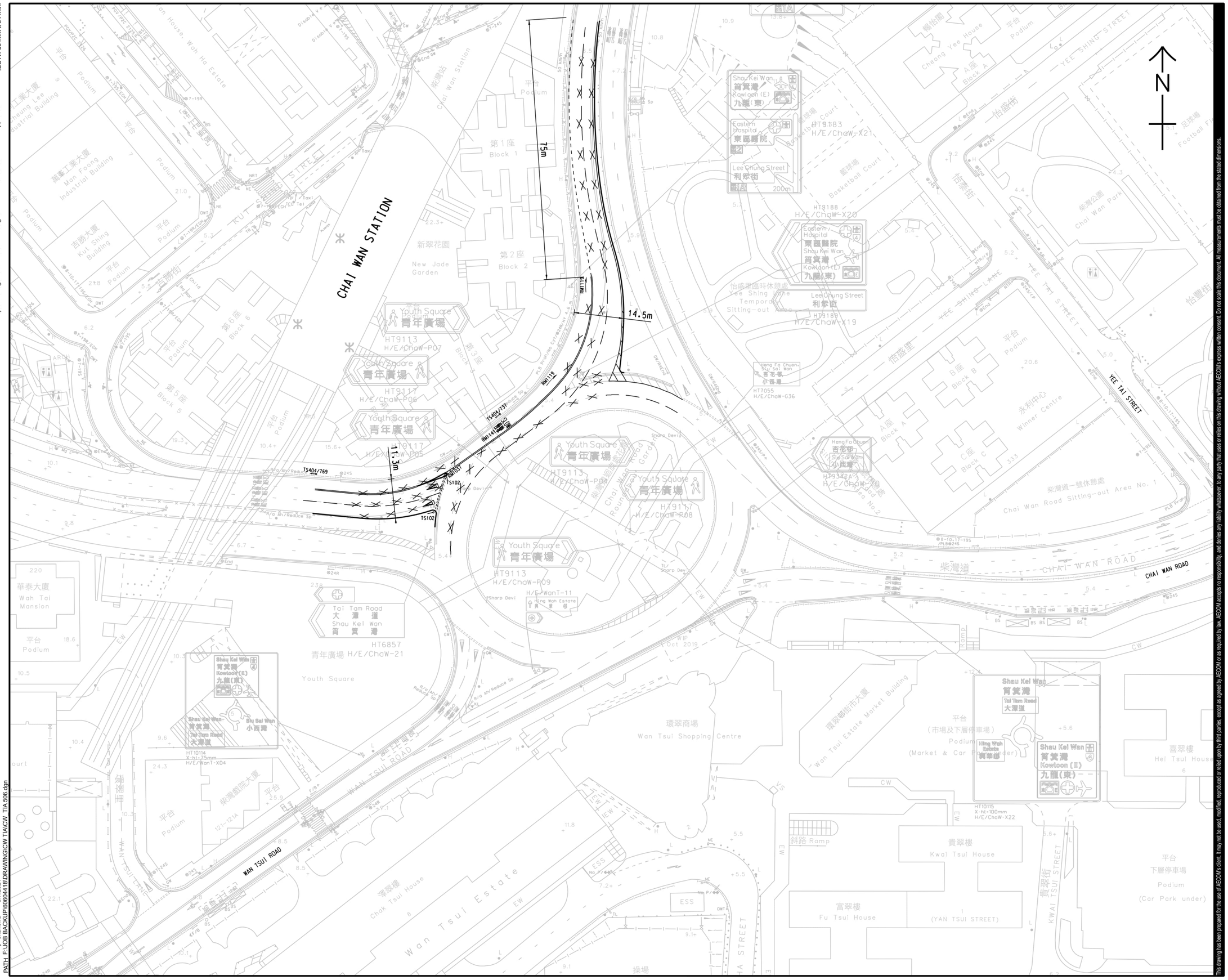

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階段

PRELIMINARY

SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60604418

CONTRACT NO. 合約編號

SHEET TITLE
圖紙名稱

PROPOSED JUNCTION IMPROVEMENT AT J9

SHEET NUMBER
圖紙編號

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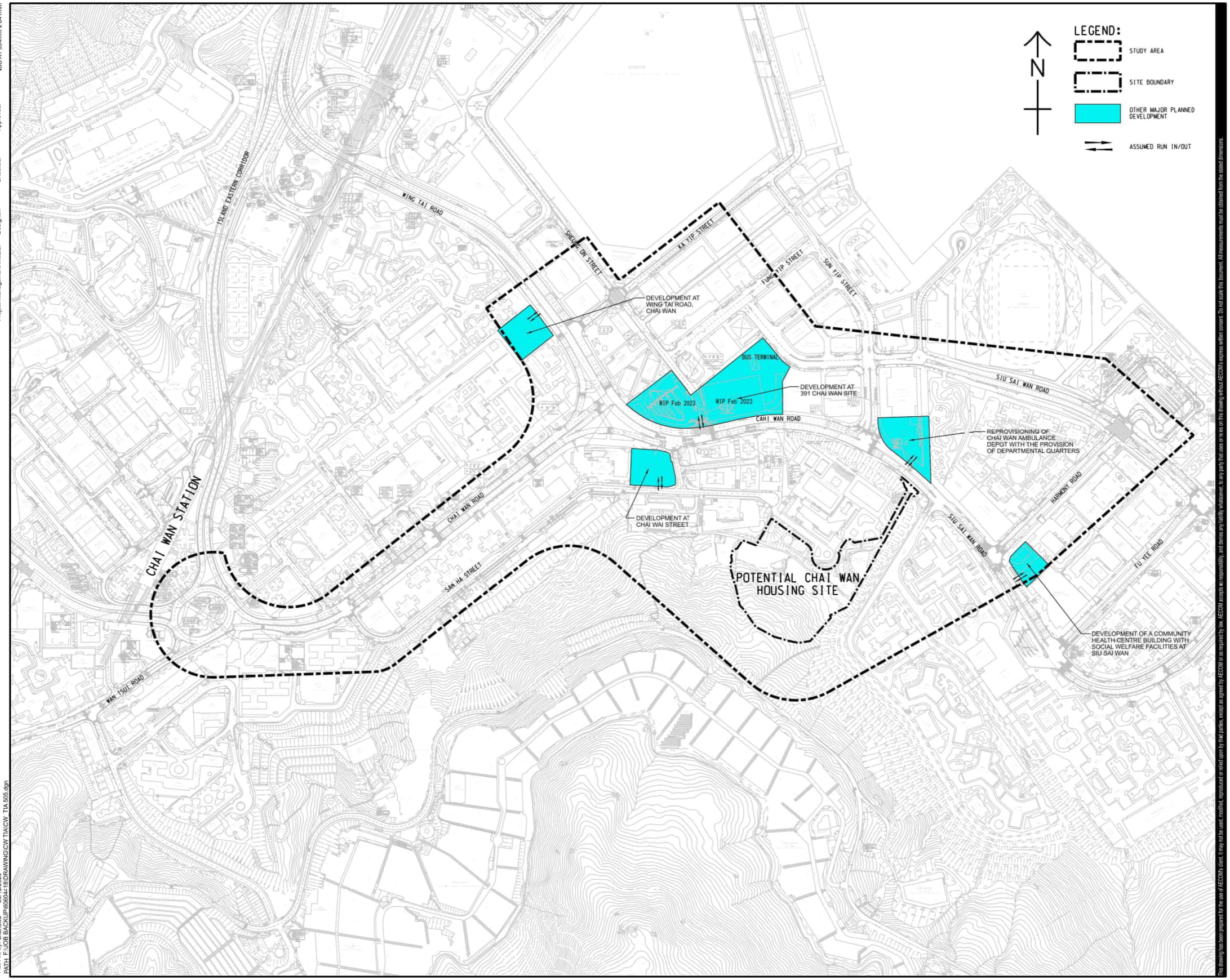

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SCALE A3 1 : 5000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

CONTRACT NO.

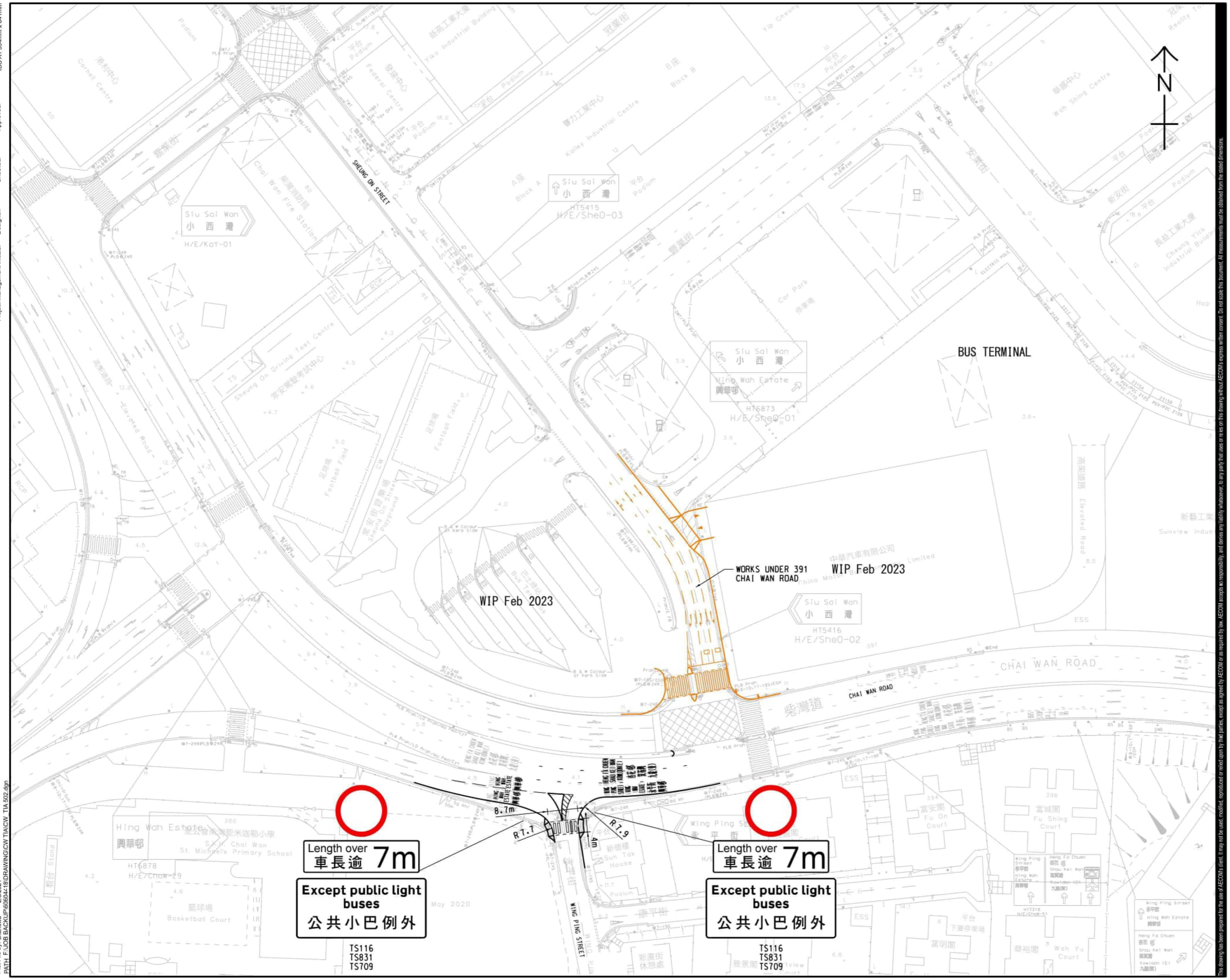
SHEET TITLE

OTHER MAJOR PLANNED DEVELOPMENTS

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 4.3

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm



Plot File by: chancwa 2/8/2321
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AECOM

PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核准

STATUS
狀況

PRELIMINARY

SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60604418

CONTRACT NO. 合約編號

SHEET TITLE
圖紙名稱

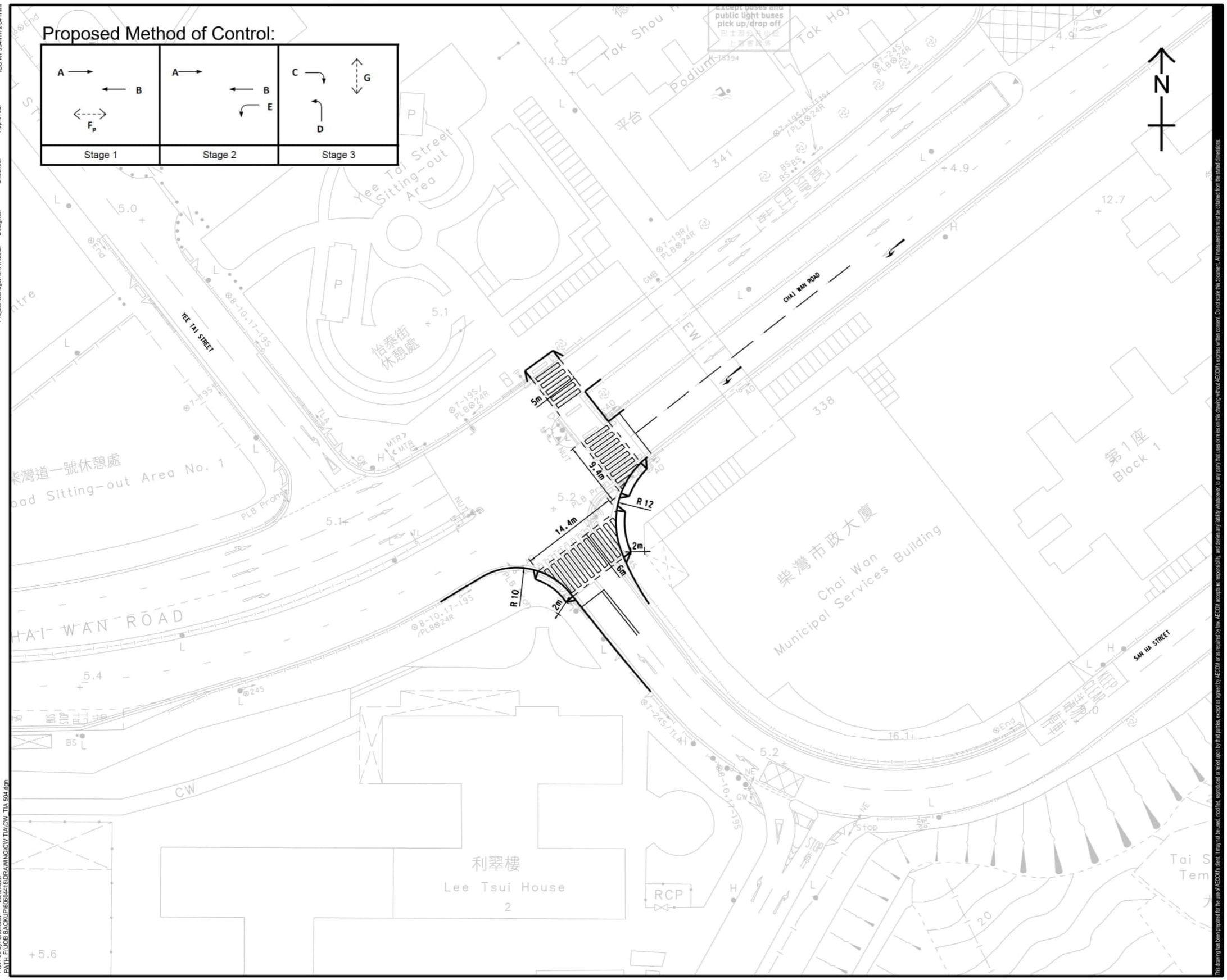
PROPOSED ADDITIONAL JUNCTION IMPROVEMENT AT J4

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 4.4

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

Proposed Method of Control:



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PROJECT
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SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS
狀況

PRELIMINARY

SCALE 比例 — **DIMENSION UNIT** 尺寸單位

A3 1 : 500 — METRES 米

KEY PLAN
索引圖

PROJECT NO. 項目編號 — **CONTRACT NO.** 合約編號

60604418

SHEET TITLE
圖紙名稱

PROPOSED ADDITIONAL JUNCTION IMPROVEMENT AT J8

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 4.5

Plot File by:- chancwa 23/9/2020
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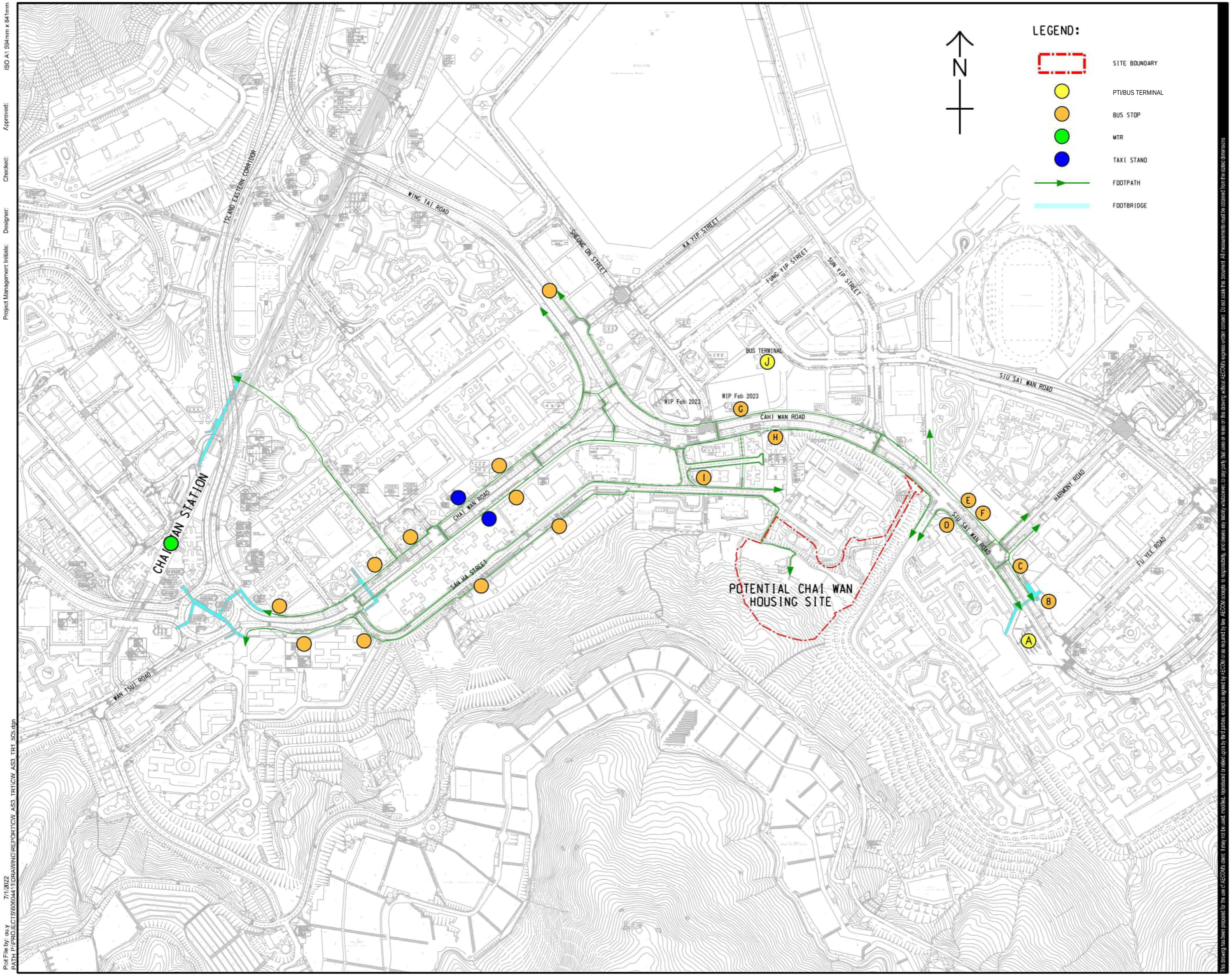

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PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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SCALE

A3 1 : 5000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60604418

AGREEMENT NO.

CE 65/2018 (CE)

SHEET TITLE

EXISTING PEDESTRIAN NETWORK

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 4.6

Plot File by: ou.y 7/1/2022
PATH P:\PROJECTS\60604418\DRAWING\REPORT\CW_AS3_TR1\CW_AS3_TR1_503.dgn

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

843200 E

843400 E

841000 N

813800 N

FUNG YIP STREET

BUS TERMINAL

WIP Feb 2023

WIP Feb 2023

CHAI WAN ROAD

CHAI WAN ROAD

WING PING STREET

SAN HA STREET

CHAI WAN SWIMMING POOL

PROPOSED HOUSING SITE

POTENTIAL CHAI WAN HOUSING SITE

NEWLY FORMED ACCESS ROAD FOR THE PROPOSED DEVELOPMENT

11SE-D/C 739

11SE-D/C 736

11SE-D/C 453

+5.0

+27.5

+34.0

78000

PROPOSED 3m WIDE WALKWAY

HIU TSUI STREET

REPROVISION OF SKATEBOARD GROUND

PROPOSED DSD RETENTION TANK

N

LEGEND:

SITE BOUNDARY

EXISTING SLOPES MAINTAINED BY LCSD/ARCHSD

SLOPES TO BE MAINTAINED BY HYD (SUBJECT TO DETAILED DESIGN)

PROPOSED PEDESTRIAN WALKWAY

Plot File by: $USER$ $DATE$
PATH $FILE$

AECOM

PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE A3 1 : 2000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

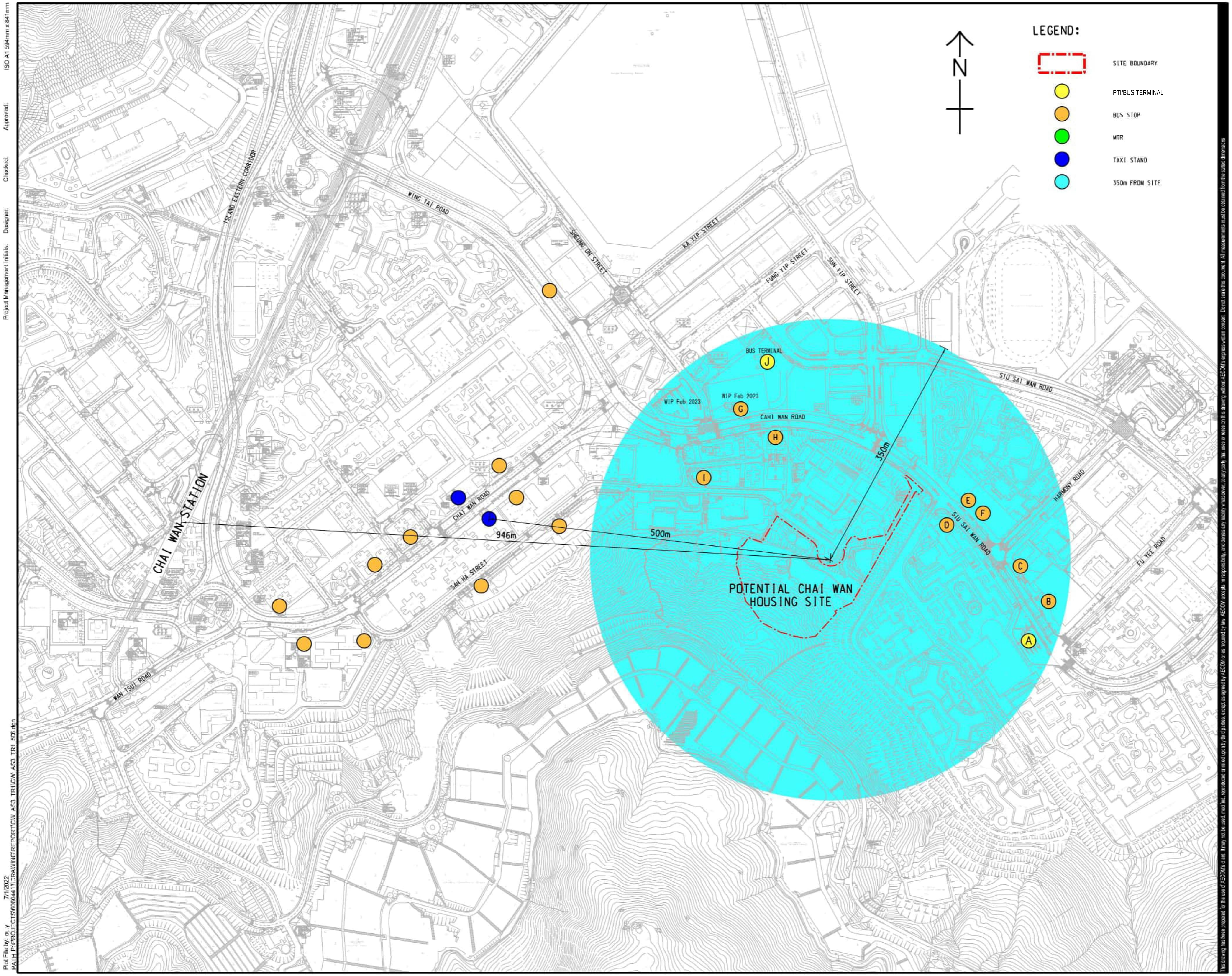
AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

PROPOSED PEDESTRIAN WALKWAY

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 4.7



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PROJECT

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STATUS

SCALE	DIMENSION UNIT
A3 1 : 5000	METRES

KEY PLAN

PROJECT NO.	AGREEMENT NO.
60604418	CE 65/2018 (CE)

SHEET TITLE

EXISTING PUBLIC TRANSPORT FACILITIES NEAR CHAI WAN SITE

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 4.8

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

842800 E

843000 E

843200 E

843400 E

814200 N

814000 N

YUE WAN ESTATE

CHAI WAN ROAD

BUS TERMINAL

WIP Feb 2023

WIP Mar 2019

LEGEND:

SITE BOUNDARY

EXISTING DRAINAGE

Plot File by: CAOPA 2020716
PATH: J:\projects\60604418\DRAWING\SKETCH\SK4031.dgn

AECOM

PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
狀況

SCALE 比例
A3 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60604418

AGREEMENT NO. 協議編號
CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

LAYOUT PLAN OF EXISTING DRAINAGE NETWORK

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 5.1

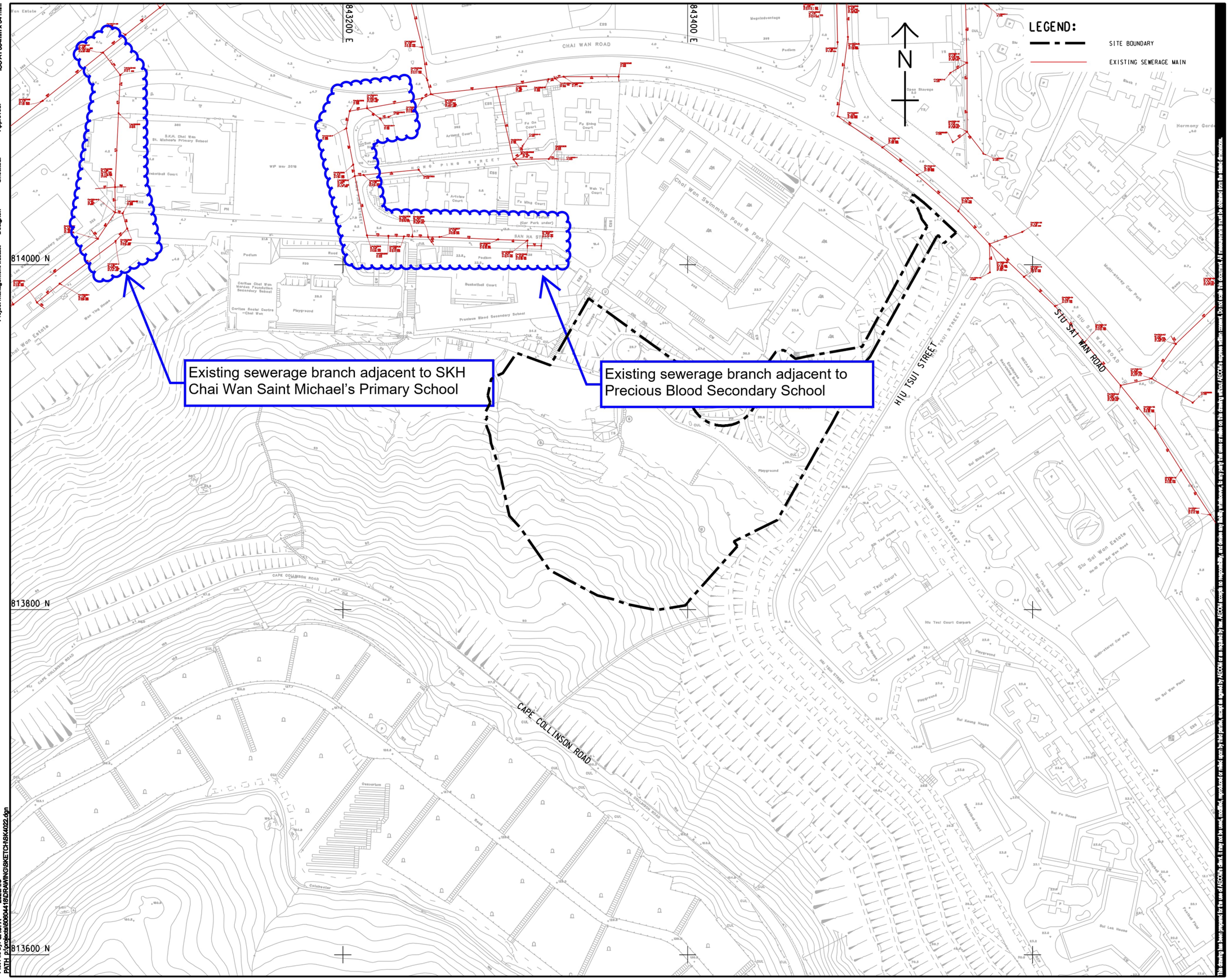
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



Plot File by: CAOPA 2020/4/8
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PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS
階段

SCALE 比例: A3 1 : 2000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60604418

AGREEMENT NO. 協議編號: CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

EXISTING SEWERAGE SYSTEM ADJACENT TO CHAI WAN SITE

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 5.2

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

843200 E

843400 E

814000 N

813800 N

EXISTING TRIPLE SEWER TO BE UPGRADED

CONNECT TO EXISTING MANHOLE FMH7054942 AT +2.820mPD

INSET '1'

INSET '2'

PSMH05
G.L. +5.100mPD
A1 +3.652-375ø
X1 +3.652-375ø

PSMH06
G.L. +4.580mPD
A1 +2.921-375ø
X1 +2.921-375ø

PSMH04
G.L. +8.500mPD
A1 +5.109-375ø
X1 +4.883-375ø

PSMH04a
G.L. +9.300mPD
A1 +5.583-375ø
X1 +5.583-375ø

PSMH03a
G.L. +9.700mPD
A1 +7.543-375ø
X1 +5.703-375ø
(BACKDROP)

PSMH03
G.L. +11.320mPD
A1 +9.883-375ø
X1 +7.983-375ø
(BACKDROP)

PSMH02
G.L. +16.070mPD
A1 +14.883-375ø
X1 +11.483-375ø
(BACKDROP)

PSMH01
G.L. +19.000mPD
A1 +17.580-375ø
A2 +15.600-300ø (DISCHARGED FROM SITE TERMINAL MANHOLE)
X1 +15.483-375ø
(BACKDROP)

PSMH01c
G.L. +22.700mPD
A1 +21.320-375ø
X1 +18.020-375ø
(BACKDROP)

PSMH01b
G.L. +26.400mPD
A1 +25.000-375ø
X1 +21.800-375ø
(BACKDROP)

PSMH01a
G.L. +30.100mPD
A1 +25.900-375ø (DISCHARGED FROM SITE TERMINAL MANHOLE)
A2 +25.900-375ø (DISCHARGED FROM SITE TERMINAL MANHOLE)
X1 +25.400-375ø
(BACKDROP)

DISCHARGE FROM CW SITE TERMINAL MANHOLE (300ø DRAIN WITH GRADIENT OF 1 IN 100 AND UPSTREAM INVERT LEVEL OF +16.30mPD)

DISCHARGE FROM CW SITE TERMINAL MANHOLE (375ø DRAIN WITH GRADIENT OF 1 IN 150 AND UPSTREAM INVERT LEVEL OF +26.80mPD)

CHAI WAN ROAD

HIU TSUI STREET

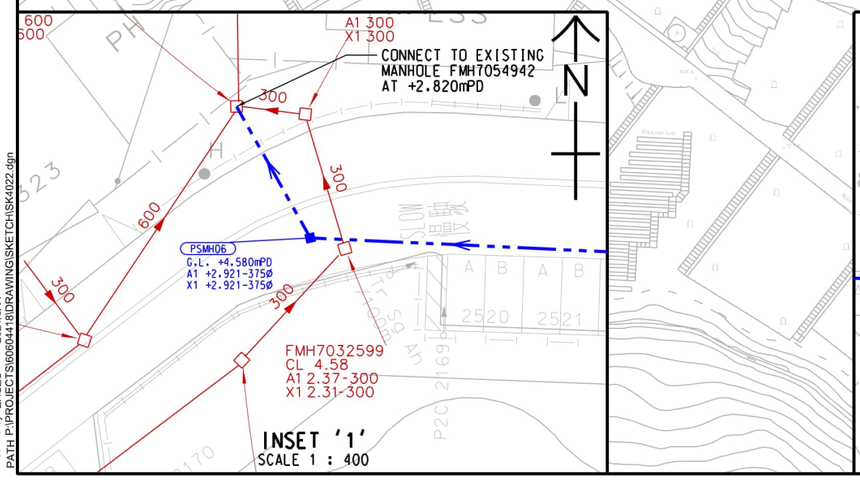
SIU SAI WAN ROAD

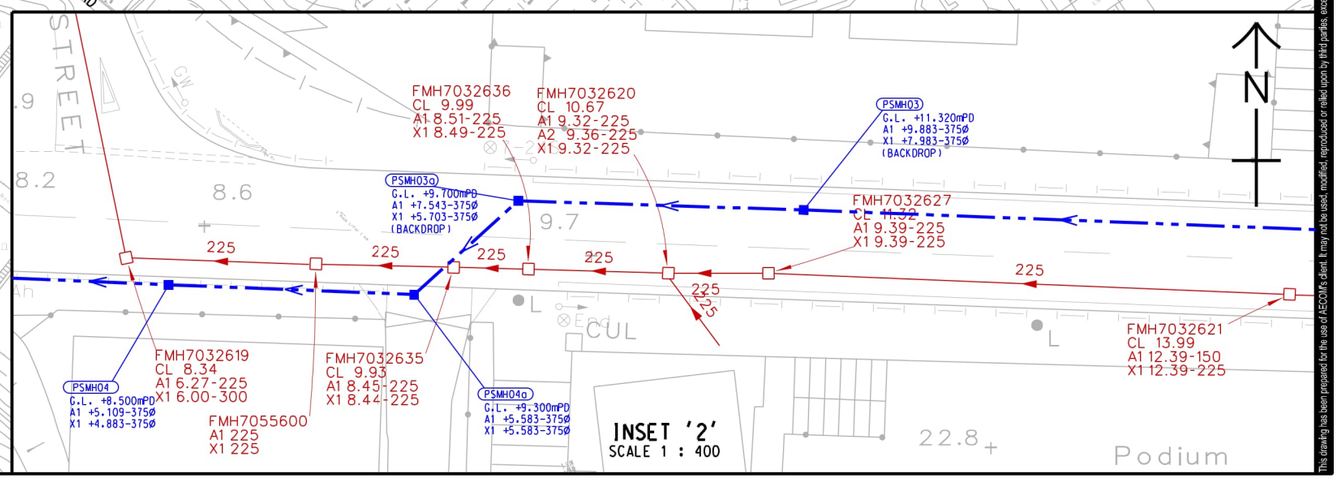
CAPE COLLINSON ROAD

LEGEND:

- SITE BOUNDARY
- PROPOSED SEWERAGE MAIN
- EXISTING SEWERAGE MAIN

N





Plot File by: ZHUZC 2021/6/11
PATH: P:\PROJECTS\60604418\DRAWING\SKETCH\SK4022.dgn

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PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS
階段

SCALE 比例
A3 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60604418

AGREEMENT NO. 合約編號
CE 65/2018 (CE)

SHEET TITLE
圖紙名稱
PROPOSED SEWER

SHEET NUMBER
圖紙編號
60604418/CW_AS3_WP4/FIGURE 5.3

ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

Chai Wan North Fresh Water Service Reservoir

Chai Wan North No.2 Fresh Water Service Reservoir

N

A3 1 : 10000

Plot File by: CAO,PA 2020/9/11
PATH: P:\projects\60604418\LP\AWING\SKETCH\SK4029.dgn

AECOM

PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

CLIENT
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
狀況

SCALE 比例 | **DIMENSION UNIT** 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60604418

AGREEMENT NO. 協議編號: CE 65/2018 (CE)

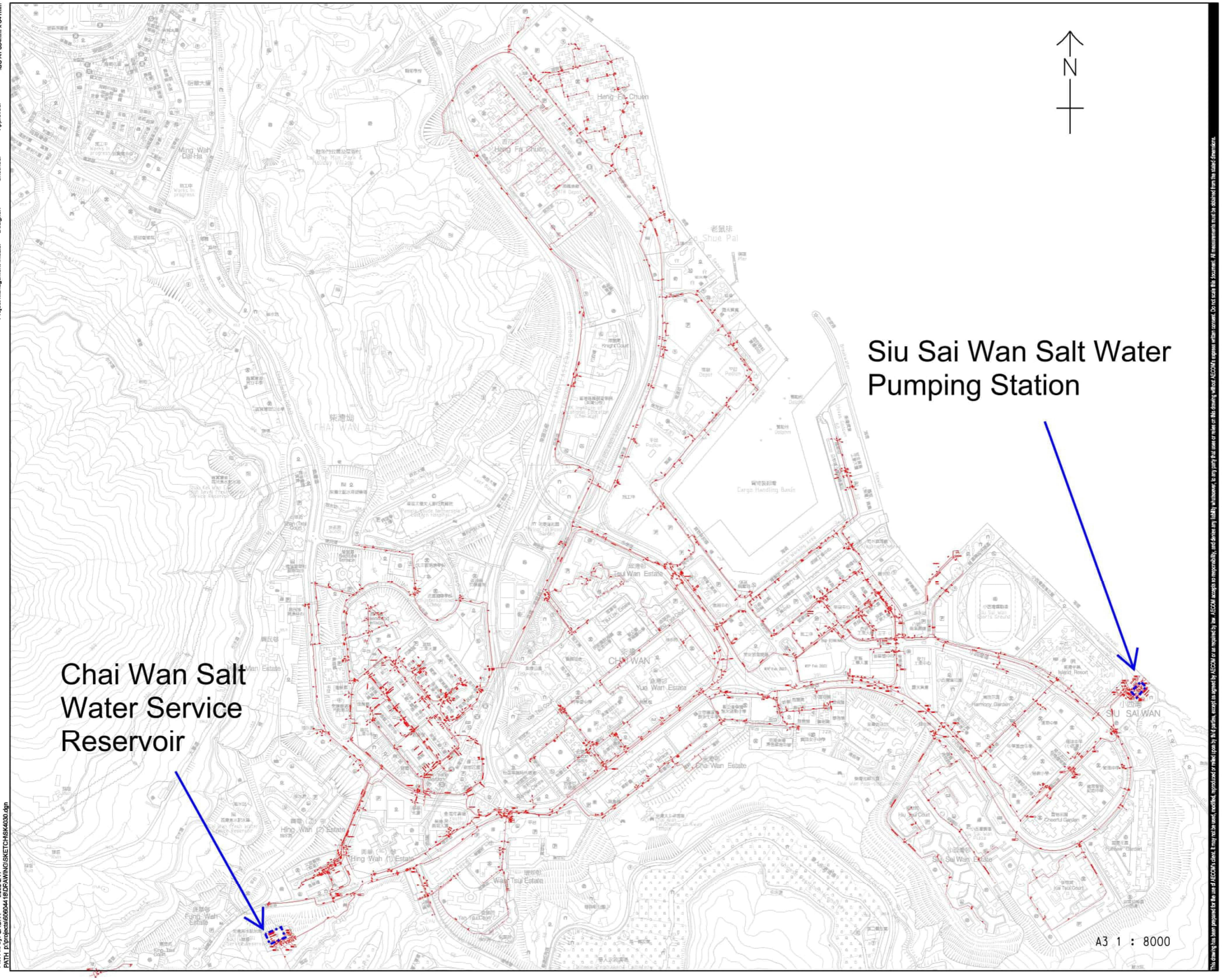
SHEET TITLE
圖紙名稱

EXISTING FRESH WATER SUPPLY SYSTEM LAYOUT PLAN

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 5.4

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm



Plot File by: CAOPA 2020/06/11
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PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS
現況

SCALE 比例

DIMENSION UNIT 尺寸單位

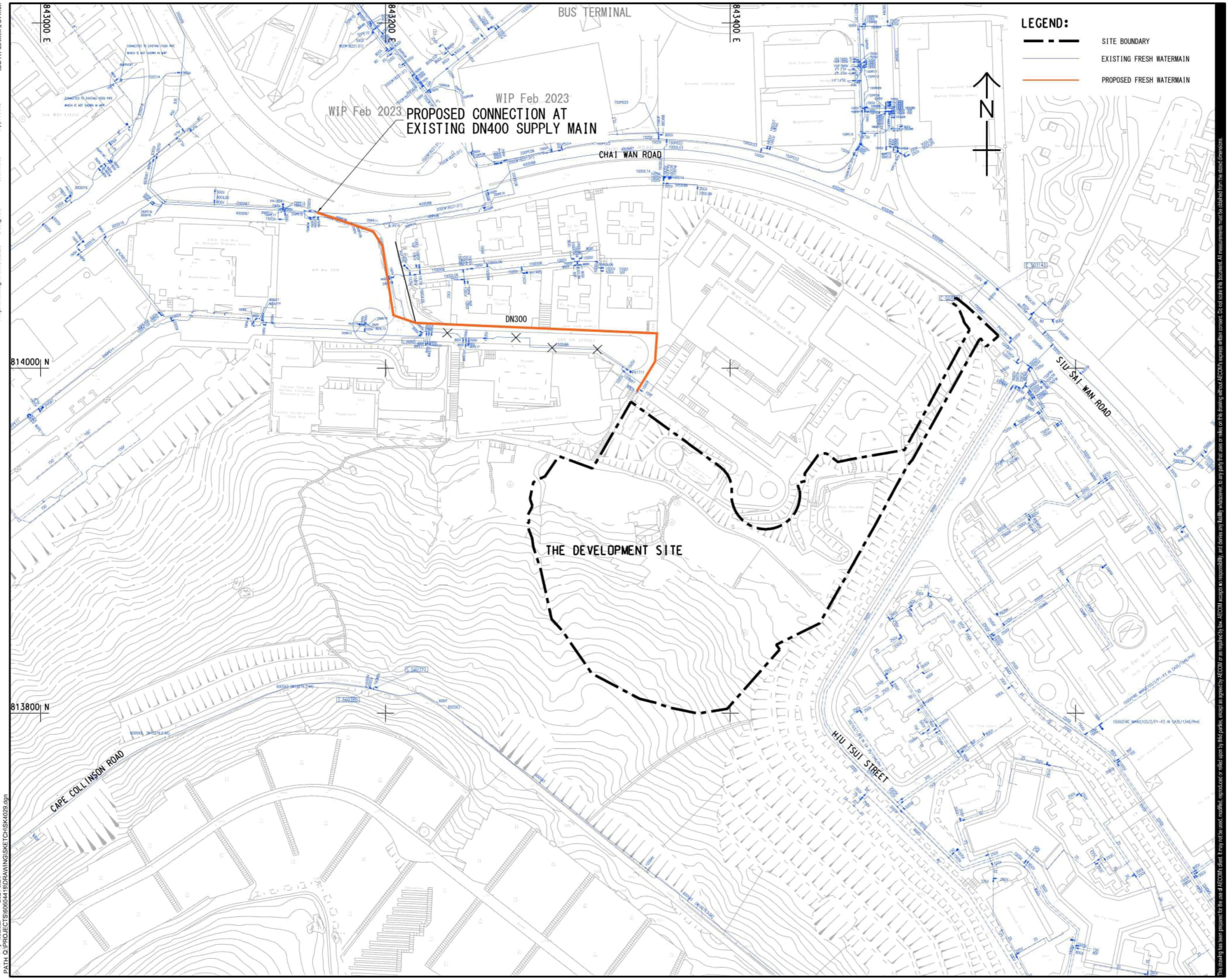
KEY PLAN
索引圖

PROJECT NO. 項目編號
60604418

AGREEMENT NO. 協議編號
CE 65/2018 (CE)

SHEET TITLE
圖紙名稱
EXISTING SALT WATER SUPPLY SYSTEM LAYOUT PLAN

SHEET NUMBER
圖紙編號
60604418/CW_AS3_WP4/FIGURE 5.5



ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

Plot File by: /iva.cal
2021/5/24
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SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS

SCALE A3 1 : 2000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

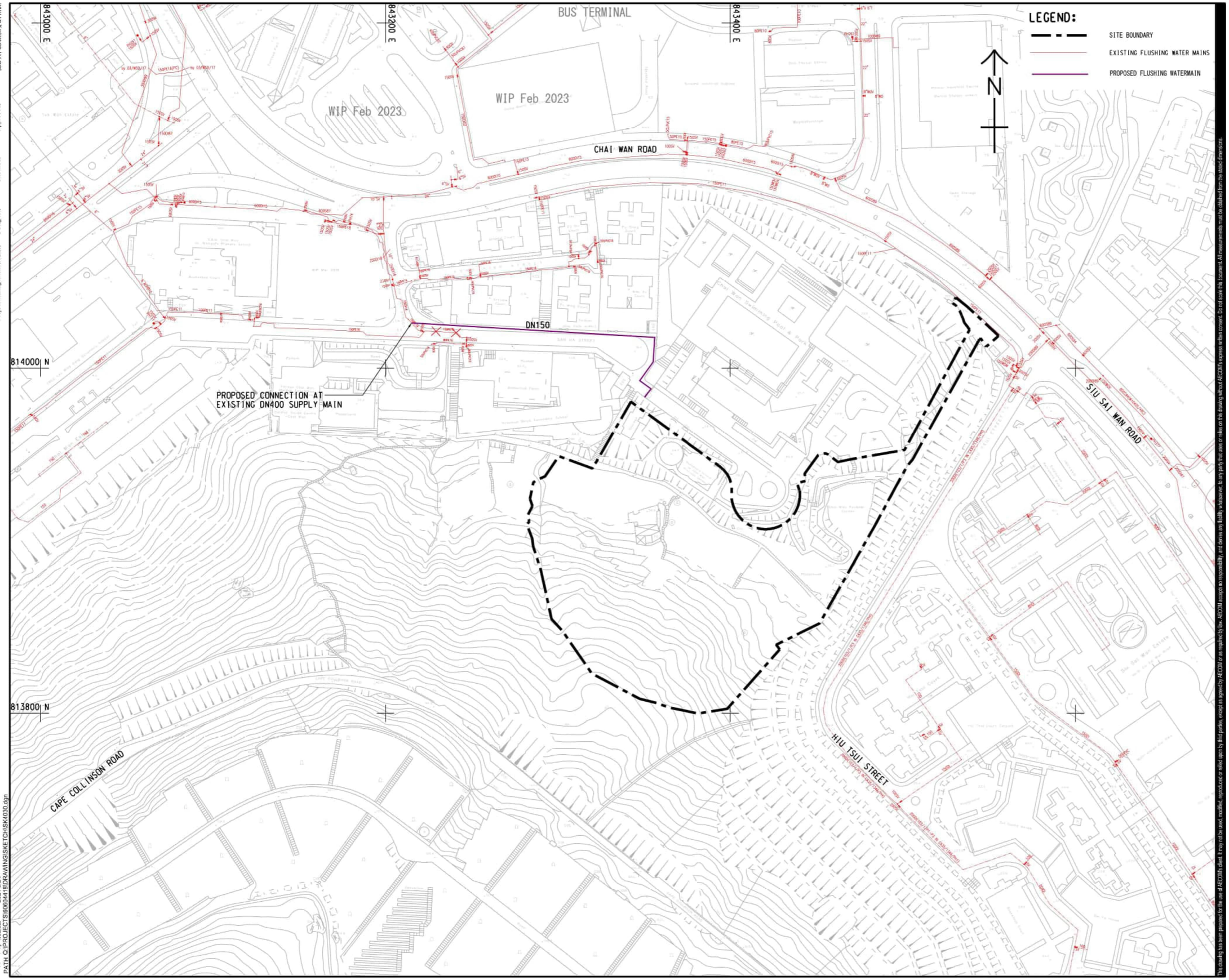
AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

PROPOPSED FRESH WATERMAIN

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 5.6



ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

Plot File by: riva.cai 2021/6/24
PATH Q:\PROJECTS\60604418\DRAWING\SKETCH\SKA4030.dgn

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STATUS

SCALE

A3 1 : 2000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60604418

AGREEMENT NO.

CE 65/2018 (CE)

SHEET TITLE

PROPOSED SALT WATERMAIN

SHEET NUMBER

60604418/WSIA/CW_AS3_WP4/FIGURE 5.7

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

843000 E

843200 E

843400 E

814200 N

814000 N

813800 N

BUS TERMINAL

WIP Feb 2023

WIP Feb 2023

N

LEGEND:

STUDY BOUNDARY

SITE BOUNDARY

EXISTING LV CABLE

EXISTING 11KV CABLE

EXISTING FIBRE CABLE

EXISTING LV OVERHEAD CABLE

AECOM

PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS

SCALE

A3 1 : 2000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60604418

AGREEMENT NO.

CE 65/2018 (CE)

SHEET TITLE

EXISTING HKE LAYOUT PLAN

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 5.8

Plot File by: Weilun.Pan 9/9/2021
PATH: P:\PROJECTS\60604418\DRAWING\SKETCH\SK1016.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

843000 E

843200 E

843400 E

814200 N

814000 N

813800 N

BUS TERMINAL

WIP Feb 2023

WIP Feb 2023

CHAI WAN ROAD

SAM MA STREET

Chai Wan Swimming Pool & Park

LEGEND:

SITE BOUNDARY

EXISTING LIGHT PRESSURE GAS MAIN

N

Plot File by: Weilun.Pan 9/9/2321
PATH P:\PROJECTS\60604418\DRAWING\SKETCH\SK1017.dgn

AECOM

PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE
A3 1 : 2000

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60604418

AGREEMENT NO.
CE 65/2018 (CE)

SHEET TITLE
EXISTING GAS LAYOUT PLAN

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 5.9

ISO A1 594mm x 841mm

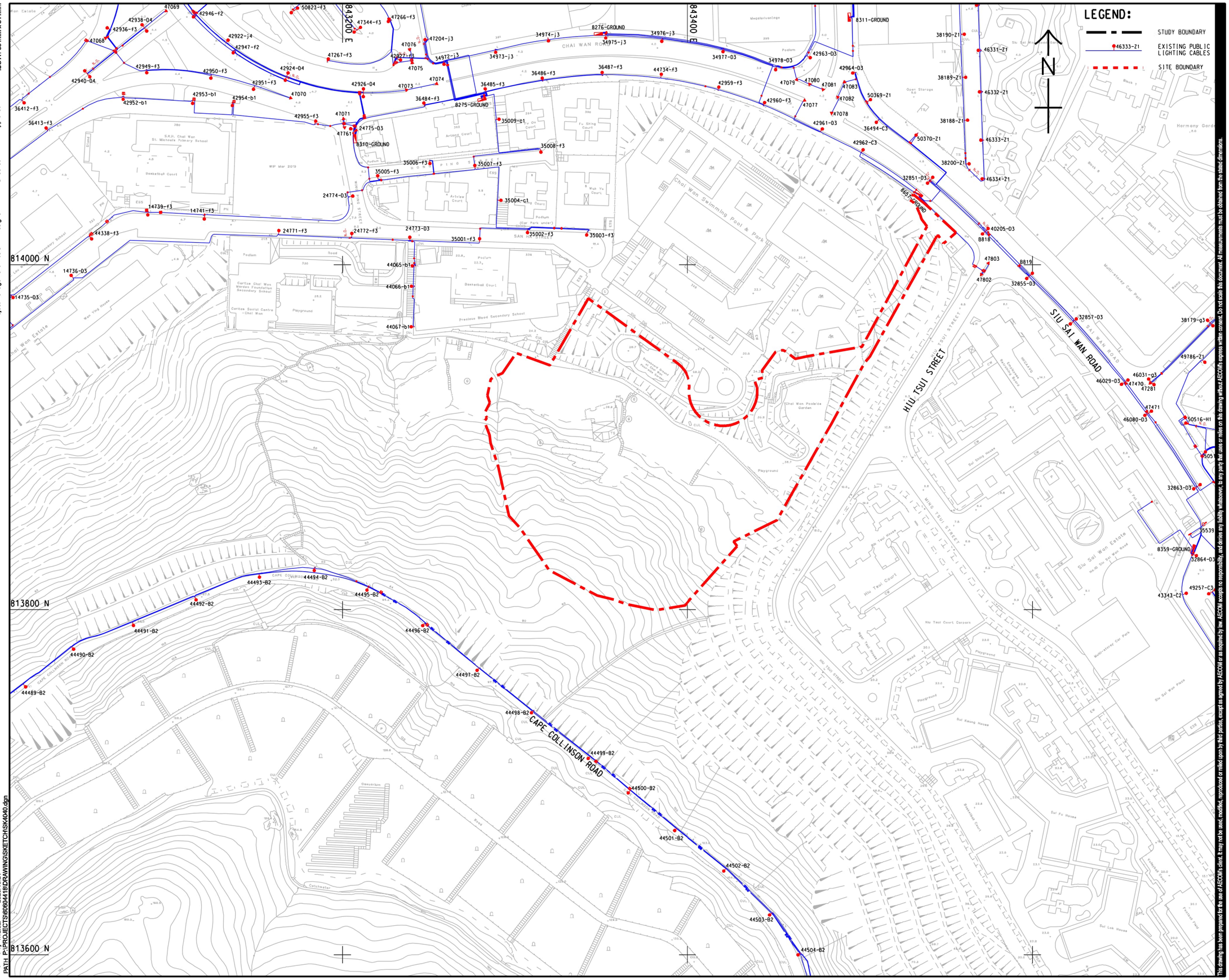
Approved:

Checked:

Designer:

Project Management Initials:

Plot File by: rva.cal 2020/10/21
PATH: P:\PROJECTS\60604418\DRAWING\SKETCH\SK4040.dgn



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PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 2000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60604418

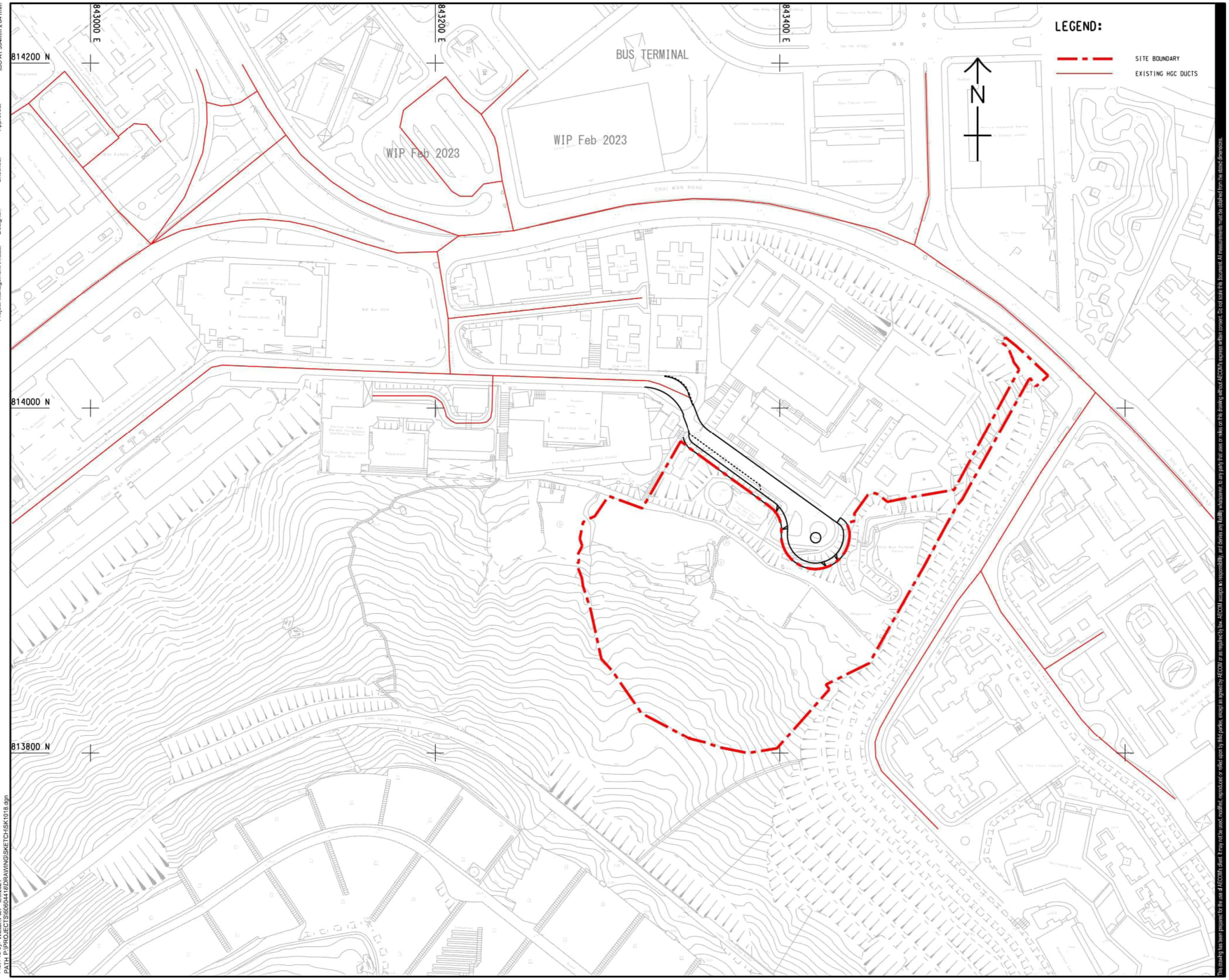
AGREEMENT NO. 協議編號: CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

EXISTING PUBLIC LIGHTING INSTALLATION PLAN

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 5.10



ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

Plot File by: Weilun.Pan 9/9/2021
PATH P:\PROJECTS\60604418\DRAWING\GISKETCH\SK1018.dgn

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SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE A3 1 : 2000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

EXISTING HGC LAYOUT PLAN

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 5.11

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

843000 E

843200 E

843400 E

814200 N

814000 N

813800 N

BUS TERMINAL

WIP Feb 2023

WIP Feb 2023

N

LEGEND:

SITE BOUNDARY

EXISTING LV CABLE

EXISTING 11KV CABLE

EXISTING FIBRE CABLE

EXISTING LV OVERHEAD CABLE TO BE DEMOLISHED

Plot File by: Weitun.Pan 9/9/2021
PATH: P:\PROJECTS\60604418\DRAWING\SKETCH\SK1016.dgn

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PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE

A3 1 : 2000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60604418

AGREEMENT NO.

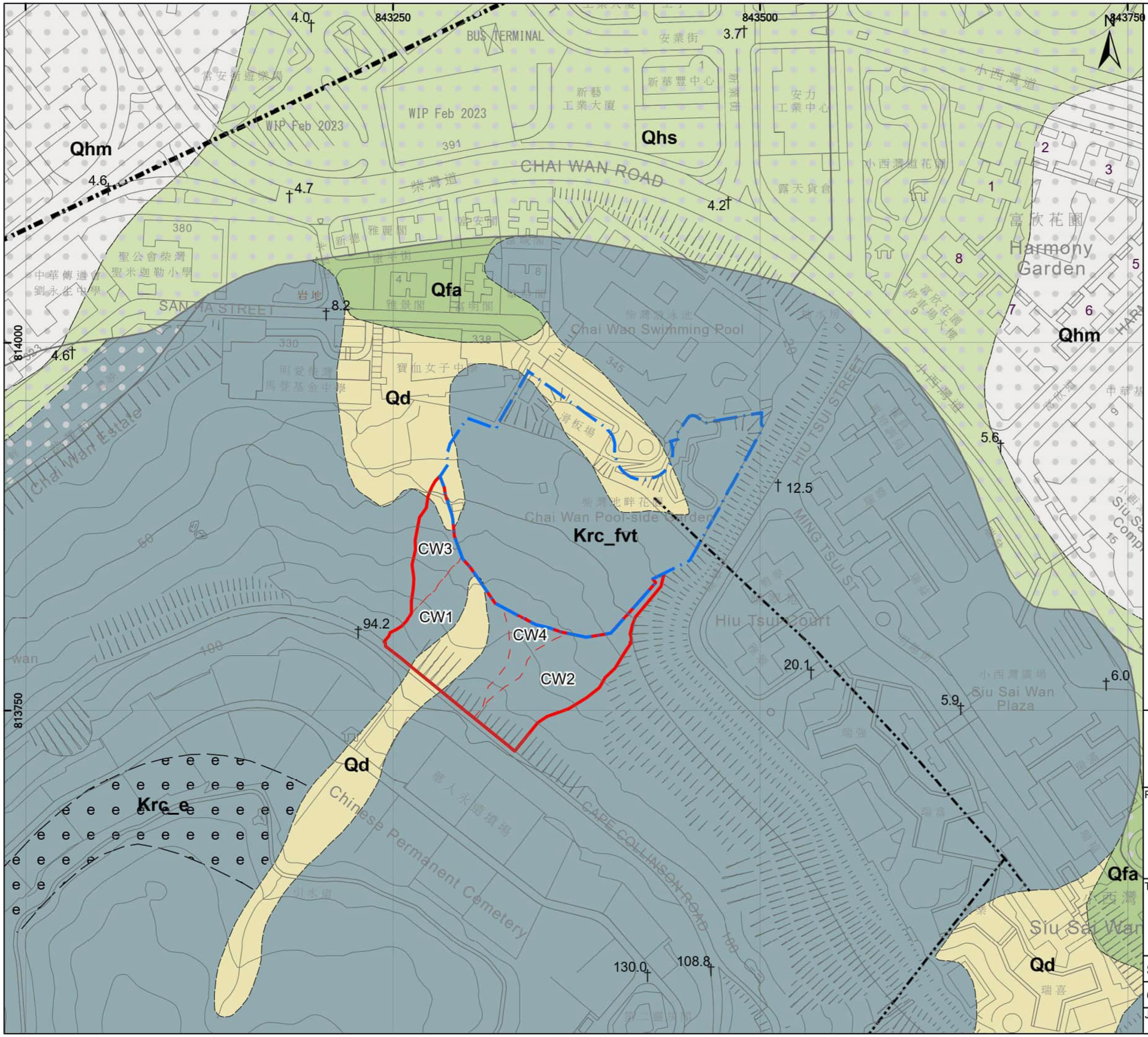
CE 65/2018 (CE)

SHEET TITLE

PROPOSED DIVERSION ROUTE

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 5.12



Legend

- Proposed Development Area
- NTHS Study Area
- Hillside Catchment
- Fill

Superficial Deposits

- Qfa Alluvium
- Qhm Marine Mud
- Qhs Marine Sand
- Qd Debris Flow Deposits

Solid Geology

- Krc_e Eutaxitic crystal-bearing fine ash vitric tuff
- Krc_fvt Eutaxitic fine ash vitric tuff

Geological Lines

- Geological Boundary
- Photogeological lineament
- Fault, inferred

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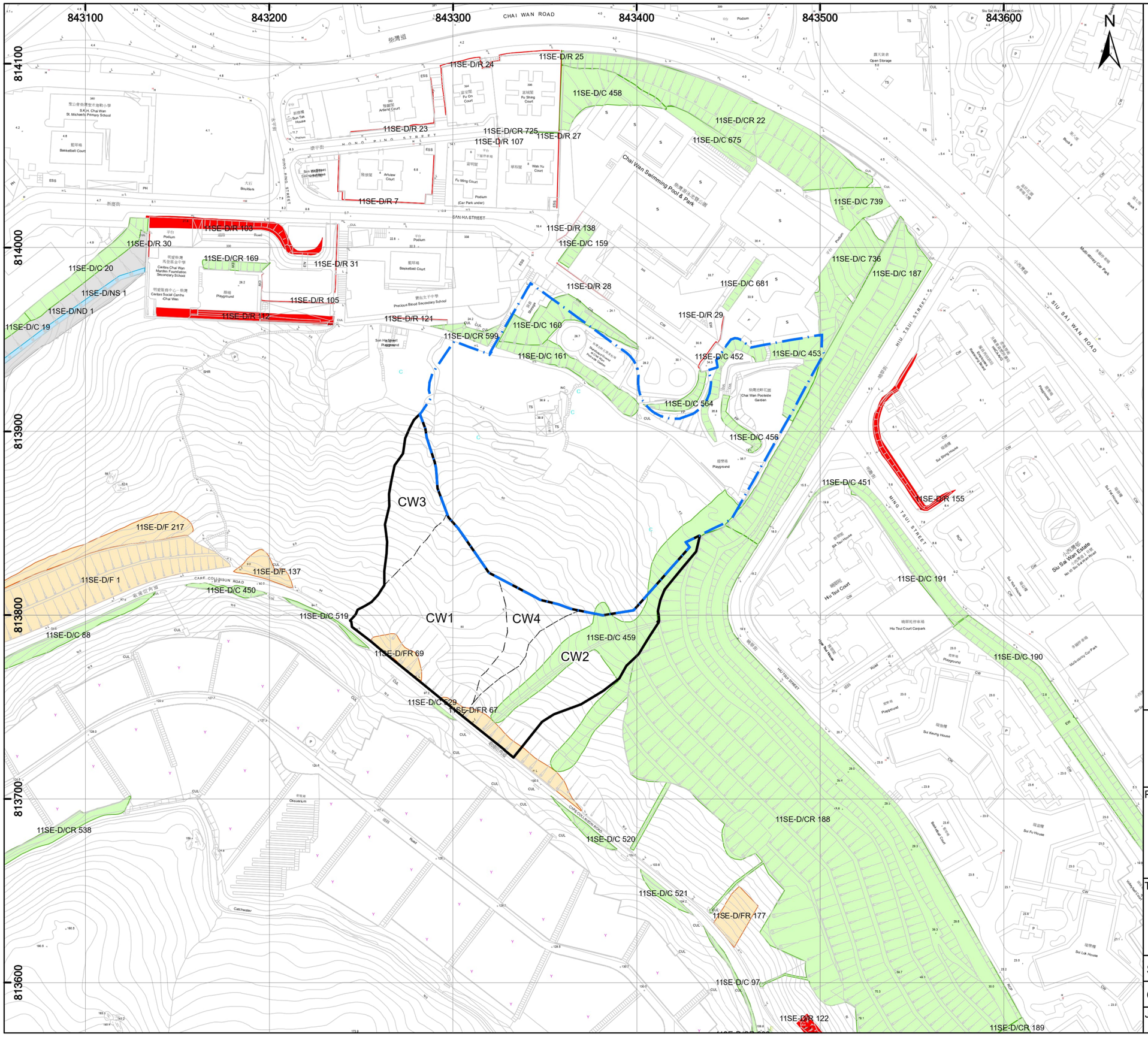
PROJECT

Agreement No. CE 65/2018 (CE)
Site Formation and Infrastructural Works for Public Housing Development near Chai Wan Swimming Pool, Chai Wan

TITLE

Published Geological Map

SCALE	1:2,500	DATE	July 2022
CHECK	CI	DRAWN	JSYH
JOB No.	60604418	FIGURE No.	6.1 Rev. 2



Legend

- Proposed Development Area
- NTHS Study Area
- Hillside Catchment

Registered Man-made Feature

- Cut Slope
- Fill Slope
- Retaining Wall
- Natural Terrain Defensive Measure
- Natural Terrain Stabilization Measure

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PROJECT

Agreement No. CE 65/2018 (CE)
Site Formation and Infrastructural Works for Public Housing Development near Chai Wan Swimming Pool, Chai Wan

TITLE

Man-made Feature Location Plan

SCALE	1:2,000	DATE	July 2022
CHECK	CI	DRAWN	JSYH
JOB No.	60604418	FIGURE No.	6.2 Rev. 2

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

843300 E

843400 E

843500 E

814000 N

813900 N

813800 N

SAN HA STREET

Podium
(Car Park under)

Basketball Court

Precious Blood Secondary School

Swimming Pool & Park

Playground

SOIL CUT SLOPE
(MAX 1:1.5)

NEWLY FORMED ACCESS ROAD
FOR THE PROPOSED DEVELOPMENT

EXISTING SAN HA
STREET PLAYGROUND

NATURAL STREAM
TO BE PROTECTED

FILL SLOPE
(MAX 1:2)

REPROVISION OF ACCESS

BACKFILL

3.5m WIDE MASS CONCRETE

3.5m WIDE MASS
CONCRETE WALL

2m MAINTENANCE ACCESS

LCSD
SKATEBOARD
GROUND

DSD
MAINTENANCE
YARD

GROSS SITE AREA 19576m²

NET SITE AREA 15618m²

CONNECT TO
EXISTING/PROPOSED
DRAINAGE

ROCK CUT SLOPE (MAX
80°) WITH ROCK SLOPE
STABILIZATION MEASURES

SOIL CUT SLOPE
(MAX 1:1.5)

2m MAINTENANCE ACCESS

SOIL CUT SLOPE (MAX 50°)
AND SOIL NAILS IF NECESSARY

15m ECOLOGICAL
CORRIDOR

PROPOSED
STAIRCASE

2m DIAMETER BORED PILE WALL

ROCK CUT SLOPE (MAX 80°)
WITH ROCK SLOPE
STABILIZATION MEASURES

SOIL (MAX 50°) AND ROCK CUT
SLOPE (MAX 80°) WITH ROCK
SLOPE STABILIZATION MEASURES
AND SOIL NAILS IF NECESSARY

DH1 DH2 DH3 DH4 DH5 DH6 DH7 DH8 DH9 DH10 DH11 DH12

TP1 TP2 TP3 TP4 TP5

NOTE:

REMARK:
(2574 + 10%) PRH * 40m² / 8 DPR = 14160m² (CRITICAL CASE)
(1824 + 10%) SSF * 50m² / 8 DPR = 12538m²
"THE SITE FORMATION LEVEL IS +30.0
WITH 1% FALL WITHIN THE SITE"

LEGEND:

- SITE BOUNDARY
- NET SITE AREA
- WORKS BOUNDARY (SUBJECT TO CHANGE)
- PROTECTION ZONE
- 45 ROCKHEAD CONTOUR
- SOIL CUT SLOPE
- SOIL AND ROCK CUT SLOPE
- ROCK CUT SLOPE
- FILL SLOPE
- RETAINING STRUCTURE
- GROSS AREA
- DH1 PROJECT SPECIFIC DRILLHOLE
- TP1 PROJECT SPECIFIC TRIAL PIT

Plot File by: CULIR 12/30/2022
PATH: P:\PROJECTS\60604418\DRAWING\REPORT\CW_WP\CW_WP_301.dgn

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PROJECT
項目

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 1000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 合約編號
60604418	CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

SITE FORMATION LAYOUT

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 6.3

843000 E
843500 E
814500 N
814000 N
813500 N

CHAI WAN
SIU SAI WAN
CHAI WAN ROAD
SIU SAI WAN ROAD
HIU TSUI STREET
CAPE COLLINSON ROAD
BUS TERMINAL
WIP Feb 2023
PRECIOUS BLOOD SECONDARY SCHOOL
CHAI WAN SWIMMING POOL & POOL SIDE GARDEN
MIN. 15m BUFFER ZONE
MIN. 15m ECOLOGICAL CORRIDOR
TIN HAU TEMPLE
CAPE COLLINSON CHINESE PERMANENT CEMETERY
SHEK O COUNTRY PARK

N

LEGEND:

- WORKS BOUNDARY
- 500m ASSESSMENT AREA
- WALK TRANSECT
- SHEK O COUNTRY PARK
- DEVELOPED AREA
- WOODLAND
- MIXED WOODLAND
- PLANTATION
- SHRUBLAND
- GRASSLAND
- NATURAL WATERCOURSE
- MODIFIED WATERCOURSE

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE A3 1 : 5000
DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418
AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE
HABITAT MAP

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 7.1

Plot File by: Yuxuan He 2022/8/4
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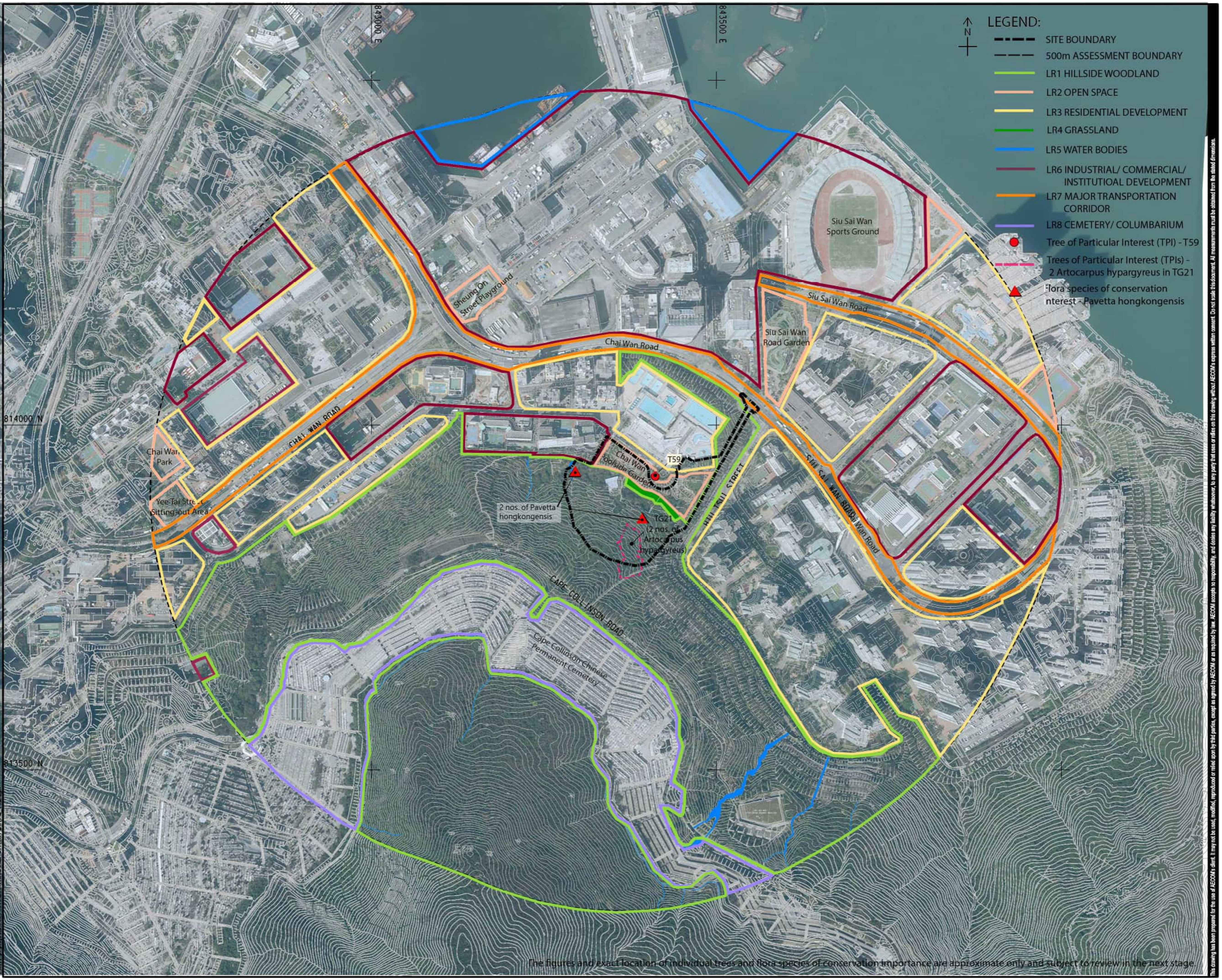

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PROJECT

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 5000

DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60604418

AGREEMENT NO.: CE 65/2018 (CE)

SHEET TITLE: Location of Landscape Resources

SHEET NUMBER: 60604418/CW_AS3_WP4/FIGURE 8.1

ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

843000 E

843500 E

814500 N

814000 N

813500 N

LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- LCA1 CHAI WAN RESIDENTIAL URBAN LANDSCAPE CHARACTER AREA
- LCA2 INDUSTRIAL URBAN LANDSCAPE
- LCA3 CEMETERY LANDSCAPE
- LCA4 COASTAL UPLAND AND HILLSIDE LANDSCAPE
- LCA5 MAJOR TRANSPORTATION CORRIDOR

N

Siu Sai Wan Road

Chai Wan Road

HIU TSUI STREET

Siu Sai Wan Road

CAPE COLLINSON ROAD

AECOM

PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE A3 1 : 5000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

Location of Landscape Character Areas

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 8.2

Plot File by: CHENRH 16/07/2019
PATH: P:\PROJECTS\60604418\DRAWINGS\SKETCH\SK7003.dwg

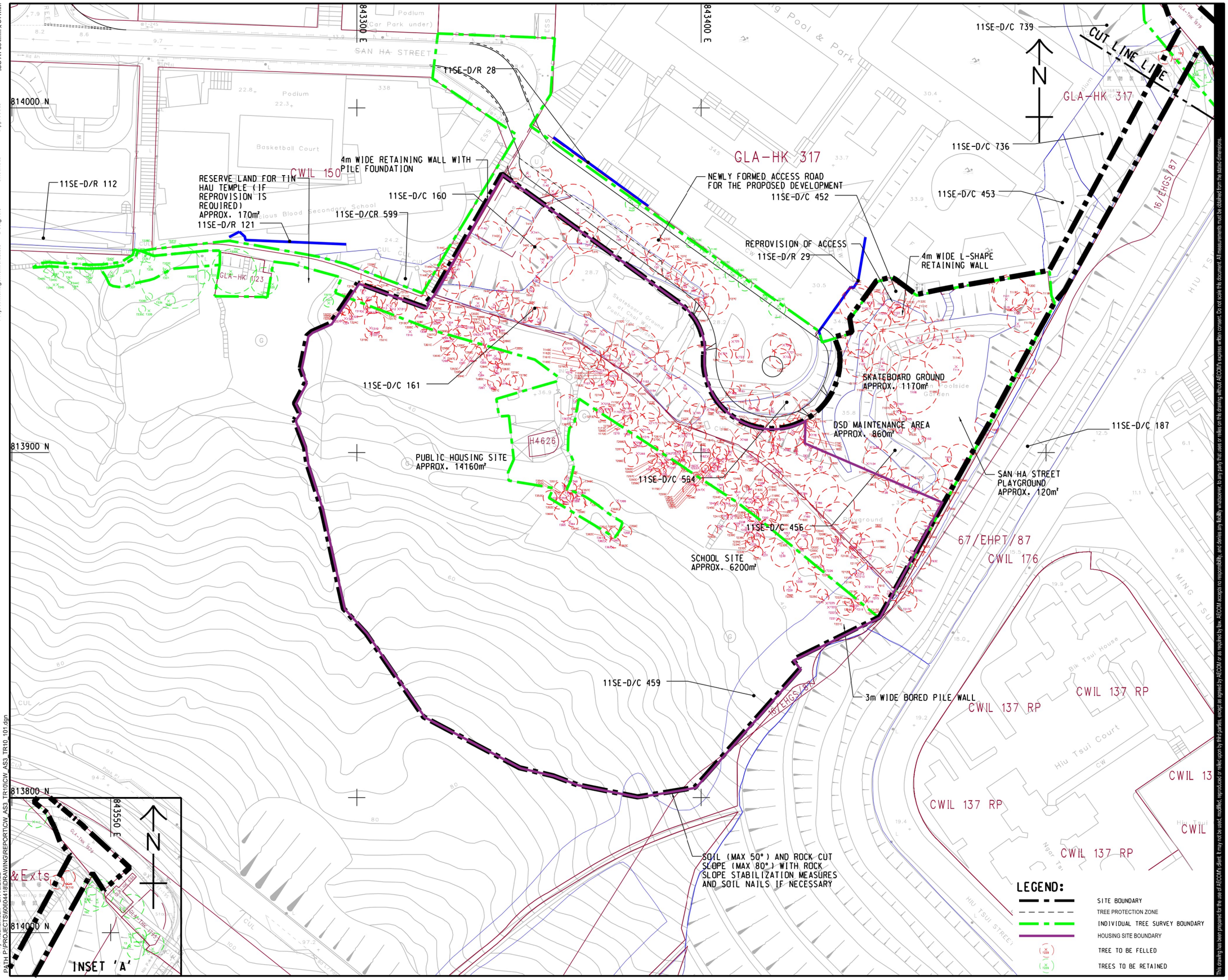
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



Plot File by: heshun.sun 27/10/2022
Path:P:\PROJECTS\60604418\DRAWING\REPORT\CW_AS3_TR10\CW_AS3_TR10_101.dgn

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PROJECT
項目

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60604418

AGREEMENT NO. 合約編號: CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

TREE SURVEY PLAN
(INDIVIDUAL TREES)

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 8.3

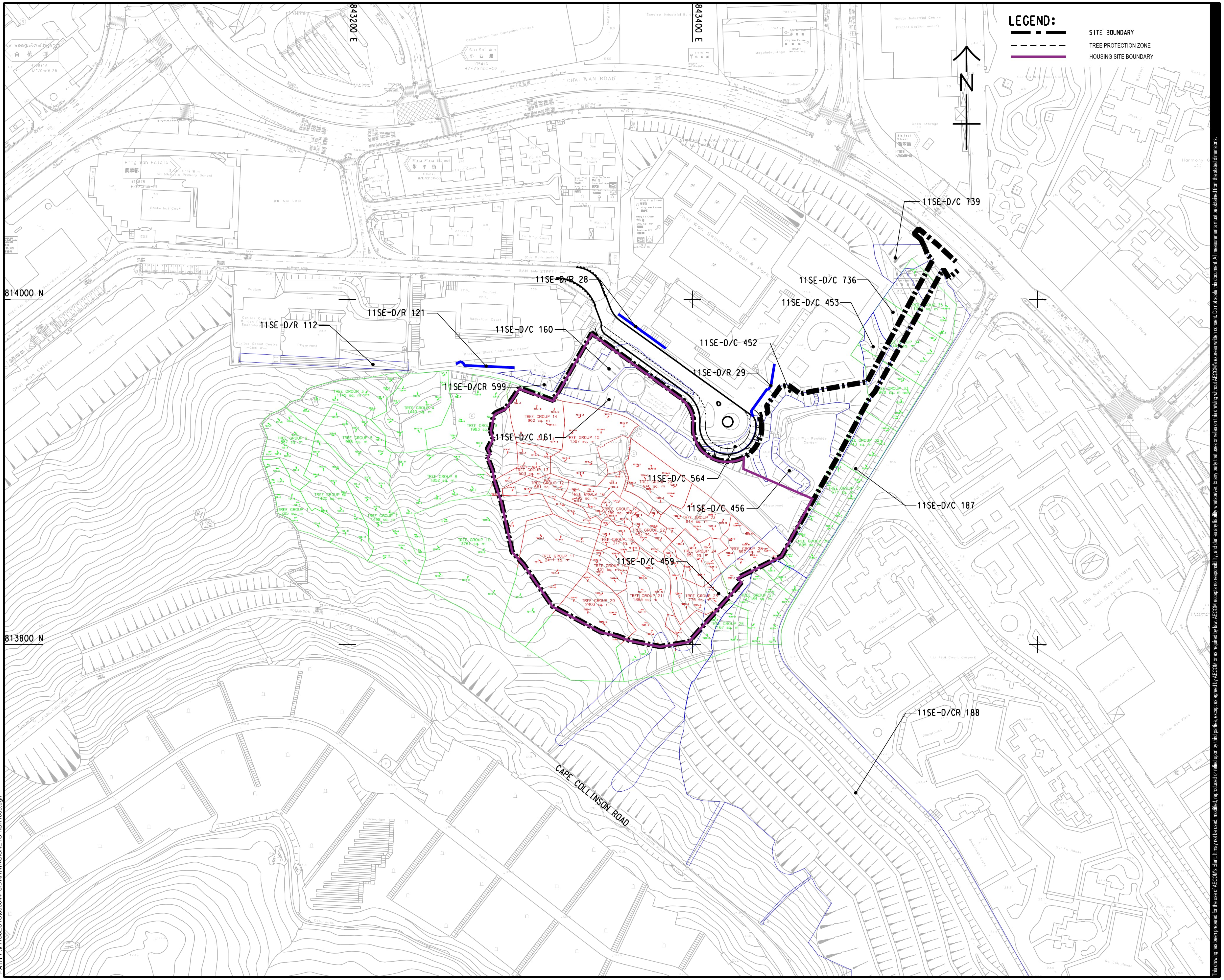
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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PROJECT
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核

STATUS
階段

SCALE 比例 | **DIMENSION UNIT** 尺寸單位

A3 1 : 2000 | METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號 | **AGREEMENT NO.** 協議編號

60604418 | CE 65/2018 (CE)

SHEET TITLE
圖紙名稱

TREE SURVEY PLAN
(TREE GROUPS)

SHEET NUMBER
圖紙編號

60604418/CW_AS3_WP4/FIGURE 8.4

Plot File by: heshun.sun 27/10/2022
PATH P:\PROJECTS\60604418\DRAWING\SKETCH\SK1008.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

CM1 - Preservation of Existing Vegetation

CM2 & OM4 - Landscape Treatment on Slope

CM3 - Protection of Natural Watercourse

CM4 - Transplanting

OM1 - Provision of Tree Planting
OM2 - Maximise Greenery Provision

OM3 - Aesthetical Pleasing Design of All Man-made Structures

LEGEND:

- Site Boundary
- Housing Site Boundary
- Works Boundary
- Skateboard Park Area
- DSD Maintenance Area
- Water Retention Tank
- Location of Trees of Particular Interest (TPIs) Proposed to be Removed (1 TPI)
- Location of a Tree Group of Particular Interest (TPIs) Proposed to be Transplanted (2 TPIs)
- Locations of Flora Species of Conservation Interest Proposed to be Transplanted (2 Pavetta hongkongensis)
- Proposed Recipient Locations for Transplant Planting (2 Pavetta hongkongensis)
- Proposed Locations for Transplant Planting (2 TPIs)
- New Trees Within Housing Site
- Compensatory Trees Outside Housing Site
- 15m Ecological Corridor
- Building Block Outline

Remarks: The proposed landscape treatments and mitigation measures illustrated are indicative only which are subject to review in detailed design stage by project proponents.

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PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE A3 1 : 1000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

LANDSCAPE AND VISUAL MITIGATION MEASURE PLAN

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 8.5

Plot File by: $USER$ $DATE$
PATH $FILE$

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

KEY:

1. Main Vehicular & Pedestrian Entry
2. Interior Road & Parking Access
3. Access Staircase
4. Perimeter/ Buffer Landscape
5. Outdoor Sitting Area
6. Multifunction Deck Space
7. Ball Court
8. Children's Play Area
9. Fitness Area
10. Podium Sitting Area
11. Pocket Gardens
12. Inaccessible Flat Roof
13. Slope Greening

SITE BOUNDARY
HOUSING SITE BOUNDARY
WORKS BOUNDARY
SKATEBOARD PARK AREA
DSD MAINTENANCE AREA
WATER RETENTION TANK
PROPOSED RECIPIENT LOCATIONS FOR TRANSPLANT PLANTING (2 Pavetta hongkongensis)
PROPOSED RECIPIENT LOCATIONS FOR TRANSPLANT PLANTING (2 Trees of Particular Interest)
NEW TREES
COMPENSATORY TREES
15M PROTECTION ZONE FOR NATURAL STREAM
NATURAL STREAM TO BE PROTECTED
15M ECOLOGICAL CORRIDOR

Remarks: The total area of open space, total greenery area, provision of recreational facilities, notional layout and landscape design are subject to review in detailed design stage. The new tree planting within the Housing Site is subject to review in detailed design stage by project proponents. The compensatory tree planting and transplant planting outside of the Housing Site are subject to review in detailed design stage by project proponents.

Plot File by: $USER$ $DATE$
PATH: $FILE$

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PROJECT

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STATUS

SCALE A3 1 : 1000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

CONCEPTUAL LANDSCAPE PLAN

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 8.6

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

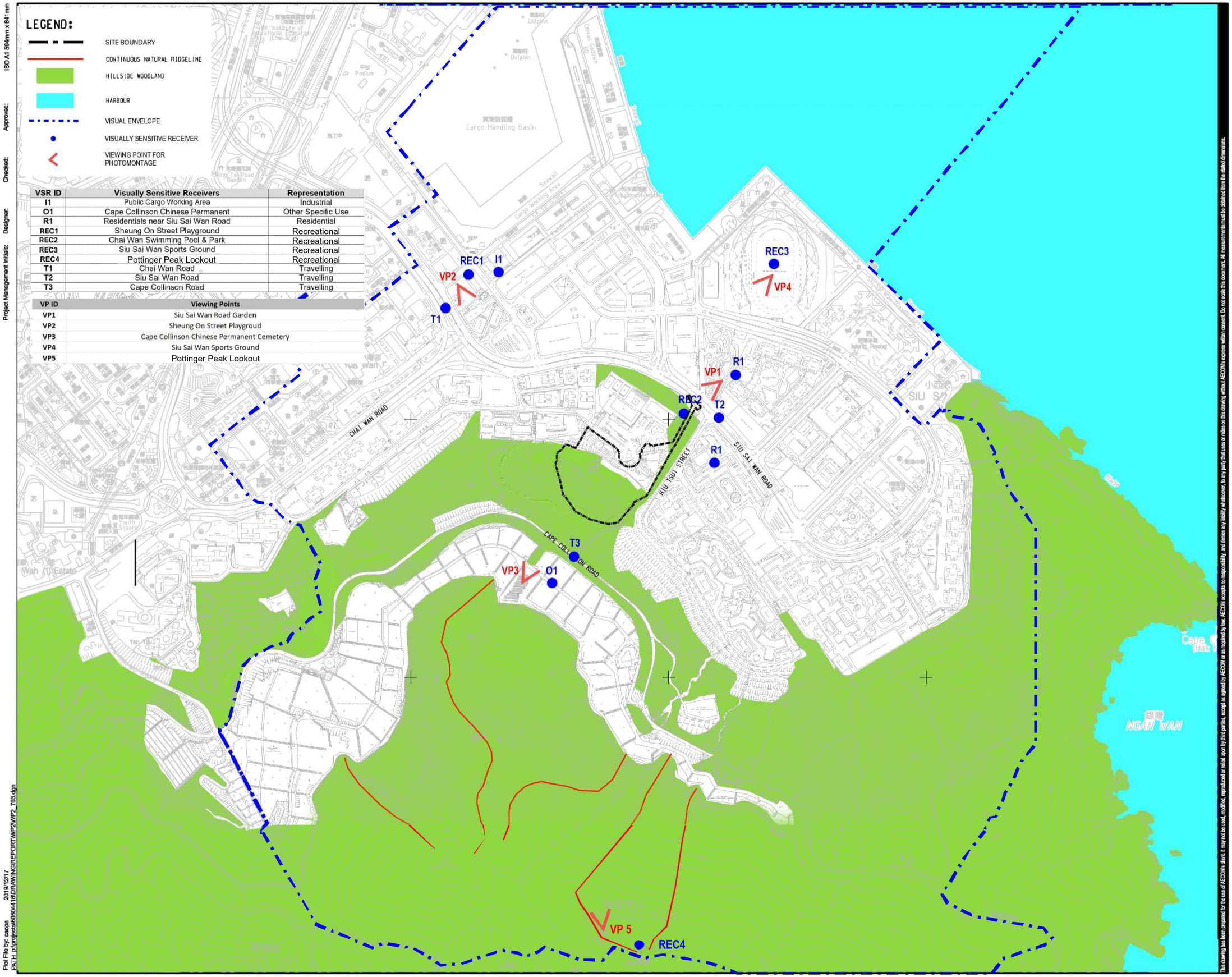
Project Management Initials:

LEGEND:

- SITE BOUNDARY
- CONTINUOUS NATURAL RIDGELINE
- HILLSIDE WOODLAND
- HARBOUR
- VISUAL ENVELOPE
- VISUALLY SENSITIVE RECEIVER
- VIEWING POINT FOR PHOTOMONTAGE

VSR ID	Visually Sensitive Receivers	Representation
I1	Public Cargo Working Area	Industrial
O1	Cape Collinson Chinese Permanent	Other Specific Use
R1	Residentials near Siu Sai Wan Road	Residential
REC1	Sheung On Street Playground	Recreational
REC2	Chai Wan Swimming Pool & Park	Recreational
REC3	Siu Sai Wan Sports Ground	Recreational
REC4	Pottinger Peak Lookout	Recreational
T1	Chai Wan Road	Travelling
T2	Siu Sai Wan Road	Travelling
T3	Cape Collinson Road	Travelling

VP ID	Viewing Points
VP1	Siu Sai Wan Road Garden
VP2	Sheung On Street Playgroud
VP3	Cape Collinson Chinese Permanent Cemetery
VP4	Siu Sai Wan Sports Ground
VP5	Pottinger Peak Lookout



Plot File by: caopa 2019/12/17
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PROJECT
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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 7500
DIMENSION UNIT: METRES

KEY PLAN

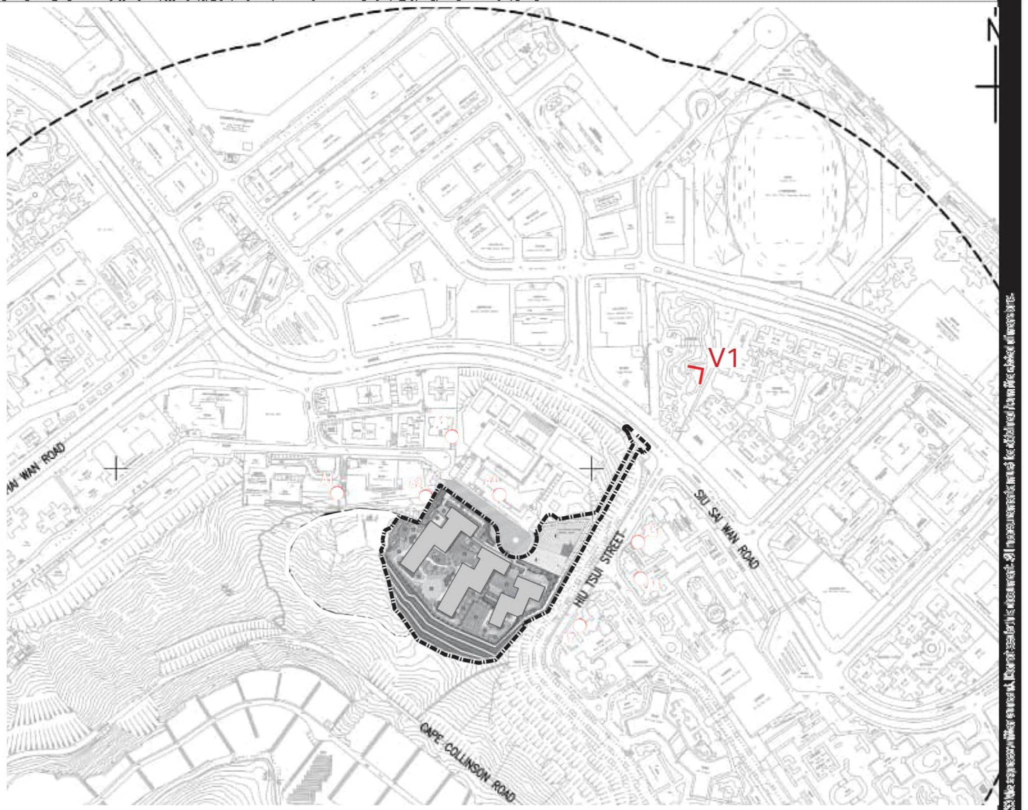
PROJECT NO.: 60604418
AGREEMENT NO.: CE 65/2018 (CE)

SHEET TITLE
Visual Envelope & Visually Sensitive Receivers

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 9.1

Existing Photo of VP1- Siu Sai Wan Road Garden (Without Development)

Photomontage of VP1
(With Development)



Key Plan

AECOM

PROJECT

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STATUS

SCALE

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60604418

AGREEMENT NO.

CE 65/2018 (CE)

SHEET TITLE

PHOTOMONTAGE - VIEWING POINT 1

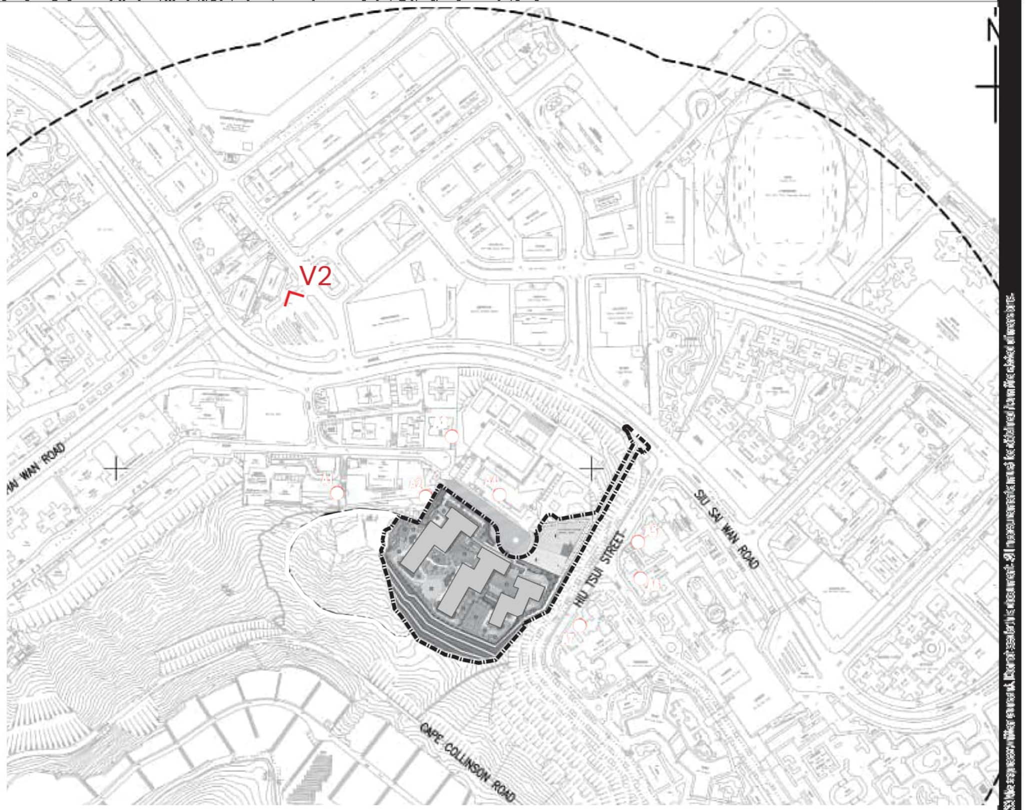
SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 9.2

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:
Plot File by: ying.chen1 2020/6/19

Existing Photo of VP2- Sheung On Street Playground (Without Development)

Photomontage of VP2
(With Development)



Key Plan

AECOM

PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

CLIENT

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT

AECOM Asia Company Ltd.
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ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
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AGREEMENT NO.
CE 65/2018 (CE)

SHEET TITLE

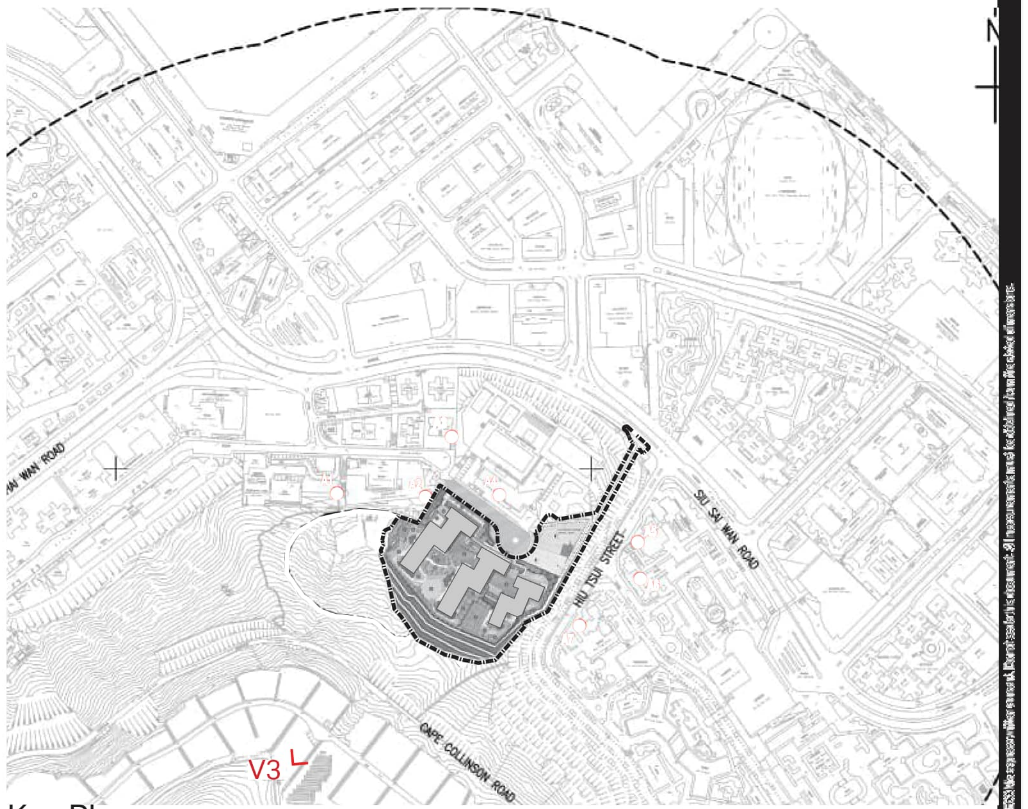
PHOTOMONTAGE - VIEWING POINT 2

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 9.3

Existing Photo of VP3- Cape Collinson Chinese Permanent Cemetery (Without Development)

Photomontage of VP3
(With Development)



Key Plan

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METRES

KEY PLAN

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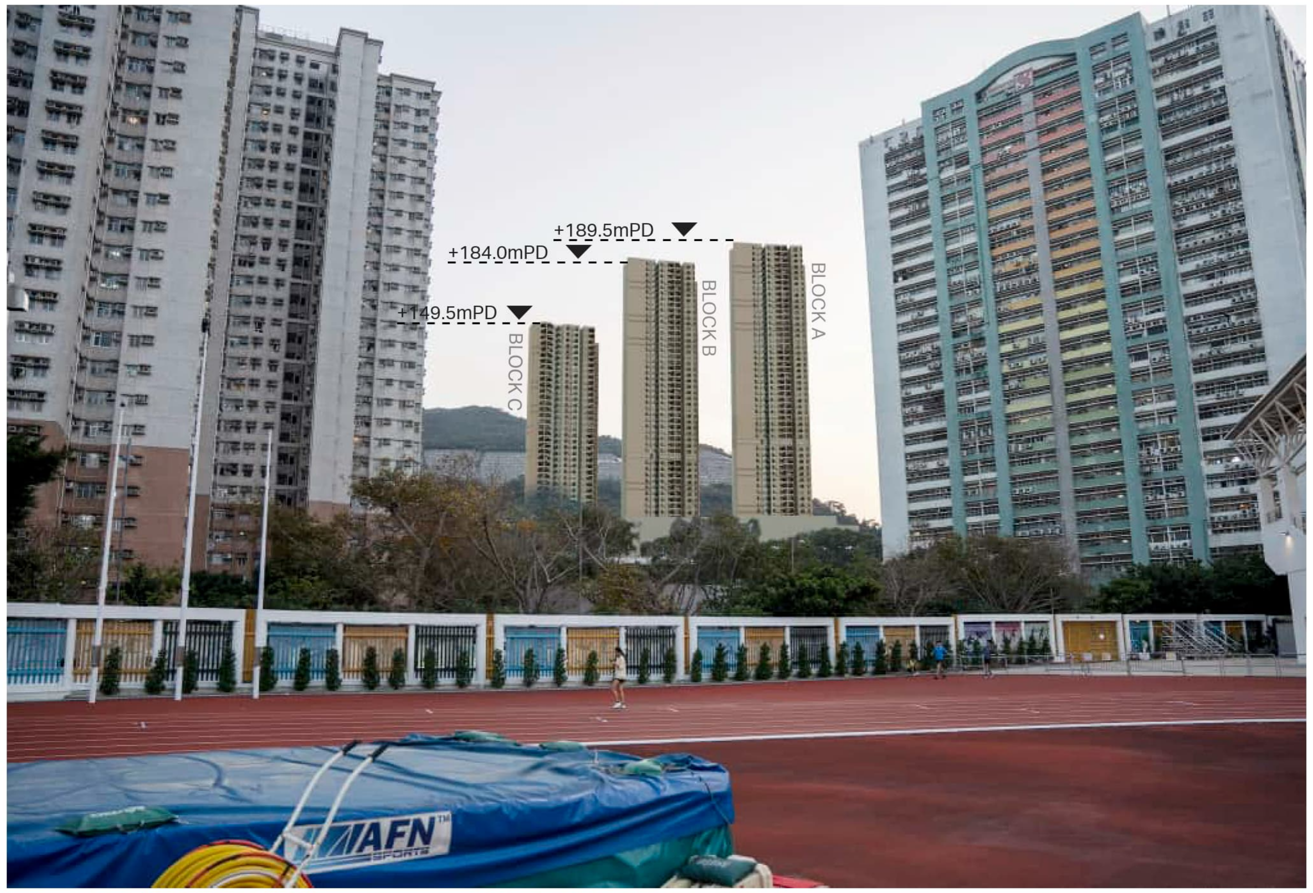
AGREEMENT NO.
CE 65/2018 (CE)

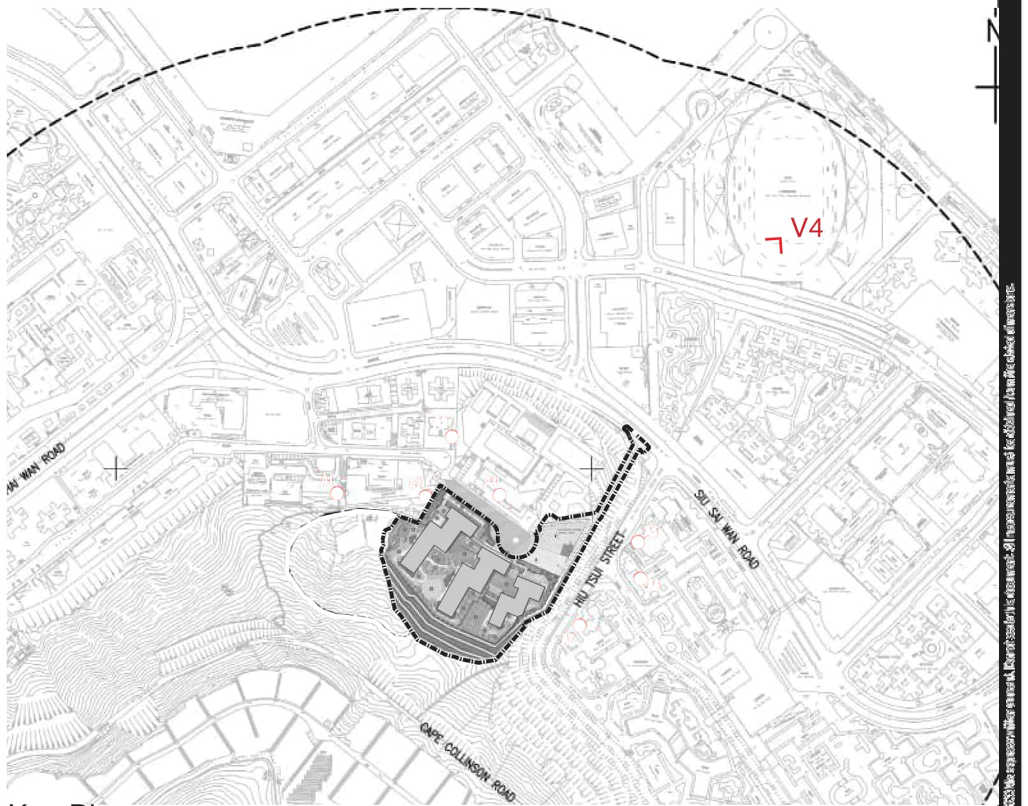
SHEET TITLE
PHOTOMONTAGE - VIEWING POINT 3

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 9.4

Existing Photo of VP4- Siu Sai Wan Sports Ground (Without Development)



Photomontage of VP4
(With Development)



Key Plan

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SCALE

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60604418

AGREEMENT NO.
CE 65/2018 (CE)

SHEET TITLE
PHOTOMONTAGE - VIEWING POINT 4

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 9.5

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:
Plot File by: ying.chen1 2020/6/19

Existing Photo of VP5- Pottinger Peak Lookout (Without Development)

Photomontage of VP5
(With Development)

Key Plan

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PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS

SCALE

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60604418

AGREEMENT NO.
CE 65/2018 (CE)

SHEET TITLE
PHOTOMONTAGE - VIEWING POINT 5

SHEET NUMBER
60604418/CW_AS3_WP4/FIGURE 9.6

LEGEND:

- WORKS BOUNDARY
- EXISTING TIN HAU TEMPLE
- EXISTING GRAVES, SHRINE, KAM TAPS AND TEMPORARY STRUCTURES TO BE CLEARED

N

814000 N

813900 N

813800 N

843200 E

843300 E

SAN HA STREET

EXISTING SAN HA STREET PLAYGROUND

NEWLY FORMED ACCESS ROAD FOR THE PROPOSED DEVELOPMENT

PUBLIC HOUSING SITE

SKATEBOARD GROUND

DSD MAINTENANCE AREA

HIU TSUI STREET

PE COLLINSON ROAD

Podium

Basketball Court

Playground

Precious Blood Secondary School

Chai Wan Poolside Garden

Skateboard Ground in Chai Wan Poolside Garden

Pool & Park

Storage

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

Plot File by: qingxi.zengyal8022\10\28
PATH P:\PROJECTS\60604418\DRAWING\REPORT\TR7_CWTR7_CW_101.dgn

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PROJECT

SITE FORMATION AND INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENT NEAR CHAI WAN SWIMMING POOL, CHAI WAN - FEASIBILITY STUDY

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STATUS

SCALE A3 1 : 1000

DIMENSION UNIT METRES

KEY PLAN

PROJECT NO. 60604418

AGREEMENT NO. CE 65/2018 (CE)

SHEET TITLE

LOCATION OF EXISTING GRAVES, SHRINE, KAM TAPS AND TIN HAU TEMPLE

SHEET NUMBER

60604418/CW_AS3_WP4/FIGURE 11.1

Provision of Major Government, Institution or Community Facilities and Open Space in Chai Wan

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG) Requirements	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[#]	17.70ha	14.34ha	15.48ha	-2.22ha
Local Open Space	10 ha per 100,000 persons[#]	17.70ha	23.64ha	25.64ha	+7.94ha
Sports Centre	1 per 50,000 to 65,000 persons[#] (assessed on a district basis)	2	2	2	0
Sports Ground/ Sport Complex	1 per 200,000 to 250,000 persons[#] (assessed on a district basis)	0	1	1	+1
Swimming Pool Complex – standard	1 complex per 287,000 persons[#] (assessed on a district basis)	0	2	2	+2
District Police Station	1 per 200,000 to 500,000 persons (assessed on a regional basis)	0	0	0	0
Divisional Police Station	1 per 100,000 to 200,000 persons (assessed on a regional basis)	0	1	1	+1
Magistracy (with 8 courtrooms)	1 per 660,000 persons (assessed on a regional basis)	0	0	0	0
Community Hall	No set standard	N.A.	4	4	N.A.
Library	1 district library for every 200,000 persons[π] (assessed on a district basis)	0	2	2	+2

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG) Requirements	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision (including Existing Provision)	
Kindergarten/ Nursery	34 classrooms for 1,000 children aged 3 to under 6[#]	78 classrooms	129 classrooms	135 classrooms	+57 classrooms
Primary School	1 whole-day classroom for 25.5 persons aged 6-11[#] (assessed by EDB on a district/school network basis)	238 classrooms	192 classrooms	192 classrooms	-46 classrooms[&]
Secondary School	1 whole-day classroom for 40 persons aged 12-17[#] (assessed by EDB on a territorial-wide basis)	201 classrooms	444 classrooms	444 classrooms	+243 classrooms
Hospital	5.5 beds per 1,000 persons (assessed by Hospital Authority on a regional/cluster basis)	1,001 beds	1,897 beds	2,397 beds	+1,396 beds
Clinic/Health Centre	1 per 100,000 persons (assessed on a district basis)	1	3	4	+3
Child Care Centre	100 aided places per 25,000 persons[#] (assessed by SWD on a local basis)	707 places	199 places	199 places	-508 places[@] (A long-term target assessed on a wider spatial context by SWD[@])
Integrated Children and Youth Services Centre	1 for 12,000 persons aged 6-24[#] (assessed by SWD on a local basis)	2	3	3	+1
Integrated Family Services Centre	1 for 100,000 to 150,000 persons[#] (assessed by SWD	1	2	2	+1

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG) Requirements	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision (including Existing Provision)	
	on a service boundary basis)				
District Elderly Community Centres	One in each new development area with a population of around 170,000 or above[#] (assessed by SWD)	N.A.	1	1	N.A.
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[#] (assessed by SWD)	N.A.	5	5	N.A.
Community Care Services (CCS) Facilities	17.2 subsidised places per 1,000 elderly persons aged 65 or above[#]* (assessed by SWD on a district basis)	1,095 places	434 places	644 places	-451 places[@] (A long-term target assessed on a wider spatial context by SWD[@])
Residential Care Homes for the Elderly	21.3 subsidised beds per 1,000 elderly persons aged 65 or above[#] (assessed by SWD on a cluster basis)	1,356 beds	233 beds	393 beds	-963 beds[@] (A long-term target assessed on a wider spatial context by SWD[@])
Pre-school Rehabilitation Services	23 subvented places per 1,000 children aged 0 – 6[#] (assessed by SWD on a district basis)	118 places	226 places	226 places	+108 places[@] (A long-term target assessed on a wider spatial context by SWD[@])

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG) Requirements	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision (including Existing Provision)	
Day Rehabilitation Services	23 subvented places per 10,000 persons aged 15 or above[#] (assessed by SWD on a district basis)	351 places	471 places	471 places	+120 places[@] (A long-term target assessed on a wider spatial context by SWD[@])
Residential Care Services	36 subvented places per 10,000 persons aged 15 or above[#] (assessed by SWD on a cluster basis)	550 places	298 places	338 places	-212 places[@] (A long-term target assessed on a wider spatial context by SWD[@])
Community Rehabilitation Day Centre	1 centre per 420,000 persons[#] (assessed by SWD on a district basis)	0	0	0	0
District Support Centre for Persons with Disabilities	1 centre per 280,000 persons[#] (assessed by SWD on a district basis)	0	0	0	0
Integrated Community Centre for Mental Wellness	1 standard scale centre per 310,000 persons[#] (assessed by SWD on a district basis)	0	0	1	+1

Note:
The planned resident population is about 177,000. If including transients, the overall planned population is about 182,100. All population figures have been adjusted to the nearest hundred.

Remarks:
The requirements exclude planned population of transients.

& The shortfall of primary school classrooms in the area can be catered by the surplus of primary school classrooms in the surrounding area, in particular in the Shau Kei Wan area which is within the same school net.

* Consisting of 40% centre-based CCS and 60% home-based CCS.

@ The deficit in provision is based on OZP planned population while the Social Welfare Department (SWD) adopts a wider spatial context/cluster in the assessment of provision for such facility. In applying the population-based planning standards, the distribution of welfare facilities, supply in different districts, service demand as a result of the population

growth and demographic changes as well as the provision of different welfare facilities have to be considered. As the HKPSG requirements for these facilities are a long-term goal, the actual provision will be subject to consideration of the SWD in the planning and development process as appropriate. The Government has been adopting a multi-pronged approach with long-, medium- and short-term strategies to identify suitable sites or premises for the provision of more welfare services which are in acute demand.

π Small libraries are counted towards meeting the HKPSG requirement.

April 2023