圖例
NOTATION

ZONES 地帶

COMMERCIAL	C	商業
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
RESIDENTIAL (GROUP B)	R(B)	住宅（乙類）
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

COMMUNICATIONS 交通

RAILWAY AND STATION (UNDERGROUND)	MTR STATION	鐵路及車站（地下）
MAJOR ROAD AND JUNCTION		主要道路及路口
ELEVATED ROAD		高架道路
PEDESTRIAN PRECINCT / STREET		行人專用區或街道

MISCELLANEOUS 其他

BOUNDARY OF PLANNING SCHEME		規劃範圍界線
BUILDING HEIGHT CONTROL ZONE BOUNDARY		建築物高度管制區界線
MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	80	最高建築物高度（在主水平基準上若干米）
MAXIMUM BUILDING HEIGHT RESTRICTION AS STIPULATED ON THE NOTES	✱	《註釋》內訂明最高建築物高度限制
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	8	最高建築物高度（樓層數目）

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	
COMMERCIAL	47.41	24.76	商業
COMPREHENSIVE DEVELOPMENT AREA	1.17	0.61	綜合發展區
RESIDENTIAL (GROUP A)	6.98	3.64	住宅（甲類）
RESIDENTIAL (GROUP B)	0.59	0.31	住宅（乙類）
GOVERNMENT, INSTITUTION OR COMMUNITY	20.27	10.58	政府、機構或社區
OPEN SPACE	23.66	12.35	休憩用地
OTHER SPECIFIED USES	47.15	24.62	其他指定用途
MAJOR ROAD ETC.	44.28	23.13	主要道路等
TOTAL PLANNING SCHEME AREA	191.51	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２０１３年１２月３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 3 DECEMBER 2013

Signed Ms Kinnie WONG 黃潔怡女士 簽署
CLERK TO THE EXECUTIVE COUNCIL 行政會議秘書

香港城市規劃委員會依據城市規劃條例擬備的尖沙咀（九龍規劃區第１區）分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
KOWLOON PLANNING AREA No. 1 - TSIM SHA TSUI - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺
✱ METRES 100 0 200 400 600 800 METRES ✱

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/K1/28

圖例
NOTATION

ZONES 地帶

COMMERCIAL	C	商業
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區
RESIDENTIAL (GROUP A)	R(A)	住宅（甲類）
RESIDENTIAL (GROUP B)	R(B)	住宅（乙類）
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

COMMUNICATIONS 交通

RAILWAY AND STATION (UNDERGROUND)	鐵路 RAILWAY 車站 STATION	鐵路及車站（地下）
MAJOR ROAD AND JUNCTION		主要道路及路口
ELEVATED ROAD		高架道路
PEDESTRIAN PRECINCT / STREET		行人專用區或街道

MISCELLANEOUS 其他

BOUNDARY OF PLANNING SCHEME		規劃範圍界線
BUILDING HEIGHT CONTROL ZONE BOUNDARY		建築物高度管制區界線
MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	80	最高建築物高度（在主水平基準上若干米）
MAXIMUM BUILDING HEIGHT RESTRICTION AS STIPULATED ON THE NOTES	80	《註釋》內訂明最高建築物高度限制
MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	8	最高建築物高度（樓層數目）

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
COMMERCIAL	47.41	24.76	商業
COMPREHENSIVE DEVELOPMENT AREA	1.17	0.61	綜合發展區
RESIDENTIAL (GROUP A)	6.98	3.64	住宅（甲類）
RESIDENTIAL (GROUP B)	0.59	0.31	住宅（乙類）
GOVERNMENT, INSTITUTION OR COMMUNITY	20.27	10.58	政府、機構或社區
OPEN SPACE	23.66	12.35	休憩用地
OTHER SPECIFIED USES	47.15	24.62	其他指定用途
MAJOR ROAD ETC.	44.28	23.13	主要道路等
TOTAL PLANNING SCHEME AREA	191.51	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/K1/28 的修訂
AMENDMENT TO APPROVED PLAN No. S/K1/28

AMENDMENT 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

（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尖沙咀（九龍規劃區第 1 區）分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
KOWLOON PLANNING AREA No. 1 - TSIM SHA TSUI - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺

METRES 100 0 200 400 600 800 METRES

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/K1/28A**

KOWLOON PLANNING AREA NO. 1

~~APPROVED~~ *DRAFT* TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28*A*

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

NOTES

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

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

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

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

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

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

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

- a use in existence before the publication of the first plan which has continued since it came into existence; or
- a use or a change of use approved under the Buildings Ordinance which relates to an existing building; and

(ii) after the publication of the first plan,

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

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

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

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

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

(7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except where the uses or developments are specified in Column 2 of the Notes of individual zones:

(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 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:

toll plaza, on-street vehicle park and railway track.

(9) 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.

(10) 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.

KOWLOON PLANNING AREA NO. 1

~~APPROVED~~ *DRAFT* TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28*A*

Schedule of Uses

COMMERCIAL

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 Eating Place Educational Institution Exhibition or Convention Hall Government Refuse Collection Point (on land designated "C(2)" and "C(3)" only) Government Use (not elsewhere specified) Hotel Information Technology and Telecommunications Industries Institutional Use (not elsewhere specified) Library 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) Recyclable Collection Centre Religious Institution School Shop and Services Social Welfare Facility Training Centre Utility Installation for Private Project	Broadcasting, Television and/or Film Studio Commercial Bathhouse/Massage Establishment Flat Government Refuse Collection Point (other than on land designated "C(2)" and "C(3)") Hospital Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Petrol Filling Station Residential Institution

Planning Intention

This zone is intended primarily for commercial developments, which may include uses such as office, shop, services, place of entertainment, eating place and hotel, functioning as a territorial business centre and regional or district commercial/shopping centres. The areas under this zoning are major employment nodes.

(Please see next page)

COMMERCIAL (Cont'd)

Remarks

(1) Except as otherwise provided therein, 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 12.0, or the plot ratio of the existing building, whichever is the greater.

(2) On land designated "Commercial (7)" ("C(7)"), 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 (GFA) of 324,078m².

(3) On land designated "C(10)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum GFA of 99,588m². An at grade public open space of not less than 1,200m² shall be provided.

(4) On land designated "C(1)", a minimum GFA of 930m² shall be provided for a private club for the use of 'The Sailors Home and Missions to Seamen'.

(5) On land designated "C(2)", a refuse collection point of not less than 200m² shall be provided.

(6) On land designated "C(3)", an electricity substation of not less than 1,012m², a refuse collection point of not less than 220m² and a total of not less than 980 public car parking spaces shall be provided.

(7) On land designated "C(4)", a public transport terminus of not less than 3,215m², a library of not less than 650m², a public toilet of not less than 142m² and a total of not less than 350 public car parking spaces shall be provided.

(8) On land designated "C(5)", an ambulance depot of not less than 2,383m² shall be provided.

(9) On land designated "C(11)", a total of not less than 345 public car parking spaces and not less than 39 public motor cycle parking spaces shall be provided. For the purposes of plot ratio calculation, any floor space that is constructed or intended for use solely as public car/motor cycle parking spaces shall be included for calculation.

(10) Except as otherwise provided therein, 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 heights in terms of metres above Principal Datum (mPD) as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(Please see next page)

COMMERCIAL (Cont'd)

Remarks (Cont'd)

(11) On land designated "C(7)", "C(8)", "C(9)" and "C(10)", no new development (except minor addition, alteration and/or modification not affecting the building height of an existing building) or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of mPD as stipulated on the Plan.

(12) On land designated "C(1)", "C(2)" and "C(6)", a minimum of 1.5m wide non-building area from the lot boundary abutting areas shown as 'Road' on the Plan, except Chatham Road South and Nathan Road, shall be provided. Under exceptional circumstances, minor relaxation of the non-building area restriction for a development or redevelopment proposal may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(13) In determining the relevant maximum plot ratio/GFA for the purposes of paragraphs (1) to (3) 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.

(14) 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/GFA for the building on land to which paragraph (1), (2) or (3) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio/GFA specified in paragraphs (1) to (3) above may thereby be exceeded.

(15) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/building height restrictions, the minimum GFA for private club and the minimum provision of public car/motor cycle parking spaces stated in paragraphs (1) to (4), (6), (7), (9) and (10), and any reduction in total GFA provided for Government, institution or community facilities as stated in paragraphs (5) to (8) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance, except the minor relaxation of building height restriction is not applicable on land designated "C(7)" and "C(10)" and on land stipulated with building height restrictions of 386.7mPD and 85mPD within the "C(8)" sub-zone.

(16) Notwithstanding paragraph (15) above, relaxation of the building height restrictions may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance for sites with an area not less than 1,800m² on individual merits, except on land designated "C(7)" and "C(10)" and on land stipulated with building height restriction of 386.7mPD within the "C(8)" sub-zone.

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
	Eating Place Exhibition or Convention Hall Government Use Hotel Library Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Place of Entertainment Place of Recreation, Sports or Culture Public Convenience Religious Institution School Shop and Services Social Welfare Facility

Planning Intention

The planning intention of this zone is to preserve, restore and convert the compound of the Former Marine Police Headquarters into a tourism-themed commercial development. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of the heritage significance of the existing historical buildings on the site, as well as various environmental, traffic, infrastructure and other constraints.

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" 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 with breakdown of proposed total gross floor areas, the nature, position, dimensions, and heights of all buildings to be erected in the area;

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (Cont'd)

Remarks (Cont'd)

(ii) 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;

(iii) the alignment, widths and levels of any roads, walkways and footbridges proposed to be constructed within the area and the adjoining areas;

(iv) the urban design and landscape proposals including tree preservation within the area;

(v) programmes of development in detail;

(vi) a traffic impact assessment report including details of road/pedestrian access improvement schemes and parking arrangement; and

(vii) 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.

(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 the maximum building heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (3) 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
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	

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

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) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in the plot ratio for the building upon development and/or redevelopment in excess of 7.5 for a domestic building or 9.0 for a building that is partly domestic and partly non-domestic, or the plot ratio of the existing building, whichever is the greater. Except where the plot ratio is permitted to be exceeded under paragraphs (7) and/or (8) hereof, under no circumstances shall the plot ratio for the domestic part of any building, to which this paragraph applies, exceed 7.5.

(2) For a non-domestic building to be erected on the site, the maximum plot ratio shall not exceed 9.0 except where the plot ratio is permitted to be exceeded under paragraphs (7) and/or (8) hereof.

(3) For the purposes of paragraph (1) above, no addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the relevant maximum domestic and/or non-domestic plot ratio(s), or the domestic and/or non-domestic plot ratio(s) of the existing building, whichever is the greater, subject to, as applicable-

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

(ii) the maximum domestic and/or non-domestic plot ratio(s) stated in paragraph (1) shall apply if any addition, alteration and/or modification to or redevelopment of an existing building is not for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building.

(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 heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(Please see next page)

(5) In determining the relevant maximum plot ratio for the purposes of paragraphs (1) and (2) above, area of any part of the site that is occupied or intended to be occupied by free-standing purpose-designed buildings (including both developed on ground and on podium level) solely for accommodating Government, institution or community facilities including school(s) as may be required by Government shall be deducted in calculating the relevant site area.

(6) In determining the relevant maximum plot ratio for the purposes of paragraphs (1) and (2) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(7) 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) or (2) 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 paragraphs (1) and (2) above may thereby be exceeded.

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

RESIDENTIAL (GROUP B)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat Government Use (Police Reporting Centre, Post Office only) House Library Residential Institution School (in free-standing purpose-designed building only) Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel Institutional Use (not elsewhere specified) 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) Recyclable Collection Centre Religious Institution School (not elsewhere specified) Shop and Services Social Welfare Facility Training Centre

Planning Intention

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

(Please see next page)

RESIDENTIAL (GROUP B) (cont'd)

Remarks

(1) Except as otherwise provided therein, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in the plot ratio for the building upon development and/or redevelopment in excess of 5.0 or the plot ratio of the existing building, whichever is the greater.

(2) On land designated "Residential (Group B) 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 (GFA) of 8,788m².

(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 the maximum building heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(4) In determining the relevant maximum plot ratio and GFA for the purposes of paragraphs (1) and (2) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

(5) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/building height restrictions stated in paragraphs (1) to (3) 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	Correctional Institution
Eating Place (Canteen, Cooked Food Centre only)	Driving School
Educational Institution	Eating Place (not elsewhere specified)
Exhibition or Convention Hall	Flat
Field Study/Education/Visitor Centre	Funeral Facility
Government Refuse Collection Point	Holiday Camp
Government Use (not elsewhere specified)	Hotel
Hospital	House
Institutional Use (not elsewhere specified)	Marine Fuelling Station
Library	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Market	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 and 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) 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 heights in terms of number of storeys or metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(2) In determining the relevant maximum number of storeys 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)

GOVERNMENT, INSTITUTION OR COMMUNITY (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 "Government, Institution or Community (1)" only

Ambulance Depot
Government Refuse Collection Point
Government Use (Police Reporting Centre/ Police Post only)
Public Convenience
Public Vehicle Park (excluding container vehicle)
Public Utility Installation
Recyclable Collection Centre

Animal Quarantine Centre
Broadcasting, Television and/or Film Studio
Government Use (not elsewhere specified)
Institutional Use (not elsewhere specified)
Library
~~Market~~
Office
Petrol Filling Station (excluding those involving liquefied petroleum gas)
Place of Recreation, Sports or Culture
Public Transport Terminus or Station
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Research, Design and Development Centre
Sewage Treatment/Screening Plant
Shop and Services
Social Welfare Facility (excluding those involving residential care)
Utility Installation for Private Project

Planning Intention

This zone is intended primarily for the provision of Government, institution and 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. Since this zone covers land beneath elevated road, and in view of physical constraints and environmental conditions of such land, only selected Government, institution or community facilities are always permitted in this zone.

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	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 Shop and Services 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

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
For "Cross Harbour Tunnel Toll Plaza" only	
As Specified on the Plan	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances

Planning Intention

This zone is primarily to provide land for the Cross Harbour Tunnel Toll Plaza.

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 heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(2) 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 "Cultural Square and Public Open Space with Underground Commercial Complex and Car Park" only	
Exhibition or Convention Hall Institutional Use (not elsewhere specified) Library Place of Recreation, Sports or Culture Public Convenience	Eating Place Government Use (not elsewhere specified) Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Private Club Utility Installation not Ancillary to the Specified Use
In addition, the following uses are always permitted at the basement levels of the development only:	
Eating Place Educational Institution Place of Entertainment Public Vehicle Park (excluding container vehicle) School Shop and Services	

Planning Intention

This zone is primarily to provide land intended for the development of a "Cultural Square" which shall be a low-rise structure with public open space on ground level and on the roof, as well as an underground commercial complex and underground car park.

Remarks

(1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building, excluding the basement levels, shall result in a total development and/or redevelopment in excess of a maximum gross floor area (GFA) of 2,800m².

(2) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 13.2 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(Please see next page)

OTHER SPECIFIED USES (cont'd)

Remarks (Cont'd)

(3) In determining the maximum GFA 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) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the GFA and 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.

(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 "Ferry Terminal" Only	
~~As Specified on the Plan~~ ***Eating Place*** ***Government Use*** ***Pier*** ***Shop and Services***	~~Government Use~~ Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Private Club Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide land for a ferry terminal. Development in this zone is subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour.

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 building height of 4 storeys or the height of the existing building, whichever is the greater.

(2) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 33 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(3) 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.

(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 "Kowloon Point Piers" Only	
Eating Place Government Use Pier ***Shop and Services***	~~Eating Place~~ Exhibition or Convention Hall Marine Fuelling Station Office Public Vehicle Park (excluding container vehicle) ~~Shop and Services~~

Planning Intention

This zone is primarily to provide land intended for a pier providing cross harbour ferry services. Development in this zone is subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour.

Remarks

~~(1) Kiosks not greater than 10m² each in area and not more than 10 in number for uses as retail shop and service trades are considered as ancillary to pier use.~~

~~(2)~~***(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 2 storeys or the height of the existing building, whichever is the greater.

~~(3)~~***(2)*** No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 15 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

~~(4)~~***(3)*** Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs ***(1) and*** (2) ~~and (3)~~ 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 "Ocean Terminal to include Shops and Car Parks" Only	
As Specified on the Plan	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Place of Entertainment Private Club Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide/reserve land for a terminal for commercial passenger ships with supporting facilities such as shop and car park. Development in this zone is subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour. A Ferris wheel development may be permitted on application to the Town Planning Board.

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 building height of 4 storeys or the height of the existing building, whichever is the greater.

(2) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 38 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

For "Ocean Terminal to include Shops and Car Parks" only (Cont'd)

Remarks (Cont'd)

(3) For the area to the west of the pecked line :

(i) a Ferris wheel up to a maximum height of 105 metres above Principal Datum may be permitted on application under section 16 of the Town Planning Ordinance with the support of a traffic impact assessment, a visual impact assessment and any other information as may be required by the Town Planning Board; and

(ii) notwithstanding paragraph (1) above, 2 additional storeys to accommodate facilities related and ancillary to the Ferris wheel may also be permitted on application under section 16 of the Town Planning Ordinance provided that the restriction as specified in paragraph (2) above is complied with.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (1), (2) and 3(i) 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 "Pier" Only	
Government Use Pier	Eating Place Exhibition or Convention Hall Marine Fuelling Station Government Refuse Collection Point Office Public Vehicle Park (excluding container vehicle) Shop and Services

Planning Intention

This zone is primarily to provide/reserve land intended for a pier. Developments in this zone are subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour.

Remarks

(1) Kiosks ***or premises not in excess of a maximum total non-domestic gross floor area of 100m^2*** ~~not greater than 10m^2 each in area and not more than 10 in number~~ for uses as ***eating place and shop and services*** ~~retail shop and service trades~~ are considered as ancillary to pier use.

(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 a maximum building height of 1 storey or the height of the existing building, whichever is the greater.

(3) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 7 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (2) and (3) 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 "Sports and Recreation Club on Pier" Only

Place of Recreation, Sports or Culture Private Club	Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) Public Vehicle Park (excluding container vehicle) Religious Institution Shop and Services Social Welfare Facility Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide land intended for a private club for sporting and recreational purposes. Development in this zone is subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour.

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 building height of 4 storeys or the height of the existing building, whichever is the greater.

(2) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 31 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(3) 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.

(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 "Sports and Recreation Clubs" Only	
Place of Recreation, Sports or Culture Private Club	Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) Public Vehicle Park (excluding container vehicle) Religious Institution Shop and Services Social Welfare Facility Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide land intended for private club use for sporting and recreational purposes.

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 site coverage of 15% and a maximum building height of 15 metres above Principal Datum, or the site coverage and height of the existing building, whichever is the greater.

(2) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the site coverage/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 "Ventilation Building" Only	
As Specified on the Plan	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Private Club Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide land intended for ventilation building purpose.

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 building height of one storey or the height of the existing building, whichever is the greater.

(2) On land specified "Ventilation Building" to the south of Salisbury Garden, no building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 30 metres above Principal Datum (mPD) or the height of the existing building/structure, whichever is the greater.

(3) On land specified "Ventilation Building" to the south of the Cross Harbour Tunnel Toll Plaza, no building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 19mPD or the height of the existing building/structure, whichever is the greater.

(4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (1) to (3) 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 "Salt Water Pumping Station" Only

As Specified on the Plan	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Private Club Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide land for a salt water pumping station of the Harbour City development. Development in this zone is subject to a building height control to prevent excessive high-rise development in this strategic location protruding into the harbour.

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 building height of 2 storeys or the height of the existing building, whichever is the greater.

(2) No building/structure including roof-top structures, projections and advertisement signs shall result in a height in excess of 13 metres above Principal Datum or the height of the existing building/structure, whichever is the greater.

(3) 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.

(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 Specified Uses 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 Private Club Utility Installation not Ancillary to the Specified Use

Planning Intention

This zone is primarily to provide/reserve land for specific purposes and uses.

Remarks

(1) Except on land specified "Gun Club Hill Barracks", 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 specified "Museums" at Science Museum Road, 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 site coverage of 60%, or the site coverage of the existing building, whichever is the greater. In addition, a minimum building setback of 7m from the site boundary abutting Chatham Road South shall be maintained.

(3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height and site coverage 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.

Attachment IV of
MPC Paper No. 5/24

KOWLOON PLANNING AREA NO. 1

~~APPROVED~~ *DRAFT* TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28*A*

EXPLANATORY STATEMENT

EXPLANATORY STATEMENT

~~APPROVED~~ *DRAFT* TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28*A*

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KOWLOON PLANNING AREA NO. 1

~~APPROVED~~ *DRAFT* TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28***A***

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

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this explanatory 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*** Tsim Sha Tsui Outline Zoning Plan (OZP) No. S/K1/28***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 10 December 1965, the first statutory plan covering the Tsim Sha Tsui area was gazetted under the Town Planning Ordinance (the Ordinance).

2.2 On 7 November 1967, the then Governor in Council (G in C) approved the Tsim Sha Tsui OZP No. LK 1/44. On 26 February 1974, the then G in C referred the approved OZP to the Board for replacement by a new plan. On 2 July 1976, the draft Tsim Sha Tsui OZP No. LK 1/56 was exhibited for public inspection under section 5 of the Ordinance. The OZP was subsequently amended six times and exhibited for public inspection under section 7 of the Ordinance.

2.3 On 14 February 1989, the then G in C, under section 9(1)(c) of the Ordinance, referred the draft Tsim Sha Tsui OZP No. S/K1/4 back to the Board for further amendment. The OZP was subsequently amended six times and exhibited for public inspection under section 7 of the Ordinance.

2.4 On 17 June 1997, the then G in C, under section 9(1)(a) of the Ordinance, approved the draft Tsim Sha Tsui OZP, which was subsequently renumbered as S/K1/11. On 10 October 2000, the Chief Executive in Council (CE in C), under section 12(1)(b)(ii) of the Ordinance referred the approved OZP to the Board for amendment. The OZP was subsequently amended four times and exhibited for public inspection under section 5 or 7 of the Ordinance.

2.5 On 22 October 2002, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tsim Sha Tsui OZP, which was subsequently re-numbered as S/K1/16. On 11 March 2003, the CE in C, under section 12(1)(b)(ii) of the Ordinance, referred the approved OZP to the Board for amendment. Since then, the OZP was amended five times and exhibited for public inspection under section 5 or 7 of the Ordinance.

2.6 On 17 October 2006, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tsim Sha Tsui OZP, which was subsequently re-numbered as S/K1/22. On 8 April 2008, the CE in C, under section 12(1)(b)(ii) of the Ordinance, referred the approved Tsim Sha Tsui OZP No. S/K1/22 to the Board for amendment. Since then, the OZP was amended three times and exhibited for public inspection under section 5 or 7 of the Ordinance.

2.7 On 12 April 2011, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tsim Sha Tsui OZP, which was subsequently re-numbered as S/K1/26. The approved Tsim Sha Tsui OZP No. S/K1/26 was notified in the Gazette on 6 May 2011 under section 9(5) of the Ordinance.

2.8 On 26 June 2012, the CE in C referred the approved Tsim Sha Tsui OZP No. S/K1/26 to the Board for amendments under section 12(1)(b)(ii) of the Ordinance. On 13 July 2012, the reference back of the OZP was notified in the Gazette under section 12(2) of the Ordinance. ***The OZP was subsequently amended once and exhibited for public inspection under section 5 of the Ordinance.***

2.9 ~~On 11 January 2013, the draft Tsim Sha Tsui OZP No. S/K1/27, incorporating amendments to rezone the multi-storey car park site at Middle Road from "Government, Institution or Community" ("G/IC") to "Commercial(11)" ("C(11)") and an area shown as 'Road' to facilitate a proposed commercial development with a public car park and to reflect the as-built section of Middle Road, and other technical amendments to the Notes for various zones, was exhibited for public inspection under section 5 of the Ordinance. During the exhibition period, a total of 573 representations were received. On 22 March 2013, the Board published the representations for 3 weeks for public comments. A total of 26 comments were received. After giving consideration to the representations and comments on 14 June 2013, the Board decided not to uphold the representations.~~

~~2.10~~ ***2.9*** On 3 December 2013, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Tsim Sha Tsui OZP, which was subsequently re-numbered as S/K1/28. ~~On 13 December 2013, the approved Tsim Sha Tsui OZP No. S/K1/28 (the Plan) was exhibited for public inspection under section 9(5) of the Ordinance~~. ***On 1 November 2024, the Secretary for Development referred the approved Tsim Sha Tsui OZP No. S/K1/28 to the Board for amendment under section 12(1A)(a)(ii) of the Ordinance. The reference back of the approved OZP was notified in the Gazette on 15 November 2024 under section 12(2) of the Ordinance.***

2.10 On (date) (month) 2024, the draft Tsim Sha Tsui OZP No. S/K1/29 (the Plan) was exhibited for public inspection under section 5 of the Ordinance. The amendment on the Plan involved revising the building height restriction from 45mPD to 90mPD for the "Government, Institution or Community" zone at Yuk Choi Road currently occupied by the main campus of the Hong Kong Polytechnic University.

3. OBJECT OF THE PLAN

3.1 The object of the Plan is to indicate the broad land use zonings and major road networks within which the development and redevelopment of land can be put under statutory control.

3.2 The Plan is to illustrate the broad principles of development. 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 calculations. Development within residential zones should be restricted to building lots carrying development right in order to maintain the character and amenity of the Tsim Sha Tsui 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 Planning Scheme Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs.

4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at ~~http://www.info.gov.hk/tpb~~ ***http://www.tpb.gov.hk***.

5. THE PLANNING SCHEME AREA

5.1 The Planning Scheme Area (the Area) is located at the southern tip of Kowloon Peninsula. It is bounded by the Victoria Harbour to the south, southwest and southeast; Jordan Road and Gascoigne Road to the north; and Hung Hom Bay Reclamation to the east. It covers about 192 hectares of land.

5.2 The Area has been developed as an important commercial and tourist centre in Kowloon. It has also gradually become an important educational, cultural and recreation centre of territorial significance. The area to the south of Austin Road is predominantly for office, commercial and hotel uses. Apart from these uses, to the west of Nathan Road near Austin Road is Kowloon Park; to the south of Salisbury Road is Hong Kong Cultural Complex and Hong Kong Space Museum; and to the east of Chatham Road South is Hong Kong Science Museum and Hong Kong Polytechnic University.

5.3 The Area covers land on the waterfront of Victoria Harbour. For any development proposal affecting such land, due regard shall be given to the Vision Statement for Victoria Harbour published by the Board and the requirements under the Protection of the Harbour Ordinance (Cap. 531).

6. POPULATION

Based on the ~~2016~~ ***2021*** Population ~~By census~~ ***Census***, the population of the Area was estimated by the Planning Department as about ~~35,600~~ ***33,600***. It is estimated that the planned population of the Area would be about ~~91,000~~ ***91,250***.

7. BUILDING HEIGHT RESTRICTIONS IN THE AREA

7.1 In order to provide better planning control on the development intensity and building height upon development/redevelopment and to meet public aspirations for greater certainty and transparency in the statutory planning system, the Kowloon OZPs are subject to revisions to incorporate building height restrictions to guide future development/redevelopment. Some of the high-rise redevelopments erected in the Area in recent years following the relocation of the airport in Kai Tak and the removal of the airport height restrictions are considered undesirable from the urban design perspective, and are also visually incompatible and out-of-context with the local built environment. In order to prevent further excessively tall or out-of-context buildings, and to instigate control on the overall building height profile of the Area, review was undertaken to ascertain the appropriate building height restrictions for the "C", "Comprehensive Development Area" ("CDA"), "Residential (Group A)" ("R(A)"), "Residential (Group B)" ("R(B)"), "G/IC" and "Other Specified Uses" ("OU") zones on the Plan.

7.2 The building height restrictions are to preserve the views to the ridgelines from public view points at the Star Ferry Pier in Central, the Sun Yat Sen Memorial Park in Sheung Wan and Hong Kong Convention and Exhibition Centre in Wan Chai and to maintain a stepped building height concept recommended in the Urban Design Guidelines of the Hong Kong Planning Standards and Guidelines with lower buildings and more open setting along the waterfront, taking account of the local area context, the local wind environment, and the need to maintain varying but compatible building height profile in the wider setting. Except for the existing/committed high-rise towers up to 386.7 metres above Principal Datum (mPD), 265mPD and 250mPD at Canton Road, Salisbury Road and Hanoi Road respectively, and some other high-rise buildings at or near the central commercial area of Tsim Sha Tsui, the various building height bands from 80mPD to 130mPD in the Area for the "C", "R(A)" and "R(B)" zones increase progressively from the waterfront and the northern part of the Area to the central area. The building height bands help preserve views to the ridgelines, achieve a stepped height profile for visual and air permeability, and maintain a more intertwined relationship with the Victoria Harbour edge.

7.3 Moreover, specific building height restrictions for the "G/IC" and "OU" zones in terms of mPD and/or number of storeys, which mainly reflect the existing and planned building heights of developments, have been incorporated into the Plan

mainly to provide visual and spatial relief to the Area. In general, the building height restrictions are specified in terms of mPD to provide certainty and clarity of the planning intention. However, building height control for low-rise developments, normally with a height of not more than 8 storeys, will be subject to restrictions on the number of storeys so as to allow more design flexibility, in particular for Government, institution or community (GIC) facilities with specific functional requirements, unless such developments fall within visually more prominent locations and/or major breathing spaces.

7.4 An air ventilation assessment (AVA) by expert evaluation has been undertaken to assess the likely impact of the proposed building heights of the development sites within the Area on the pedestrian wind environment. The building height bands shown on the Plan have taken into account the findings of the AVA.

7.5 A minor relaxation clause in respect of building height restrictions is incorporated into the Notes of the Plan for various zones in order to provide incentive for developments/redevelopments with design merits/planning gains. Each application for minor relaxation of building height restriction will be considered on its own merits and the relevant criteria for consideration of such relaxation 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 public passage/street widening;

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

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

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

(f) other factors, such as the need for tree preservation, innovative building design and planning merits that would bring about improvements to townscape and amenity of the locality, provided that no adverse landscape and visual impacts would be resulted from the innovative building design.

7.6 However, for existing buildings where the building height have already exceeded the maximum building height restrictions in terms of mPD or number of storeys as shown on the Plan or stipulated in the Notes, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8. LAND USE ZONINGS

8.1 Commercial ("C"): Total Area 47.41 ha

8.1.1 This zone is intended primarily for commercial developments, which may include uses such as office, shop, services, place of entertainment, eating place and hotel, functioning as a territorial business center and regional or district commercial/shopping centres. These areas are usually major employment nodes, particularly those sites located along Nathan Road, Canton Road, Salisbury Road and Chatham Road South which have been developed into offices, hotels, department stores and banks.

8.1.2 Most of the land in Tsim Sha Tsui East, i.e. the area bounded by Chatham Road South, Cheong Wan Road/Hong Chong Road and Salisbury Road, have been developed into hotels and purpose-designed commercial buildings for office and retail shop uses. To allow penetration of prevailing wind from the east to the inner area of Tsim Sha Tsui which is poor in air ventilation, the maximum building height restrictions for sites to the southeast and northwest of Mody Road in Tsim Sha Tsui East are in general capped at 80mPD and 95mPD respectively to achieve a stepped height profile descending towards the waterfront.

8.1.3 Developments in this zone are subject to a maximum plot ratio of 12.0, except for the "C(7)" and "C(10)" sites which are subject to maximum gross floor areas (GFAs) of 324,078m² and 99,588m² respectively, to restrain traffic growth and excessive development intensity which will otherwise overload the existing and planned transport and infrastructural systems in the Area. In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio/GFA 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.

8.1.4 The Mariners' Club at Middle Road is zoned "C(1)" to facilitate its redevelopment. Upon redevelopment, a minimum GFA of 930m² has to be provided for a private club within this site for the use of 'The Sailors Home and Missions to Seamen'. The site is subject to a maximum building height restriction of 175.5mPD to reflect the building height of an approved residential development on the site which is yet to be developed.

8.1.5 A site at Kimberley Road/Kimberley Street (i.e. Kimberley Hotel), which has ~~a market/cooked food centre~~ ***a branch office of the Immigration Department*** and a refuse collection point incorporated ~~in~~ ***on*** the basement ***and ground*** levels, is zoned "C(2)" with a requirement that a refuse collection point shall be provided within the site. The site is subject to a maximum building height restriction of 110mPD which is to provide a transition to the high-rise developments at or around Hanoi Road.

8.1.6 A site at Mody Road in Tsim Sha Tsui East, which is a predominantly commercial cum multi-storey car park development (i.e. Auto Plaza), is zoned "C(3)" with a requirement that an electricity substation, a refuse collection point and a public car park with not less than 980 public

parking spaces shall be provided within the site. The existing development has also incorporated ~~a police reporting centre~~ ***the Tsim Sha Tsui East Neighbourhood Police Office***. The site is subject to a maximum building height restriction of 95mPD which is to maintain the area for air penetration.

8.1.7 A site at the junction of Science Museum Road and Hong Tat Path, which is a predominantly commercial development with some GIC facilities provided on its lower floors (i.e. Concordia Plaza), is zoned "C(4)" with a requirement that a public transport terminus, a library, a public toilet and a public car park with not less than 350 public parking spaces shall be provided within the site. The maximum building height restriction for this site is capped at its existing height, i.e. 98.3mPD.

8.1.8 Another site at Science Museum Road, which has been developed into a predominantly commercial development incorporating an ambulance depot (i.e. New East Ocean Centre), is zoned "C(5)". The site is subject to a maximum building height restriction of 95mPD, or that of the existing building, whichever is the greater.

8.1.9 The need for the GIC facilities specified in the "C(2)" to "C(5)" sub-zones may be reviewed upon redevelopment of these sites.

8.1.10 Various sites mainly bounded by Chatham Road South, Kimberley Road, ***Granville Road,*** Haiphong Road, Kowloon Park Drive and Middle Road, comprising One Peking ~~and~~***,*** I-Square***, The ONE and Mira Place***, are zoned "C(6)" and subject to maximum building height restrictions ranging from 110mPD to ~~143.4~~ ***156***mPD.

8.1.11 According to the findings of the AVA study, the air ventilation in areas mainly bounded by Chatham Road South, Kimberley Road, Haiphong Road, Kowloon Park Drive and Middle Road is relatively poor. In order to improve air penetration, streetscape and pedestrian circulation, the areas designated "C(1)", "C(2)" and "C(6)" on the Plan are subject to a minimum of 1.5m wide non-building area from the lot boundary abutting areas shown as 'Road' on the Plan, except Chatham Road South and Nathan Road which are wider for air ventilation, as stipulated in the Remarks of the Notes for these sub-zones. ~~Under exceptional circumstances, e.g. severe site constraints and the planning intention of the non-building area could be achieved in other forms, minor relaxation of the non-building area restriction may be considered by the Board on application under section 16 of the Ordinance. Such restriction does not apply to underground development.~~

8.1.12 The "C(7)" sub-zone to the south of Salisbury Road is ~~New World Centre~~ ***Victoria Dockside*** which has been developed in a comprehensive manner comprising hotels, service apartments, shopping arcades, offices and car-parking facilities. For development and/or redevelopment of the "C(7)" site, maximum building heights ranging from 30mPD to 265mPD as stipulated on the Plan and a maximum GFA of 324,078m² are stipulated in the Notes of the Plan to tally with those specified under the lease. Since part of the proposed development and/or

redevelopment up to a height of 265mPD is among the tallest in the Area, application for minor relaxation of building height restrictions in this sub-zone is not allowed. Besides, any redevelopment of the existing buildings at the site has to follow the stipulated building height restrictions and cannot claim existing heights. Given the strategic waterfront location of the site, a visual and/or view corridor aligning with Chatham Road South shall be maintained for any future development and/or redevelopment at the site.

8.1.13 The "C(8)" sub-zone to the west of Canton Road is occupied by the Ocean Centre development comprising shops and offices, and the Harbour City development comprising hotels, service apartments and office buildings with shops. To reflect a committed development at the southern part of the "C(8)" sub-zone, a maximum building height restriction of 386.7mPD for this part is stipulated on the Plan whereas the remaining part is subject to a maximum building height restriction of 85mPD. Moreover, two strips of land within this sub-zone at a width of 30m in an east-west direction with a maximum building height restriction of 15mPD are demarcated on the Plan with a view to enhancing air ventilation in the area. In order to provide for greater flexibility, application for minor relaxation of building height restrictions within these two strips of land is allowed. However, since the height of the proposed non-domestic tower (i.e. 386.7mPD) is the tallest in the Area and there is an intention to control the building heights of the other parts within this sub-zone, application for minor relaxation of the building height restrictions for the areas stipulated with building height restrictions of 386.7mPD and 85mPD is not allowed. Besides, redevelopment of the existing buildings has to follow the stipulated building height restrictions and cannot claim existing heights.

8.1.14 China Hong Kong City, located to the north of Harbour City and incorporating ~~China Ferry Terminal,~~ a public transport terminus, shops, offices and a hotel, is zoned "C(9)". To achieve a stepped transition to the future West Kowloon Cultural District, a maximum building height restriction of 85mPD is proposed for this sub-zone with a strip of land at a width of 30m in an east-west direction with a maximum building height restriction of 15mPD are demarcated on the Plan with a view to enhancing air ventilation in the area. Redevelopment of the existing buildings has to follow the stipulated building height restrictions and cannot claim existing heights.

8.1.15 A hotel, service apartment and commercial development of the Urban Renewal Authority (known as the Masterpiece and K11 ***Art*** Mall) with the provision of public open space and other supporting facilities is situated at a site zoned "C(10)" which is bounded by Hanoi Road, Carnarvon Road, Bristol Avenue and Mody Road. The site is subject to a maximum GFA of 99,588m² and a maximum building height of 250mPD to reflect the as-built condition of this new development. Since the height of this building is among the tallest in the Area, application for minor relaxation of the building height restriction at this site is not allowed. A direct pedestrian entrance/exit for public access at street level to the Mass Transit Railway (MTR) East Tsim Sha Tsui

Station and an at-grade public open space of not less than 1,200m² have been provided within the development. ~~A direct pedestrian connection between the development and the MTR Tsim Sha Tsui Station has also been planned.~~

8.1.16 The multi-storey car park site at Middle Road is zoned "C(11)", which ~~is intended for~~ ***has been redeveloped*** into a commercial development ***(known as H Zentre*** ***comprising shops and restaurants*** with a public car park with not less than 345 car parking spaces and not less than 39 motor cycle parking spaces. The site is subject to a maximum building height of 90mPD.

8.1.17 ~~Minor relaxation of plot ratio/GFA restrictions, the provision of private club and public car/motor cycle parking spaces, and any reduction in total GFA provided for GIC facilities as stated in the Notes for the "C" zone may be considered by the Board on application under section 16 of the Ordinance. Each application will be considered on its own merits.~~ For any existing building with plot ratio/GFA already exceeding the relevant restrictions as stipulated in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.1.18 Except for the committed developments in the "C(7)" and "C(8)" sub-zones and some other high-rise buildings at or near the central commercial area of Tsim Sha Tsui including Peking One, Hotel Panorama, Hotel Peninsula Office Tower, the Pinnacle, the Masterpiece and K11 ***Art*** Mall, I-Square, the ONE as well as the redevelopment project of the Mariners' Club which are capped at 143.4mPD, 146mPD, 120mPD, 140.1mPD, 250mPD, 134.4mPD, 156mPD and 175.5mPD respectively, development and/or redevelopment within other "C" sites are mainly subject to maximum building height restrictions of 80mPD, 85mPD, 90mPD, 95mPD, 100mPD, 110mPD and 130mPD as stipulated on the Plan, or the height of the existing building, whichever is the greater. ~~For development with special design merits, minor relaxation of the building height restrictions as stipulated on the Plan may be considered by the Board on application under section 16 of the Ordinance taking into account its own merits and relevant criteria set out in paragraphs 7.5 and 7.6 above, except on land designated "C(7)" and "C(10)" and on land stipulated with building height restrictions of 386.7mPD and 85mPD within the "C(8)" sub-zone~~.

8.1.19 In order to provide incentive for amalgamation of small sites for development/ redevelopment, allow flexibility for development/ redevelopment of sites for quality and well-designed commercial/office buildings with larger floor plate at suitable locations and improve the pedestrian environment and streetscape, a relaxation clause in respect of building height restrictions is incorporated into the Notes for the "C" zone for sites with an area not less than 1,800m², except on land designated "C(7)" and "C(10)" and on land stipulated with building height restriction of 386.7mPD within the "C(8)" sub-zone. The development/redevelopment should strive to achieve suitable building layout, design, disposition and height to enhance visual

access/permeability to important features of the townscape such as mountain backdrop, harbour, open space, waterfront, public promenade or heritage buildings. The above planning intention and the following criteria are relevant in the consideration of such relaxation:

(a) site area not less than 1 800m² and maximum site coverage at ground level and above not more than 65%;

(b) suitable building disposition and orientation to avoid obstruction to prevailing wind, particularly in the summer season, for improved air ventilation;

(c) a minimum of 20% of the gross site area provided with uncovered greenery at street level or the lowest three floors above ground level for improved micro-climate and general amenity;

(d) landscaped ground floor set back of at least 3m from the site boundary along the façades facing principal streets, open space, waterfront or public promenade;

(e) if the site frontage exceeding 100m facing a principal street, open space, waterfront or public promenade, there should be provision of building gap(s), the total width(s) of which should not be less than half of the total building width(s) to promote air and visual permeability;

(f) improved streetscape, footpath and public space for better pedestrian environment with suitable landscape design;

(g) provision of carpark entirely underground to encourage the minimisation of building bulk above ground; and

(h) other relevant factors or design merits to justify a relaxation of the building height restrictions as stipulated on the Plan.

8.1.20 The planning intention and criteria set out in paragraph 8.1.19 above are for general guidance. Each application for relaxation of building height restriction should be supported by relevant technical assessments, including visual impact assessment, landscape proposal and, if necessary, air ventilation assessment and will be considered on its own merits taking into account townscape and characteristics of the surrounding areas.

8.2 Comprehensive Development Area ("CDA"): Total Area 1.17 ha

8.2.1 The former Marine Police Headquarters (FMPHQ) Compound together with the Main Block of the Old Kowloon Fire Station (hereafter "the historic site") bounded by Kowloon Park Drive to the east, Salisbury Road to the south, and Canton Road to the west is within this zone. ***The historic site has been redeveloped for hotel and tourism-related uses, namely the '1881 Heritage', upon revitalisation.*** The planning intention for this "CDA" site is to preserve, restore and convert the historic site into a tourism-themed commercial development. The

zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of the heritage significance of the existing historic buildings on the site, as well as various environmental, traffic, infrastructure and other constraints. In order to retain the character and physical setting of the site, a maximum building height restriction of 14.5mPD is stipulated for new buildings at the southern platform to tally with the requirements of the Planning Brief endorsed by the Board in 2002 and the latest planning permission, whereas a maximum height of 29.2mPD for the northern part of the site is stipulated on the Plan to reflect the existing height of the historic buildings.

8.2.2 To retain the heritage significance of the historic site, the buildings and compound of FMPHQ including the Main Building, the Stable Block, the Signal Tower (commonly known as Round House) and the Accommodation Block of the Old Kowloon Fire Station were declared monuments which were gazetted under the Antiquities and Monuments Ordinance on 23 December 1994. Upon declaration as monuments, demolition of the historic buildings (except those temporary buildings) and construction of incompatible development within the compound are prohibited. The Main Block of the Old Kowloon Fire Station was also graded for its historic significance.

8.2.3 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 of the Plan for the approval of the Board pursuant to section 4A(2) of the Ordinance. The applicant should demonstrate with a comprehensive scheme for the whole site that, among other things, the nature and scale of the proposed use/development would be compatible with the general planning intention for the site, and that the proposed development would be sustainable in environmental, traffic and infrastructural terms. The proposed use/ development should also be compatible with the historic setting of the built heritage in the historic site in terms of height and design. A copy of the approved MLP has been made available for public inspection pursuant to section 4A(3) of the Ordinance.

8.2.4 ~~For development with special design merits, minor relaxation of the building height restrictions as stipulated on the Plan may be considered by the Board on application under section 16 of the Ordinance taking into account its own merits and relevant criteria set out in paragraphs 7.5 and 7.6 above.~~

8.3 Residential (Group A) ("R(A)"): Total Area 6.98 ha

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

8.3.2 This zone generally covers established residential areas north of Austin Road between the section of Cox's Road and Canton Road. Most of the sites have been developed for residential uses with commercial uses on lower floors.

8.3.3 In the consideration of the overall transport, environmental and infrastructural constraints, as well as the adequacy in the provision of community facilities envisioned in the Kowloon Density Study Review completed in early 2002, developments or redevelopments within this zone are subject to specific control on plot ratios except otherwise specified in the Notes, i.e. a maximum plot ratio of 7.5 for a domestic building or a maximum plot ratio of 9.0 for a partly domestic and partly non-domestic building. In calculating the GFA for these developments/ redevelopments, the lands for free-standing purpose-designed buildings that are solely used for accommodating school or other GIC facilities, including those located on ground and on building podium, are not to be taken as parts of the site.

8.3.4 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratios 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.

8.3.5 Development and redevelopment within this zone are subject to maximum building height restrictions as stipulated on the Plan or the height of the existing building, whichever is the greater, to reflect the existing medium-rise character of the area.

~~8.3.6 Minor relaxation of plot ratio/building height restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraphs 7.5 and 7.6 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.~~

~~8.3.7 However, *for* any existing building with plot ratio/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.~~

8.4 Residential (Group B) ("R(B)"): Total Area 0.59 ha

8.4.1 This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board. The former Boy Scout Association Headquarters and Government Staff Quarters sites which have been redeveloped as Carmen's Garden and the former Norwegian Seamen's Mission site which has been redeveloped as Emperor Height at Cox's Road are zoned for this use.

8.4.2 Developments within this zone are subject to specific plot ratio control to restrain traffic growth which will otherwise overload the existing and

planned road network. In addition, high-density residential development may also put the sewerage system on strain. Hence, Carmen's Garden is restricted to a maximum plot ratio of 5.0 whereas Emperor Height (zoned "R(B)1") is subject to a maximum GFA of 8,788m².

8.4.3 Development and redevelopment within the "R(B)" zones are subject to a maximum building height restriction as stipulated on the Plan, or the height of the existing building, whichever is the greater.

~~8.4.4 Minor relaxation of plot ratio/GFA/building height restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraphs 7.5 and 7.6 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.~~

~~8.4.5 However, for any existing building with plot ratio/GFA/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.~~

8.5 Government, Institution or Community ("G/IC"): Total Area 20.27 ha

8.5.1 This zone is intended primarily for the provision of Government, institution and 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 organisations providing social services to meet community needs, and other institutional establishments.

8.5.2 Major existing developments include the Hong Kong Polytechnic University, the Hong Kong Observatory, ~~the International Mail Centre~~, the Swimming Pool and Indoor Games Hall Complex at Kowloon Park, a multi-purpose building adjoining the Kowloon Park at Austin Road accommodating a multi-storey car park, telephone exchange and cross-boundary bus terminus, and the ~~Boy~~ Scout Association Headquarters with hostels. A Consumer Education and Information Centre has been developed at the junction of Ashley Road and Middle Road.

8.5.3 The site at the junction of Bowring Street and Kwun Chung Street has been developed as a municipal services building to reprovision the market at Min Street and provide an indoor sports centre and a cooked food centre. Other existing GIC developments include a fire station, a police station, schools and churches.

8.5.4 The Hong Kong Observatory and former Kowloon British School at 136 Nathan Road have been gazetted under the Antiquities and Monuments Ordinance for preservation.

8.5.5 The "G/IC(1)" site at Haiphong Road covers land beneath an elevated road. Due to the physical constraints and environmental conditions of

the site, only selected GIC facilities are always permitted. Some other community and social welfare facilities may be permitted on application to the Board. It is also intended for possible joint development with its adjoining "G/IC" site for a market complex on application to the Board.

8.5.6 Except for the "G/IC(1)" site, developments and redevelopments in the "G/IC" zones are subject to building height restrictions in terms of number of storeys or mPD as stipulated on the Plan, or the height of the existing building, whichever is the greater. The maximum building height restriction for ***the*** Hong Kong Polytechnic University's teaching hotel and staff quarters development at Science Museum Road is 111.5mPD to tally with the building height of the latest planning application approved by the Board.

~~8.5.7 Minor relaxation of the building height restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraphs 7.5 and 7.6 above would be relevant for the assessment of such applications. Each application will be considered on its own merits.~~

~~8.5.8 However, for any existing building with building height already exceeding the relevant restriction as stipulated on the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.~~

8.6 Open Space ("O"): Total Area 23.66 ha

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

8.6.2 Kowloon Park is a large public open space which has district significance. The Park provides a wide range of recreational facilities including a Chinese garden, children's play areas, an aviary, a mini-soccer pitch and basketball courts. Because of the difference in levels between the eastern part of the Park and Nathan Road, opportunity has been taken to extend the park area over the roofs of three blocks of one to two-storey shops (with basements) which front onto Nathan Road.

8.6.3 A public promenade is provided along the south-eastern waterfront linking up Hung Hom Station of MTR East Rail Line and Hong Kong Coliseum with Hong Kong Cultural Centre at the tip of Kowloon Peninsula. The promenade extends eastwards to the Hung Hom Bay Reclamation Area. A public garden on top of a public transport terminus to the west of Wing On Plaza with associated footbridges allowing full public access at the junction of Salisbury Road and Chatham Road South is also within this zone.

8.6.4 Several stretches of open space are developed along Chatham Road South to the west of the Hong Kong Polytechnic University. They are linked up by a subway/footbridge system which provides a continuous

pedestrian link from Oi Man Estate to Tsim Sha Tsui East where many sites have been developed as landscaped pedestrian precincts and plazas.

8.6.5 Blackhead Signal Hill located between Minden Row and Chatham Road South has been converted into a rest garden which provides an additional recreational outlet. The Signal Tower on the hill has been preserved and renovated to provide visitors with views of the harbour and the surrounding areas. King George the Fifth Memorial Park at Jordan Road is also an important district open space.

8.7 Other Specified Uses ("OU"): Total Area 47.15 ha

8.7.1 This zone covers land allocated for specific uses.

8.7.2 The sites within the "OU" annotated "Ferry Concourse, Public Pier and Cultural Complex including Space Museum, Auditoria, Museum of Arts, Open Space and Car Park" zone have been developed into a cultural complex including Hong Kong Space Museum, Hong Kong Museum of Art and Hong Kong Cultural Centre including an auditoria building, an administration building, a restaurant building and an open piazza; the bus terminus outside the Star Ferry Pier; a ferry concourse and the former Kowloon-Canton Railway (KCR) Clock Tower which has been gazetted as a monument under the Antiquities and Monuments Ordinance for preservation. To facilitate air ventilation to the hinterland along Hankow Road, a strip of land between Cultural Centre and Space Museum is subject to a maximum building height restriction of 15mPD within this "OU" zone.

8.7.3 Hung Hom Station and its surrounding developments, situated on an elevated platform above the railway, are zoned "OU" annotated "Railway Terminus, Bus Terminus, Multi-storey Car Park, Indoor Stadium, Commercial Facilities and Railway Pier" and offer an opportunity for a feature building to demarcate the boundary between Tsim Sha Tsui and Hung Hom. The southern part of this "OU" zone is a potential development site identified in the Hung Hom District Study (HHDS). On the basis of the recommendations of the HHDS, the area to the south of Hung Hom Bypass is restricted to a maximum building height restriction of 15mPD and the area to the north up to the podium of Hong Kong Coliseum is capped at a maximum building height of 75mPD with a lower building height restriction of 25mPD in the middle such that any future development within this zone should maintain the public visual access to and from the Coliseum and the Harbour, and air ventilation in this locality could be improved. The maximum building heights for areas further north are capped at 45mPD and 55mPD to reflect the existing heights of the Coliseum and buildings at Hung Hom Station.

8.7.4 A site bounded by Chatham Road South, Granville Road, Science Museum Road and Cheong Wan Road is zoned "OU" annotated "Museums". The site includes Hong Kong Science Museum and Hong Kong Museum of History. The complex also includes a substantial area of open space with ancillary recreational development. The site is

subject to a maximum building height restriction of 30mPD. A maximum site coverage of 60% and a minimum building setback of 7m from the site boundary abutting Chatham Road South are also stipulated in the Notes of the Plan to ensure the availability of land for open space provision and to facilitate air ventilation respectively. Moreover, the former Museum of History within Kowloon Park is zoned "OU" annotated "Museum" with a maximum building height restriction of 22mPD and 26mPD as stipulated on the Plan to reflect the existing heights of the historic buildings.

8.7.5 The area at Salisbury Road between ~~New World Centre~~ ***the Victoria Dockside*** and Hong Kong Cultural Centre is zoned "OU" annotated "Cultural Square and Public Open Space with Underground Commercial Complex and Car Park" with a maximum GFA of 2,800m^2 and a building height restriction of 13.2mPD. It has been developed into an underground shopping complex and car park with public open space on the ground level ***(known as Salisbury Garden)***.

8.7.6 Building height restrictions in terms of both number of storeys and mPD are stipulated in the Notes of the Plan for seven "OU" zones to prevent excessive high-rise developments at these strategic locations protruding into the harbour. These sites are mainly located at the waterfront of Tsim Sha Tsui West. There is no planning intention to increase the development intensities of these sites. They include the "OU" zones annotated :

(a) "Ocean Terminal to include Shops and Car Parks" mainly for the Ocean Terminal;

(b) "Ferry Terminal" mainly for the China Ferry Terminal;

(c) "Pier" for the Kowloon Permanent Pier No. 7;

(d) "Kowloon Point Piers" for the Star Ferry Pier;

(e) "Sports and Recreation Club on Pier" for the Pacific Club;

(f) "Salt Water Pumping Station" for the salt water pumping station of Harbour City Development; and

(g) two sites annotated "Ventilation Building" for the ventilation buildings for Cross Harbour Tunnel and MTR Cross Harbour Tunnel.

8.7.7 For the Ocean Terminal site, within the area to the west of the pecked line shown on the Plan, a Ferris wheel up to a maximum height of 105mPD to be developed on top of a building not exceeding 6 storeys and a maximum height of 38mPD may be permitted upon application to the Board. The uses on the top 2 storeys of the building are restricted to uses and facilities ancillary to the purposes of the Ferris wheel. To ensure that the Ferris wheel development would not be incompatible with the surrounding developments and sustainable in traffic terms,

necessary assessments on its possible traffic and visual impacts would need to be submitted in support of the application.

8.7.8 Building height restrictions in terms of mPD are also stipulated on the Plan for other "OU" zones, i.e. Kowloon Cricket Club and Kowloon Bowling Green Club bounded by Gascoigne Road, Cox's Road and Austin Road (annotated "Sports and Recreation Clubs"), and the Cross Harbour Tunnel Administration Building and the Cross Harbour Tunnel Toll Plaza area (annotated "Cross Harbour Tunnel Toll Plaza"), to maintain their existing low-rise character. The building height review of the military site at Gun Club Hill Barracks would be considered together with other military sites in the territory. In addition, a maximum site coverage of 15% is also stipulated in the Notes of the Plan for the Kowloon Cricket Club and Kowloon Bowling Green Club at Gascoigne Road to maintain their existing open air character.

~~8.7.9 Minor relaxation of the GFA/site coverage/building height restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria set out in paragraphs 7.5 and 7.6 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.~~

~~8.7.10 However, for any existing building with GFA/site coverage/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.~~

8.8 ***Minor Relaxation Clause***

8.8.1 For the zone(s) where minor relaxation of relevant restriction(s) is applicable, based on individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio / GFA / building height / site coverage / provision of private club and public car/motor cycle parking spaces / any reduction in the total GFA provided for GIC as stated in the relevant paragraph(s) above or as shown on the Plan may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.5 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.8.2 However, for any existing building with plot ratio/GFA/building height/site coverage already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.8.3 For "C(1)", "C(2)" and "C(6)" zones, under exceptional circumstances, minor relaxation of NBA restriction as stated in the Notes of the Plan may be considered by the Board on application under section 16 of the Ordinance. The NBA restriction will not

apply to underground development. Without compromising the intention of designating the NBAs for air penetration, streetscape improvement and pedestrian circulation purposes, landscaping, street furniture, as well as footbridge, covered walkway and minor structures with high air porosity/visual permeability, will be permitted within the NBAs stipulated in the Notes of the Plan.

9. COMMUNICATIONS

9.1 Roads

9.1.1 Kowloon Park Drive and Canton Road which pass through the western part of the Area are part of the primary distributor network serving West Kowloon. Other roads in distributor network consist of Salisbury Road, Nathan Road, Chatham Road South, Jordan Road and Austin Road.

9.1.2 Other major road schemes in the Area include Hung Hom By-pass, Princess Margaret Road Link and the proposed Chatham Road South/Austin Road Flyover.

9.2 Railways

~~9.2.1 The MTR Tsuen Wan Line runs beneath Nathan Road with the Tsim Sha Tsui Station and the Jordan Station at Haiphong Road and Jordan Road respectively. The Area is also served by the Hung Hom Station and the West Rail Line East Tsim Sha Tsui Station. The East Tsim Sha Tsui Station serves to connect the Tsuen Wan Line and the West Rail Line, and helps to relieve the congestion at Kowloon Tong through the connection with East Rail Line following the opening of the Ma On Shan Line.~~

~~9.2.2 The Area is served by the Kowloon Southern Link (KSL), which is an extension of the West Rail Line from its Nam Cheong Station to connect with the East Rail Line at the Hung Hom Station. It provides passengers along the West Rail Line catchment in Northwest New Territories with a direct link to urban Kowloon. The KSL Austin Station is at West Kowloon near Austin Road West.~~

9.2.1 The Area is served by the MTR Tsuen Wan Line which runs beneath Nathan Road with the Tsim Sha Tsui Station and the Jordan Station at Haiphong Road and Jordan Road respectively. The Area is also served by the Tuen Ma Line (East Tsim Sha Tsui Station and Hung Hom Station) and East Rail Line (Hung Hom Station). The underground pedestrian subway system between the Tsim Sha Tsui Station and East Tsim Sha Tsui Station provides connection between the Tsuen Wan Line and Tuen Ma Line. The Hung Hom Station is a major interchange for Tuen Ma Line and East Rail Line offering direct link for passengers in New Territories, Kowloon and Hong Kong Island.

9.3 Ferry Services

9.3.1 Ferry services are provided between Tsim Sha Tsui and Central as well as Wan Chai. Cross-boundary ferry services to China and Macau are provided at the China Ferry Terminal.

9.4 Pedestrian Circulation

9.4.1 In Tsim Sha Tsui East, a system of pedestrian ways, precincts, footbridges and subways is provided to segregate the pedestrian and vehicular traffic. Footbridges are also provided to facilitate unimpeded pedestrian movement between Tsim Sha Tsui East, the public promenade at the Salisbury Road waterfront, the old Tsim Sha Tsui urban core as well as the East Rail Line Hung Hom Station.

9.4.2 A number of pedestrian subways have also been planned or provided at the junctions of Austin Road/Nathan Road, Austin Road/Canton Road, Salisbury Road/Kowloon Park Drive, Peking Road/Kowloon Park Drive, Salisbury Road/Nathan Road, Salisbury Road/Middle Road and Carnarvon Road/Bristol Ave.

10. UTILITY SERVICES

The Area is well served with piped water supply, drainage and sewerage systems. Electricity, gas and telephone services are also available and no difficulty is anticipated in meeting the future requirements for services for the planned population.

11. CULTURAL HERITAGE

11.1 ***Within the boundary of the Area,*** ~~T~~***t***here are ~~four~~ ***currently six*** declared monuments ~~in the Area, which are~~***, i.e.*** the Hong Kong Observatory at Observatory Road, former KCR Clock Tower, former Kowloon British School at 136 Nathan Road***, Kowloon Union Church at 4 Jordan Road, Signal Tower in the Signal Hill Garden at Blackhead Point*** and FMPHQ Compound at Canton Road. ~~There are graded and proposed graded historic buildings/structure within the Area. Brief information of these historic buildings/structure have been uploaded onto the official website of the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department at http://www.amo.gov.hk. Prior consultation with the AMO of the Leisure and Cultural Services Department and the Commissioner for Heritage's Office of the Development Bureau should be made if any development, redevelopment or rezoning proposals might affect the above monuments/historic buildings/structures and their immediate environs.~~ ***There is a number of graded historic buildings within the Area, namely the St. Mary's Canossian College at 162 Austin Road (Grade 1); Rosary Church at 125 Chatham Road South (Grade 1); St. Andrew's Church Compound at 138 Nathan Road (Grade 1); Peninsula Hotel at Salisbury Road (Grade 1); Blocks S4, 58, S61, S62 and Kowloon West II Battery of the Former Whitfield Barracks in the Kowloon Park (Grade 1); Ex-Portuguese Community School (Escola Camões) at 7 Cox's Road (Grade 2); Kowloon Cricket Club at 10 Cox's Road (Grade 2); 190***

Nathan Road (Grade 2); Main Block of the Old Kowloon Fire Station at 33 Salisbury Road (Grade 2); The Manse of Kowloon Union Church at 2 Jordan Road (Grade 3); Kowloon Bowling Green Club at 123 Austin Road (Grade 3); and two Government historic sites identified by the Antiquities and Monuments Office of the Development Bureau (AMO), namely the Stone Pillars of the Former Eu Yan Sang Shop outside Block S4 of the Former Whitfield Barracks in the Kowloon Park and the Stone Pillars of the Former Kowloon Terminus of the Kowloon-Canton Railway in the Urban Council Centenary Garden at Chatham Road South.

11.2 The lists of declared monuments, historic buildings and sites graded by the Antiquities Advisory Board (AAB), new items pending grading assessment, Government historic sites identified by AMO and sites of archaeological interest (SAIs) are published on AMO's website (https://www.amo.gov.hk/en/historic-buildings/heritage-sites-lists/index.html). The lists will be updated from time to time.

11.3 Prior consultation with AMO should be made if any works, development, redevelopment or rezoning proposals may affect the declared monuments, proposed monuments, historic buildings and sites graded by the AAB, new items pending grading assessment, Government historic sites identified by AMO, SAIs or any other buildings/structures identified with heritage value, both at grade and underground, and the immediate environs of the aforementioned items.

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 the Government. Disposal of sites is undertaken by the Lands Department. Public works projects are coordinated by the Civil Engineering and Development Department in conjunction with the relevant client departments and the works departments, such as the Highways Department and the Architectural Services Department. In the course of implementing the Plan, the Yau Tsim Mong District Council would also be consulted as and when 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 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, 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 them.

TOWN PLANNING BOARD
~~FEBRUARY 2024~~ ***XXXXX 2024***

Attachment V of
MPC Paper No. 5/24

APPROVED TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28

Review of the Building Height Restriction
for the Main Campus of the Hong Kong Polytechnic University
in Hung Hom

TECHNICAL FEASIBILITY STUDY

December 2024

Proponent:
The Hong Kong Polytechnic University

Consultancy Team:
KTA Planning Limited
MVA Hong Kong Limited
Allied Environmental Consultants Limited

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PLANNING LIMITED
規劃顧問有限公司

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APPROVED TSIM SHA TSUI OZP No. S/K1/28

**Review of the Building Height Restriction
for the Main Campus of the Hong Kong Polytechnic University
in Hung Hom**

Technical Feasibility Study

1 INTRODUCTION

1.1 Purpose

1.1.1 This Technical Feasibility Study ("TFS") Report is prepared and submitted on behalf of the Hong Kong Polytechnic University (the "Proponent"/"PolyU") in support of the review of Building Height Restriction of PolyU's Main Campus in Hung Hom ("Subject Site"/the "Site"). The Site is zoned "Government, Institution or Community" ("G/IC") on the approved Tsim Sha Tsui Outline Zoning Plan No. S/K1/28 ("Approved OZP").

1.1.2 The Building Height Restriction of the Main Campus of PolyU stipulated in the prevailing Approved OZP is 45mPD, which is the building height of the existing buildings that were built in the 70s. This poses unnecessary hurdles in future redevelopment of the campus in striving for excellence and a better/improved building facilities and environment for their staff and students.

1.1.3 This Technical Feasibility Report shall demonstrate that a relaxed Building Height Restriction is technically feasible and deemed appropriate from various perspectives.

1.2 Report Structure

1.2.1 Following this Introductory Section, background of the current exercise and site and planning context will be briefly set out in Sections 2 and 3 respectively. The future redevelopment intent is outlined in Section 4, followed by planning justifications in Section 5. Section 6 concludes and summarizes this Technical Feasibility Study Report.

2 BACKGROUND

2.1 History and Need for Redevelopment

2.1.1 PolyU is one of the longest established tertiary educational institutions in Hong Kong since its inception in 1937, from its beginnings as a post-secondary technical school to becoming a full-fledged university in 1994. For over eight decades, PolyU has strived to live up to the guiding principle which reflected in the holistic education, which nurtures students to become socially responsible professionals and leaders with a strong sense of national pride and a global perspective, as well as in the passion of the scholars and scientists to address society's most pressing challenges through impactful research and embracing a strong culture of knowledge transfer and entrepreneurship.

2.1.2 Over the years, the University has made remarkable strides in education and research, as evidenced by being ranked 57th in the QS World University Rankings 2025, and five of the disciplines being ranked among the world's top 20 with four of them placing first in Hong Kong in the QS World University Rankings by Subject 2024. In light of such achievements, PolyU's new Strategic Plan encompasses enhanced Vision and Mission statements that reflect their ongoing progress and commitment to excellence. In particular, its enhanced Vision is "to be an innovation world-class university that pursues excellent in education, research and knowledge transfer for the benefit of Hong Kong, the Nation and the World.

2.1.3 PolyU embraces the initiatives announced in the 2024 Policy Address, which aim to position Hong Kong as an international hub for post-secondary education and health and medical innovation, and an international innovation and technology (I&T) centre. The University supports for the Committee on Education, Technology, and Talents, which aims to promote Hong Kong as an international hub for high-calibre talents. PolyU is dedicated to recruiting top academics and researchers and innovating its curriculum to prepare students for emerging technologies. The establishment of the Department of Data Science and Artificial Intelligence and the upcoming Faculty of Computer and Mathematical Sciences reflect this commitment. Moreover, PolyU is keen on developing / enhancing its undergraduate programme offerings to nurture professionals in areas of unmet societal needs including Architectural Studies, Intelligent Robotics Engineering, Human Nutrition and Health, Media Content and Game Design, and AI for Language Science. All these require large and specialized spaces such as design studios, laboratories and incubation hubs for interactive learning, simulation, motion-capture system, soundproof environments, high-end computing systems and etc.

2.1.4 To support the Government's initiative to promote the low-altitude economy (LAE) as a growth engine for new quality productive forces, PolyU is establishing a research centre for LAE to explore viable solutions for developing this sector in Hong Kong, supporting smart city development. Additionally, the University plans to

launch a Master of Science programme in LAE next year to nurture talent for future industrial development. These would also require larger space and volume with high headroom for simulation in support of the LAE research and technology.

2.1.5 PolyU also supports the Government's plan to increase research funding and investment in innovation and technology. The University is dedicated to pursuing world-leading research to generate significant societal impact. The PolyU Academy for Interdisciplinary Research (PAIR), which is the largest research platform of its kind in the Greater Bay Area, has been established. PAIR currently comprises 19 Research Institutes and Centres to conduct mission-driven interdisciplinary research and impactful innovation in areas of socioeconomic importance such as smart cities, carbon-neutral development, new energy development, artificial intelligence, advanced manufacturing, mental health, and deep space exploration. PAIR will be further strengthened by expanding into other cutting-edge fields such as quantum computing and cell therapy engineering.

2.1.6 The University actively participates in the Government's initiatives to bring its research innovations to the market and nurture impactful start-ups and spin-offs in partnership with leading industry players and investors. It is anticipated that there will be high demand for co-working space, makerspace and entrepreneurial hub with a vibrant ecosystem to empower start-ups and to help entrepreneurs achieve success. A collaborative platform could be created to inspire the next generation of entrepreneurs, inventors and engineers to pursue their creative passions and bring their entrepreneurial ideas to life.

2.1.7 PolyU is also the only local university to have made important contributions to the Nation's space missions, including missions to the Moon and to Mars, through the development of sophisticated technological instruments and identifying possible landing regions. Beyond space contributions, the University has developed a smart railway condition monitoring technology which has been installed in several parts of the Nation's high- speed rail network. The Smart Railway Research Laboratory, which contains the rail and train mock-up simulation, needs considerable headroom and large space.

2.1.8 Additionally, PolyU strives to play a leading role to bridge the innovative research and development in the field of aviation and aeronautical with the needs and demand of the aviation and aerospace industry. The close collaboration with the industry, together with the excellent facilities and staff expertise, enable the sustainable growth and competitiveness of our various stakeholders including students and industrial partners. The Aviation Engineering Laboratory is dedicated to teaching related demonstration for aerodynamics, propulsion, and flight control systems courses, and research and development projects on advanced UAV control, robotic technologies, and indoor navigation. The lab is equipped with flight simulator and large UAV testing area for advanced indoor navigation and robotic control

research.

2.1.9 Furthermore, PolyU encourages a blend of active engagement and in-depth educational experiences by integrating advanced educational technologies, such as generative AI, virtual/augmented reality (VR/AR) and robotics. These multimodal approaches are designed to create an immersive and stimulating educational experience. The University has pioneered the Hybrid Immersive Virtual Environment (HiVE). Renowned as the world's first large-scale fully immersive hybrid classroom, the HiVE represents a ground-breaking development in the field of educational technology. Moving forward, PolyU anticipated that there will be high demand of space for future-generation interactive classrooms, fully immersive technology platform (e.g. Cave Automatic Virtual Environment (CAVE)), as well as other advanced educational infrastructure for practical and collaborative learning. These platforms require large volume of space which will create an immersive environment to help students visualise abstract concepts and experience the limitless possibilities of the digital world. Besides, large volume of laboratories equipped with advanced robotic arms, robots, automatic guided vehicles, drones, as well as machine learning kits related to AI robotics and Industry 4.0. allow educators, students and researchers to explore various aspects of the emerging field of collaborative robotics, including application development, component fabrication, control system design, autonomous system development, and intelligent and AI algorithm design for robots.

2.1.9 The new offerings and courses at the University in research, technology, education and innovation ecosystems inevitably requires significant larger facilities and space demand. Dedicated research centres, specialized laboratories, multi-functional classrooms, innovation hubs, etc. are essential to support and ensuring the University remains competitive.

2.1.10 The University’s new courses and offerings necessitate substantial spaces for teaching, learning and research facilities in order to maintain its competitive edge. Additionally, the recent advancements and developments have led to a rapid and substantial increase in space demands, particularly in terms of area, headroom and floor loading requirements, compared to that in 2008 when the Building Height Restriction was imposed in the approved Tsim Sha Tsui Outline Zoning Plan.

2.2 Estimation and Projection of Actual Space Demand

Increase in space demand due to rapid growth and advancement in teaching, learning and research of PolyU

2.2.1 As illustrated in the aforesaid paragraphs, PolyU has made remarkable strides in researches, the funding for new research grant projects had increased tremendously, the funding in 2022/23 is around 6 times of that as in 2009/10. The increase leads to a steady increase in research postgraduate (RPg) student population which reached 2,870 in the academic year 2023/24, a 44% increase from 2021/22. And the goal of the University is to further increase of 40% gradually over the next triennium. The growth in the funding for new research grant projects also leads to a substantial increase in space requirement for research laboratories under UGC calculation. The space requirement of research laboratories alone had increased by more than 25%, at around 16,300m2 in NOFA (i.e. approximately 32,600m2 in GFA). While focusing on student population growth, the University is also committed to fostering an environment that promotes research excellence and supports the development of promising researchers. Specific high headroom spaces at around 5-6 meters floor-to-floor height are required to accommodate advanced equipment in railway, aviation, deep space technology, life science technology and robotic science, etc. to support and facilitate the relevant teaching, learning and research activities. As compared to majority of existing buildings in the main campus with a floor-to-floor height of around 3.6 to 3.8 meters at typical floors, this trend will necessitate taller buildings to accommodate[*].

Current deficiency in space provision

2.2.2 According to the space requirement calculation under UGC formula in consideration of UGC-funded activities[†], UGC advised the University that PolyU has a shortage of around 65,000m^2 in net operational floor area (NOFA), i.e. around 130,000m^2 in gross floor area (GFA) as at March 2024 for PolyU as a whole. The total space requirement at March 2024 had increased by more than 50% as compared to that estimated for 2007/08.

[*] PolyU has been trying to incorporate laboratories with floor-to-floor height of 5m or above to meet the needs for teaching, learning and research, e.g. laboratories in the Innovation Tower under Planning Application No. A/K1/218 as well as Block Z under Planning Application No. A/K1/184). Additionally, there are also a few laboratories located across the main campus, including on the podium floors of Blocks U, W and Y as well as the ground floor of the Phase 1 buildings.

[†] The UGC endorsed the adoption of a Room Use-based Approach (namely the Kaiser Formulae) to assess universities' space and accommodation needs. The space planning standards in the Kaiser Formulae are guidelines which assist both the universities and the UGC in determining the appropriate space needs of individual universities. Factors considered in the Kaiser formulae include student and staff numbers in FTE, student station size, weekly room hours, seat occupancy rate, weekly student laboratories clock hours and research expenditure etc. Details can be found in the executive summary of review of space requirements formulae and standards. *https://www.ugc.edu.hk/eng/ugc/faq/q704.html*.

Increased space demand due to projected increase in Student Number

2.2.3 The number of student and staff in full-time equivalent (FTE)*Note1 recorded in September 2023 at Hung Hom Main Campus of PolyU was around 31,500 in FTE*Note1. It is estimated that by year of 2030, the number of student and staff at PolyU Hung Hom Campus shall be around 34,650 in FTE*Note1, about 10% increase. In addition to University planned growth, The growth is resulted from University's development strategy in increasing Research Postgraduate students, as well as, government new policy to raise the enrolment ceiling of non-local students for UGC-funded taught programmes from 20% to 40% announced by UGC in December 2023. The increase shall further add to the current space demand as illustrated in para. 2.2.1.

Note 1 – 'Full-time equivalent' numbers are for counting student and staff numbers (where students may be studying or staff may be working at full-time or part-time programmes) to approximate comparable sizes of student population for technical studies and resources allocation.

Note 2 – Number of staff and student at Hung Hom Main Campus had excluded that for School of Hotel and Tourisum Management (SHTM) at Tsim Sha Tsui East.

2.2.4 To accommodate needs of expansion, the University has been actively pursuing various space injection opportunities, including searching for suitable land lot for campus extension development, redeploying existing campus premises and planning for and implementing different redevelopment projects within the campus area, etc.

2.2.5 Development at unoccupied land would involve planning applications of rezoning under S12A and/or minor relaxation of Building Height Restriction under S16, both development projects of Phase 8 and campus extension at Ho Man Tin slope had taken years for the process. Despite on-going projects such as the campus extension at Ho Man Tin slope and the preparation for Hung Hom Bay Campus redeployment, the University still faces a significant space shortage. Recent attempts to secure suitable nearby sites or vacated school premises have been unsuccessful. While the University is actively considering and preparing bidding for land resources at the UniTown in the Northern Metropolis (as announced in the Chief Executive Policy Address 2024), this process is expected to be lengthy and uncertain, which may not address current space demands.

2.2.6 Given the factors outlined in paragraph 2.2.5 above, the University has little choice but to consider further redevelopment at the Hung Hom Main Campus. The need for an additional 150,000m² of Gross Floor Area (GFA) arises from a current space shortage of 130,000m², as advised by the University Grants Committee (UGC) in March 2024. This shortfall highlights the pressing need to accommodate existing demands. Furthermore, an extra 20,000m², representing approximately a 15% buffer, is estimated to cater to future growth and demand. This includes the anticipated increase in enrolment, following the UGC's announcement in December

2023 to raise the enrolment ceiling of non-local students for UGC-funded taught programmes from 20% to 40%. These measures are essential to address the space demands outlined in paragraphs 2.2.1 to 2.2.3, while also considering environmental factors and the current campus density. This proposal is considered a more effective and readily adoptable measure under current circumstances, aiming to optimize the site's potential, alleviate the current shortage, and accommodate future growth while making the best use of valuable land resources in the urban environment. However, future space demands may exceed this estimate. Therefore, while this proposal focuses on immediate needs, other more long-term campus expansion methods, such as acquiring new land sites or developing off-site facilities, are not ruled out for addressing future demands.

2.3 The Redevelopment Hurdle

2.3.1 Li Ka Shing Tower, Shirley Chan Building, Choi Kai Yau Building and Lee Shau Kee Building were completed in the 2000s', intermingling with existing buildings. However, in 2008, the first Building Height Restriction for the area was gazetted with the aim to stop visually incompatible and out-of-context buildings subsequent to the uplift of the former Airport Height Restrictions. The Building Height Restriction applied to the main campus in Hung Hom stipulated in Remarks (1) of the "G/IC" zone in the Tsim Sha Tsui Outline Zoning Plan ("OZP") states the following,

"*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 heights in terms of … metres above Principal Datum as stipulated on the Plan* [i.e. 45mPD]*, or the height of the existing building, whichever is the greater.*"

2.3.2 Since no new buildings should be taller than 45mPD with the prevailing Building Height Restriction, which is the original building height since the 1970s, PolyU had subsequently submitted three S16 Planning Applications to the Town Planning Board for minor relaxation of Building Height Restriction (TPB Ref.: A/K1/218 in 2008 for Jockey Club Innovation Tower and A/K1/266 in 2022 for redevelopment of of Block VA and Block VS; and A/K1/268 for redevelopment of Blocks U and W.

2.4 Possible Solution

2.4.1 Optimizing the use of scarce land resources is a pressing necessity. The Hung Hom main campus of PolyU is characterized by predominantly low-rise buildings with considerable block sizes and its open courtyards and permeable zones. Reviewing and optimizing the development potential of PolyU's Main Campus, situated in a core area of Hong Kong, presents an excellent opportunity and demonstration to align with Government's promotion of the 'single site, multiple use' model. However, the current blanket building height restriction poses a significant obstacle to achieving this optimization.

2.4.2 Relaxing the Building Height Restriction from 45mPD to 90mPD across the main campus would not only address the urgent space demand but also enable the integration of sustainable design features. This would provide the University with an opportunity to enhance air ventilation, further improving the overall environmental quality of the campus and its surrounding community.

3 SITE AND PLANNING CONTEXT

3.1 Site Location and Existing Condition

3.1.1 The Subject Site is located in Hung Hom and is surrounded by Hong Chong Road in the east, Cheong Wan Road in the south, Prince Margaret Road/Chatham Road South in the west and Hung Hom Bypass/Chatham Road South in the north. The Site occupies a land area of about 88,290.9m^2 (**Figure 3.1** refers).

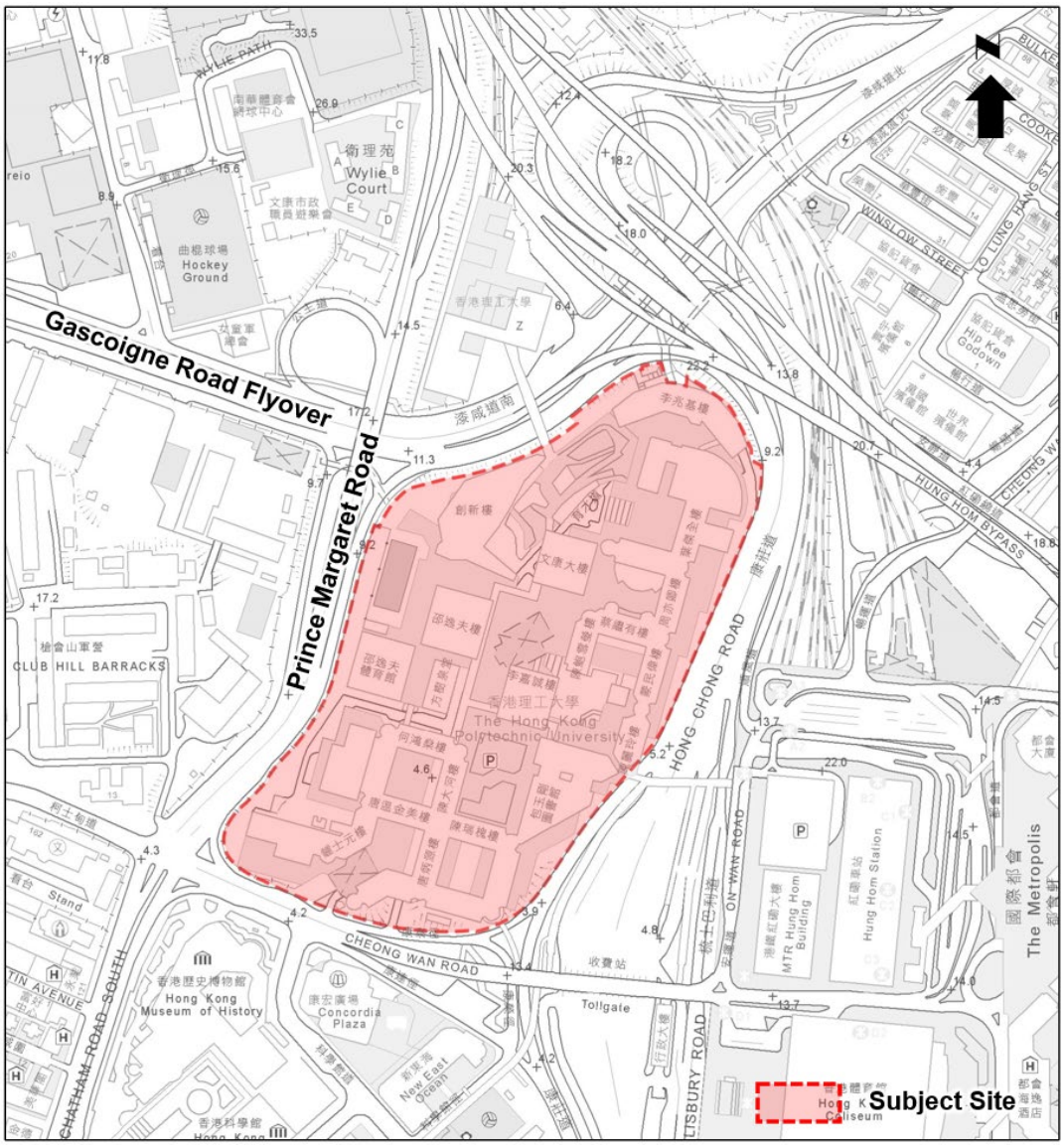


Figure 3.1 Site Location Plan

Figure 3.2 Campus Map and Site Photos

3.2 Land Lease

3.2.1 The Subject Site is registered as KIL 9853 RP & Ext. Thereto (**Figure 3.3** refers).

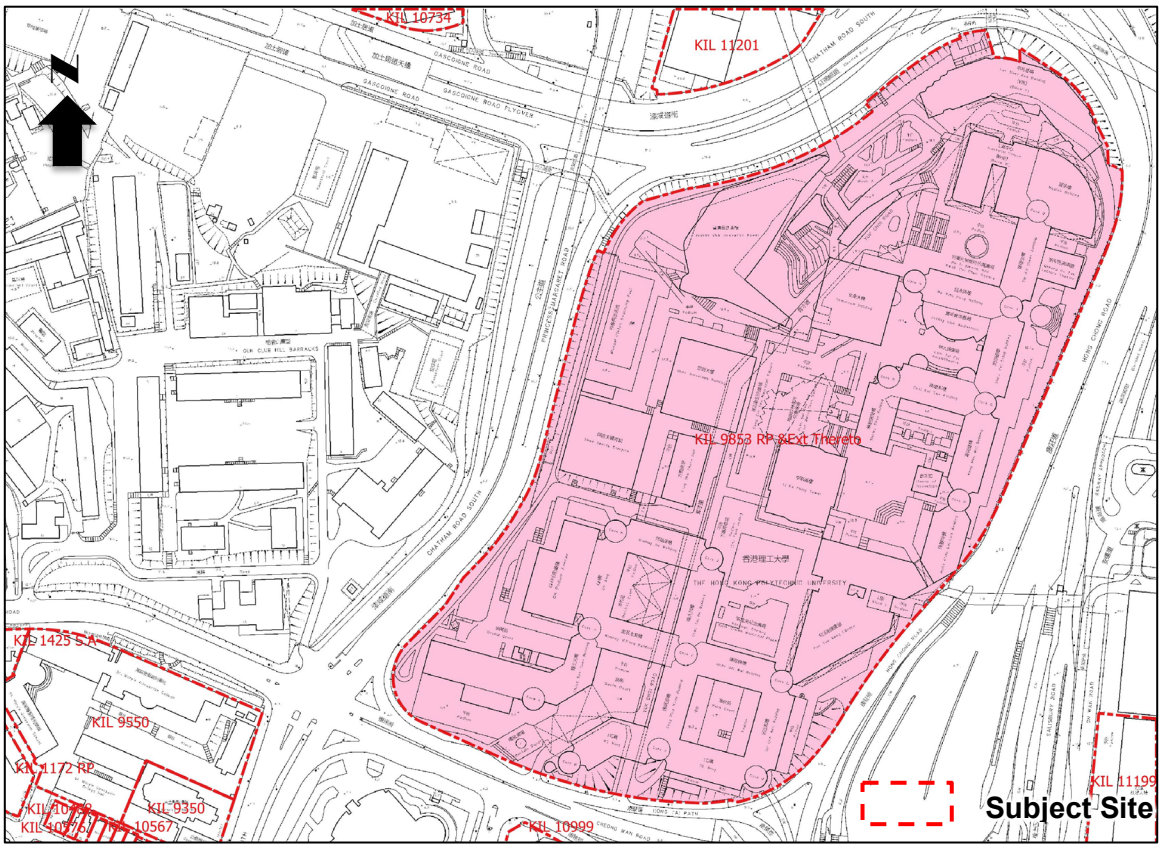


Figure 3.3 Lot Index Plan (Not to Scale)

3.3 Accessibility

3.3.1 The Site is well-served by various public transport services. MTR Hung Hom Station is located less than 300m away from the Site in the east and is connected with the main campusby a comprehensive covered walkway system. In addition to rail transport services, abundant bus and GMB services are provided along Chatham Road South and Cheong Wan Road.

3.4 Surrounding Context

3.4.1 Existing developments nearby include:

- To the north of the Site across Gascoigne Road is Block Z of PolyU which was completed in 2013.
- To the northeast across Hong Chong Road is the old urban area of Hung Hom. It is a residential neighbourhood with street level commercial activities falling within the “Residential (Group A) 4” (“R(A)4”) zone with max. BH at 80mPD.
- To the east is Hung Hom Station, which provides convenient pedestrian footbridges to the main campus of PolyU.
- To the south and southwest are Tsim Sha Tsui East and Tsim Sha Tsui, which are the major commercial and tourist nodes in Kowloon.

- To the west of the Site across Chatham Road South is Gun Club Hill Barracks.
- To the northwest across Gascoigne Road are the King's Park Sports Ground and two residential developments named Wylie Court and Parc Palais with existing BH at 88mPD and 125 – 129mPD, respectively.

3.5 Statutory Planning Context

3.5.1 Majority of the Subject Site falls within an area zoned "Government, Institution or Community" ("G/IC") on the Approved Tsim Sha Tsui Outline Zoning Plan OZP No. S/K1/28 ("Approved OZP", **Figure 3.4** refers). According to the Statutory Notes of the Approved OZP, planning intention of the "G/IC" zone is as follows,

"*This zone is intended primarily for the provision of Government, institution and 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 establishment.*"

3.5.2 Under the Approved OZP, it is stated that no new development, or addition, alteration and/or modification to or redevelopment of an existing building within the "G/IC" zone shall result in a total development and/or redevelopment in excess of a maximum building height of 45mPD or the height of the existing building, whichever is the greater. Under Remarks (3) of the "G/IC" zone, minor relaxation of the building height restriction may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

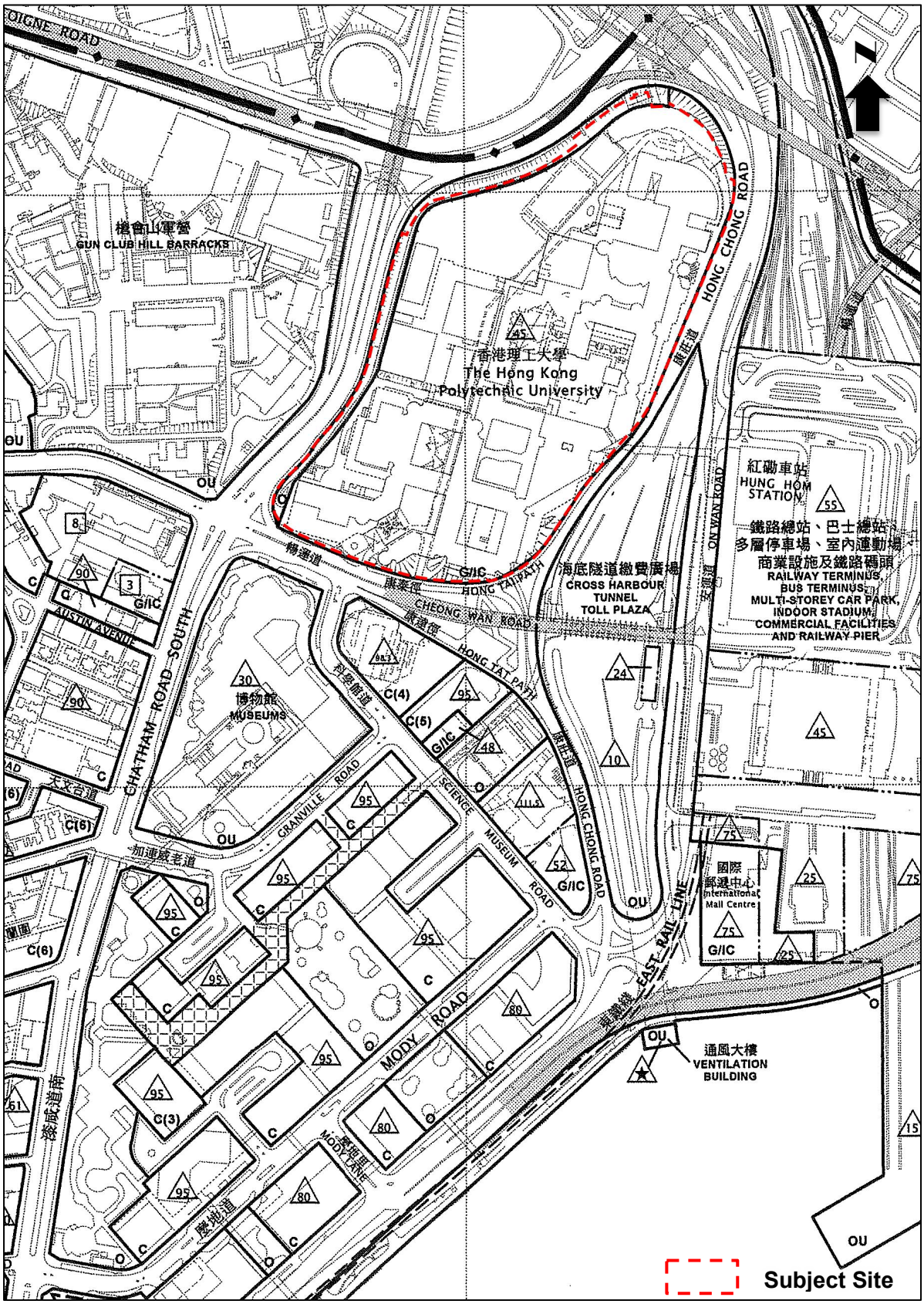


Figure 3.4 Zoning Context Plan (Scale 1:5,000)

3.6 Planning History

3.6.1 The main campus of PolyU has been stationing at Hung Hom since 1970's. Over the decades, PolyU has been expanding and upgrading accommodation within the main campus for the increasing number of our staffs and students to suit the contemporary needs. The redevelopment strategies do not only help to obtain different world-wide achievements, cater for the natural growth of PolyU and meet the community aspirations on tertiary education, it also responds to government policies, e.g. implementation of '3-3-4' education policy, policy on innovative technologies, healthcare manpower and etc.

3.6.2 Li Ka Shing Tower, Shirley Chan Building, Choi Kai Yau Building and Lee Shau Kee Building were completed in the 2000s', intermingling with existing buildings. The following are some buildings that are recently completed and to be implemented with planning approvals within the Main Campus:

Building Name	TPB Ref.	Date of Approval	Nature	Year of Completion
Jockey Club Innovation Tower	A/K1/218	19.9.2008	Relaxation of BHR from 45mPD to 63.3mPD	2013
Redevelopment of VA & VS	A/K1/266	28.10.2022	Relaxation of BHR from 45mPD to 67.5mPD	Under Detailed Design Stage
Proposed Extension and Revitalisation of Industrial Centre	A/K1/268	22/12/2023	Relaxation of BHR from 45mPD to 59.62mPD	Subject to further study / review

3.6.3 In addition to the above, PolyU has also been actively searching for land near the Main Campus within Hung Hom and Ho Man Tin to cater the campus expansion need for academic use (**Figure 3.5** refers).

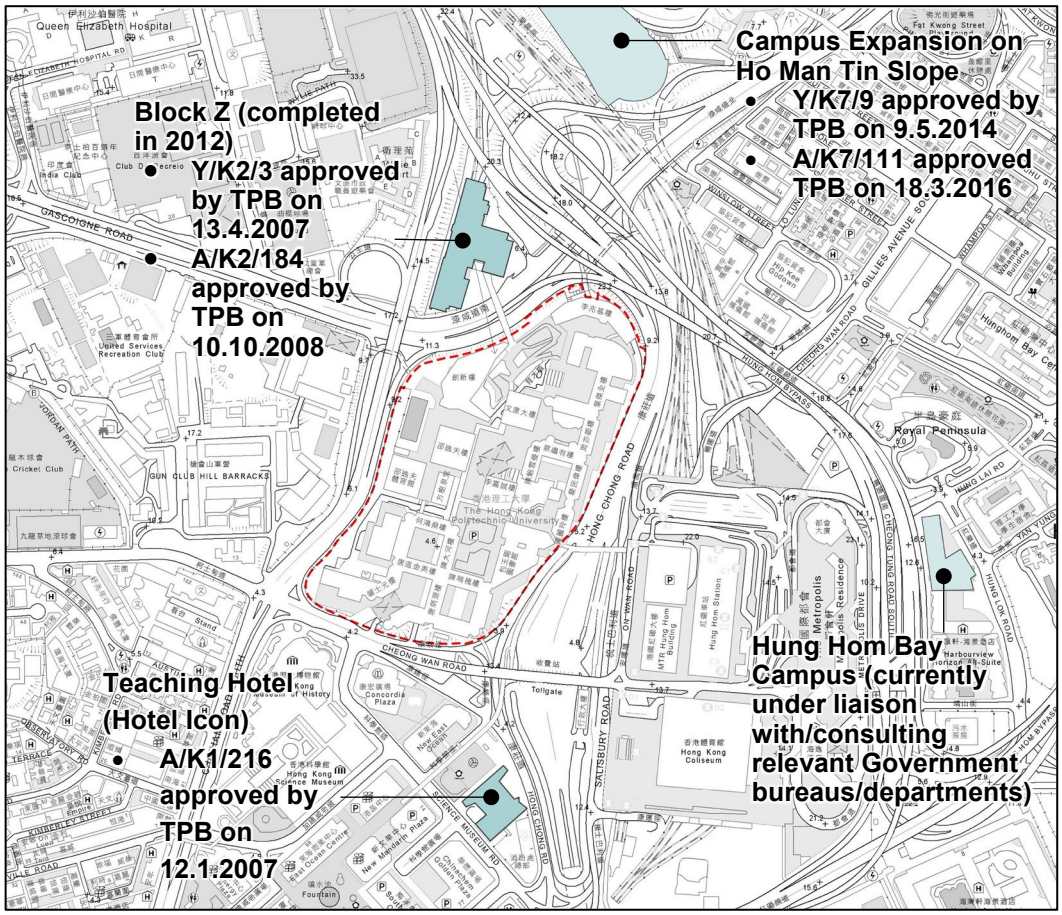


Figure 3.5 Land Near the Main Campus to Cater the Campus Expansion Need

3.6.4 The following are some academic-related building and site that are completed and to be implemented with planning approvals near the Main Campus:

Building Name	**TPB Ref.**	**Date of Approval**	**Nature**	**Year of Completion**
Block Z	Y/K2/3	13.4.2007	Rezoning from "Open Space" to "Government, Institution or Community (1)" with Building Height Restrictions of 30mPD and 60mPD in the northern and southern portion respectively	2012
	A/K2/184	10.10.2008	Proposed Educational Institution and Relaxation of Maximum GFA Restriction	
Campus Expansion on Ho Man Tin Slope	Y/K7/9	9.5.2014	Rezoning from “Open Space” to "Government, Institution or Community (2)" with various Building Height Restrictions across the site	Under construction
	A/K7/111	18.3.2016	Proposed Campus Expansion Development (including Residential Institution and Educational Institution) and Minor Relaxation of the Location and Building Height Restriction for the 25m wide Building Gap	
Teaching Hotel (Hotel Icon)	A/K1/216	12.1.2007	Hotel and Flat (Staff Quarters)	2019

3.7 Rationale of the Building Height Restriction in Tsim Sha Tsui

Explanatory Statement attached to the Approved OZP

3.7.1 According to the non-statutory Explanatory Statement ("**ES**"), the following planning and building height rationale has been adopted in the Approved OZP:

"*In order to **prevent further excessively tall or out-of-context buildings**, and to instigate control on the overall building height profile of the Area, review was undertaken to ascertain the appropriate building height restrictions for the "C", "Comprehensive Development Area" ("CDA"), "Residential (Group A)" ("R(A)"), "Residential (Group B)" ("R(B)"), **"G/IC"** and "Other Specified Uses" ("OU") zones on the Plan.*" [para. 7.1 of the ES refers]

"*The building height bands help **preserve views to the ridgelines**, **achieve a stepped height profile for visual and air permeability**, and **maintain a more intertwined relationship with the Victoria Harbour edge**.*" [para. 7.2 of the ES refers]

"*… specific building height restrictions for the "G/IC" and "OU" zones in terms of mPD and/or number of storeys, which **mainly reflect the existing and planned building heights of developments**, have been incorporated into the Plan mainly to **provide visual and spatial relief** to the Area. In general, the building height restrictions are specified in terms of mPD to provide certainty and clarity of the planning intention. However, building height control for low-rise developments, normally with a height of not more than 8 storeys, will be subject to restrictions on the number of storeys so as to allow more design flexibility, in particular for Government, institution or community (GIC) facilities with specific functional requirements, **unless such developments fall within visually more prominent locations and/or major breathing spaces**.*" [para. 7.3 of the ES refers]

Air Ventilation Perspective

3.7.2 The stipulation of BHR in 2008 was supported by an Air Ventilation Assessment by expert evaluation ("AVA-EE"). The AVA-EE assessed the likely impact of the proposed building heights of the development sites within the area on the pedestrian wind environment.

3.7.3 The Subject Site is located within Zone 1 of the study area. By the time when the assessment was carried out, the entire Zone 1 was low-rise in nature; high-rise buildings nearby such as The Metropolis Tower, The Metropolis Residence and Harbour Plaza Metropolis were not included into the Study Area since these buildings fall outside the TST OZP. In addition, a 26-storey proposed hotel at the former CTS Cargo & Logistics Centre is under construction and would form a row of high-rise buildings right outside the study boundary.

3.7.4 In addition to the control of building height, the AVA-EE also suggested that "**air paths**" are an effective tool to enhance air ventilation (**Figure 3.5** refers).

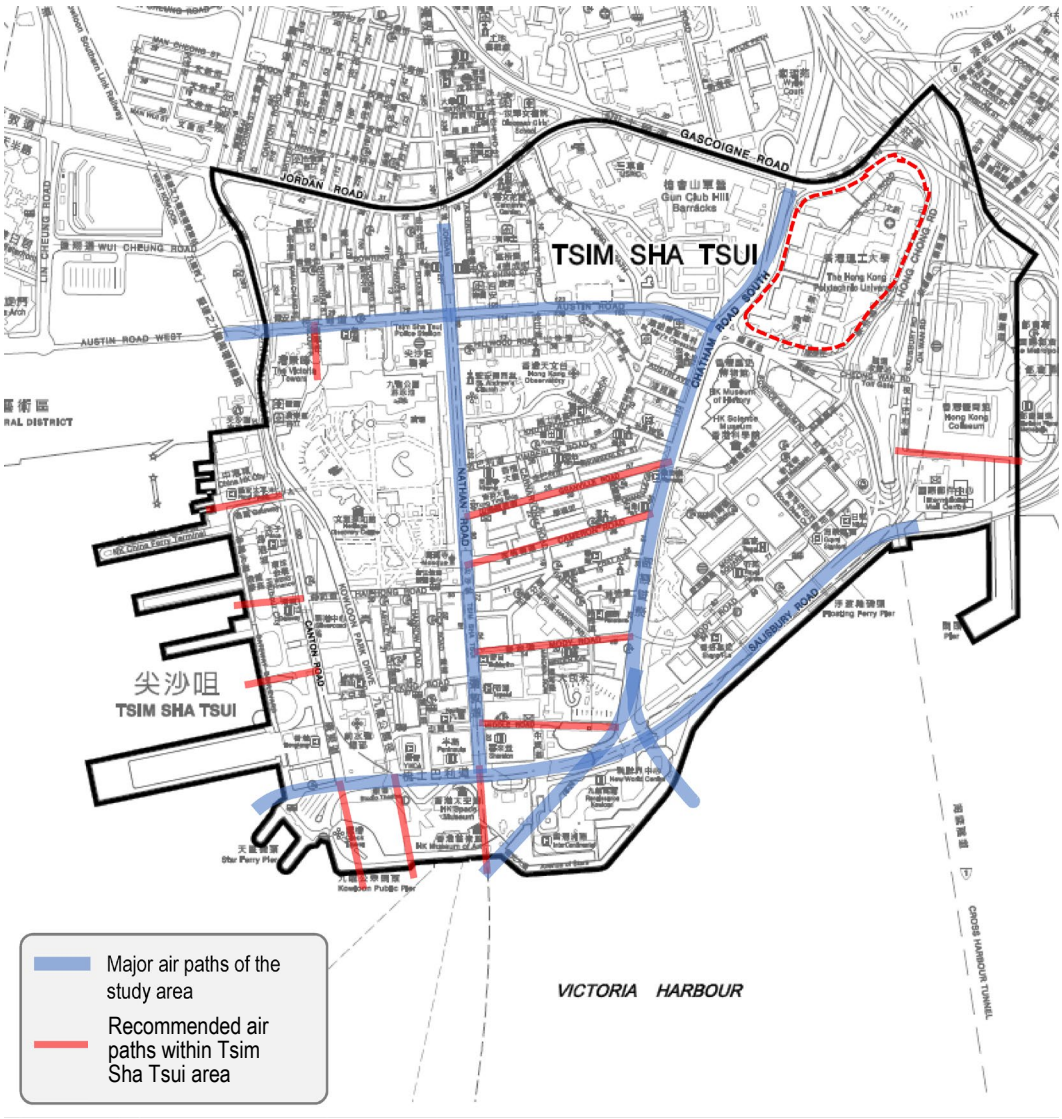


Figure 3.6 Major and Recommended Air Paths in the AVA-EE Study

4 FUTURE REDEVELOPMENT INTENT

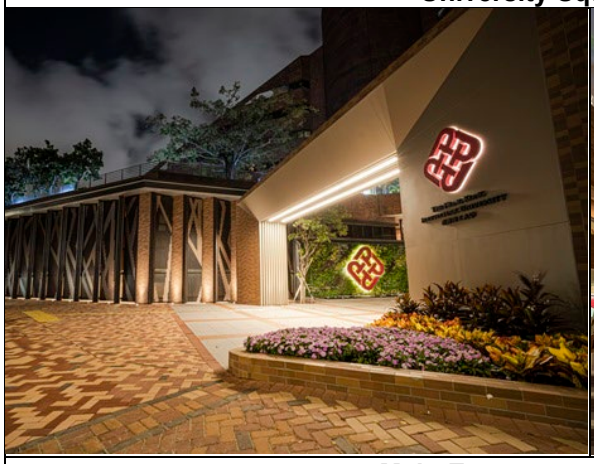
4.1 Campus Development

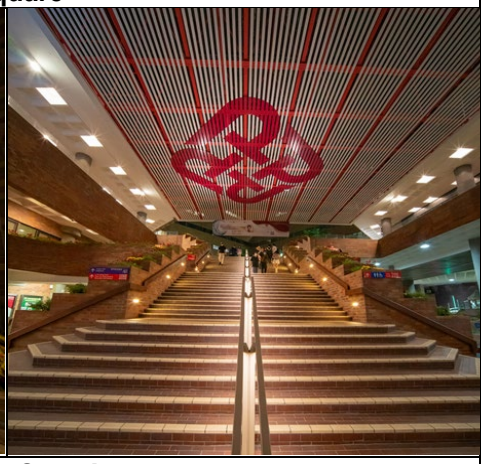
4.1.1 PolyU is one of the longest-established tertiary educational institutions in Hong Kong. As shown in the image to the right, the buildings erected when PolyU was first stationed in Hung Hom were mainly low-rise in nature. In 1994, it assumed its status as a full-fledged university and since then it strives for further development as a leading university. The current requirement of the facilities and equipment had been upgraded and the number of students had been increased significantly as compared to those these days. To meet the needs of the University, PolyU had completed and has been actively considering, preparing and implementing different development/ redevelopment schemes both within and outside the main campus around Hung Hom. The on-going projects include the campus expansion at Ho Man Tin Slope, redevelopment of Blocks VA & VS and redevelopment of House of Innovation.

4.1.2 Further to capital projects, PolyU is undertaking a series of campus development initiatives to create an environment conducive to driving its strategic development in education and research excellence. PolyU is committed to creating a green built environment, as well as a sustainable and low-carbon campus. It strives to integrate green features and innovative solutions from its research into future campus development projects upon redevelopment. Below are some examples of recent completed key revitalisation and extension projects within the main campus:

Library Revitalisation and Extension

University Square





Main Entrance at Core A

4.2 Long Established Design Principles and Merits

4.2.1 Future campus redevelopment will take into account the specific floor space and height requirements of different disciplines and actual uses, e.g. lecture theatre, laboratories, recreational facilities and etc. In general, PolyU has been trying maintain certain long established design language and measures adopted in the campus to ensure the quality of the campus environment, such as ventilated communal podium, courtyard/ open spaces near podium levels, iconic feature of the red brick wall, creative and innovative treatment to building mass, etc. It is anticipated that the spirit will be carried on in future development.

Permeable Communal Podium Deck

4.2.2 Existing buildings within the Hung Hom main campus were designed to raise one floor above the podium. This separates vehicular and pedestrian movements completely and creates a vehicular-free and safe environment for the students and staff. At the same time, there are voids and recess areas under most of the buildings to enhance permeability and create sheltered open-air spaces for different purposes, e.g. resting, social gathering, collaboration and etc. (**Figure 4.1 to 4.4** refer). Future redevelopment projects would continue to adopt this well-established key design principles and to provide open space with breathing space at human scale.

Open Spaces/ Breathing Space

4.2.3 A series of open space/ breathing spaces had been incorporated in the existing campus design between buildings, especially in areas close to tall buildings (**Figure 4.5a** refer). These open spaces enhance the campus environment and become landmarks of the University campus for the community enjoyment. This key design feature becomes an essence to the University campus, and the rationale will be inherited in future campus planning and redevelopment projects.

Signature Red Brick Architectural Style

4.2.4 The red brick architectural style is a defining feature of PolyU's main campus, symbolizing its identity, heritage, and long-standing academic tradition. This distinct design language has been consistently applied across the campus and will remain a key consideration in future redevelopment projects to maintain architectural and visual continuity.

4.2.5 While signature red brick structures will be preserved wherever possible, new buildings will adopt red brick façades or design accents where practicable. This approach will ensure alignment with existing campus environment while incorporating contemporary materials that support modern, sustainable building technologies.

4.2.6 By embracing and modernizing the red brick architectural style, PolyU aims to strike a balance between preserving its historical legacy and fostering innovative, future-oriented campus development. This approach will reinforce the University's unique

architectural identity while creating an inspiring and progressive academic environment (**Figure 4.5b** refers).

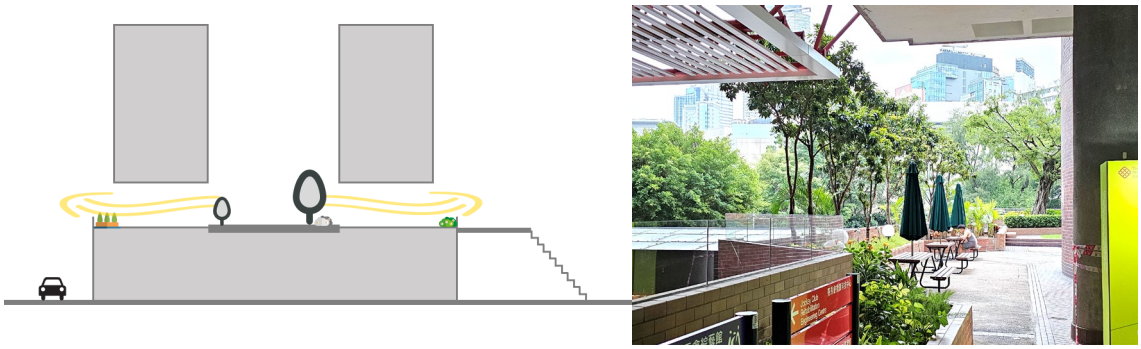


Figure 4.1 Ventilated podium with greenery for leisure activities

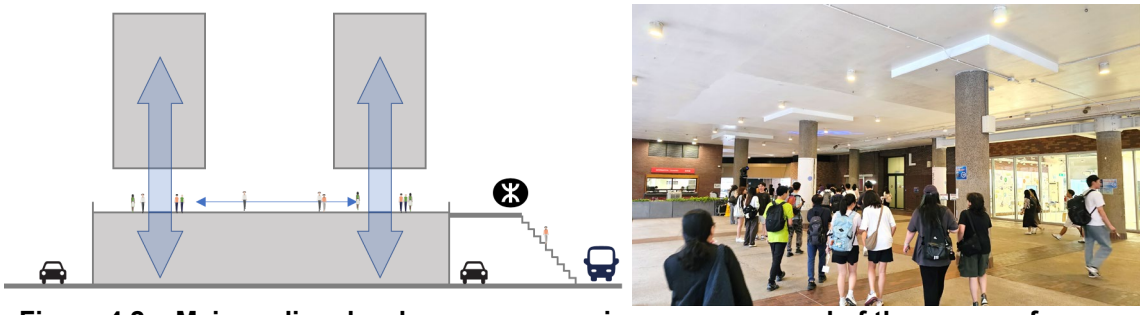


Figure 4.2 Main podium level serves as a major access ground of the campus free from vehicular traffic

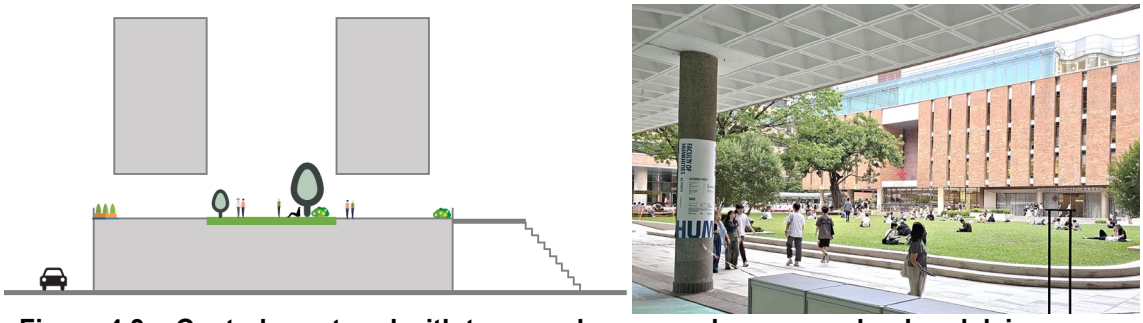


Figure 4.3 Central courtyard with trees and greenery becomes a landmark leisure space in the campus for community's enjoyment

Figure 4.4 Sheltered open-air areas could also serve for different types of activities

Figure 4.5a Open / Breathing Spaces for Enjoyment

Figure 4.5b Red Brick Design

4.3 Design Intent

4.3.1 From a wider planning perspective, PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. This approach respects the surrounding height profile and allows for a blend of different building scales across the site, which aligns with the university's desire for a visually dynamic and contextually sensitive campus.

The existing building height, building ages and site context of the University was reviewed as shown in **Figure 4.6** at following page.

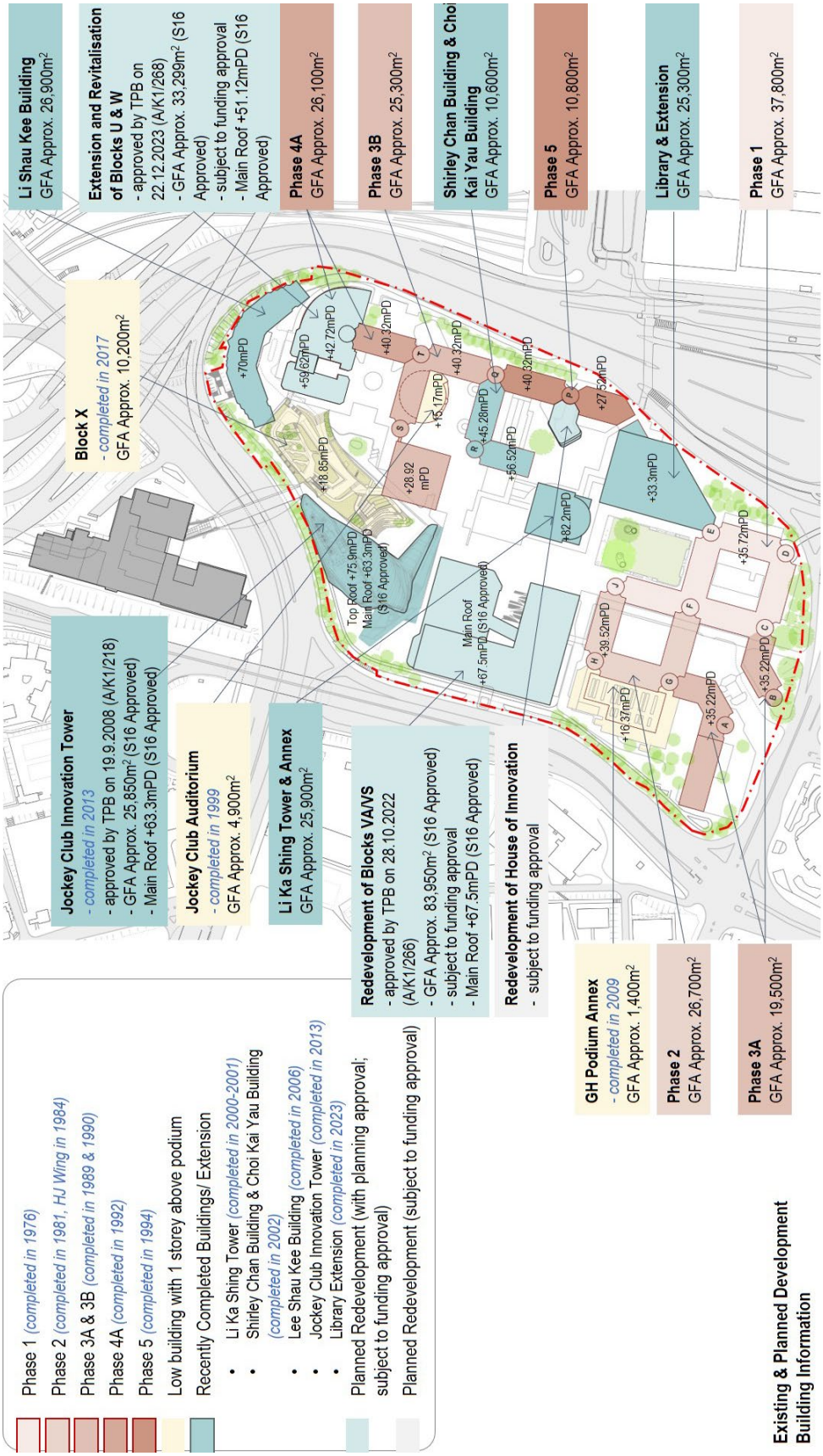


Figure 4.6 Existing and Planned Development Building Information

4.3.2 Upon review, the campus is conceptually divided into low, medium, and possible high zones, with stepping heights flowing from the central axis down to the entrance areas:

- **Low Zone**: These areas mark the main entrances to the campus at Core A and Core P, featuring an open and welcoming design with newly renovated/built main entrances and a library extension.

Main Entrance at Core A

Library Extension from Toll Plaza

- **Medium Zone**: Relatively new and symbolic architectural buildings, such as the Jockey Club Innovation Tower and the planned redevelopment of Blocks VA and VS, will be retained for their modern features and architectural significance. An additional medium zone is proposed on the Eastern side next to the entrance, creating a gradual stepping height that bridges the high and low zones.
- **Possible High Zone**: Taller buildings may be selectively introduced within this area to enhance, rather than dominate, the campus skyline. Building heights will be designed to respond to main access points, including the MTR Hung Hom Station and the future new entrance at Chatham Road South. The existing Li Ka Shing Tower and Lee Shau Kee Building are also located in this zone.
- To maintain openness and foster community interaction, open-air breathing spaces such as lawns, gardens, or plazas will be introduced between high buildings, in addition to the green spine along the western edge of the campus. These spaces, together with the existing gaps between the podium and building blocks and open voids within buildings upon redevelopment, will further allow air ventilation and visual permeability across the entire campus.

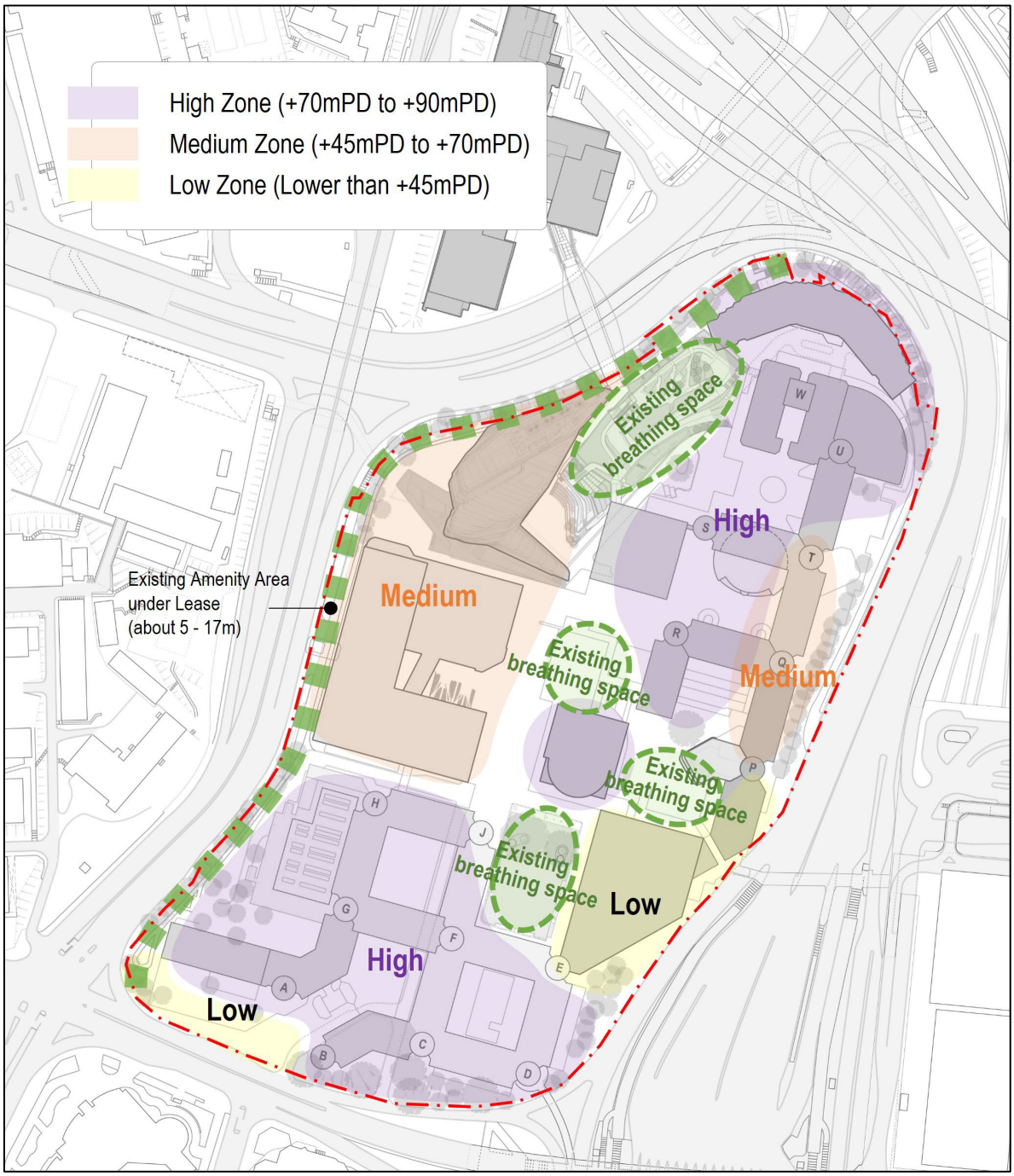


Figure 4.7 Design Concept Diagram

4.3.3 The relaxed building height restriction offers flexibility for future projects to adopt innovative designs with varied heights, fostering architectural diversity and adaptability. This will support sustainable growth without overwhelming the campus environment.

4.3.4 In light of this, PolyU suggests relaxing the Building Height Restriction from 45mPD to 90mPD across the main campus, as illustrated in **Figure 4.7**.

4.4 Implementation Programme

4.4.1 The purpose of this TFS is to confirm the technical feasibility of the future redevelopment upon a relaxed building height from a max. 45mPD to 90mPD for the main campus.

Figure 4.8 Varied Building Height Profile (Indicative)

4.4.2 For any future redevelopment projects, the University will submit capital works project proposal under the annual UGC Capital Programme for seeking funding from the Government. In considering the capital proposals of the universities, UGC will consider the merits of the proposals from the education policy perspectives while Architectural Services Department (ArchSD) will act as the Technical Adviser to UGC in respect of the acceptability of the proposal. The capital proposal will be processed under the prescribed mechanism outlined in UGC Notes on Procedures. During the process, Project Definition Statement and Technical Feasibility Statement should be submitted for approval by Education Bureau (EDB) and Development Bureau (DEVB) in accordance with the requirements as set out in the relevant Financial Circular issued by the Government. The Project Definition Statement serves to provide justification and define the scope of each proposed capital works project. On the other hand, the Technical Feasibility Statement, which should be compiled in accordance with the checklist issued by the Technical Advisor, serves to confirm the technical feasibility of each proposed project on a prima facie basis. As stipulated in the related Financial Circular, advice from various Government Departments such as Lands Department, Geotechnical Engineering Office, Government Property Agency, Environmental Protection Department, Antiquities and Monuments Office, Transport Department shall be sought.

4.4.3 In view of the above, there will be relevant procedures to safeguard the suitability of the design on future development of the University.

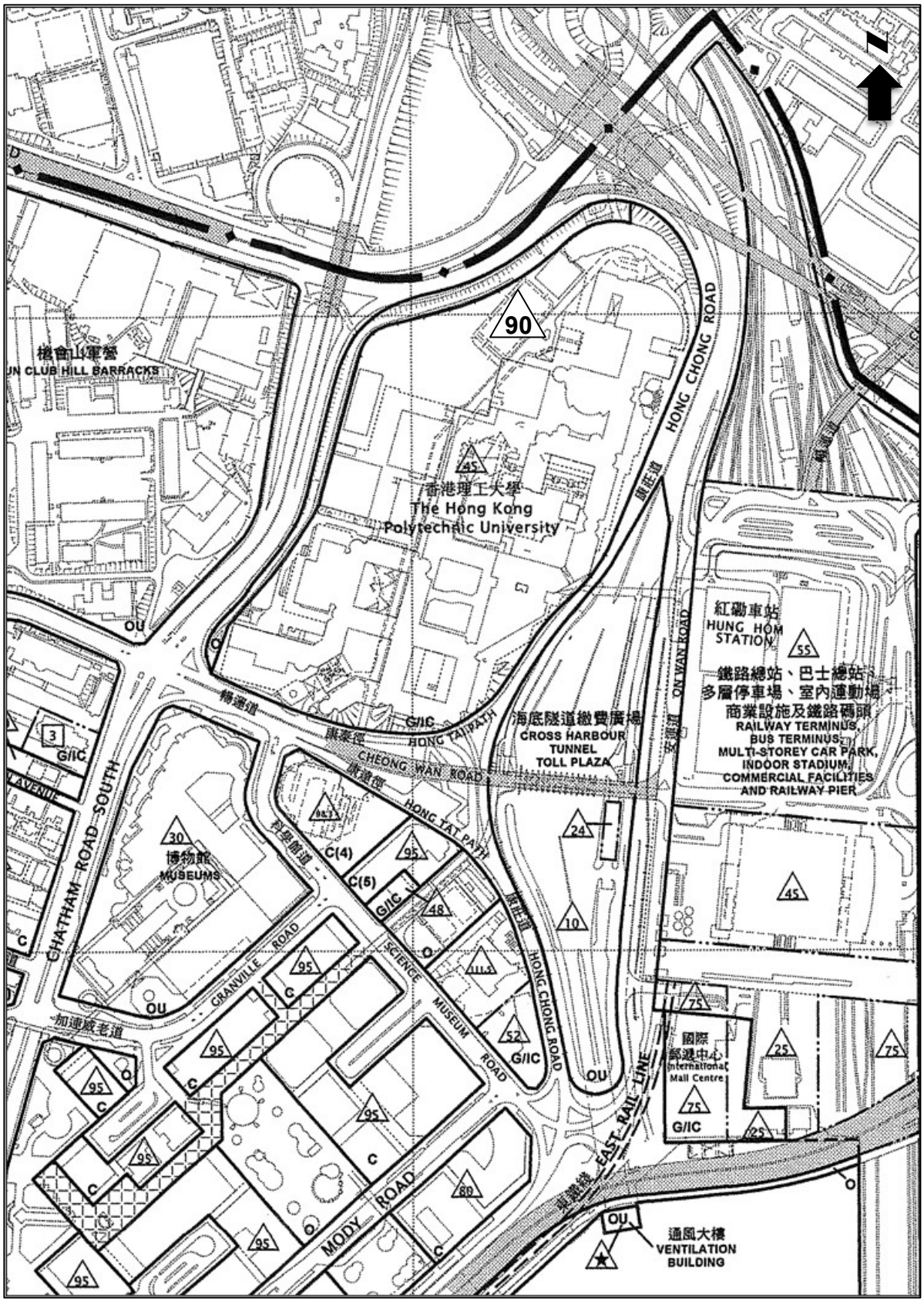


Figure 4.9 Proposed Amendment to the Approved Tsim Sha Tsui OZP No. S/K1/28

5 PLANNING JUSTIFICATIONS

5.1 Need for the Redevelopment to Meet Current Space Demand and Accommodate Future Growth

5.1.1 Established in 1937, The Hong Kong Polytechnic University (PolyU) is one of Hong Kong's oldest tertiary institutions, becoming a full university in 1994. Over the years, the University has made remarkable strides in education and research. The University is facing critical challenges of space shortage resulting from the growth and advancement as illustrated in section 2 above.

5.1.2 Despite University's efforts to secure additional spaces by different means, obstacles and uncertainties are encountered, which highlights the need for more readily adoptable and effective measures. While long-term solutions are being explored, redevelopment within Hung Hom main campus and optimizing land use is found to be the unavoidable solution to address the demand at this stage.

5.2 Existing Buildings Cannot Meet the Contemporary Advancement

5.2.1 The prevailing building height restriction of 45mPD caps the main campus in its 1970s. These existing mid-rise buildings at about 45mPD serves the era when The Hong Kong Polytechnic was established, with a mandate to provide professional education to meet the community's manpower needs. Operational needs, building services requirements and users' expectations were abruptly different from those these days. For example, a less than 3m headroom could accommodate all the needs back then; yet this can never be able to accommodate the robotic instruments these days. The advancement in fields of study, research, academic ranking as well as number of staff and students require, all require to be supported by a modernised campus with sufficient floor space for academic, research, experimental and collaboration uses.

5.3 The Proposed Building Height Restriction Respects the Building Height Profile of the Area

5.3.1 The main campus of PolyU is located at the fringe of Hung Hom near Tsim Sha Tsui. Due to the former Airport Height Restrictions, existing buildings are generally low to medium-rise in nature. Subsequent to the uplift of the former Airport Height Restrictions, taller buildings emerged in Hung Hom as well as Tsim Sha Tsui East. **Figure 5.1** illustrates the building height profile of the area.

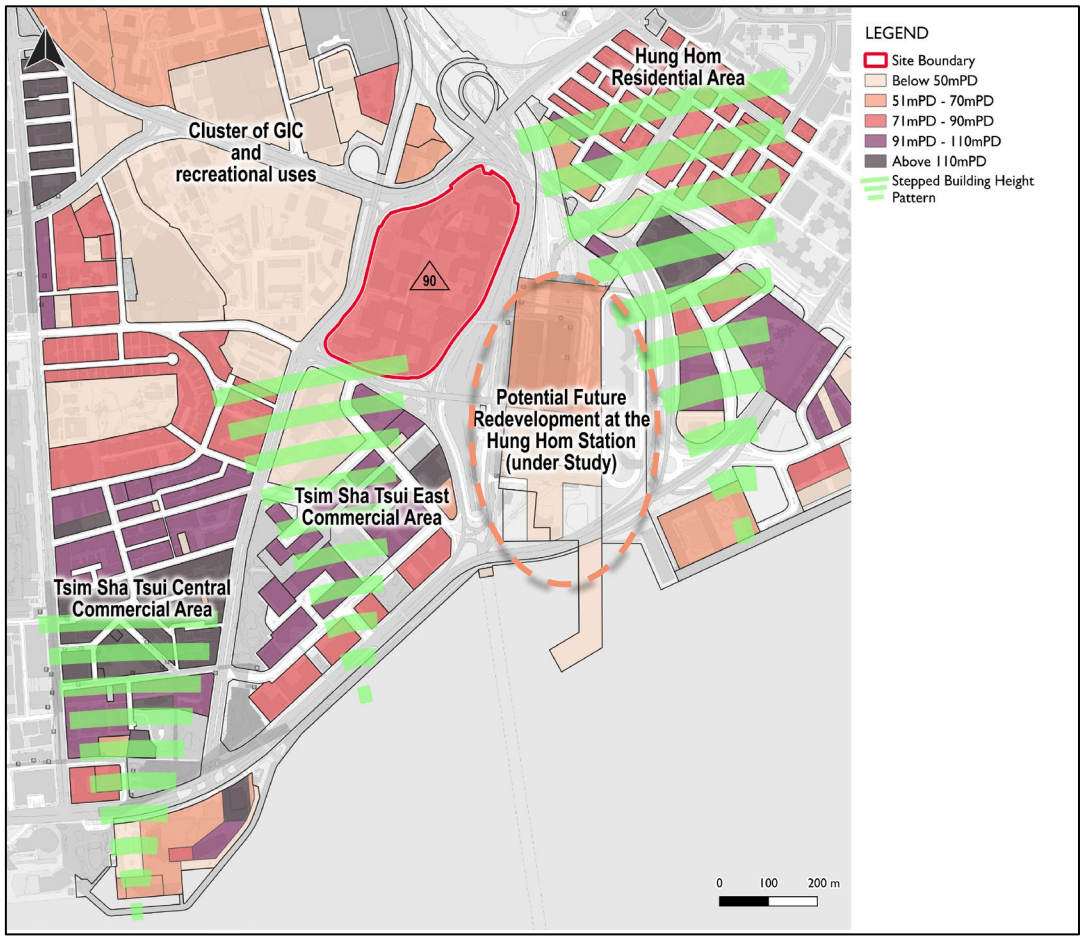


Figure 5.1 Building Height Profile of the Area

5.3.2 The proposed maximum building height of 90mPD and together with the potential future redevelopment at the Hung Hom Station under study would form part of the second tier of the planned building height profile of the area. The first tier remains the relatively lower building heights (to a max. of 80mPD in Tsim Sha Tsui East) along the waterfront. Then, the second tier includes the sites away from the waterfront (including the main campus of PolyU), which reaches to a maximum of 90mPD.

5.3.3 Nonetheless, the proposed maximum building height would not draw away the attention towards Tsim Sha Tsui, which has a group of tall buildings to signify the status of being the major commercial area on the Kowloon Peninsula. The building height profile generally follows the existing stepped height profile, which decends from the inland area towards the waterfront; and from the heart of Tsim Sha Tsui in the south (from 110mPD to 130mPD) towards Hillwood Road (to a max. of 90mPD).

5.4 Strike a Balance between Utilisation of Scarce Land Resources and Green Design

5.4.1 The Government has been trying to make best use of the scarce land resources by reviewing the land uses, increasing development intensity where appropriate, adopting the 'single site, multiple use' model and etc. Being located at the urban core area, PolyU has been trying to exhaust every method to expand their campus to meet the ever-growing demand on teaching floor space and the upgrading of the aging facilities. Despite the tremendous site constraints and challenges at the isolated site (Block Z) and the sloping site (Ho Man Tin Slope), PolyU is willing to take up these sites near the main campus for expansion. Yet, with limited land resources, PolyU has to seriously consider redeveloping their existing buildings within the main campus.

5.4.2 With a maximum height of 45mPD, upon redevelopment, new buildings will need to have a maximised footprint/site coverage in order to accommodate the required GFA/NOFA. This can only be achieved at the expense of the provision of open and green spaces. On the contrary, if buildings can go taller under a more lenient Building Height Restriction, new buildings can be more slender and able to free up more permeable space and free zone for green design as well as students and staff to enjoy.

5.5 A Relaxed Height Allows for Architectural Design Opportunity for Green Buildings

5.5.1 PolyU acknowledges the good intentions of the BOARD in promoting visual permeability and wind penetration and circulation to the whole of Tsim Sha Tsui (para. 7.2 of the ES attached to the Draft OZP refers). However, this severely suppresses the architectural design opportunity for innovative and green buildings.

5.5.2 According to the PolyU Annual Report 2021/22, PolyU is carrying out five redevelopment/expansion projects within the main campus in Hung Hom and two new developments outside the main campus. Out of the five redevelopment/expansion projects within the main campus, four of them only involve renovation, re-organisation of existing accommodation and addition of one storey above the existing buildings (e.g. library [completed] and P Wing). These are all done without exceeding the prevailing Building Height Restriction of 45mPD. However, these addition and alterations to the existing buildings are limiting PolyU to achieve the green and sustainable building standards, not to mention that the addition in teaching floor space is trivial as compared to the actual need and demand.

5.5.3 Redevelopment of Blocks VA and VS is the only project that involves redevelopment of existing buildings and it also involves seeking a 50% relaxation of BHR. This project adopts the 'single site, multiple use' model, redeveloping and upgrading

existing recreational and supporting facilities and providing additional teaching floor space within the same site. This project showcases PolyU's determination to creating a green built environment. The new academic complex will incorporate innovative and green designs to create a healthy and sustainable teaching and learning environment, and most importantly, to achieve carbon neutrality.

5.5.4 The above demonstrates the limitations that PolyU encounters within the existing Building Height Restriction at 45mPD max. and the opportunity that relaxing the Building Height Restriction provides. PolyU can barely fulfill its needs on campus expansion within the existing Building Height Restriction, let alone accommodating innovative and green design features within the development scheme.

5.6 A Relaxed Height is More Likely to Result in Buildings that Conform to the Urban Design Guidelines of the Hong Kong Planning Standards and Guidelines

5.6.1 The current Building Height Restriction (across the entire site at 45mPD) in respect of the main campus will make it fail to achieve the positive results expected from the Urban Design Guidelines as per Chapter 11 of the Hong Kong Planning Standards and Guidelines ("HKPSG").

5.6.2 Section 11.3.5 of the Urban Design Guidelines states that "***adequately wide gaps should be provided between building blocks to maximise the air permeability of the development and minimise its impact on wind capturing potential of adjacent developments***" (**Figure 5.2** refers). Taking into account the Building Height Restriction at 45mPD and need for maximum site coverage to accommodate the necessary teaching floor space, incorporating wider and lenient building gaps for enhancing air permeability would be very difficult.

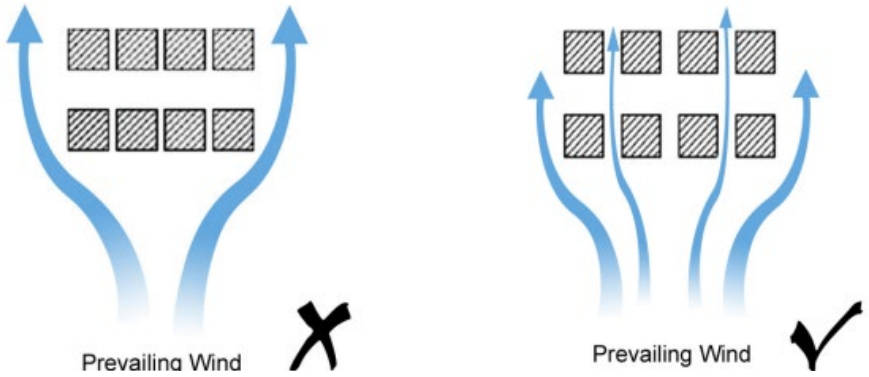


Figure 5.2 Gaps Between Building Blocks to Enhance Air Permeability (Extracted from HKPSG)

5.7 There are Good Precedents with Well Justified Design Merits that PolyU Delivered with a Relaxed Building Height

5.7.1 A restrictive Building Height Restriction will result in a constricted environment with the "super-box" design giving rise to a wall effect and monolithic appearance with no opportunity for open space and landscaping at lower levels. It also limits the room for green and innovative design to meet with public aspirations. The restrictive lower building height means a higher site coverage for the new buildings and consequently a lack of space for, inter alia, recreational and amenity areas, new tree planting and setbacks at lower levels. The following demonstrate what PolyU has been doing with the benefit of a relaxed Building Height Restriction.

5.7.2 Jockey Club Innovation Tower ("JCIT", **Figure 5.3** refers), which was constructed in compliance with the approved development scheme under S16 Planning Application No. A/K1/218, exhibits the determination of PolyU in creating a green built environment, as well as a sustainable and low-carbon campus. JCIT obtained the following awards/accreditations:

- Autodesk Hong Kon BIM Award (2011)
- Commendation Merit, Structural Excellence Awards Hong Kong – Hong Kong Projects (2014)
- Finalist, CTBUH 2014 Best Tall Building Awards – Asia & Australasia Region (2014)
- Iconic Award – Architecture (2014)
- RIBA Award for International Excellence (2016)
- Gold, Hong Kong BEAM Eco Building – New Building (2018)

Figure 5.3 JCIT Building

5.7.3 In terms of design, JCIT contains a dynamic yet fluid built form, substantially different from the traditional and vertical building design. The fluid character of JCIT composes of landscape, floor plates and louvers that dissolve the classic typology of the tower and the podium into an iconic seamless piece that is visible from both within and outside of the main campus. There are also voids within the building to bring in natural daylight, fresh air and the sense of continuity of space. Not least, the open air greening space further enhances the environment. Without a relaxation of Building Height Restriction, it is doubtful that if there will be much room to provide all the design merits mentioned above.

5.7.4 Although PolyU sought approval from TPB for a relaxation in Building Height Restriction, only a small portion of the JCIT building reaches the maximum height of 63.3mPD. The building adopts a stepping/staggering building height profile that echoes with its innovation and iconic design.

5.7.5 The redevelopment of Blocks VA and VS showcases PolyU's enthusiasm in delivering another better building upon redevelopment, again, with a relaxed building height control. The design concept of creating permeable zones at the middle of the site and the intention to respond to the building heights of the adjacent buildings result in the idea of cutting and staggering as shown in **Figure 6.3** below. This enables the proposed building height that stepping up at various different levels. The roof surfaces resulting from the staggering also creates greening opportunities at multi-levels at the same time (**Figure 5.4** refers).

5.7.6 Without a relaxation of Building Height Restriction, it is easy to imagine that the design process will simply stop at the scratch line resulting in a massive and monotonous super box to accommodate the necessary teaching floorspace.

5.7.7 Building layout and design of the future buildings upon redevelopment of the existing buildings would take into account the abovementioned design merits with an aim to deliver a sustainable and pleasant environment for the students. These design measures include, but not limited to, stepped/staggered height profile with the tallest building at the central part of the site; building setbacks along Chatham Road South and Cheong Wan Road; permeable zones with open space between the podium and building blocks; and retention of the existing open space.

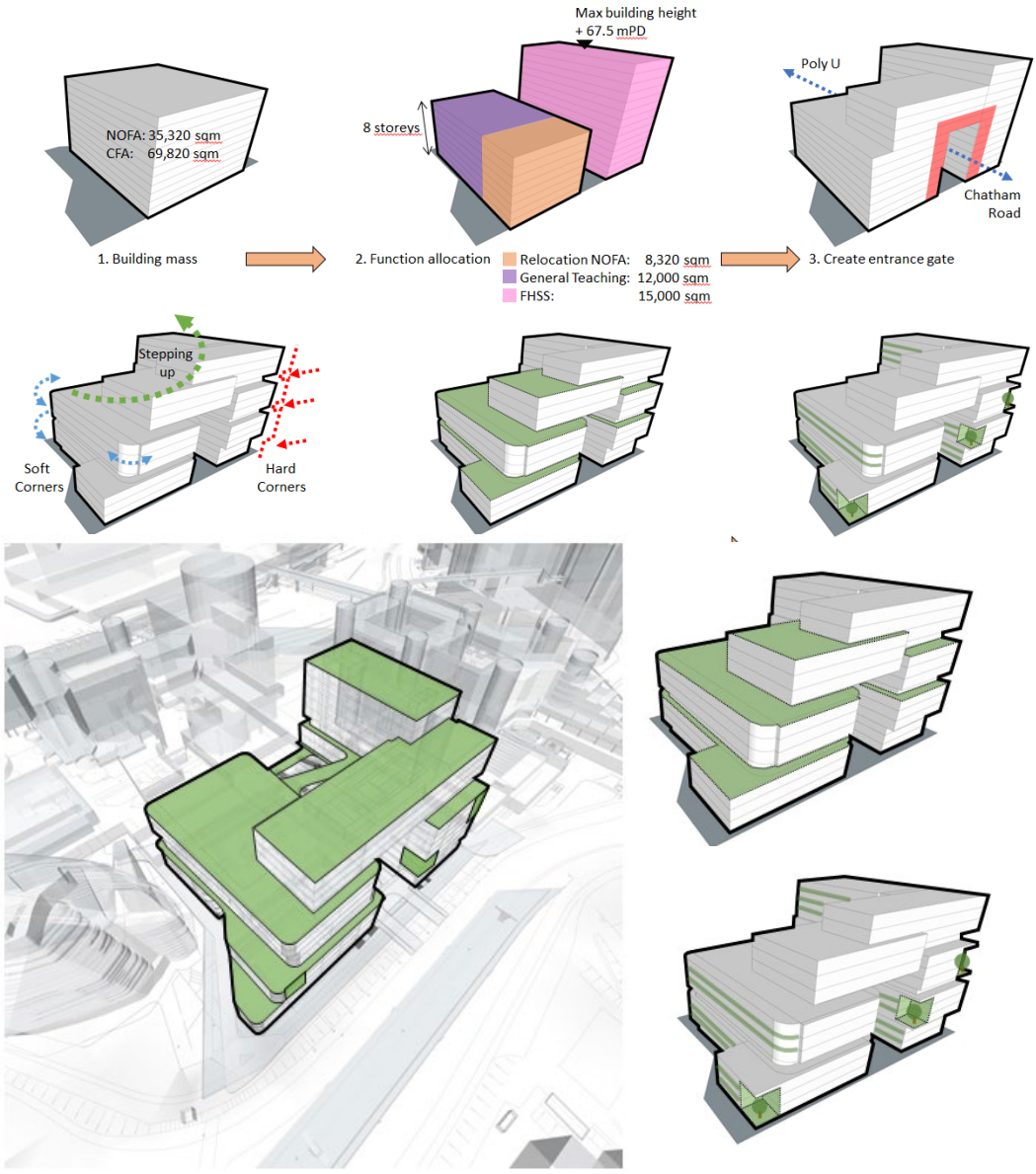


Figure 5.4 Design Merits of the Proposed Redevelopment of Blocks VA & VS

5.8 Summary of Findings in Technical Assessments

5.8.1 The following technical assessments have reviewed the potential impacts of the anticipated redevelopments of buildings within the main campus in Hung Hom, with the following prescribed assumptions (i) future redevelopments would introduce an additional 150,000sqm GFA and (ii) total number of staff and student upon redevelopments within the main campus would be about 34,000 persons.

Visual

5.8.2 The Visual Impact Assessment in **Appendix** I assesses the visual impact to the Visually Sensitive Receivers ("VSRs") with reference to the "*Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to TPB*" ("TPB PG-No. 41"). This VIA is conducted by comparing the proposed "Potential Redevelopment" (with all buildings, except the recently redeveloped/modified buildings, to the absolute maximum BH of 90mPD) with the existing condition. Please note that, as stated in para. 4.3.1, PolyU has no intention to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile.

5.8.3 A total of seven VPs have been selected for assessment on the visual impact upon the proposed relaxation in Building Height Restriction, including:

Viewpoint 1 – Kowloon Park
Viewpoint 2 – Wylie Path outside the King's Park Sports Association
Viewpoint 3 – Chung Yee Street Garden
Viewpoint 4 – Bus Terminal at Hung Hom Station
Viewpoint 5 – Open Area of the Hong Kong Coliseum
Viewpoint 6 – Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road
Viewpoint 7 – Hong Kong Convention & Exhibition Centre

5.8.4 VP1 and VP7 captured the view towards the high-rise and dense urban townscape on Kowloon Peninsula. Existing developments obstructed the view towards the Potential Redevelopment completely when viewing from VP1, thus the visual impact on the Potential Redevelopment with the proposed maximum building height of +90mPD would be negligible from the viewpoint. For VP7, the proposed maximum height restriction of +90mPD would not appear out-of-context with the development profile in Kowloon Peninsula. Instead, the Potential Redevelopment may blend into the existing rhythmic skyline of the Kowloon Peninsula with the cohesive visual setting to the medium- to high-rise developments in the Tsim Sha Tsui and Hung Hom. The proposed maximum building height restriction of +90mPD restriction would not be detrimental to the condition in VP7.

5.8.5 VP2 and VP3 are selected as the mid-range viewpoints which provide an overall view of the main campus from the north. The prominent visual resources in these

VP are the typical urban fabric found in the backdrop and the openness provided by the opened sports grounds at the foreground. The peripheral planting of these sports ground screened off the view towards the lower portion of the buildings in the main campus. Although the visual openness is inevitably affected by the Potential Redevelopment, sensitive design measures in Potential Redevelopment may help alleviate the visual impact when viewing from these VPs.

5.8.6 VP4, VP5 and VP6 are selected as close-up viewpoints. Given the distance to height ratio, the building masses would become a lot more prominent. It is inevitable that the Potential Redevelopment will create visual obstruction to the open sky view due to the close distance from the viewpoints to the Site. Incorporation of staggered height profile, building setbacks, building gaps, permeable zones and other green and innovative designs will help break down the building masses and alleviate the visual impact of the Potential Redevelopment.

5.8.7 In view of the above, it is considered that the Potential Redevelopment with the proposed maximum building height restriction of up to 90mPD should not cause any unacceptable visual impact given the sensitive design measures are in place. It is demonstrated that the overall visual impact for the Potential Redevelopment will be Negligible to Moderately to Significantly Adverse. In fact, a more lenient building height restriction will help enhance the spatial flexibility thus allowing more room for creative and innovative designs as mentioned in Chapter 4 above. Most importantly, as stated in para. 4.3.1, it is not the intention of PolyU to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile; thus the anticipated visual impact should be less intense than those presented in the photomontages.

Air Ventilation

5.8.8 According to the wind availability data from Hong Kong Observatory Station from 1991 – 2020, the annual wind rose revealed winds flowing from the east, west and east-northeast directions (i.e. E, W, ENE) throughout the year. The wind data from June to August is adopted as the summer prevailing wind, where predominant summer winds are flowing from the east, west and west-southwest directions (i.e. E, W, WSW).

5.8.9 The Air Ventilation Assessment – Expert Evaluation (“AVA-EE”) in **Appendix II** has reviewed the district-level detailed Air Ventilation Assessment (“AVA”) for Tsim Sha Tsui and Yam Ma Tei. The district-wide AVA concluded the importance of introducing air paths, width of roads and building permeability to the air ventilation in the denser part of the districts, which are considered as a more effective way to improve the air ventilation performance at pedestrian level in the districts.

5.8.10 The AVA-EE is conducted by comparing the proposed redevelopment against the existing condition. The prevailing winds generally skim over the Site and penetrate to the major air paths including Cheong Wan Road, Chatham Road South and Gascoigne Road towards the downwind area under the existing condition. Despite the increase in building height restriction for the proposed redevelopment, the width and orientation of the surrounding streets will be maintained which act as air paths for the prevailing winds and the permeable zone and building setback in the existing condition will also be maintained in the future.

5.8.11 By maintaining building setbacks from Chatham Road South, air flow along the existing air paths at Gascoigne Road, Chatham Road South and Cheong Wan Road would be maintained. Provision of the permeable zone design would also allow air flow across the future redevelopment.

5.8.12 In order to minimise the impact of air ventilation to the surrounding neighbourhoods, PolyU will maintain the wind performance by good design approach on buildings height layout and block design within the Proposed Redevelopment as well as maintaining the existing air paths to facilitate air flow towards the downwind areas. Design mechanisms such as building permeability, building separation, stepping building height profile will be applied to ensure good design approaches will be implemented to facilitate the air flow. After all, the Proposed Redevelopment would not generate significant adverse impact to the surrounding pedestrian wind environment. Please refer to **Appendix II** for details.

Sewerage

5.8.13 Existing sewage discharge from different catchment areas within the main campus is channelled into different sewerage systems along Chatham Road South, Hong Chong Road, and Hong Tai Path. Upon redevelopment, the sewage discharged from the main campus would be channeled into sewerage systems along Chatham Road South, subject to the redevelopment schedule. The sewage discharged from the corresponding catchment areas will then be conveyed to To Kwa Wan Preliminary Treatment Works and discharged to Stonecutter Island Sewage Treatment Works (SCISTW) for further treatment and ultimate disposal. Population and sewage flow and occupancy rate of concerned foul sewers under the Proposed Redevelopment are as follows:

Occupancy Rate of the Concerned Foul Sewers under the Proposed Redevelopment

From	To	Contributing Catchment	Total Peak Discharge (With Swimming Pool Backwash) (m^3/s)	Maximum Capacity (m^3/s)	Occupancy Rate (%) [1]
Future Redevelopment					
FMH4000522	FMH4000524	Catchment A, B, C and D	0.253	0.536	47%

Note:

[1] Occupancy Rate = Peak Discharge (m^3/s) ÷ Maximum Capacity of Sewer (m^3/s)

Contributing Catchment Area	Sewer No.				ADWF (m^3/day)	Contributing Population[1]	Peaking Factor[2]	Discharge (m^3/s) (including swimming pool backwash)
	ID	From	ID	To				
Future Redevelopment								
Catchment A, B, C and D	1	FMH4000522	2	FMH4000524	3167	11730	6.0	0.253

Notes:

[1] According to Section 12.1 of GESF,

Contributing Population = Calculated Total Average Flow (m^3/day) ÷ 0.27 (m^3/person/day)

[2] According to Table T-5 of GESF

5.8.14 Results of the SIA indicated that the occupancy rate of the sewerage system along Chatham Road South would only be occupied by 47% after receiving the sewage to be generated from the Proposed Redevelopment in the future (**Appendix III** refers).

Traffic

5.8.15 PolyU is mainly served by Chatham Road South, Hong Chong Road, Cheong Wan Road and Hong Tat Path and its main vehicular access of the PolyU is located at Hong Tat Path. There will be a new vehicular access on Chatham Road South to be provided under the redevelopment of VA & VS Building.

5.8.16 PolyU is located at the centre of the city which can be accessed by a variety of transportation means. The MTR Hung Hom Station is located in the close proximity, which is within 300m walking distance (around 4 minutes). In addition to the rail transport services, PolyU is also well served by the bus and GMB with the bus stops located at Chatham Road South, Cheong Wan Road and Hong Chong Road as well as the Tsim Sha Tsui East Bus Terminus and the Hung Hom Station Public

Transport Interchange. As such, it is envisaged that most of the students and staff would continue to access the main campus by public transport. Hence, the additional traffic generation to be induced by the increase of students and staff would be minimal.

5.8.17 Based on the percentage increase with the additional students and staff would be about 10% as identified by PolyU, an additional 10% of existing observed trip generation (e.g. 35pcu/hr (existing AM trip generation) x 1.1 = 40pcu/hr) has been assumed for the future traffic to be generated upon the Proposed Redevelopment. The additional traffic generation of the whole main campus in design year 2033 would be only approximately 20 pcu/hr (two-way), as shown below:

Development Trip Generations

	AM PEAK		PM PEAK	
	Generation (pcu/hr)	Attraction (pcu/hr)	Generation (pcu/hr)	Attraction (pcu/hr)
Year 2023(1)	35	165	155	60
Year 2033	40	180	170	65
Increase	+5	+15	+15	+5

Note: Rounded to nearest 5.

(1) Existing Traffic Generation is based on traffic count survey during am and pm peak hours of a typical weekday in March 2023.

5.8.18 While the anticipated redevelopment will mainly enhance the existing facilities and would only serve the students and staff of the PolyU, no material traffic impact to the surrounding road network is anticipated from the traffic engineering point of view upon the future redevelopments. Hence, it can be concluded that the anticipated redevelopments would be acceptable from a traffic engineering point of view (**Appendix IV** refers).

6 CONCLUSION AND SUMMARY

6.1.1 The critical space shortage at PolyU necessitates immediate and effective measures. Redevelopment within the Hung Hom main campus and optimizing land use is the most practical and readily adoptable solution to meet current space demands and accommodate future growth.

6.1.2 Since no new buildings should be taller than 45mPD under the prevailing Building Height Restriction, which is the original building height since the 1970s, PolyU had subsequently submitted three separate S16 Planning Applications to the Town Planning Board for minor relaxation of Building Height Restriction. The stringent building height restriction of 45mPD stipulated across the entire main campus poses tremendous difficulties for PolyU to fully optimize the development potential of the Main Campus while addressing the immediate needs on the space demands of the University.

6.1.3 PolyU is committed to creating a green built environment, as well as a sustainable and low-carbon campus. With a maximum height of 45mPD, upon redevelopment, new buildings will need to maximise their footprint/site coverage in order to accommodate the required GFA/NOFA. This can only be achieved at the expense of the provision of open and green spaces. On the contrary, if buildings can go taller under a more lenient Building Height Restriction, new buildings can be more slender and able to free up more permeable space and free zone for green design as well as students and staff to enjoy.

6.1.4 As such, PolyU would like to kindly request the Planning Department to consider amending the Building Height Restriction across the main campus of PolyU from 45mPD to 90mPD. The proposed relaxation is justifiable from the following urban design and other technical points of view:-

- The proposed Building Height Restriction respects the building height profile of the area;
- A lenient Building Height Restriction would help to strike a balance between utilisation of scarce land resources at the urban core area and incorporation of green design in the redevelopment scheme;
- A relaxed height control allows for architectural design opportunity for green buildings;
- A relaxed height control is more likely to result in buildings that conform to the Urban Design Guidelines of HKPSG;
- JCIT and the proposed redevelopment of Blocks VA and VS showcase that PolyU is determined to deliver green and innovative buildings with a relaxed Building Height Restriction;
- The relaxed Building Height Restriction would not result in unacceptable visual impact provided with adoption and adherence to the long-established design principles adopted in the main campus.

- The relaxed Building Height Restriction would not result in significant adverse impact on the surrounding pedestrian wind environment;
- The anticipated redevelopment of the main campus would not result in insurmountable sewerage impact; and
- The anticipated redevelopment of the main campus would not result in adverse traffic impact.

Appendix I

Visual Impact Assessment

APPROVED TSIM SHA TSUI OUTLINE ZONING PLAN NO. S/K1/28

Review of the Building Height Restriction for the Main Campus of The Hong Kong Polytechnic University, Hung Hom, Kowloon

VISUAL IMPACT ASSESSMENT

December 2024

Applicant:
The Hong Kong Polytechnic University

Prepared by:
KTA Planning Limited

S3084_VIA_V05

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Hung Hom, Kowloon**

Visual Impact Assessment

1. INTRODUCTION

1.1 Purpose

1.1.1 This Visual Impact Assessment ("VIA") report is prepared in support of the review of Building Height Restriction of PolyU's Main Campus in Hung Hom, Kowloon ("Subject Site"/the "Site") (**Figure 1.1** refers). The Site is zoned "Government, Institution or Community" ("G/IC") on the approved Tsim Sha Tsui Outline Zoning Plan No. S/K1/28 ("Approved OZP")

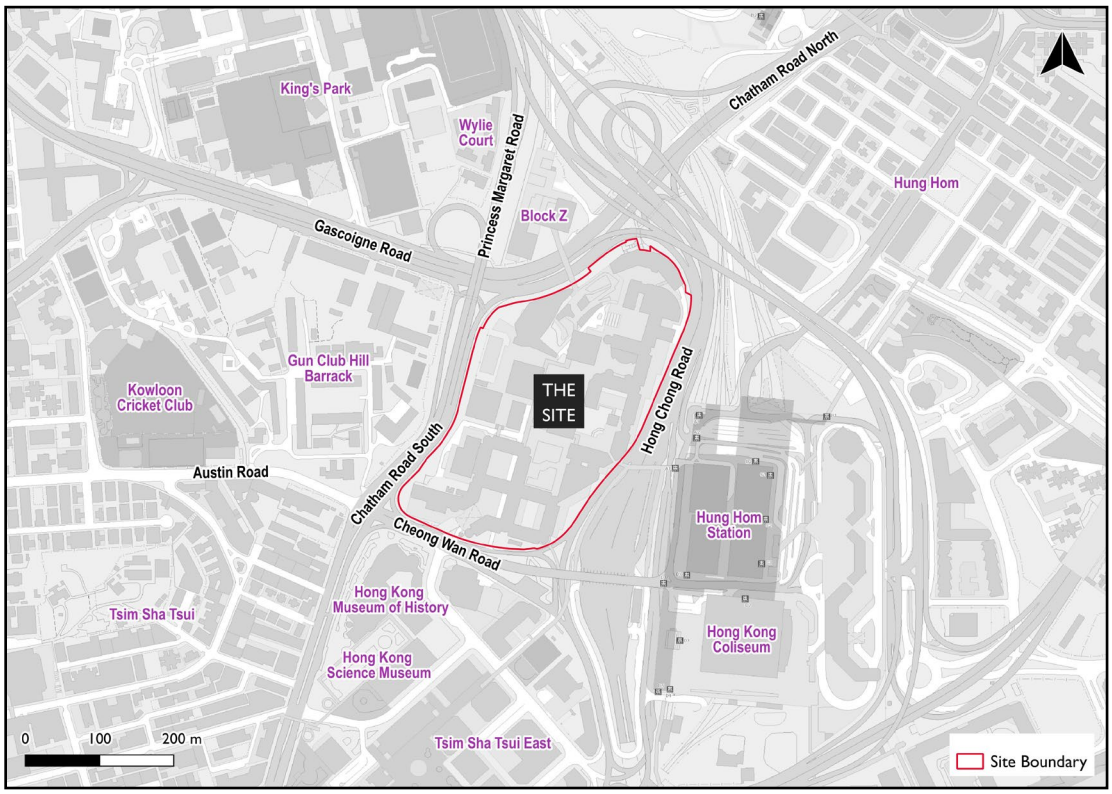


Figure 1.1 Site Location Plan

1.1.2 This VIA evaluates, in accordance with the "*Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to TPB*" ("TPB PG-No. 41"), the anticipated visual impacts of the Potential Redevelopment on public viewers relevant to the Site and concludes with recommendation on mitigation measures if necessary.

1.2 Report Structure

1.2.1 Following this introductory section, the methodology adopted in this assessment will be set out in Section 2. The baseline review of the assessment area is included in Section 3. Section 4 includes the Potential Redevelopment and discussion on the design merits. Visual envelope, visually sensitive receivers and their representative viewpoints will be identified and analysed in Section 5, followed by assessment of the visual impacts, if any in Section 6. Section 7 concludes this VIA.

2. METHODOLOGY

2.1 Visual Impact Assessment Approach

2.1.1 This VIA aims at evaluating the potential visual impact of the Potential Redevelopment on public visually sensitive receivers ("VSRs").

2.1.2 According to TPB PG-No. 41, Visual Impacts shall be assessed based on i) the sensitivity of the key public viewers; ii) visual resources and visual amenities likely to be affected; iii) the magnitude, extent and duration of impact and any resultant improvement or degradation in the visual quality and character of the surrounding area; and iv) the planning intention and known planned developments of the area. Visual Impacts could be either beneficial or adverse.

2.1.3 Visual sensitivity of public viewers/VSRs is determined taking into account the activity of the VSR, the duration and distance over which the Potential Redevelopment would remain visual, and the public perception of the value attached to the view being assessed. Visual sensitivity is qualitatively graded from high to low.

2.1.4 Visual changes could be positive or negative and they are not necessarily mutually exclusive. In considering the effect of visual changes, it covers the following four aspects:

- the total effect on the **Visual Composition** of the surrounding context;
- the degree of **Visual Obstruction** to key public viewing points;
- the visual **Effect on Public Viewer**/VSRs; and
- the **Effect on Visual Resources**.

2.1.5 The magnitude of visual changes will be qualitatively graded as Substantial, Moderate, Slight or Negligible.

2.1.6 The VIA will be undertaken in the following steps:

- A baseline review will be conducted to capture the existing visual elements in the site and surroundings and the context of the Potential Redevelopment of the Site.
- The Potential Redevelopment Scheme for the Site will be briefly presented.
- The Visual Envelope ("VE") will be determined and appropriate public viewpoints ("VPs") to represent the view from public VSRs will be identified.
- Each VP and potential visual impacts of the Potential Redevelopment Scheme on the VSRs will be analysed based on the photomontages prepared from the selected VPs.
- The overall visual impact will be assessed and conclusion on the visual acceptability of the Potential Redevelopment as compared with existing condition will be made.

3. BASELINE REVIEW

3.1 Site Location and Existing Condition

3.1.1 The Subject Site is located in Hung Hom and is surrounded by Hong Chong Road in the east, Cheong Wan Road in the south, Prince Margaret Road/Chatham Road South in the west and Hung Hom Bypass/Chatham Road South in the north. The Site occupies a land area of about 88,290.9m^2. The Site is currently the Main Campus of the Hong Kong Polytechnic University. **Figure 3.1** and **Figure 3.2** illustrate the site and surrounding context.

Figure 3.1 Aerial Photo of the Site and Surrounding Context

Figure 3.2 Campus Map and Site Photos

3.2 Existing Visual Elements in the Surrounding Context

3.2.1 The visual outlook of an area is shaped by a combined composition of all the visual elements which come into sight of the viewers. Surrounded by the low-rise uses to the west and north respectively, the Site is located in an urban setting sandwiched between the predominately high-rise commercial area in Tsim Sha Tsui and predominately medium- to high-rise developments in Hung Hom. Key visual elements in the surrounding context of the Site are included in **Figure 3.3** and summarised below:

Positive Attributes

- Victoria Harbour is a key natural visual resource in the Kowloon Peninsula that offers visual openness and waterfront view along the coastline of northern Hong Kong Island and southern Kowloon Peninsula. It is located to the south of the Site.

- To the immediate west of the Site is the Gun Club Hill Barracks and Kowloon Cricket Club with the height ranging from about +11.7mPD to +31.6mPD. Massive greenery in the barracks and the low-rise buildings contributed to a green character and provided visual openness for the area.

- To the northwest of the Site is King's Park, a concentration of sports and recreational facilities which provided visual openness for the area. Peripheral trees and greenery contributed on the visual attractiveness of the area.

- To the further southeast beyond Cross Harbour Tunnel are Hung Hom Station (i.e. building height level of +27.3mPD to +52.0mPD) and Hong Kong Coliseum (i.e. building height level of +43.1mPD). The low- to medium-height levels of both buildings provided visual openness in the area. The iconic design of the Hong Kong Coliseum serves as an important landmark in the area.

- The relatively low-rise development cluster in Tsim Sha Tsui East to the south of the Site, including Hong Kong Museum of History (about +26.8mPD to +28.4mPD), New East Ocean Centre (about +66.2mPD), Chinachem Golden Plaza (about +51.6mPD) and South Sea Centre (about +51.2mPD) etc., together with Urban Council Centenary Garden contributed the open view for the area.

- Several hills and mountains are situated in Hong Kong Island and Kowloon Peninsula including Mount Cameron (about +439mPD), Mount Nicholson (about +430mPD), Unicorn Ridge (about +437mPD) and Temple Hill (about +489mPD). These mountainous backdrop with open sky view contributed visual attractiveness and visual openness of the area.

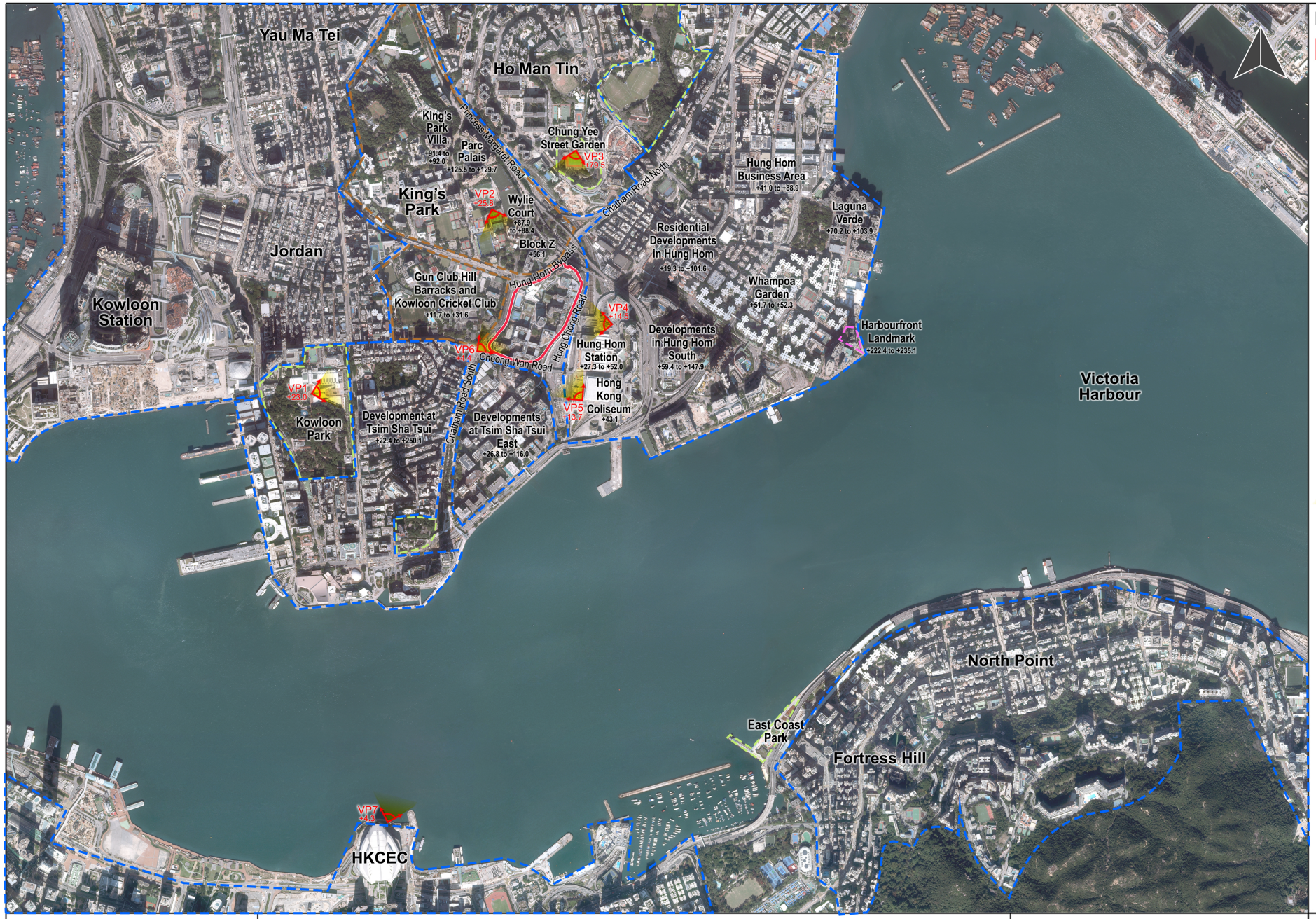
Negative Attributes

- Flyovers along Gascoigne Road, Prince Margaret Road and Hong Chong Road are situated to the northwest, north and east of the Site respectively. These flyovers created visual obstructions to the potential viewers to the area.

- Various high-rise developments in Hung Hum South including Royal Peninsula (about +120.1mPD to +147.9mPD), Harbourview Horizon Suites (about +108.9mPD), Harbour Place (about +102mPD to +107.1mPD) and The Metropolis Residence (about +93.8mPD) are situated to the east and southeast of the Site across Hung Hom Station respectively. The high-rise residential developments may affect the visual openness of the area and create visual obstruction to the viewers in the surrounding area.

- Harbourfront Landmark is a high-rise residential development (about +222.4mPD to +235.1mPD) located to the further east of the Site adjoining Hung Hom Waterfront Promenade which may create visual obstruction and affect visual openness to the viewers in the surrounding area.

- A number of high-rise commercial developments within Tsim Sha Tsui area including the Masterpiece (about +250.1mPD), The One (about +160.4mPD) and Mondrian Hotel (about +146mPD) are located to the southwest of the Site. The high-rise commercial developments may affect the visual openness of the area and create visual obstruction to the viewers in the surrounding area.



Legend

- Site Boundary
- VP1 Kowloon Park
- VP2 Wylie Path outside the King's Park Sports Association
- VP3 Chung Yee Street Garden
- VP4 Bus Terminal at Hung Hom Station
- VP5 Open area of the Hong Kong Coliseum
- VP6 Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road
- VP7 Hong Kong Convetion & Exhibition Centre
- +00.00 Existing Levels (about)
- VP Viewing Points

Visual Element/ Resources/Detractors

- Urban Areas
- Open Spaces
- Low- to Medium-rise Developments
- High-rise Developments

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Key Visual Elements

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Visual Impact Assessment

Figure 3.3

Scale: 1:16,000

Date: 8 October 2024

3.2.1 The existing visual quality of the Application Site can be regarded as good to fair in general. The Site is situated in the urban area which enclosed predominately medium- to high-rise developments in Tsim Sha Tsui and Hung Hom. Some low-rise development clusters as well as some recreational and sport facilities are situated to the northwest, south and west of the Site respectively. These clustered with ample greenery provided visual openness and enhanced the visual quality of the area.

3.3 Statutory Zoning Context

3.3.1 Majority of the Subject Site falls within an area zoned "Government, Institution or Community" ("G/IC") while minor portion of the Site encroached into the zoning of "Open Space" in the Approved Tsim Sha Tsui Outline Zoning Plan OZP No. S/K1/28 ("Approved OZP") (**Figure 3.4** refers). According to the Statutory Notes of the Approved OZP, planning intention of the "G/IC" zone is as follows,

"*This zone is intended primarily for the provision of Government, institution and 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 establishment.*"

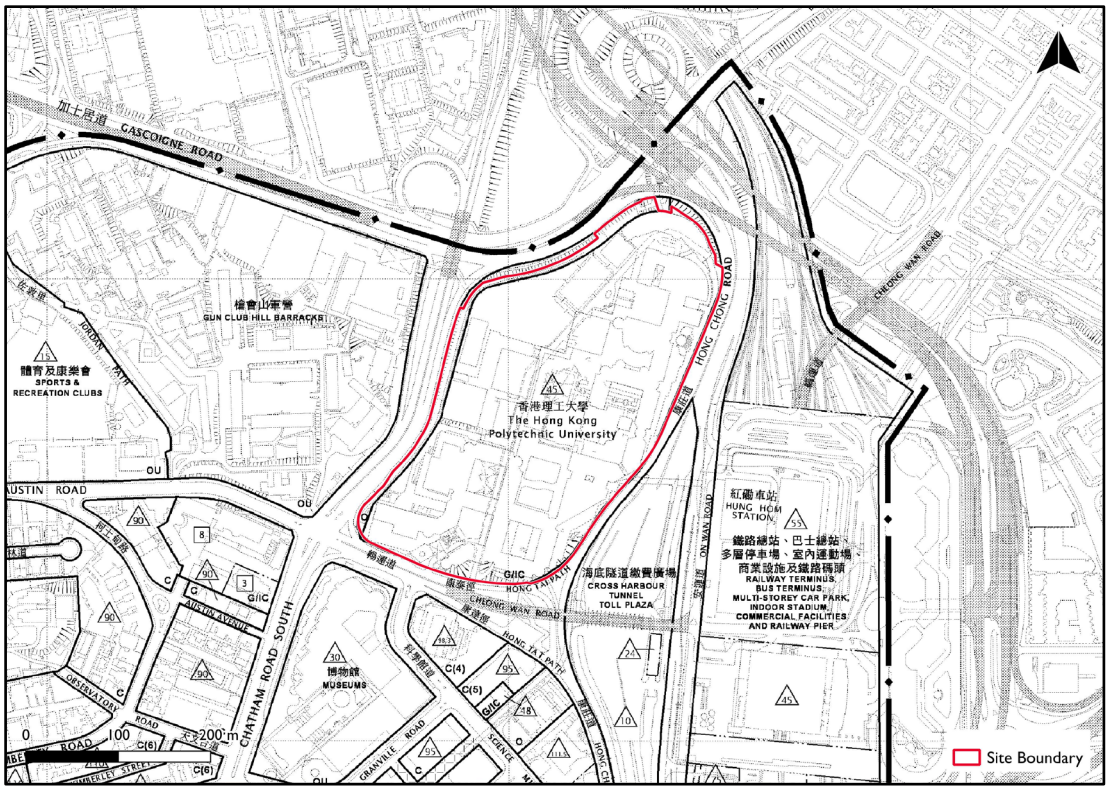


Figure 3.4 Zoning Context Plan

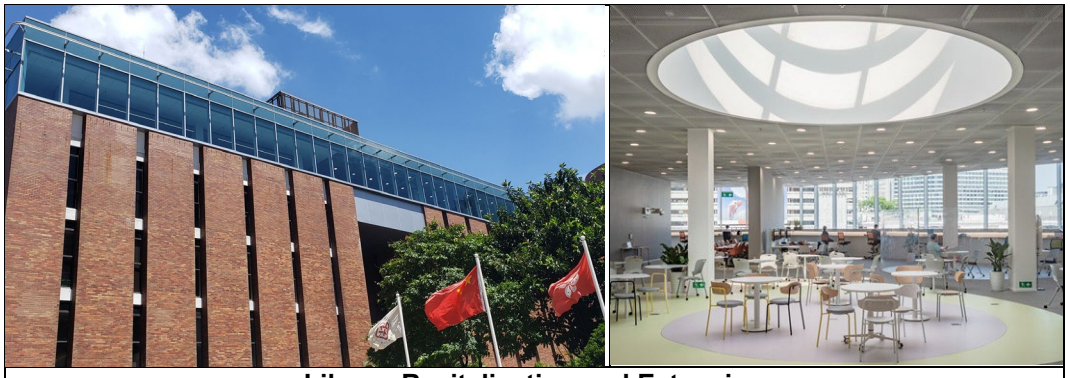
3.3.2 Under the Approved OZP, it is stated that no new development, or addition, alteration and/or modification to or redevelopment of an existing building within the “G/IC” zone shall result in a total development and/or redevelopment in excess of a maximum building height of 45mPD or the height of the existing building, whichever is the greater. Under Remarks (3) of the “G/IC” zone, minor relaxation of the building height restriction may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

4. THE POTENTIAL REDEVELOPMENT

4.1 Campus Development

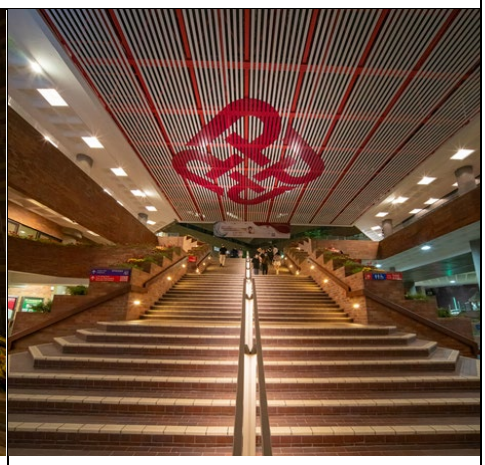
4.1.1 PolyU is one of the longest-established tertiary educational institutions in Hong Kong. As shown in the image to the right, the buildings erected when PolyU was first stationed in Hung Hom were mainly low-rise in nature. In 1994, it assumed its status as a full-fledged university and since then it strives for further development as a leading university. The current requirement of the facilities and equipment had been upgraded and the number of students had been increased significantly as compared to those these days. To meet the needs of the University, PolyU had completed and has been actively considering, preparing and implementing different development/ redevelopment schemes both within and outside the main campus around Hung Hom. The on-going projects include the campus expansion at Ho Man Tin Slope, redevelopment of Blocks VA & VS and redevelopment of House of Innovation.

4.1.2 Further to capital projects, PolyU is undertaking a series of campus development initiatives to create an environment conducive to driving its strategic development in education and research excellence. PolyU is committed to creating a green built environment, as well as a sustainable and low-carbon campus. It strives to integrate green features and innovative solutions from its research into future campus development projects upon redevelopment. Below are some examples of recent completed key revitalisation and extension projects within the main campus



Library Revitalisation and Extension

University Square



Main Entrance at Core A

4.2 Long Established Design Principles and Merits

4.2.1 Future campus redevelopment will take into account the specific floor space and height requirements of different disciplines and actual uses, e.g. lecture theatre, laboratories, recreational facilities and etc. In general, PolyU has been trying maintain certain long established design language and measures adopted in the campus to ensure the quality of the campus environment, such as ventilated communal podium, courtyard/ open spaces near podium levels, iconic feature of the red brick wall, creative and innovative treatment to building mass, etc. It is anticipated that the spirit will be carried on in future development.

Permeable Communal Podium Deck

4.2.2 Existing buildings within the Hung Hom main campus were designed to raise one floor above the podium. This separates vehicular and pedestrian movements completely and creates a vehicular-free and safe environment for the students and staff. At the same time, there are voids and recess areas under most of the buildings to allow permeability and create sheltered open-air spaces for different purposes, e.g. resting, social gathering, collaboration and etc. (**Figure 4.1 to 4.4** refer). Future redevelopment projects would continue to adopt this well-established key design principles and to provide open space with breathing space at human scale.

Open Spaces/ Breathing Space

4.2.3 A series of open space/ breathing spaces had been incorporated in the existing campus design between buildings, especially in areas close to tall buildings (**Figure 4.5a** refer). The These open spaces enhance the campus environment and become landmarks of the University campus for the community enjoyment. This key design feature becomes an essence to the University campus, and the rationale will be inherited in future campus planning and redevelopment projects.

Signature Red Brick Architectural Style

4.2.4 The red brick architectural style is a defining feature of PolyU's main campus, symbolizing its identity, heritage, and long-standing academic tradition. This distinct design language has been consistently applied across the campus and will remain a key consideration in future redevelopment projects to maintain architectural and visual continuity.

4.2.5 While signature red brick structures will be preserved wherever possible, new buildings will adopt red brick façades or design accents where practicable. This approach will ensure alignment with existing campus environment while incorporating contemporary materials that support modern, sustainable building technologies.

4.2.6 By embracing and modernizing the red brick architectural style, PolyU aims to strike a balance between preserving its historical legacy and fostering innovative, future-oriented campus development. This approach will reinforce the University's unique architectural identity while creating an inspiring and progressive academic environment (**Figure 4.5b** refers).

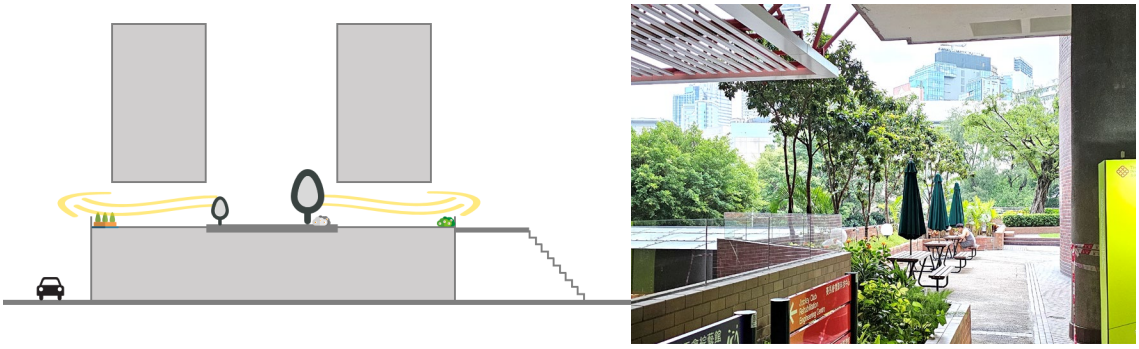


Figure 4.1 Ventilated podium with greenery for leisure activities

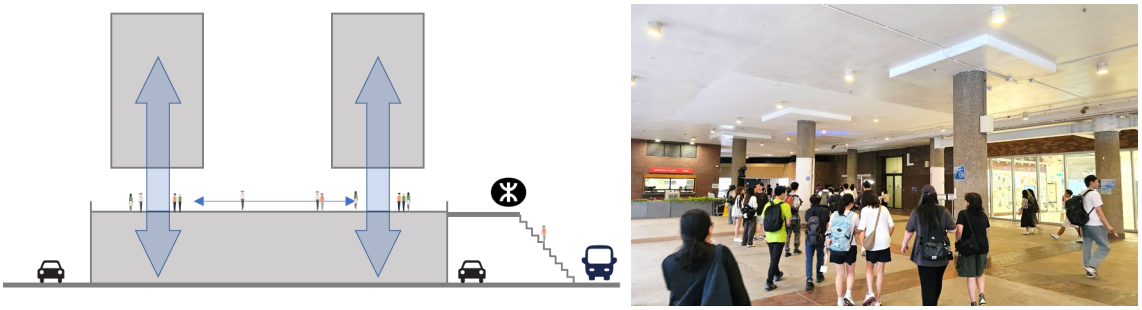


Figure 4.2 Main podium level serves as a major access ground of the campus free from vehicular traffic

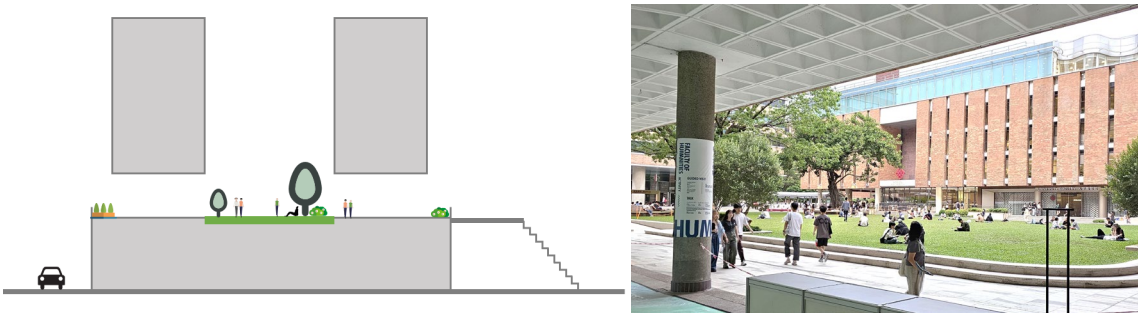


Figure 4.3 Central courtyard with trees and doses of greenery becomes a landmark leisure space in the campus for community's enjoyment

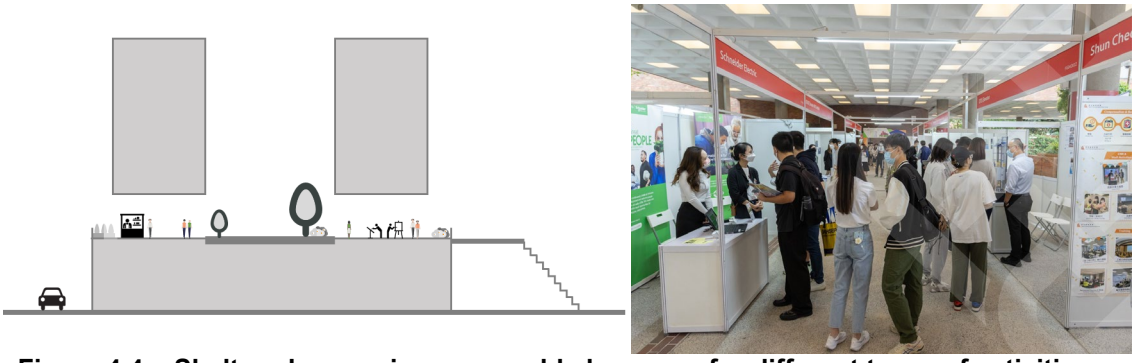


Figure 4.4 Sheltered open-air areas could also serve for different types of activities

Figure 4.5a Open / Breathing Spaces for Enjoyment

Figure 4.5b Red Brick Design

4.3 Design Intent

4.3.1 From a wider planning perspective, PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. This approach respects the surrounding height profile and allows for a blend of different building scales across the site, which aligns with the university's desire for a visually dynamic and contextually sensitive campus.

4.3.2 The existing building height, building ages and site context of the University was reviewed as shown in **Figure 4.6** below:

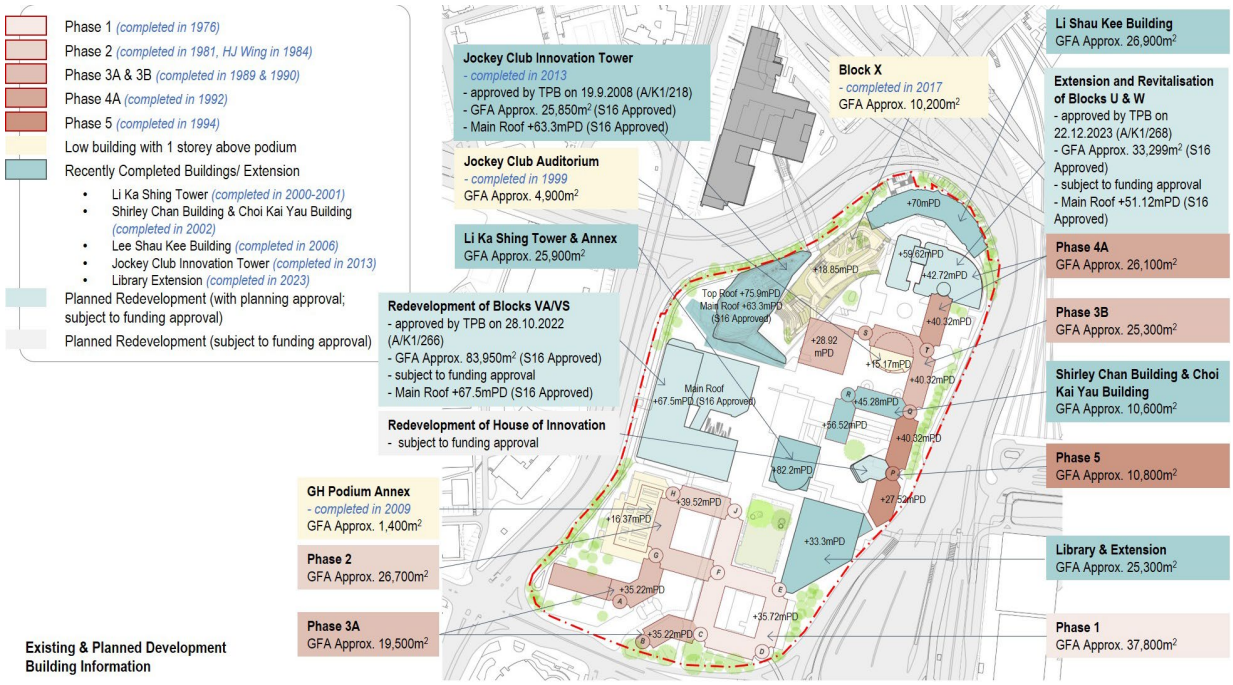
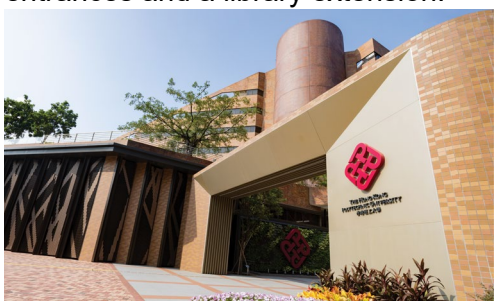


Figure 4.6 Existing and Planned Development Building Information

4.3.3 Upon review, the campus is conceptually divided into low, medium, and possible high zones, with stepping heights flowing from the central axis down to the entrance areas:

- **Low Zone**: These areas mark the main entrances to the campus at Core A and Core P, featuring an open and welcoming design with newly renovated/built main entrances and a library extension.



Main Entrance at Core A

Library Extension from Toll Plaza

- **Medium Zone**: Relatively new and symbolic architectural buildings, such as the Jockey Club Innovation Tower and the planned redevelopment of Blocks VA and VS, will be retained for their modern features and architectural significance. An additional medium zone is proposed on the Eastern side next to the entrance, creating a gradual stepping height that bridges the high and low zones.
- **Possible High Zone**: Taller buildings may be selectively introduced within this area to enhance, rather than dominate, the campus skyline. Building heights will be designed to respond to main access points, including the MTR Hung Hom Station and the future new entrance at Chatham Road South. The existing Li Ka Shing Tower and Lee Shau Kee Building are also located in this zone.
- To maintain openness and foster community interaction, open-air breathing spaces such as lawns, gardens, or plazas will be introduced between high buildings, in addition to the green spine along the western edge of the campus. These spaces, together with the existing gaps between the podium and building blocks and open voids within buildings upon redevelopment, will further allow visual permeability across the entire campus.

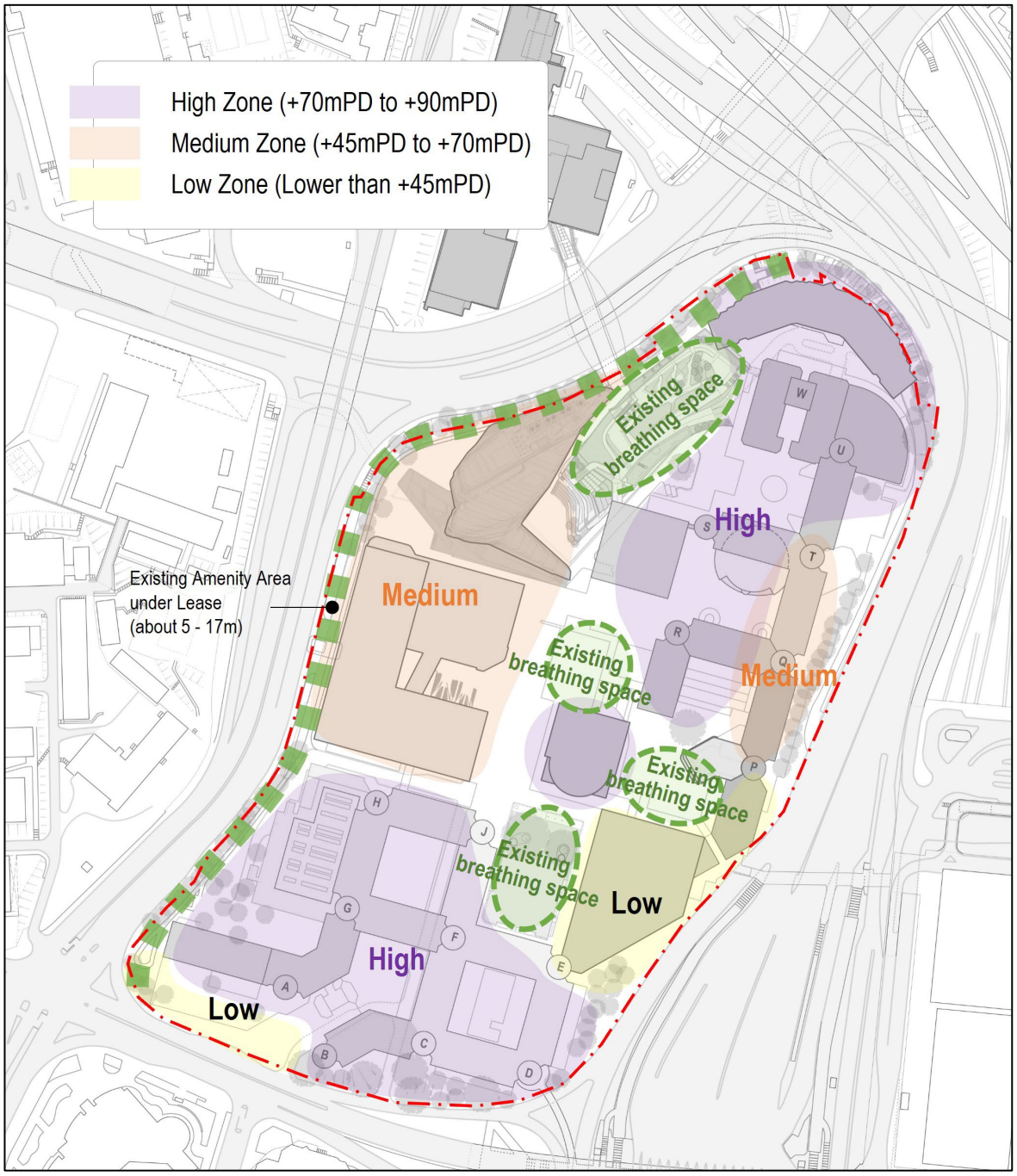


Figure 4.7 Design Concept Diagram

4.3.4 The relaxed building height restriction offers flexibility for future projects to adopt innovative designs with varied heights, fostering architectural diversity and adaptability. This will support sustainable growth without overwhelming the campus environment.

4.3.5 In light of this, PolyU suggests relaxing the Building Height Restriction from 45mPD to 90mPD across the main campus, as illustrated in **Figure 4.7**.

Figure 4.8 Varied Building Height Profile (Indicative)

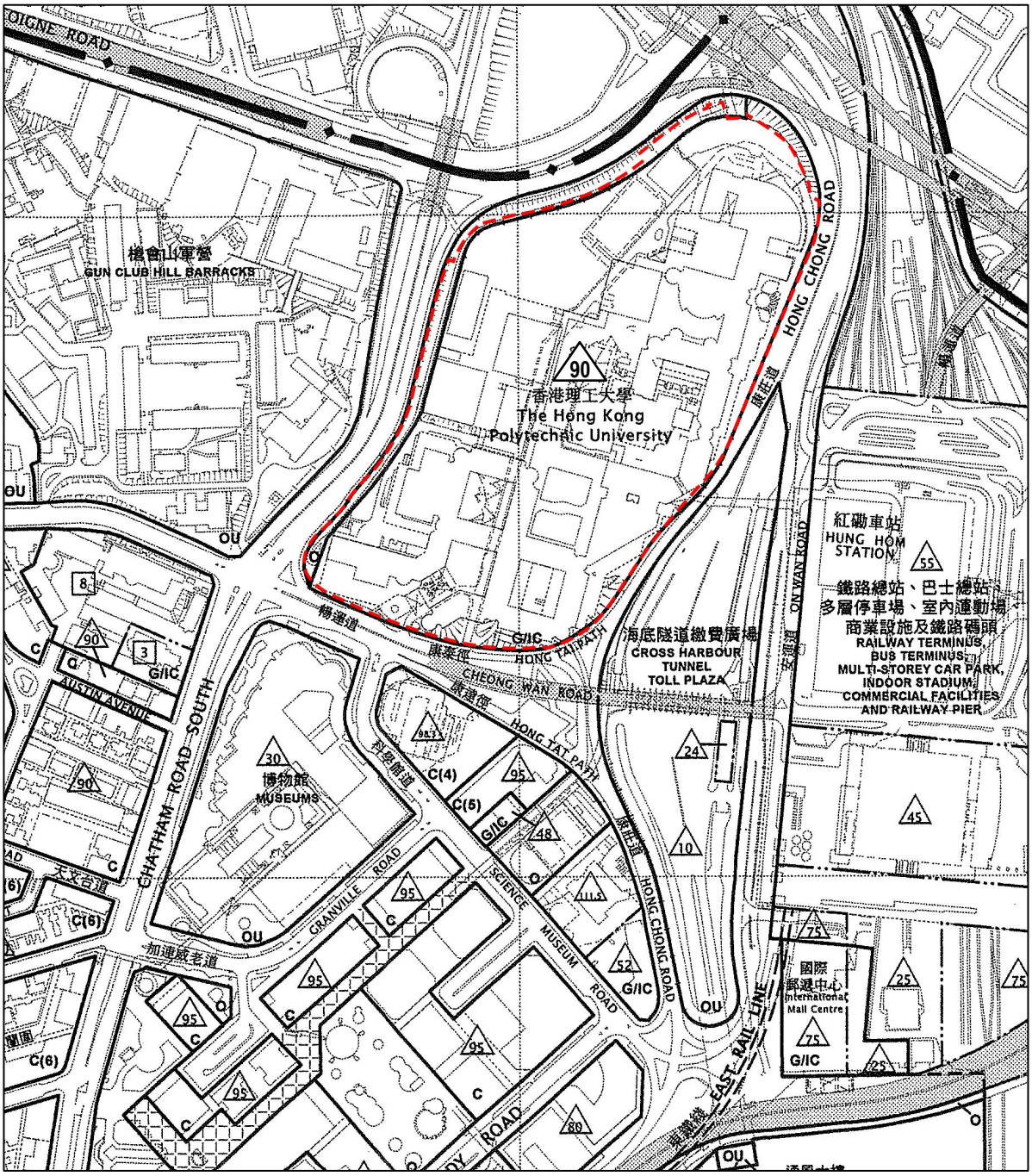


Figure 4.9 Proposed Amendment to the Approved Tsim Sha Tsui OZP No. S/K1/28

5 IDENTIFICATION OF VISUAL SENSITIVE RECEIVERS AND SELECTION OF VIEWPOINTS

5.1 Identifying Visual Envelope and Visual Sensitive Receivers

5.1.1 The Visual Envelope ("VE") or the zone of visual influence of the proposed relaxation of BHR is determined by the existing topography and building in the vicinity of the Site. As prescribed in the Town Planning Board Guidelines No. 41, size of the Potential Redevelopment, the distance of the development and its potential visibility from selected viewing points, and the actual site and surrounding topographical conditions are considered as the key factors on selecting VE.

5.1.2 The covers the area where direct sight towards the Subject Site is presented in **Figure 5.1**. As prescribed in the TPB PG-NO. 41, the viewers will tend to see the building as part of a group rather than as a single building when the viewing distance equals to three times the height of the building from the Site. (i.e. the 3H zone). Therefore, the 3H zone could be used as a starting reference in determining the assessment area. Since the actual maximum building height of the Potential Redevelopment will be 85.4m, the assessment area covers a radial area of about 256.2m from the façade of the Potential Redevelopment. Since protecting private view is not the duty of the TPB, this VIA focuses primarily on public VSR only and no private VSR, such as residents of private development and users of developments with restricted/exclusive accesses (e.g. school and office, etc.) will not be identified.

5.2 Selection of Visual Sensitive Viewpoints

5.2.1 Representative VPs within the VE were selected for assessing the visual impact to the VSRs. Selected VPs shall cover public views from easily accessible and popular area from different directions. When selecting VPs, priority shall be given to major public open space, public focal points, open spaces, existing/future pedestrian node, key pedestrian/vehicular corridor, and existing major vistas will be considered as major visual sensitive viewpoints.

5.2.2 In this VIA, a total of seven VPs are selected for further assessment on the visual impact of the proposed relaxation of BHR, which are summarized in **Table 5.1** and shown in **Figure 5.1**. The VPs included both close-up and distant views which cover the views from different directions.

Table 5.1 Selective Visually Sensitive Viewpoints

Viewpoint No.	Description
VP1	Kowloon Park
VP2	Wylie Path outside the King's Park Sports Association
VP3	Chung Yee Street Garden
VP4	Bus Terminal at Hung Hom Station

VP5	Open area of the Hong Kong Coliseum
VP6	Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road
VP7	Hong Kong Convention & Exhibition Centre

VP1 – Kowloon Park

5.2.3 Situated in the core area in Tsim Sha Tsui, Kowloon Park is a District Open Space and it is also an 'urban lung'. According to the Leisure and Cultural Services Department, Kowloon Park has a total area of 13.3 hectares, offering a full range of active and passive recreational facilities to the public. Due to topographical and other site constraints, the northern part of Kowloon Park is selected for active recreational area whereas the passive amenity areas with more plantations is mainly in the south. Although the visual sensitivity of active recreation users is lower than passive recreation users, the area where this VP is located has a greater visual openness comparing to the southern portion of the park. This is a distant-range VP located approximately 783m away from the Application Site in the southwest at about +23mPD.

VP2 – Wylie Path outside the King's Park Sports Association

5.2.4 VP2 is taken from Wylie Path with the distance of about 335m to the north of the Site. The VP represents the view from the batch of open area composed of sports and recreational facilities. Given its low-rise nature within the urban area, its visual sensitivity is considered medium and worth to be assessed/preserved. Situated to the northwest of the Site with the level of about +25.8mPD, this VP captures views of the users of the sports associations. The VSRs of this VP will mainly be pedestrian and visitors of the nearby sport facilities for active recreational activities.

VP3 – Chung Yee Street Garden

5.2.5 Chung Yee Street Garden is a local open space in Ho Man Tin located at the north of the Site with the distance of about 488m. Adjoining to the King's Park High Level Service Reservoir Playground, there are some sitting facilities, jogging trails, a football field and basketball court identified in both open spaces. With the level of about +79.5mPD, this VP is selected as a mid-range viewpoint to capture the view of the Site from a high ground. It also captured the mountain backdrop at Hong Kong Island and high-rise developments at Tsim Sha Tsui, Causeway Bay and Central. The potential VSRs will be the visitors of Chung Yee Street Garden for active and/or passive recreation activities.

VP4 – Bus Terminal at Hung Hom Station

5.2.6 This VP is taken at the bus terminal at Hung Hom Station to the east of the Site with the distance of about 204m. The bus terminal is part of the public transport node in Hung Hom Station connecting MTR Hung Hom Station and Cross Harbour Tunnel Bus Interchange. There are several bus routes connecting Kowloon East, Ma On Shan and Tuen Mun via this bus terminal. With the level of about +14.5mPD, it is selected as one of the close-up viewpoints capturing the eastern elevation of the Site. The VSRs of this VP will be passengers waiting for the public transportation services at the bus terminal.

VP5 – Open area of the Hong Kong Coliseum

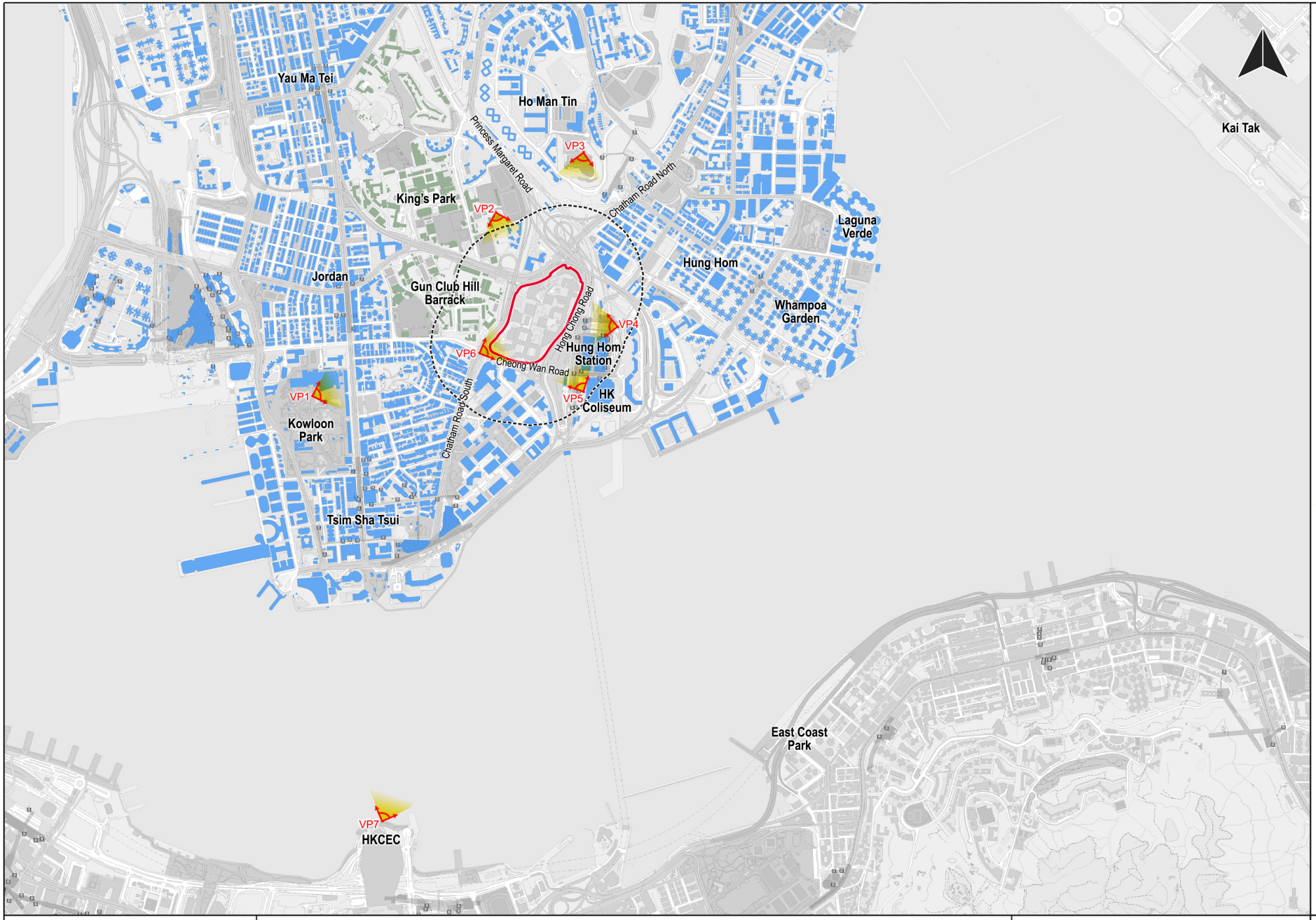
5.2.7 Hong Kong Coliseum is a major event venue in Hong Kong with the capacity of about 12,500. Built in 1983, there are numerous music concerts, sports competitions and ceremonies held in the Coliseum. This VP is taken at the open area of the Coliseum to the southeast of the Site with the distance of about 226m. Similar with VP4, it is selected as one of the close-up viewpoints to capture the southeastern elevation of the Site. At the level of about +13.7mPD, the potential VSRs of this VP will be audience of the Coliseum waiting to get into the venue.

VP6 – Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road

5.2.8 VP6 is taken from the pedestrian crossing at the junction of Chatham Road South and Cheong Wan Road to the immediate west of the Site with the distance of about 48m. With the level at about +4.4mPD, the VP captured the view of southwestern portion of the Site. The potential VSRs will mainly be pedestrian at the crossing facility.

VP7 – Hong Kong Convention & Exhibition Centre

5.2.9 This VP is located at the waterfront promenade at Wanchai Hong Kong Convention & Exhibition Centre to the south of the Site with the distance of about 2,040m. With the level of about +4.3mPD, this VP has the direct visual access to the Victoria Harbour. It also captured the urban townscape of Kowloon Peninsula and the ridgeline at the backdrop. It is selected to access the impact of the VSRs which are the visitors of the waterfront promenade engaging in leisure activities.



Legend

- Site Boundary
- VP1 Kowloon Park
- VP2 Wylie Path outside the King's Park Sports Association
- VP3 Chung Yee Street Garden
- VP4 Bus Terminal at Hung Hom Station
- VP5 Open Area of the Hong Kong Coliseum
- VP6 Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road
- VP7 Hong Kong Convention and Exhibition Centre
- VP Viewing Points
- 3H zone (Radius area of 256.2m)
- Existing Developments
- Existing Low-rise Buildings in King's Park and Gun Club Barracks

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Visual Envelope and Location of Viewpoints

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Visual Impact Assessment

Figure 5.1

Scale: 1:5,000

Date: 8 October 2024

Table 5.2 Identified Visually Sensitive Viewpoints with Preliminary Analysis

Viewpoints (VPs)	Distance/ Direction	Height in mPD (Approx.)	Nature of VP	Popularity by Public	Visual Sensitivity	Visual Quality
VP1: Kowloon Park	Approx. 783m/ Southwest	+23.0	Active / Passive Recreation	Transient/ Frequent	Medium to High	Fair
VP2: Wylie Path outside the King's Park Sports Association	Approx. 335m/ North	+25.8	Transient / Active Recreation	Occasional	Medium	Fair
VP3: Chung Yee Street Garden	Approx. 488m/ North	+79.5	Active / Passive Recreation	Occasional	High	Good
VP4: Bus Terminal at Hung Hom Station	Approx. 204m/ East	+14.5	Static	Frequent	High	Fair
VP5: Open area of the Hong Kong Coliseum	Approx. 226m/ Southeast	+13.7	Transient	Occasional	Medium to High	Fair
VP6 Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road	Approx. 48m/ West	+4.4	Transient	Transient	Low to Medium	Fair
VP7 Hong Kong Convention & Exhibition Centre	Approx. 2,040m/ Southwest	+4.3	Active / Passive Recreation	Frequent	High	Good

6 ASSESSMENT OF VISUAL IMPACTS

6.1 General

6.1.1 To recap, as stated in Section 4.2 above, PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. This approach respects the surrounding height profile and allows for a blend of different building scales across the site, which aligns with the university's desire for a visually dynamic and contextually sensitive campus. This VIA is conducted by comparing the proposed "Potential Redevelopment" (with all buildings, except the recently redeveloped/modified buildings, to the absolute maximum BH of 90mPD) with the existing condition. Hence, the assessments in relation to visual composition, visual obstruction, effects on public viewers and effects on visual resources are focused on the changes by the proposed relaxation of building height restriction of the Site.

6.2 VP1 – Kowloon Park

Visual Composition

6.2.1 VP1 is a distant viewpoint taken at the Kowloon Park with distance of about 783m to the southwest of the Site. It captures the view of Kowloon Park Swimming Pool in the foreground. High-rise commercial developments at Tsim Sha Tsui including Miramar Tower and Hon Kwok Jordan Centre are also captured in the middle ground. Some commercial developments including Ramada Hong Kong Grand and Concordia Plaza, as well as the open sky view are captured at the backdrop. The Potential Redevelopment at the Site are completely shielded by the high-rise commercial developments at Tsim Sha Tsui. Therefore, the visual composition of this VP will not be affected by the Potential Redevelopment.

Visual Obstruction

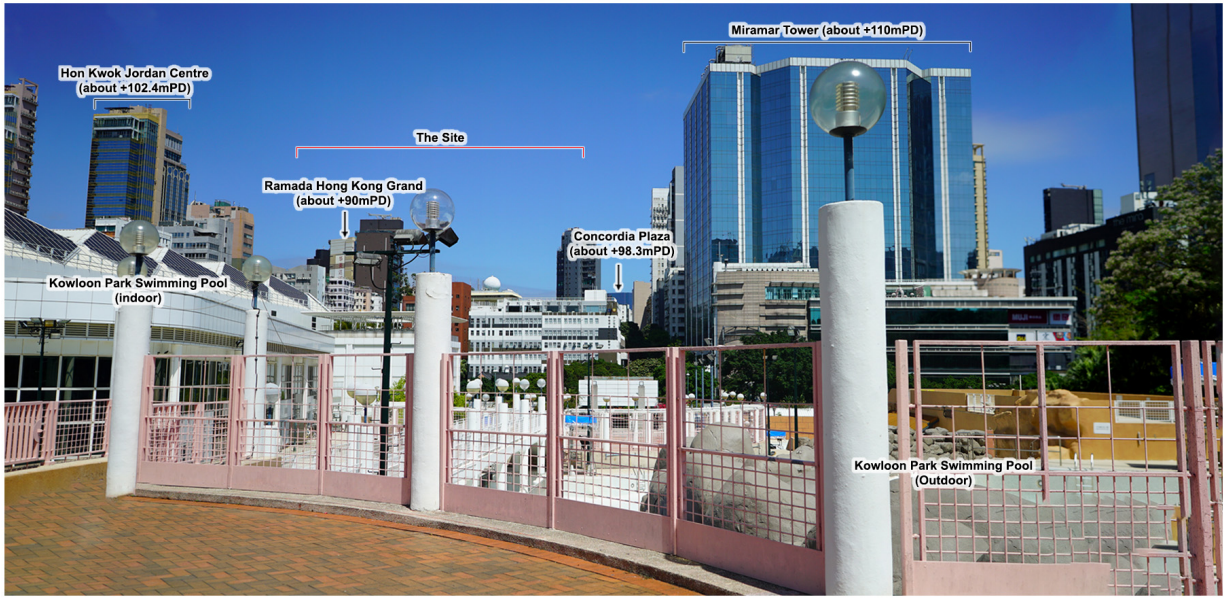
6.2.2 As illustrated in **Figure 6.1**, this VP offers an urban view with high-rise townscape at Tsim Sha Tsui with the open sky view in the background. Given the Potential Redevelopment are completely concealed behind the existing commercial developments, the increase in building height from +45mPD to +90mPD will not affect the visual openness and lead to any visual obstruction to this VP.

Effect on Public Viewers

6.2.3 The VSRs of this viewpoint would mainly be the joggers and visitors of the park engaging in active and/or passive recreational activities. Their sensitivity would therefore be medium to high. Since the Potential Redevelopment is not visible at this VP, the effect on the visual experience is negligible.

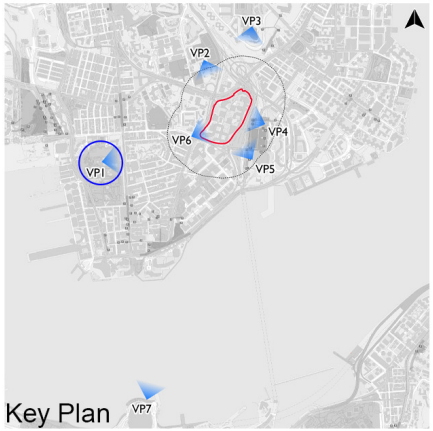
Effect of Visual Resources

6.2.4 The Potential Redevelopment will not affect the access to visual resources from this VP i.e. the open sky view at the backdrop. The visual condition, quality and character will not be degraded by the Potential Redevelopment.



Existing Condition

Potential Redevelopment



KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 1 – Kowloon Park	Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon	Figure 6.1
		Visual Impact Assessment	Date: 8 October 2024

6.3 VP2 – Wylie Path outside the King's Park Sports Association

Visual Composition

6.3.1 VP2 is a mid-range viewpoint taken at the Wylie Path outside the King's Park Sports Association with the distance of about 335m to the north of the Site. It captures the view of Wylie Court, tennis courts and its peripheral greenery at King's Park in the foreground. Commercial developments in Tsim Sha Tsui such as Concordia Plaza, The Masterpiece, and K11 Atelier as well as Mount Cameron and Violet Hill in Hong Kong Island with the open sky view are captured at the backdrop. The lower portion of the Potential Redevelopment will be screened off by the existing vegetation in the foreground. While the Potential Redevelopment with the proposed building height restriction of +90mPD will become new visual feature, the view towards the townscape of Tsim Sha Tsui will be largely retained. The visual composition of this VP will therefore largely remain unchanged.

Visual Obstruction

6.3.2 As shown in **Figure 6.2**, the VP offers an open view to the Mount Cameron and Violet Hill in Hong Kong Island at the backdrop. The Potential Redevelopment will lead to visual obstruction to the Violet Hill and partial obstruction to the open sky view. It will slightly reduce the visual permeability and depth of view from this viewpoint. Yet, the view towards existing vegetation in the foreground and Mount Cameron will be largely retained.

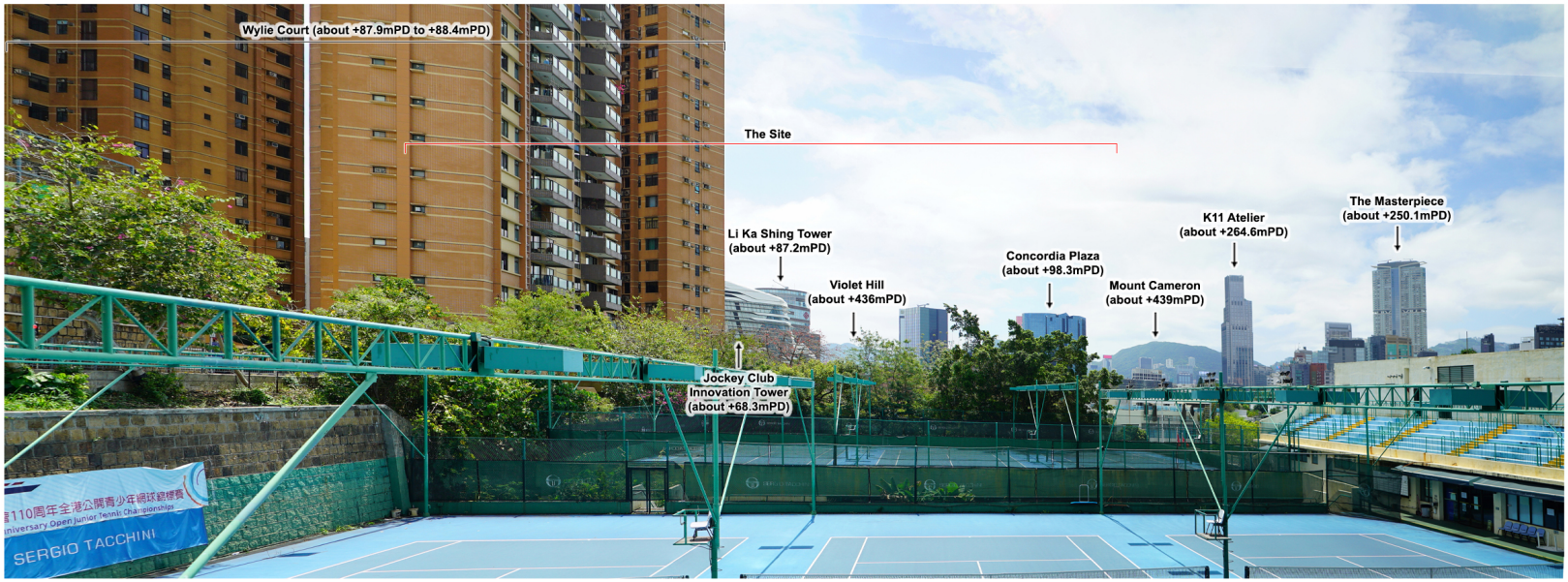
Effect on Public Viewers

6.3.3 This VP is selected to represent the view from the pedestrian and visitors of the nearby sport facilities for active recreational activities. Therefore, their visual sensitivity will be medium. The Potential Redevelopment presented the view of the extension of Main Campus at PolyU. Although the Potential Redevelopment served as new visual elements situated behind the existing Jockey Club Innovation Tower and the Planned Redevelopment of VA & VS, the Potential Redevelopment with the maximum building height restriction of +90mPD would not appear out-of-context to the townscape view of Tsim Sha Tsui. Hence, the effect of the visual changes of the VSRs from the Potential Redevelopment will be slight.

Effect of Visual Resources

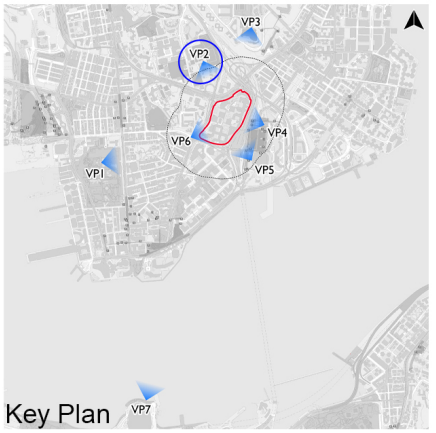
6.3.4 The existing peripheral greenery in the foreground and Violet Hill and Mount Cameron in the background, as well as the open sky view are the visual resources of this VP. The Potential Redevelopment will inevitably obstruct the view towards Violet Hill, and a portion of the open sky view. Yet, the visual openness of this VP is largely remained. The visual access towards the peripheral greenery in the foreground will not be affected. The Potential Redevelopment would largely be in harmony with the

surrounding context and would only slightly affect the visual resources of the area.



Existing Condition

Potential Redevelopment



*The extent of the Potential Redevelopment is generated by extruding the existing massing to +90mPD and it is indicative only

*PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. For the proposed design measures of the Potential Redevelopment, please refer to the Section 4 of the Visual Impact Assessment

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Viewpoint 2 – Wylie Path outside the King's Park Sports Association

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.2

Visual Impact Assessment

Date: 11 December 2024

6.4 VP3 – Chung Yee Street Garden

Visual Composition

6.4.1 VP3 is a mid-range viewpoint taken at the edge of Chung Yee Street Garden next to King's Park High Level Service Reservoir Playground with the distance of about 488m to the north of the Site. It captured an open view towards the Site, urban high-rise setting in Tsim Sha Tsui as well as the townscape of Hong Kong Island with a mountainous backdrop as well as the open sky view. The Potential Redevelopment is largely shielded by the existing greenery at the edge of the Playground, existing Lee Shau Kee Building and Jockey Club Innovation Tower in the main campus. While only upper portion of the building mass are visible, the visual composition of this VP will be largely remained unchanged.

Visual Obstruction

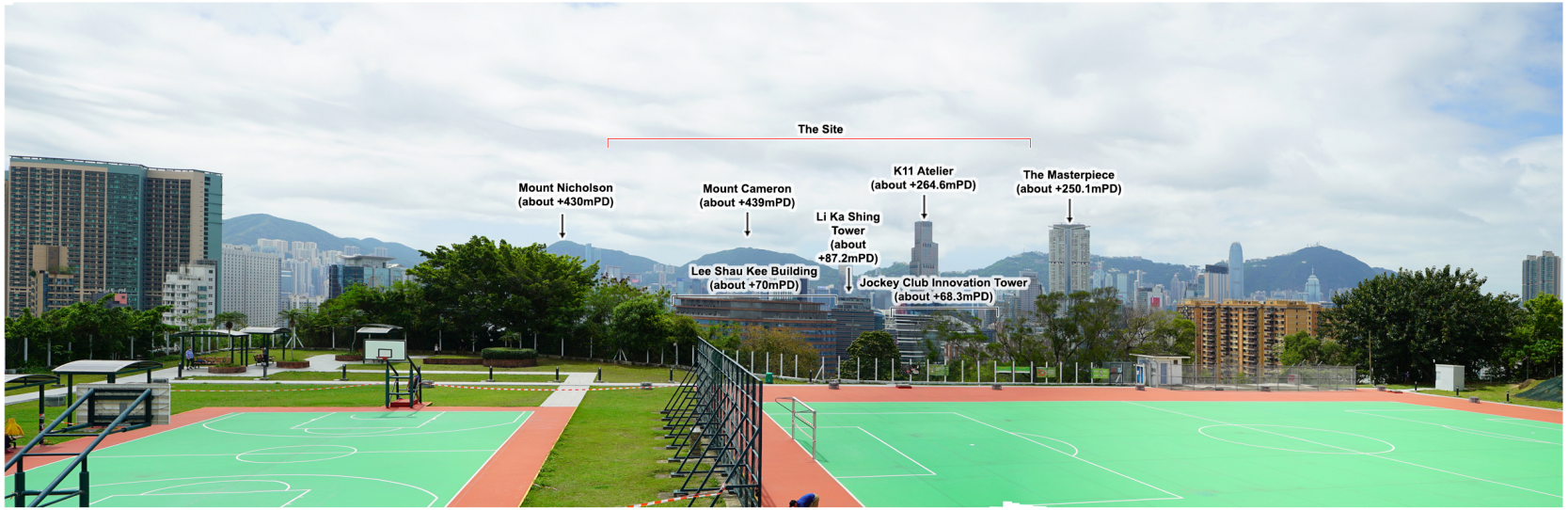
6.4.2 As shown in **Figure 6.3**, the VP offers an open view to the urban settings in Tsim Sha Tsui and Hong Kong Island with the ridgeline as backdrop. The Potential Redevelopment with the maximum building height restriction of +90mPD will form part of the urban fabric in the southern Kowloon Peninsula. The visual permeability and depth of view would be slightly reduced. Given the Potential Redevelopment will not exceed the building height of the existing townscape at Tsim Sha Tsui, the visual openness of this VP will not be affected and no major visual obstruction will be resulted.

Effect on Public Viewers

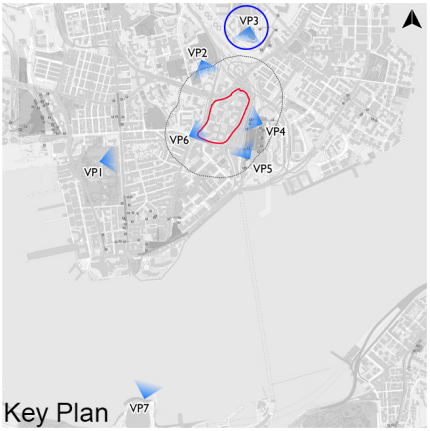
6.4.3 Two groups of VSRs are identified at this VP due to the different nature of the open spaces. The users of the recreation ground of King's Park High Level Service Reservoir Playground will be engaging in active recreational activities and users of Chung Yee Street Garden will be enjoying the serene environment of the park and will enjoy the wide vista from this VP. Therefore, their visual sensibility on this VP is considered high. Since the Potential Redevelopment with the maximum building height restriction of +90mPD will blend in with the existing high-rise developments in Tsim Sha Tsui area harmoniously, the effect on the visual experience of the VSRs is negligible to slight.

Effect of Visual Resources

6.4.4 The Potential Redevelopment will not affect the access to visual resources from this VP i.e. the existing trees in the foreground, the ridgeline at Hong Kong Island at the backdrop and the open sky view. The visual condition, quality and character will be largely retained under the Potential Redevelopment.



Existing Condition



Potential Redevelopment

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Viewpoint 3 – Chung Yee Street Garden

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.3

Visual Impact Assessment

Date: 11 December 2024

6.5 VP4 – Bus Terminal at Hung Hom Station

Visual Composition

6.5.1 VP4 is a close-up viewpoint taken at the bus terminal at Hung Hom Station with the distance of about 204m to the east of the Site. Due to the close distance to the Site, the proposed building mass may appear visually more distinct as compared with other mid-range or distant VP. It captured an open view towards the bus terminal while the east elevation of the Main Campus of PolyU and the open sky view are captured as backdrop. Although the Potential Redevelopment will dominate the views at the backdrop, sensitive measures such as building separation and innovative and permeable design would be considered to reduce the visual bulk of the redevelopment.

Visual Obstruction

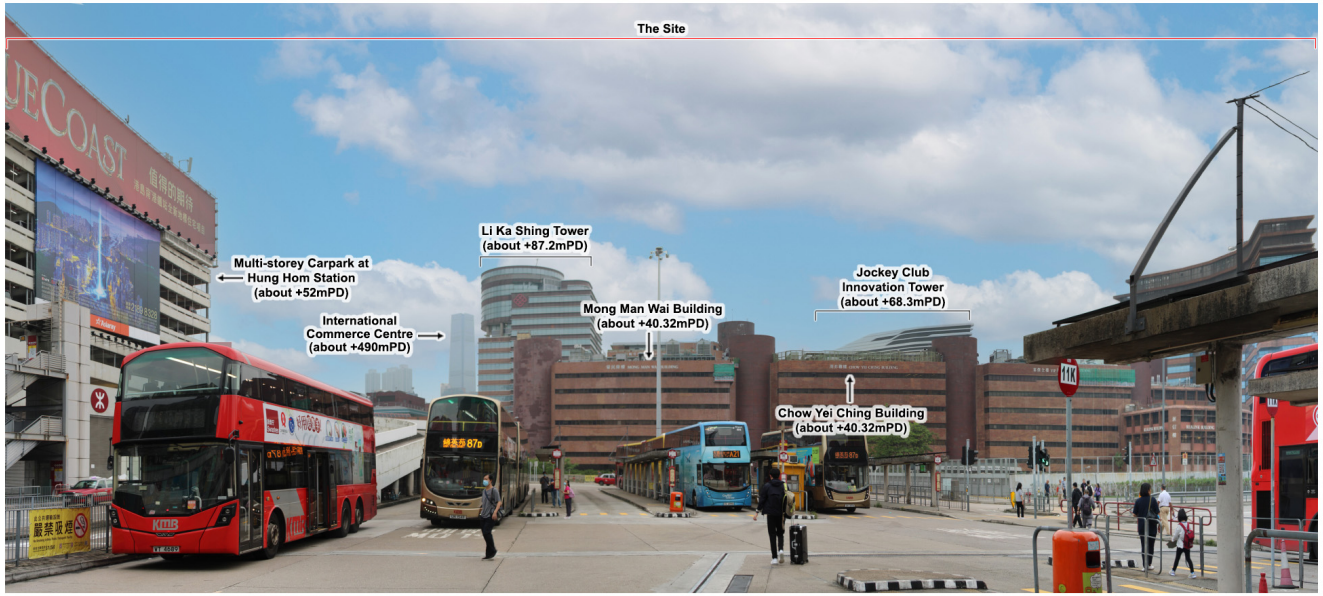
6.5.2 According to **Figure 6.4**, it is inevitable that the Potential Redevelopment with the maximum building height restriction of +90mPD will lead to loss of visual openness by obstructing the view to the sky. Sensitive measures such as building separation and innovative and permeable design would be adopted to visually break down the building mass and allow visual access towards the open sky view.

Effect on Public Viewers

6.5.3 The visual sensitivity of the VSRs on this VP is high as people waiting at the bus terminal will be able to gain direct visual access to the visual resources at this VP. It is inevitable that there will be significant visual change to this VP due to the Potential Redevelopment with the increase of proposed building height when viewing from this VP. PolyU would carefully consider the visual appearances of the new buildings upon redevelopment and incorporate designs that reflect their identity and the possibility of partially maintain the iconic brick wall. The effect of visual change for the Potential Redevelopment will be moderate to substantial to this VP.

Effect on Visual Resources

6.5.4 The Potential Redevelopment will lead to the loss of visual access to the open sky view, which is identified as the major visual resources in the VP. PolyU is determined to adopt sensitive design measures such as innovative and permeable design in the Potential Redevelopment. Upon completion of redevelopment, it is believed that the incorporation of the building separation / setbacks may help break the building mass and alleviate the potential visual impact.



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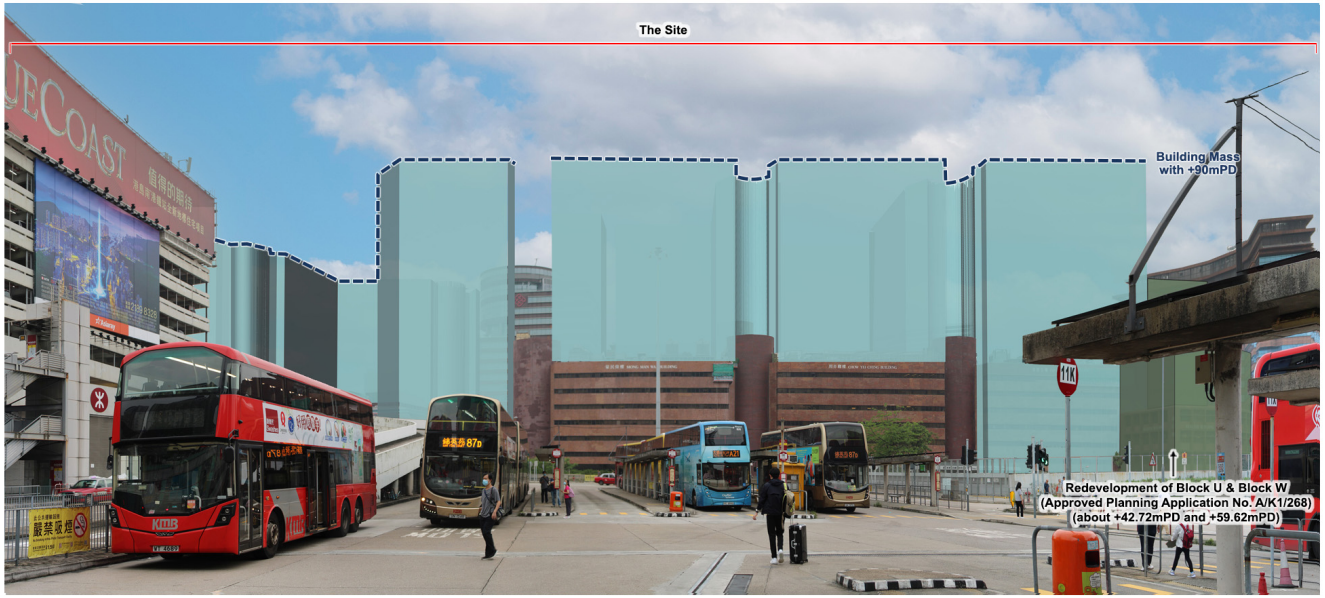
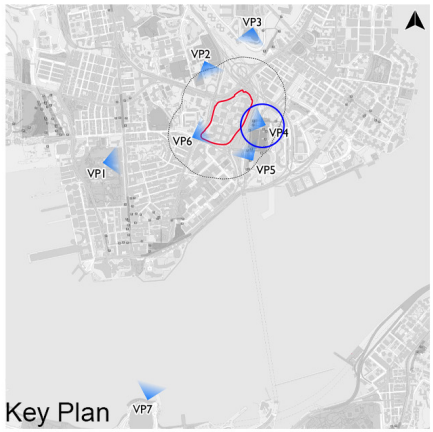


Potential Redevelopment



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Viewpoint 4 – Bus Terminus in Hung Hom Station

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.4

Visual Impact Assessment

Date: 11 December 2024

6.6 VP5 – Open area of the Hong Kong Coliseum

Visual Composition

6.6.1 This VP is taken at the open area adjacent to the Hong Kong Coliseum with the distance of about 226m to the southeast of the Site. It captures the open area with loading and unloading spaces, planters at the open area and structures of Hung Hom Station in the foreground. The southeastern elevation of the Main Campus of PolyU and the open sky view are captured at the backdrop. Although the Potential Redevelopment with the maximum building height restriction of +90mPD will inevitably be prominent at the background, the Potential Redevelopment is not incongruous to the surrounding urban setting including the MTR Hung Hom Building and multi-storey car park to the immediate east of the Site. Due to the close proximity to the viewpoint, these buildings will be larger in visual term which is visually compatible to the increased scale from the Potential Redevelopment. Sensitive mitigation measure such as building separations can be explored to allow visual permeability of the Site.

Visual Obstruction

6.6.2 As shown in **Figure 6.5**, the openness of this VP and the low to medium-rise existing buildings nearby allow VSRs of this VP to enjoy a wide sky view under existing condition. The Potential Redevelopment will inevitably lead to visual obstruction to open sky view and subsequently reduce the visual permeability and depth of view. Although the planters in the foreground will not be affected, the Potential Redevelopment with the maximum building height restriction of +90mPD will inevitably affect the openness of the VP.

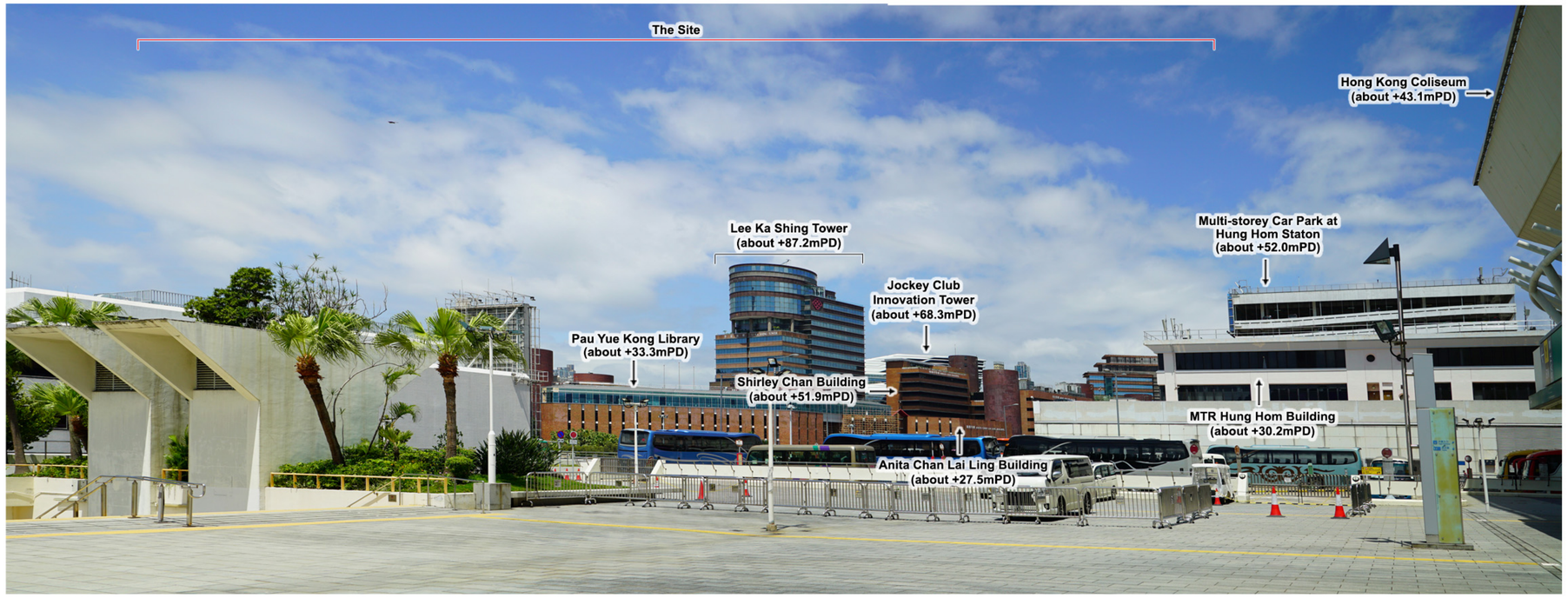
Effect on Public Viewers

6.6.3 The visual sensitivity of the VSRs on this VP is medium to high as they may be enjoying the openness while socialising with their acquaintances before and after the show/event held in the Hong Kong Coliseum. Although the Potential Redevelopment is considered not incongruous to the urban setting of the surrounding areas, the proposed maximum building height restriction +90mPD may create a considerable portion of visual obstruction to the existing open sky view. Hence, the visual change is considered moderate.

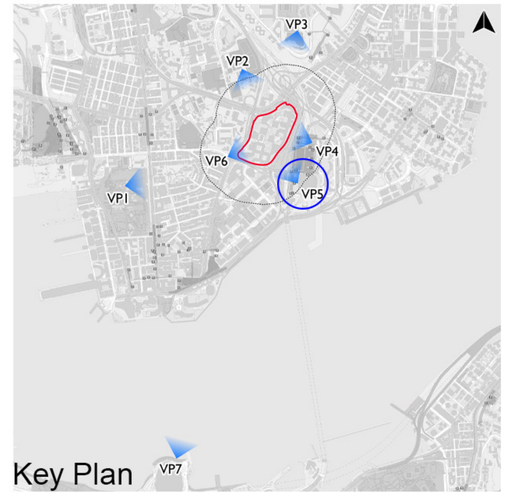
Effect on Visual Resources

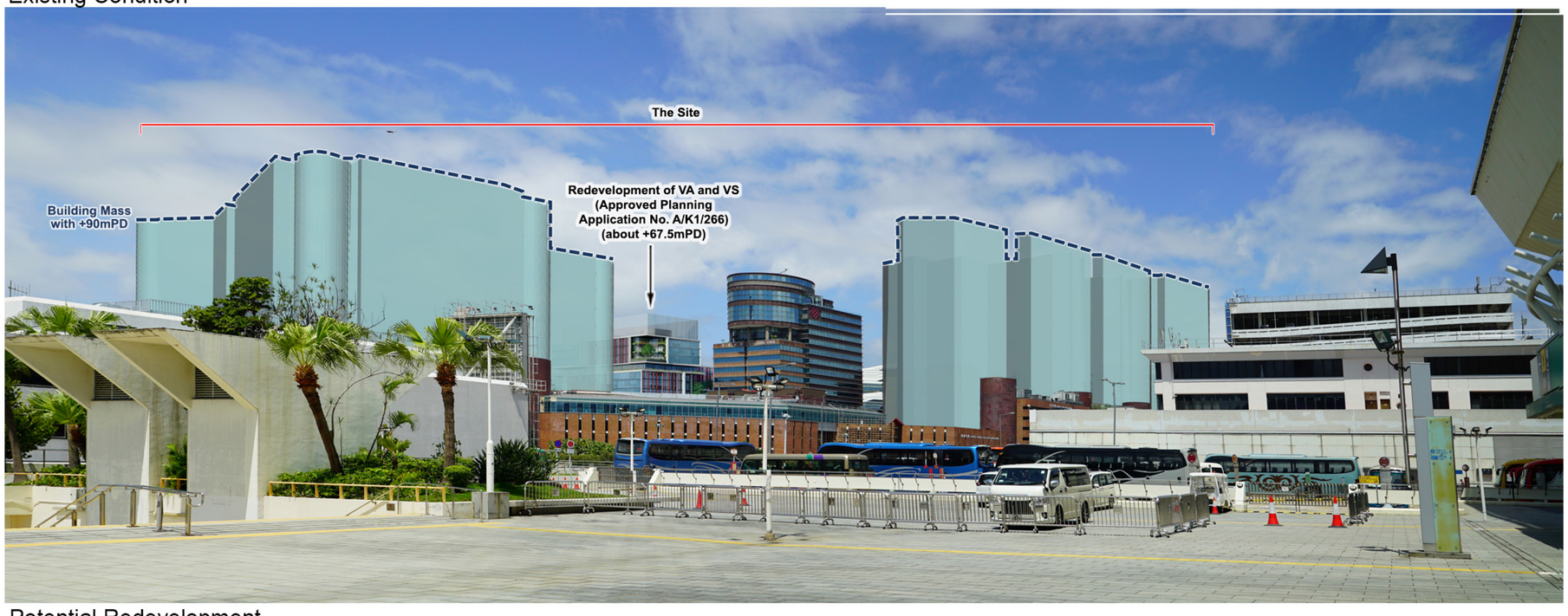
6.6.4 The open sky view and the planters at the foreground are the major visual resources at this VP. It is noted that a moderate degradation on the visual resources will be foreseen with obstruction to the view of the sky by the Potential Redevelopment. To mitigate the loss of open sky view, building separations can be explored to remain certain degree of visual access towards the sky. Furthermore, PolyU is determined to adopt sensitive design measures such as innovative and permeable design in the

Potential Redevelopment. Upon completion of redevelopment, it is believed that the incorporation of the building separation / setbacks may help break the building mass and alleviate the potential visual impact.



Existing Condition





Potential Redevelopment

*The extent of the Potential Redevelopment is generated by extruding the existing massing to +90mPD and it is indicative only

*PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. For the proposed design measures of the Potential Redevelopment, please refer to the Section 4 of the Visual Impact Assessment

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Viewpoint 5 – Open Area of the Hong Kong Coliseum

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.5

Visual Impact Assessment

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6.7 VP6 – Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road

Visual Composition

6.7.1 VP6 is a close-up viewpoint taken at the pedestrian crossing at the junction of Chatham Road South and Cheong Wan Road with the distance of about 48m to the west of the Site. Due to the close distance to the Site, the potential building masses in the Site are appeared visually more distinct. This VP captured the existing buildings in the Main Campus of PolyU, greenery along Chatham Road South and Cheong Wan Road as well as the open sky view at the backdrop. Upon completion of the Potential Redevelopment with the proposed maximum building height restriction of +90mPD, it will become a prominent visual element by dominating the view of this VP in the foreground. Sensitive measures such as appropriate façade design and provision of open space and greenery at the podium level may soften the visual bulk of the redevelopment.

Visual Obstruction

6.7.2 As illustrated in **Figure 6.6**, the Potential Redevelopment with the proposed maximum building height of +90mPD will inevitably lead to loss of visual openness by obstructing the view to the sky. The visual permeability and the depth of view would be reduced at this VP. However, the visual access towards the open sky view through Chatham Road South and Cheong Wan Road as well as the visual access to the roadside greenery will be largely retained. Furthermore, the permeable podium deck will be visible from this VP, which create opportunity of providing greenery at the podium / podium edge.

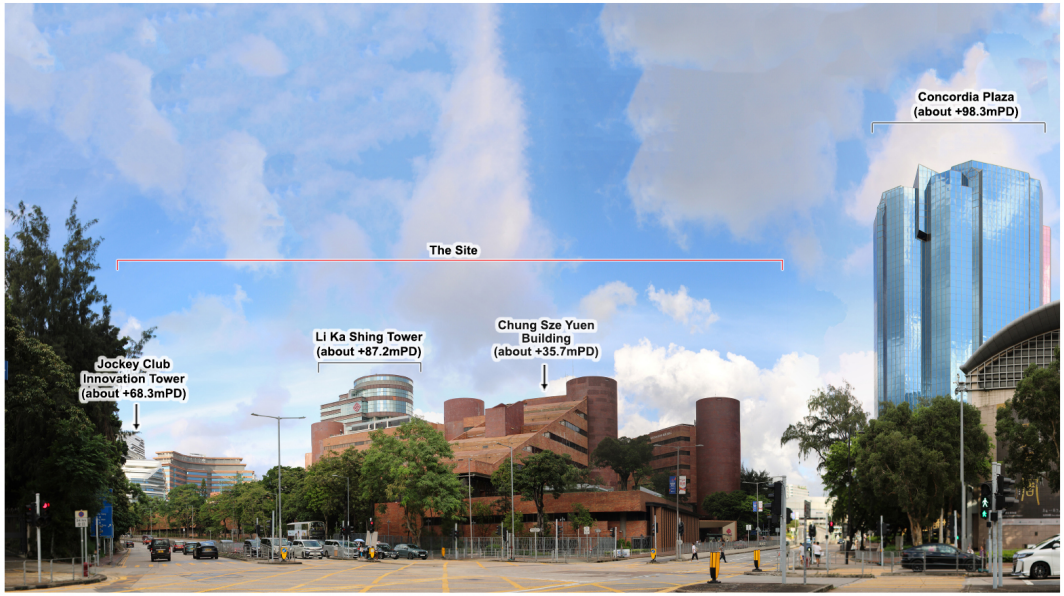
Effect on Public Viewers

6.7.3 This VP is a transient VP which the pedestrian would be concentrating on crossing the heavily trafficked junction and only have a glimpse on the surrounding settings. Hence, the visual sensitivity of the potential VSRs is considered low to medium. Nevertheless, the Potential Redevelopment is anticipated to be a new major visual element when viewing from the VP and it is inevitable that there will be moderate visual change to this VP. PolyU will continue to maintain its podium design with sheltered open-air space between the podium and building blocks which helps break down the building mass at the lower zone which is visible from pedestrian level.

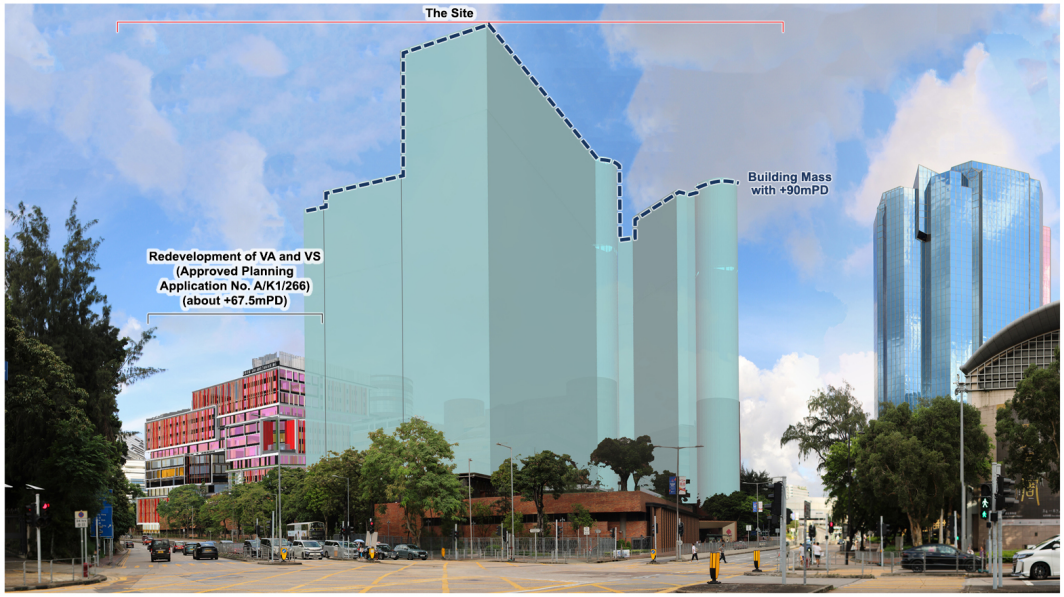
Effect on Visual Resources

6.7.4 The roadside greenery along Chatham Road South and Cheong Wan Road, as well as the open sky view are the visual resources of this VP. Considerable portion of the sky view will be lost due to the Potential Redevelopment while the visual access towards the roadside trees along Chatham Road South would be maintained.

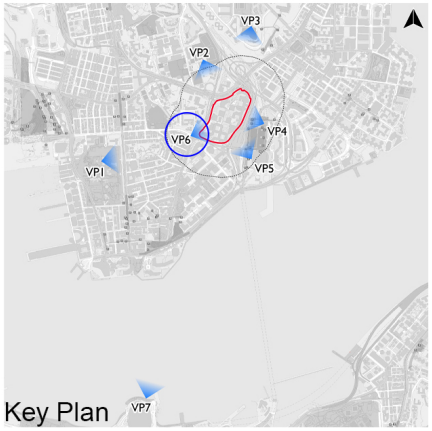
Sensitive measures such as façade treatment and provision of greenery at the podium level would be considered to alleviate the visual impact of the redevelopment.



Existing Condition



Potential Redevelopment



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*PolyU's main objective is not to maximize building heights uniformly across the campus but rather to adhere to a varied building height profile. For the proposed design measures of the Potential Redevelopment, please refer to the Section 4 of the Visual Impact Assessment

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Viewpoint 6 – Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.6

Visual Impact Assessment

Date: 11 December 2024

6.8 VP7 – Hong Kong Convention & Exhibition Centre

Visual Composition

6.8.1 This VP is a distant viewpoint taken at the waterfront promenade along the coastline of Victoria Harbour. It is taken at the waterfront promenade outside Hong Kong Convention & Exhibition Centre with a distance of about 2,040m to the southeast of the Site. Similarly, it captured an open view of the urban townscape at Tsim Sha Tsui with Victoria Harbour situated at the foreground. The ridgeline of Unicorn Ridge and Temple Hill are captured in the background. As the Potential Redevelopment is largely screened off by the existing developments at Tsim Sha Tsui, only upper floor will be partially visible from the VP. The Potential Redevelopment with the proposed maximum building height restriction of +90mPD will blend in well with the urban townscape view at the Kowloon Peninsula. Therefore, the Potential Redevelopment is considered visually compatible to the surroundings settings from this VP.

Visual Obstruction

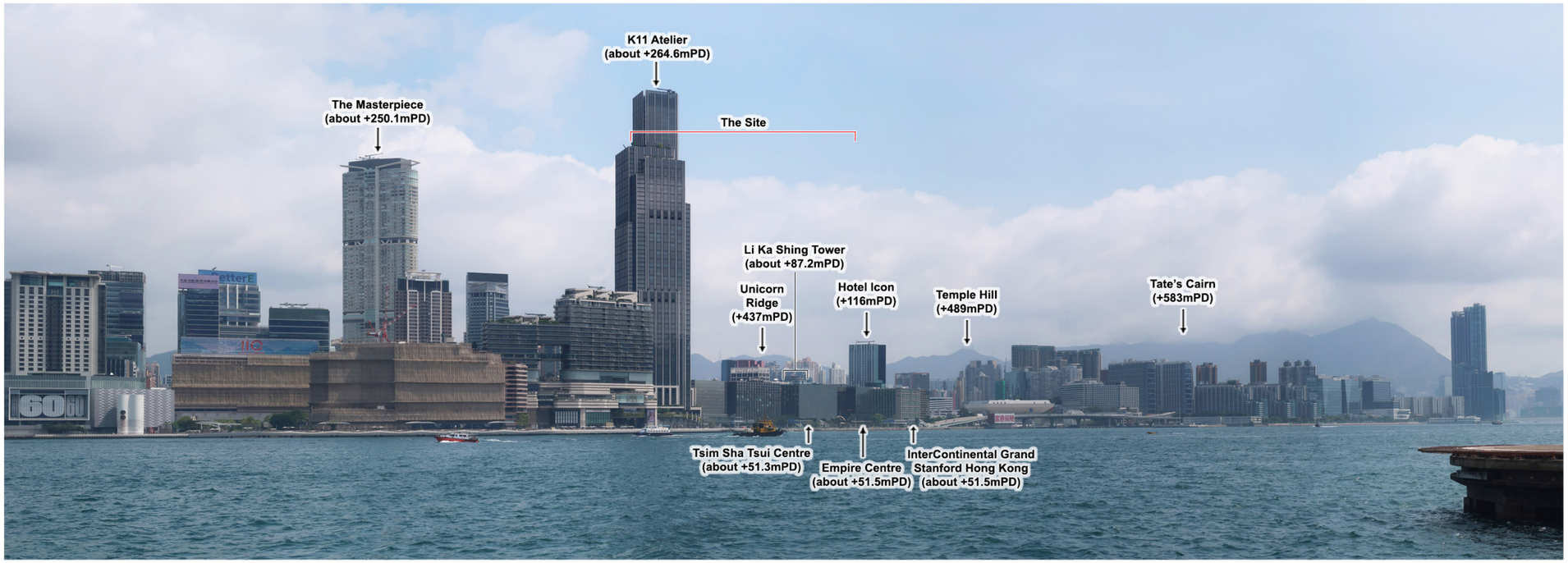
6.8.2 As illustrated in **Figure 6.7**, the Potential Redevelopment will be largely screened off by the existing developments in the foreground and only the upper portion will be partially visible. There will be a slight loss in visual access to the greenery of Unicorn Ridge due to the Potential Redevelopment. However, the visual access towards the open sky view, the visual permeability and the depth of view will be largely retained.

Effect on Public Viewers

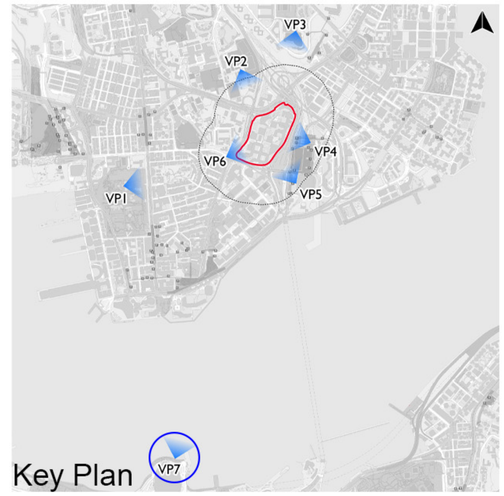
6.8.3 The VSRs are mostly the general public who engage in active/passive recreational activities at the urban waterfront, and their visual sensitivity will be high. The Potential Redevelopment are considered congruous to the surrounding context in visual terms with consideration of the building height profile in Kowloon Peninsula. The effect of visual change from this VP is negligible to slight.

Effect on Visual Resources

6.8.4 The ridgeline of the mountains in Kowloon, view of the Victoria Harbour, the iconic structure of Hong Kong Coliseum and the sky view are the major visual resources at this VP. The upper portion of the Potential Redevelopment would slightly obstruct the view towards the greenery of Unicorn Ridge and Tate's Cairn in the background. However, the Potential Redevelopment will not affect the visual access towards Victoria Harbour nor the open sky view. The view towards Hong Kong Coliseum will be retained after the completion of Potential Redevelopment. Therefore, the impact on visual condition, quality and character by the Potential Redevelopment will be minimal.



Existing Condition



Potential Redevelopment

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Viewpoint 7 – Hong Kong Convention & Exhibition Centre

Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University, Hung Hom, Kowloon

Figure 6.7

Visual Impact Assessment

Date: 11 December 2024

7 CONCLUSION

7.1.1 Based on the analysis on the appraisal of visual impact on Visual Composition, Visual Obstruction, Effect on Public Views and Effect on Visual Resources, **Table 7.1** below presents the overall visual impact caused by the Potential Redevelopment as compared with the existing condition to the VSRs represented in each VP.

Table 7.1 Summary of Assessment of Visual Impact at the Viewpoints

Viewpoint	Location	Visual Impact due to Potential Redevelopment	Visual Sensitivity	Effects of Visual Change
VP1	Kowloon Park	Negligible	Medium to High	Negligible
VP2	Wylie Path Outside the King's Park Sports Association	Slightly Adverse	Medium	Slight
VP3	Chung Yee Street Garden	Slightly Adverse	High	Negligible to Slight
VP4	Bus Terminal at Hung Hom Station	Moderately to Significantly Adverse	High	Moderate to Substantial
VP5	Open area of the Hong Kong Coliseum	Moderately Adverse	Medium to High	Moderate
VP6	Pedestrian Crossing at the Junction of Chatham Road South and Cheong Wan Road	Moderately Adverse	Low to Medium	Moderate
VP7	Hong Kong Convention & Exhibition Centre	Negligible to Slightly Adverse	High	Negligible to Slight

7.1.2 VP1 and VP7 captured the view towards the high-rise and dense urban townscape on Kowloon Peninsula. Existing developments obstructed the view towards the Potential Redevelopment completely when viewing from VP1, thus the visual impact on the Potential Redevelopment with the proposed maximum building height of +90mPD would be negligible from the viewpoint. For VP7, the proposed maximum height restriction of +90mPD would not appear out-of-context with the development profile in Kowloon Peninsula. Instead, the Potential Redevelopment may blend into the existing rhythmic skyline of the Kowloon Peninsula with the cohesive visual setting to the medium- to high-rise developments in the Tsim Sha Tsui and Hung Hom. The proposed maximum building height restriction of +90mPD restriction would not be incompatible when viewing from VP7.

7.1.3 VP2 and VP3 are selected as the mid-range viewpoints which provide an overall view of the main campus from the north. The prominent visual resources in these VP are the typical urban fabric found in the backdrop and the openness provided by the opened sports grounds at the foreground. The peripheral planting of these sports ground screened off the view towards the lower portion of the buildings in the main campus. Although the visual openness is inevitably affected by the Potential Redevelopment, sensitive design measures in Potential Redevelopment may help

alleviate the visual impact when viewing from these VPs.

7.1.4 VP4, VP5 and VP6 are selected as close-up viewpoints. Given the distance to height ratio, the building masses would become a lot more prominent. It is inevitable that the Potential Redevelopment will create visual obstruction to the open sky view due to the close distance from the viewpoints to the Site. Incorporation of staggered height profile, building setbacks, building gaps, permeable zones and other green and innovative designs to break down the building masses and alleviate the visual impact of the Potential Redevelopment as mentioned in this chapter earlier.

7.1.5 In views of the above, it is considered that the Potential Redevelopment with the proposed maximum building height restriction of +90mPD would not cause unacceptable visual impact. It is demonstrated that the overall visual impact for the Potential Redevelopment will be Negligible to Moderately to Significantly Adverse. In fact, a more lenient building height restriction will help enhance the spatial flexibility thus allowing more room for creative and innovative designs as mentioned in Section 4 above.

Appendix II

Air Ventilation Assessment – Expert Evaluation

Issue No.	:	5
Issue Date	:	December 2024
Project No.	:	819.4639

AIR VENTILATION ASSESSMENT – EXPERT EVALUATION

FOR

REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY IN HUNG HOM

Prepared By:

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COMMERCIAL-IN-CONFIDENCE

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Document Verification

Project Title	Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University in Hung Hom	**Project No.** 819.4639
Document Title	Air Ventilation Assessment	

Issue No.	Issue Date	Description	Prepared by	Checked by	Approved by
1	August 2023	1st Submission	Matthew Shiu	Joanne Ng	Grace Kwok
2	May 2024	2nd Submission	Matthew Shiu	Joanne Ng	Grace Kwok
3	November 2024	3rd Submission	Matthew Shiu	Joanne Ng	Grace Kwok
4	December 2024	4th Submission	Matthew Shiu	Joanne Ng	Grace Kwok
5	December 2024	5th Submission	Matthew Shiu	Joanne Ng	Grace Kwok

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1. Introduction

1.1.1. Allied Environmental Consultants ("AEC") has been appointed to conduct an Air Ventilation Assessment – Expert Evaluation ("AVA-EE") in support for the relaxation of building height for the Proposed Redevelopment of main campus of The Hong Kong Polytechnic University (hereafter refer to as the "Future Redevelopment") located at 11 Yuk Choi Road, Hung Hom (hereafter refer to as the "Subject Site").

2. Objectives

2.1.1. The main objectives of the study are to conduct a qualitative review and to evaluate potential air ventilation impact on the pedestrian wind environment in the vicinity of the Subject Site to achieve better air ventilation and mitigate the heat island effect.

3. Background

3.1.1. In conducting this AVA-EE, the following district-level AVA studies conducted in 2008 for Tsim Sha Tsui and 2020 for Yau Ma Tei have been made reference to:

- Cat. A Term Consultancy for Expert Evaluation and Advisory Services on Air Ventilation Assessment (PLNQ 37/2007), Final Report – Tsim Sha Tsui ("Tsim Sha Tsui AVA-EE")
- Cat. A1 Term Consultancy for Expert Evaluation on Air Ventilation Assessment (PLN AVA 2015), Final Report – For the Initial Scenario for Yau Ma Tei Planning Area ("Yau Ma Tei AVA-EE")

4. Site Characteristics

4.1 General

4.1.1. According to Tsim Sha Tsui AVA-EE, the concerned study area of Subject Site obtains a fair amount of open spaces and relatively low-density development with no major air ventilation issues. Since the easterly and south-easterly winds flow from the Victoria Harbour without obstruction, the easterly prevailing wind can penetrate this area and benefit the denser developed downwind area at the northwestern Tsim Sha Tsui. Furthermore, the open area along Chatham Road South also provides a useful continuous air path for the district and downwind area by diverting the south-westerly wind from Victoria Harbour.

4.1.2. Regarding to Yau Ma Tei AVA-EE, it is determined that the air movement from Subject Site by south-easterly prevailing wind drives into Gascoigne Road as a breezeway at southern Yau Ma Tei. The south-easterly prevailing wind also penetrate the concerned study area of Subject Site and forms the air path in Jordan Road, which facilitate the air ventilation performance at the highly dense southern Yau Ma Tei area.

4.2 Site Location and Future Redevelopment

4.2.1. The Future Redevelopment is largely zoned “Government, Institution or Community” (“G/IC”) on the approved Tsim Sha Tsui Outline Zoning Plan (“OZP”) No. S/K1/28. It is located at the northeast part of the Tsim Sha Tsui Area. The surrounding areas are mainly zoned “Open Space” (“O”), “G/IC”, Commercial” (“C”), “Residential (Group A)” (“R(A)”), “Residential (Group B)” (“R(B)”), “Other Specified Uses” (“OU”), “Comprehensive Development Area’ (“CDA”). ***Figure 1*** shows the location of the Future Redevelopment.

4.2.2. The Future Redevelopment comprise buildings with an additional 150,000m^2 GFA with a maximum height of 90mPD, and total number of staff and student upon redevelopment would be about 34,650 persons.

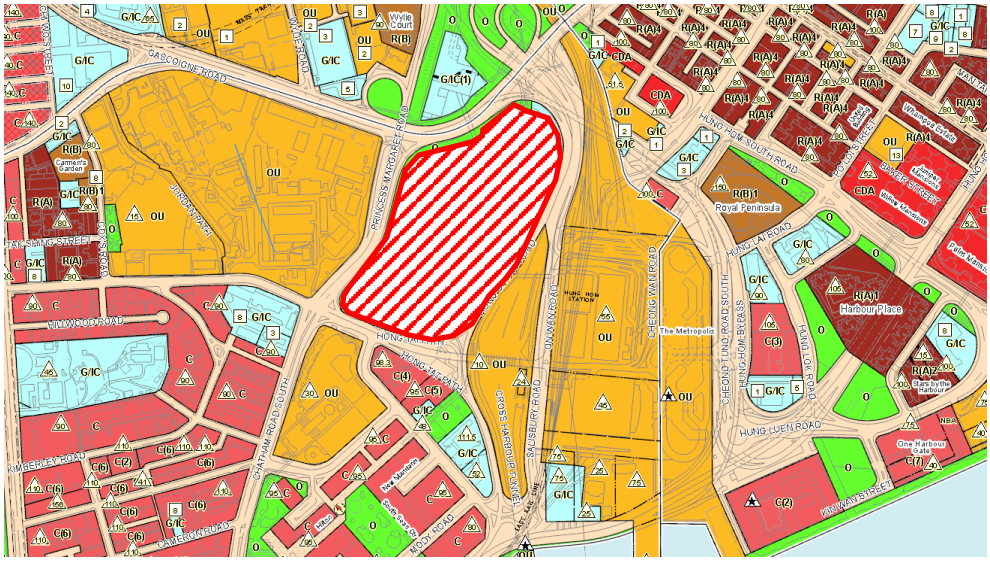


Figure 1 Location of Subject Site

4.3 Urban Morphology

4.3.1. The Subject Site is surrounded by low to mid-rise (up to 52mPD) buildings for other specified uses, high-rise commercial building (approx. 98mPD) and low to mid-rise GIC buildings (up to 56.8mPD). Further to the north, land of OU for Oi Sen Path and some open spaces are found. Further to the east, high-rise OU buildings of the Metropolis and high-rise residential development of Royal Peninsula are located. Further to the south, low-rise OU building of Hong Kong Science Museum and high-rise GIC building of Hotal ICON are found. Further to the west, low-rise OU buildings of Kowloon Cricket Club is located. The building heights near the surrounding and the land use in the surroundings are summarized in ***Table 1*** and ***Figure 2*** respectively.

Table 1 Building Heights of Major Development in the Surroundings

Surrounding Buildings	Building Heights (mPD)
Gun Club Hill Barracks	~10-45
Kowloon Cricket Club	~13-26
St. Mary's Canossian College	~27
Hong Kong Museum of History	~26
Hong Kong Science Museum	~27
Concordia Plaza	~98
New East Ocean Centre	~66
Hung Hom MTR Station	~27-52
Hong Kong Coliseum	~43
The Metropolis	~65-94
The Hong Kong Polytechnic University Hung Hom Bay Campus	~90
The Hong Kong Polytechnic University Student Halls of Residence	~75
Royal Peninsula	~120-148
Hung Hom Bay Substation	~16
International Funeral Parlour	~33

Surrounding Buildings	Building Heights (mPD)
Global Funeral Parlour	~25
China Travel Hip Kee Godown Co. (H.K.) Ltd. Godown No.2	~52
China Travel Hip Kee Godown Co. (H.K.) Ltd. Godown No.1	~52
Metropark Hotel Hung Hom	~95
The Hong Kong Polytechnic University Block Z	~45
Pakistan Club	~24
Hong Kong Girl Guides Association Headquarters (HKGGA)	~24
Wylie Court	~88
Harbour Crystal Centre	~50
Hotal ICON	~116
Rosary Church	~15
Winston Mansion	~54
Wah Lai Building	~49
Fok Lin Building	~50

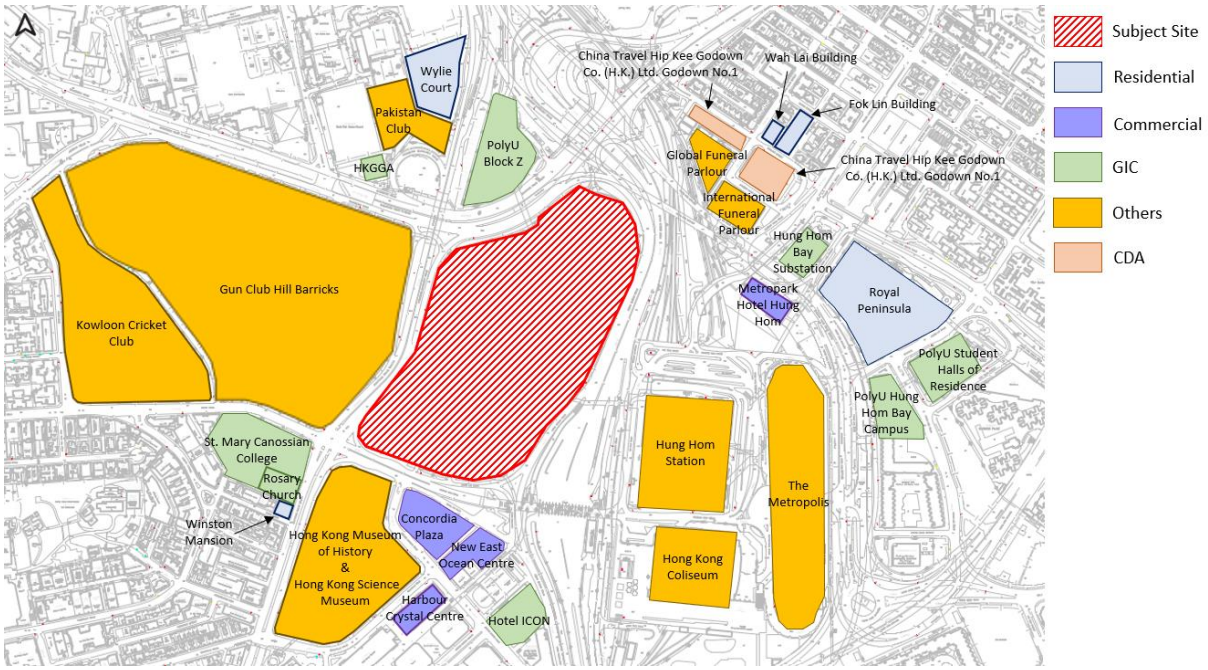


Figure 2 Surrounding Environment

5. Site Wind Environment

5.1 Wind Availability Data

Hong Kong Observatory

5.1.1. The Hong Kong Observatory records the metrological data in Hong Kong. Among all the weather stations in Hong Kong, wind data from Hong Kong Observatory Station shall be used for the discussion on overall wind environment in the region.

5.1.2. According to the wind availability data from Hong Kong Observatory Station from 1991 – 2020, the annual wind rose revealed winds flowing from the east, west and east-northeast directions (i.e. E, W, ENE) throughout the year. The wind data from June to August is adopted as the summer prevailing wind, where predominant summer winds are flowing from the east, west and west-southwest directions (i.e. E, W, WSW).

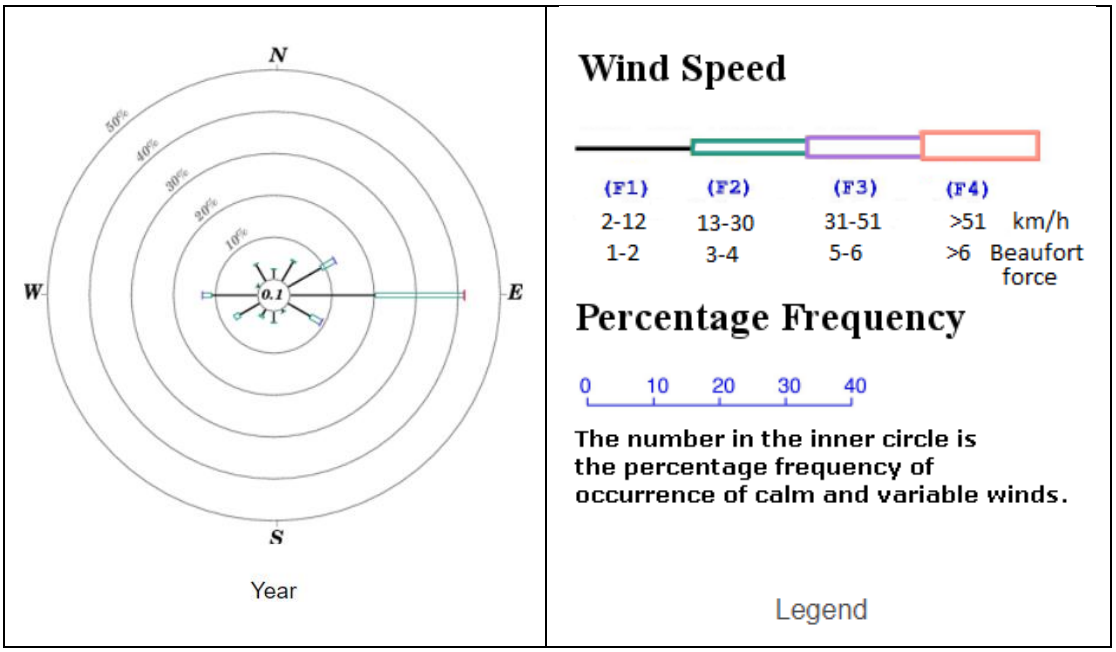


Figure 3 Annual Wind Rose for Hong Kong Observatory, 1991 - 2020

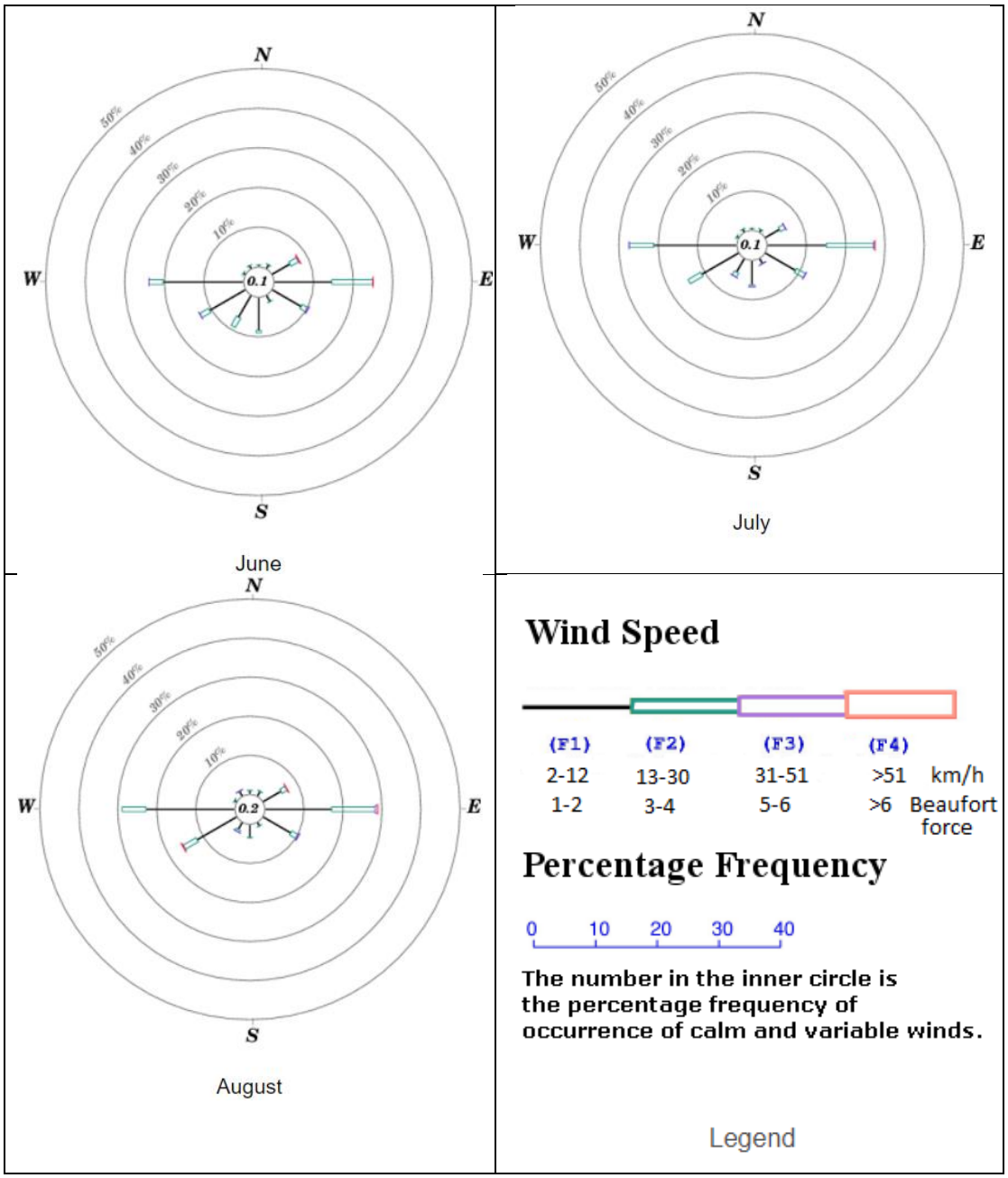


Figure 4 Summer Wind Rose for Hong Kong Observatory, 1991 - 2020

Experimental Site Wind Availability Study for Tsim Sha Tsui

5.1.3. The "Experimental Site Wind Availability Study for Tsim Sha Tsui" was conducted in 2007 to investigate wind performance in the Tsim Sha Tsui area. It is identified that E winds dominant during annual wind condition, while SW winds dominant during the summer wind condition. In general, annual prevailing winds shall flow from the northeast quadrant and summer prevailing winds shall from southwest quadrant. The wind roses during annual and summer conditions are shown in ***Figure 5*** and ***Figure 6*** respectively.

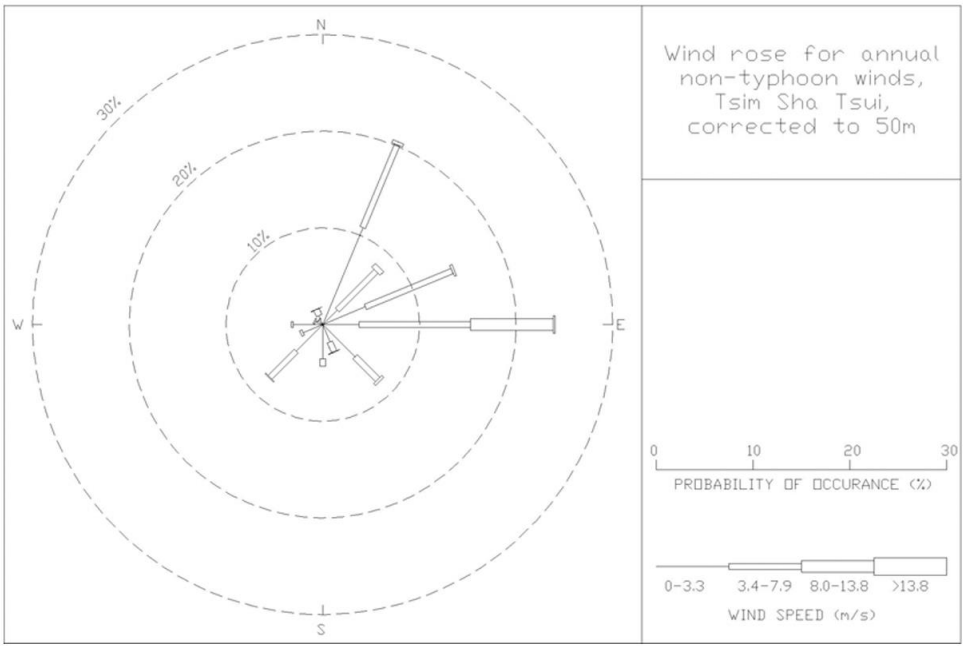


Figure 5 Annual Wind Rose for Tsim Sha Tsui at 50m

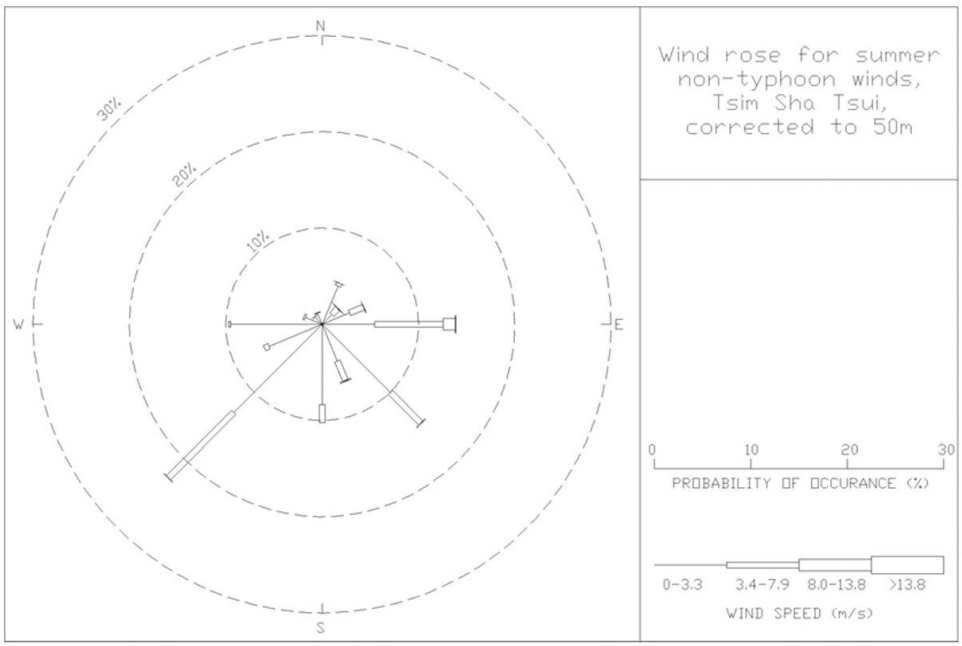


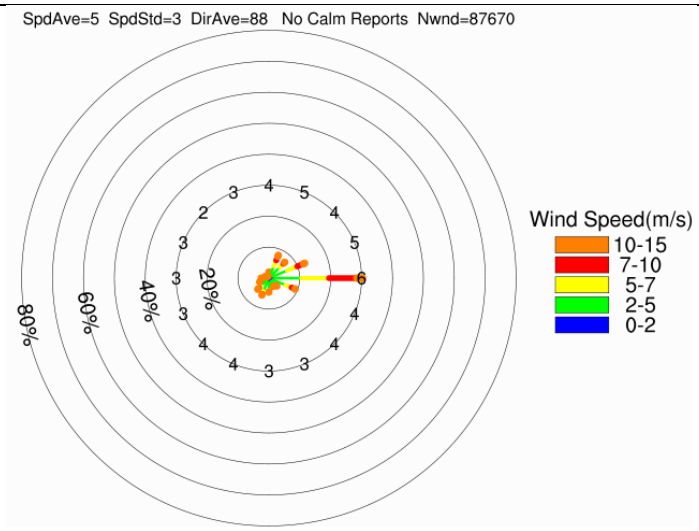
Figure 6 Summer Wind Rose for Tsim Sha Tsui at 50m

5.1.4. However, as only a small portion of Subject Site falls within the study area of the wind tunnel study in "Experimental Site Wind Availability Study for Tsim Sha Tsui", the result data from this study is not applicable to adopt for the directional wind analysis.

Regional Atmospheric Modelling System (RAMS)

5.1.5. Wind availability to the Future Redevelopment is evaluated with reference to the "Consultancy Study on Establishment of Simulated Site Wind Availability Data for Air Ventilation Assessments in Hong Kong"[1] simulated by the meso-scale model of Regional Atmospheric Modelling System (RAMS) Version 6.0 at the horizontal resolution of 0.5km * 0.5km.

5.1.6. The Future Redevelopment is mainly located within grid (081,039) in between Tsim Sha Tsui and Hung Hom. Wind availability data at 200m was adopted in this assessment. According to PlanD's simulated data, wind roses, wind direction and wind probability data are provided in ***Figure 7*** and ***Table 2***.

	Wind Rose – Annual
200m	
	Wind Rose – Summer

[1] http://www.pland.gov.hk/pland_en/info_serv/site_wind/site_wind/097039.html

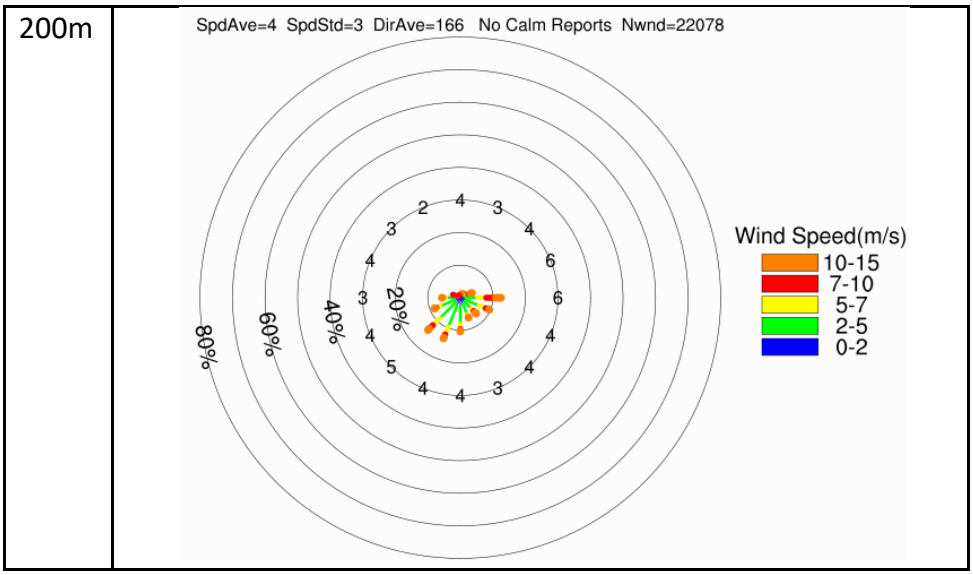


Figure 7 Wind Rose at Grid (081,039)

Table 2 Wind Probability at 200m (Grid 081,039)

Wind Direction	Annual Probability	Summer Probability
N	2.0%	0.8%
NNE	8.0%	1.3%
NE	7.3%	1.5%
ENE	**12.6%**	4.1%
E	**30.5%**	**12.6%**
ESE	**9.2%**	9.7%
SE	3.6%	6.9%
SSE	3.0%	6.6%
S	4.5%	10.3%
SSW	5.9%	**13.5%**
SW	5.1%	**14.1%**
WSW	3.2%	8.6%
W	2.5%	5.7%
WNW	1.3%	2.4%
NW	0.6%	0.9%
NNW	0.7%	0.8%

5.1.7. According to RAMS wind data, annual prevailing winds are the incoming winds flowing from the northeast quadrant and E direction, while summer prevailing winds are flowing southwest quadrant and from E direction.

5.1.8. Among the three sets of wind data, ***Table 3*** summarises the identified prevailing wind conditions of in Tsim Sha Tsui area. As RAMS data is the most updated and the HKO station is in close proximity to Subject Site, these two sets of wind data would be adopted for a comprehensive discussion on air ventilation performance of the Future Redevelopment and the wind environment at pedestrian level. As such, winds from the west, southwest quadrant, southeast quadrant and east and northeast quadrant will be focused in the discussion.

Table 3 Wind Data Summary

Sources	**Annual Wind**	**Summer Wind**
Hong Kong Observatory (Hong Kong Observatory station from 1991 -2020)	E, W, ENE	E, W, WSW
RAMS data (Grid 081,039)	ENE, E, ESE	E, SSW, SW

6. Existing Wind Environment

6.1 Road/ Street Pattern

6.1.1. Road network facilitates wind penetration to the Subject Site and the neighbouring areas. The prevailing W, WSW, ESE, E and ENE winds would be facilitated by the major air path of east-west roads of Cheong Wan Road – Austin Road and Gascoigne Road – Chatham Road South at the south and north of Subject Site respectively. The summer prevailing SW, SSW winds would be facilitated by the north-south roads of Chatham Road South. The air path along major road is illustrated in **Figure 8.**

6.2 Open Space

6.2.1. The open space located along the north-south roads of Chatham Road South create a wide air path allowing the SW, SSW winds channel into the urban area.

6.3 Topography

6.3.1. The Future Redevelopment is located on a relatively flat area of about 4 to 5mPD that shares similar topography to its immediate area. A higher ground elevation is observed at the Observatory hill, which is located at the southwest quadrant of the Future Redevelopment with the elevation of about 32mPD.

6.4 Existing Identified Air Path

6.4.1. The district-level detailed studies on air ventilation were conducted in Tsim Sha Tsui AVA-EE and Yau Ma Tei AVA-EE. The studies provided the findings of wind environment at the Subject Site and surrounding area, which the existing major air paths can be determined for further recommendations on design proposal at the Future Redevelopment.

6.4.2. According to the Tsim Sha Tsui AVA-EE and Yau Ma Tei AVA-EE, the major air paths are identified around the subject site, which are Chatham Road South, Austin Road and Gascoigne Road.

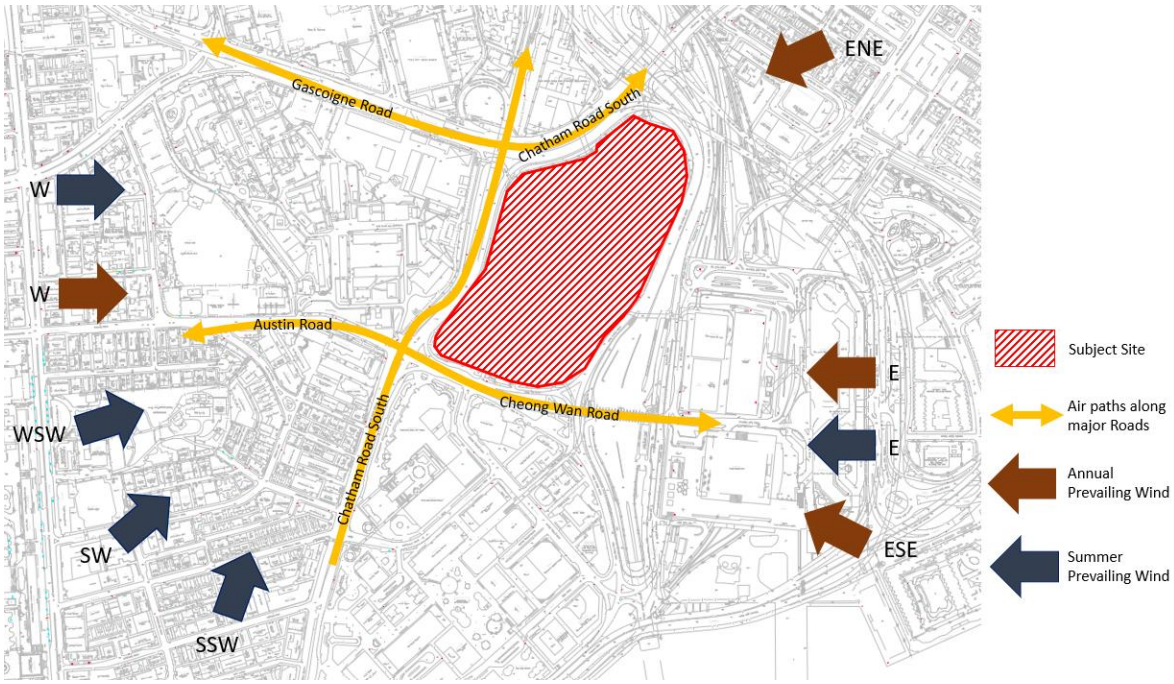


Figure 8 Prevailing Wind Environment in the Study Area

6.5 Existing Subject Site Characteristic

6.5.1. The information of the existing building heights within the Subject Site is supplied by Planning Department, combining with the planned development within site (i.e. Application Nos. A/K1/266 and A/K1/268), were served as the existing scenario for the assessment as shown in **Figure 9** below.

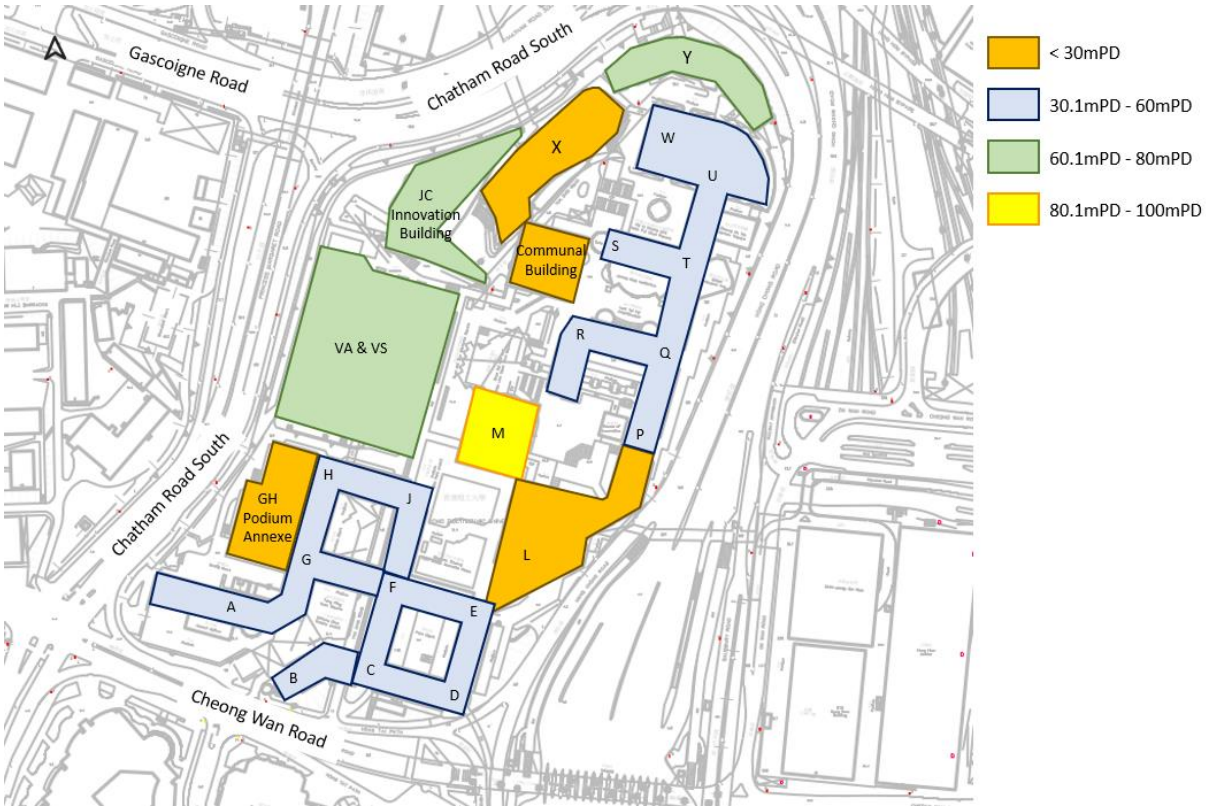


Figure 9 Existing Building Height within Subject Site

6.5.2. Design features that identified in the baseline scheme are listed as followings:

- The buildings were designed to raise above the podium with headroom of around 4m at ~12mPD to create sheltered open-air spaces. Permeable zones appear between the podium and building blocks to allow air to flow through generally from different directions.
- Buildings setbacks are applied in the western sides of the Subject Site from the road kerb of Chatham Road South with approximately 5-17m respectively.

6.6 Qualitative Analysis of the Existing Condition

ENE, E and ESE wind

6.6.1. Under the annual and summer prevailing wind condition, incoming ENE, E and ESE wind from the Hung Hom Station would flow through the Subject Site as shown in **Figure 10.** In general, residential area of Hung Hom is located at the northeast of Subject Site. With the predominately low to medium-rise height profile, portion of ENE and E winds are allowed to skim over the residential area and Hong Chong Road and reach the Site.

6.6.2. Besides, portion of ENE, E and ESE wind would be obstructed by high-rise developments to the east and southeast of the Subject Site, such as The Metropolis (65 to 94 mPD), Royal Peninsula (120 to 148 mPD), PolyU Hung Hom Bay Campus (90 mPD) etc. Portion of the wind flows would skim over the above-mentioned development, Hong Kong Coliseum and Hung Hom Station and reach the Subject Site. Subsequently, the ENE, E and ESE wind will then skim over the Subject Site due to its relatively low-rise nature and reach the downwind area in Gun Club Hill Barracks and Gascoigne Road. Portion of E and ESE wind would also reach Gascoigne Road after skim over the Subject Site and penetrate towards the downwind area.

6.6.3. The permeable zone appears between the podium and building blocks to allow air flow through under annual and summer prevailing E wind and annual prevailing ENE and ESE wind, promoting air permeability in the subject site and the downwind areas.

6.6.4. The ENE and E wind from Hong Hom area can also penetrate through Chatham Road South to the north of Subject Site and reach Gascoigne Road and the downwind area including the Gun Club Hill Barricks and Central Tsim Sha Tsui to facilitate the wind performance.

6.6.5. Portion of ENE, E, ESE wind will also penetrate through Cheong Wan Road – Austin Road from the upwind area of Hong Hom Bay after skim over Hong Kong Coliseum and Hung Hom Station, and reach the downwind area. This facilitates the wind environment at Northeast Tsim Sha Tsui in the downwind area.

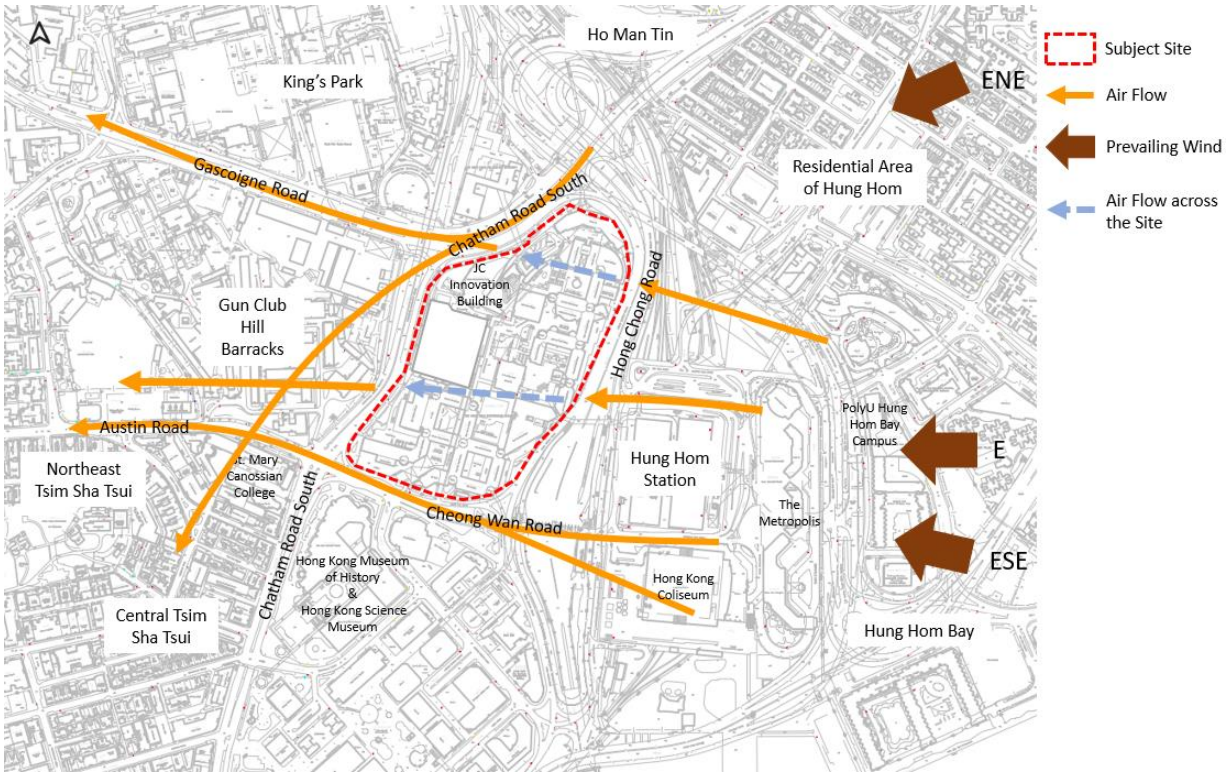


Figure 10 Annual/Summer Conditions ENE, E and ESE Wind Flow (Existing)

WSW and W wind

6.6.6. Under the annual and summer prevailing wind condition, incoming WSW and W wind from the residential/ commercial areas at Northeast Tsim Sha Tsui and the low-rise Gun Club Hill Barracks would flow through the Subject Site as shown in **Figure 11.**

6.6.7. The approaching prevailing winds from WSW and W would skim over the residential/ commercial areas at northeast of Tsim Sha Tsui and the low-rise Gun Club Hill Barracks and reach the Subject Site. After that, the prevailing winds will then skim over the Subject Site due to its relatively low-rise nature and reach the downwind area in Hung Hom Bay and residential aera of Hung Hom.

6.6.8. Portion of the prevailing wind would also penetrate through the two major air paths: the Austin Road – Cheong Wan Road to the south of the Subject Site; and Gascoigne Road – Chatham Road South to the north of the Subject Site respectively. Subsequently reaching the downwind areas in Hung Hom Bay and the residential aera of Hung Hom.

6.6.9. The permeable zone between the podium and building blocks would allow air flow through under annual and summer prevailing W wind and summer prevailing WSW wind, promoting air permeability in the subject site and the downwind areas.

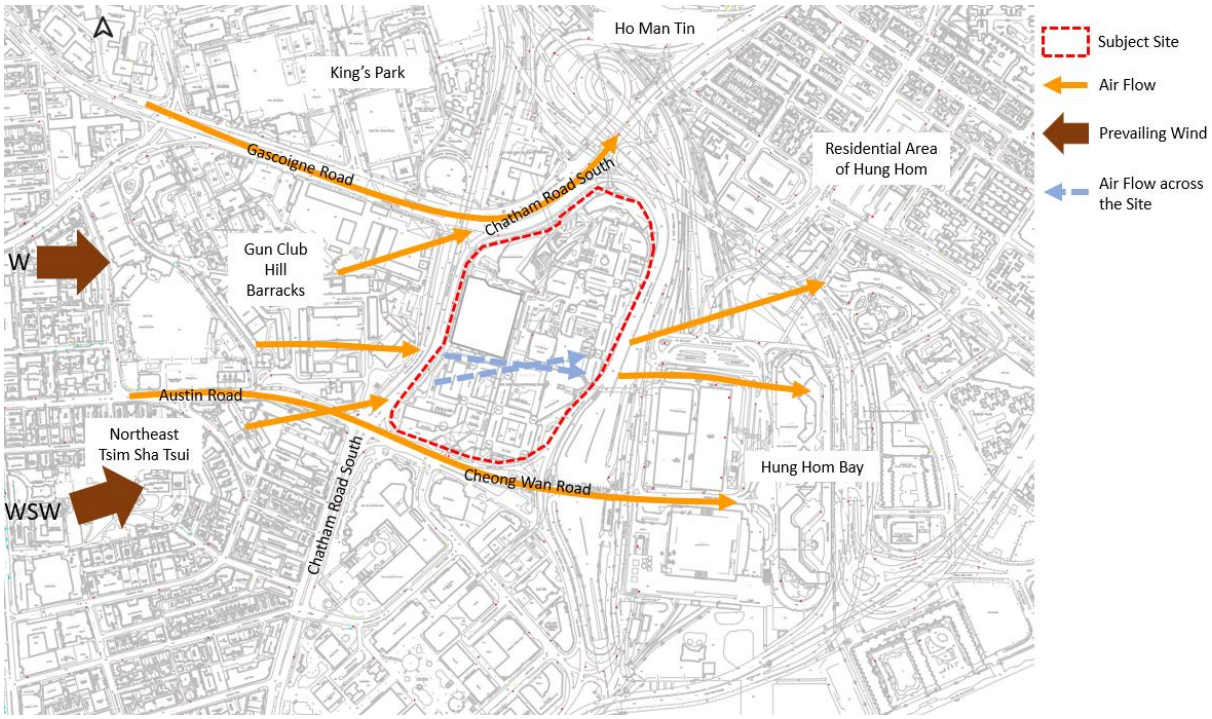


Figure 11 Annual/Summer Conditions WSW and W Wind Flow (Existing)

SSW and SW wind

6.6.10. Under the summer prevailing wind condition, incoming SW and SSW wind from the Victoria Harbour are limited by the commercial area of Tsim Sha Tsui to the southwest of the Subject Site. As such, the prevailing winds are generally channelized by Chatham Road South and would flow along the western part of the Subject Site as shown in **Figure 12.**

6.6.11. A strip of open space zone along the western side of the Subject Site at approximately 5-17m existing building setback from the road kerb of Chatham Road South, which widened the road section of Chatham Road South next to the Subject Site to facilitate the air flow along the corresponding air path. Combining with the open space created by The Urban Council Centenary Garden West Area, Hong Kong Museum of History and Hong Kong Science Museum along Chatham Road South, SSW and SW wind can be promoted from the Victoria Harbour through the wide air path. Eventually reaching the downwind area at southeastern King's Park and the residential area at Ho Man Tin located to the north of Subject Site.

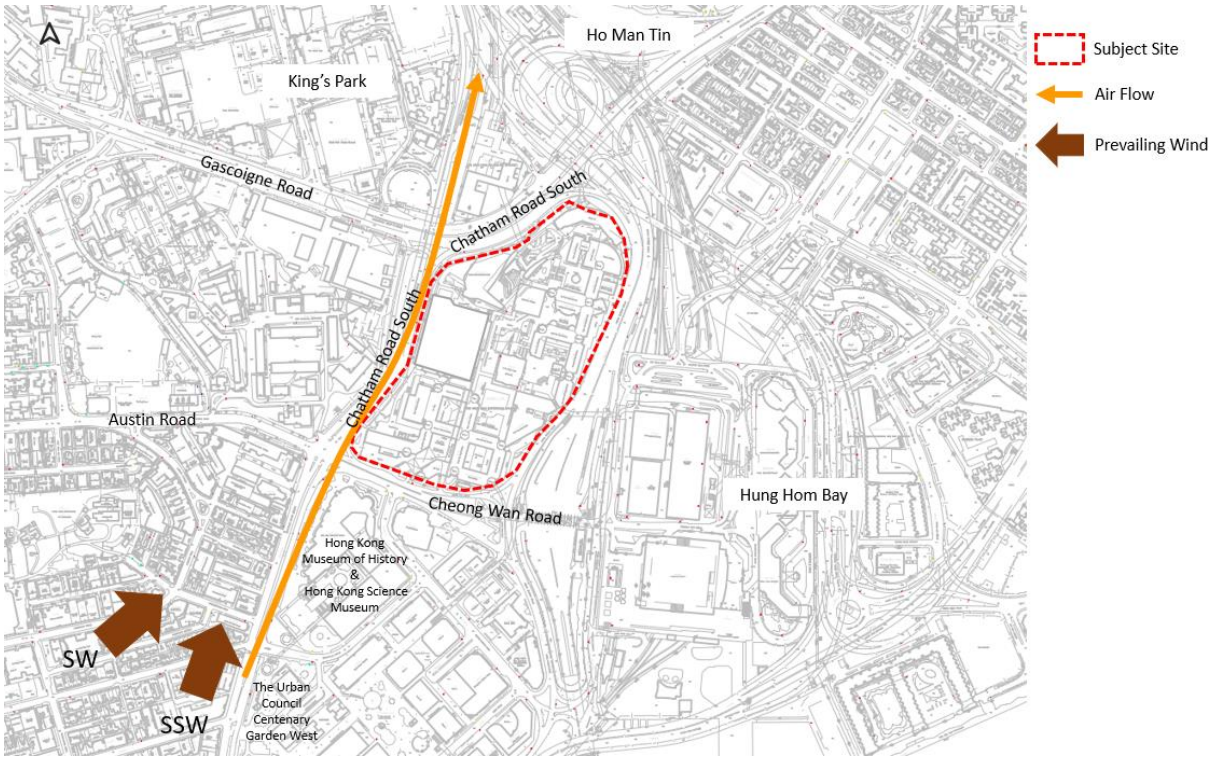


Figure 12 Summer Conditions SW and SSW Wind Flow (Existing)

7. Design Enhancement Proposal

7.1 Future Redevelopment

7.1.1. In order to alleviate the impact of air ventilation to the surrounding neighbourhoods, it is proposed to maintain the existing good design approach on buildings height layout and block design within the Future Redevelopment as well as the existing air paths to facilitate air flow towards the downwind areas. The design enhancement proposal involves the following design considerations:

- Avoid creating wall effect by increasing building permeability of the building blocks;
- Provision of good design to divert air flow across Future Redevelopment towards downwind area;
- Maintain existing air path to retain air ventilation quality of the neighbouring area with no air ventilation issues.

7.1.2. The following design mechanisms are applied to ensure that good design approaches are implemented to facilitate the airflow:

- Permeable Zones
  - There are gaps created between the podium and building blocks with a headroom of around 4m to allow air to flow through, which the wall effect of buildings can be avoided and minimise the blockage of air due to the building blocks.
- Building Setback
  - Setback the building at the northern and western part of Future Redevelopment for approximately 5-17m from the road kerb of Chatham Road South to align with the existing scenario, which shown in **Figure 13.**
  - The provision of building setback in the Future Redevelopment would help to maintain the width of air path for facilitating the air flow.

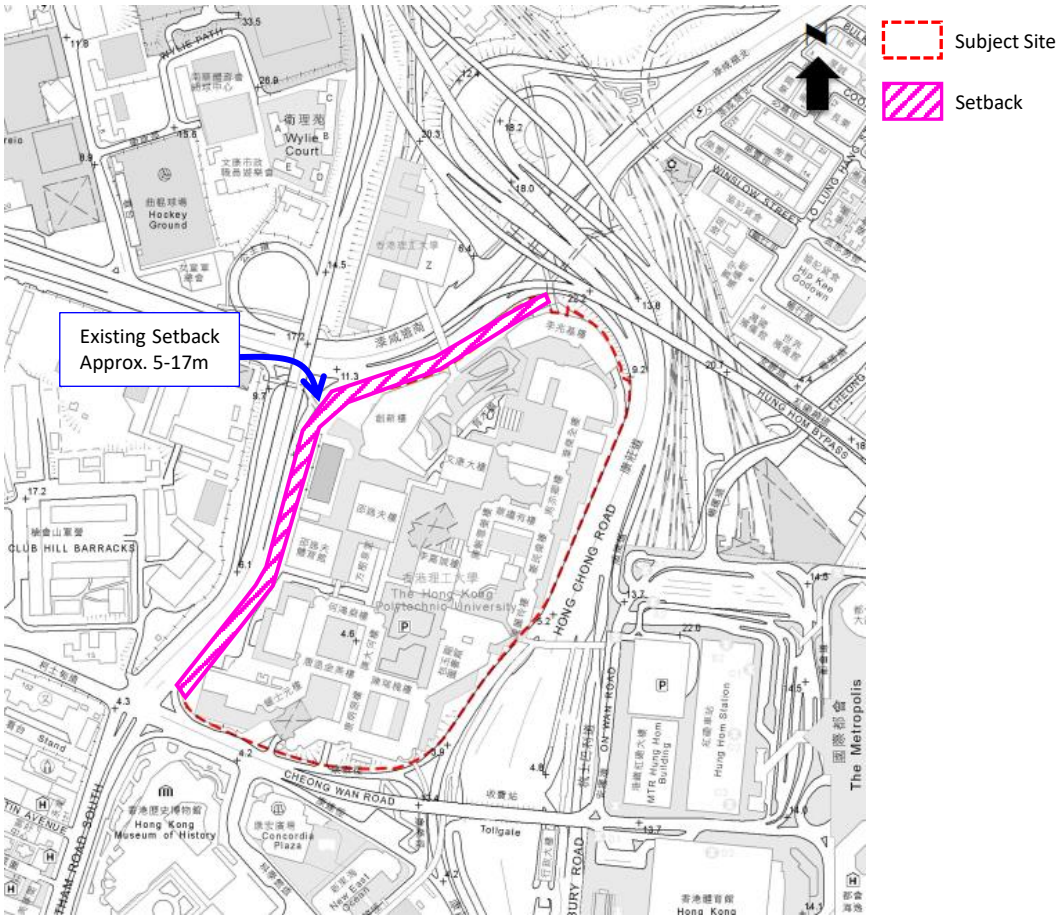


Figure 13 Illustration of Building Setback

7.2 Adopted Design Concept

7.2.1. As shown in **Figure 14**, the Future Redevelopment is generally divided into 3 zones based on elevation, namely Low Zone (lower than +45mPD), Medium Zone (+45mPD to +70mPD) and High Zone (+70mPD to +90mPD). Strips of Low Zone are mainly located at the southeast and southwest corners. The Medium zone is located at the eastern and western edges of the Subject Site. While the high zone will be distributed at the north, central and southern part of the Subject Site.

7.2.2. Meanwhile, the existing building setback from the road kerb is maintained at northern and western boundaries of the Subject Site as it is the existing amenity area under lease.

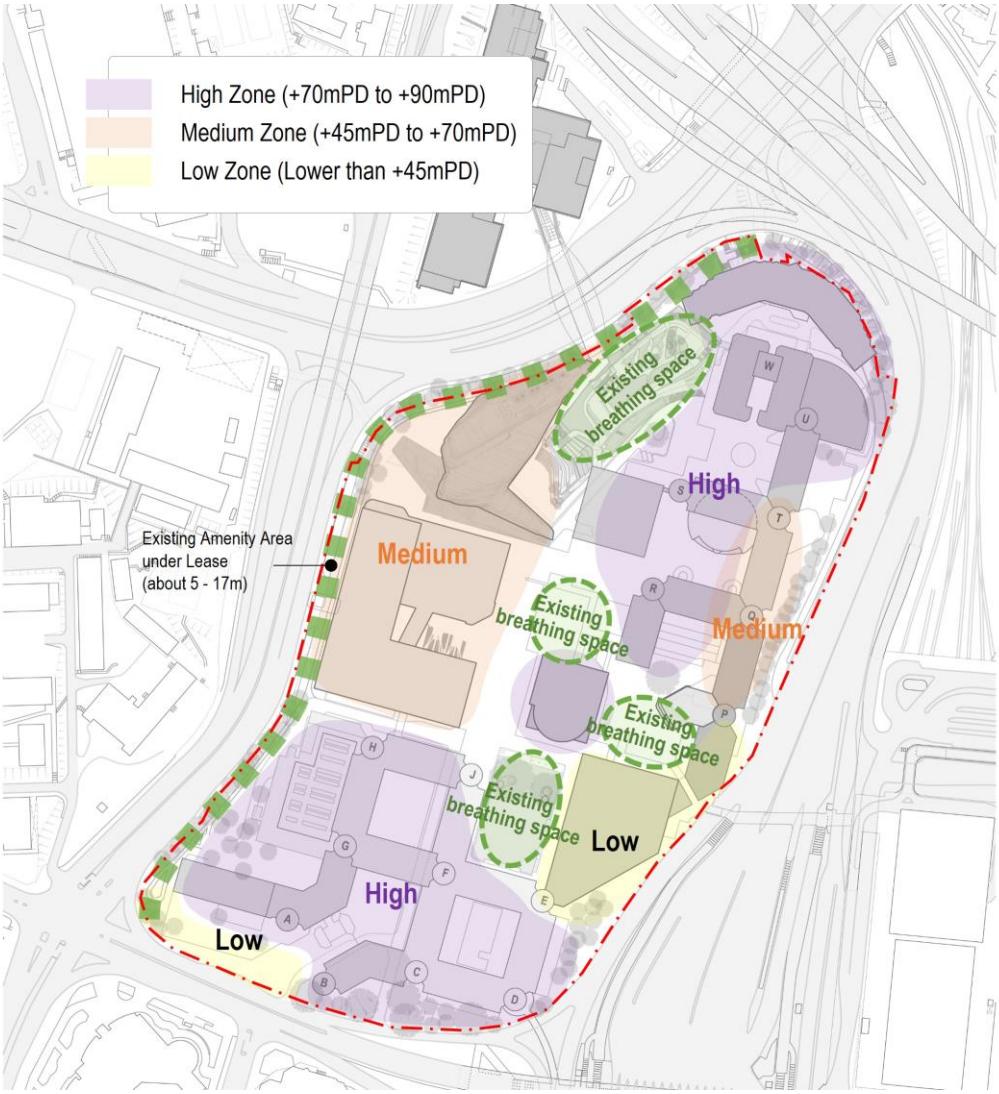


Figure 14 Design Concept Diagram

8. Qualitative Analysis of Future Redevelopment

8.1 Possible Effect on Ventilation Performance

ENE, E and ESE wind

8.1.1. The increase in building height restriction of the Future Redevelopment will inevitably induce some wind blockage under these prevailing winds to the west and southwest of the Site including Gun Club Hill Barracks, St. Mary's Canossian College and Hong Kong Museum of History.

8.1.2. The major air path of Gascoigne Road – Chatham Road South at the north of Subject Site is still retained without any additional obstruction by the Future Redevelopment as the setback distance from Chatham Road South will be maintained as existing condition. The ENE and E wind from Hung Hom area can still penetrate through Chatham Road South and reach Gascoigne Road and the downwind area such as Gun Club Hill Barracks and Central Tsim Sha Tsui.

8.1.3. While some portion of approaching prevailing winds will be obstructed by the high-rise developments to the east and southeast of the Subject Site. The major air path of Austin Road – Cheong Wan Road at the south of Subject Site is still retained without any additional obstruction by the Future Redevelopment, preserving the existing air path width in Cheong Wan Road. This maintains the major air path along Cheong Wan Road and Austin Road and allow the ENE, E and ESE wind to flow towards the downwind area in Northeast Tsim Sha Tsui.

8.1.4. The permeable zone at podium level will be maintained in the Future Redevelopment with a headroom of around 4m, which aligns with the existing scenario to allow wind flow from ENE, E and ESE directions. The permeable zone would allow wind flow across the Future Redevelopment to the downwind area as described in **Section 6.6.3**.

8.1.5. The wind flow pattern under annual and summer prevailing wind conditions are shown in **Figure 15**. With the maintained good design features under the enhancement proposal, no significant adverse air ventilation impact to the surrounding pedestrian wind environment is anticipated.

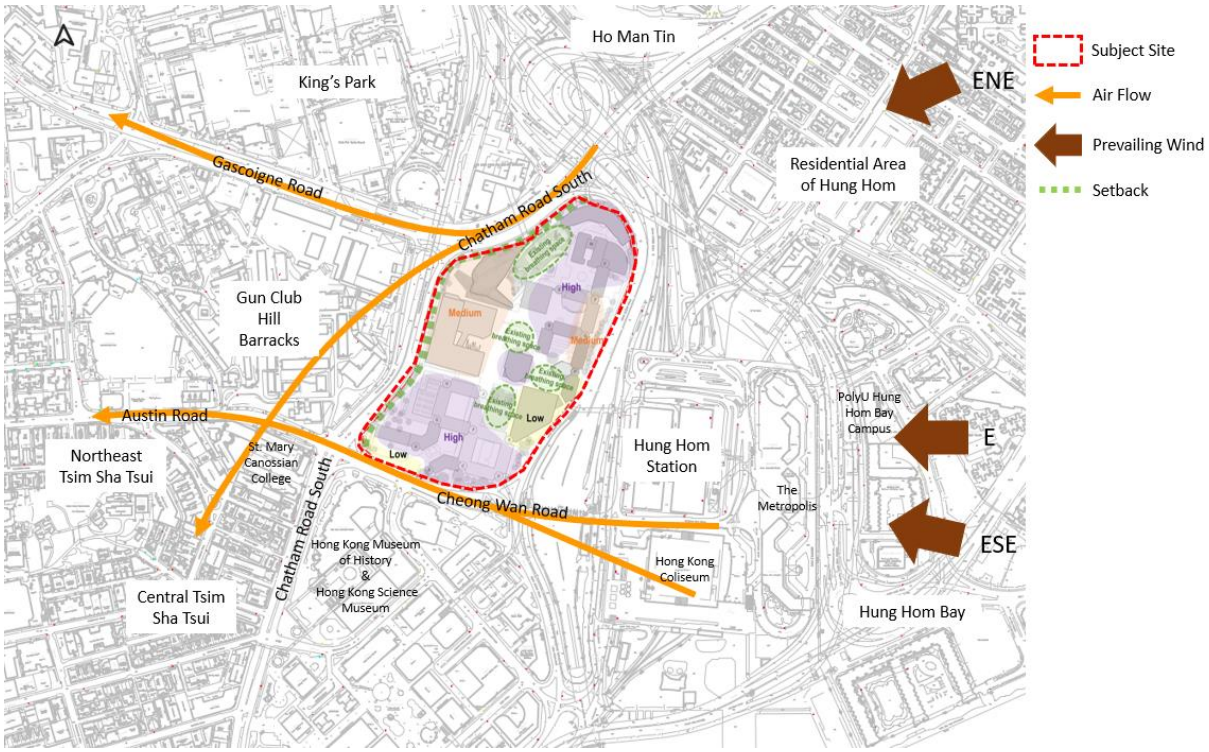


Figure 15 Annual/Summer Conditions ENE, E and ESE Wind Flow (Proposed)

WSW and W wind

8.1.6. The increase in building height restriction of the Future Redevelopment may induce some wind blockage under these prevailing winds to the east of the Site including the bus terminal to the north of Hung Hom Station.

8.1.7. Portion of the prevailing wind will still be able to penetrate through the Austin Road – Cheong Wan Road to the south of Subject Site and reach the downwind area as no additional obstruction will be induced by the Future Redevelopment due to the air path of Austin Road – Cheong Wan Road is maintained.

8.1.8. The major air path of Gascoigne Road – Chatham Road South at the north of Subject Site is still retained without any additional obstruction by the Future Redevelopment as the setback distance from Chatham Road South will be maintained as existing condition. The WSW and W wind can still penetrate through Gascoigne Road - Chatham Road South and reach the downwind area.

8.1.9. The permeable zone between the podium level and building blocks with a headroom of 4m is maintained in the Future Redevelopment. It would allow the prevailing annual and summer WSW and W wind to flow across the Subject Site as mentioned in **Section 6.6.9**. No significant effect on the wind environment to Eastern Hung Hom Bay residential area, is expected due to its distance from the Subject Site.

8.1.10. The wind flow pattern under annual and summer prevailing WSW and W wind conditions are shown in **Figure 16**. With the maintained good design features under the enhancement proposal, no significant adverse air ventilation impact to the surrounding pedestrian wind environment is anticipated.

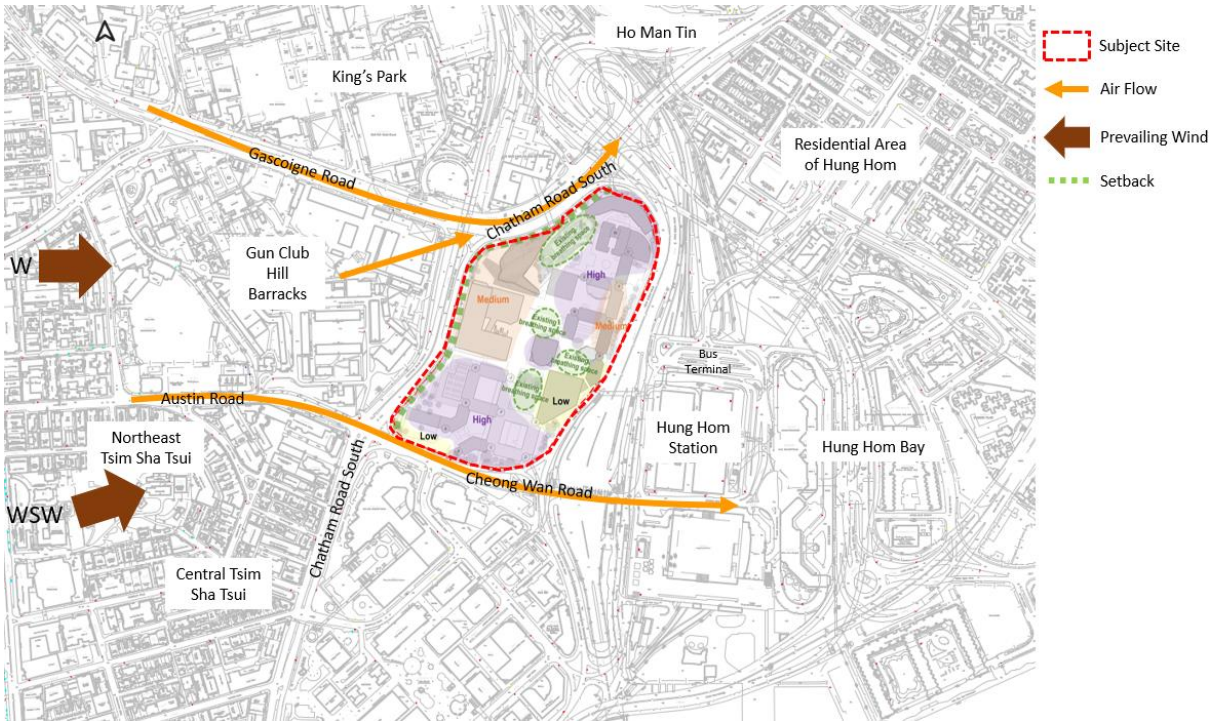


Figure 16 Annual/Summer Conditions WSW and W Wind Flow (Proposed)

SSW and SW wind

8.1.11. Under the summer prevailing wind condition, incoming SW and SSW wind from the Victoria Harbour would be channelized at Chatham Road South and reach the downwind areas as shown in **Figure 17**.

8.1.12. The Future Redevelopment proposal maintains the 5-17m building setback along the west of the Subject Site, preserving the existing air path width in Chatham Road South. Combined with a strip of open space starting from the urban council Centenary Garden West to the Hong Kong Museum of History & Hong Kong Science Museum, this maintains a wide major air path along Chatham Road South which facilitate the air flow of SSW and SW wind towards the downwind area as described in **Section 6.6.11**.

8.1.13. With the application of the building setback along the west of the Subject Site, it is anticipated there shall be insignificant impact to the wind environment in the surrounding area under the summer prevailing SW and SSW wind.

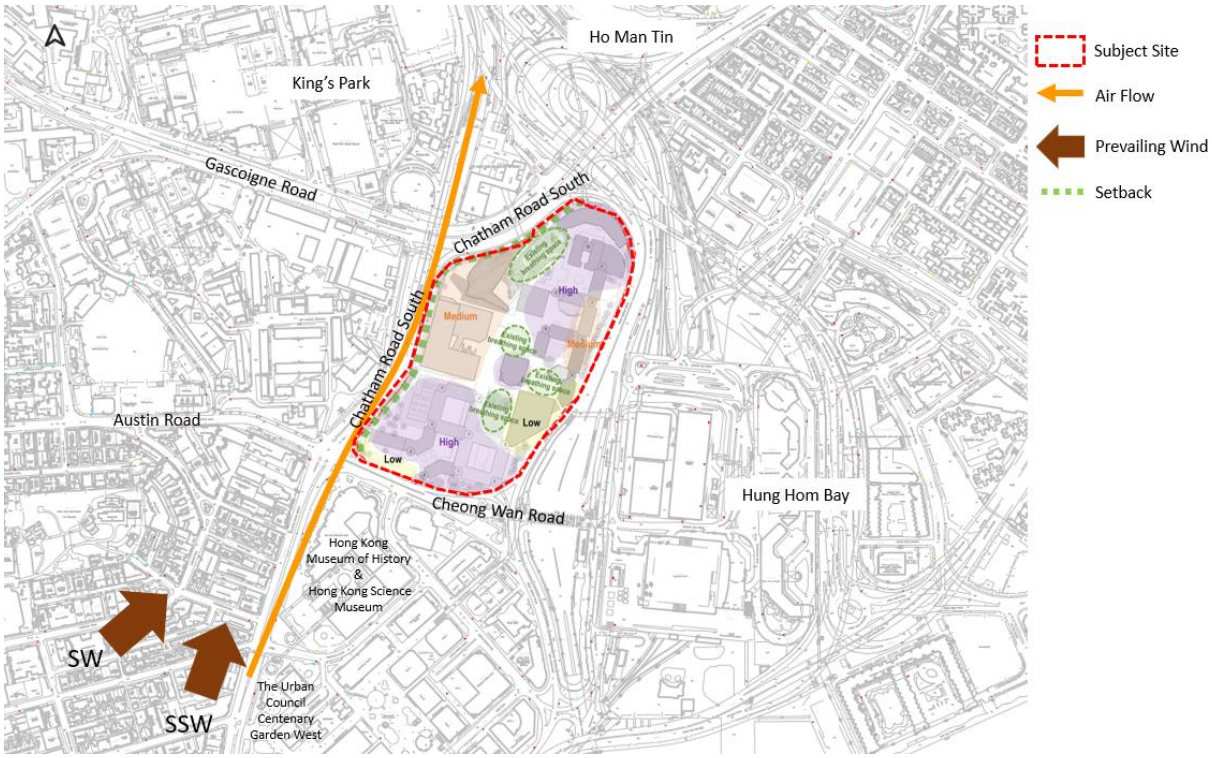


Figure 17 Summer Conditions SW and SSW Wind Flow (Proposed)

8.1.14. Although the building height limit in Future Redevelopment is increased, the good design features implemented in the design enhancement proposal to align with the existing design feature for ventilation help to alleviate the impact of air ventilation performance on the surrounding pedestrian wind environment. It is anticipated that there shall be no significant adverse impact on the surrounding pedestrian wind environment due to Future Redevelopment with the provision of design measures based on the evaluation.

9. Conclusions

9.1.1. The ENE, E, ESE and W winds are identified as annual prevailing winds, while the WSW, W, E, SW and SSW winds are identified as summer prevailing winds. In the existing condition, the Subject Site is generally in low to medium building height profile with permeable zone at the podium level. Meanwhile for the Future Redevelopment, the Subject Site is generally in medium to high building height profile with maximum building height restriction of 90mPD. The permeable zone and building setback in the existing condition will also be maintained in the future.

9.1.2. The prevailing winds generally skim over the Site and penetrate to the major air paths including Cheong Wan Road, Chatham Road South and Gascoigne Road towards the downwind area under the existing condition.

9.1.3. In the Future Redevelopment, there may be additional wind blockage towards the east, west and southwest of the Site including the bus terminal to the north of Hung Hom Station, Gun Club Hill Barracks, St. Mary's Canossian College and Hong Kong Museum of History. Nevertheless, by maintaining building setbacks from Chatham Road South, air flow along the existing air paths at Gascoigne Road, Chatham Road South and Cheong Wan Road would be maintained. Provision of the permeable zone design would also allow air flow across the future redevelopment. As such, with the incorporation of design measures, the proposed relaxation of building height restriction from 45 mPD to 90 mPD would unlikely induce significant adverse air ventilation impact to the surrounding pedestrian wind environment.

9.1.4. With the incorporation of design measures, the proposed relaxation of building height restriction from 45 mPD to 90 mPD would unlikely induce significant adverse air ventilation impact to the surrounding pedestrian wind environment.

Appendix III

Sewerage Impact Assessment

Issue No.	:	Issue 5
Issue Date	:	Oct 2024
Project No.	:	819.4639

SEWERAGE IMPACT ASSESSMENT

FOR

REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY IN HUNG HOM

Prepared by

Allied Environmental Consultants Limited

COMMERCIAL-IN-CONFIDENCE

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Document Verification

Project Title	Review of Building Height Restriction of the Main Campus of the Hong Kong Polytechnic University in Hung Hom	**Project No.**	819.4639
Document Title	Sewerage Impact Assessment		

Issue No.	Issue Date	Description	Prepared by	Checked by	Approved by
Issue 1	August 2023	1st Submission	Matthew Shiu	Joanne Ng	Grace Kwok
Issue 2	May 2024	2nd Submission	Matthew Shiu	Joanne Ng	Grace Kwok
Issue 3	Sept 2024	3rd Submission	Various	Joanne Ng	Grace Kwok
Issue 4	Oct 2024	4th Submission	Various	Joanne Ng	Grace Kwok
Issue 5	Oct 2024	5th Submission	Various	Joanne Ng	Grace Kwok

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1. Introduction

1.1.1. Allied Environmental Consultants Limited (AEC) is commissioned to conduct a Sewerage Impact Assessment (SIA) in support for the relaxation of building height for the Future Redevelopment of main campus of The Hong Kong Polytechnic University (hereafter refer to as the "Future Redevelopment") located at 11 Yuk Choi Road, Hung Hom (hereafter refer to as the "Project Site").

2. Objectives

2.1.1. Main objectives of the study are to review the existing sewerage facilities in the vicinity of the Future Redevelopment, to evaluate potential sewerage impact based on estimated sewage generation, and to recommend appropriate options for sewage discharge from the Future Redevelopment.

3. Description of the Future Redevelopment

3.1.1. The Project Site is currently zoned "Government, Institution or Community" ("GI/C") on the Approved Tsim Sha Tsui Outline Zoning Plan ("OZP") No. S/K1/28. The surrounding areas are mainly zoned "Government, Institution or Community" ("G/IC"), "Green Belt" ("GB"), "Other Specified Uses" ("OU") and "Commercial" ("C").

3.1.2. The Project Site area is bounded by the Chatham Road to the west and Hong Chong Road to the east. ***Figure 3-1*** shows the location of the Project Site.

3.1.3. The Future Redevelopment is tentatively scheduled for completion by 2030 which introduced an additional 150,000sqm GFA and total number of staff and student upon redevelopment would be about 34,650 persons.

4. Description of Sewerage System

4.1.1. Drainage record plans were obtained from the drawing office of the Drainage Services Department ("DSD"), along with the information provided in Underground Utility Survey Report as attached in ***Appendix 7-4***. The Project Site is indicated on the drainage record plans as shown in ***Figure 3-1.*** Concerned sewerage network was identified for succeeding estimation of the potential sewerage impact to the downstream sewers associated with the Future Redevelopment.

4.1.2. For future scenario, the sewage discharged from Proposed Redevelopment within the Project Site would be channeled into sewerage systems along Chatham Road South, subject to the redevelopment schedule. ***Figure 3-1*** illustrates an overview of existing sewerage system, catchment areas outside and inside the SIA study area. The sewage discharged from the corresponding catchment areas is conveyed to To Kwa Wan Preliminary Treatment Works and discharged to Stonecutter Island Sewage Treatment Works (SCISTW) for further treatment and ultimate disposal.

5. Legislation, Standards and Guidelines

5.1.1. With reference to ProPECC PN 1/23 Drainage Plans Project to Comment by the Environmental Protection Department, foul water should be discharged to a foul sewer under the building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations 40(1) and 41(1).

5.1.2. The following standards and guidelines are adopted for estimation, assessment and evaluation of sewerage implication of the Future Redevelopment:

- "Hong Kong Planning Standards and Guidelines" issued by the Planning Department;
- "Sewerage Manual Part 1" published by DSD; and
- "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0 (Report No.: EPD/TP1/05)" ("GESF") published by Environmental Protection Department ("EPD").

6. Estimation of Sewage Flow and Peak Discharge

6.1. Methodology for Estimation of Average Dry Weather Flow

6.1.1. With reference to the GESF, the Unit Flow Factors ("UFF") for different types of population as shown in ***Table 6-1*** have been used in calculation of sewerage flow from the Future Redevelopment, upstream developments.

Table 6-1 Recommended Unit Flow Factors

Development Type	Unit	UFF (m^3/day)
Commercial Flow [1]		
J4, Wholesale & Retail	Employee	0.28
J6, Finance, Insurance, Real Estate & Business Services	Employee	0.08
J10, Restaurants & Hotels	Employee	1.58
J11, Community, Social & Personal Services	Employee	0.28
Industrial, Central Kowloon	Employee	0.63
School student [1]	Student	0.04

Notes:
[1] UFFs for various occupancy types are adopted according to Table T-1 and Table T-2 of the GESF.

6.2. Methodology for Estimation of Peak Discharge

6.2.1. Catchment inflow factor ("P_{cif}") caters for the net overall ingress of wastewater to the sewerage system. They are catchment-dependent and applicable to major sewerage facilities of a catchment.

6.2.2. As mentioned in ***Section 4.1.2***, sewage discharged from concerned catchments is conveyed to the To Kwa Wan Preliminary Treatment Works and discharged to Stonecutter Island Sewage Treatment Works (SCISTW) for further treatment and ultimate disposal. In accordance with Table T-4 and Annex 1 of Appendix VII - Part 1 of the GESF, the P_{cif} of 1.0 is adopted for existing sewerage because concerned sewerage system is identified in Central Kowloon.

6.2.3. Revised average dry weather flow ("revised ADWF") is determined by production of average dry weather flow and catchment inflow factor. Contributing population is then calculated by dividing the revised ADWF by 0.27. The calculated contributing population is finally used for selection of peaking factors.

6.2.4. Based on ***Table 6-2*** which is also presented in Table T-5 in GESF, the peaking factors for each sewer are chosen in the hydraulic calculation for peak flow estimation.

Table 6-2 Peaking Factors

Population Range for Sewers [1] [2]	**Peaking Factor (including storm water allowance) for facility with existing upstream sewerage**	**Peaking Factor (excluding storm water allowance) for facility with new upstream sewerage**
< 1000	8	6
1000 - 5000	6	5
5000 - 10000	5	4
10000 - 50000	4	3
> 50000	Max (7.3 / $N^{0.15}$, 2.4)	Max (6 / $N^{0.175}$, 1.6)

Notes:
[1] N is the contributing population in thousands.
[2] According to Section 12.1 of GESF, contributing Population = Calculated Total Average Flow (m^3/day) ÷ 0.27 (m^3/person/day)

6.3. Sewage Flow and Peak Discharge of Existing Scenario and Future Redevelopment

6.3.1. The Project Site is divided into three catchment areas, namely Catchment A, Catchment B and Catchment C as shown in ***Figure 3-1*** and the sewage flow for these catchments are presented in ***Table 6-3***. The population estimated Averaged Dry Weather Flow ("ADWF") of catchments in the Existing Scenario and Future Redevelopment are summarized in ***Appendix 6-1*** and ***Appendix 6-2***.

Table 6-3 Sewage Flow for the Existing Scenario and Future Redevelopment

	Population[1]	**ADWF (m^3/day)[2]**
Existing Scenario		
Catchment A	11158	1029.8
Catchment B	9128	826.9
Catchment C	11214	883.2
Total	**31500**	**2739.8**
Future Redevelopment		
Catchment A	12213	1128.2
Catchment B	11651	966.5
Catchment C	10786	919.4
Total	**34650**	**3014.1**

Notes:
[1] Information provided by Project Team.
[2] The presented value would be slightly different to the value from manual calculation due to numerical round-off.

7. Sewer Capability

7.1. Methodology for Occupancy Rate of Sewer

7.1.1. The Colebrook White's equation is adopted for hydraulic analysis of the sewerage system. Various roughness coefficients, k_s, are adopted in accordance with Table 5 of DSD's "*Sewerage Manuel Part 1*".

7.2. Public Sewer Connected to the Future Redevelopment

7.2.1. Different catchment areas are defined as shown in ***Figure 3-1*** to consider upstream sewage generation. Jockey Club Innovation Tower and Block X in Catchment A, Global Funeral Parlour in Catchment D are considered as upstream sewage generation of the proposed development. Catchment A consist of Block X, Block VA & VS, Jockey Club Innovation Tower and Fong Shu Chuen Hall. Catchment B consists of Block W, Anita Chan Lai Ling Building, Mong Man Wai Building, Shirley Chan Building, Choi Kai Yau Building, Chow Yei Ching Building, Jockey Club Auditorium, Communal Building, Ng Wing Hong Building, Yip Kit Chuen Building, Cheung On Tak Lecture Theatre and Lee Shau Kee Building. Catchment C consists of the remaining building within Polytechnic University. Catchment D is Global Funeral Parlour. Catchment E consists of Concordia Plaza and New East Ocean Centre.

7.2.2. The population sizes for the catchment areas are presented in ***Appendix 6-1*** *and* ***6-2*** from existing and future scenario respectively. For existing scenario, the discharge from the catchment areas is channeled into different sewerage systems along Chatham Road South, Hong Chong Road, and Hong Tai Path. For future scenario, the discharge from the Proposed Redevelopment would be channeled into sewerage systems along Chatham Road South, subject to the redevelopment schedule.

7.3. Peak Discharge from Catchment Areas

7.3.1. Flow rates of peak discharge from the Future Redevelopment are estimated in accordance with the DSD's "*Sewerage Manual Part 1*". Peak flows under existing and future condition are summarized in ***Table 7-1*** and ***Table 7-2*** respectively and detailed calculation is given in ***Appendix 7-1*** *and* ***7-2.***

Table 7-1 Population and Sewage Flow Estimation under Existing Scenario

Contributing Catchment Area	Sewer No.				ADWF (m^3/day)	Contributing Population[1]	Peaking Factor[2]	Total Peak Discharge (m^3/s) (including swimming pool backwash)
	ID	From	ID	To				
Existing Scenario								
Catchment A and D	1	FMH4000522	2	FMH4000524	1183	4381	6.0	0.177
Catchment C and E	3	FMH4000392	4	FMH4000393	1191	4412	6.0	0.083
Catchment C and E	4	FMH4000393	5	FMH4000394	1191	4412	6.0	0.083
Catchment C and E	5	FMH4000394	6	FMH4000400	1191	4412	6.0	0.083
Catchment C and E	6	FMH4000400	7	FMH4000401	1191	4412	6.0	0.083
Catchment C and E	7	FMH4000401	8	FMH4000402	1191	4412	6.0	0.083
Catchment B, C and E	9	FWD4000683			2018	7474	5.0	0.117

Table 7-2 Population and Sewage Flow Estimation under Future Scenario

Contributing Catchment Area	Sewer No.				ADWF (m^3/day)	Contributing Population[1]	Peaking Factor[2]	Total Peak Discharge (m^3/s) (including swimming pool backwash)
	ID	From	ID	To				
Future Redevelopment								
Catchment A, B, C and D	1	FMH4000522	2	FMH4000524	3167	11730	4.0	0.180

Notes:

[1] According to Section 12.1 of GESF,

Contributing Population = Calculated Total Average Flow (m^3/day) ÷ 0.27 (m^3/person/day)

[2] According to Table T-5 of GESF

7.4. Occupancy Rate of Concerned Foul Sewers

7.4.1. The Colebrook White's equation is adopted for hydraulic analysis of the sewerage system. Various roughness coefficients, ks, are adopted in accordance with Table 5 of DSD's "Sewerage Manual Part 1".

Table 7-3 Occupancy Rate of Concerned Foul Sewers under Existing Scenario

From	To	Contributing Catchment	Total Peak Discharge (With Swimming Pool Backwash) (m^3/s)	Maximum Capacity (m^3/s)	Occupancy Rate (%) [1]
Existing Scenario					
FMH4000522	FMH4000524	Catchment A and D	0.177	0.536	33%
FMH4000392	FMH4000393	Catchment C and E	0.083	0.099	84%
FMH4000393	FMH4000394	Catchment C and E	0.083	0.099	84%
FMH4000394	FMH4000400	Catchment C and E	0.083	0.063	131%
FMH4000400	FMH4000401	Catchment C and E	0.083	0.083	100%
FMH4000401	FMH4000402	Catchment C and E	0.083	0.076	109%
FWD4000683		Catchment B, C and E	0.117	0.076	154%

Table 7-4 Occupancy Rate of Concerned Foul Sewers *under Future Scenario*

From	To	Contributing Catchment	Total Peak Discharge (With Swimming Pool Backwash) (m^3/s)	Maximum Capacity (m^3/s)	Occupancy Rate (%) [1]
Future Redevelopment					
FMH4000522	FMH4000524	Catchment A, B, C and D	0.180	0.536	34%

Note:

[1] Occupancy Rate = Peak Discharge (m^3/s) ÷ Maximum Capacity of Sewer (m^3/s)

7.4.2. Occupancy rate and capacity of each sewer under existing and future scenario are tabulated in ***Appendix 7-1*** and ***Appendix 7-2***, where calculation results are summarized in **Table 7-3** and ***Table 7-4***. For future scenario, results in ***Table 7-4*** indicated that the sewerage system along Chatham Road South have sufficient capacity to cater for the sewage generated from the Proposed Redevelopment in the future.

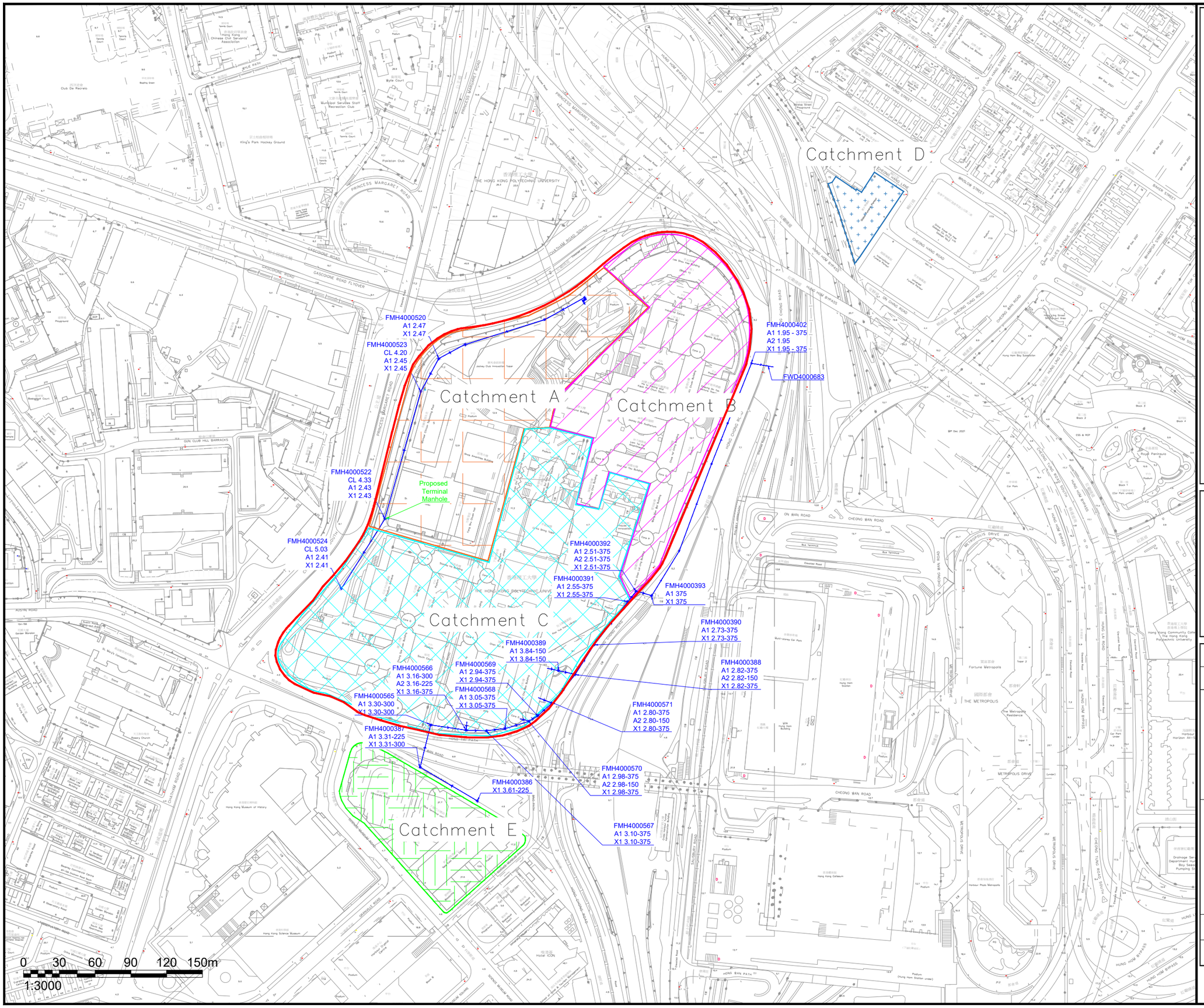
7.4.3. It demonstrates no adverse impact to public sewerage system associated with the Proposed Redevelopment is expected. No immediate upgrading or improvement works to the existing local sewerage system is required.

8. Conclusions

8.1.1. According to the hydraulic calculation results, no adverse impact to public sewerage system associated with the Proposed Redevelopment is expected. No immediate upgrading or improvement works to the existing local sewerage system is required.

Figure 3-1

Location of Project Site, Catchments and Sewerage System



NOTES :

- PROJECT SITE
- EXISTING SEWERAGE SYSTEM
- CATCHMENT A
- CATCHMENT B
- CATCHMENT C
- CATCHMENT D
- CATCHMENT E

Consultant

Allied Environmental Consultants Limited

Project No. :	819.4639
Drawn By :	RL

Project :

REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN POLYTECHNIC UNIVERSITY IN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY IN HUNG HOM

Drawing Title :

LOCATION OF SUBJECT SITE, CATCHMENTS AND SEWERAGE SYSTEM

Drawing No : FIGURE 3.1	Revision : 0
Scale : AS SHOWN	Date : OCT 2024

A3 420 x 297

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Appendix 6-1

Estimation of Sewage Flow from the Existing Scenario

Appendix 6-1: Estimation of Sewage Flow from Existing Scenario

Catchment	Type of Occupancy[1]		Estimated Population	Unit Flow Factor[3]		Total Average Sewage Discharge (m^3/day)	Remark
				Category	m^3/day		
A	Block VA & VS	Staff	459	Community, Social & Personal Services	0.28	128.5	Discharge to FMH4000522
		Students	2961	Students	0.04	118.4	
		F&B area	102	Restaurants & Hotels	1.58	161.2	
		Retail	126	Wholesale & Retail	0.28	35.3	
		Researchers	3086	Students	0.04	123.4	
		Officer	251	Community, Social & Personal Services	0.28	70.3	
	Block X	Staff	174	Community, Social & Personal Services	0.28	48.7	
		Students	496	Students	0.04	19.8	
		F&B	41	Restaurants & Hotels	1.58	64.8	
	Jockey Club Innovation Tower	Staff	456	Community, Social & Personal Services	0.28	127.7	
		Students	2944	Students	0.04	117.8	
		F&B	6	Restaurants & Hotels	1.58	9.5	
	Fong Shu Chuen Hall [4]	Staff	9	Community, Social & Personal Services	0.28	2.5	
		Students	47	Students	0.04	1.9	
B	Block W [4]	Staff	258	Community, Social & Personal Services	0.28	72.2	Discharge to FWD4000683
		Students	1389	Students	0.04	55.6	
	Anita Chan Lai Ling Building	Staff	72	Community, Social & Personal Services	0.28	20.2	
		Students	387	Students	0.04	15.5	
	Mong Man Wai Building	Staff	116	Community, Social & Personal Services	0.28	32.5	
		Students	626	Students	0.04	25.0	
	Shirly Chan Building	Staff	104	Community, Social & Personal Services	0.28	29.1	
		Students	560	Students	0.04	22.4	
	Choi Kai Yau Building	Staff	89	Community, Social & Personal Services	0.28	24.9	
		Students	479	Students	0.04	19.2	
	Chow Yei Ching Building	Staff	145	Community, Social & Personal Services	0.28	40.6	
		Students	780	Students	0.04	31.2	
	Jockey Club Auditorium	Staff	9	Community, Social & Personal Services	0.28	2.5	
		Students	48	Students	0.04	1.9	
	Communal Building	Staff	76	Community, Social & Personal Services	0.28	21.3	
		Students	411	Students	0.04	16.4	
		F&B	79	Restaurants & Hotels	1.58	124.8	
	Ng Wing Hong Building	Staff	88	Community, Social & Personal Services	0.28	24.6	
		Students	475	Students	0.04	19.0	
	Yip Kit Chuen Building	Staff	67	Community, Social & Personal Services	0.28	18.8	
		Students	360	Students	0.04	14.4	
	Cheung On Tak Lecture Theatre	Staff	6	Community, Social & Personal Services	0.28	1.7	
		Students	33	Students	0.04	1.3	
	Lee Shau Kee Building	Staff	387	Community, Social & Personal Services	0.28	108.4	
		Students	2084	Students	0.04	83.4	
C	As advised by Project team, the total number of staff and students for PolyU are 4931 and 26569 respectively. The estimated population for Catchment C is assumed based on Total population - Catchment A and B	Staff	1811	Community, Social & Personal Services	0.28	507.1	Discharge to FMH4000392
		Students	9403	Students	0.04	376.1	
D	Global Funeral Parlour	Industrial	243	Industrial, Central Kowloon	0.63	153.1	Discharge to FMH4000522
E	Concordia Plaza [5]	Commercial	1240	Finance, Insurance, Real Estate & Business Services	0.08	99.2	Discharge to FMH4000392
	New East Ocean Centre [5]	Commercial	2609	Finance, Insurance, Real Estate & Business Services	0.08	208.7	
		Total:	**35592**			**3200.9**	

Catchment - Swimming pool

Swimming Pool (Existing outdoor)		
Swimming Pool Area, m2	950	From Regulations Governing the Use of Sports Facilities on Campus [6]
Height of Swimming Pool, m	4.0	From Regulations Governing the Use of Sports Facilities on Campus (1.3m-4.0m)
Estimated volume of the Swimming pool, m^3	2518	
Turnover Rate, hour	6	General Specification for Swimming Pool Water Treatment Installation in Government Buildings of The Hong Kong Special Administrative Region
Surface Loading Rate of Filter, $m^3/m^2/hr$	50	Swimming Pools: Design and Construction, Fourth Edition By Philip H. Perkins (50 m3/m2/hr adopted)
Required Filter Area, m^2	8.39	
Backwash Duration (mins)	7.00	With reference to Section B8.5.5 of General Specification for Swimming Pool Water Treatment Installation in Government Buildings of the
Backwash Flow Rate, $m^3/m^2/hr$	30	Technical Paper - Domestic Swimming Pool Filtration by European Union of Swimmingpool and Spa Associations
Maximum backwash volume, m^3	29.4	
Maximum backwash volume, L/s	69.93	
Maximum backwash volume, m3/s	**0.070**	

Swimming Pool (Block X indoor)		
Swimming Pool Area, m2	379	From GBP
Height of Swimming Pool, m	1.6	From GBP
Estimated volume of the Swimming pool, m^3	606	
Turnover Rate, hour	4	General Specification for Swimming Pool Water Treatment Installation in Government Buildings of The Hong Kong Special Administrative Region
Surface Loading Rate of Filter, $m^3/m^2/hr$	50	Swimming Pools: Design and Construction, Fourth Edition By Philip H. Perkins (50 m3/m2/hr adopted)
Required Filter Area, m^2	3.03	
Backwash Duration (mins)	7.00	With reference to Section B8.5.5 of General Specification for Swimming Pool Water Treatment Installation in Government Buildings of the
Backwash Flow Rate, $m^3/m^2/hr$	30	Technical Paper - Domestic Swimming Pool Filtration by European Union of Swimmingpool and Spa Associations
Maximum backwash volume, m^3	10.6	
Maximum backwash volume, L/s	25.27	
Maximum backwash volume, m3/s	**0.025**	

Notes:
[1] The no. of occupancy is obtained from the information provided by Campus Development Office of The Hong Kong Polytechnic University
[2] The number of teacher and student is estimated based on the statistic of The Hong Kong Polytechnic University in 2021 obtained from University Grants Committee
[3] The unit flow factor is made reference to "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (Version 1.0)", published by EPD.
[4] The population of students and staff of Fong Shu Cheun Hall and Block W is assumed based on the ratio of number of staff and students for PolyU.
[5] The population is made reference to the sanitary fitment of the GBP from BRAVO
[6] The extracted page of Regulations Governing the Use of Sports Facilities on Campus

4. Michael Clinton Swimming Pool

4.1 8-lane 50 M (19m x 50m, depth: 1.3m to 4m) unheated pool

4.2 Regulations Governing the Use of the Swimming Pool

a. Only swimwear is allowed inside the swimming pool and within its vicinity.

b. Only clean and unsoiled rubber sandals are allowed in the pool deck area. They must be washed in the footbath before entering the pool area.

c. Users must use the footbath and the shower before entering the swimming pool.

d. Users with shoulder length or longer hair must wear swimming caps or tie up their hair when swimming. (This is to avoid loose long hair blocking the filtration plant.)

e. Users should not wear spectacles in the water.

f. Activities and aids which may cause hindrances or danger to other swimmers are prohibited.

Catchment D

Global Funeral Parlour		
Total Floor Area (m2)	2106	Based on Geoinfo Map
Number of Floors	5	
Total Floor Area (m2)	10530	
Worker Density (per 100m2)	2.3	With reference to CIFSUS, the worker density for Manufacturing is adopted
Total Pop.	243	

Concordia Plaza

CAPACITY OF ROOM OR STOREY

	LOCATION		U.F.A. (S.M.)	CAPACITY FOR MEANS OF ESCAPE		CAPACITY FOR PROVISION OF SANITARY FITMENT	
				FACTOR	NO. OF PERSONS	FACTOR	NO. OF PERSONS
TOWER 1 & TOWER 2	28/F	OFFICE	1,774.603	9	198	9	198
	26/F & 27/F (EACH FLOOR)	OFFICE	1,854.036	9	207	9	207
	20/F	OFFICE	1,708.399	9	190	9	190
	19/F & 21/F TO 25/F (EACH FLOOR) (FL. NO. 24/F OMITTED)	OFFICE	1,797.714	9	200	9	200
	6/F TO 18/F (EACH FLOOR) (FL. NOS. 13/F & 14/F OMITTED)	OFFICE	1,791.255	9	199	9	199
	5/F	OFFICE	1,676.877	9	187	9	187
	4/F	CARPARK	–	SAY	96	–	–
	3/F				141	–	–
	2/F				113	–	–
	1/F	SHOP	263.398	4.5	59	4.5	99
		RECREATIONAL PREMISES	874.472	4.5	195		
		PUBLIC LIBRARY	590.211	4.5	132	–	–
	UPPER BASEMENT	PRIVATE CARPARK	–	SAY	44	–	–
	LOWER BASEMENT	PRIVATE CARPARK	–	SAY	48	–	–
		LOADING & UNLOADING			12	–	–

New East Ocean Centre

CAPACITY OF ROOM OR STOREY

	LOCATION		U.F.A. (S.M.)	CAPACITY FOR MEANS OF ESCAPE		CAPACITY FOR PROVISION OF SANITARY FITMENT	
				FACTOR	NO. OF PERSONS	FACTOR	NO. OF PERSONS
COMMERCIAL	16/F	OFFICE	1425.606	9	159	9	159
	15/F	OFFICE	1459.565	9	163	9	163
	14/F	OFFICE	1,497.924	9	167	9	167
	5/F, 7/F, 9/F, 11/F & 13/F (EACH FLOOR)	OFFICE	1,521.254	9	169	9	169
	4/F, 6/F, 8/F, 10/F & 12/F (EACH FLOOR)	OFFICE	1,511.272	9	168	9	168
	3/F	OFFICE	1,501.979	9	167	9	167
	2/F	OFFICE	1,966.484	9	219	9	219
	1/F	OFFICE	731.177	9	82	9	82
		SHOPS	111.467	4.5	25	4.5	25
					107		107
	G/F	SHOPS	664.776	4.5	148	4.5	148
		SECURITY	10.581	9	2	9	2
					150		150
	B1	RESTAURANT	541.931	1	542	1.5	362
		KITCHEN	154.140	4.5	35	4.5	35
		LOADING & UNLOADING	–	SAY	22		
					599		397
	B2	CARPARK	–	SAY	67	–	–
	B3	CARPARK	–	SAY	79	–	–
AMBULANCE	1/F	BEDROOM DINING RM. KITCHEN	708.926	9	79	9	79
	M/F	OFFICE	58.405	9	7	9	7

Appendix 6-2

Estimation of Sewage Flow from the Future Redevelopment

Appendix 6-2: Estimation of Sewage Flow from Future Redevelopment

Catchment	Type of Occupancy[1]		Estimated Population	Unit Flow Factor[3]		Total Average Sewage Discharge (m^3/day)
				Category	m^3/day	
A	Block VA & VS [4]	Staff	505	Community, Social & Personal Services	0.28	141.4
		Students	3257	Students	0.04	130.3
		F&B area	112	Restaurants & Hotels	1.58	177.0
		Retail	139	Wholesale & Retail	0.28	38.9
		Researchers	3395	Students	0.04	135.8
		Officer	276	Community, Social & Personal Services	0.28	77.3
	Block X	Staff	191	Community, Social & Personal Services	0.28	53.5
		Students	546	Students	0.04	21.8
		F&B	45	Restaurants & Hotels	1.58	71.1
	Jockey Club Innovation Tower	Staff	502	Community, Social & Personal Services	0.28	140.6
		Students	3238	Students	0.04	129.5
		F&B	7	Restaurants & Hotels	1.58	11.1
B	Block W [4]	Staff	250	Community, Social & Personal Services	0.28	70.0
		Students	3169	Students	0.04	126.8
	Anita Chan Lai Ling Building	Staff	79	Community, Social & Personal Services	0.28	22.1
		Students	426	Students	0.04	17.0
	Mong Man Wai Building	Staff	128	Community, Social & Personal Services	0.28	35.8
		Students	689	Students	0.04	27.6
	Shirly Chan Building	Staff	114	Community, Social & Personal Services	0.28	31.9
		Students	616	Students	0.04	24.6
	Choi Kai Yau Building	Staff	98	Community, Social & Personal Services	0.28	27.4
		Students	527	Students	0.04	21.1
	Chow Yei Ching Building	Staff	160	Community, Social & Personal Services	0.28	44.8
		Students	858	Students	0.04	34.3
	Jockey Club Auditorium	Staff	10	Community, Social & Personal Services	0.28	2.8
		Students	53	Students	0.04	2.1
	Communal Building	Staff	84	Community, Social & Personal Services	0.28	23.5
		Students	452	Students	0.04	18.1
		F&B	87	Restaurants & Hotels	1.58	137.5
	Ng Wing Hong Building	Staff	97	Community, Social & Personal Services	0.28	27.2
		Students	523	Students	0.04	20.9
	Yip Kit Chuen Building	Staff	74	Community, Social & Personal Services	0.28	20.7
		Students	396	Students	0.04	15.8
	Cheung On Tak Lecture Theatre	Staff	7	Community, Social & Personal Services	0.28	2.0
		Students	36	Students	0.04	1.4
	Lee Shau Kee Building	Staff	426	Community, Social & Personal Services	0.28	119.3
		Students	2292	Students	0.04	91.7
C	As advised by Project team, the total number of staff and students for future redevelopment (+additional 10%) are 5424 and 29226 respectively. The estimated population for Catchment C is assumed based on Total population - Catchment A and B	Staff	2033	Community, Social & Personal Services	0.28	569.2
		Students	8753	Students	0.04	350.1
D	Global Funeral Parlour	Industrial	243	Industrial, Central Kowloon	0.63	153.1
		Total:	**34893**			**3167.2**

Catchment A - Swimming pool

Swimming Pool (Proposed)	Main Pool	Hydro Pool	Remarks
Maximum discharge rate for the drain, L/s	8.16		Provided by Project team [6]
Maximum backwash volume, m3/s	**0.00816**		

Swimming Pool (Block X indoor)		
Swimming Pool Area, m2	379	From GBP
Height of Swimming Pool, m	1.6	From GBP
Estimated volume of the Swimming pool, m^3	606	
Turnover Rate, hour	4	General Specification for Swimming Pool Water Treatment Installation in Government Buildings of The Hong Kong Special Administrative Region
Surface Loading Rate of Filter, $m^3/m^2/hr$	50	Swimming Pools: Design and Construction, Fourth Edition By Philip H. Perkins (50 m3/m2/hr adopted)
Required Filter Area, m^2	3.03	
Backwash Duration (mins)	7.00	With reference to
Backwash Flow Rate, $m^3/m^2/hr$	30	Technical Paper - Domestic Swimming Pool Filtration by European Union of Swimmingpool and Spa Associations
Maximum backwash volume, m^3	10.6	
Maximum backwash volume, L/s	25.27	
Maximum backwash volume, m3/s	**0.025**	

Notes:
[1] The no. of occupancy is obtained from the information provided by Campus Development Office of The Hong Kong Polytechnic University
[2] The numer of teacher and student is estimated based on the statistic of The Hong Kong Polytechnic University in 2021 obtained from University Grants Committee
[3] The unit flow factor is made reference to "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (Version 1.0)", published by EPD.
[4] The population and sewage discharge is made reference to the approved S16 planning application (A/K1/268) and sanitary fitment of Redevelopment of Poly U VAVS
[5] The population is made reference to the sanitary fitment of the GBP
[6] The backwash water from swimming pool would be collected by the backwash holding tank and then discharge through a 100mm dia. drain with 8.16 L/s of maximum discharge flow.

Catchment D
Global Funeral Parlour

Total Floor Area (m2)	2106	Based on Geoinfo Map
Number of Floors	5	
Total Floor Area (m2)	10530	
Worker Density (per 100m2)	2.3	With reference to CIFSUS, the worker density for Manufacturing is adopted (https://www.pland.gov.hk/pland_en/p_study/comp_s/cifsus/cifsusReport.pdf)
Total Pop.	243	

Appendix 7-1

Calculation of Occupancy Rate of Sewerage System

for Existing Scenario

Appendix 7-1 Calculation of Occupancy Rate of Sewerage System for Existing Scenario

Sewer No.				Internal Diameter (m) [a]	Cross-section Area (m^2)	Length (m) [a]	Inlet mPD (m) [g]	Outlet mPD (m) [g]	Hydraulic pipeline roughness (m) [b]	Hydraulic Gradient	Mean Velocity (m/s) [c]	Max Capacity of Sewer (m^3/s)	Total Average Dry Weather Flow	Catchment Inflow Factor	Revised Total Average Dry Weather Flow	Contributing Population	Peaking Factor	Peak Discharge through Manhole (m^3/s)	Swimming Pool Backwash (m^3/s)	Total Peak Discharge through Manhole (With toilet discharge and Swimming Pool Backwash) (m^3/s)	Project Site Peak Flow Occupancy (%)	Percentage of capacity
ID	From	ID	To	D	A	I				s	V		m^3/day	[f]	m^3/day	[d]	[e]					
Catchment A and D																						
1	FMH4000522	2	FMH4000524	1.050	0.8659	67.52	2.38	2.34	0.006	0.00059	0.6	0.536	1183	1.0	1183	4381	6.0	0.082	0.0952	0.177	21%	33%

Sewer No.				Internal Diameter (m) [a]	Cross-section Area (m^2)	Length (m) [a]	Inlet mPD (m) [a]	Outlet mPD (m) [a]	Hydraulic pipeline roughness (m) [b]	Hydraulic Gradient	Mean Velocity (m/s) [c]	Max Capacity of Sewer (m^3/s)	Total Average Dry Weather Flow	Catchment Inflow Factor	Revised Total Average Dry Weather Flow	Contributing Population	Peaking Factor	Peak Discharge through Manhole (m^3/s)	Swimming Pool Backwash (m^3/s)	Total Peak Discharge through Manhole (With Swimming Pool Backwash) (m^3/s)	Occupancy from Proposed Development Contribution	Percentage of capacity	Remark
ID	From	ID	To	D	A	I				s	V		m^3/day	[f]	m^3/day	[d]	[e]						
3	FMH4000392	4	FMH4000393	0.375	0.1104	12.92	2.51	2.46	0.003	0.00386	0.9	0.099	1191	1.0	1191	4412	6.0	0.083	0.000	0.083	62%	84%	**Catchment C and E**
4	FMH4000393	5	FMH4000394	0.375	0.1104	44.13	2.46	2.29	0.003	0.00386	0.9	0.099	1191	1.0	1191	4412	6.0	0.083	0.000	0.083	62%	84%	Catchment C and E
5	FMH4000394	6	FMH4000400	0.375	0.1104	75.58	2.29	2.17	0.003	0.00159	0.6	0.063	1191	1.0	1191	4412	6.0	0.083	0.000	0.083	97%	131%	Catchment C and E
6	FMH4000400	7	FMH4000401	0.375	0.1104	36.75	2.17	2.07	0.003	0.00272	0.8	0.083	1191	1.0	1191	4412	6.0	0.083	0.000	0.083	74%	100%	Catchment C and E
7	FMH4000401	8	FMH4000402	0.375	0.1104	53.03	2.07	1.95	0.003	0.00226	0.7	0.076	1191	1.0	1191	4412	6.0	0.083	0.000	0.083	81%	109%	Catchment C and E
FWD4000683 [h]				0.375	0.1104				0.003	0.00227	0.7	0.076	2018	1.0	2018	7474	5.0	0.117	0.000	0.117	130%	154%	Catchment **B**, C and E

Note:

[a] Information from Drainage Layout Plan

[b] Assume slimed of concrete and clayware in "Poor" condition for existing sewer

[c] The velocity is calculated using the Colebrook-White Formula:

$$V = -2\left(2gDS\right)^{0.5}\log\left(\frac{k}{3.7D} + \frac{2.5v}{D\left(2gDS\right)^{0.5}}\right)$$

where

k = Colebrook-White roughness coefficient, in meter

V = mean velocity (m/s)

D = circular cross-section pipe, inside diameter (m)

S = slope, in meters per meter

v = kinematic viscosity of water, in meter per second (0.000001306 m/s)

g = gravitational acceleration (m/s2) (9.807m/s2)

[d] The Contributing Population is defined as:

$$\text{Contributing Population} = \frac{\text{Calculated total average flow } (m^3/\text{day})}{0.27\ (m^3/\text{person/day})}$$

[e] Reference from Table T-5 (a) of Guidelines for Estimating Sewage Flows for Sewerage Infrastructure Planning

[f] Reference from Table T-4 of Guidelines for Estimating Sewage Flows for Sewerage Infrastructure Planning, Catchment inflow factor of Central Kowloon is adopted.

[g] Reference from Underground Utility Survey Report and detailed information is presented in Figure 3-1

[h] Hydraulic gradient of FWD4000683 is assumed in reference to the upstream sewer pipe, FWD4000493.

Appendix 7-2

Calculation of Occupancy Rate of Sewerage System for Future Redevelopment

Appendix 7-2 Calculation of Occupancy Rate of Sewerage System for Future Redevelopment

Sewer No.				Internal Diameter (m) [a]	Cross-section Area (m^2)	Length (m) [a]	Inlet mPD (m) [g]	Outlet mPD (m) [g]	Hydraulic pipeline roughness (m) [b]	Hydraulic Gradient	Mean Velocity (m/s) [c]	Max Capacity of Sewer (m^3/s)	Total Average Dry Weather Flow	Catchment Inflow Factor	Revised Total Average Dry Weather Flow	Contributing Population	Peaking Factor	Peak Discharge through Manhole (m^3/s)	Swimming Pool Backwash (m^3/s)	Total Peak Discharge through Manhole (With Swimming Pool Backwash) (m^3/s)	Percentage of capacity
ID	From	ID	To	D	A	l				s	V		m^3/day	[f]	m^3/day	[d]	[e]				
Discharge to FMH4000522 (Catchment A, B, C and D)																					
1	FMH4000522	2	FMH4000524	1.050	0.8659	67.52	2.38	2.34	0.006	0.00059	0.6	0.536	3167	1.0	3167	11730	4.0	0.147	0.0334	0.180	34%

Note:

[a] Information from Drainage Layout Plan

[b] Assume slimed of concrete in "Poor" condition for existing sewer

[c] The velocity is calculated using the Colebrook-White Formula:

$$V = -2\left(2gDS\right)^{0.5}\log\left(\frac{k}{3.7D} + \frac{2.5\nu}{D\left(2gDS\right)^{0.5}}\right)$$

where

k = Colebrook-White roughness coefficient, in meter

V = mean velocity (m/s)

D = circular cross-section pipe, inside diameter (m)

S = slope, in meters per meter

v = kinematic viscosity of water, in meter per second (0.000001306 m/s)

g = gravitational acceleration (m/s2) (9.807m/s2)

[d] The Contributing Population is defined as:

$$\text{Contributing Population} = \frac{\text{1 average flow } (m^3/\text{day})}{0.27\ (m^3/\text{person/day})}$$

[e] Reference from Table T-5 (a) of Guidelines for Estimating Sewage Flows for Sewerage Infrastructure Planning

[f] Reference from Table T-4 of Guidelines for Estimating Sewage Flows for Sewerage Infrastructure Planning, Catchment inflow factor of Central Kowloon is adopted.

[g] Reference from Underground Utility Survey Report and detailed information is presented in Figure 3-1

[h] Hydraulic gradient of FWD4000683 is assumed in reference to the upstream sewer pipe, FWD4000493.

[i] Assumption is made based on the invert levels of the previous and next manholes.

Appendix 7-3

Internal Drainage Record

NOTES:
1. PROPOSED ALTERNATION WORK IS SHOWN IN DOTTED LINE.
2. THE EXISTING MANHOLE(S) TO BE DISABLED AND A NEW MANHOLE TO BE CONSTRUCTED AND THE EXISTING DRAINAGE DISCHARGE PIPES TO BE DIVERTED TO THE NEW MANHOLES.
3. PIPE NUMBERING: PIPE NO.0 = OUTLET PIPE
PIPE NO. 1,2,3 = INLET PIPES STARTING FROM OUTLET PIPE IN CLOCKWISE DIRECTION
4. ALL LEVELS ARE IN METRE ABOVE HONG KONG PRINCIPAL DATUM
5. ALL CO-ORDINATES ARE IN ACCORDANCE WITH HK(1980) GEODETIC DATUM

LEGEND:

- ⓒ DRAIN PIPE TO BE CLEANED.
- ⓓ EXISTING MANHOLE COVER TO BE DISMANTLED AND RE-CONSTRUCTED.
- ⓒ EXISTING DRAIN PIPE SHOULD HAVE A CCTV INSPECTION.
- ⓔ MANHOLE CANNOT BE IDENTIFIED ON SITE
- ▭ SHADED AREAS DENOTE THE INSTALLATION TO BE REMOVED, DISMANTLED AND REMOVED

As Built Drainage Survey

New Manhole			Inlet Pipe			Outlet Pipe			
Manhole No.	Manhole Type	Cover Level(mPD)	Inlet Pipe No.	Size (mm)	From Manhole	Size (mm)	Invert Level (mPD)	To Manhole
CS29	E	4.56	1	450	Existing Stormwater	0	2.88	525	CS31A
			2	300	Existing Stormwater				
CS31A	E	4.54	1	300	Existing Stormwater	0	2.45	525	MH6
			2	2.69	New Gully				
			3	3.57	New Gully				
MH6	E	4.46	1	2.38	CS31A	0	2.38	525	CS32
			2	3.48	New Gully				
CS32	E1	4.47	1	2.61	Existing Stormwater	0	2.32	675	S2438B
			2	3.63	Existing Stormwater				
			3	2.32	MH6				
			4	2.46	Existing Stormwater				
S2438B	H1	4.32	1	2.32	Existing Stormwater	0	2.24	750	S1
			2	2.72	Existing Stormwater				
			3	3.83	Existing Stormwater				
			4	2.25	CS32				
			5	3.40	New Gully				
			6	3.45	New Gully				
			7	2.62	Existing Stormwater				
S1	H	4.35	1	2.76	Existing Stormwater	0	2.1	750	S2
			2	2.18	Existing Stormwater				
			3	2.76	Existing Stormwater				
			4	2.89	Existing Stormwater				
			5	2.91	Existing Stormwater				
			6	2.10	S2438B				
			7	3.38	New Gully				
			8	2.35	Existing Stormwater				
S2	H	4.39	1	2.61	Existing Stormwater	0	1.92	750	S3
			2	2.95	Existing Stormwater				
			3	3.18	Existing Stormwater				
			4	1.96	S1				
			5	3.42	New Gully				
Existing	H	4.69	1	2.97	Existing Stormwater	0	1.88	1050	Existing MH
			2	2.91	Existing Stormwater				
			3	1.94	Existing Stormwater				
			4	1.88	S2				

CHATHAM ROAD
FLYOVER
CHEONG WAN ROAD
FOUNTAIN SQUARE
CHUNG SZE YUEN BUILDING
JOGGING TRACK
#1050 GOVERNMENT SEWER
SHAW SPORTS COMPLEX
MICHAEL CLINTON SWIMMING POOL
KEITH LEGG PAVILION
FONG SHU-CHUEN HALL
SHAW AMENITIES BUILDING
VEHICLE ENTRANCE
YUK CHOI ROAD
CARPARK ENTRANCE
TANG PING YUAN BUILDING
PALM COURT
CARPARK
COMMUNAL BUILDING
AUXILIARY TEACHING BLOCK
PAO YUE-KONG LIBRARY
LAWN
JOCKEY CLUB AUDITORIUM
EXHIBITION HALL
MONG MAN WAI IC BUILDING
LINK BUILDING
CHOW YEI CHING BUILDING
INDUSTRIAL CENTRE
2nd VEHICULAR ACCESS
BUS STOP
HONG CHONG ROAD
TO KOWLOON STATION

0 10 50 100 M

GENERAL NOTES:
- ALL DIMENSIONS ARE IN MILLIMETER EXCEPT OTHERWISE NOTED
- DO NOT SCALE DRAWING
- ALL MEASUREMENTS SHOULD BE VERIFIED ON SITE

NOTES:

REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED

REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED
AA	03/05/01	AS FITTED DWG		
AB	08/05/08	GENERAL AMENDMENT	Movie	
AC	26/10/06	ADDITIONAL (OPTIONAL)	CHARLES [illegible]	
AD	30/08/04	REVISED COMMUNAL BUILDING	PPIS	
AE	24/08/06	INSERTION OF Y BLOCK	SRD	

THE HONG KONG POLYTECHNIC UNIVERSITY
Estates Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1148

PROJECT: THE HONG KONG POLYTECHNIC UNIVERSITY

KEY PLAN

ENGINEERING DISCIPLINE: ARCHITECTURAL PLAN

DRAWING: DRAINAGE LAYOUT - UG/F PLAN (GENERAL)

FILE NAME: HM02GN-AC.DWG

DRAWING NUMBER: HM/02/GN

SCALE: 1:500

REVISION: AC

Appendix 7-4

Underground Utility Survey Report

佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

UNDERGROUND UTILITY SURVEY REPORT

Underground Utility Survey Specialist

For Redevelopment of Blocks Va & Vs

For The Hong Kong Polytechnic University

Project No.: Y23-US-P-301-001
Report No.: Y23-US-P-301-001-R_00
CASTCO LRN: US0230704-1
Version: 00
Date of Issue: 18th August 2023

Prepared by:

Castco Testing Centre Ltd.

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

FOREWORD

This report presents the results of Underground Utility Survey at The Hong Kong Polytechnic University.

The report is prepared by our specialist in Underground Utility Industry. According to the findings of the survey on site, it has been checked by well-experienced professional to ensure all data and records are in order and accurate.

Prepared by:

CHAN Pak Hong, Ethan
OMHKIUS
Project Coordinator

Checked by:

Li Ka Hong, Hanson
BSc in Surveying
Project Manager

Endorsed by:

CHAN Man Kwong, Stanley
MSc in Surveying
Senior Manager

TABLE OF CONTENT

1. INTRODUCTION

Client information, background and Scope of Survey will be briefed in this Section 1.

1.1 Client Information

Client information is shown in below ***Table 1.1.1***.

Table 1.1.1 – Client information

Client:	***The Hong Kong Polytechnic University***
Project Client:	***P&T Architects and Engineers Ltd.***
Project Client's Representative:	Ms. Cherry Chin
E-mail:	cherrycychin@p-t-group.com

1.2 Background

Castco Testing Centre Ltd. was appointed by ***P&T Architects and Engineers Ltd.*** as their Utility Specialist Contractor to carry out underground utility survey at The Hong Kong Polytechnic University.

1.3 Scope of Survey

The work under this contract aims to locate and identify the target underground utilities at ***The Hong Kong Polytechnic University*** for client's design and construction.

The service of works shall include all administration and management and field works on all aspects of the utility investigation works within the survey area to identify and locate specified ground and underground utilities, it can be summarized as followed:

Part A - Preparation and operation

1. To preliminary study the site condition and to propose for methods to be adopted
2. To coordinate and liaise with client and other parties involved if needed
3. To carry out Underground Utility Survey by using Pipe and Cable Locator (PCL) - Electromagnetic Detection Method including inspection of surface features related to

underground utilities (Detailed Methodology is presented in ***Appendix E – Survey Methodology***)

4. QA/QC checks to be conducted by the Project Manager and Survey Crew Leader in house and on site
5. All results generated shall be reviewed and checked by the Project Manager

Part B - Reporting

1. To submit preliminary survey drawing and relevant information if requested to present preliminary result in the interim data analysis period
2. To submit final survey report with drawing to present overall survey result
3. To attend the meeting by our project manager to keep client and consultant updated about the survey progress and preliminary result

2. SURVEY DETAILS AND SITE DESCRIPTION

Details of survey and site location are shown in ***Table 2.1 – Details of Survey***.

Table 2.1 – Details of Survey

Surveyed Location:	The Hong Kong Polytechnic University ***(Figure 2.1)***
Crew Leader:	Mr. Chung Chun Kit
Survey Duration:	04/07/2023 – 29/07/2023
Survey Area:	9,120 sq. m

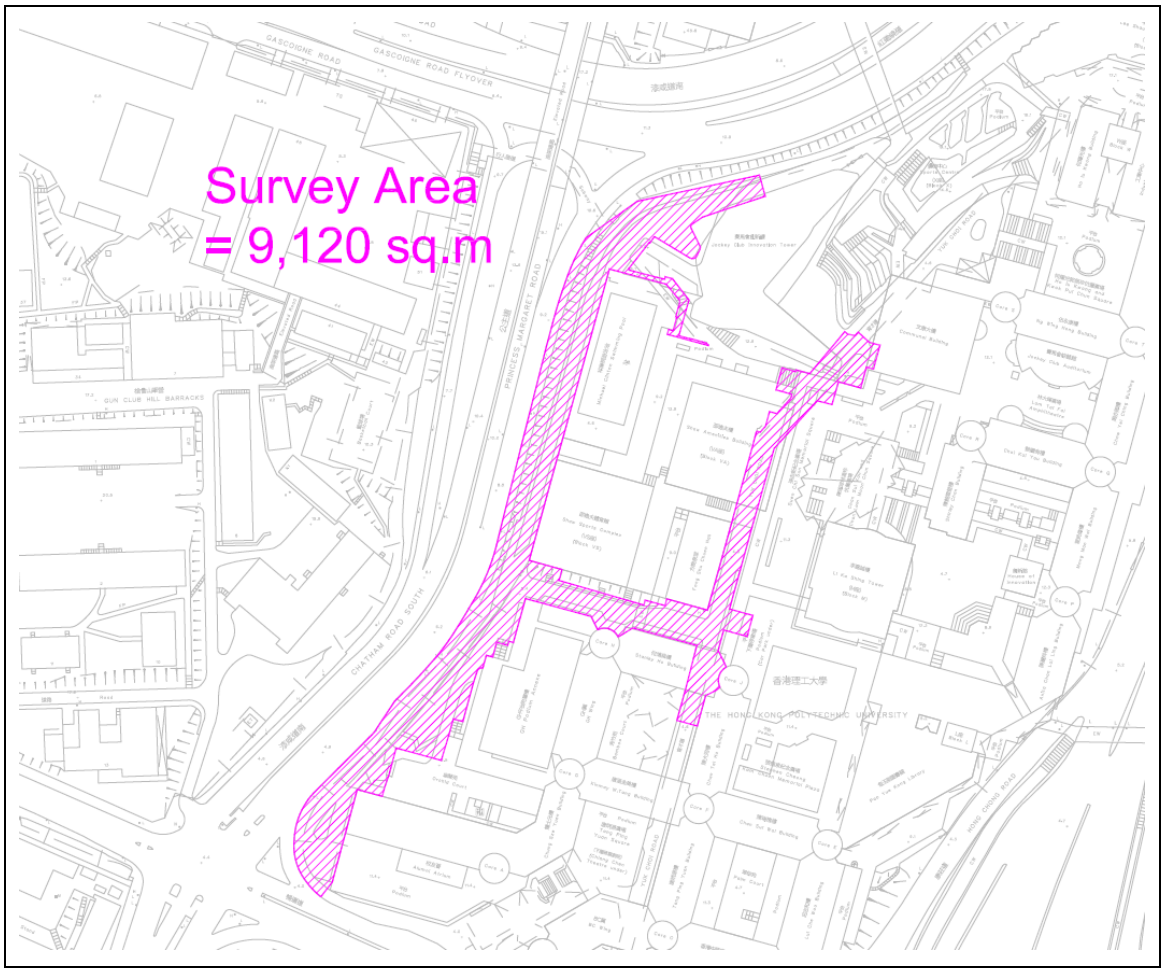


Figure 2.1 – Location Plan

3. SUMMARY OF SURVEY RESULTS

A total of ***453*** number(s) / section(s) of underground pipes and cables have been identified. ***Table 3.1 - Summary of Pipes & Cables type*** is presenting the number of pipe/cable in each type of utility.

A total of ***312*** manhole(s) and pit(s) have been opened up and surveyed. ***Table 3.2 - Summary of Manholes, Pits & Valves type*** summaries the number of Manholes, Pits and Valves in different types of utilities.

All the utilities were examined and analyzed as detailed as possible by the utility specialist. Surveyed results and data collected are tabulated and shown on the Survey Result Drawing in ***Appendix A – Survey Result Drawing***. with scale of ***1:100*** in ***A1*** size. Besides, the assigned number of each utility alignments with its cable/pipe size, range of depth, reference point of presented depth and remarks for additional information are summarized and shown in the table "***Summary of Pipes & Cables***" on the drawing. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m.P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "***Summary of Manholes, Pits & Valves***" on the drawing.

Due to the limitation of this non-destructive survey and the condition of site, some of the utilities, which could not be located or identified satisfactorily, will be classified as approximated survey result in this report and survey result drawing. The reasons or site conditions causing approximated result or additional observation during in-situ survey will be briefed in ***Table 3.3 - Summary of specified pipes/cables with details*** and ***Table 3.4 - Summary of specified manholes/pits/valves with details.***

For the equipment used and detailed methodology, please refer to ***Appendix D – Equipment Used*** and ***Appendix E – Survey Methodology*** respectively.

Table 3.1 – Summary of Pipes & Cables Types

No.	Utility	No. of Pipe/Cable Section
1	Fresh Water Pipe	20
2	Salt Water Cooling Main Pipe	3
3	Gas Pipe	14
4	Electric Cable	43
5	PCCW Cable	16
6	HGC Cable	2
7	Public Lighting Cable	53
8	ATC/E&M Cable	3
9	Storm Water Pipe	185
10	Foul Water Pipe	79
11	Unknown Pipe	12
12	Unknown Cable	15
13	U-Channel	8
	Total:	453

Table 3.2 – Summary of Manholes, Pits & Valves Types

No.	Manhole(s)/Pit(s)/Valve(s)	No. of Manhole(s)/Pit(s)/Valve(s)
1	Fresh Water Valve	25
2	Salt Water Valve	2
3	Salt Water Valve Pit	1
4	Gas Valve	13
5	Electric Cable Pit	15
6	PCCW Cable Pit	10
7	HGC Cable Pit	1
8	Public Lighting Cable Pit	1
9	ATC/E&M Cable Pit	1
10	Storm Water Manhole	85
11	Foul Water Manhole	44
12	Storm Water Gully	79
13	Unknown Manhole	11
14	Unknown Cable Earth Pit	6
15	Unknown Cable Pit	18
	Total:	312

Table 3.3 – Summary of specified pipes/cables with details

No.	Utility	Line ref No. in drawing	Remarks	Details
1	Fresh Water Pipe	3	Approximated	When setting up transmitter at the fresh water valve, there was no signal received after that. The result of alignment was for reference only since it was based on record plan and site's condition.
2	Salt Water Cooling Main Pipe	21	Approximated	When setting up transmitter at the salt water valve, there was no signal received after that. The result of alignment was for reference only since it was based on record plan and site's condition.
3		22		
4		23	Approximated; Deadend	
5	Gas Pipe	25	Approximated	When setting up transmitter at the gas valve, there was no signal received after that. The result of alignment was for reference only since it was based on record plan and site's condition.
6		28		
7		30		No valve could setup to carry out detection. The result of alignment was for reference only since it was based on record plan.
8		32	Deadend	When setting up transmitter at the gas valve, there was no signal received after the proposed deadend point.
9		33		
10		34		
11		37	Approximated; Deadend	When setting up transmitter at the gas valve, there was no signal received after that. The result of alignment was for reference only since it was based on record plan and site's condition.
12	Electric Cable	51	Approximated	Unknown Manhole U1003 (UTR), the depth of the cable inside could not be measured, so the relevant alignment was estimated according to site situation.
13		38	Passive Detection	Alignment and its depth were surveyed by 50Hz passive detection. Operator detected the passive signal naturally presented on conductors. Passive detection could be used to locate buried conductor, however, it was unable to identify the conductor detected as all conductors could carry the same signal, therefore its alignment and depth was for reference only. Trial pit was suggested to expose the power cables for carrying out toroidal active detection.
14		39		
15		47		
16		48		
17		53		
18		55		
19		57		
20		59		
21		60		
22		66		
23		67		
24		71		
25		74		

No.	Utility	Line ref No. in drawing	Remarks	Details
26	Electric Cable	75	Passive Detection	Alignment and its depth were surveyed by 50Hz passive detection. Operator detected the passive signal naturally presented on conductors. Passive detection could be used to locate buried conductor, however, it was unable to identify the conductor detected as all conductors could carry the same signal, therefore its alignment and depth was for reference only. Trial pit was suggested to expose the power cables for carrying out toroidal active detection.
27		76		
28		77		
29		78		
30		79		
31		80		
32		54	Approximated; Passive Detection	It was indicated in CLP record plan. But NO signal was received by 50Hz passive detection during survey. The result of alignment was for reference only since it was based on record plan and site's condition.
33		56		
34		58		
35		61		
36		62		
37		63		
38		64		
39		65		
40		68		
41		69		
42		70		
43		72		
44		73		
45	PCCW Cable	81	Deadend	When setting up transmitter at the PCCW cable pit, there was no signal received after the proposed deadend point.
46		83	Approximated	There was NO signal received after set up PCL, depth of cable could not be measured. The result of alignment was for reference only since it was based on record plan and site's condition.
47		85		
48	Storm Water Pipe	203	Deadend	By propelling a sonde along the pipe, there was blockage at the proposed deadend position, the alignment could not be further traced.
49		214	Approximated	As the upstream of pipe is located inside the restaurant, therefore this alignment was according to record plan and site's condition; and it was for reference only. Only depth from downstream could be surveyed and provided.
50		232		Due to Storm Water Gully Y2007 was unable to raise (UTR), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.

No.	Utility	Line ref No. in drawing	Remarks	Details
51	Storm Water Pipe	233	Approximated	Due to Storm Water Manhole S2045 & Storm Water Gully Y2007 were unable to raise (UTR), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
52		241		Due to Storm Water Manhole S2065 was unable to raise (UTR), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
53		267		Due to Storm Water Manhole S2145 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
54		271	Approximated; Deadend	Due to Storm Water Manhole S2145 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
55		275	Approximated	Due to Storm Water Manhole S2145 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
56		283	Deadend	By propelling a sonde along the pipe, there was blockage at the proposed deadend position, the alignment could not be further traced.
57		298	Approximated	Due to Storm Water Manhole S2210 & Storm Water Manhole S2213 were unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
58		303		Due to Storm Water Manhole S2213 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
59		314		Due to Storm Water Manhole S2045 was unable to raise (UTR), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
60		338	Deadend	By propelling a sonde along the pipe, there was blockage at the proposed deadend position, the alignment could not be further traced.
61	Foul Water Pipe	346	Approximated	As the downstream of pipe was on the carriageway, therefore this alignment was according to record plan and site's condition; and it was for reference only. Only depth from upstream could be surveyed and provided.

No.	Utility	Line ref No. in drawing	Remarks	Details
62	Foul Water Pipe	348	Approximated	Due to Unknown Manhole U1002 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
63		352		As the downstream of pipe was connected to the middle part of another pipes causing unable to survey, therefore this alignment was according to record plan and site's condition; and it was for reference only. Only depth from upstream could be surveyed and provided.
64		353		As the downstream of pipe was connected to the foul water pump causing unable to survey, therefore this alignment was according to record plan and site's condition; and it was for reference only. Only depth from upstream could be surveyed and provided.
65		354		Due to Unknown Manhole U1002 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
66		355		
67		410		Due to Foul Water Manhole F2106 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
68		412		Due to Foul Water Manhole F2106 and F2117 were unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
69		418		Due to Foul Water Manhole F2106 was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.
70	Unknown Pipe	420	Approximated	It is a PVC (Polyvinyl Chloride) pipe. Due to non-metallic nature of the pipe, the electric current could not pass through the pipe. No signal could be detected after setting up PCL. The result of alignment was for reference only since it was based on record plan and site's condition.
71		422		Due to Unknown Manhole U1002A was unable to survey (UTS), so the depth of the pipes inside could not be measured, and the relevant alignment and connection were estimated according to site situation and for reference only.

Table 3.4 – Summary of specified manholes/pits/valves with details

No.	Manholes/Pits/Valves	Ref No. in drawing	Photos[1]	Remarks	Details
1	Fresh Water Valve	A01	Fig. B.3.1 – B.3.2	UTS – Unable to Survey	The valve was full of silt and unable to survey. The internal condition of the valve could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
2	Salt Water Valve Pit	B2001	Fig. B.3.3 – B.3.4	UTR – Unable to Raise	The valve pit was found tightly closed and unable to raise. The internal condition of the manhole could not be inspected.
3	Gas Valve	G23	--	UTS – Unable to Survey	The valve was full of silt and unable to survey. The internal condition of the valve could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
4	Electric Cable Pit	P1043A	--	UTR – Unable to Raise	The electric cable pit was an oil pit (tightly closed) and unable to raise. The internal condition of the cable pit could not be inspected.
5		P2001	Fig. B.3.5 – B.3.6		The cable pit was found tightly closed and unable to raise. The internal condition of the cable pit could not be inspected.
6		P2053	Fig. B.3.7 – B.3.8		
7		P2065	Fig. B.3.9 – B.3.10		The electric cable pit was an oil pit (tightly closed) and unable to raise. The internal condition of the cable pit could not be inspected.
8	PCCW Cable Pit	T2029	Fig. B.3.11 – B.3.12	UTR – Unable to Raise	The cable pit was found tightly closed and unable to raise. The internal condition of the cable pit could not be inspected.
9	Storm Water Manhole	S1157	Fig. B.3.13 – B.3.14	UTS – Unable to Survey	The manhole was full of water and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
10		S2045	Fig. B.3.15 – B.3.16	UTR – Unable to Raise	The manhole was found tightly closed and unable to raise. The internal condition of the manhole could not be inspected.
11		S2065	Fig. B.3.17 – B.3.18	UTS – Unable to Survey	The manhole was full of silt and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.

No.	Manholes/Pits/Valves	Ref No. in drawing	Photos[1]	Remarks	Details
12	Storm Water Manhole	S2145	Fig. B.3.19 – B.3.20	UTS – Unable to Survey	The manhole was full of water and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
13		S2210	Fig. B.3.21 – B.3.22		The manhole was full of silt and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
14		S2213	Fig. B.3.23 – B.3.24		
15		S2500	Fig. B.3.25 – B.3.26		
16		S2500A	Fig. B.3.27 – B.3.28		
17	Foul Water Manhole	F1001	Fig. B.3.29 – B.3.30	UTS – Unable to Survey	The manhole was full of debris and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
18		F2049B	Fig. B.3.31 – B.3.36	UTS – Unable to Survey	The manhole was full of water and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
19		F2049A			
20		F2049			
21		F2072	Fig. B.3.37 – B.3.38		The manhole was full of silt and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
22		F2105	Fig. B.3.39 – B.3.40		The manhole was full of water and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.

No.	Manholes/Pits/Valves	Ref No. in drawing	Photos[1]	Remarks	Details
23	Foul Water Manhole	F2106	Fig. B.3.41 – B.3.42	UTS – Unable to Survey	The manhole was full of silt and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
24		F2117	Fig. B.3.43 – B.3.44		
25	Storm Water Gully	Y2007	Fig. B.3.45 – B.3.46	UTR – Unable to Raise	The gully was found tightly closed and unable to raise. The internal condition of the gully could not be inspected.
26	Unknown Manhole	U1002A	Fig. B.3.47 – B.3.48	UTS – Unable to Survey	The manhole was full of water and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
27		U1002			
28		U1003	Fig. B.3.49 – B.3.50	UTR – Unable to Raise	The manhole was found tightly closed and unable to raise. The internal condition of the manhole could not be inspected.
29		U1004	Fig. B.3.51 – B.3.52		
30		U1005	Fig. B.3.53 – B.3.54		
31		U1037	--	UTS – Unable to Survey	The manhole was over 10m and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
32		U1042	--		The manhole was full of silt and unable to survey. The internal condition of the manhole could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
33	Unknown Cable Pit	U2001	Fig. B.3.55 – B.3.56	UTR – Unable to Raise	The cable pit was found tightly closed and unable to raise. The internal condition of the cable pit could not be inspected.
34		U2003	Fig. B.3.57 – B.3.58	UTS – Unable to Survey	The cable pit was full of silt and unable to survey. The internal condition of the cable pit could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.
35		U2004	Fig. B.3.59 – B.3.60		

No.	Manholes/Pits/Valves	Ref No. in drawing	Photos[1]	Remarks	Details
36	Unknown Cable Pit	U2005	Fig. B.3.61 – B.3.62	UTR – Unable to Raise	The cable pit was found tightly closed and unable to raise. The internal condition of the cable pit could not be inspected.
37		U2006	--		
38		U2007	--		
39		U2011	--		
40		U2012	--		
41		U2050	Fig. B.3.63 – B.3.64	UTS – Unable to Survey	The cable pit was full of silt and unable to survey. The internal condition of the cable pit could not be inspected and the utilities passing through might not be discovered and shown in utility drawing.

[1]The photos are presented in ***Appendix B.3 - Manholes/Pits/Valves Photos***.

4. CONCLUSION

Using Pipe and Cable Locator (PCL) - Electromagnetic Detection Method including inspection of surface features related to underground utilities were utilized for locating buried utilities.

All utility lines identified successfully or classified as approximate survey result were summarized in ***Table 4.1 - Number of identified utility lines***. All associated manholes, pits and valves surveyed and inspected were summarized in ***Table 4.2 - Number of identified utilities manholes, pits and valves.***

For more information of each utility lines or manholes/pits/valves, please refer to the tables "***Summary of Pipes & Cables***" and "***Summary of Manholes, Pits & Valves***" on the drawing.

Table 4.1 – Number of identified utility lines

Item	Description	No.	Corresponding Summary	Recommendation
1	Utility line identified successfully	390	--	--
2	Approximated utilities line	63	Table 3.3 – Summary of specified pipes/cables with details	Trial pit for further inspection and detection is suggested if needed.
			33 Nos. of Power Cable by Passive detection; Table 3.3 – Summary of specified pipes/cables with details	Trial pit is suggested to expose the power cables for carrying out toroidal active detection.
Total:		453	Table 3.1 – Summary of Pipes & Cables Type	Please refer to ***Section 5 – Limitation and Recommendations***

Table 4.2 – Number of identified utilities manholes, pits and valves

Item	Description	No.	Corresponding Summary	Recommendation
1	Manhole/pit/valve identified successfully	271	--	--
2	UTS – Unable to Survey	24	Table 3.4 – Summary of specified manholes/pits/valves with details	To clean the silt and dewater for further inspection.
3	UTR – Unable to Raise	17	Table 3.4 – Summary of specified manholes/pits/valves with details	Using crane to raise the manhole for further inspection if needed.
Total:		312	Table 3.2 – Summary of Manholes, Pits & Valves Types	--

5. LIMITATION AND RECOMMENDATIONS

Power cables shown in survey result drawing are from passive detection and FOR REFERENCE ONLY. If there are power cables and gas pipes located nearby excavation area, power cable detection by competent person (CP) and exposing gas pipe would be required. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit excavation should be taken to ascertain the existence of these electricity cables or lines, and necessary information relating to them should be obtained. Please refer to regulations Cap. 406H and 51B or contact our Utility Specialist for further inquiries.

For those manholes/pits shown in the drawings as unable to raise (UTR) or unable to survey (UTS), those internal condition could not be inspected. Therefore, it might happen that utilities running into the manholes/pits could not be identified and shown in utility drawing.

6. REFERENCES

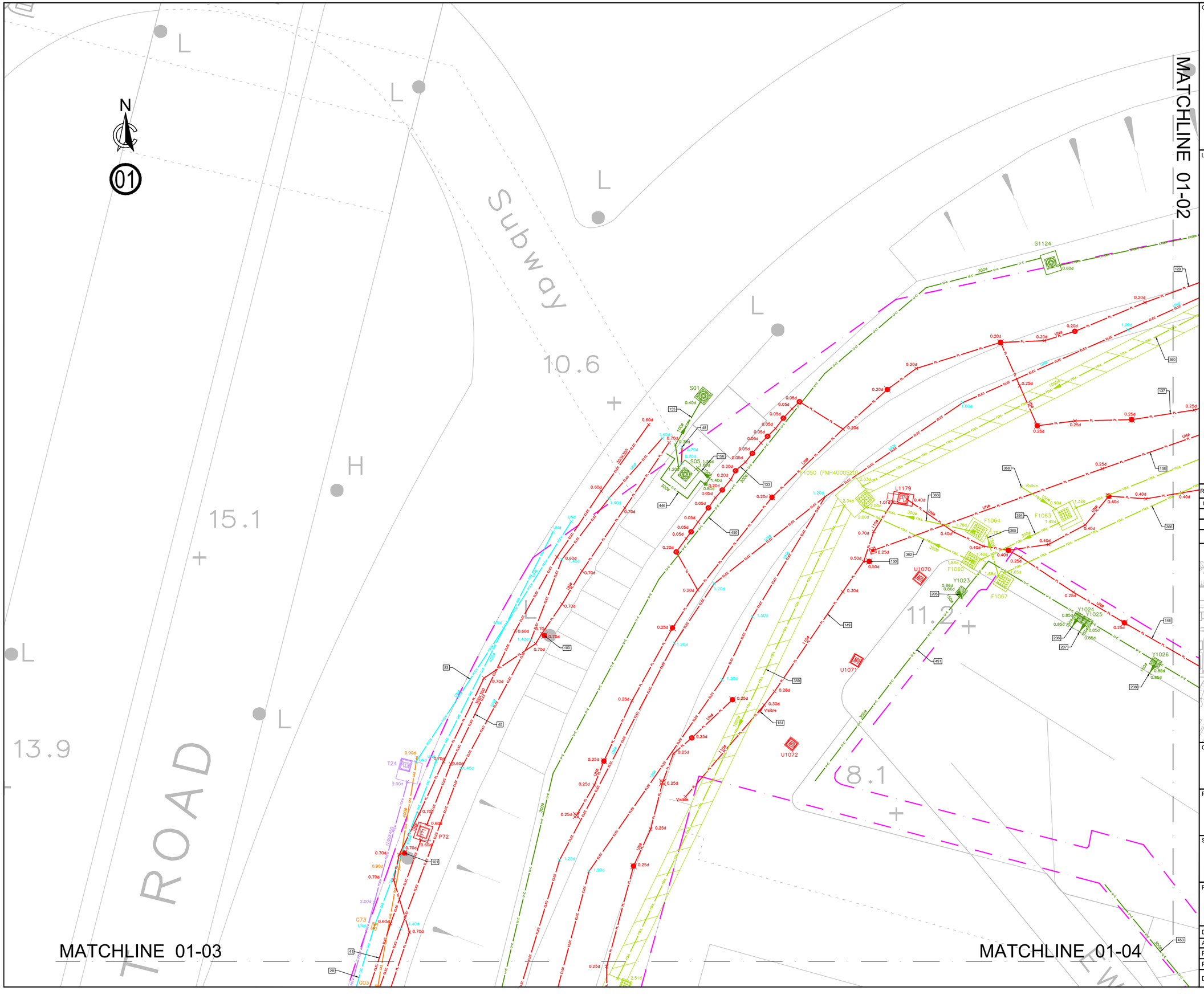
- Code of Practice on Working near Electricity Supply Lines (Year 2018 edition)
- Code of Practice on Avoiding danger from gas pipes (Year 2018 2nd edition)
- Cap. 406H of Electricity Supply Lines (Protection) Regulation, (Year 2021 edition)
- 3M Dynatel Cable/Pipe/Fault Advanced Locator Operators Manual
- RD8000 Series User Manual, Radiodetection Inc

7. JOB REFERENCES[1]

- SSE517 – Underground Utility Survey for Construction of a 30-Classroom Secondary School at Site 1A-2, Kai Tak Development – Architectural Services Department
- SSF513 – Underground Utility Survey for Construction of Avenue Park at Kai Tak – Architectural Services Department
- SSF516 – Underground Utility Survey for Construction of a 30-Classroom Primary School at Tonkin Street, Cheung Sha Wan – Architectural Services Department
- HY/2014/09 – Underground Utility Survey for Central Kowloon Route – Ho Man Tin Access Shaft – Highways Department
- K&T C1 of 2017 – Term Contract for Site Investigation for DMW Project in Kwai Tsing (2017-18) – Home Affairs Department
- K&T C2 of 2018 – Term Contract for Site Investigation for DMW Project in Kwai Tsing (2018-19) – Home Affairs Department
- 20150364 – Underground Utility Survey at Construction of Public Rental Housing Development at Choi Yuen Road Site 3 & 4, Sheung Shui – Hong Kong Housing Authority
- 20160605 – Underground Utility Survey for Construction of Public Rental Housing Development of Tung Tau Estate Phase 8 – Hong Kong Housing Authority
- 20170225 – Construction of Public Rental Housing Development Phases 1 & 2 and Subsidised Sale Flats Development at Diamond Hill Comprehensive Development Area – Hong Kong Housing Authority
- 15/WSD/10 – Underground Utility Survey for Expansion of Tai Po Water Treatment Works and Ancillary Raw Water and Fresh Water Transfer Facilities - Design and Build of New Stream II – Water Supplies Department

[1] Only Part of Job References was presented, Full Job References could be provided if requested.

APPENDIX A – SURVEY RESULT DRAWING



GENERAL NOTES :

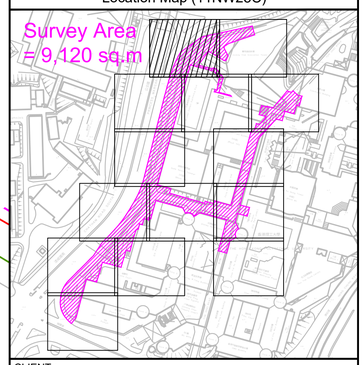
1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
5. Width of the line in the drawing is not presenting the actual size of pipes/cables or the width of cables' bundle. Actual width is presented in the table "Summary of Pipes & Cables".
6. The assigned number of each utility alignments with its cable's/pipe's size, range of depth, reference point of presented pipe's/cable's depth and remarks for additional information are summarized and shown in the table "Summary of Pipes & Cables" on the drawing.
7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: ● Duct includes cable ○ Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
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PROJECT CLIENT :

P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :

CASTCO
佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.
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E-mail: info@castco.com.hk Website: http://www.castco.com.hk/

PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-01		

MATCHLINE 01-02

MATCHLINE 02-04

MATCHLINE 02-11

賽馬會創新樓

Jockey Club Innovation Tower

GENERAL NOTES :

1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
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6. The assigned number of each utility alignments with its cable's/pipe's size, range of depth, reference point of presented pipe's/cable's depth and remarks for additional information are summarized and shown in the table "Summary of Pipes & Cables" on the drawing.
7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
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10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
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- Eaststar Cable Pit
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- Meter
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- Lamppost
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- CCTV Lamp
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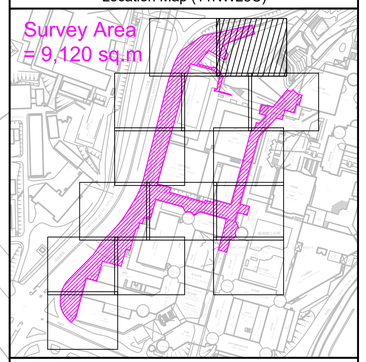
Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

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PROJECT CLIENT :

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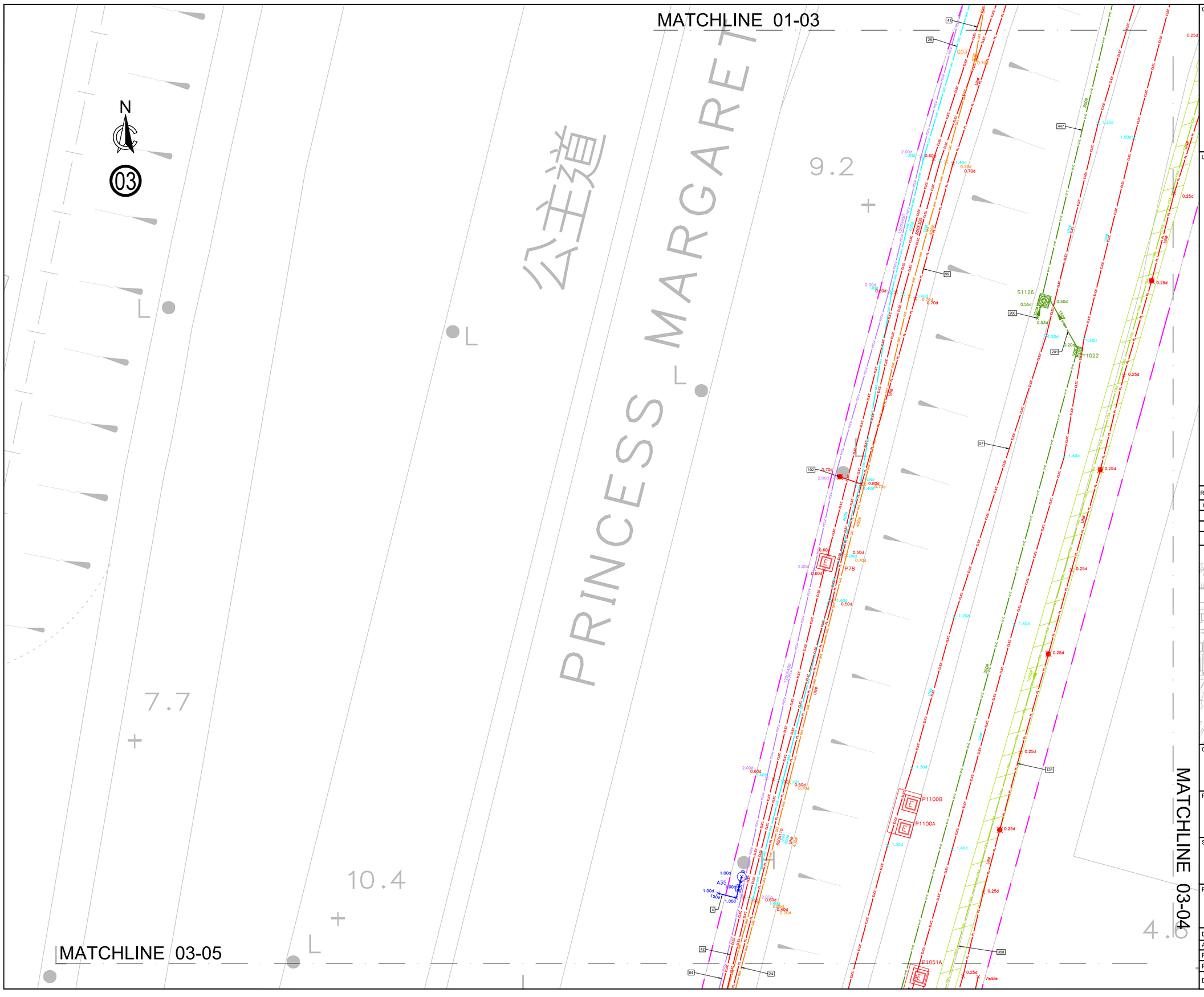
PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-02		



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- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
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- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
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- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
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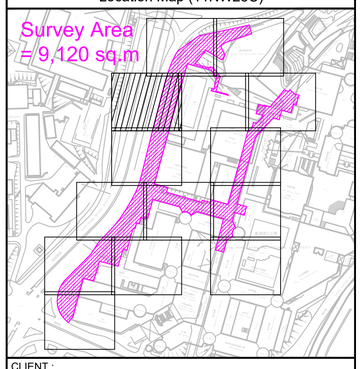
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-03		

MATCHLINE 01-04

MATCHLINE 02-04

MATCHLINE 03-04

MATCHLINE 04-11

MATCHLINE 04-12

F1047 (FMH4000523)

Y1028

Y1029

Y1030

S1148

S1157 UTS

403

213

212

211

210

214

0.25d

2.51d

2.53d

0.63d

0.86d

0.40d

0.35d

0.55d

04

N

Michael Chinese Swimming Pool

祁廉桐游泳池

平台

Podium

12.9

9.2

Shaw

邵逸夫樓

GENERAL NOTES :

1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
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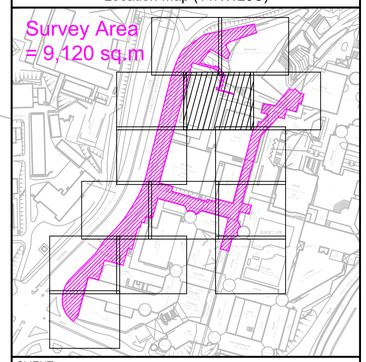
LEGEND :

- F WAT — Fresh Water Pipe
- FS — Fire Service Pipe
- S WAT — Salt Water Pipe
- GAS — Gas Pipe
- ELEC — Electric Cable
- NWT — New World Telecom Cable
- NT&T — NT&T Cable
- PCCW — PCCW Cable
- HKC — Hutchison Cable
- HKBN — HKBN Cable
- EASTSTAR — Eaststar Cable
- WT&T — WT&T Cable
- TGT — TGT Cable
- TRAX — TRAX Cable
- CATV — Cable TV Cable
- PL — Public Lighting Cable
- ATC — ATC/E&M Cable
- STORM — Storm Water Pipe
- FOUL — Foul Water Pipe
- Rising — Rising Main Pipe
- U-C — U-Channel
- UC PIPE — Unclassified Pipe
- UC CABLE — Unclassified Cable
- UN PIPE — Unknown Pipe
- UN CABLE — Unknown Cable
- Cooling Main — Cooling Main Pipe (Color by layer)
- CM CABLE — Cooling Main Control Cable
- FUEL — Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover / Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: ● Duct includes cable ○ Duct empty (Color by layer)
- 0.50d — Approximated Depth
- Approximated Manhole/Pit/Valve

- WV — Water Valve Pit
- GPO — Gas Pipe Pit
- E — Electric Cable Oil Pit
- E — Electric Cable Pit
- NWT — New World Telecom Cable Pit
- NTT — NT&T Cable Pit
- PCCW — PCCW Cable Pit
- HC — Hutchison Cable Pit
- HKBN — HKBN Cable Pit
- EAST — Eaststar Cable Pit
- WT — WT&T Cable Pit
- TGT — TGT Cable Pit
- TRX — TRAX Cable Pit
- Telephone Kiosk
- CATV — Cable TV Cable Pit
- PL — Public Lighting Cable Pit
- ATC — ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- C — Catch-Pit
- C — Catch-Pit without Cover
- Gully
- Inlet / Outlet
- UC — Unclassified Manhole/Pit (Color by layer)
- UN — Unknown Manhole/Pit (Color by layer)
- CM — Cooling Main Manhole (Color by layer)
- CM — Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- M — Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- ATG — Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :

P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :

CASTCO
佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.
Tel: (852) 2597-8333 / 2597-8002 Fax: (852) 2597-8399/ 2602-3662
E-mail: info@castco.com.hk Website: http://www.castco.com.hk/

PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-04		

MATCHLINE 03-05

MATCHLINE 05-06

MATCHLINE 05-07

N

05

A

A'

P1051A

P1051

P84

Y1021

Visible

Shaw Sports

(VS座)

(Block V

GENERAL NOTES :

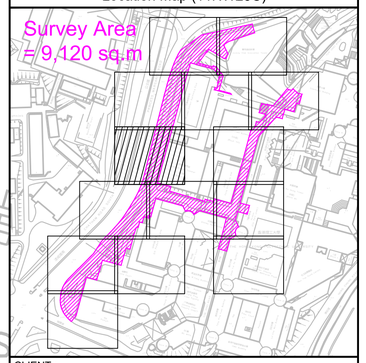
1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
5. Width of the line in the drawing is not presenting the actual size of pipes/cables or the width of cables' bundle. Actual width is presented in the table "Summary of Pipes & Cables".
6. The assigned number of each utility alignments with its cable's/pipe's size, range of depth, reference point of presented pipe's/cable's depth and remarks for additional information are summarized and shown in the table "Summary of Pipes & Cables" on the drawing.
7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: ● Duct includes cable ○ Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-05		

MATCHLINE 05-06

MATCHLINE 06-07

MATCHLINE 06-08

MATCHLINE 06-09

CHATHAM ROAD SOUTH

N

06

6.1

6.2

GENERAL NOTES :

1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
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9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

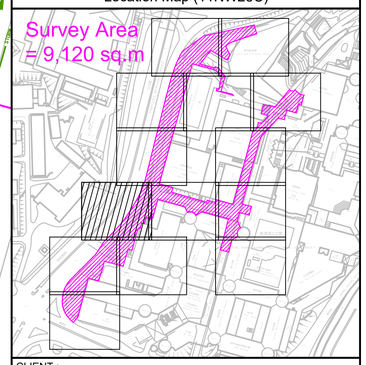
LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchinson Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve

- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

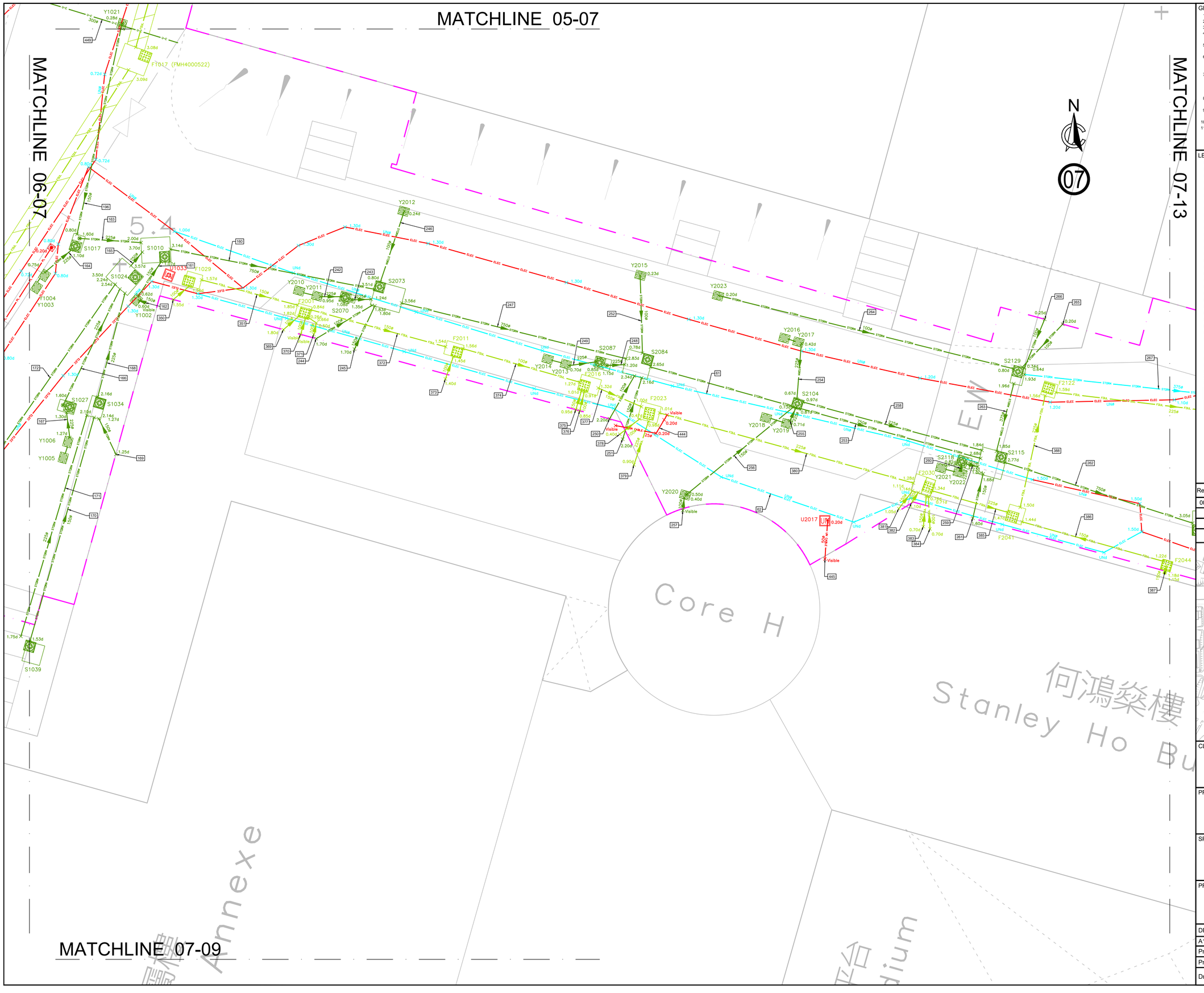
A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-06		

MATCHLINE 05-07

MATCHLINE 06-07

MATCHLINE 07-13

MATCHLINE 07-09



GENERAL NOTES :

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LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
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Rev.	Date	Drawn by	Description
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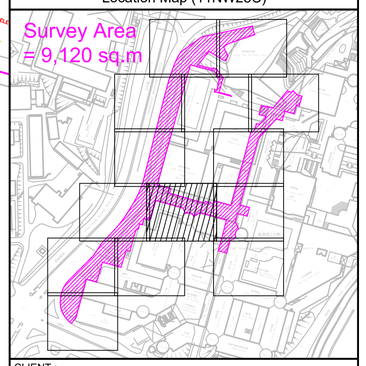
Location Map (11NW25C)



CLIENT :

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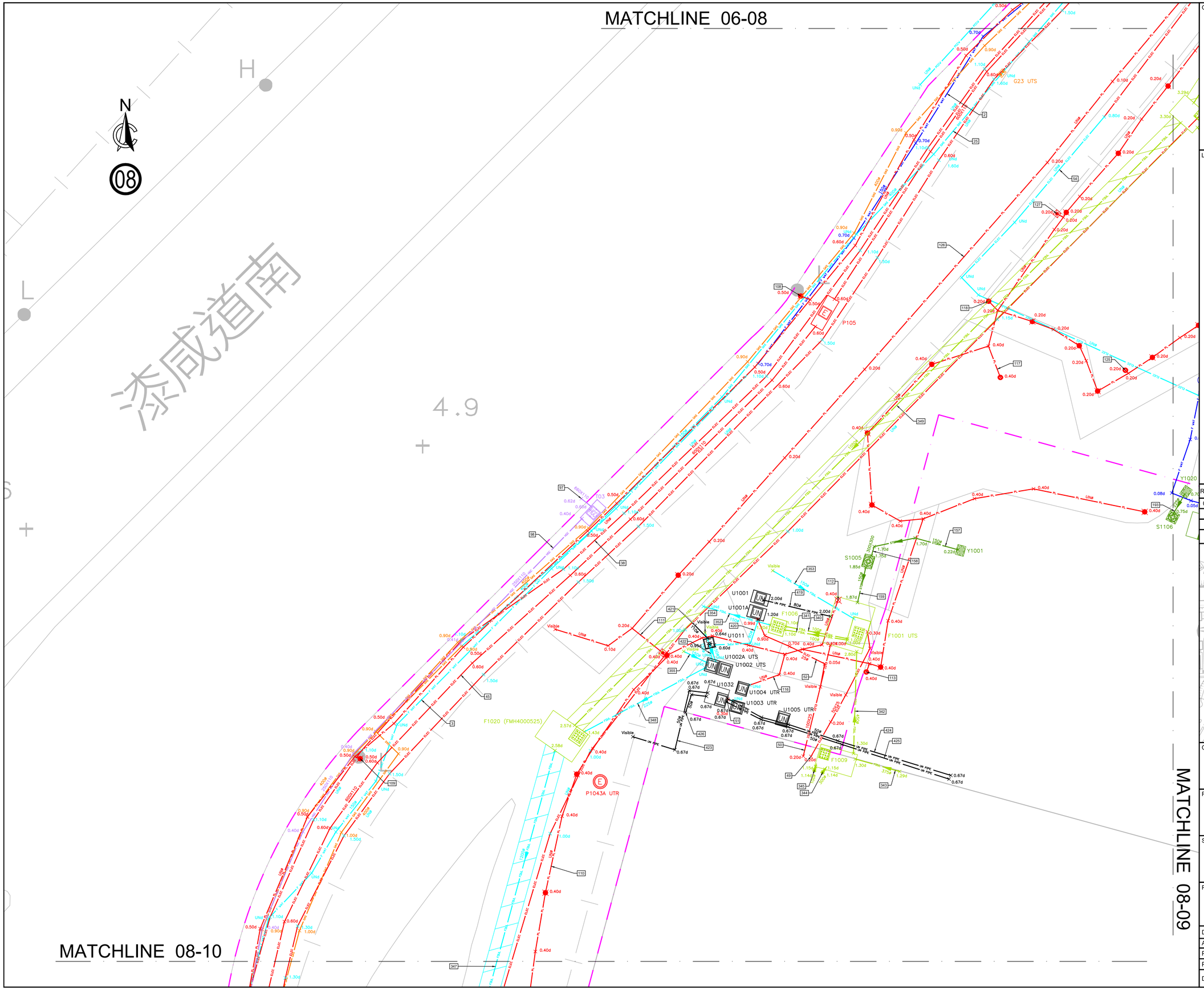
Drawing No.:	Y23-US-P-301-001-D-07		

MATCHLINE 06-08



MATCHLINE 08-09

MATCHLINE 08-10

GENERAL NOTES :

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LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
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- ATC/E&M Cable Pit
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- Irrigation Point
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- Traffic Light
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- Control Box (Color by layer)
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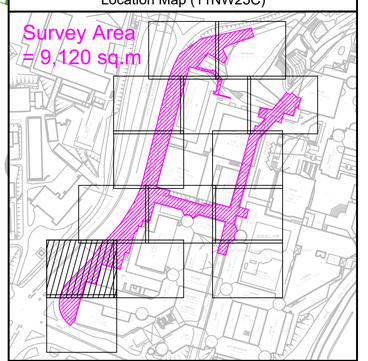
Location Map (11NW25C)



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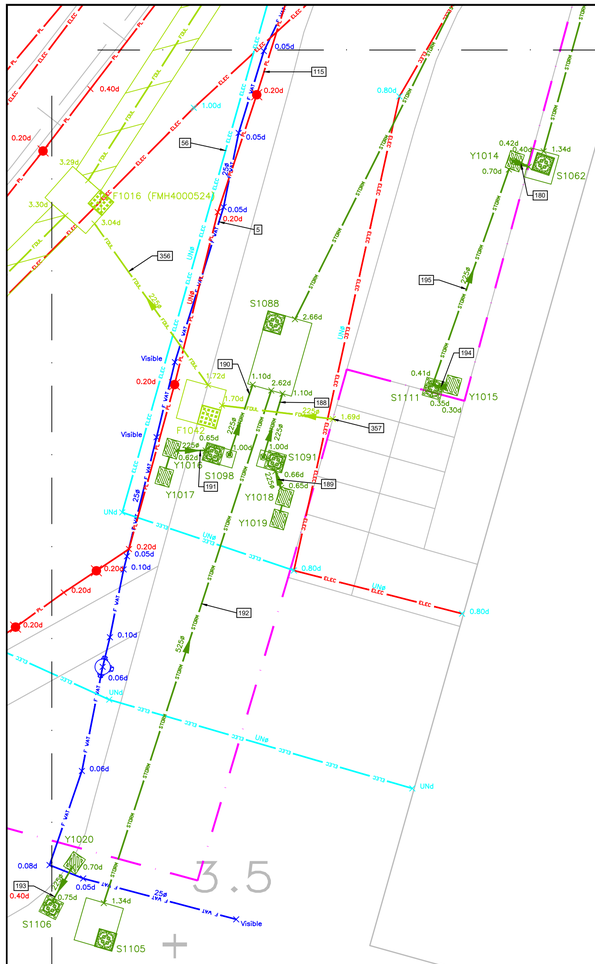
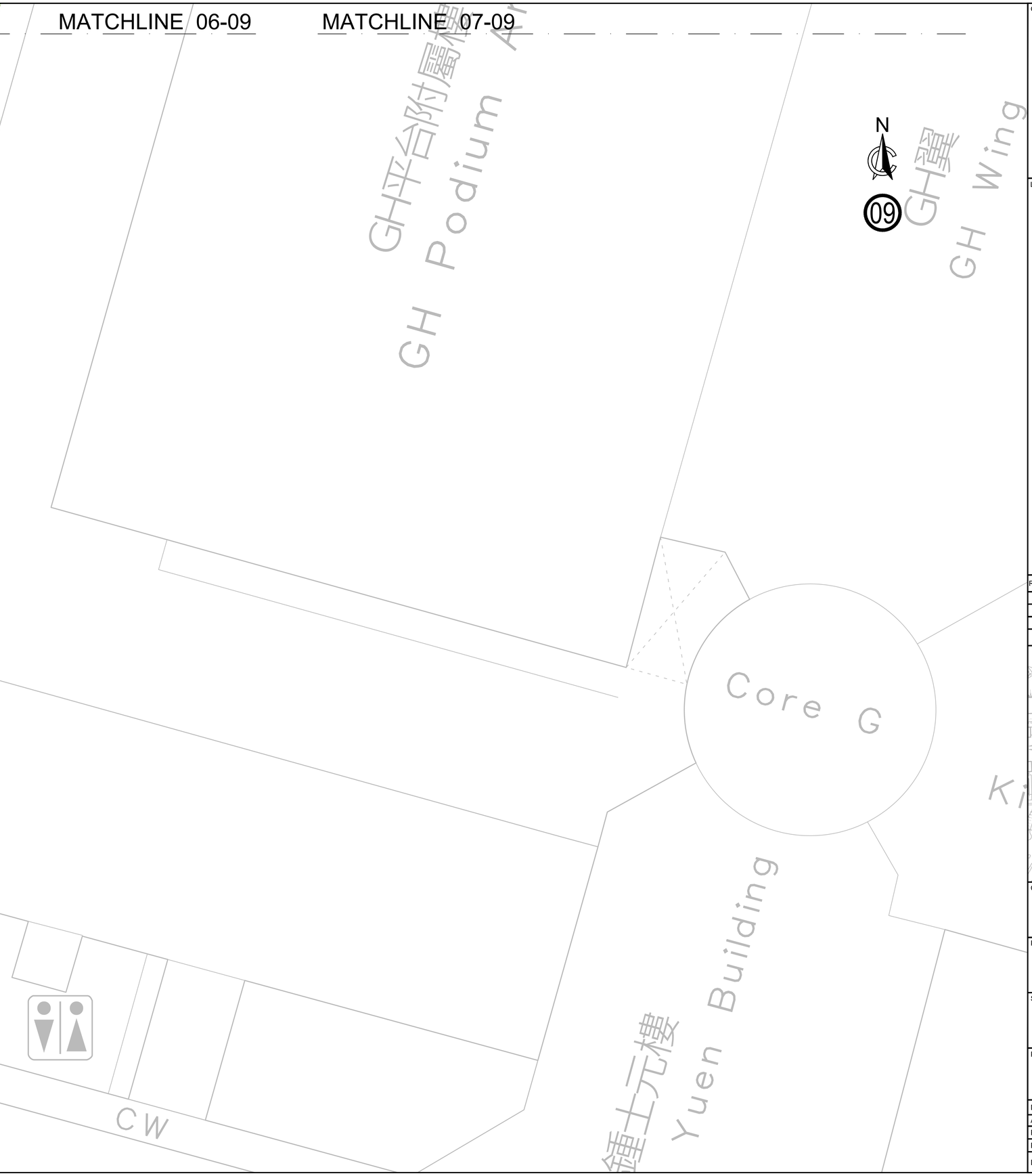
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-08		

MATCHLINE 06-09

MATCHLINE 07-09

MATCHLINE 08-09





N

09

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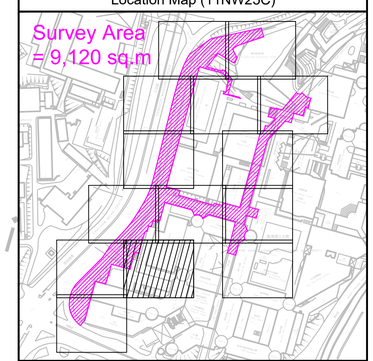
LEGEND :

- F WAT — Fresh Water Pipe
- FS — Fire Service Pipe
- S WAT — Salt Water Pipe
- GAS — Gas Pipe
- ELEC — Electric Cable
- NWT — New World Telecom Cable
- NT&T — NT&T Cable
- PCCV — PCCW Cable
- HCC — Hutchison Cable
- HKBN — HKBN Cable
- EASTSTAR — Eaststar Cable
- WT&T — WT&T Cable
- TGT — TGT Cable
- TRAX — TRAX Cable
- CATV — Cable TV Cable
- PL — Public Lighting Cable
- ATC — ATC/E&M Cable
- STORM — Storm Water Pipe
- FOUL — Foul Water Pipe
- Rising Main — Rising Main Pipe
- U-C — U-Channel
- UC PIPE — Unclassified Pipe
- UC CABLE — Unclassified Cable
- UN PIPE — Unknown Pipe
- UN CABLE — Unknown Cable
- Cooling Main — Cooling Main Pipe (Color by layer)
- CM CABLE — Cooling Main Control Cable
- FUEL — Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover / Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve

- W — Water Valve Pit
- Gas — Gas Pipe Pit
- E — Electric Cable Oil Pit
- E — Electric Cable Pit
- NWT — New World Telecom Cable Pit
- NT — NT&T Cable Pit
- PCCW — PCCW Cable Pit
- HC — Hutchison Cable Pit
- HKB — HKBN Cable Pit
- EAST — Eaststar Cable Pit
- WT — WT&T Cable Pit
- TGT — TGT Cable Pit
- TRX — TRAX Cable Pit
- Telephone Kiosk
- CATV — Cable TV Cable Pit
- PL — Public Lighting Cable Pit
- E/M ATC — ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- C — Catch-Pit
- C — Catch-Pit without Cover
- Gully
- Inlet / Outlet
- UC — Unclassified Manhole/Pit (Color by layer)
- UN — Unknown Manhole/Pit (Color by layer)
- CM — Cooling Main Manhole (Color by layer)
- CM — Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- M — Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- ET — Earth Pit
- Control Box — Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :

P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :

CASTCO
佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.
Tel: (852) 2597-8333 / 2597-8002 Fax: (852) 2597-8399/ 2602-3662
E-mail: info@castco.com.hk Website: http://www.castco.com.hk/

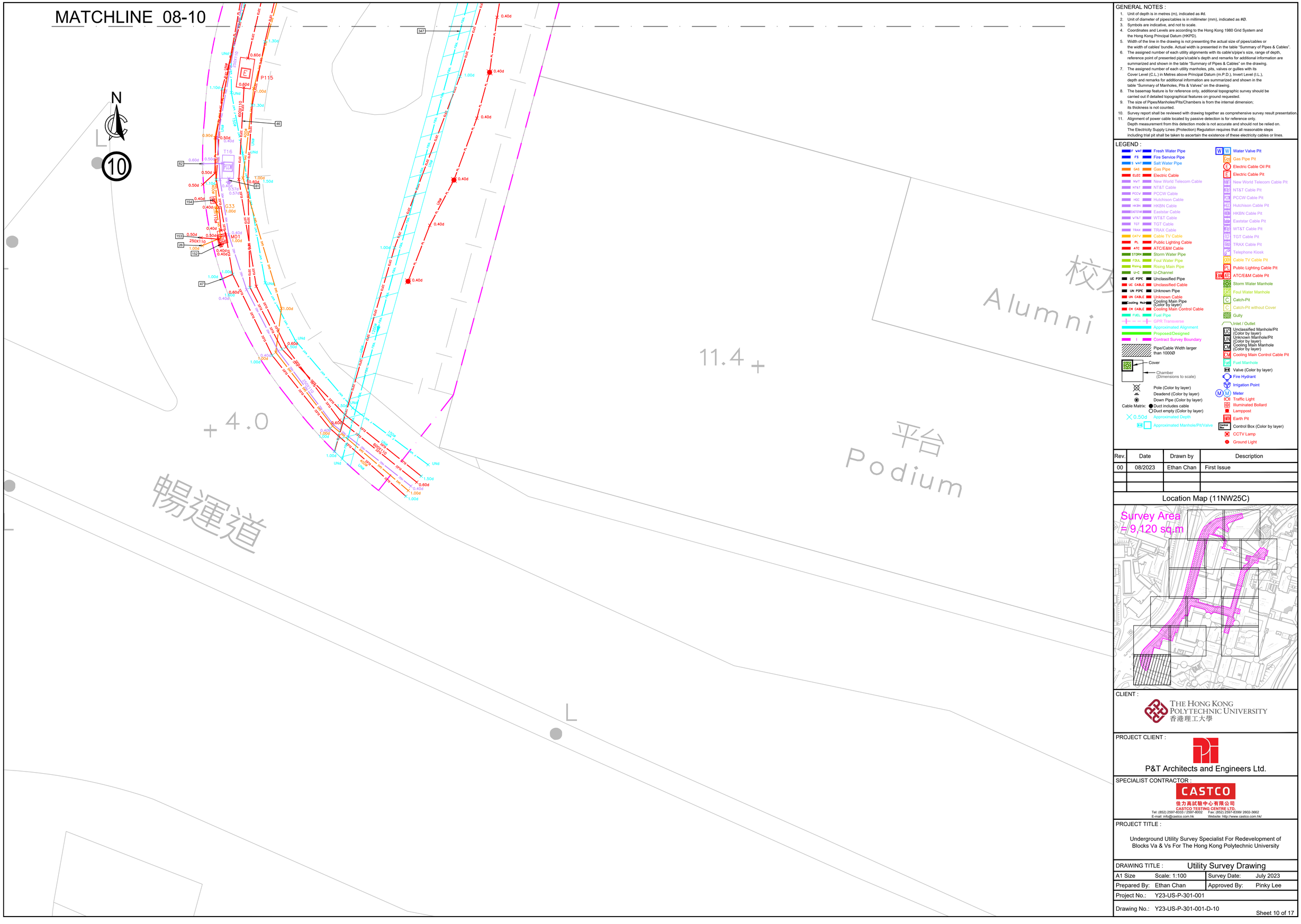
PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-09		

MATCHLINE 08-10



GENERAL NOTES :

1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
5. Width of the line in the drawing is not presenting the actual size of pipes/cables or the width of cables' bundle. Actual width is presented in the table "Summary of Pipes & Cables".
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LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover / Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: ● Duct includes cable ○ Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)

CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :

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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-10		

MATCHLINE 02-11

MATCHLINE 04-11

MATCHLINE 11-12

N

11

GENERAL NOTES :

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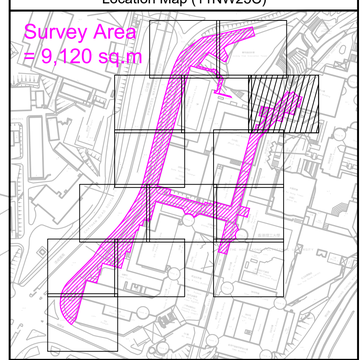
LEGEND :

- F WAT — Fresh Water Pipe
- FS — Fire Service Pipe
- S WAT — Salt Water Pipe
- GAS — Gas Pipe
- ELEC — Electric Cable
- NWT — New World Telecom Cable
- NT&T — NT&T Cable
- PCCW — PCCW Cable
- HKC — Hutchison Cable
- HKBN — HKBN Cable
- EASTSTAR — Eaststar Cable
- WT&T — WT&T Cable
- TGT — TGT Cable
- TRAX — TRAX Cable
- CATV — Cable TV Cable
- PL — Public Lighting Cable
- ATC — ATC/E&M Cable
- STORM — Storm Water Pipe
- FOUL — Foul Water Pipe
- Rising — Rising Main Pipe
- U-C — U-Channel
- UC PIPE — Unclassified Pipe
- UC CABLE — Unclassified Cable
- UN PIPE — Unknown Pipe
- UN CABLE — Unknown Cable
- Cooling Main — Cooling Main Pipe (Color by layer)
- CM CABLE — Cooling Main Control Cable
- FUEL — Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover / Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve

- WV — Water Valve Pit
- GPO — Gas Pipe Pit
- E — Electric Cable Oil Pit
- E — Electric Cable Pit
- NWT — New World Telecom Cable Pit
- NT&T — NT&T Cable Pit
- HKC — PCCW Cable Pit
- HC — Hutchison Cable Pit
- HKB — HKBN Cable Pit
- EAS — Eaststar Cable Pit
- WT — WT&T Cable Pit
- TGT — TGT Cable Pit
- TRX — TRAX Cable Pit
- Telephone Kiosk
- CATV — Cable TV Cable Pit
- PL — Public Lighting Cable Pit
- E/M ATC — ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- C — Catch-Pit
- C — Catch-Pit without Cover
- Gully
- Inlet / Outlet
- JC — Unclassified Manhole/Pit (Color by layer)
- JN — Unknown Manhole/Pit (Color by layer)
- CM — Cooling Main Manhole (Color by layer)
- CM — Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- M — Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box — Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

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E-mail: info@castco.com.hk Website: http://www.castco.com.hk/

PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-11		

MATCHLINE 04-12

MATCHLINE 11-12

MATCHLINE 12-13

N

12

Shaw Amenities Building

部逸夫樓

(VA座)

(Block VA)

YUK CHOI ROAD

Chi Sun Memorial Square

孫志新紀念廣場

Chuen Hall

平台

CW

+ 11.3

+ 9.0

B

B'

GENERAL NOTES :

1. Unit of depth is in metres (m), indicated as #d.
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LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable / Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
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- Cable TV Cable Pit
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- ATC/E&M Cable Pit
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- Catch-Pit without Cover
- Gully
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- Unclassified Manhole/Pit (Color by layer)
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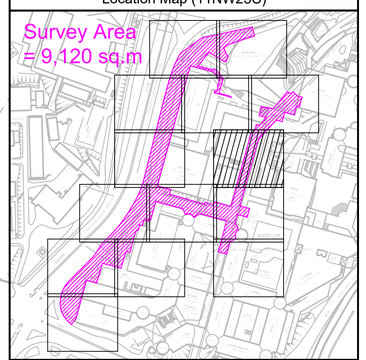
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
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PROJECT CLIENT :

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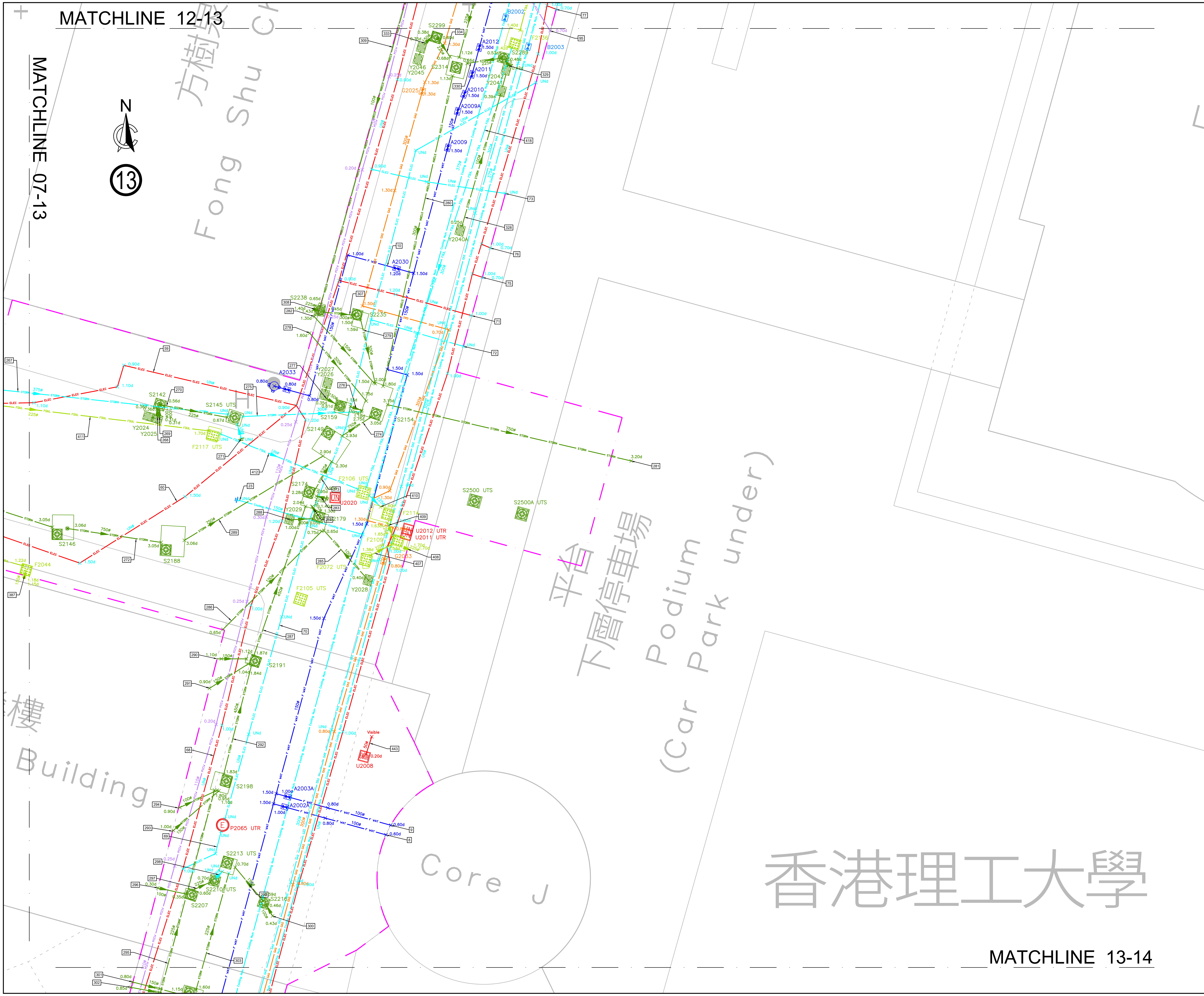
PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-12		



GENERAL NOTES :

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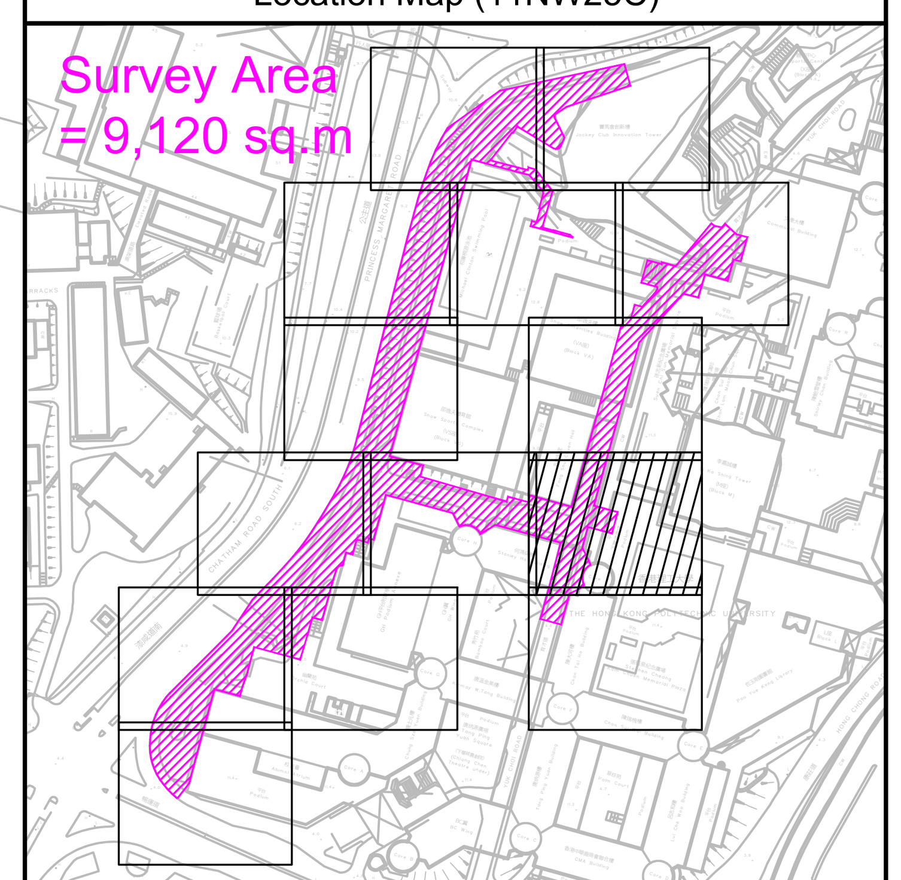
LEGEND :

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
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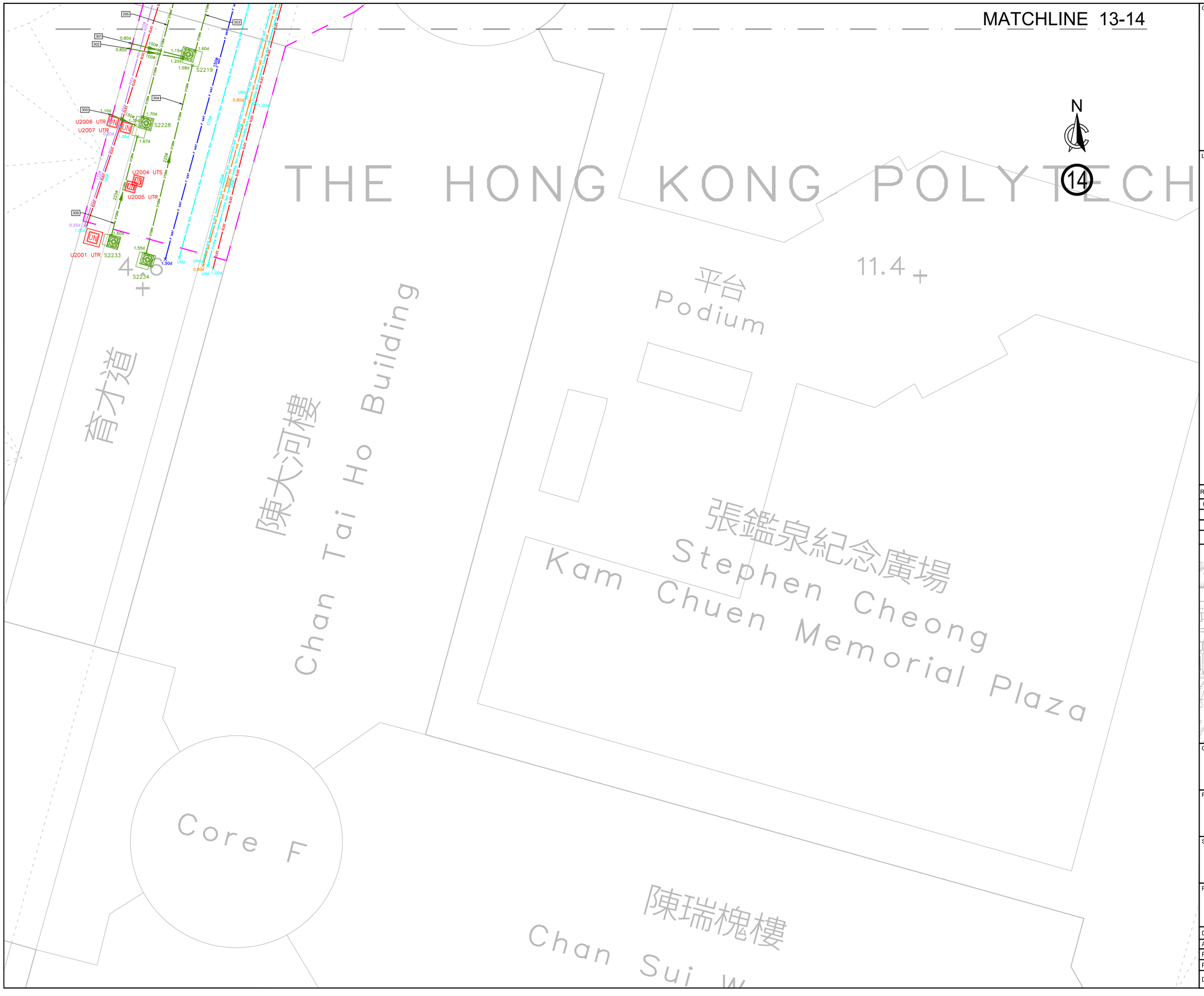
PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE :	Utility Survey Drawing		
A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-13		Sheet 13 of 17

MATCHLINE 13-14



N

14

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- Eaststar Cable
- WT&T Cable
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- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
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Rev.	Date	Drawn by	Description
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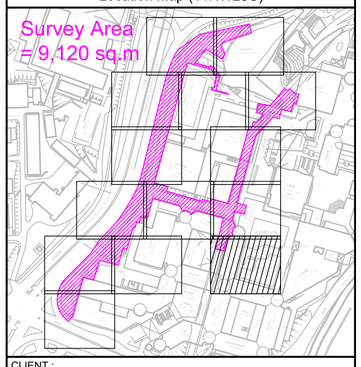
Location Map (11NW25C)



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Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-14		

Summary of Pipes & Cables

No.	Utility	Cable/Pipe Size(mm)	Depth(m)	Depth Refer to	Remarks
1	Fresh Water Pipe	150	0.80d-1.00d	Center of Pipe	--
2	Fresh Water Pipe	150	0.70d-0.80d	Center of Pipe	--
3	Fresh Water Pipe	150	Unknown-0.70d	Center of Pipe	Approximated
4	Fresh Water Pipe	150	1.00d-1.00d	Center of Pipe	--
5	Fresh Water Pipe	25	Visible-0.10d	Center of Pipe	To Fire Hose Reel
6	Fresh Water Pipe	25	Visible-0.35d	Center of Pipe	Irrigation Pipe
7	Fresh Water Pipe	150	1.20d-1.50d	Center of Pipe	--
8	Fresh Water Pipe	100	0.60d-1.50d	Center of Pipe	--
9	Fresh Water Pipe	100	0.60d-1.50d	Center of Pipe	--
10	Fresh Water Pipe	150	0.80d-1.50d	Center of Pipe	--
11	Fresh Water Pipe	150	0.60d-1.50d	Center of Pipe	--
12	Fresh Water Pipe	100	0.50d-1.20d	Center of Pipe	--
13	Fresh Water Pipe	50	Visible-0.50d	Center of Pipe	--
14	Fresh Water Pipe	100	0.50d-1.20d	Center of Pipe	--
15	Fresh Water Pipe	150	0.50d-1.20d	Center of Pipe	--
16	Fresh Water Pipe	150	0.80d-1.20d	Center of Pipe	--
17	Fresh Water Pipe	100	0.50d-1.20d	Center of Pipe	--
18	Fresh Water Pipe	100	0.50d-1.20d	Center of Pipe	--
19	Fresh Water Pipe	100	0.50d-1.20d	Center of Pipe	--
20	Fresh Water Pipe	50	0.50d-0.50d	Center of Pipe	--
21	Salt Water Cooling Main Pipe	375	Unknown	Center of Pipe	Approximated
22	Salt Water Cooling Main Pipe	375	Unknown	Center of Pipe	Approximated
23	Salt Water Cooling Main Pipe	150	Unknown	Center of Pipe	Approximated; Deadend
24	Gas Pipe	400	0.60d-0.90d	Center of Pipe	Reserve Pipe
25	Gas Pipe	400	Unknown-0.90d	Center of Pipe	Approximated; Reserve Pipe
26	Gas Pipe	400	0.90d-1.00d	Center of Pipe	Reserve Pipe
27	Gas Pipe	400	0.80d-1.00d	Center of Pipe	--
28	Gas Pipe	400	Unknown-0.80d	Center of Pipe	Approximated
29	Gas Pipe	300	0.70d-1.50d	Center of Pipe	--
30	Gas Pipe	300	Unknown	Center of Pipe	Approximated
31	Gas Pipe	150	1.00d-1.50d	Center of Pipe	--
32	Gas Pipe	Unknown	0.70d-1.30d	Center of Pipe	Deadend
33	Gas Pipe	Unknown	0.60d-0.70d	Center of Pipe	Deadend
34	Gas Pipe	Unknown	0.50d-0.60d	Center of Pipe	Deadend
35	Gas Pipe	100	0.60d-1.30d	Center of Pipe	--
36	Gas Pipe	180	Visible-1.30d	Center of Pipe	--
37	Gas Pipe	300	Unknown	Center of Pipe	Approximated; Deadend
38	Electric Cable	Unknown	1.00d-1.10d	--	Passive Detection; As from record plan 11kV x2
39	Electric Cable	Unknown	1.30d-1.60d	--	Passive Detection; As from record plan 11kV x4, Duct x2
40	Electric Cable	110	0.60d-0.60d	--	Pilot
41	Electric Cable	110	0.60d-0.60d	--	Pilot
42	Electric Cable	110	0.60d-0.60d	--	Pilot
43	Electric Cable	110	0.60d-0.60d	--	Pilot
44	Electric Cable	110	0.60d-0.60d	--	Pilot
45	Electric Cable	110	0.60d-0.60d	--	Pilot
46	Electric Cable	110	0.60d-0.60d	--	Pilot
47	Electric Cable	Unknown	1.00d-1.00d	--	Passive Detection; As from record plan 11kV x6, Duct x1
48	Electric Cable	Unknown	0.70d-0.70d	--	Passive Detection; Cable quantity cannot be identified from record plan
49	Electric Cable	25	Visible-0.30d	--	To Foul Water Manhole F1001
50	Electric Cable	25	Visible-1.00d	--	To Foul Water Manhole F1001
51	Electric Cable	25	Unknown-0.30d	--	Approximated
52	Electric Cable	25	Visible-0.99d	--	To Unknown Cable Pit U1001
53	Electric Cable	Unknown	0.70d-1.50d	--	Passive Detection; As from record plan 132kV x1, 11kV x1
54	Electric Cable	Unknown	Unknown-0.80d	--	Approximated; Passive Detection; As from record plan 132kV x1, 11kV x1
55	Electric Cable	Unknown	0.80d-1.30d	--	Passive Detection; As from record plan 132kV x1, 11kV x1
56	Electric Cable	Unknown	Unknown-0.80d	--	Approximated; Passive Detection; As from record plan 11kV x2
57	Electric Cable	Unknown	1.00d-1.50d	--	Passive Detection; As from record plan 132kV x1, 11kV x1
58	Electric Cable	Unknown	Unknown-1.00d	--	Approximated; Passive Detection; As from record plan 132kV x1, 11kV x1
59	Electric Cable	Unknown	0.90d-1.30d	--	Passive Detection; As from record plan 11kV x7
60	Electric Cable	Unknown	0.90d-1.50d	--	Passive Detection; As from record plan 11kV x4
61	Electric Cable	Unknown	Unknown-1.50d	--	Approximated; Passive Detection; As from record plan 11kV x2
62	Electric Cable	Unknown	Unknown-1.50d	--	Approximated; Passive Detection; As from record plan 11kV x1
63	Electric Cable	Unknown	Unknown-1.00d	--	Approximated; Passive Detection; As from record plan Abandoned x3
64	Electric Cable	Unknown	1.00d-1.00d	--	Approximated; Passive Detection; As from record plan 11kV x2, Abandoned x3
65	Electric Cable	Unknown	0.60d-1.00d	--	Approximated; Passive Detection; As from record plan L.V. x2, 11kV x2
66	Electric Cable	Unknown	0.70d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
67	Electric Cable	Unknown	0.70d-0.70d	--	Passive Detection; Cable quantity cannot be identified from record plan
68	Electric Cable	Unknown	0.90d-1.20d	--	Approximated; Passive Detection; As from record plan 11kV x4
69	Electric Cable	Unknown	Unknown-1.00d	--	Approximated; Passive Detection; As from record plan Abandoned x2
70	Electric Cable	Unknown	Unknown	--	Approximated; Passive Detection; As from record plan Abandoned x2
71	Electric Cable	Unknown	0.90d-1.20d	--	Passive Detection; As from record plan 11kV x6
72	Electric Cable	Unknown	Unknown	--	Approximated; Passive Detection; As from record plan 11kV x4
73	Electric Cable	Unknown	Unknown-0.90d	--	Approximated; Passive Detection; As from record plan 11kV x4
74	Electric Cable	Unknown	1.00d-1.00d	--	Passive Detection; As from record plan 11kV x12
75	Electric Cable	Unknown	0.70d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
76	Electric Cable	Unknown	0.70d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
77	Electric Cable	Unknown	0.70d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
78	Electric Cable	Unknown	0.70d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
79	Electric Cable	Unknown	0.30d-0.40d	--	Passive Detection; Cable quantity cannot be identified from record plan
80	Electric Cable	Unknown	0.35d-1.00d	--	Passive Detection; Cable quantity cannot be identified from record plan
81	PCCW Cable	110	0.57d-0.57d	Crown and Center	Deadend
82	PCCW Cable	110	0.50d-0.60d	Center of Cable	Pipe Duct
83	PCCW Cable	Unknown	Unknown	Center of Cable	Approximated
84	PCCW Cable	150	2.00d-2.00d	Crown and Center	--
85	PCCW Cable	Unknown	Unknown	Center of Cable	Approximated
86	PCCW Cable	110	0.55d-0.55d	Center of Cable	--
87	PCCW Cable	110	0.65d-0.65d	Center of Cable	--
88	PCCW Cable	110	0.10d-0.25d	Center of Cable	--
89	PCCW Cable	150	0.35d-0.55d	Center of Cable	--
90	PCCW Cable	150	0.20d-0.40d	Center of Cable	--
91	PCCW Cable	110	0.50d-0.60d	Crown and Center	--
92	PCCW Cable	150	0.65d-0.80d	Crown and Center	--
93	PCCW Cable	110	0.45d-0.55d	Crown and Center	--
94	PCCW Cable	110	0.10d-0.30d	Center of Cable	--
95	PCCW Cable	110	0.65d-0.70d	Center of Cable	--
96	PCCW Cable	Unknown	0.50d-0.70d	Center of Cable	--
97	HGC Cable	110	0.60d-0.62d	Crown and Center	--
98	HGC Cable	110	0.40d-0.41d	Crown and Center	--
99	Public Lighting Cable	Unknown	0.30d-0.80d	Center of Cable	--
100	Public Lighting Cable	Unknown	0.70d-0.70d	Center of Cable	--
101	Public Lighting Cable	Unknown	0.70d-0.70d	Center of Cable	--
102	Public Lighting Cable	Unknown	0.70d-0.70d	Center of Cable	--
103	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
104	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
105	Public Lighting Cable	Unknown	0.30d-0.30d	Center of Cable	--
106	Public Lighting Cable	Unknown	0.50d-0.50d	Center of Cable	--
107	Public Lighting Cable	Unknown	Visible-0.30d	Center of Cable	To Road Sign
108	Public Lighting Cable	Unknown	0.50d-0.50d	Center of Cable	--
109	Public Lighting Cable	Unknown	0.50d-0.50d	Center of Cable	--
110	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
111	Public Lighting Cable	Unknown	0.20d-0.40d	Center of Cable	--
112	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
113	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
114	Public Lighting Cable	Unknown	0.20d-0.40d	Center of Cable	--
115	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
116	Public Lighting Cable	Unknown	Unknown-0.70d	Center of Cable	--
117	Public Lighting Cable	Unknown	0.40d-0.40d	Center of Cable	--
118	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
119	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
120	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
121	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
122	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
123	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
124	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
125	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
126	Public Lighting Cable	Unknown	Visible-0.20d	Center of Cable	--
127	Public Lighting Cable	Unknown	0.20d-0.20d	Center of Cable	--
128	Public Lighting Cable	Unknown	Visible-0.30d	Center of Cable	--
129	Public Lighting Cable	Unknown	0.20d-0.30d	Center of Cable	--
130	Public Lighting Cable	Unknown	Visible-0.30d	Center of Cable	To Slope
131	Public Lighting Cable	80	Visible-0.50d	Crown and Center	To Slope
132	Public Lighting Cable	Unknown	Visible-0.25d	Center of Cable	To Building
133	Public Lighting Cable	Unknown	0.05d-0.20d	Center of Cable	--
134	Public Lighting Cable	25	0.20d-0.43d	Center of Cable	--
135	Public Lighting Cable	25	0.30d-0.30d	Center of Cable	--
136	Public Lighting Cable	Unknown	0.28d-0.40d	Center of Cable	--
137	Public Lighting Cable	Unknown	0.20d-0.25d	Center of Cable	--
138	Public Lighting Cable	Unknown	0.25d-0.25d	Center of Cable	--
139	Public Lighting Cable	Unknown	0.25d-0.25d	Center of Cable	--
140	Public Lighting Cable	Unknown	0.28d-0.30d	Center of Cable	--
141	Public Lighting Cable	25	0.28d-0.30d	Center of Cable	--
142	Public Lighting Cable	25	0.14d-0.28d	Center of Cable	--
143	Public Lighting Cable	25	0.14d-0.42d	Center of Cable	--
144	Public Lighting Cable	Unknown	0.28d-0.28d	Center of Cable	To Building
145	Public Lighting Cable	Unknown	0.28d-0.28d	Center of Cable	--
146	Public Lighting Cable	Unknown	0.25d-0.25d	Center of Cable	--
147	Public Lighting Cable	Unknown	0.25d-0.25d	Center of Cable	--
148	Public Lighting Cable	Unknown	0.25d-0.28d	Center of Cable	--
149	Public Lighting Cable	110	Visible-1.01d	Center of Cable	--
150	Public Lighting Cable	110	0.50d-0.50d	Center of Cable	--
151	Public Lighting Cable	110	Visible-0.30d	Center of Cable	--
152	ATC/E&M Cable	110	0.40d-0.40d	Center of Cable	Pipe Duct; Deadend
153	ATC/E&M Cable	110	0.50d-0.50d	Crown and Center	--
154	ATC/E&M Cable	110	0.40d-0.40d	Center of Cable	--
155	Storm Water Pipe	100	0.39d-1.20d	Invert of Pipe	Pumping System
156	Storm Water Pipe	100	0.80d-1.60d	Invert of Pipe	Down Pipe
157	Storm Water Pipe	150	0.22d-1.70d	Invert of Pipe	--
158	Storm Water Pipe	300X300	1.70d-1.75d	Invert of Pipe	--
159	Storm Water Pipe	150	1.85d-1.87d	Invert of Pipe	--
160	Storm Water Pipe	750	3.14d-3.51d	Invert of Pipe	--
161	Storm Water Pipe	150	0.62d-1.07d	Invert of Pipe	--
162	Storm Water Pipe	150	Visible-0.60d	Invert of Pipe	--
163	Storm Water Pipe	225	1.60d-2.00d	Invert of Pipe	Down Pipe
164	Storm Water Pipe	225	0.75d-1.10d	Invert of Pipe	--
165	Storm Water Pipe	750	3.57d-3.70d	Invert of Pipe	--
166	Storm Water Pipe	225	1.60d-2.24d	Invert of Pipe	Down Pipe
167	Storm Water Pipe	225	1.27d-1.30d	Invert of Pipe	--
168	Storm Water Pipe	225	2.16d-2.54d	Invert of Pipe	--
169	Storm Water Pipe	150	1.25d-1.27d	Invert of Pipe	--
170	Storm Water Pipe	150	1.53d-2.14d	Invert of Pipe	--
171	Storm Water Pipe	225	1.75d-2.10d	Invert of Pipe	--
172	Storm Water Pipe	750	2.87d-3.50d	Invert of Pipe	--
173	Storm Water Pipe	225	0.91d-1.10d	Invert of Pipe	Down Pipe
174	Storm Water Pipe	300	1.38d-1.46d	Invert of Pipe	--
175	Storm Water Pipe	100	1.10d-1.20d	Invert of Pipe	Down Pipe
176	Storm Water Pipe	100	0.67d-0.68d	Invert of Pipe	--
177	Storm Water Pipe	225	0.60d-0.75d	Invert of Pipe	Down Pipe
178	Storm Water Pipe	225	0.41d-0.42d	Invert of Pipe	--
179	Storm Water Pipe	300	1.34d-1.44d	Invert of Pipe	--
180	Storm Water Pipe	225	0.40d-0.42d	Invert of Pipe	Down Pipe
181	Storm Water Pipe	225	1.12d-1.30d	Invert of Pipe	Down Pipe
182	Storm Water Pipe	225	0.77d-0.89d	Invert of Pipe	--
183	Storm Water Pipe	225	0.96d-1.30d	Invert of Pipe	--
184	Storm Water Pipe	225	0.60d-0.80d	Invert of Pipe	--
185	Storm Water Pipe	225	0.98d-1.10d	Invert of Pipe	Down Pipe
186	Storm Water Pipe	225	0.71d-0.79d	Invert of Pipe	--
187	Storm Water Pipe	750	2.66d-2.84d	Invert of Pipe	--
188	Storm Water Pipe	225	1.00d-1.10d	Invert of Pipe	Down Pipe
189	Storm Water Pipe	225	0.65d-0.66d	Invert of Pipe	--
190	Storm Water Pipe	225	1.00d-1.10d	Invert of Pipe	Down Pipe
191	Storm Water Pipe	225	0.62d-0.65d	Invert of Pipe	--
192	Storm Water Pipe	525	1.35d-2.62d	Invert of Pipe	--
193	Storm Water Pipe	225	0.70d-0.75d	Invert of Pipe	--
194	Storm Water Pipe	225	0.30d-0.35d	Invert of Pipe	--
195	Storm Water Pipe	225	0.41d-0.70d	Invert of Pipe	--
196	Storm Water Pipe	150	0.28d-0.80d	Invert of Pipe	Down Pipe
197	Storm Water Pipe	225	1.08d-1.40d	Invert of Pipe	--
198	Storm Water Pipe	225	0.70d-1.08d	Invert of Pipe	--
199	Storm Water Pipe	225	0.60d-1.03d	Invert of Pipe	--
200	Storm Water Pipe	300	0.53d-0.55d	Invert of Pipe	90˚ Turning Pipe
201	Storm Water Pipe	150	0.20d-0.50d	Invert of Pipe	--
202	Storm Water Pipe	100	0.76d-0.78d	Invert of Pipe	--
203	Storm Water Pipe	100	0.60d-0.62d	Invert of Pipe	Deadend
204	Storm Water Pipe	100	1.35d-1.37d	Invert of Pipe	Down Pipe
205	Storm Water Pipe	150	0.86d-0.86d	Invert of Pipe	--
206	Storm Water Pipe	150	0.85d-0.85d	Invert of Pipe	--
207	Storm Water Pipe	150	0.85d-0.85d	Invert of Pipe	--
208	Storm Water Pipe	150	0.85d-0.85d	Invert of Pipe	--
209	Storm Water Pipe	150	0.85d-0.85d	Invert of Pipe	--
210	Storm Water Pipe	150	0.35d-0.40d	Invert of Pipe	--
211	Storm Water Pipe	150	0.35d-0.40d	Invert of Pipe	--
212	Storm Water Pipe	150	0.60d-0.63d	Invert of Pipe	--
213	Storm Water Pipe	150	0.86d-0.88d	Invert of Pipe	--
214	Storm Water Pipe	100	Unknown-0.55d	Invert of Pipe	Approximated
215	Storm Water Pipe	150	0.20d-0.91d	Invert of Pipe	Down Pipe
216	Storm Water Pipe	100	0.75d-0.84d	Invert of Pipe	--
217	Storm Water Pipe	450	1.16d-1.80d	Invert of Pipe	--
218	Storm Water Pipe	450	2.05d-2.15d	Invert of Pipe	Down Pipe
219	Storm Water Pipe	100	0.60d-0.66d	Invert of Pipe	--
220	Storm Water Pipe	225	1.15d-1.16d	Invert of Pipe	--
221	Storm Water Pipe	300	1.10d-1.16d	Invert of Pipe	--
222	Storm Water Pipe	150	0.66d-0.95d	Invert of Pipe	Down Pipe
223	Storm Water Pipe	300	1.22d-1.32d	Invert of Pipe	Down Pipe
224	Storm Water Pipe	225	0.42d-0.54d	Invert of Pipe	--
225	Storm Water Pipe	80	Visible-0.23d	Invert of Pipe	--
226	Storm Water Pipe	225	0.31d-0.39d	Invert of Pipe	--
227	Storm Water Pipe	100	Visible-0.19d	Invert of Pipe	--
228	Storm Water Pipe	50	0.18d-0.24d	Invert of Pipe	--
229	Storm Water Pipe	25	0.10d-0.10d	Invert of Pipe	--
230	Storm Water Pipe	25	0.10d-0.10d	Invert of Pipe	--
231	Storm Water Pipe	100	0.14d-0.54d	Invert of Pipe	--
232	Storm Water Pipe	100	Unknown-0.58d	Invert of Pipe	Approximated
233	Storm Water Pipe	100	Unknown	Invert of Pipe	Approximated
234	Storm Water Pipe	225	0.75d-1.49d	Invert of Pipe	--
235	Storm Water Pipe	450	1.18d-1.51d	Invert of Pipe	--
236	Storm Water Pipe	450	1.70d-2.04d	Invert of Pipe	Down Pipe
237	Storm Water Pipe	100	1.00d-1.03d	Invert of Pipe	--
238	Storm Water Pipe	100	1.05d-1.13d	Invert of Pipe	--
239	Storm Water Pipe	450	1.10d-1.13d	Invert of Pipe	--
240	Storm Water Pipe	100	0.60d-0.65d	Invert of Pipe	--
241	Storm Water Pipe	150	Unknown-0.73d	Invert of Pipe	Approximated
242	Storm Water Pipe	225	0.95d-1.08d	Invert of Pipe	--
243	Storm Water Pipe	225	1.24d-1.35d	Invert of Pipe	Down Pipe
244	Storm Water Pipe	100	1.70d-1.83d	Invert of Pipe	--
245	Storm Water Pipe	150	1.70d-1.80d	Invert of Pipe	--
246	Storm Water Pipe	100	0.24d-0.80d	Invert of Pipe	--
247	Storm Water Pipe	750	2.83d-3.56d	Invert of Pipe	--
248	Storm Water Pipe	225	1.15d-1.20d	Invert of Pipe	Down Pipe
249	Storm Water Pipe	225	0.70d-0.85d	Invert of Pipe	--
250	Storm Water Pipe	100	2.20d-2.34d	Invert of Pipe	--
251	Storm Water Pipe	150	2.16d-2.20d	Invert of Pipe	--
252	Storm Water Pipe	100	0.23d-0.78d	Invert of Pipe	--
253	Storm Water Pipe	750	2.65d-2.68d	Invert of Pipe	--
254	Storm Water Pipe	225	0.42d-0.67d	Invert of Pipe	--
255	Storm Water Pipe	225	0.71d-0.81d	Invert of Pipe	--
256	Storm Water Pipe	150	0.50d-0.73d	Invert of Pipe	--
257	Storm Water Pipe	100	Visible-0.40d	Invert of Pipe	Down Pipe
258	Storm Water Pipe	225	0.97d-1.84d	Invert of Pipe	--
259	Storm Water Pipe	225	1.23d-1.30d	Invert of Pipe	--
260	Storm Water Pipe	225	0.81d-0.82d	Invert of Pipe	--
261	Storm Water Pipe	150	1.60d-1.68d	Invert of Pipe	--
262	Storm Water Pipe	750	2.77d-3.05d	Invert of Pipe	--
263	Storm Water Pipe	375	1.85d-1.96d	Invert of Pipe	--
264	Storm Water Pipe	100	0.20d-0.80d	Invert of Pipe	--
265	Storm Water Pipe	100	0.20d-0.34d	Invert of Pipe	--
266	Storm Water Pipe	100	0.25d-0.64d	Invert of Pipe	--
267	Storm Water Pipe	375	Unknown-1.93d	Invert of Pipe	Approximated
268	Storm Water Pipe	100	0.31d-0.36d	Invert of Pipe	--
269	Storm Water Pipe	100	0.31d-0.36d	Invert of Pipe	--
270	Storm Water Pipe	225	0.56d-0.67d	Invert of Pipe	Down Pipe
271	Storm Water Pipe	Unknown	Unknown	Invert of Pipe	Approximated; Deadend
272	Storm Water Pipe	750	3.05d-3.06d	Invert of Pipe	Down Pipe
273	Storm Water Pipe	525	2.28d-2.30d	Invert of Pipe	--
274	Storm Water Pipe	750	2.93d-3.05d	Invert of Pipe	--
275	Storm Water Pipe	300	Unknown-2.75d	Invert of Pipe	Approximated
276	Storm Water Pipe	300	1.13d-1.16d	Invert of Pipe	--
277	Storm Water Pipe	150	0.35d-0.61d	Invert of Pipe	--
278	Storm Water Pipe	300	1.60d-1.75d	Invert of Pipe	--
279	Storm Water Pipe	300	1.59d-2.00d	Invert of Pipe	--
280	Storm Water Pipe	300	1.13d-1.80d	Invert of Pipe	--
281	Storm Water Pipe	750	3.15d-3.20d	Invert of Pipe	--
282	Storm Water Pipe	150	1.30d-1.50d	Invert of Pipe	--
283	Storm Water Pipe	225	0.90d-0.95d	Invert of Pipe	Deadend
284	Storm Water Pipe	300	1.30d-1.40d	Invert of Pipe	--
285	Storm Water Pipe	100	0.40d-0.65d	Invert of Pipe	--
286	Storm Water Pipe	100	0.65d-0.75d	Invert of Pipe	--
287	Storm Water Pipe	450	1.87d-2.04d	Invert of Pipe	--
288	Storm Water Pipe	300	1.00d-1.05d	Invert of Pipe	--
289	Storm Water Pipe	750	2.90d-3.06d	Invert of Pipe	--
290	Storm Water Pipe	150	1.10d-1.12d	Invert of Pipe	--
291	Storm Water Pipe	150	0.90d-1.04d	Invert of Pipe	--
292	Storm Water Pipe	450	1.83d-1.84d	Invert of Pipe	--
293	Storm Water Pipe	150	1.00d-1.10d	Invert of Pipe	--
294	Storm Water Pipe	100	0.90d-0.95d	Invert of Pipe	--
295	Storm Water Pipe	225	1.70d-1.80d	Invert of Pipe	--
296	Storm Water Pipe	100	0.30d-0.35d	Invert of Pipe	--
297	Storm Water Pipe	225	0.60d-0.70d	Invert of Pipe	--
298	Storm Water Pipe	Unknown	Unknown	Invert of Pipe	Approximated
299	Storm Water Pipe	150	0.59d-0.70d	Invert of Pipe	--
300	Storm Water Pipe	100	0.43d-0.46d	Invert of Pipe	--
301	Storm Water Pipe	150	0.80d-1.15d	Invert of Pipe	--
302	Storm Water Pipe	100	0.85d-1.20d	Invert of Pipe	--
303	Storm Water Pipe	225	Unknown-1.60d	Invert of Pipe	Approximated
304	Storm Water Pipe	225	1.55d-1.58d	Invert of Pipe	--
305	Storm Water Pipe	150	1.10d-1.35d	Invert of Pipe	--
306	Storm Water Pipe	225	1.60d-1.67d	Invert of Pipe	--
307	Storm Water Pipe	300	1.45d-1.50d	Invert of Pipe	--
308	Storm Water Pipe	225	1.40d-1.43d	Invert of Pipe	--
309	Storm Water Pipe	100	0.48d-0.65d	Invert of Pipe	--
310	Storm Water Pipe	100	0.40d-0.45d	Invert of Pipe	--
311	Storm Water Pipe	450	1.27d-1.30d	Invert of Pipe	--
312	Storm Water Pipe	300	1.71d-1.85d	Invert of Pipe	--
313	Storm Water Pipe	600	1.75d-2.04d	Invert of Pipe	--
314	Storm Water Pipe	225	Unknown-1.53d	Invert of Pipe	Approximated
315	Storm Water Pipe	225	0.50d-1.15d	Invert of Pipe	--
316	Storm Water Pipe	600	2.10d-2.13d	Invert of Pipe	--
317	Storm Water Pipe	225	0.66d-0.70d	Invert of Pipe	--
318	Storm Water Pipe	600	2.12d-2.13d	Invert of Pipe	--
319	Storm Water Pipe	300	1.73d-1.92d	Invert of Pipe	--
320	Storm Water Pipe	600	2.08d-2.16d	Invert of Pipe	--
321	Storm Water Pipe	225	0.45d-0.51d	Invert of Pipe	--
322	Storm Water Pipe	225	0.40d-0.67d	Invert of Pipe	--
323	Storm Water Pipe	225	0.70d-0.74d	Invert of Pipe	Down Pipe
324	Storm Water Pipe	225	1.15d-1.67d	Invert of Pipe	Down Pipe
325	Storm Water Pipe	225	0.41d-0.51d	Invert of Pipe	--
326	Storm Water Pipe	225	0.46d-0.55d	Invert of Pipe	--
327	Storm Water Pipe	600	2.14d-2.20d	Invert of Pipe	--
328	Storm Water Pipe	100	0.25d-0.39d	Invert of Pipe	--
329	Storm Water Pipe	225	0.42d-0.48d	Invert of Pipe	--
330	Storm Water Pipe	225	0.53d-0.66d	Invert of Pipe	Down Pipe
331	Storm Water Pipe	225	0.40d-0.45d	Invert of Pipe	--
332	Storm Water Pipe	225	0.65d-0.68d	Invert of Pipe	Down Pipe
333	Storm Water Pipe	150	0.35d-0.38d	Invert of Pipe	--
334	Storm Water Pipe	225	0.60d-0.68d	Invert of Pipe	Down Pipe

Due to unique utilities systems, some of utilities which cannot verified on site or from record plan, are defined as "Unknown/Unclassified".
Unclassified: The types of cable/pit can not be distinguished in the drafting program.
Unknown: The types of cable/pit can not be distinguished because there is no sign on those pits cover.

GENERAL NOTES :

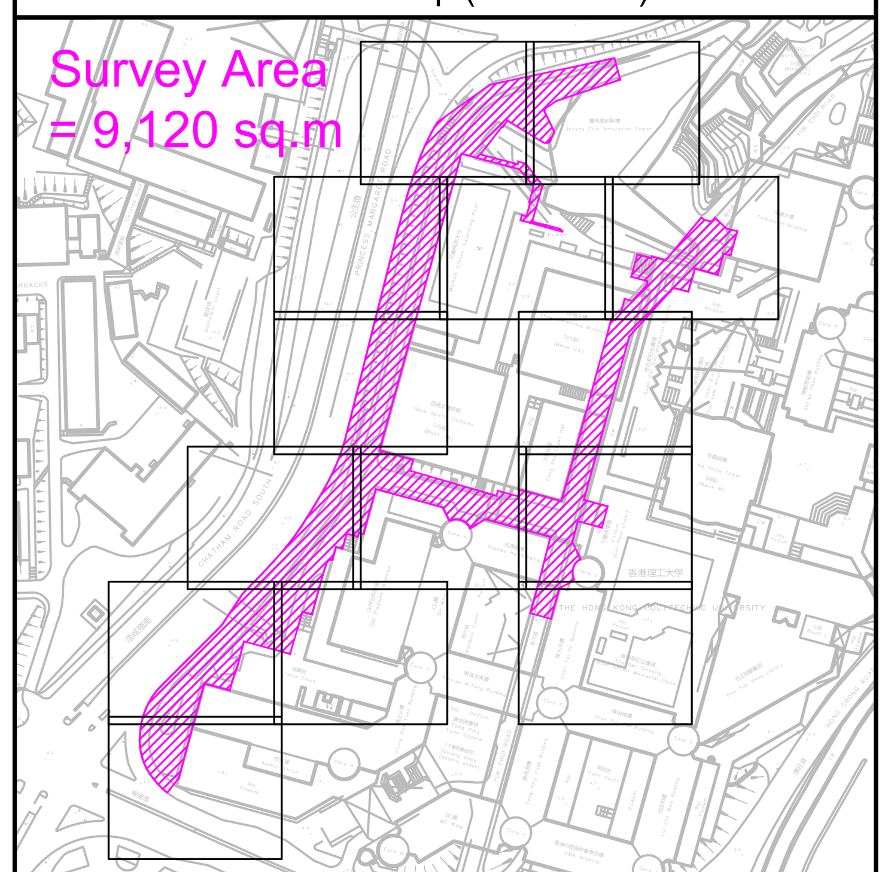
1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
5. Width of the line in the drawing is not presenting the actual size of pipes/cables or the width of cables' bundle. Actual width is presented in the table "Summary of Pipes & Cables".
6. The assigned number of each utility alignments with its cable's/pipe's size, range of depth, reference point of presented pipe's/cable's depth and remarks for additional information are summarized and shown in the table "Summary of Pipes & Cables" on the drawing.
7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m.P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

LEGEND :

- F WAT — Fresh Water Pipe
- FS — Fire Service Pipe
- S WAT — Salt Water Pipe
- GAS — Gas Pipe
- ELEC — Electric Cable
- NWT — New World Telecom Cable
- NT&T — NT&T Cable
- PCCW — PCCW Cable
- HGC — Hutchison Cable
- HKBN — HKBN Cable
- EASTSTAR — Eaststar Cable
- WT&T — WT&T Cable
- TGT — TGT Cable
- TRAX — TRAX Cable
- CATV — Cable TV Cable
- PL — Public Lighting Cable
- ATC — ATC/E&M Cable
- STORM — Storm Water Pipe
- FOUL — Foul Water Pipe
- Rising — Rising Main Pipe
- U-C — U-Channel
- UC PIPE — Unclassified Pipe
- UC CABLE — Unclassified Cable
- UN PIPE — Unknown Pipe
- UN CABLE — Unknown Cable
- Cooling Main — Cooling Main Pipe (Color by layer)
- CM CABLE — Cooling Main Control Cable
- FUEL — Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable; Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- W — Water Valve Pit
- Gas — Gas Pipe Pit
- E — Electric Cable Oil Pit
- E — Electric Cable Pit
- NWT — New World Telecom Cable Pit
- NT&T — NT&T Cable Pit
- PCCW — PCCW Cable Pit
- HGC — Hutchison Cable Pit
- HKBN — HKBN Cable Pit
- Eaststar Cable Pit
- WT&T — WT&T Cable Pit
- TGT — TGT Cable Pit
- TRAX — TRAX Cable Pit
- Telephone Kiosk
- CATV — Cable TV Cable Pit
- PL — Public Lighting Cable Pit
- E&M ATC — ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- C — Catch-Pit
- C — Catch-Pit without Cover
- Gully
- Inlet / Outlet
- UC — Unclassified Manhole/Pit (Color by layer)
- UN — Unknown Manhole/Pit (Color by layer)
- CM — Cooling Main Manhole (Color by layer)
- CM — Cooling Main Control Cable Pit
- Fuel — Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- M — Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- EARTH — Earth Pit
- Control Box — Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :
THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :
P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :
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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-15		

Summary of Pipes & Cables

No.	Utility	Cable/Pipe Size(mm)	Depth(m)	Depth Refer to	Remarks
335	Storm Water Pipe	225	1.05d-1.15d	Invert of Pipe	Down Pipe
336	Storm Water Pipe	225	0.85d-0.90d	Invert of Pipe	--
337	Storm Water Pipe	225	1.00d-1.03d	Invert of Pipe	--
338	Storm Water Pipe	225	0.95d-1.00d	Invert of Pipe	Deadend
339	Storm Water Pipe	225	1.10d-1.12d	Invert of Pipe	--
340	Foul Water Pipe	100	1.00d-1.10d	Invert of Pipe	Pumping System
341	Foul Water Pipe	100	1.00d-1.10d	Invert of Pipe	Pumping System
342	Foul Water Pipe	450	1.30d-2.80d	Invert of Pipe	--
343	Foul Water Pipe	375	1.29d-1.30d	Invert of Pipe	--
344	Foul Water Pipe	300	1.14d-1.15d	Invert of Pipe	--
345	Foul Water Pipe	100	1.14d-1.15d	Invert of Pipe	--
346	Foul Water Pipe	1050	3.09d-3.29d	Invert of Pipe	--
347	Foul Water Pipe	1200	Unknown-2.58d	Invert of Pipe	Approximated
348	Foul Water Pipe	225	Unknown-1.43d	Invert of Pipe	Approximated
349	Foul Water Pipe	1050	2.57d-3.30d	Invert of Pipe	--
350	Foul Water Pipe	100	1.55d-1.56d	Invert of Pipe	--
351	Foul Water Pipe	150	1.57d-1.85d	Invert of Pipe	--
352	Foul Water Pipe	150	Unknown-1.20d	Invert of Pipe	Approximated
353	Foul Water Pipe	150	Visible-Unknown	Invert of Pipe	Approximated; Exhaust Pipe
354	Foul Water Pipe	150	Visible-Unknown	Invert of Pipe	Approximated; Exhaust Pipe
355	Foul Water Pipe	150	Visible-Unknown	Invert of Pipe	Approximated; Exhaust Pipe
356	Foul Water Pipe	225	1.72d-3.04d	Invert of Pipe	--
357	Foul Water Pipe	225	1.69d-1.70d	Invert of Pipe	--
358	Foul Water Pipe	1050	2.53d-3.08d	Invert of Pipe	--
359	Foul Water Pipe	1050	2.34d-2.51d	Invert of Pipe	--
360	Foul Water Pipe	1050	2.33d-2.35d	Invert of Pipe	--
361	Foul Water Pipe	1050	2.25d-2.30d	Invert of Pipe	--
362	Foul Water Pipe	300	1.86d-2.00d	Invert of Pipe	Down Pipe
363	Foul Water Pipe	300	1.78d-2.00d	Invert of Pipe	Down Pipe
364	Foul Water Pipe	300	1.40d-1.42d	Invert of Pipe	--
365	Foul Water Pipe	150	1.68d-1.70d	Invert of Pipe	--
366	Foul Water Pipe	300	1.05d-1.65d	Invert of Pipe	--
367	Foul Water Pipe	300	1.05d-1.32d	Invert of Pipe	--
368	Foul Water Pipe	100	Visible-0.90d	Invert of Pipe	Exhaust Pipe
369	Foul Water Pipe	100	1.80d-1.82d	Invert of Pipe	--
370	Foul Water Pipe	100	Visible-0.26d	Invert of Pipe	--
371	Foul Water Pipe	100	Visible-0.66d	Invert of Pipe	Exhaust Pipe
372	Foul Water Pipe	150	0.84d-1.54d	Invert of Pipe	--
373	Foul Water Pipe	100	1.40d-1.45d	Invert of Pipe	--
374	Foul Water Pipe	100	1.27d-1.56d	Invert of Pipe	--
375	Foul Water Pipe	150	0.95d-1.01d	Invert of Pipe	--
376	Foul Water Pipe	100	0.85d-0.91d	Invert of Pipe	--
377	Foul Water Pipe	150	1.00d-1.32d	Invert of Pipe	--
378	Foul Water Pipe	100	0.40d-0.47d	Invert of Pipe	--
379	Foul Water Pipe	225	0.90d-0.98d	Invert of Pipe	--
380	Foul Water Pipe	225	1.01d-1.28d	Invert of Pipe	--
381	Foul Water Pipe	150	1.05d-1.11d	Invert of Pipe	--
382	Foul Water Pipe	100	1.10d-1.14d	Invert of Pipe	--
383	Foul Water Pipe	150	0.70d-0.76d	Invert of Pipe	--
384	Foul Water Pipe	100	0.70d-0.71d	Invert of Pipe	--
385	Foul Water Pipe	225	1.34d-1.47d	Invert of Pipe	--
386	Foul Water Pipe	150	1.22d-1.44d	Invert of Pipe	--
387	Foul Water Pipe	150	1.15d-1.18d	Invert of Pipe	--
388	Foul Water Pipe	225	1.50d-1.56d	Invert of Pipe	--
389	Foul Water Pipe	150	0.55d-0.56d	Invert of Pipe	Pumping System
390	Foul Water Pipe	450	2.20d-2.46d	Invert of Pipe	--
391	Foul Water Pipe	225	2.15d-2.18d	Invert of Pipe	--
392	Foul Water Pipe	150	1.90d-2.00d	Invert of Pipe	--
393	Foul Water Pipe	225	2.15d-2.18d	Invert of Pipe	--
394	Foul Water Pipe	80	Visible-0.25d	Invert of Pipe	Exhaust Pipe
395	Foul Water Pipe	80	0.40d-0.40d	Invert of Pipe	--
396	Foul Water Pipe	150	0.40d-0.50d	Invert of Pipe	--
397	Foul Water Pipe	225	0.70d-0.71d	Invert of Pipe	Down Pipe
398	Foul Water Pipe	100	0.80d-0.83d	Invert of Pipe	--
399	Foul Water Pipe	150	1.33d-1.34d	Invert of Pipe	--
400	Foul Water Pipe	150	1.05d-1.08d	Invert of Pipe	--
401	Foul Water Pipe	150	1.26d-1.28d	Invert of Pipe	--
402	Foul Water Pipe	150	1.15d-1.20d	Invert of Pipe	--
403	Foul Water Pipe	100	1.10d-1.20d	Invert of Pipe	--
404	Foul Water Pipe	100	0.60d-0.65d	Invert of Pipe	--
405	Foul Water Pipe	100	1.10d-1.16d	Invert of Pipe	--
406	Foul Water Pipe	150	1.40d-1.45d	Invert of Pipe	--
407	Foul Water Pipe	225	1.38d-1.53d	Invert of Pipe	--
408	Foul Water Pipe	225	1.70d-1.70d	Invert of Pipe	--
409	Foul Water Pipe	225	1.63d-1.65d	Invert of Pipe	--
410	Foul Water Pipe	225	Unknown-1.60d	Invert of Pipe	Approximated
411	Foul Water Pipe	225	1.59d-1.70d	Invert of Pipe	--
412	Foul Water Pipe	Unknown	Unknown	Invert of Pipe	Approximated
413	Foul Water Pipe	300	1.40d-1.53d	Invert of Pipe	--
414	Foul Water Pipe	300	1.40d-1.55d	Invert of Pipe	--
415	Foul Water Pipe	225	1.20d-1.22d	Invert of Pipe	--
416	Foul Water Pipe	225	0.94d-1.42d	Invert of Pipe	--
417	Foul Water Pipe	225	0.85d-0.92d	Invert of Pipe	--
418	Foul Water Pipe	300	Unknown-1.42d	Invert of Pipe	Approximated
419	Unknown Pipe	80	2.00d-2.00d	Center of Pipe	--
420	Unknown Pipe	80	Unknown-1.20d	Center of Pipe	Approximated
421	Unknown Pipe	110	Visible-0.64d	Center of Pipe	--
422	Unknown Pipe	150	Unknown-0.95d	Center of Pipe	Approximated; Down Pipe
423	Unknown Pipe	50	Visible-0.67d	Center of Pipe	--
424	Unknown Pipe	50	0.67d-0.67d	Center of Pipe	--
425	Unknown Pipe	50	0.67d-0.67d	Center of Pipe	--
426	Unknown Pipe	50	0.67d-0.67d	Center of Pipe	--
427	Unknown Pipe	150	0.65d-0.76d	Center of Pipe	--
428	Unknown Pipe	150	0.85d-0.91d	Center of Pipe	--
429	Unknown Pipe	150	0.63d-0.63d	Center of Pipe	--
430	Unknown Pipe	150	0.82d-0.82d	Center of Pipe	--
431	Unknown Cable	110	0.30d-0.30d	Center of Cable	Earth Cable
432	Unknown Cable	80	0.65d-0.67d	Crown and Center	--
433	Unknown Cable	80	0.65d-0.65d	Center of Cable	--
434	Unknown Cable	30	Visible-0.20d	Crown and Center	--
435	Unknown Cable	25	0.30d-0.71d	Center of Cable	--
436	Unknown Cable	25	0.42d-0.67d	Center of Cable	--
437	Unknown Cable	25	0.45d-0.45d	Center of Cable	--
438	Unknown Cable	25	0.53d-0.53d	Crown and Center	--
439	Unknown Cable	50	0.13d-0.16d	Crown and Center	--
440	Unknown Cable	50	0.25d-0.25d	Crown and Center	--
441	Unknown Cable	110	0.45d-0.45d	Crown and Center	--
442	Unknown Cable	110	0.49d-0.49d	Center of Cable	--
443	Unknown Cable	50	Visible-0.20d	Center of Cable	--
444	Unknown Cable	25	Visible-0.20d	Center of Cable	--
445	Unknown Cable	50	Visible-0.20d	Center of Cable	--
446	U-Channel	300	Visible-Visible	Invert of Pipe	--
447	U-Channel	300	Visible-Visible	Invert of Pipe	--
448	U-Channel	300	Visible-Visible	Invert of Pipe	--
449	U-Channel	300	Visible-Visible	Invert of Pipe	--
450	U-Channel	300	Visible-Visible	Invert of Pipe	--
451	U-Channel	300	Visible-Visible	Invert of Pipe	--
452	U-Channel	300	Visible-Visible	Invert of Pipe	--
453	U-Channel	300	Visible-Visible	Invert of Pipe	--

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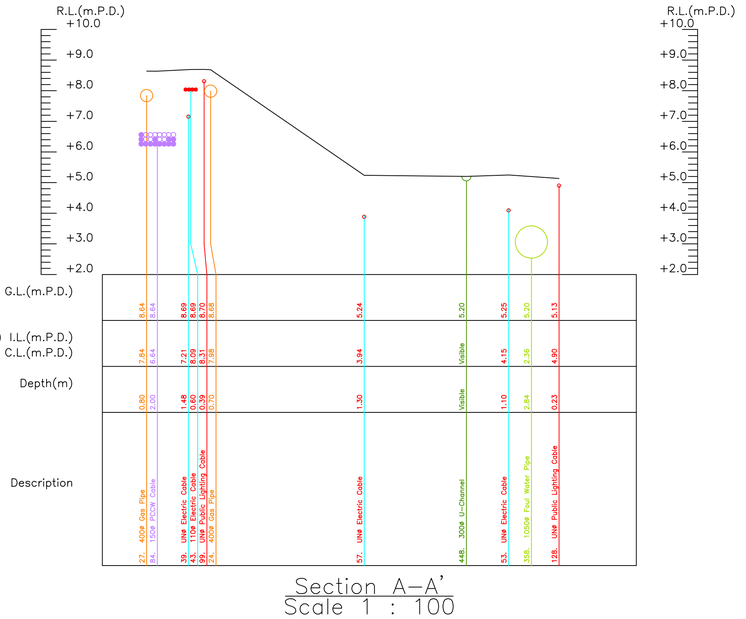
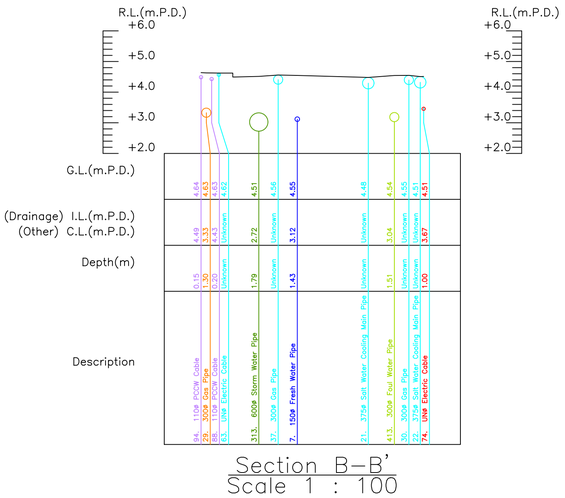
Summary of Cable Matrix

Cable No.	Pit No.	Cable Matrix
40.	P72	0.30m / 0.30m
41.	P72	0.30m / 0.30m
42.	P78	0.60m / 0.11m
43.	P84	0.60m / 0.11m
44.	P95	0.60m / 0.11m
45.	P105	0.60m / 0.11m
46.	P115	0.60m / 0.11m
49.	--	0.05m / 0.05m
50.	--	0.10m / 0.05m
81.	T16	0.25m / 0.11m
84.	T24	1.20m / 0.45m
91.	T1033	0.25m / 0.11m
92.	T1033	0.35m / 0.11m
93.	T1037	0.35m / 0.11m
97.	T03	0.66m / 0.11m
98.	T03	0.25m / 0.11m
131.	--	0.24m / 0.05m
153.	M01	0.25m / 0.11m
432.	U01	0.16m / 0.05m
434.	--	0.24m / 0.05m
438.	U1057	0.05m / 0.05m
439.	U1057	0.10m / 0.05m
440.	U1073	0.05m / 0.05m
441.	U1073	0.25m / 0.11m





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1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
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7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m.P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
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LEGEND :

- Fresh Water Pipe
- Fire Service Pipe
- Salt Water Pipe
- Gas Pipe
- Electric Cable
- New World Telecom Cable
- NT&T Cable
- PCCW Cable
- Hutchison Cable
- HKBN Cable
- Eaststar Cable
- WT&T Cable
- TGT Cable
- TRAX Cable
- Cable TV Cable
- Public Lighting Cable
- ATC/E&M Cable
- Storm Water Pipe
- Foul Water Pipe
- Rising Main Pipe
- U-Channel
- Unclassified Pipe
- Unclassified Cable
- Unknown Pipe
- Unknown Cable
- Cooling Main Pipe (Color by layer)
- Cooling Main Control Cable
- Fuel Pipe
- GPR Transverse
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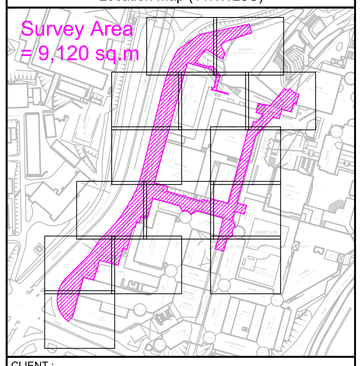
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- Water Valve Pit
- Gas Pipe Pit
- Electric Cable Oil Pit
- Electric Cable Pit
- New World Telecom Cable Pit
- NT&T Cable Pit
- PCCW Cable Pit
- Hutchison Cable Pit
- HKBN Cable Pit
- Eaststar Cable Pit
- WT&T Cable Pit
- TGT Cable Pit
- TRAX Cable Pit
- Telephone Kiosk
- Cable TV Cable Pit
- Public Lighting Cable Pit
- ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- Catch-Pit
- Catch-Pit without Cover
- Gully
- Inlet / Outlet
- Unclassified Manhole/Pit (Color by layer)
- Unknown Manhole/Pit (Color by layer)
- Cooling Main Manhole (Color by layer)
- Cooling Main Control Cable Pit
- Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- Earth Pit
- Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :

P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :

CASTCO
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PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-16		

Summary of Manholes, Pits & Valves

Item	Manhole/Pit No.	Function	C.L.(m.P.D.)	I.L.(m.P.D.)	Depth (m)	Remarks
1	A01	Fresh Water Valve	6.35	--	--	UTS(Full of silt)
2	A02	Fresh Water Valve	6.17	5.17	1.00	--
3	A08	Fresh Water Valve	6.47	5.67	0.80	--
4	A09	Fresh Water Valve	6.51	5.71	0.80	--
5	A32	Fresh Water Valve	6.39	5.69	0.70	--
6	A35	Fresh Water Valve	9.03	8.03	1.00	--
7	A2002A	Fresh Water Valve	4.50	3.50	1.00	--
8	A2003A	Fresh Water Valve	4.50	3.50	1.00	--
9	A2009	Fresh Water Valve	4.40	2.90	1.50	--
10	A2009A	Fresh Water Valve	4.40	2.90	1.50	--
11	A2010	Fresh Water Valve	4.41	2.91	1.50	--
12	A2011	Fresh Water Valve	4.41	2.91	1.50	--
13	A2012	Fresh Water Valve	4.40	2.90	1.50	--
14	A2016A	Fresh Water Valve	4.56	3.56	1.00	--
15	A2017	Fresh Water Valve	4.54	3.34	1.20	--
16	A2022A	Fresh Water Valve	4.41	3.41	1.00	--
17	A2023A	Fresh Water Valve	4.38	3.38	1.00	--
18	A2024A	Fresh Water Valve	4.38	3.38	1.00	--
19	A2025C	Fresh Water Valve	4.61	3.81	0.80	--
20	A2025A	Fresh Water Valve	4.34	3.34	1.00	--
21	A2026A	Fresh Water Valve	4.27	3.57	0.70	--
22	A2027A	Fresh Water Valve	4.26	3.56	0.70	--
23	A2028A	Fresh Water Valve	4.26	3.46	0.80	--
24	A2030	Fresh Water Valve	4.46	3.26	1.20	--
25	A2033	Fresh Water Valve	4.62	3.82	0.80	--
26	B2002	Salt Water Valve	4.40	3.30	1.10	--
27	B2003	Salt Water Valve	4.42	3.42	1.00	--
28	B2001	Salt Water Valve Pit	4.47	--	--	UTR(Sealed)
29	G03	Gas Valve	9.49	8.79	0.70	--
30	G23	Gas Valve	5.94	--	--	UTS(Full of silt)
31	G33	Gas Valve	4.00	3.00	1.00	--
32	G57	Gas Valve	7.49	6.69	0.80	--
33	G73	Gas Valve	9.51	8.71	0.80	--
34	G2012	Gas Valve	4.53	3.23	1.30	--
35	G2025	Gas Valve	4.34	3.04	1.30	--
36	G2033	Gas Valve	4.49	3.69	0.80	--
37	G2060	Gas Valve	4.63	3.63	1.00	--
38	G2066	Gas Valve	4.63	3.93	0.70	--
39	G2070	Gas Valve	4.61	4.11	0.50	--
40	G2071	Gas Valve	4.63	4.13	0.50	--
41	G2077	Gas Valve	4.61	3.91	0.70	--
42	P72	Electric Cable Pit	9.73	8.83	0.90	--
43	P78	Electric Cable Pit	9.22	8.32	0.90	--
44	P84	Electric Cable Pit	8.76	7.96	0.80	--
45	P95	Electric Cable Pit	7.39	6.59	0.80	--
46	P105	Electric Cable Pit	5.64	4.84	0.80	--
47	P115	Electric Cable Pit	4.32	3.57	0.75	--
48	P1043A	Electric Cable Pit	4.94	--	--	UTR(Oil pressure pit)
49	P1051A	Electric Cable Pit	4.93	3.35	1.58	Shaft: 0.52m
50	P1051	Electric Cable Pit	4.93	3.35	1.58	Shaft: 0.52m
51	P1100B	Electric Cable Pit	4.96	3.38	1.58	Shaft: 0.50m
52	P1100A	Electric Cable Pit	4.94	3.36	1.58	Shaft: 0.50m
53	P2001	Electric Cable Pit	4.62	--	--	UTR(Sealed)
54	P2053	Electric Cable Pit	4.52	--	--	UTR(Sealed)
55	P2065	Electric Cable Pit	4.52	--	--	UTR(Oil pressure pit)
56	P2108	Electric Cable Pit	4.39	3.99	0.40	--
57	T16	PCCW Cable Pit	4.16	3.33	0.83	--
58	T24	PCCW Cable Pit	9.72	6.72	3.00	Shaft: 1.50m
59	T48	PCCW Cable Pit	6.37	3.87	2.50	--
60	T2003	PCCW Cable Pit	4.64	3.79	0.85	--
61	T2008	PCCW Cable Pit	4.63	3.83	0.80	--
62	T2015	PCCW Cable Pit	4.65	3.90	0.75	--
63	T2020	PCCW Cable Pit	4.60	3.70	0.90	--
64	T2029	PCCW Cable Pit	4.41	--	--	UTR(Sealed)
65	T2033	PCCW Cable Pit	4.55	3.55	1.00	--
66	T2037	PCCW Cable Pit	4.42	3.62	0.80	--
67	T03	HGC Cable Pit	5.22	4.47	0.75	--
68	L1179	Public Lighting Cable Pit	4.78	3.68	1.10	Shaft: 0.38m
69	M01	ATC/E&M Cable Pit	3.97	3.42	0.55	--
70	S01	Storm Water Manhole	10.79	10.34	0.45	--
71	S05	Storm Water Manhole	5.70	2.60	3.10	--
72	S1005	Storm Water Manhole	4.96	2.81	2.15	--
73	S1010	Storm Water Manhole	5.52	2.38	3.14	Shaft: 1.77m
74	S1017	Storm Water Manhole	5.44	3.84	1.60	Shaft: 0.30m
75	S1024	Storm Water Manhole	5.41	1.66	3.75	Shaft: 1.60m
76	S1027	Storm Water Manhole	5.09	3.49	1.60	Shaft: 0.50m
77	S1034	Storm Water Manhole	5.24	3.08	2.16	Shaft: 0.30m
78	S1039	Storm Water Manhole	4.86	3.33	1.53	Shaft: 0.27m
79	S1044	Storm Water Manhole	4.76	1.89	2.87	Shaft: 0.48m
80	S1047	Storm Water Manhole	4.75	3.83	0.92	Shaft: 0.27m
81	S1050	Storm Water Manhole	4.86	3.40	1.46	Shaft: 0.27m
82	S1053	Storm Water Manhole	4.87	3.77	1.10	--
83	S1062	Storm Water Manhole	4.85	3.51	1.34	Shaft: 0.33m
84	S1067	Storm Water Manhole	4.72	3.60	1.12	Shaft: 0.32m
85	S1074	Storm Water Manhole	4.73	3.77	0.96	Shaft: 0.32m
86	S1081	Storm Water Manhole	4.76	3.78	0.98	Shaft: 0.30m
87	S1088	Storm Water Manhole	4.65	1.99	2.66	Shaft: 0.40m
88	S1091	Storm Water Manhole	4.55	3.55	1.00	Shaft: 0.30m
89	S1098	Storm Water Manhole	4.54	3.54	1.00	Shaft: 0.32m
90	S1105	Storm Water Manhole	3.53	2.19	1.34	Shaft: 0.60m
91	S1106	Storm Water Manhole	3.51	2.47	1.04	--
92	S1111	Storm Water Manhole	4.82	4.42	0.40	Shaft: 0.10m
93	S1118	Storm Water Manhole	4.91	4.01	0.90	Desilting Manhole
94	S1121	Storm Water Manhole	4.88	3.54	1.34	Desilting Manhole
95	S1124	Storm Water Manhole	4.67	3.82	0.85	Desilting Manhole
96	S1125	Storm Water Manhole	4.78	3.24	1.54	Shaft: 0.40m
97	S1126	Storm Water Manhole	4.92	4.37	0.55	--
98	S1133	Storm Water Manhole	4.69	3.34	1.35	--
99	S1148	Storm Water Manhole	1.69	0.83	0.86	--
100	S1157	Storm Water Manhole	1.69	--	--	UTS(Full of water)
101	S2001	Storm Water Manhole	4.58	3.42	1.16	Shaft: 0.60m
102	S2008	Storm Water Manhole	4.58	2.43	2.15	Shaft: 0.85m
103	S2011	Storm Water Manhole	4.57	3.35	1.22	Shaft: 0.40m
104	S2022	Storm Water Manhole	4.55	3.89	0.66	Shaft: 0.30m
105	S2045	Storm Water Manhole	4.53	--	--	UTR(Sealed)
106	S2046	Storm Water Manhole	4.51	2.81	1.70	Shaft: 0.30m
107	S2053	Storm Water Manhole	4.52	3.34	1.18	Shaft: 0.25m
108	S2060	Storm Water Manhole	4.56	3.81	0.75	--
109	S2065	Storm Water Manhole	4.56	--	--	UTS(Full of silt)
110	S2070	Storm Water Manhole	5.37	4.02	1.35	Shaft: 0.50m
111	S2073	Storm Water Manhole	5.33	1.77	3.56	Shaft: 0.65m
112	S2084	Storm Water Manhole	4.41	1.76	2.65	Shaft: 0.60m
113	S2087	Storm Water Manhole	4.51	3.36	1.15	Shaft: 0.35m
114	S2104	Storm Water Manhole	4.23	3.26	0.97	--
115	S2115	Storm Water Manhole	4.53	1.76	2.77	--
116	S2118	Storm Water Manhole	4.44	3.21	1.23	--
117	S2129	Storm Water Manhole	4.55	2.59	1.96	Shaft: 0.55m
118	S2142	Storm Water Manhole	4.58	4.02	0.56	--
119	S2145	Storm Water Manhole	4.61	--	--	UTS(Full of water)
120	S2146	Storm Water Manhole	4.64	1.58	3.06	Shaft: 0.85m
121	S2149	Storm Water Manhole	4.47	1.54	2.93	Shaft: 0.70m
122	S2154	Storm Water Manhole	4.53	1.38	3.15	Shaft: 0.65m
123	S2159	Storm Water Manhole	4.46	3.33	1.13	--
124	S2174	Storm Water Manhole	4.50	2.22	2.28	Shaft: 0.65m
125	S2179	Storm Water Manhole	4.54	3.24	1.30	Shaft: 0.50m
126	S2188	Storm Water Manhole	4.57	1.51	3.06	Shaft: 0.75m
127	S2191	Storm Water Manhole	4.46	2.59	1.87	Shaft: 0.35m
128	S2198	Storm Water Manhole	4.50	2.67	1.83	Shaft: 0.30m
129	S2207	Storm Water Manhole	4.50	3.90	0.60	--
130	S2210	Storm Water Manhole	4.53	--	--	UTS(Full of silt)
131	S2213	Storm Water Manhole	4.57	--	--	UTS(Full of silt)
132	S2216	Storm Water Manhole	4.55	3.96	0.59	--
133	S2219	Storm Water Manhole	4.59	2.99	1.60	--
134	S2228	Storm Water Manhole	4.57	2.87	1.70	Shaft: 0.40m
135	S2233	Storm Water Manhole	4.59	2.99	1.60	--
136	S2234	Storm Water Manhole	4.57	3.02	1.55	--

Item	Manhole/Pit No.	Function	C.L.(m.P.D.)	I.L.(m.P.D.)	Depth (m)	Remarks
137	S2235	Storm Water Manhole	4.47	2.88	1.59	Shaft: 0.35m
138	S2238	Storm Water Manhole	4.70	3.25	1.45	--
139	S2243	Storm Water Manhole	4.65	4.17	0.48	--
140	S2246	Storm Water Manhole	4.54	2.79	1.75	Shaft: 0.55m
141	S2253	Storm Water Manhole	4.50	2.37	2.13	Shaft: 0.50m
142	S2260	Storm Water Manhole	4.45	2.33	2.12	Shaft: 0.66m
143	S2265	Storm Water Manhole	4.43	2.27	2.16	Shaft: 0.60m
144	S2270A	Storm Water Manhole	4.29	2.15	2.14	Shaft: 0.63m
145	S2270	Storm Water Manhole	4.47	2.74	1.73	Shaft: 0.28m
146	S2278A	Storm Water Manhole	4.33	3.18	1.15	--
147	S2289	Storm Water Manhole	4.40	3.87	0.53	--
148	S2294	Storm Water Manhole	4.38	3.73	0.65	--
149	S2299	Storm Water Manhole	4.32	3.64	0.68	Shaft: 0.35m
150	S2302	Storm Water Manhole	4.38	3.28	1.10	--
151	S2305	Storm Water Manhole	4.48	3.33	1.15	--
152	S2314	Storm Water Manhole	4.39	3.26	1.13	Shaft: 0.30m
153	S2500	Storm Water Manhole	4.65	--	--	UTS(Full of silt)
154	S2500A	Storm Water Manhole	4.64	--	--	UTS(Full of silt)
155	F1001	Foul Water Manhole	4.96	0.96	4.00	UTS(Full of debris); Foul Watern Pump Shaft: 0.90m
156	F1006	Foul Water Manhole	5.01	3.81	1.20	--
157	F1009	Foul Water Manhole	3.80	2.50	1.30	Shaft: 0.40m
158	F1016 (FMH4000524)	Foul Water Manhole	5.63	2.33	3.30	Shaft: 1.40m
159	F1017 (FMH4000522)	Foul Water Manhole	5.47	2.38	3.09	Shaft: 1.76m
160	F1020 (FMH4000525)	Foul Water Manhole	4.98	2.13	2.85	Shaft: 0.83m
161	F1029	Foul Water Manhole	5.51	3.94	1.57	Shaft: 0.60m
162	F1042	Foul Water Manhole	4.55	2.83	1.72	Shaft: 0.40m
163	F1047 (FMH4000523)	Foul Water Manhole	4.94	2.41	2.53	Shaft: 1.20m
164	F1050 (FMH4000520)	Foul Water Manhole	4.80	2.46	2.34	Shaft: 0.86m
165	F1053 (FMH4000521)	Foul Water Manhole	4.88	2.53	2.35	Shaft: 1.02m
166	F1060	Foul Water Manhole	4.73	2.87	1.86	Shaft: 0.46m
167	F1063	Foul Water Manhole	4.80	3.38	1.42	Shaft: 0.69m
168	F1064	Foul Water Manhole	4.74	2.96	1.78	Shaft: 0.58m
169	F1067	Foul Water Manhole	4.71	3.03	1.68	--
170	F2001	Foul Water Manhole	5.61	3.77	1.84	Shaft: 0.30m
171	F2011	Foul Water Manhole	5.10	3.54	1.56	Shaft: 0.40m
172	F2016	Foul Water Manhole	4.67	3.35	1.32	Shaft: 0.30m
173	F2023	Foul Water Manhole	4.40	3.39	1.01	--
174	F2030	Foul Water Manhole	4.59	3.25	1.34	Shaft: 0.40m
175	F2041	Foul Water Manhole	4.68	3.18	1.50	Shaft: 0.30m
176	F2044	Foul Water Manhole	4.66	3.44	1.22	--
177	F2049B	Foul Water Manhole	4.47	--	--	UTS(Full of water); Shaft: 0.45m
178	F2049A	Foul Water Manhole	4.47	--	--	UTS(Full of water); Shaft: 0.45m
179	F2049	Foul Water Manhole	4.52	--	--	UTS(Full of water); Shaft: 0.45m
180	F2054	Foul Water Manhole	4.66	2.46	2.20	--
181	F2061	Foul Water Manhole	4.66	3.96	0.70	--
182	F2069	Foul Water Manhole	4.58	4.18	0.40	--
183	F2072	Foul Water Manhole	4.49	--	--	UTS(Full of silt)
184	F2073	Foul Water Manhole	4.64	3.54	1.10	Grease Trap
185	F2076	Foul Water Manhole	4.64	2.44	2.20	Grease Trap
186	F2076A	Foul Water Manhole	4.64	2.44	2.20	Grease Trap
187	F2079	Foul Water Manhole	4.68	2.85	1.83	Grease Trap
188	F2084	Foul Water Manhole	4.64	3.14	1.50	--
189	F2105	Foul Water Manhole	4.50	--	--	UTS(Full of water)
190	F2106	Foul Water Manhole	4.50	--	--	UTS(Full of silt)
191	F2109	Foul Water Manhole	4.54	2.84	1.70	Shaft: 0.50m
192	F2114	Foul Water Manhole	4.49	2.86	1.63	--
193	F2117	Foul Water Manhole	4.58	--	--	UTS(Full of silt)
194	F2122	Foul Water Manhole	4.62	3.03	1.59	Shaft: 0.50m
195	F2123	Foul Water Manhole	4.57	3.02	1.55	Shaft: 0.25m
196	F2128	Foul Water Manhole	4.50	3.08	1.42	Shaft: 0.55m
197	F2133	Foul Water Manhole	4.34	3.40	0.94	Shaft: 0.49m
198	F2136	Foul Water Manhole	4.43	3.01	1.42	Shaft: 0.40m
199	Y1001	Storm Water Gully	3.53	3.31	0.22	--
200	Y1002	Storm Water Gully	5.34	4.72	0.62	--
201	Y1003	Storm Water Gully	5.34	4.64	0.70	--
202	Y1004	Storm Water Gully	5.37	4.62	0.75	--
203	Y1005	Storm Water Gully	5.01	3.78	1.23	--
204	Y1006	Storm Water Gully	5.03	3.76	1.27	--
205	Y1007	Storm Water Gully	4.72	4.16	0.56	--
206	Y1008	Storm Water Gully	4.71	3.92	0.79	--
207	Y1009	Storm Water Gully	4.72	4.26	0.46	--
208	Y1010	Storm Water Gully	4.72	4.12	0.60	--
209	Y1011	Storm Water Gully	4.71	4.05	0.66	--
210	Y1012	Storm Water Gully	4.71	3.94	0.77	--
211	Y1013	Storm Water Gully	5.04	4.29	0.75	--
212	Y1014	Storm Water Gully	4.82	4.40	0.42	--
213	Y1015	Storm Water Gully	4.75	4.45	0.30	--
214	Y1016	Storm Water Gully	4.53	3.91	0.62	--
215	Y1017	Storm Water Gully	4.51	3.94	0.57	--
216	Y1018	Storm Water Gully	4.53	3.88	0.65	--
217	Y1019	Storm Water Gully	4.53	3.93	0.60	--
218	Y1020	Storm Water Gully	3.52	2.82	0.70	--
219	Y1021	Storm Water Gully	5.45	5.17	0.28	--
220	Y1022	Storm Water Gully	4.92	4.72	0.20	--
221	Y1023	Storm Water Gully	4.70	3.84	0.86	--
222	Y1024	Storm Water Gully	4.68	3.83	0.85	--
223	Y1025	Storm Water Gully	4.70	3.85	0.85	--
224	Y1026	Storm Water Gully	4.70	3.85	0.85	--
225	Y1027	Storm Water Gully	4.70	3.85	0.85	--
226	Y1028	Storm Water Gully	1.67	1.07	0.60	--
227	Y1029	Storm Water Gully	1.69	1.34	0.35	--
228	Y1030	Storm Water Gully	1.70	1.35	0.35	--
229	Y2001	Storm Water Gully	4.56	4.36	0.20	--
230	Y2002	Storm Water Gully	4.55	4.13	0.42	--
231	Y2003	Storm Water Gully	4.56	4.25	0.31	--
232	Y2004	Storm Water Gully	4.56	4.38	0.18	--
233	Y2005	Storm Water Gully	4.53	4.39	0.14	--
234	Y2006	Storm Water Gully	4.79	4.21	0.58	--
235	Y2007	Storm Water Gully	4.84	--	--	UTR(Sealed)
236	Y2008	Storm Water Gully	4.51	3.51	1.00	--
237	Y2009	Storm Water Gully	4.52	3.47	1.05	--
238	Y2010	Storm Water Gully	5.48	4.70	0.78	--
239	Y2011	Storm Water Gully	5.43	4.48	0.95	--
240	Y2012	Storm Water Gully	5.96	5.72	0.24	--
241	Y2013	Storm Water Gully	4.60	3.88	0.72	--
242	Y2014	Storm Water Gully	4.66	3.93	0.73	--
243	Y2015	Storm Water Gully	5.85	5.62	0.23	--
244	Y2016	Storm Water Gully	4.17	3.77	0.40	--
245	Y2017	Storm Water Gully	4.18	3.76	0.42	--
246	Y2018	Storm Water Gully	4.17	3.71	0.46	--
247	Y2019	Storm Water Gully	4.18	3.70	0.48	--
248	Y2020	Storm Water Gully	4.38	3.88	0.50	--
249	Y2021	Storm Water Gully	4.40	3.69	0.71	--
250	Y2022	Storm Water Gully	4.43	3.62	0.81	--
251	Y2023	Storm Water Gully	5.87	5.67	0.20	--
252	Y2024	Storm Water Gully	4.54	4.26	0.28	--
253	Y2025	Storm Water Gully	4.53	4.22	0.31	--
254	Y2026	Storm Water Gully	4.40	4.05	0.35	--
255	Y2027	Storm Water Gully	4.41	4.13	0.28	--
256	Y2028A	Storm Water Gully	4.46	3.96	0.50	--
257	Y2028	Storm Water Gully	4.48	4.08	0.40	--
258	Y2029A	Storm Water Gully	4.46	3.96	0.50	--
259	Y2029	Storm Water Gully	4.44	3.44	1.00	--
260	Y2030	Storm Water Gully	4.42	3.76	0.66	--
261	Y2031	Storm Water Gully	4.43	3.77	0.66	--

Item	Manhole/Pit No.	Function	C.L.(m.P.D.)	I.L.(m.P.D.)	Depth (m)	Remarks
262	Y2032	Storm Water Gully	4.24	3.79	0.45	--
263	Y2033	Storm Water Gully	4.24	3.79	0.45	--
264	Y2034	Storm Water Gully	4.24	3.84	0.40	--
265	Y2035	Storm Water Gully	4.24	3.84	0.40	--
266	Y2036	Storm Water Gully	4.28	3.87	0.41	--
267	Y2037	Storm Water Gully	4.22	3.81	0.41	--
268	Y2038	Storm Water Gully	4.34	3.88	0.46	--
269	Y2039	Storm Water Gully	4.33	3.87	0.46	--
270	Y2040A	Storm Water Gully	4.38	4.13	0.25	--
271	Y2040	Storm Water Gully	4.62	3.92	0.7	--
272	Y2041	Storm Water Gully	4.35	3.96	0.39	--
273	Y2042	Storm Water Gully	4.37	3.95	0.42	--
274	Y2043	Storm Water Gully	4.37	3.97	0.4	--
275	Y2044	Storm Water Gully	4.37	3.97	0.4	--
276	Y2045	Storm Water Gully	4.28	3.93	0.35	--
277	Y2046	Storm Water Gully	4.29	3.94	0.35	--
278	U1001A	Unknown Manhole	5.03	3.43	1.60	Shaft: 0.95m
279	U1001	Unknown Manhole	5.02	3.42	1.60	Shaft: 0.95m
280	U1002A	Unknown Manhole	3.82	0.04	3.78	UTS(Full of water)
281	U1002	Unknown Manhole	3.83	0.05	3.78	UTS(Full of water)
282	U1003	Unknown Manhole	3.83	--	--	UTR(Sealed)
283	U1004	Unknown Manhole	3.83	--	--	UTR(Sealed)
284	U1005	Unknown Manhole	3.82	--	--	UTR(Sealed)
285	U1011	Unknown Manhole	4.61	3.66	0.95	--
286	U1032	Unknown Manhole	3.83	2.53	1.30	Shaft: 0.95m
287	U1037	Unknown Manhole	4.75	--	--	UTS(Over 10m); Shaft: 0.55m
288	U1042	Unknown Manhole	4.70	--	--	UTS(Full of silt)
289	U01	Unknown Cable Earth Pit	6.20	5.80	0.40	--
290	U1065	Unknown Cable Earth Pit	4.67	4.04	0.63	--
291	U1070	Unknown Cable Earth Pit	4.75	4.40	0.35	--
292	U1071	Unknown Cable Earth Pit	4.73	4.38	0.35	--
293	U1072	Unknown Cable Earth Pit	4.73	4.35	0.38	--
294	U2008	Unknown Cable Earth Pit	4.58	4.18	0.40	--
295	U04	Unknown Cable Pit	7.56	6.76	0.80	--
296	U1033	Unknown Cable Pit	5.47	5.27	0.20	Settlement Check Point
297	U1050	Unknown Cable Pit	4.71	3.61	1.10	--
298	U1054	Unknown Cable Pit	4.68	4.13	0.55	--
299	U1057	Unknown Cable Pit	4.67	4.04	0.63	--
300	U1073	Unknown Cable Pit	4.70	3.90	0.80	--
301	U2001	Unknown Cable Pit	4.83	--	--	UTR(Sealed)
302	U2002	Unknown Cable Pit	4.63	3.13	1.50	--
303	U2003	Unknown Cable Pit	4.54	--	--	UTS(Full of silt)
304	U2004	Unknown Cable Pit	4.56	--	--	UTS(Full of silt)
305	U2005	Unknown Cable Pit	4.55	--	--	UTR(Sealed)
306	U2006	Unknown Cable Pit	4.82	--	--	UTR(Sealed)
307	U2007	Unknown Cable Pit	4.82	--	--	UTR(Sealed)
308	U2011	Unknown Cable Pit	4.55	--	--	UTR(Sealed)
309	U2012	Unknown Cable Pit	4.55	--	--	UTR(Sealed)
310	U2017	Unknown Cable Pit	4.42	4.02	0.40	--
311	U2020	Unknown Cable Pit	4.52	3.32	1.20	--
312	U2050	Unknown Cable Pit	4.56	--	--	UTS(Full of silt)

UTR = Unable To Raise, UTS = Unable To Survey
UTGA = Unable To Gain Access, UTL = Unable To Locate

GENERAL NOTES :

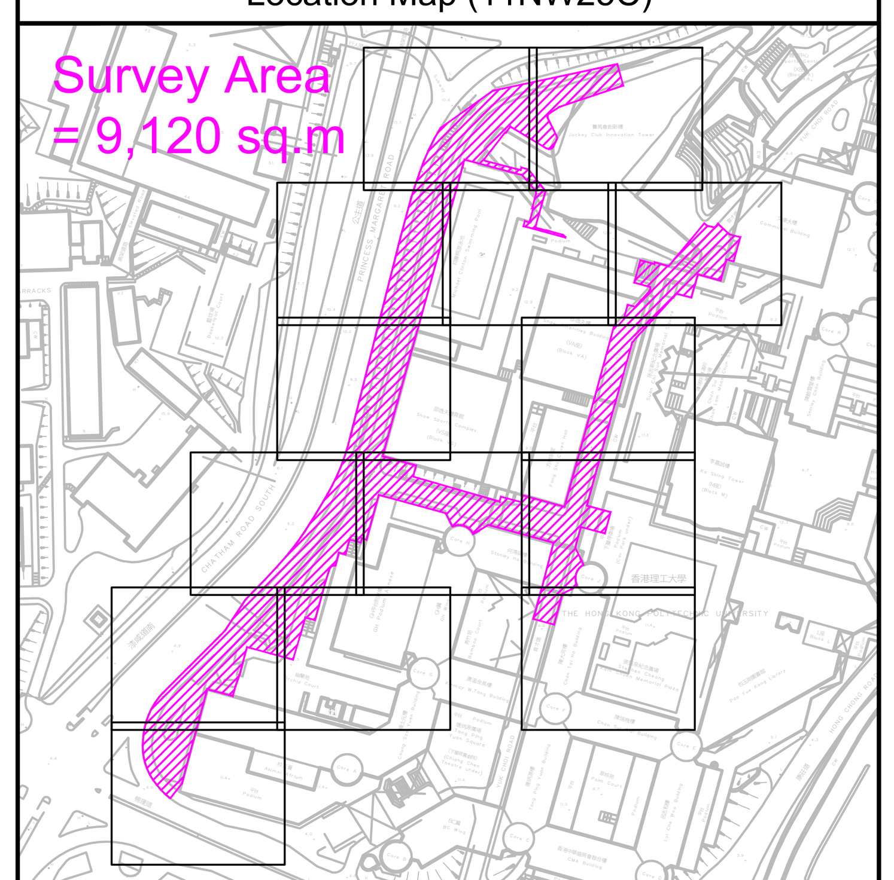
1. Unit of depth is in metres (m), indicated as #d.
2. Unit of diameter of pipes/cables is in millimeter (mm), indicated as #Ø.
3. Symbols are indicative, and not to scale.
4. Coordinates and Levels are according to the Hong Kong 1980 Grid System and the Hong Kong Principal Datum (HKPD).
5. Width of the line in the drawing is not presenting the actual size of pipes/cables or the width of cables' bundle. Actual width is presented in the table "Summary of Pipes & Cables".
6. The assigned number of each utility alignments with its cable's/pipe's size, range of depth, reference point of presented pipe's/cable's depth and remarks for additional information are summarized and shown in the table "Summary of Pipes & Cables" on the drawing.
7. The assigned number of each utility manholes, pits, valves or gullies with its Cover Level (C.L.) in Metres above Principal Datum (m.P.D.), Invert Level (I.L.), depth and remarks for additional information are summarized and shown in the table "Summary of Manholes, Pits & Valves" on the drawing.
8. The basemap feature is for reference only, additional topographic survey should be carried out if detailed topographical features on ground requested.
9. The size of Pipes/Manholes/Pits/Chambers is from the internal dimension; its thickness is not counted.
10. Survey report shall be reviewed with drawing together as comprehensive survey result presentation.
11. Alignment of power cable located by passive detection is for reference only. Depth measurement from this detection mode is not accurate and should not be relied on. The Electricity Supply Lines (Protection) Regulation requires that all reasonable steps including trial pit shall be taken to ascertain the existence of these electricity cables or lines.

LEGEND :

- F WAT — Fresh Water Pipe
- FS — Fire Service Pipe
- S WAT — Salt Water Pipe
- GAS — Gas Pipe
- ELEC — Electric Cable
- NWT — New World Telecom Cable
- NT&T — NT&T Cable
- PCCW — PCCW Cable
- HGC — Hutchison Cable
- HKBN — HKBN Cable
- EASTSTAR — Eaststar Cable
- WT&T — WT&T Cable
- TGT — TGT Cable
- TRAX — TRAX Cable
- CATV — Cable TV Cable
- PL — Public Lighting Cable
- ATC — ATC/E&M Cable
- STORM — Storm Water Pipe
- FOUL — Foul Water Pipe
- Rising — Rising Main Pipe
- U-C — U-Channel
- UC PIPE — Unclassified Pipe
- UC CABLE — Unclassified Cable
- UN PIPE — Unknown Pipe
- UN CABLE — Unknown Cable
- Cooling Main — Cooling Main Pipe (Color by layer)
- CM CABLE — Cooling Main Control Cable
- FUEL — Fuel Pipe
- GPR Transverse
- Approximated Alignment
- Proposed/Designed
- Contract Survey Boundary
- Pipe/Cable Width larger than 1000Ø
- Cover
- Chamber (Dimensions to scale)
- Pole (Color by layer)
- Deadend (Color by layer)
- Down Pipe (Color by layer)
- Cable Matrix: Duct includes cable; Duct empty (Color by layer)
- 0.50d Approximated Depth
- Approximated Manhole/Pit/Valve
- W — Water Valve Pit
- Gas — Gas Pipe Pit
- E — Electric Cable Oil Pit
- E — Electric Cable Pit
- NWT — New World Telecom Cable Pit
- NT&T — NT&T Cable Pit
- PCCW — PCCW Cable Pit
- HGC — Hutchison Cable Pit
- HKBN — HKBN Cable Pit
- Eaststar — Eaststar Cable Pit
- WT&T — WT&T Cable Pit
- TGT — TGT Cable Pit
- TRAX — TRAX Cable Pit
- Telephone Kiosk
- CATV — Cable TV Cable Pit
- PL — Public Lighting Cable Pit
- E&M ATC — ATC/E&M Cable Pit
- Storm Water Manhole
- Foul Water Manhole
- C — Catch-Pit
- C — Catch-Pit without Cover
- Gully
- Inlet / Outlet
- UC — Unclassified Manhole/Pit (Color by layer)
- UN — Unknown Manhole/Pit (Color by layer)
- CM — Cooling Main Manhole (Color by layer)
- CM — Cooling Main Control Cable Pit
- Fuel — Fuel Manhole
- Valve (Color by layer)
- Fire Hydrant
- Irrigation Point
- M — Meter
- Traffic Light
- Illuminated Bollard
- Lamppost
- EARTH — Earth Pit
- Control Box — Control Box (Color by layer)
- CCTV Lamp
- Ground Light

Rev.	Date	Drawn by	Description
00	08/2023	Ethan Chan	First Issue

Location Map (11NW25C)



CLIENT :

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

PROJECT CLIENT :

P&T Architects and Engineers Ltd.

SPECIALIST CONTRACTOR :

CASTCO
佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.
Tel: (852) 2597-8333 / 2597-8002 Fax: (852) 2597-8399/ 2602-3662
E-mail: info@castco.com.hk Website: http://www.castco.com.hk/

PROJECT TITLE :

Underground Utility Survey Specialist For Redevelopment of Blocks Va & Vs For The Hong Kong Polytechnic University

DRAWING TITLE : Utility Survey Drawing

A1 Size	Scale: 1:100	Survey Date:	July 2023
Prepared By:	Ethan Chan	Approved By:	Pinky Lee
Project No.:	Y23-US-P-301-001		
Drawing No.:	Y23-US-P-301-001-D-17		

APPENDIX B – SITE AND PROGRESS PHOTOGRAPHS

Appendix B.1 – Location Photos

Fig. B.1.1 – Location of Survey Area

Fig. B.1.2 – Location of Survey Area

Fig. B.1.3 – Location of Survey Area

Fig. B.1.4 – Location of Survey Area

Fig. B.1.5 – Location of Survey Area

Fig. B.1.6 – Location of Survey Area

Fig. B.1.7 – Location of Survey Area

Fig. B.1.8 – Location of Survey Area

Fig. B.1.9 – Location of Survey Area

Fig. B.1.10 – Location of Survey Area

Fig. B.1.11 – Location of Survey Area

Fig. B.1.12 – Location of Survey Area

Fig. B.1.13 – Location of Survey Area

Fig. B.1.14 – Location of Survey Area

Fig. B.1.15 – Location of Survey Area

Fig. B.1.16 – Location of Survey Area

Fig. B.1.17 – Location of Survey Area

Fig. B.1.18 – Location of Survey Area

Fig. B.1.19 – Location of Survey Area

Fig. B.1.20 – Location of Survey Area

Fig. B.1.21 – Location of Survey Area

Fig. B.1.22 – Location of Survey Area

Fig. B.1.23 – Location of Survey Area

Fig. B.1.24 – Location of Survey Area

Fig. B.1.25 – Location of Survey Area

Fig. B.1.26 – Location of Survey Area

Fig. B.1.27 – Location of Survey Area

Fig. B.1.28 – Location of Survey Area

Fig. B.1.29 – Location of Survey Area

Fig. B.1.30 – Location of Survey Area

Fig. B.1.31 – Location of Survey Area

Fig. B.1.32 – Location of Survey Area

Fig. B.1.33 – Location of Survey Area

Fig. B.1.34 – Location of Survey Area

Fig. B.1.35 – Location of Survey Area

Fig. B.1.36 – Location of Survey Area

Fig. B.1.37 – Location of Survey Area

Fig. B.1.38 – Location of Survey Area

Fig. B.1.39 – Location of Survey Area

Fig. B.1.40 – Location of Survey Area

Fig. B.1.41 – Location of Survey Area

Fig. B.1.42 – Location of Survey Area

Fig. B.1.43 – Location of Survey Area

Fig. B.1.44 – Location of Survey Area

Fig. B.1.45 – Location of Survey Area

Fig. B.1.46 – Location of Survey Area

Fig. B.1.47 – Location of Survey Area

Fig. B.1.48 – Location of Survey Area

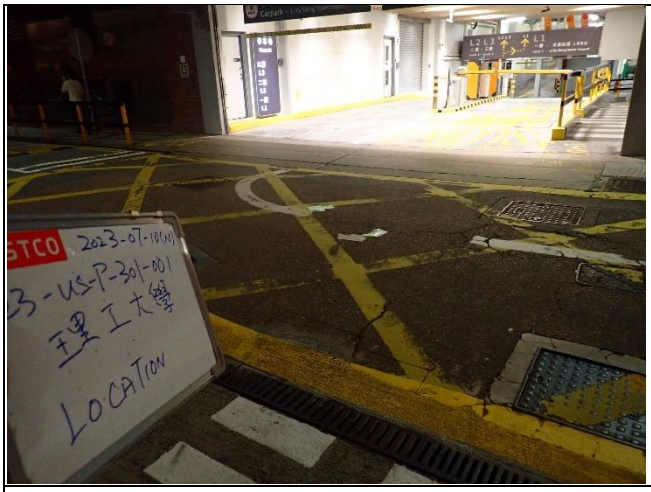


Fig. B.1.49 – Location of Survey Area

Fig. B.1.50 – Location of Survey Area

Fig. B.1.51 – Location of Survey Area

Fig. B.1.52 – Location of Survey Area

Fig. B.1.53 – Location of Survey Area

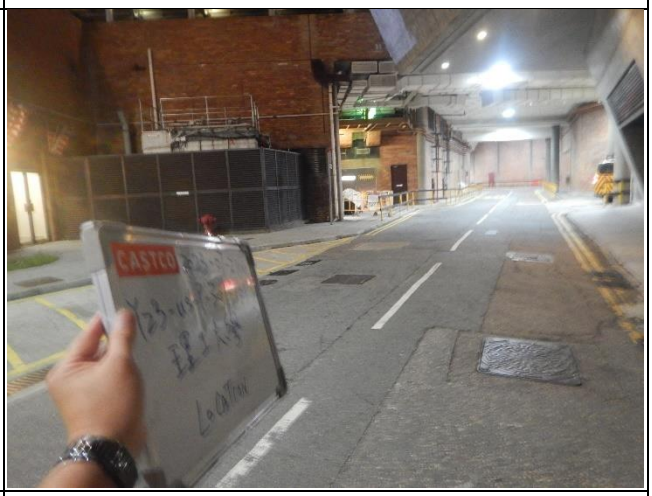


Fig. B.1.54 – Location of Survey Area

Fig. B.1.55 – Location of Survey Area

Fig. B.1.56 – Location of Survey Area

Fig. B.1.57 – Location of Survey Area

Fig. B.1.58 – Location of Survey Area

Fig. B.1.59 – Location of Survey Area

Fig. B.1.60 – Location of Survey Area

Fig. B.1.61 – Location of Survey Area

Fig. B.1.62 – Location of Survey Area

Fig. B.1.63 – Location of Survey Area

Fig. B.1.64 – Location of Survey Area

Appendix B.2 – Work Progress Photos

Fig. B.2.1 – PCL setup at Fresh Water Valve

Fig. B.2.2 – PCL setup at Fresh Water Valve

Fig. B.2.3 – PCL setup at Gas Valve

Fig. B.2.4 – PCL setup at Gas Valve

Fig. B.2.5 – PCL setup at PCCW Cable Pit

Fig. B.2.6 – PCL setup at PCCW Cable Pit

Fig. B.2.7 – PCL setup at Public Lighting Cable Pit

Fig. B.2.8 – PCL setup at Public Lighting Cable Pit

Fig. B.2.9 – PCL setup at Unknown Manhole

Fig. B.2.10 – PCL setup at Unknown Manhole

Fig. B.2.11 – Utility Survey in progress

Fig. B.2.12 – Utility Survey in progress

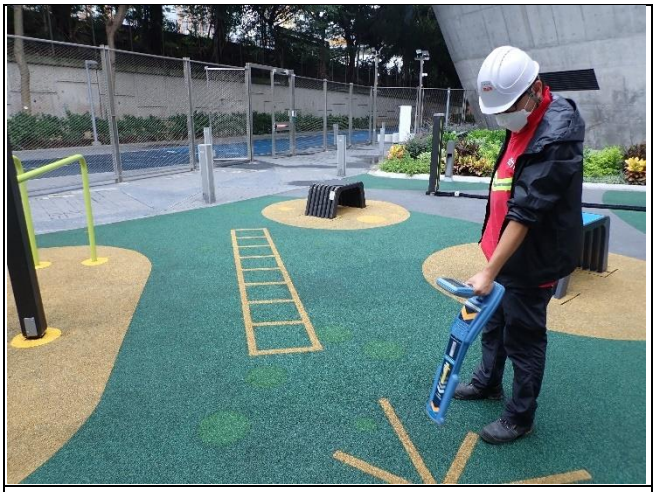


Fig. B.2.13 – Utility Survey in progress

Fig. B.2.14 – Utility Survey in progress

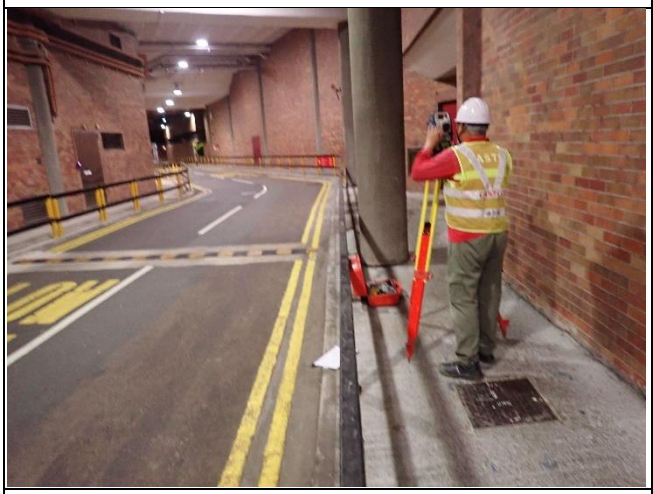


Fig. B.2.15 – Topographic Survey in progress

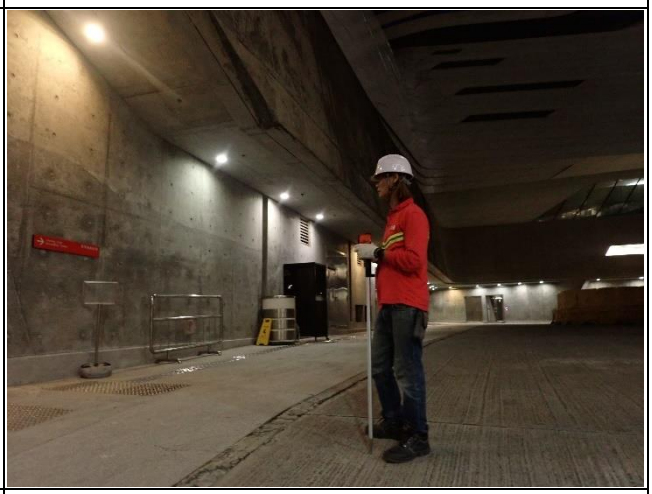


Fig. B.2.16 – Topographic Survey in progress

Fig. B.2.17 – Topographic Survey in progress

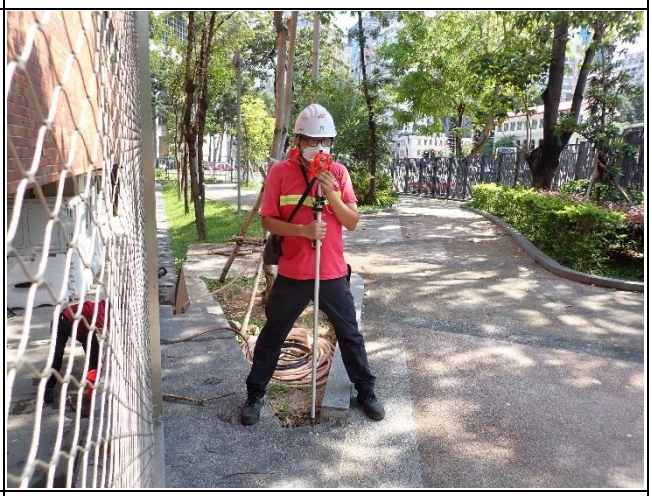


Fig. B.2.18 – Topographic Survey in progress

Appendix B.3 – Manhole/Pit/Valve Photos

Fig. B.3.1 – Fresh Water Valve A01
Unable to Survey (UTS)

Fig. B.3.2 – Fresh Water Valve A01
Unable to Survey (UTS)

Fig. B.3.3 – Foul Water Manhole F102
Unable to Raise (UTR)

Fig. B.3.4 – Foul Water Manhole F102
Unable to Raise (UTR)

Fig. B.3.5 – Electric Cable Pit P2001
Unable to Raise (UTR)

Fig. B.3.6 – Foul Water Electric Cable Pit P2001
Unable to Raise (UTR)

Fig. B.3.7 – Electric Cable Pit P2053
Unable to Raise (UTR)

Fig. B.3.8 – Foul Water Electric Cable Pit P2053
Unable to Raise (UTR)

Fig. B.3.9 – Electric Cable Pit P2065
Unable to Raise (UTR)

Fig. B.3.10 – Electric Cable Pit P2065
Unable to Raise (UTR)

Fig. B.3.11 – PCCW Cable Pit T2029
Unable to Raise (UTR)

Fig. B.3.12 – PCCW Cable Pit T2029
Unable to Raise (UTR)

Fig. B.3.13 – Storm Water Manhole S1157 Unable to Survey (UTS)

Fig. B.3.14 – Storm Water Manhole S1157 Unable to Survey (UTS)

Fig. B.3.15 – Storm Water Manhole S2045 Unable to Raise (UTR)

Fig. B.3.16 – Storm Water Manhole S2045 Unable to Raise (UTR)

Fig. B.3.17 – Storm Water Manhole S2065 Unable to Survey (UTS)

Fig. B.3.18 – Storm Water Manhole S2065 Unable to Survey (UTS)

	
Fig. B.3.19 – Storm Water Manhole S2145 Unable to Survey (UTS)	Fig. B.3.20 – Storm Water Manhole S2145 Unable to Survey (UTS)
	
Fig. B.3.21 – Storm Water Manhole S2210 Unable to Survey (UTS)	Fig. B.3.22 – Storm Water Manhole S2210 Unable to Survey (UTS)
	
Fig. B.3.23 – Storm Water Manhole S2213 Unable to Survey (UTS)	Fig. B.3.24 – Storm Water Manhole S2213 Unable to Survey (UTS)

Fig. B.3.25 – Storm Water Manhole S2500
Unable to Survey (UTS)

Fig. B.3.26 – Storm Water Manhole S2500
Unable to Survey (UTS)

Fig. B.3.27 – Storm Water Manhole S2500A
Unable to Survey (UTS)

Fig. B.3.28 – Storm Water Manhole S2500A
Unable to Survey (UTS)

Fig. B.3.29 – Foul Water Manhole F1001
Unable to Raise (UTS)

Fig. B.3.30 – Foul Water Manhole F1001
Unable to Raise (UTS)

	
Fig. B.3.31 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)	Fig. B.3.32 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)
	
Fig. B.3.33 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)	Fig. B.3.34 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)
	
Fig. B.3.35 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)	Fig. B.3.36 – Foul Water Manhole F2049 & F2049A & F2049B Unable to Survey (UTS)

	
Fig. B.3.37 – Foul Water Manhole F2072 Unable to Survey (UTS)	Fig. B.3.38 – Foul Water Manhole F2072 Unable to Survey (UTS)
	
Fig. B.3.39 – Foul Water Manhole F2105 Unable to Survey (UTS)	Fig. B.3.40 – Foul Water Manhole F2105 Unable to Survey (UTS)
	
Fig. B.3.41 – Foul Water Manhole F2106 Unable to Survey (UTS)	Fig. B.3.42 – Foul Water Manhole F2106 Unable to Survey (UTS)

Fig. B.3.43 – Foul Water Manhole F2117
Unable to Survey (UTS)

Fig. B.3.44 – Foul Water Manhole F2117
Unable to Survey (UTS)

Fig. B.3.45 – Storm Water Gully Y2007
Unable to Raise (UTR)

Fig. B.3.46 – Storm Water Gully Y2007
Unable to Raise (UTR)

Fig. B.3.47 – Unknown Manhole U1002 U1002A
Unable to Survey (UTS)

Fig. B.3.48 – Unknown Manhole U1002 U1002A
Unable to Survey (UTS)

Fig. B.3.49 – Unknown Manhole U1003
Unable to Raise (UTR)

Fig. B.3.50 – Unknown Manhole U1003
Unable to Raise (UTR)

Fig. B.3.51 – Unknown Manhole U1004
Unable to Raise (UTR)

Fig. B.3.52 – Unknown Manhole U1004
Unable to Raise (UTR)

Fig. B.3.53 – Unknown Manhole U1005
Unable to Raise (UTR)

Fig. B.3.54 – Unknown Manhole U1005
Unable to Raise (UTR)

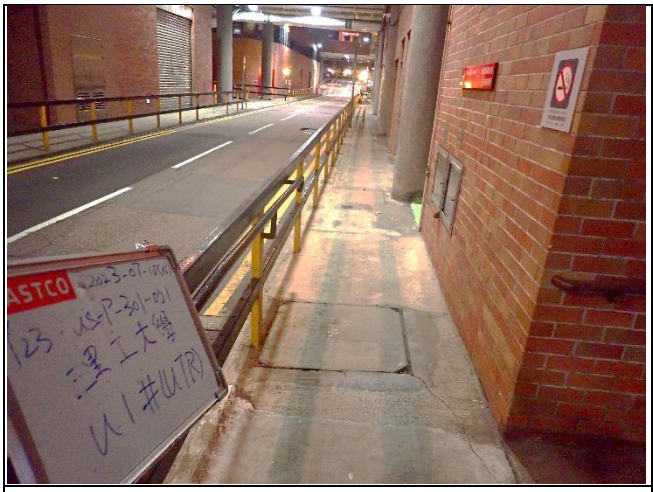


Fig. B.3.55 – Unknown Cable Pit U2001 Unable to Raise (UTR)	Fig. B.3.56 – Unknown Cable Pit U2001 Unable to Raise (UTR)

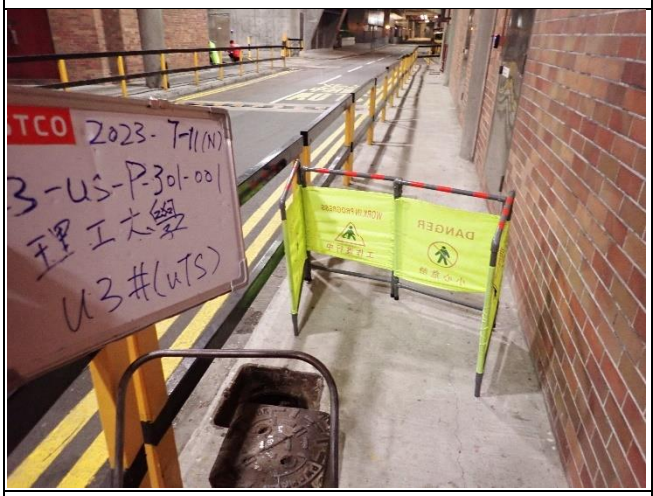



Fig. B.3.57 – Unknown Cable Pit U2003 Unable to Survey (UTS)	Fig. B.3.58 – Unknown Cable Pit U2003 Unable to Survey (UTS)
	
Fig. B.3.59 – Unknown Cable Pit U2004 Unable to Survey (UTS)	Fig. B.3.60 – Unknown Cable Pit U2005 Unable to Survey (UTS)

	
Fig. B.3.61 – Unknown Cable Pit U2005 Unable to Raise (UTR)	Fig. B.3.62 – Unknown Cable Pit U2005 Unable to Raise (UTR)
	
Fig. B.3.63 – Unknown Cable Pit U2050 Unable to Survey (UTS)	Fig. B.3.64 – Unknown Cable Pit U2050 Unable to Survey (UTS)

APPENDIX C – RECORD PLAN(S)

Item	Company	Received Date
1	Water Supplies Department	07/07/2023
2	The Hong Kong and China Gas Company Limited	27/06/2023
3	CLP Power Hong Kong Limited	30/06/2023
4	HKT Limited	11/07/2023
5	HGC Global Communications Limited	28/06/2023
6	Transport Department (ATC)	07/07/2023
7	GeoInfo Map (Drainage Pipes and Manholes)	Printed On 30/06/2023

水 務 署
Water Supplies Department

長沙灣辦事處
Cheung Sha Wan Office
九龍長沙灣荔康街二號水務署長沙灣大樓
WSD Cheung Sha Wan Building, 2 Lai Hong Street, Cheung Sha Wan, Kowloon

本署檔號 *Our ref.*	:	(2) in WSD/K 1601/10/12/2023 TJ (41)	電話 *Tel.*	:	2360 6230
來函檔號 *Your ref.*	:	Y23-US-P-301-001-L-01x	傳真 *Fax.*	:	2386 7813

7 July 2023

CASTCO Testing Centre Ltd.

6/F., Techno Centre,,
33 On Kui Street, On Lok Tsuen,
Fanling, N.T.

(Attn: Mr. Ethan Chan (US department))

Dear Sir/Madam,

Underground Utility Survey at The Hong Kong Polytechnic University
Re: Request for Underground Utility Record Drawing

I refer to your letter ref. Y23-US-P-301-001-L-01x dated 27.06.2023.

I attach herewith, for your information and necessary action, part print of our Mains Record Plans showing the existing water mains and waterworks installations in the vicinity of your proposed works.

You are requested to note that the alignment of the water mains shown is indicative only. Although it is our intention to provide you with the most up to date information, we cannot guarantee that all recently laid mains have been incorporated in our central records and hence on the returned plans. We also cannot guarantee that all pipe material information of the water mains shown thereon is most accurate.

The exact lines and levels of the water mains as well as the pipe materials the water mains are made of should be established by hand dug trial holes on site if they are of significance to your works. You should instruct your consultants and/or contractors (as the case maybe) to take all necessary measures during the design and/or construction stages (as the case maybe) to avoid causing damage to the water mains and

waterworks installations so identified for which you will be held responsible. For details, please refer to our two publications, "Guidelines for Excavation Near Water Mains" and "How to Prevent Damage to Water Mains?" which can be downloaded from our homepage through http://www.wsd.gov.hk/en/publications_and_statistics/guidelines_drawings_and_specifications/guidelines_for_excavation_near_water_mains/ and http://www.wsd.gov.hk/en/publications_and_statistics/guidelines_drawings_and_specifications/how_to_prevent_damage_to_water_mains/index.html

Your attention is particularly drawn to the fact that some of the existing water mains, especially those in urban areas, were made of asbestos cement pipes. You are advised to conduct thorough site investigations to ascertain whether there are any asbestos cement pipes affected by the project, and to take all necessary precaution to protect any asbestos cement pipes identified on site, which are vulnerable to damage when exposed. Should diversion / replacement of asbestos cement pipes are found necessary after detailed investigations and studies, you should instruct your consultants and/or contractors (as the case maybe) to take all necessary measures during the design and/or construction stages (as the case maybe) to comply with all prevailing statutory requirements for the safe handling, removal, transportation and disposal of asbestos cement pipes.

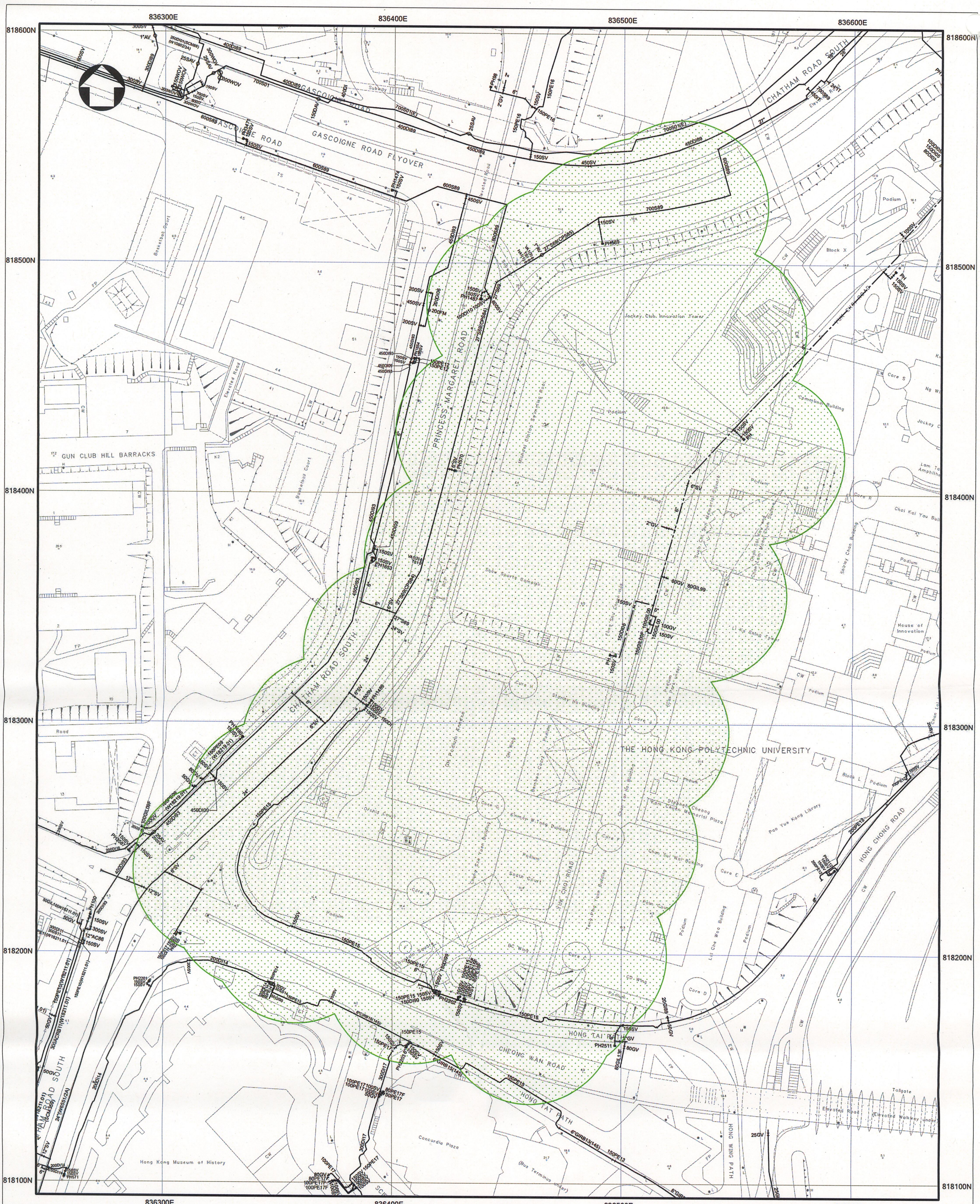
No cable, pipe or duct shall be laid over in parallel to, or within 300mm around, the water mains without prior written approval from this Department. Please strictly comply with requirements in the attached copy of "Conditions of Working in the vicinity of Waterworks Installations" and "Flow Chart on Procedures for Safe Working Near Water Mains".

If you would like to have any technical advice regarding the necessary measures to prevent damaging the water mains and waterworks installation, please contact our Waterworks Inspector, Mr NG Wai Ming, at telephone no. 2360 6544. For other enquiry or further information, please contact our Senior Waterworks Inspector, Mr LIU Wai Hong, at telephone no. 2360 6161.

Yours faithfully,

(W. F. CHEUNG)
for Chief Engineer/Kowloon
Water Supplies Department

Encl.



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO PROPOSED WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICNITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICNITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.
11. ASBESTOS CEMENT / UNKNOWN MATERIALS MAINS WAS FOUND IN THE VICINITY OF THE SITE.
12. FRESH / SALT WATER CATHODIC PROTECTION MAINS WAS FOUND IN THE VICINITY OF THE SITE.

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/11-NW-25A & 25C

FILE REF: (1) in WSD/K 1601/10/12/2023 TJ41

REF. CODE: 28W23M	SHEET 1 OF 1	SCALE 1:1500

水 務 署
Water Supplies Department

836300E 836400E 836500E 836600E

818600N 818500N 818400N 818300N 818200N 818100N

GASCOIGNE ROAD
GASCOIGNE ROAD FLYOVER
CHATHAM ROAD SOUTH
PRINCESS MARGARET ROAD
HONG CHONG ROAD
HONG TAI PATH
CHEONG WAN ROAD
HONG WING PATH
LUK CHOI ROAD
GUN CLUB HILL BARRACKS
THE HONG KONG POLYTECHNIC UNIVERSITY
Jockey Club Innovation Tower
Podium
Block X
Block L
Communal Building
Shaw Amenities Building
Shaw Sports Complex
Stanley Ho Building
Kinmay W. Tang Building
Chan Sui Kwai Building
Li Ka Shing Tower
House of Innovation
Shirley Chan Building
Poo Yue Kong Library
Stephen Cheong Kam Chuen Memorial Plaza
Hong Kong Museum of History
Concordia Plaza
(Bus Terminus under)
Tollgate
Elevated Road
(Elevated Walkway under)
Basketball Court
Orchid Court
Palm Court
Dunlop Square
Subway
Core A
Core B
Core C
Core D
Core E
Core F
Core H
Core J
Core R
Core S

SUBJECT SITE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO PROPOSED WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICNITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICNITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.
11. ASBESTOS CEMENT / UNKNOWN MATERIALS MAINS WAS FOUND IN THE VICINITY OF THE SITE.
12. FRESH / SALT WATER CATHODIC PROTECTION MAINS WAS FOUND IN THE VICINITY OF THE SITE.

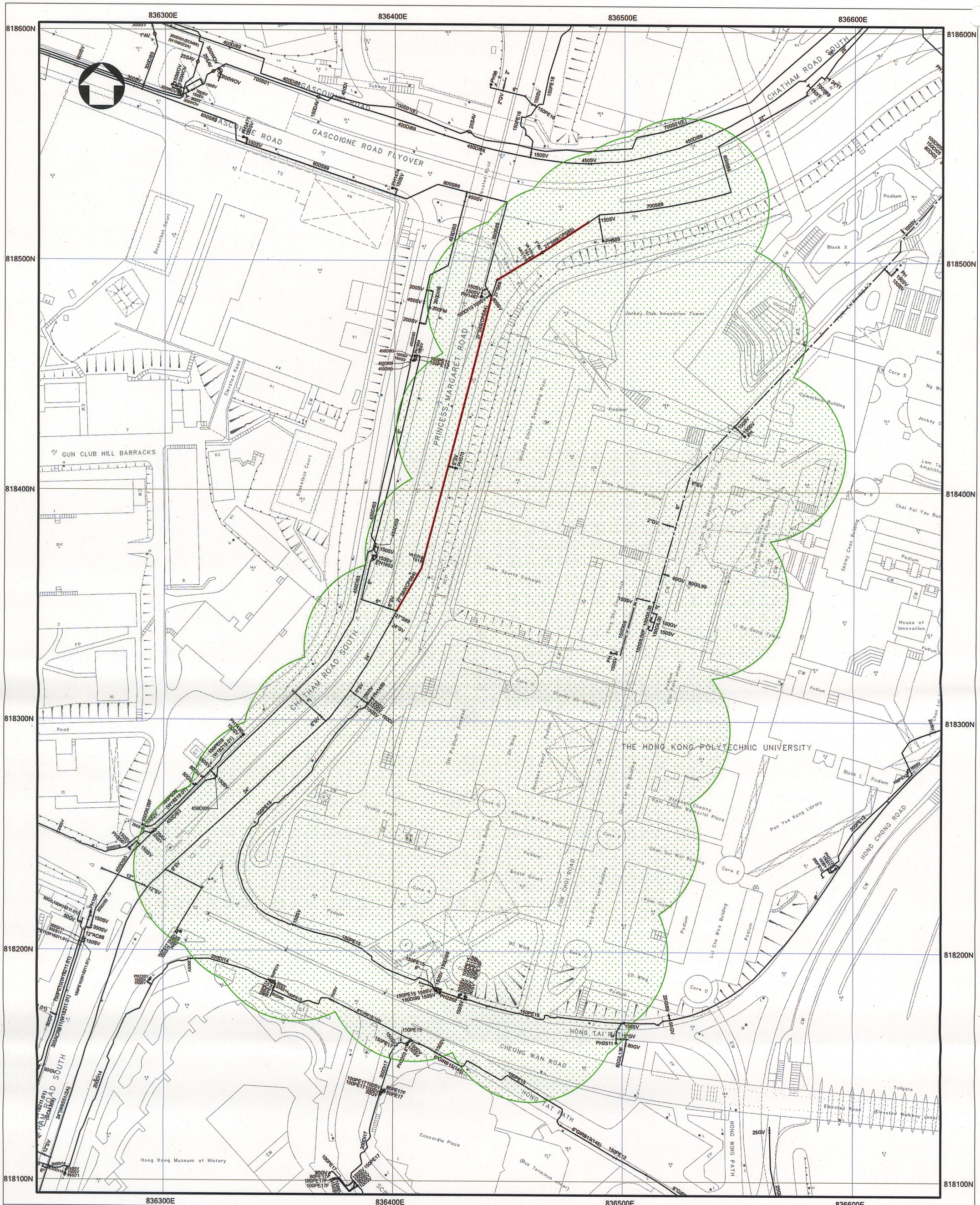
PART COPY OF SALT WATER MAINS RECORD PLAN(S)

W67881/11-NW-25A & 25C

FILE REF: (1) in WSD/K 1601/10/12/2023 TJ41

REF. CODE: 28W23M	SHEET 1 OF 1	SCALE 1:1500

水 務 署
Water Supplies Department



LEGEND :

FRESH WATER MAINS UNDER CATHODIC PROTECTION SYSTEM

SUBJECT SITE

SUPPLEMENTARY INFORMATION OF WATER MAINS UNDER CATHODIC PROTECTION SYSTEM

IMPORTANT: Please note that existing water mains under Cathodic Protection System (CPS) are identified in the vicinity of your project/works area. You are strongly advised to make special provisions including monitoring measures as necessary to protect these water pipes and the nearby CPS including Test Stations, Vertical Anodes and Horizontal Anodes.

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/11-NW-25A & 25C

FILE REF: (1) in WSD/K 1601/10/12/2023 TJ41

SHEET 1 OF 1 | SCALE 1:1500

水 務 署
Water Supplies Department

836300E 836400E 836500E 836600E

818600N 818500N 818400N 818300N 818200N 818100N

GASCOIGNE ROAD FLYOVER

GASCOIGNE ROAD

CHATHAM ROAD SOUTH

PRINCESS MARGARET ROAD

HONG CHONG ROAD

HONG TAI PATH

CHEONG WAN ROAD

HONG WING PATH

GUN CLUB HILL BARRACKS

THE HONG KONG POLYTECHNIC UNIVERSITY

Hong Kong Museum of History

Concordia Plaza

Jockey Club Innovation Tower

Shaw Sports Complex

Shaw Amphitheatre Building

Li Ka Shing Tower

House of Innovation

Pao Yue Kong Library

Stephen Cheong Kam Chuen Memorial Plaza

Chan Sui Wai Building

Lui Che Woo Building

Stanley Ho Building

Shirley Chan Building

Block X

Block L

Communal Building

Tollgate

Elevated Road (Elevated Walkway Under)

Subway

Basketball Court

Elevated Road

Bamboo Court

Orchid Court

Podium

Core A

Core B

Core C

Core D

Core E

Core F

Core G

Core H

Core J

Core K

Core R

SUBJECT SITE

LEGEND :

1. FRESH WATER MAINS WITH AC MATERIAL
2. FRESH WATER MAINS WITH UNKNOWN MATERIAL

SUPPLEMENTARY INFORMATION OF ASBESTOS CEMENT (AC) OR UNKNOWN WATER MAINS

IMPORTANT: Please note that existing asbestos cement (AC) or unknown water pipes are identified in the vicinity of your project/works area. It is very likely that the unknown water pipes are AC water pipes. You are strongly advised to make special provisions including monitoring measures as necessary to protect these water pipes that are vulnerable to damage. Should diversion/replacement of AC or unknown water pipes be found necessary to be carried out in conjunction with your proposed works after detailed investigations or studies, you should instruct your consultants and/or contractors (as the case may be) to take all necessary measures during design and/or construction stages (as the case may be) to comply with all prevailing statutory requirements for the safe handling, removal, transportation and disposal of AC pipes.

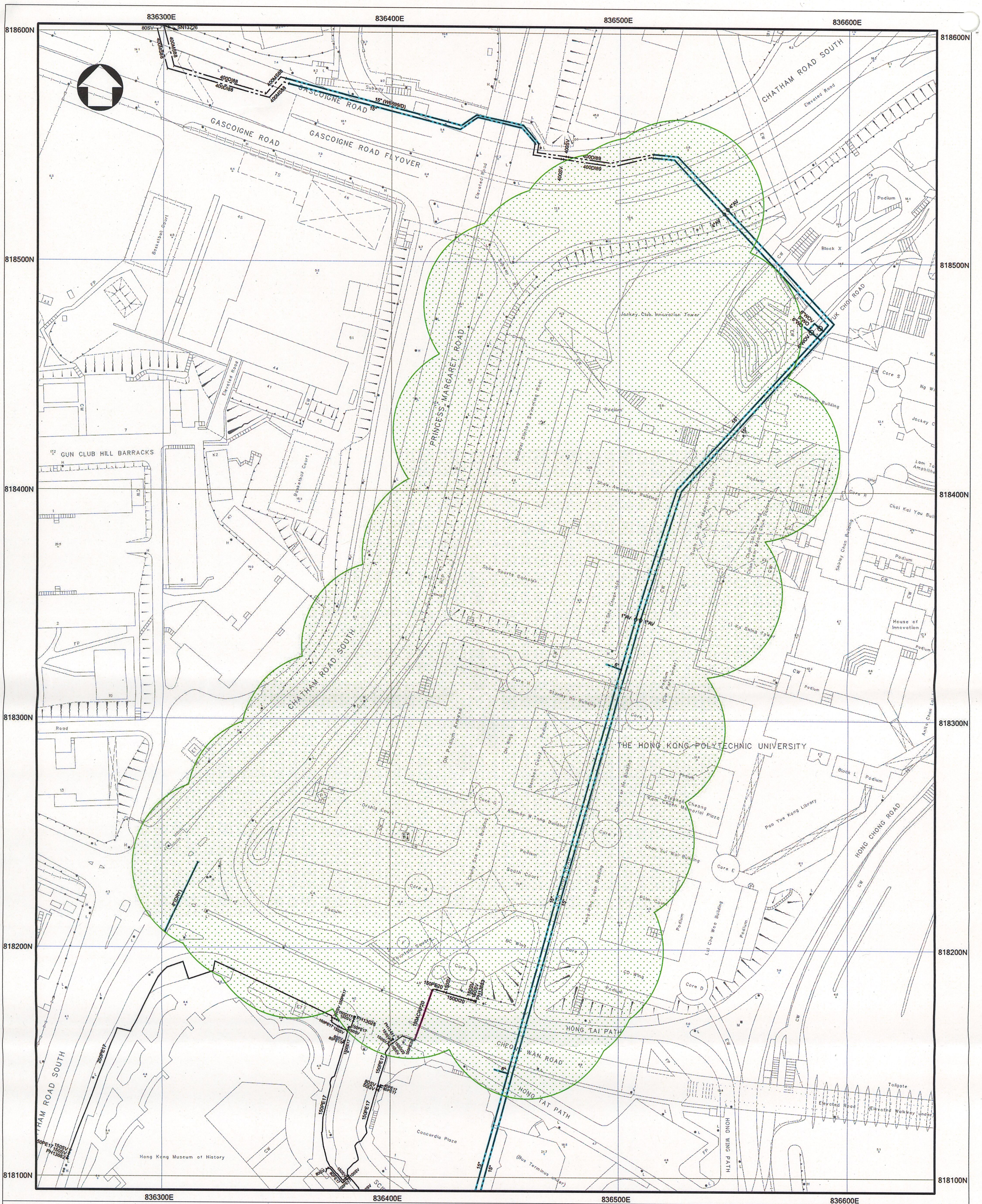
PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/11-NW-25A & 25C

FILE REF: (1) in WSD/K 1601/10/12/2023 TJ41

SHEET 1 OF 1 | SCALE 1:1500

水 務 署
Water Supplies Department



LEGEND :

1. SALT WATER MAINS WITH AC MATERIAL
2. SALT WATER MAINS WITH UNKNOWN MATERIAL

SUBJECT SITE

SUPPLEMENTARY INFORMATION OF ASBESTOS CEMENT (AC) OR UNKNOWN WATER MAINS

IMPORTANT: Please note that existing asbestos cement (AC) or unknown water pipes are identified in the vicinity of your project/works area. It is very likely that the unknown water pipes are AC water pipes. You are strongly advised to make special provisions including monitoring measures as necessary to protect these water pipes that are vulnerable to damage. Should diversion/replacement of AC or unknown water pipes be found necessary to be carried out in conjunction with your proposed works after detailed investigations or studies, you should instruct your consultants and/or contractors (as the case may be) to take all necessary measures during design and/or construction stages (as the case may be) to comply with all prevailing statutory requirements for the safe handling, removal, transportation and disposal of AC pipes.

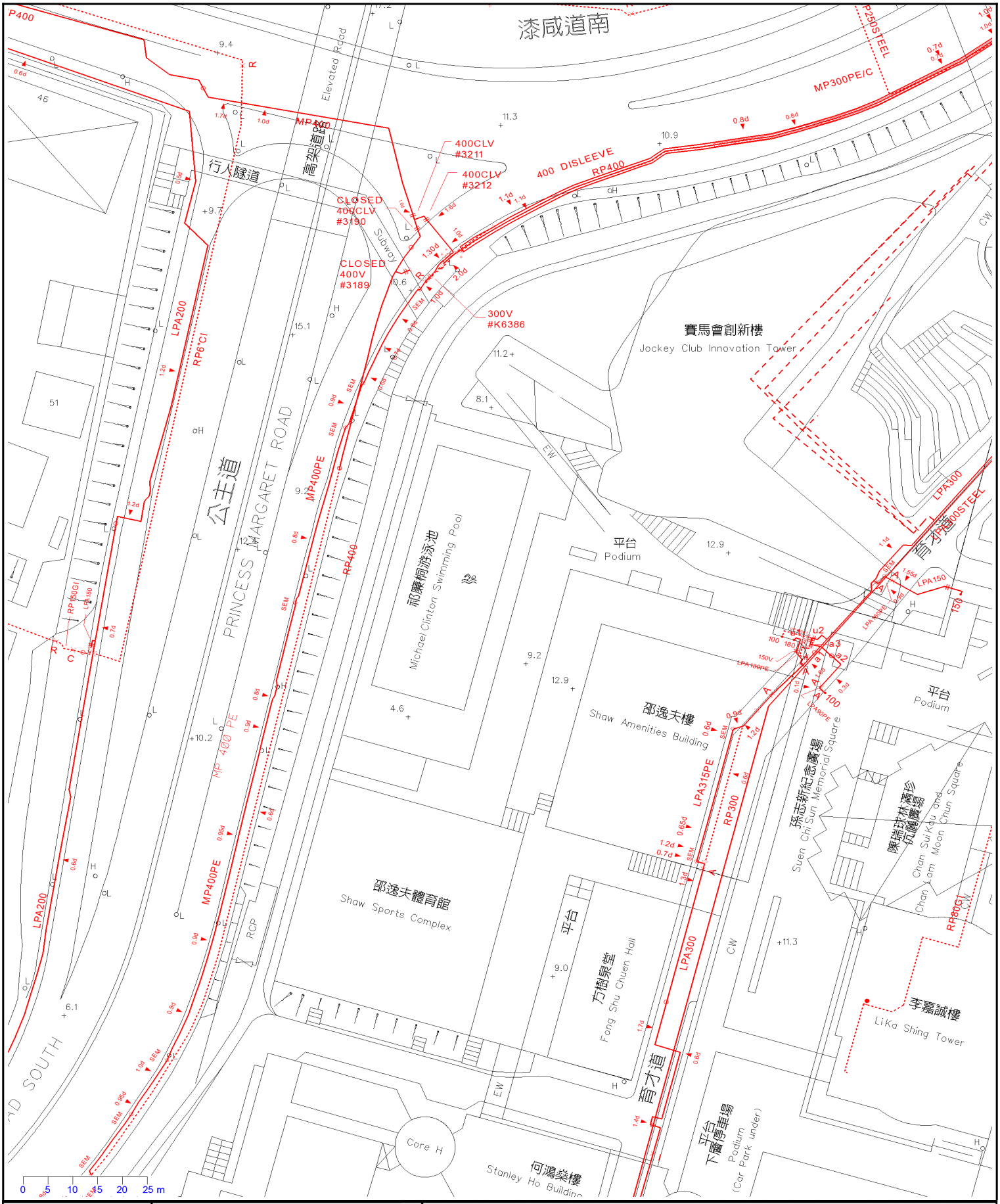
PART COPY OF SALT WATER MAINS RECORD PLAN(S)

W67881/11-NW-25A & 25C

FILE REF: (1) in WSD/K 1601/10/12/2023 TJ41

	SHEET 1 OF 1	SCALE 1:1500

水 務 署
Water Supplies Department



煤氣 Towngas
香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited

REQ ID:	CON-20230627-0004-Q
Rpy ID:	CON-20230627-0004-R-GAS
Survey Map:	11NW25C
SECTION:	Kowloon Operation
SCALE:	1 : 1000

圖例：

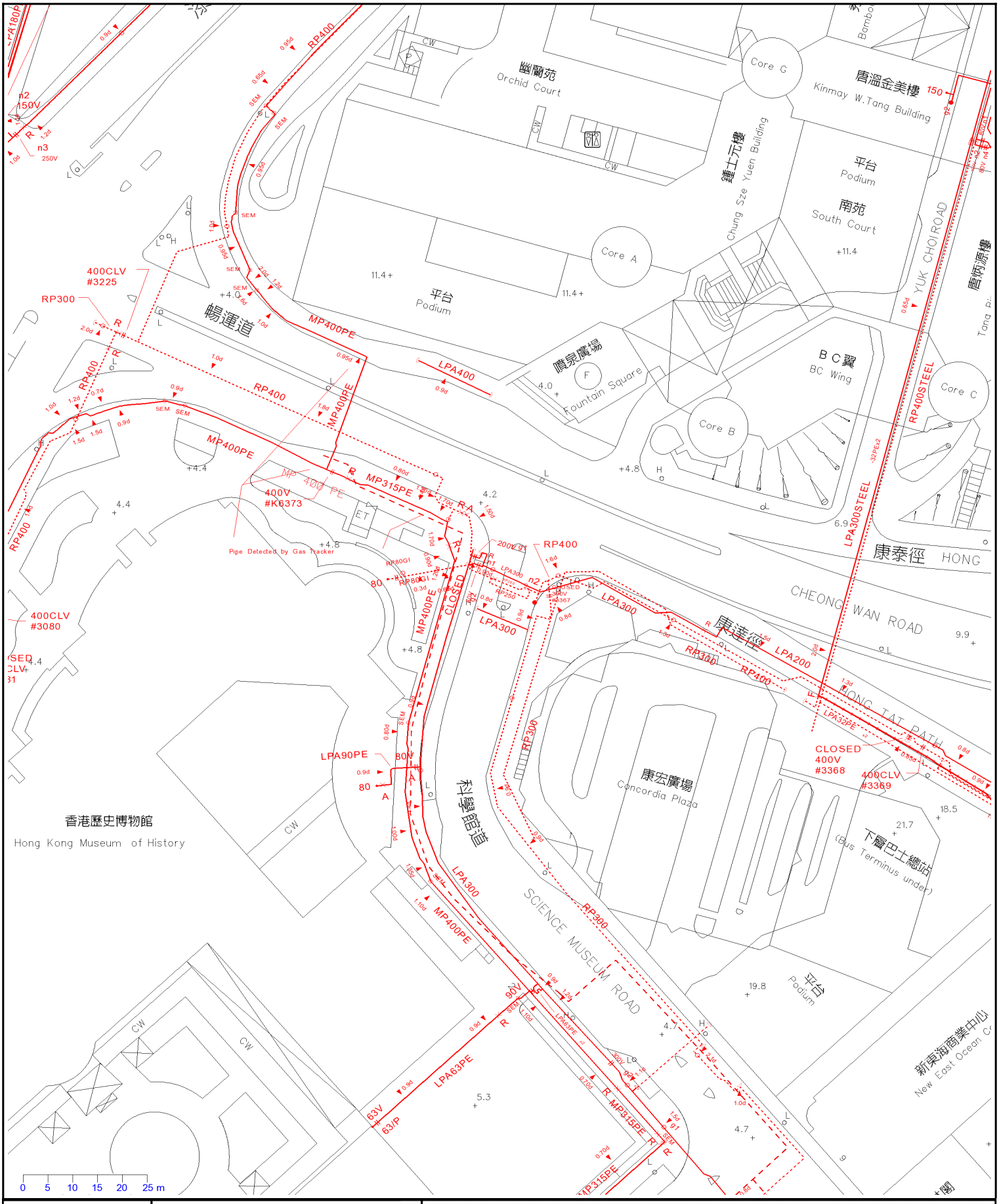
- LPA 現有低壓 A 管道 (2.0 千帕以下)
- LPB 現有低壓 B 管道 (2.0–7.5 千帕)
- MP 現有中壓管道 (7.5–240 千帕)
- IPA 現有次高壓 A 管道 (240–400 千帕)
- IPB 現有次高壓 B 管道 (400–700 千帕)
- HP 現有高壓管道 (700 千帕以上)
- PE 設有可探索警告帶的聚乙烯管道
- IPB* 現有次高壓 B 管道 (暫以較低壓力運作)
- HP* 現有高壓管道 (暫以較低壓力運作)
- PE* 沒有可探索警告帶的聚乙烯管道
- RP / IPit 備用管道 / 保留管道檢測井
- 擬建/在建管道
- 鋼蓋板
- 冷凝液罐
- 無豎管的冷凝液罐 / 放散點
- 閥門
- 球閥井
- idp 清管井
- RPIT 立管井
- CP 陰極保護裝置
- 大約埋深(米)
- 管網通訊導管
- TT:鞍型旁通 / BS:塞氣馬鞍
- RS:鞍型三通 / WT:華士三通

[注意：鞍型管件埋深，比管道淺約 5 0 毫米]

DATE OF GENERATION: 27-Jun-2023

THE POSITIONS OF GAS MAINS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND DEPTH OF MAINS SHOULD BE LOCATED BY HAND DUG TRIAL HOLES. EXTREME CARE MUST BE EXERCISED DURING EXCAVATION IN THE PROXIMITY TO THESE MAINS.

Min X, Y : 836373,818307 **Max X, Y :** 836571,818547



煤氣 Towngas
香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited

REQ ID: CON-20230627-0003-Q
Rpy ID: CON-20230627-0003-R-GAS
Survey Map: 11NW25C
SECTION: Kowloon Operation
SCALE: 1 : 1000

圖例：

- LPA 現有低壓 A 管道 (2.0 千帕以下)
- LPB 現有低壓 B 管道 (2.0–7.5 千帕)
- MP 現有中壓管道 (7.5–240 千帕)
- IPA 現有次高壓 A 管道 (240–400 千帕)
- IPB 現有次高壓 B 管道 (400–700 千帕)
- HP 現有高壓管道 (700 千帕以上)
- PE 設有可探索警告帶的聚乙烯管道
- IPB* 現有次高壓 B 管道 (暫以較低壓力運作)
- HP* 現有高壓管道 (暫以較低壓力運作)
- PE* 沒有可探索警告帶的聚乙烯管道
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- 鋼蓋板
- 冷凝液罐
- 無豎管的冷凝液罐 / 放散點
- 閥門
- 球閥井
- idp 清管井
- RPIT 立管井
- CP 陰極保護裝置
- 大約埋深(米)
- 管網通訊導管
- TT:鞍型旁通 / BS:塞氣馬鞍
- RS:鞍型三通 / WT:華士三通

[注意：鞍型管件埋深，比管道淺約 5 0 毫米]

DATE OF GENERATION: 27-Jun-2023

THE POSITIONS OF GAS MAINS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND DEPTH OF MAINS SHOULD BE LOCATED BY HAND DUG TRIAL HOLES. EXTREME CARE MUST BE EXERCISED DURING EXCAVATION IN THE PROXIMITY TO THESE MAINS.

Min X, Y : 836289,818037 **Max X, Y :** 836487,818277

中華電力有限公司
CLP Power Hong Kong Limited

東西區
East & West Region

香港九龍佐敦渡華路一號百周年大樓
Centenary Building, 1 To Wah Road
Jordan, Kowloon, Hong Kong

電話 Tel (852) 2678 3838
傳真 Fax (852) 2678 3737
電郵 Email we@clp.com.hk
網址 Website www.clpgroup.com

30 Jun, 2023

Castco Testing Centre Ltd.
6/F., Techno Center,
33 On Kui Street,
On Lok Tsuen,
Fanling, N.T.

Attention: Mr. Ethan Chan (US department)

Our ref.: W-2023-0944
Your ref.: Y23-US-P-301-001-L-01x

Dear Sir/Madam,

Underground Utility Survey at The Hong Kong Polytechnic University
Re: Request for Underground Utility Record Drawing

We refer to your letter dated 27 Jun, 2023 and enclose herewith our record sheet(s) showing the present location(s) of this Company's underground cables and / or overhead lines. The alignments of the cables and overhead lines could be altered in the future to meet the requirements of our power system.

You will find certain measurements, dimensions and distances marked on these record sheets. Although these figures are accurate to the best of our knowledge, information and belief, site conditions may have been altered since the measurements were taken. As such, CLP Power's record sheets are sent to you on the express condition that the locations of the underground cables and / or overhead lines and all measurements are our best approximation only, and should not be taken as accurate.

We request you, for the sake of safety, not to disturb any part of our equipment and not to construct manholes over and on top of our cable joints. No work or excavation shall be done in close proximity to any of our equipment without giving prior notice to us. We shall hold you responsible for any damage caused to our equipment.

You are advised to contact our Senior Engineer - Operations - Yau Ma Tei / Sham Shui Po South, Mr. K. Y. Sum on telephone number 2678 3863 as soon as you are ready to commence work. To facilitate site co-ordination, please provide us with the name(s) of the responsible person(s), contact telephone number and tentative work commencement date.

2/.....

Please be informed that the record of public lighting within your work site should be referred to relevant Lighting Division for details.

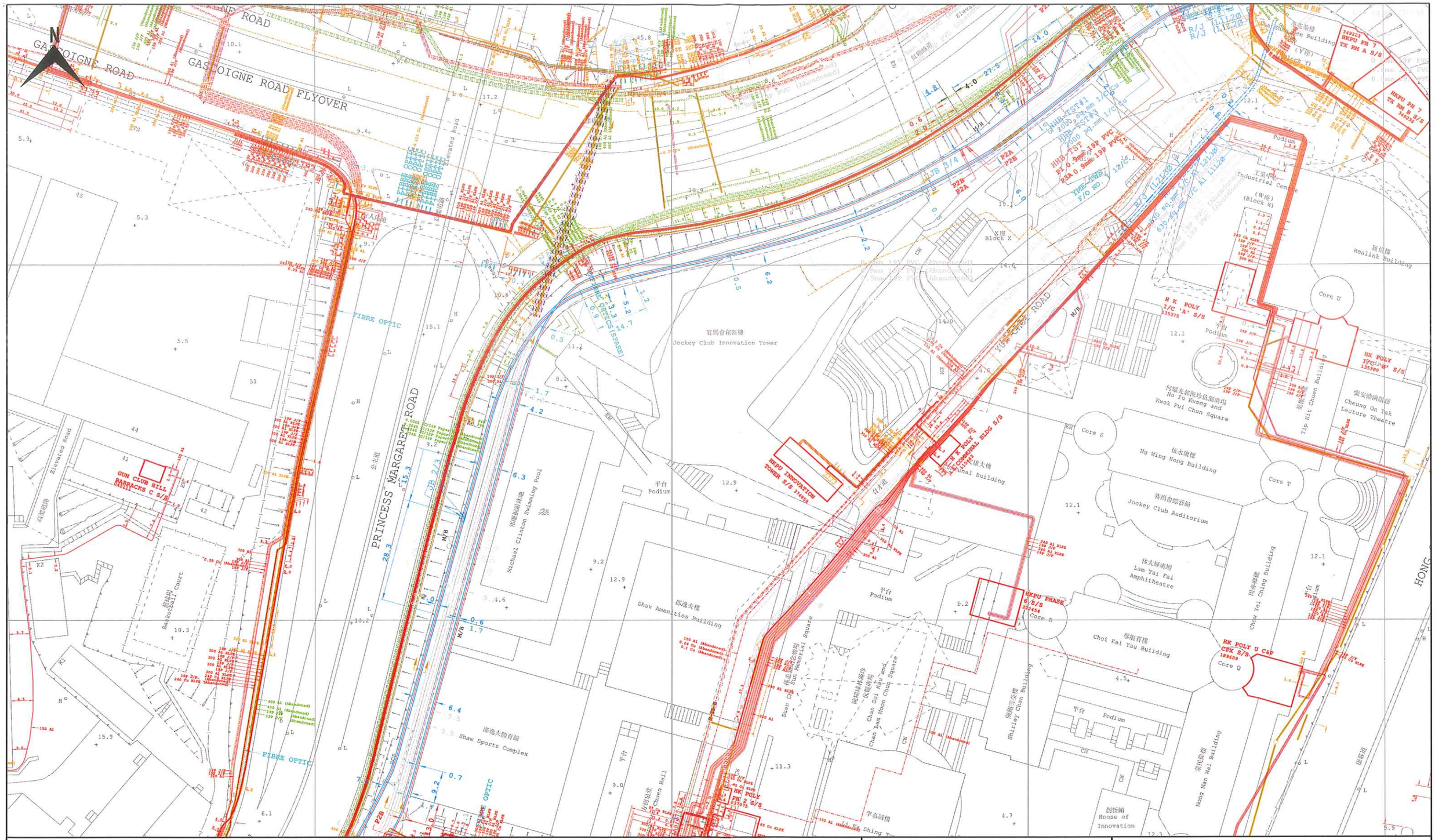
Yours faithfully,
For and on behalf of
CLP Power Hong Kong Limited

K. L. Kwan
for Principal Manager - Planning & Design
(East & West Region)

cc. TD/Circuits - Mr. S. C. Ng

Encl.: 1. Guidelines For Contractors Working In The Vicinity Of Electricity Cables And Overhead Lines
2. EMSD Reference Document No. NU/26/01
3. Drawing Reference No. : W-2023-0944-001 to W-2023-0944-002

P.S.You are advised to note a Video For Contractors Working In The Vicinity Of Electricity Cables And Overhead Lines via a link of (http://clp.to/contractor-safety)



Legend

- 400kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 400kV CABLE
- AS BUILT 400kV CABLE
- 400kV OVERHEAD LINE TOWER
- 132kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 132kV CABLE
- AS BUILT 132kV CABLE
- 132kV OVERHEAD LINE TOWER
- 132kV TERMINAL OHL POLE
- 132kV DOUBLE OHL POLE
- 132kV SINGLE OHL POLE
- ABANDONED TRANSMISSION CABLE
- 33kV CABLE
- THROUGH DUCT 33kV CABLE
- AS BUILT 33kV CABLE
- SUB 33kV SUBMARINE CABLE
- 033 33kV OVERHEAD LINE
- 33kV STEEL POLE
- 33kV WOOD POLE
- 11kV CABLE
- THROUGH DUCT 11kV CABLE
- AS BUILT / ABANDONED 11kV CABLE
- SUB SUBMARINE 11kV CABLE
- 011 11kV OVERHEAD LINE
- 11kV STEEL POLE
- 11kV WOOD POLE
- POLE MOUNT TRANSFORMER
- L.V. CABLE
- THROUGH DUCT L.V. CABLE
- AS BUILT / ABANDONED L.V. CABLE
- L.V. OVERHEAD LINE (1 PHASE)
- L.V. OVERHEAD LINE (3 PHASE)
- A L.V. OVERHEAD LINE (ABC)
- P L.V. OVERHEAD LINE (PVC)
- W L.V. OVERHEAD LINE (Wall Mounted)
- L.V. STEEL POLE
- L.V. WOOD POLE
- L.V. PILLAR
- PILOT CABLE
- THROUGH DUCT PILOT CABLE
- AS BUILT / ABANDONED PILOT CABLE
- FIBRE OPTIC
- THROUGH DUCT FIBRE OPTIC
- AS BUILT FIBRE OPTIC
- TEMPERATURE SENSING CABLE (DTS)
- AERIAL EARTH WIRE (AEW)
- O OVERHEAD LINE FIBRE OPTIC
- W OVERHEAD LINE FIBRE OPTIC
- SHALLOW COVER INSTALLATION
- CLP 400/132/66kV SUBSTATION
- CLP 33kV SUBSTATION
- CLP 11kV SUBSTATION
- 400kV CABLE JOINT BAY
- 132kV CABLE JOINT BAY
- DUCT LINE

ALL LOCATIONS, MEASUREMENTS, DIMENSIONS AND DISTANCES ARE FOR CLP POWER INTERNAL USE ONLY. THEY SHOULD NOT BE SCALED AND ASSUMED ACCURATE. CLP POWER ACCEPTS NO RESPONSIBILITY IN THE EVENT OF ANY INACCURACY. EXTREME CARE MUST BE EXERCISED WHEN WORKING IN CLOSE PROXIMITY TO OUR EQUIPMENT. PLEASE CONTACT OUR REGIONAL OFFICE AS SOON AS YOU ARE READY TO COMMENCE WORK.

CLP 中電

MAP NO: CLP Facility Records Map
11NW25C

SCALE: 1:1000 | **PRINTED ON: 29-06-2023**

Reference no. : W-2023-0944-001

Legend

- 400kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 400kV CABLE
- AS BUILT 400kV CABLE
- 400kV OVERHEAD LINE TOWER
- 132kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 132kV CABLE
- AS BUILT 132kV CABLE
- 132kV OVERHEAD LINE TOWER
- 132kV TERMINAL OHL POLE
- 132kV DOUBLE OHL POLE
- 132kV SINGLE OHL POLE
- ABANDONED TRANSMISSION CABLE
- 33kV CABLE
- THROUGH DUCT 33kV CABLE
- AS BUILT 33kV CABLE
- 33kV SUBMARINE CABLE
- 33kV OVERHEAD LINE
- 33kV STEEL POLE
- 33kV WOOD POLE
- 11kV CABLE
- THROUGH DUCT 11kV CABLE
- AS BUILT / ABANDONED 11kV CABLE
- SUBMARINE 11kV CABLE
- 11kV OVERHEAD LINE
- 11kV STEEL POLE
- 11kV WOOD POLE
- POLE MOUNT TRANSFORMER
- L.V. CABLE
- THROUGH DUCT L.V. CABLE
- AS BUILT / ABANDONED L.V. CABLE
- L.V. OVERHEAD LINE (1 PHASE)
- L.V. OVERHEAD LINE (3 PHASE)
- L.V. OVERHEAD LINE (ABC)
- L.V. OVERHEAD LINE (PVC)
- L.V. OVERHEAD LINE (Wall Mounted)
- L.V. STEEL POLE
- L.V. WOOD POLE
- L.V. PILLAR
- PILOT CABLE
- THROUGH DUCT PILOT CABLE
- AS BUILT / ABANDONED PILOT CABLE
- FIBRE OPTIC
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- AS BUILT FIBRE OPTIC
- TEMPERATURE SENSING CABLE (DTS)
- AERIAL EARTH WIRE (AEW)
- OVERHEAD LINE FIBRE OPTIC
- OVERHEAD LINE FIBRE OPTIC
- SHALLOW COVER INSTALLATION
- CLP 400/132/66kV SUBSTATION
- CLP 33kV SUBSTATION
- CLP 11kV SUBSTATION
- 400kV CABLE JOINT BAY
- 132kV CABLE JOINT BAY
- DUCT LINE

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CLP 中電

MAP NO: CLP Facility Records Map
11NW25C

SCALE: 1:1000 | **PRINTED ON: 29-06-2023**

Reference no. : W-2023-0944-002

HKT Here To Serve

Your ref : Y23-US-P-301-001-L-01x

Our ref HKT-20230627-0007-R-HKT

Our tel : 2888 8872

Our fax : 2785 6840

Date : 11 Jul 2023

Mr. Ethan Chan
Castco Testing Centre Limited
6/F, Techno Centre
33 On Kui Street
Fanling
Hong Kong.

WITHOUT PREJUDICE

Dear Mr.Lam

Underground Utility Survey at The Hong Kong Polytechnic University
Request for Underground Utility Record Drawing

Thank you for your letter and enclosures of 27 Jun 2023.

We enclose a set of plan(s) indicating the approximate position of our existing or proposed underground plant in the area of your proposed excavations. The information contained in the plan(s) can only be used in conjunction with the proposed work and must not be disclosed to other third parties.

For avoidance of doubt, the information in this letter or in any of its attachment shall not prejudice or compromise our right to sue you for any loss or damage caused to our plant(s), nor shall it alter your duty of care to exploit adequate measures to avoid damaging our plant(s).

Please be reminded that the information on the plan(s) could be significantly different from the actual situation in terms of both depth and alignment due to various reasons. You are expected to follow the attached Guidelines for Excavation and Related Work whenever your proposed work is conducted on the site. In particular, we expect utmost caution on your side when excavating in the area and, to that end, you should locate our plant(s) by hand excavation.

You are also hereby put on notice that any damage to our telecommunications cable could interrupt telephone services, mobile-phone services, internet services, data services, 999 or emergency help line services, international telephone services, TV services, stock market operation, medical services and banking services in many areas affecting many people. It is also a threat to public safety. In the event that we suffer any losses, costs or damages as a result of your operations, you will be held liable to indemnify us for all such losses, costs and damages arising from your actions.

In order to draw your workers' attention to the existence of our underground plant nearby, our Plant Protection Officer may post or otherwise display a warning poster of A4 size in the vicinity of your construction site. Please however note that your duty of care corresponding to our underground plant(s) is independent of whether the poster is displayed or seen.

Please convey all the information regarding our plant(s) to your workers, including your sub-contractors. Please complete the attached form to inform us of the details of your representative on the site on or before 31 Aug 2023. You are also advised to notify us of the actual date of commencement of work in your site with at least 3 days' notice in writing to Mr. H.H. Hui.

For general inquiries about plant protection, please contact our Mr. H.H. Hui on 2712 0929.

Yours sincerely,

Peter Yip
For and on behalf of
Hong Kong Telecommunications (HKT) Limited
Enc.

080630/0819

GASCOIGNE ROAD

PRINCESS MARGARET ROAD

YUK CHOI ROAD

GUN CLUB HILL BARRACKS

WIP May 2016

WIP May 2016

WIP May 2016

Jockey Club Innovation Tower
The HK Polytechnic University

Podium

Communal Building

Core S

Ng Wing Hong

Jockey Club Aud

Michael Clinton Swimming Pool

Shaw Amenities Building

Shaw Sports Complex

Fong Shu Chuen Hall

Suen Chi Sun Memorial Square

Chan Sui Kau and Chan Lau Moon Chun Square

Shirley Chan Building

Core R

Amphitheatre

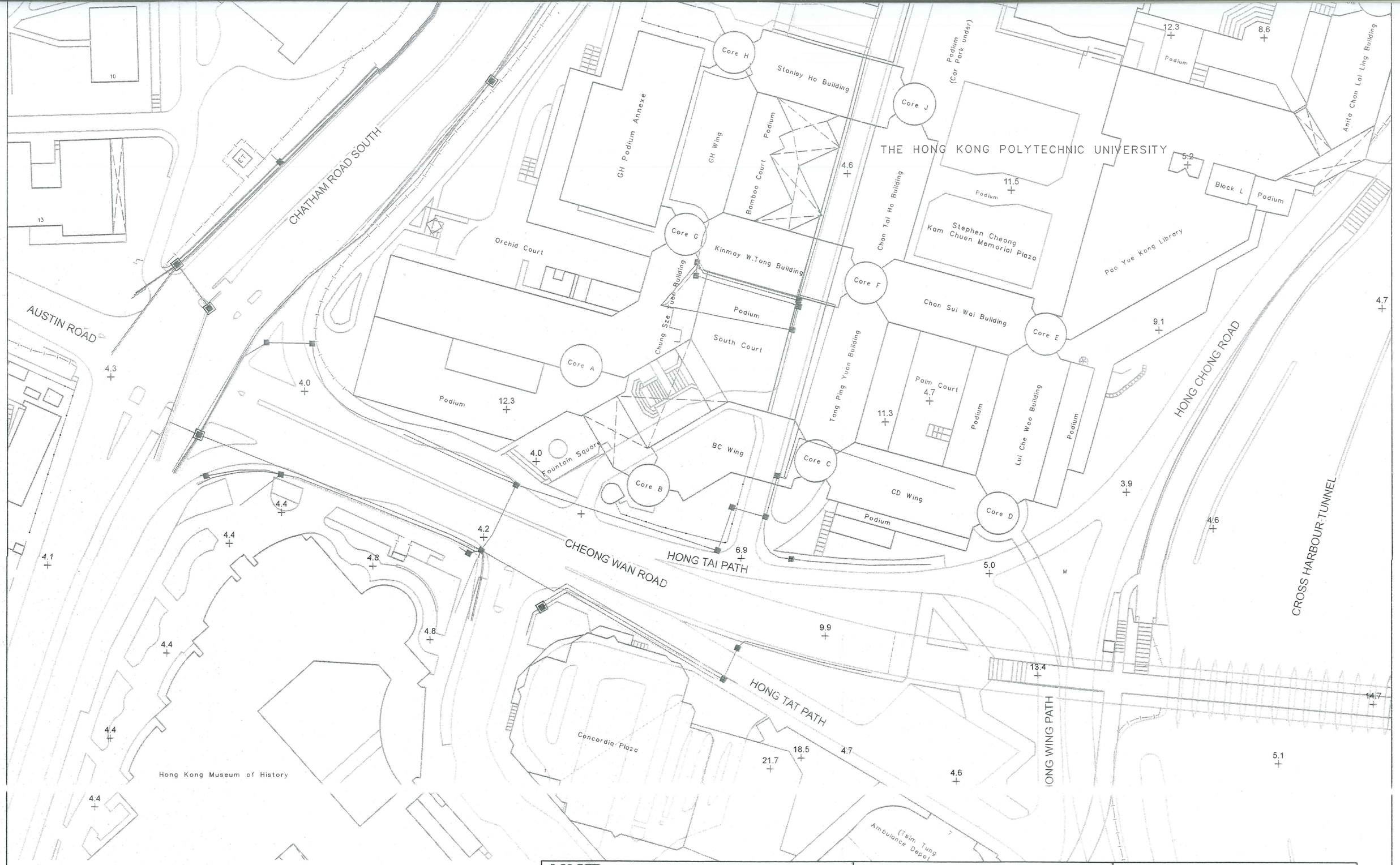
Choi Kai Yau Building

House of Innovation

Li Ka Shing Tower

TS

14.1 7.4 8.2 9.2 10.6 6.3 18.2 8.1 8.6 45.8 10.1 9.4 7.9 17.2 5.4 9.4 6.3 11.3 10.9 6.0 9.7 5.5 10.6 11.2 8.1 4.6 12.1 9.2 12.4 12.9 12.1 17.2 9.2 12.9 4.6 10.2 10.3 9.2 4.5 8.2 20.5 15.9 11.7 9.0 6.1 3.7 8.5 12.3



HKT			
OUTSIDE PLANT SERVICES			
EXCH. AREA : HHM,JDN			
SURVEY MAP No. 11NW25C,11NW25A			
UU REF. No. Y23-US-P-301-001-L-01x			
PREP. EMPC	SCALE	1:1000	
CKD. Chim, Andrew WL	DATE	27/06/2023	
DWG. No. HKT-20230627-0007-R-HKT			

NOTES:

1. EXCEPT FOR YOUR PROSPECTIVE CONTRACTORS/EMPLOYEES. THIS DRAWING MUST NOT BE RELEASED TO THIRD PARTY WITHOUT HK TELEPHONE'S WRITTEN APPROVAL.
2. THIS INFORMATION IS ACCURATE AT THE DATE BELOW. BUT FURTHER ALTERATIONS/AUGMENTATION MAY TAKE PLACE IN THE FUTURE.
3. THE FEATURES AND POSITION OF OUR PLANT INDICATED ON THIS DRAWING IS APPROXIMATELY ONLY. THERE ARE 37 *TELECOMMUNICATION LINES / CABLES WITHIN THE SPECIFIC AREA. THE COLOUR OF UPVC HKT DUCTS IS GREY AND THE DEPTH AT LEAST 900MM FOR CARRIAGEWAY AND 450MM FOR NON-CARRIAGEWAY. ACTUAL DEPTH AND POSITION OF PLAN MUST BE ESTABLISHED BEFORE COMMENCEMENT OF WORK AS VARIATIONS DEPTH AND LINE MAY OCCUR. ALL TELECOMMUNICATIONS LINES ARE DETECTABLE. FOR ANY QUERIES, PLEASE CONTACT THE PERSON AT THE RETURN LETTER TO THE MARK PLANT REQUEST.
4. REACH NETWORKS HONG KONG LIMITED'S PLANT INCLUDED.

*FOR EMERGENCY REQUEST, YOU MAY CALL 2888 9889 For DETAILS.

KEY OF PLANT	EXISTING	PROPOSED
MANHOLE		
JOINT BOX		
DUCT		
CABLE		
POLE		
CABINET		
BURIED COUPLING		

HGC
GLOBAL
COMMUNICATIONS

HGC Global Communications Limited
環球全域電訊有限公司
17/F, Hutchison Telecom Tower, 99 Cheung Fai Road, Tsing Yi, Hong Kong
www.hgc.com.hk

Date : 28 June 2023

Our Ref : HGC-NMP-20230628-0006
Your Ref : Y23-US-P-301-001-L-01x

Castco Testing Centre Limited
6/F., Techno Centre,
33,On Kui Street,
On Lok Tsuen, Fanling,
New Territories,
Hong Kong

Attn: Ethan Chan

Dear Ethan Chan ,

RE: **Underground Utility Survey at The Hong Kong Polytechnic University**
Request for Underground Utility Record Drawing

Thank you for your letter dated 27 Jun 2023 regarding the above captioned.

We enclose a copy of your plan, Dwg. no. HGC-TST-0001-01 showing the approximate location of our existing plant in the vicinity of your construction site.

Please note that the depth of the plant may vary for various reasons. Therefore, you may expect to find the plant located at any depth below surface level on site. We advise you to take utmost caution when excavating in the area and the plant should be located by hand excavation prior to the commencement of work. In the event that we suffer any losses, costs or damages as a result of your operations, you will be held liable and shall indemnify us for all such as losses, costs and damages arising from your actions.

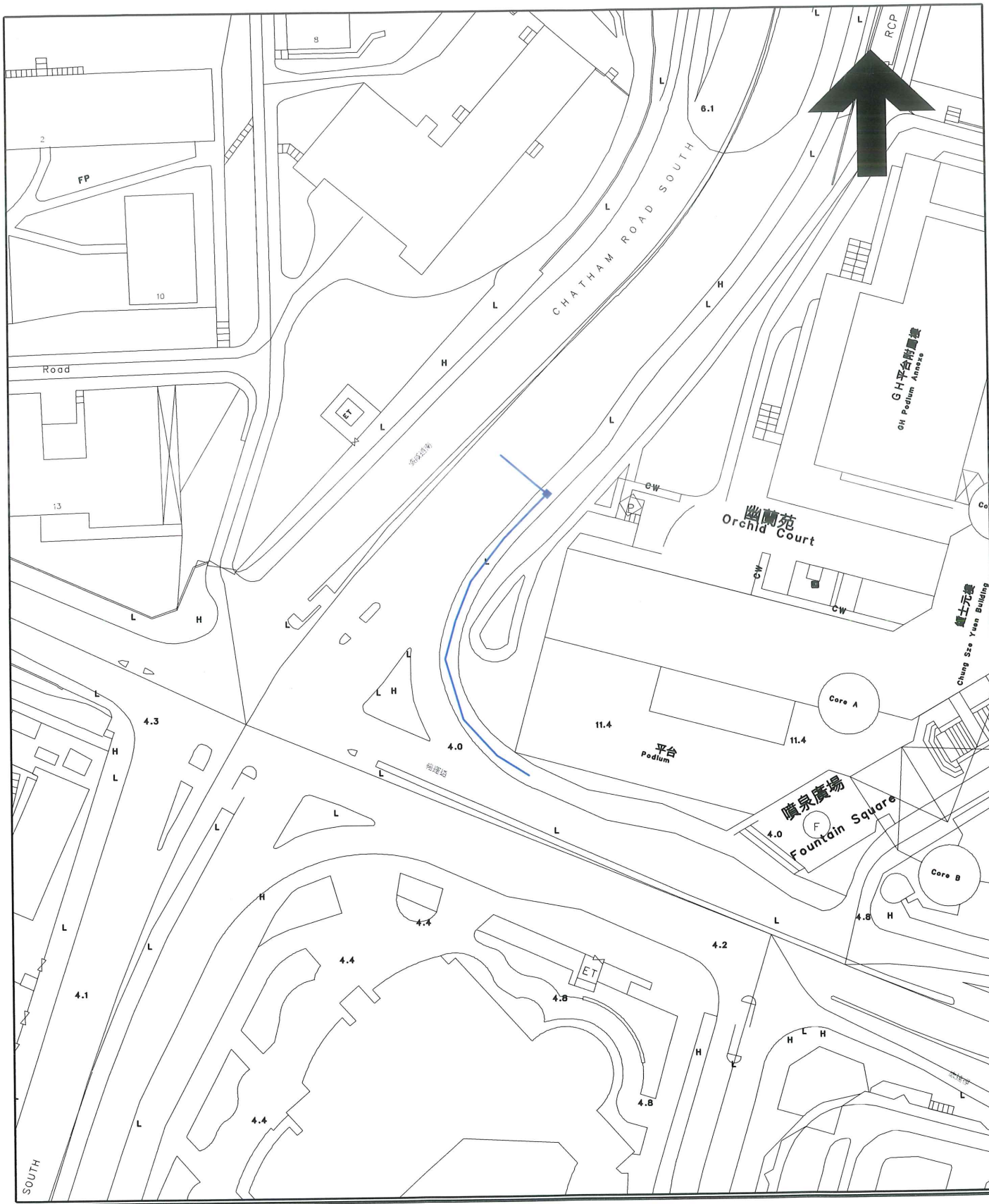
In case you could not find the details of our underground plant record in our drawings / layout plans due to the site boundary of the project is too extensive, you are advised to provide us with your detailed drawings / layout plans with scale of 1 : 1000 in A4 or A3 size for our follow-up.

For further information, please contact our Edde Choi on telephone no. 21283721 or our Miss April Chan at 2128 5427 or by fax no. 21229403.

Yours faithfully,
HGC Global Communications Limited

This is a **computer-generated** document. No signature is required.

SC/EC/DC



HGC

1. THE POSITION OF PLANT INDICATED ON THIS DRAWING IS APPROXIMATE ONLY.
2. THE DEPTH OF OUR EXISTING PLANT MAY VARY DUE TO UNDERGROUND OBSTRUCTIONS.

Legend

- Existing Duct
- Existing Joint Box
- SDR Boundary
- Existing plant in the vicinity

Letter Ref. :	HGC-NMP-20230628-0006				
Survey Map No. :	11NW25C3	Drawn By :	DAISYCTY	Checked By :	SC Cheung
Drawing No. :	HGC-TST-0001-01	Date :	2023-6-28	Date :	2023-6-28

A3MH5

By Post

運輸署
Transport Department

本署檔案 Our Ref. : (A3MNU) in TD ATC/146/180-9 計.31
來函檔號 Your Ref. : Y23-US-P-301-001-L-01x
電　話 Tel. : 38426138
圖文傳真 Fax : 2499 5007 / 2545 0940
電　郵 Email :

CASTCO TESTING CENTRE LIMITED
6/F., Techno Center,
33 On Kui Street, Fanling, N.T.
Hong Kong

7 July 2023

Dear Sir/Madam,

Underground Utility Survey at The Hong Kong Polytechnic University
Re: Request for Underground Utility Record Drawing

Thank you for your letter to our Department. I enclose herewith the plan(s) showing our ATC on-street equipment and ducting network for your retention.

Please note that the locations of our on-street equipment as shown on the drawings are for indicative purpose only. You are required to conduct on-site checking for the actual locations prior to your road works. Please advise me in advance if our equipment will be affected by your road works.

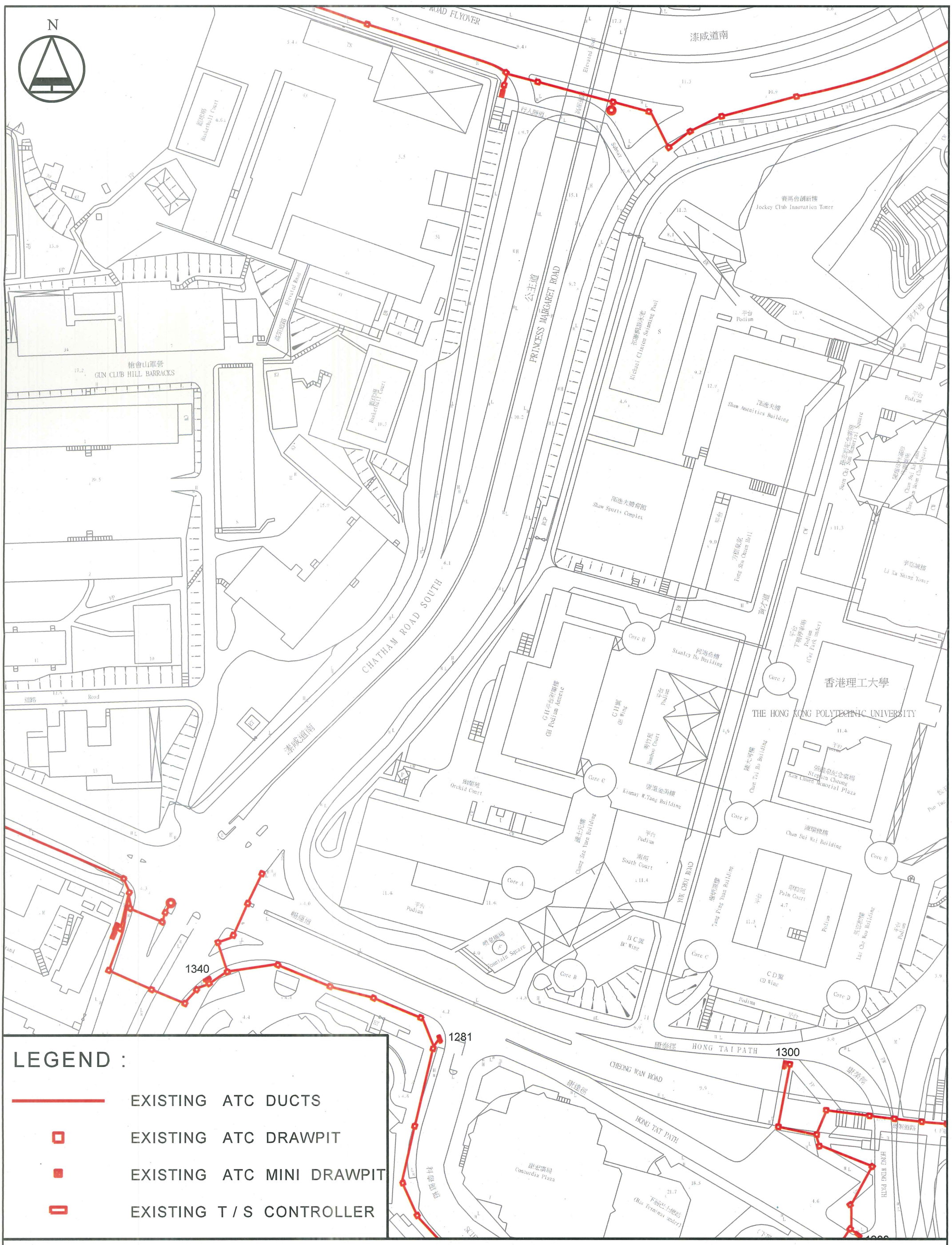
I should be grateful if you would take all necessary preventive measures to protect our equipment in the course of your excavation works. Please advise me in advance if cable diversion or relocation of our equipment is required.

Yours faithfully,

(WONG Pak-ling)
for Commissioner for Transport

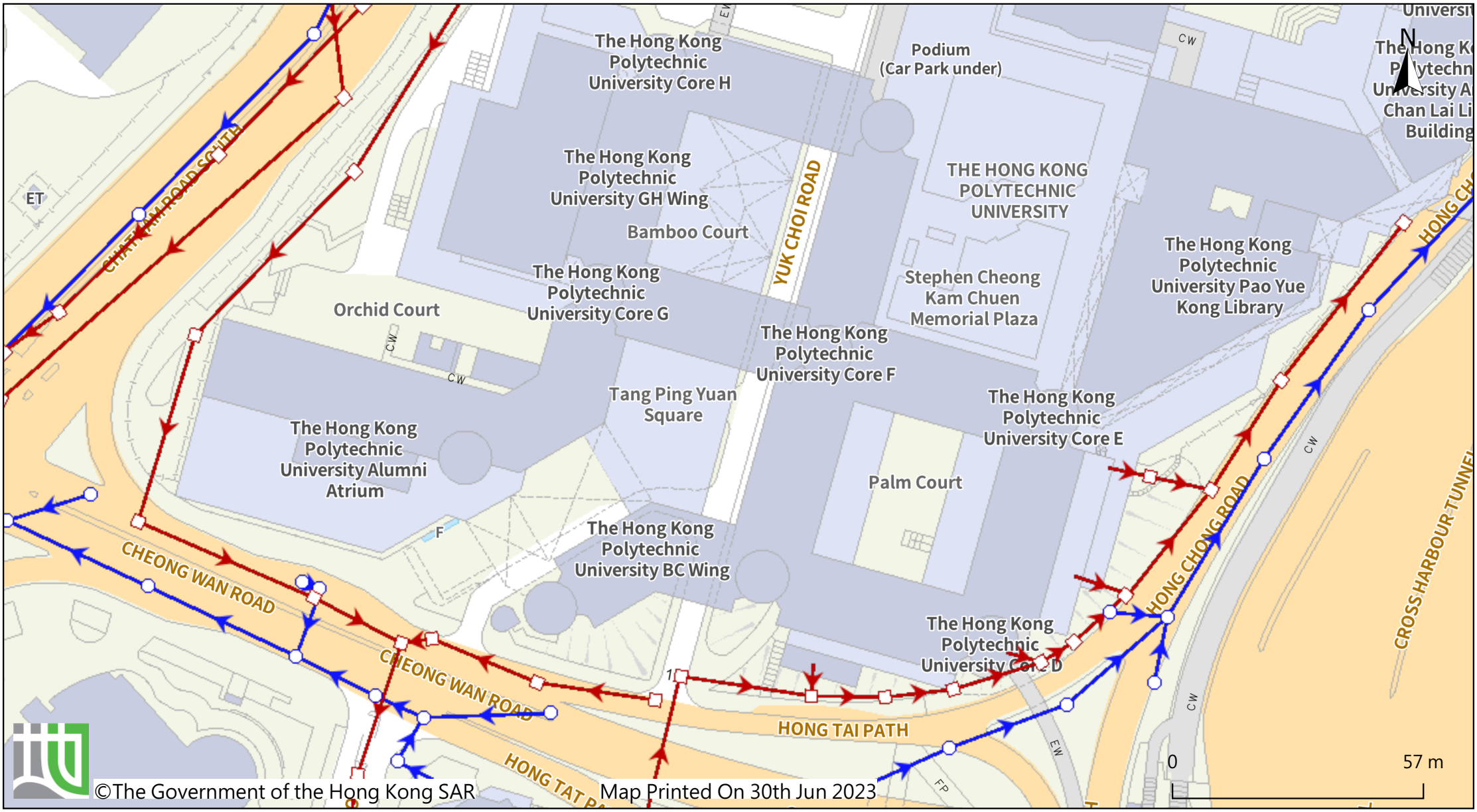
Encl. -w/drawing

交通控制部
Traffic Control Division
香港九龍油麻地海庭道 11 號西九龍政府合署南座 14 樓
14/F, South Tower, West Kowloon Government Offices, 11 Hoi Ting Road, Yau Ma Tei, Kowloon, Hong Kong
網址 Web Site: http://www.td.gov.hk



GEOINFO MAP
地理資訊地圖

Go to map: https://www.map.gov.hk/gm/geo:22.3030,114.1783?z=1128



©The Government of the Hong Kong SAR Map Printed On 30th Jun 2023

Powered by GeoInfo Map: https://www.map.gov.hk

GEOINFO MAP
地理資訊地圖

Go to map: https://www.map.gov.hk/gm/geo:22.3046,114.1791?z=1128

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Map Printed On 30th Jun 2023

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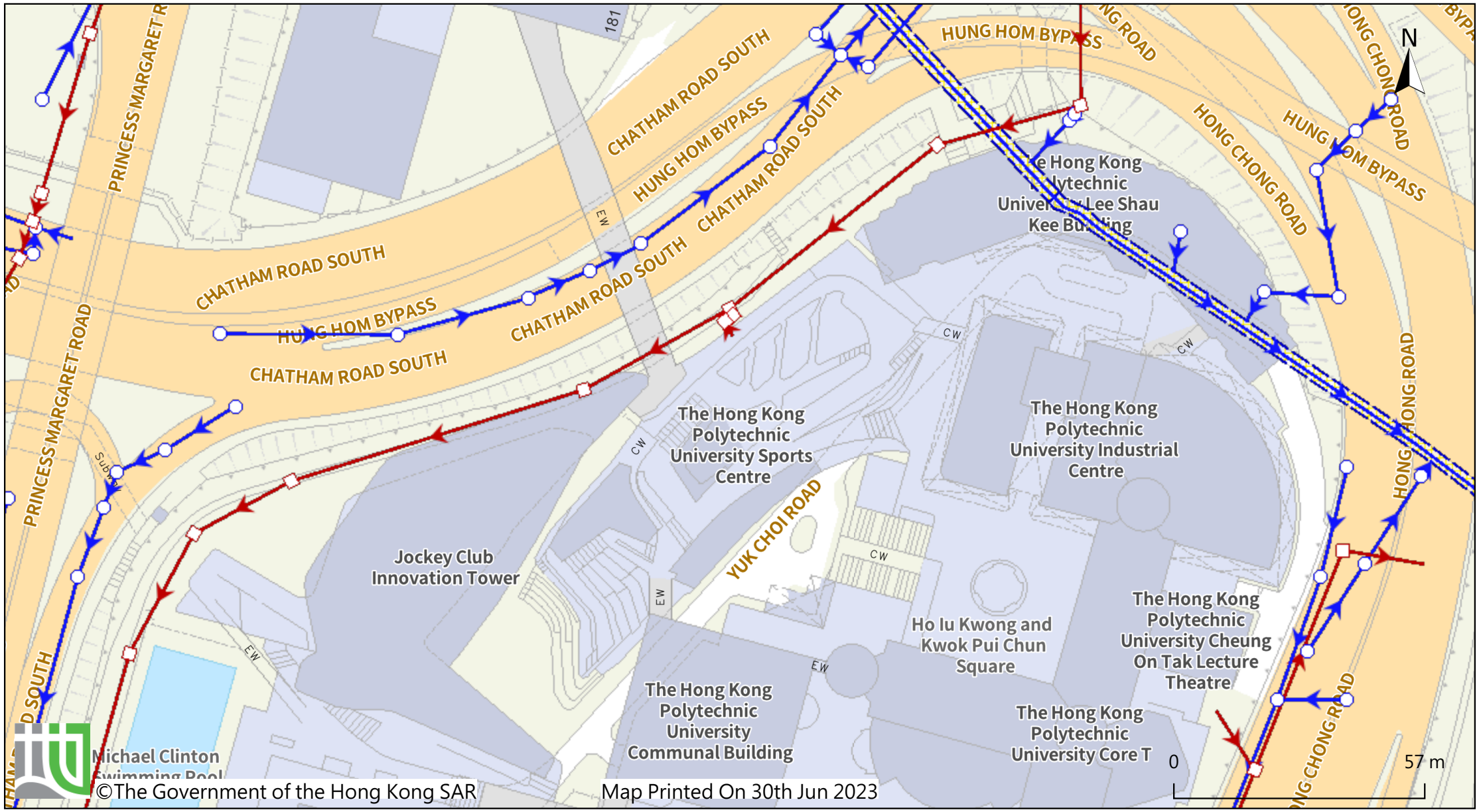
GEOINFO MAP
地理資訊地圖

Go to map: https://www.map.gov.hk/gm/geo:22.3055,114.1794?z=1128



Map Printed On 30th Jun 2023

Powered by GeoInfo Map: https://www.map.gov.hk

APPENDIX D – EQUIPMENT USED

D.1 Cable / Pipe Locator (3M Dynatel 2250E / RD 7000+, 7100, 8100)

An electromagnetic Cable / Pipe Locator was used to identify the pipe alignment. The equipment contains two parts - a transmitter and a receiver. The transmitter generates a low-frequency signal to the targeted object. The receiver can detect the same frequency signal with an aerial antenna. The pipe alignment and depth can be marked on site immediately for record. Calibration and maintenance check would be performed every year.

D.2 ELECTRONIC TOTAL STATION (SOKKIA CX-105 Reflectorless Total Station)

An electronic total station was used to record all survey details marked on site for plan preparation. All co-ordinates and heights are referenced to the Hong Kong 1980 Grid and the Hong Kong Principal Datum respectively.

APPENDIX E – SURVEY METHODOLOGY

E1. Planning and setting up

Systematic planning is fundamental for the conduction of a contract. A preliminary schedule will be arranged in accordance with the agreement of client.

Available utility maps will be searched in order to get an understanding of the potential layout of subsurface utilities. Clients shall provide those records as part of their obligation and to minimize the time spent on the issue.

The preparation kit includes utility drawings; all necessary permits for field works and safety precaution procedures will be issued to the survey team before the commencement of field works.

E2. Boundary Definition and Visual Inspections

The site boundary will be marked with spray paint for site work reference after the confirmation of client's representative. It is facilitated based on a Total Station and multiple control points. Where possible manholes / valves / vaults / chambers will be opened for measuring their extents and depths. Sewers also need to be marked with the flow directions of drain tunnels, diameters and depths of tunnels. Manhole covers and valves outside the immediate site boundary will be opened, marked and traced too if they contain services which enter the boundary area.

E3. Electromagnetic Locating Survey

Electromagnetic location instruments (Cable/Pipe Locator) will be used to locate metallic pipes, tracer wires for non-metallic pipes, and drains.

All surface features of underground utilities will be recorded, including manholes, draw pits, inspection chambers, gullies, and street furnitures connected to pipes and cables, such as lamp posts, illuminated road signs and bollards, telephone kiosks etc. All underground services within the site shall be surveyed. The known information shall be checked too. The conditions of services however, will not be surveyed.

Underground utilities will be positioned in three dimensions at reasonable interval for each surface feature. Where bands of cables/ducts are identified, the upper and lower outer cables/ducts will be traced in order to provide a cross section of the cable/duct band.

All electrical utilities (lampposts, traffic lights, low / medium / high voltage electric cables and telecom cables) will be located by either inductive methods or where necessary the use of a signal clamp which makes no contact with any conducting material. For gas and water valves, locator will directly connect with the utilities without damage. While drains or sewers must be surveyed by lifting covers, the path of the drain is usually traced and located using an electromagnetic sonde.

The position of utilities will be marked for the surveyor to record the findings by undertaking a measurement and eventually forming a drawing in DWG/DGN format.

E4. Topographic Survey

After the utility alignments are marked on site, all data are then collected via onboard data logging facility controlled by a programme.

The utility information is transferred to digital format and presented in a utility drawing scale of 1:100 in DWG/DGN/IDMS format. Cover levels and invert levels are related to the arbitrary control point and the Hong Kong Principal Datum.

Cable depth here refers to the cable centre, with symbol "– 0.68d –". Any significant change in depth will be annotated for each surface feature.

All cable/duct band identified will be marked with the cable number contained in the band. When a bundle of cables is found, a carpet of cables will be marked on the drawing with the outer cables show on each side of the bundle.

E5. General Remarks

E5.1. Bending of pipe / cable which sheering off obstruction (such as manhole, gullies, valve, etc.) is too small to be determined. Alignment and depth of pipe / cable in such case might be deviated.

E5.2. A bundle of pipes or cables buried in the same level or very close to each other's is not possible to be identified one by one. The pipe of a larger diameter will be reported in the drawing.

E5.3. In case of pipes / cables buried in the same vertical level, only the upper pipe/cable will be reported in the drawing.

E5.4. When it is possible, manholes / valves / vaults / chambers are opened in order to map their locations and depths. Underground pipes are marked with their flow direction, sizes and depths. In addition, the manhole / valves / vaults / chambers immediate outside the site boundary are also opened in order to locate the alignment of the pipes.

E5.5. All surface features related to underground utilities such as manholes, draw pits, inspection chambers, gullies, lamp posts, illuminated road signs and telephone booths etc. are also recorded.

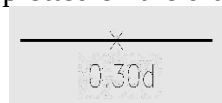
E5.6. All known and recordable underground services within the site are surveyed. Pipe and cable locator is employed to locate metallic buried pipes and live cables; while drains check needs manhole covers to be opened so that the alignment of drains and sewers can be traced.

E5.7. When using the cable locator, direct connection between the receiver and the gas or water valves has no damage to the existing utilities. All electrical utilities (lamp post, traffic light, low / high voltage electric cables and telecom cables) are located by induction method or by using a clamp-on device to induce current.

E5.8. Sonde will be used to locate non-metallic lines. Sonde is a small self-generator of signal which is used to generate signal in non-metallic ducts or drains so that the alignment can be traced with a receiver.

E5.9. For the topographic survey, the marked positions of utility alignments are mapped by the surveyor. All data will be recorded automatically by using data logger.

E5.10. Depth of utilities is plotted on the drawing with a cross and its depth shown as:



E5.11. Depth of metallic lines located by pipe and cable locator is referenced to the center of the field or center of pipes / cables. Depth of non-metallic ducts located using sonde is referenced to the bottom of the duct.

E5.12. When cable / duct band were identified, the number of cables / ducts and the configurations are recorded. As for bundle of cables, a carpet of cables is marked on the drawing with the outer cables shown on each side of the bundle.

E5.13. When it is needed, dye testing will be recommended to trace the flow of drains or sewers.

E5.14. Before the completion of site work, team leader will carry out a checklist procedure to make sure that all site work has completed and all the field data are recorded properly.

APPENDIX F – ELECTRONIC COPY OF SURVEY RESULT

Appendix IV

Traffic Impact Assessment

21/09/2023

Reference number CHK50756410

TECHNICAL FEASIBILITY STUDY FOR THE REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY IN HUNG HOM

TRAFFIC IMPACT ASSESSMENT

SYSTRA MVA

TABLE OF CONTENTS

LIST OF DRAWINGS

LIST OF TABLES

1. INTRODUCTION

1.1 Background

1.1.1 The Application Site comprises the future redevelopments of buildings within the main campus of the Hong Kong Polytechnic University (PolyU) in Hung Hom.

1.1.2 The main campus of PolyU is located at 11 Yuk Choi Road, Hung Hom as indicated in **Drawing 1.1**. The existing main vehicular access to the PolyU is located near Cheong Wan Road and Hong Tai Path. There is another vehicular entrance located at Hong Chong Road. According to the approved Planning Application TPB Ref.: A/K1/266, a new vehicular access will be situated at Chatham Road South in the future.

1.1.3 Under the Approved Tsim Sha Tsui Outline Zoning Plan No. S/K1/28, the zoning of the Application Site is Government, Institution or Community (G/IC) and the restrictions on maximum building height is +45mPD.

1.1.4 PolyU has intended to redevelop and upgrade building facility within the main campus to cater for the growing number of staffs and students and to meet contemporary needs. This redevelopment initiative is also in response to government policies, such as implementation of "3-3-4" education policy, policy on innovative technologies, and healthcare manpower, etc. There is an anticipated expansion of academic floors and supporting facilities to accommodate these needs.

1.1.5 Due to the maximum building height restriction of +45mPD stipulated across the entire main campus, PolyU had submitted two S16 Planning Application to Town Planning Board (TPB Ref.: A/K1/218 approved in 2008 and A/K1/266 approved in 2022) for minor relaxation of Building Height Restriction for Jockey Club Innovation Tower, and Block VA and VS respectively. Recently, PolyU has submitted a third S16 Planning Application to Town Planning Board (TPB Ref.: A/K1/268) for revitalisation to the Industrial Centre at Block U and Block W.

1.1.6 Each separate application for the redevelopment of different buildings necessitates additional time and resources for the PolyU to upgrade the building facilities within the main campus. Thus, PolyU intends to submit a technical feasibility study to review the building height restriction of the entire main campus to streamline the redevelopment and upgrading process in a cohesive manner.

1.1.7 MVA Hong Kong Limited was commissioned as the traffic consultant to undertake the Traffic Impact Assessment (TIA) in support of the technical feasibility study for review of building height restriction of the main campus of the PolyU.

1.2 Study Objectives

1.2.1 The objective of this TIA is to assess the potential traffic impact due to the proposed redevelopment of buildings within the main campus of the PolyU on the vicinity area with a view to support the technical feasibility study.

1.3 Report Structure

1.3.1 Following this introductory chapter, there are four chapters:

- Chapter 2 – Proposed development;
- Chapter 3 – Existing Traffic Context, reviews the current traffic condition in the vicinity;
- Chapter 4 – Traffic Impact Assessment; and
- Chapter 5 – Conclusion, summarizes and concludes the study findings.

2. PROPOSED DEVELOPMENT

2.1 Proposed Redevelopment within the Main Campus

2.1.1 The proposed redevelopment will cover the buildings within the main campus of the PolyU in Hung Hom. The enhanced and renovated space will mainly be used for supporting the growth of tertiary education, such as university research facilities, research and teaching laboratories, and offices in support of research and development activities of the University. According to the information provided by the PolyU, the total number of staff and student upon redevelopment would be about 34,650 persons at year 2030.

2.2 Vehicular Access Arrangement

2.2.1 The proposed redevelopment only involves enhanced and renovated space to the existing buildings within the main campus of the PolyU. No modification on the vehicular access of the main campus is involved under the proposed redevelopment.

2.2.2 Therefore, the vehicles will access the main campus via the existing main vehicular access located at Hong Tat Path and the new vehicular access situated at Chatham Road South, which is tentatively scheduled for completion by 2030, based on the approved Planning Application TPB Ref.: A/K1/266.

2.3 Internal Transport Facilities Provision

2.3.1 As stipulated in the Hong Kong Planning Standards and Guidelines (HKPSG), there is no standards on the transport provisions for the “Tertiary Institutes” and the requirements shall be determined by the Authority.

2.3.2 The proposed redevelopment only involves enhanced and renovated space to the existing buildings within the main campus of the PolyU. Therefore, no additional parking spaces and loading / unloading bays are involved.

3. EXISTING TRAFFIC CONTEXT

3.1 Existing Road Network

3.1.1 As shown in **Drawing 1.1**, the PolyU is mainly served by Chatham Road South, Hong Chong Road, Cheong Wan Road and Hong Tat Path.

3.1.2 The main vehicular access of the PolyU is located at Hong Tat Path.

3.2 Existing Public Transport Services

3.2.1 PolyU is located at the centre of the city which can be accessed by a variety of transportation means. The public transport services in the vicinity of PolyU is illustrated in **Drawing 3.1**.

3.2.2 The MTR Hung Hom Station is located in the close proximity, which is within 300m walking distance (around 4 minutes). In addition to the rail transport services, PolyU is also well served by the bus and GMB with the bus stops located at Chatham Road South, Cheong Wan Road and Hong Chong Road as well as the Tsim Sha Tsui East Bus Terminus and the Hung Hom Station Public Transport Interchange.

3.2.3 Details of the existing public transport services routes and frequencies are given in **Table 3.1** and **Table 3.2** as illustrated in **Drawing 3.1.**

Table 3.1 Existing Bus Routes in the Vicinity

Route No.	Origin – Destination	Peak Frequency (minutes)
5	Fu Shan Estate- Star Ferry	10 – 12
5A	Kai Tak (Kai Ching Estate) - Star Ferry	25 – 30
5C	Tsz Wan Shan (Central) - Star Ferry	8 – 10 2 trips in AM peak [(1)(6)] (From Yuk Wah Station)
5P	Tsz Wan Shan (Central) - Star Ferry	15 [(1)]
5X	Tsz Wan Shan (Central) - Star Ferry	15 [(1)]
8	Star Ferry - Kowloon Station	20
8A	Whampoa Garden - Tsim Sha Tsui (Circular)	20 [(8)]
11K	Chuk Yuen Estate - Hung Hom Station	20 – 25
11X	On Tai (North) - Hung Hom Station	9 – 12
13X	Po Tat - Tsim Sha Tsui East	10 – 11 28 trips [(1)(6)] (From Po Tat Station) (not via Richland Ga) 1 trip [(1)(6)] in AM peak (From Choi Fook Station) 28 trips [(1)(6)] (From Tsim Sha Tsui East Station)
14X	Yau Tong (Shung Tak Wai) - Tsim Sha Tsui (Circular)	15 – 20 [(8)]

Route No.	Origin – Destination	Peak Frequency (minutes)
15X	Lam Tin (Kwong Tin Estate) - Hung Hom Station	20
21	Choi Wan - Hung Hom Station	20 – 25
26	Shun Tin - Tsim Sha Tsui East	8 – 12
26X	Tsim Sha Tsui East - Shun Tin	2 trips in PM peak [(1)(6)] (From Tsim Sha Tsui Station) 2 trips in AM peak [(1)(6)] (From Shun Tin)
28	Lok Wah - Star Ferry	10 – 15
35A	Kwai Chung (On Yam Estate) - Tsim Sha Tsui East	5 – 8
35X	Kwai Chung (On Yam Estate) - Tsim Sha Tsui East	1 trips in AM peak [(1)(5)] (From On Yam Station) 9 trips at PM peak [(1)(4)] (From Tsim Sha Tsui East Station)
41A	Tsing Yi (Cheung On Estate) - Tsim Sha Tsui East	10 – 12
87D	Kam Ying Court - Hung Hom Station	7 – 8 12-14 [(1)(5)(6)(8)] (From Ma On Shan Town Centre) 9-14 [(1)(5)(6)(8)] (From Kam Ying Court Station)
98D	Hang Hau (North) (Tseung Kwan O Hospital) - Tsim Sha Tsui East	7 – 8 9 trips in AM peak [(1)(6)(8)] (From Hang Hou Station) 4 trips in AM peak [(1)(6)(8)] (From Lohas Park Station) 4 trips in AM peak [(1)(6)(8)] (From Hang Hou Station)
98P	Hong Sing Garden - Tsim Sha Tsui East	3 trips [(1)(6)] (From Hong Sing Station) 2 trips [(1)(9)] (From Hong Sing Station) 2 trips [(1)(6)] (From Tsim Sha Tsui East)
101	Kwun Tong (Yue Man Square) - Kennedy Town	4 – 9 10 trips[(6)] (From Kwun Tong)
101X	Kwun Tong (Yue Man Square) - Kennedy Town	4 trips [(1)(6)] (From Kwun Tong) 4 trips [(1)(6)] (From Kennedy Town)
102	Shau Kei Wan - Mei Foo	5 – 9
102P	Shau Kei Wan - Mei Foo	4 trips [(1)(6)] (From Shau Kei Wan) 6 trips [(1)(6)] (From Mei Foo)
103	Chuk Yuen Estate - Pokfield Road	15
104	Kennedy Town - Sham Shui Po (Pak Tin Estate)	10 – 15
106	Wong Tai Sin - Siu Sai Wan (Island Resort)	6 – 10
106A	Wong Tai Sin - Tai Koo (Kornhill Plaza)	4 trips in AM Peak [(1)(6)(8)] (From Wong Tai Sin)

Route No.	Origin – Destination	Peak Frequency (minutes)
106P	Wong Tai Sin - Siu Sai Wan (Island Resort)	6 trips in AM Peak [1][6] (From Siu Sai Wan) 2 trips in PM Peak [1][6] (From Siu Sai Wan) 2 trips in PM Peak [1][6] (From Wong Tai Sin)
107	Kowloon Bay - Wah Kwai	8 – 12 7 trips in AM Peak [1][2] (From Kowloon Bay) 5 trips in PM Peak [1][2] (From Wah Kwai)
107P	Laguna Verde - Cyberport	3 trips in AM Peak [1][5] (From Laguna Verde) 2 trips in PM Peak [1][4] (From Cyberport)
108	Kai Yip - Braemar Hill	15 – 20 1 trip in AM Peak [1][6] (From Sung Wong Toi Road)
109	Ho Man Tin - Central (Macau Ferry)	8 – 11
110	Shau Kei Wan - Tsim Sha Tsui (Circular)	20 [8] 2 trips in AM Peak [1][2][9] (From Shau Kei Wan)
111	Ping Shek / Choi Hung Station - Central (Macau Ferry)	4 – 9
111P	Choi Fook - Central (Macau Ferry)	4 trips in AM Peak [1][5] (From Choi Fook) 2 trips in PM Peak [1][6] (From Central (Macau Ferry))
112	North Point (Pak Fuk Road) - Cheung Sha Wan (So Uk Estate)	5 – 9
113	Choi Hung - Kennedy Town (Belcher Bay)	10 – 14
115	Kowloon City Ferry - Central (Macau Ferry)	6 – 9
116	Tsz Wan Shan (Central) - Quarry Bay (Yau Man Street)	4 – 8
117	Sham Shui Po (Yen Chow St) - Happy Valley (Lower)	20
118	Cheung Sha Wan (Sham Mong Road) - Siu Sai Wan (Island Resort)	4 – 8
118P	Siu Sai Wan (Island Resort) - Cheung Sha Wan (Sham Mong Road)	7 – 12 [1][6]
170	Shatin Station - Wah Fu (Central)	25 – 30 2 trips[1][2] (From Sha Tin Station) 1 trips[1][2] (From Wah Fu)
171	Lai Chi Kok - South Horizons	10 – 12 2 trips [1][6] (From Lai Chi Kok) 8 trips [2] (From South Horizons) 6 trips [2] (From Lai Chi Kok)

Route No.	Origin – Destination	Peak Frequency (minutes)
171A	Lei Tung Estate - Lai Chi Kok	5 trips in AM peak [1][6][8] (Lei Tung Estate) 4 trips in AM peak [1][8][9] (Lei Tung Estate)
171P	South Horizons - Lai Chi Kok	5 trips in AM Peak [1][5][8] (From South Horizons)
182	Yu Chui Court - Central (Macau Ferry)	25 – 30
208	Broadcast Drive - Tsim Sha Tsui East	25 – 30
213X	On Tai (South) (Hang Tai House)- Tsim Sha Tsui (Circular)	12 [8] 1 trip on AM peak [1][6][8] (From On Tai Station)
215P	Lam Tin (Kwong Tin Estate) - Kowloon Station	1 trip on 8 a.m. [1][6][8] (From Lam Tin Station)
215X	Lam Tin (Kwong Tin Estate) - Kowloon Station	6 – 10 1 trip on AM peak [1][6][8] (From Lam Tin)
219X	Laguna City - Tsim Sha Tsui (Circular)	15 – 20 [8]
224X	Kai Yip - Tsim Sha Tsui East (Circular)	20 – 25 [8] 1 trip on AM peak [1][6][8] (From Kai Tak Station)
260X	Tuen Mun (Po Tin Estate) - Hung Hom Station	8 – 12 2 trips [1][5][8] (From Tai Hing Station)
268B	Long Ping Station - Hung Hom (Hung Luen Road)	20
269B	Tin Shui Wai Town Centre - Hung Hom (Hung Luen Road)	20 4 trips in AM Peak [1][5][8] (From Tin Yan Estate)
271S	Hung Hom Station - Tai Po (Tai Wo)	1 trips [7][8] (From Hung Hom Station)
287D	Hung Hom Station - Kam Ying Court	2 trips [1][6][8] (From Hung Hom Station)
796P	Tsim Sha Tsui East – Lohas Park	20
796X	Tseung Kwan O Industrial Estate - Tsim Sha Tsui East	15 – 20
973	Tsim Sha Tsui East – Stanley	30 – 60 [1]
A20	Hung Hom Station - Airport	60
A21	Hung Hom Station - Airport (Via HZMB Hong Kong Port)	12 – 15
E21X	Mun Wo House Mun Tung Estate - Mun Wo House Mun Tung Estate	1 trip in AM Peak [1][5][8] (From Mun Wo House Mun Tung Estate)
N796	Tsim Sha Tsui – Lohas Park	20 – 30 [7]
N216	Yau Tong - Hung Hom Station	20 – 30 [7]

Route No.	Origin – Destination	Peak Frequency (minutes)
N241	Hung Hom Station - Tsing Yi (Cheung Wang Estate)	25 – 30 (7)
N271	Tai Po (Fu Heng) - Hung Hom Station	15 – 20 (7)
N281	Kam Ying Court - Hung Hom Station	25 – 30 (7)
N41X	Hung Hom Station - Tsing Yi (Cheung Wang Estate)	25 (7)(8) (From Hung Hom Station)
N11	Airport (Ground Transportation Centre) - Central (Macau Ferry)	60 (7)
N118	Siu Sai Wan (Island Resort) - Cheung Sha Wan (Sham Mong Road)	20 (7)
N121	Central (Macau Ferry) - Ngau Tau Kok	15 (7)
N122	Mei Foo - Shau Kei Wan	17 – 18 (7)
N170	Shatin Central - Wah Fu (Central)	30 (7)
N171	Lai Chi Kok - Ap Lei Chau Estate	30 (7)
N182	Kwong Yuen - Central (Macau Ferry)	20 – 25 (7)
N368	Yuen Long (West) - Central (Macau Ferry)	25 – 30 (7)
N373	Fanling (Luen Wo Hui) - Central (Macau Ferry)	30 (7)

Notes:
(1) Special Despatch during peak hour
(2) Special Despatch during Public Holiday
(3) Services only on Race Day
(4) Morning & Evening Peak only, Monday to Saturday only
(5) Morning Peak only, Monday to Saturday only
(6) Monday to Friday Only
(7) Overnight Service
(8) One-way Route
(9) Saturday only

Table 3.2 Existing GMB Routes in the Vicinity

Route No.	Origin – Destination	Peak Frequency (minutes)
8	Ho Man Tin Estate – Tsim Sha Tsui (Hankow Road)	4 – 10
8P	Tsim Sha Tsui East (Mody Road) - Ho Man Tin Estate	20 - 30(From Tsim Sha Tsui Station)
8S	Tsim Sha Tsui (Hankow Road) - Ho Man Tin (Sheung Foo Street)	5 – 11
26	To Kwa Wan (Chi Kiang Street) - Kowloon Station	8 – 12
26H	Queen Elizabeth Hospital – Hung Hom Station	8 - 10

4. TRAFFIC IMPACT ASSESSMENT

4.1 Development Traffic Generations

4.1.1 The proposed redevelopment is tentatively scheduled for completion by 2030. According to the "Guidelines and Requirements of Traffic Impact Assessment (TIA) for Proposed Developments and Transport Facilities" from Transport Department in February 2011, the TIA for the planned developments in the vicinity on an area/district basis should take at least 3 years after the planned completion of the development. Therefore, design year 2033 is adopted for traffic impact assessment.

4.1.2 To understand the future traffic generation by the PolyU, it is proposed to estimate by making reference with the increase of the students and staff.

4.1.3 According to the information provided by the PolyU, there will be about 34,650 students and staff at year 2030, comparing with the existing number of students and staff in PolyU Main Campus of approx. 31,500 persons. Thus, there will be around 10% increase of persons for the redevelopment of the main campus.

4.1.4 While it is identified that the PolyU is well served by the public transport as mentioned in **Section 3.2**, it is envisaged that most of the students and staff would access the PolyU by public transport. Hence, the additional traffic generation induced by the increase of students and staff would be minimal.

4.1.5 Based on the percentage increase with the future additional students and staff will be 10%, an additional 10% of existing observed trip generation (e.g. 35pcu/hr (existing AM trip generation) x 1.1 = 40pcu/hr) has been assumed for the future traffic generated from the PolyU. The estimated trip generation and attraction in design year 2033 for the main campus are summarised in **Table 4.1**.

Table 4.1 Development Trip Generations

	AM PEAK		PM PEAK	
	Generation (pcu/hr)	**Attraction (pcu/hr)**	**Generation (pcu/hr)**	**Attraction (pcu/hr)**
Year 2023[(1)]	35	165	155	60
Year 2033	40	180	170	65
Increase	+5	+15	+15	+5

Note: Rounded to nearest 5.

(1) Existing Traffic Generation is based on traffic count survey during am and pm peak hours of a typical weekday in March 2023.

4.1.6 As shown in **Table 4.1**, the main campus would generate and attract approximately 220 pcu/hr (two-way) and 235 pcu/hr (two-way) during the AM and PM peak periods in design year 2033, respectively.

4.1.7 While the additional traffic generation of the whole main campus in design year 2033 will be only approximately 20 pcu/hr (two-way) comparing with the existing traffic in peak hours due to the total increase in students and staffs.

4.2 Traffic Impact Assessment

4.2.1 The proposed redevelopment only involves enhanced and renovated space to the existing buildings within the main campus of the PolyU. The proposed redevelopment will mainly enhance the existing facilities and would only serve the students and staff of the PolyU.

4.2.2 To conclude, no material traffic impact to the surrounding road network is anticipated from the traffic engineering point of view for the proposed redevelopment.

5. CONCLUSION

5.1 Summary

5.1.1 The Hong Kong Polytechnic University (PolyU) proposed to submit a comprehensive technical feasibility study to review the building height restriction of the entire main campus to streamline the redevelopment and upgrading process in a cohesive manner. The Application Site comprises the future redevelopments of buildings within the main campus of the Hong Kong Polytechnic University (PolyU) in Hung Hom.

5.1.2 The proposed redevelopment will cover the buildings within the main campus of the PolyU in Hung Hom. The enhanced and renovated space will mainly be used for supporting the growth of tertiary education, such as university research facilities, research and teaching laboratories, and offices in support of research and development activities of the University. According to the information provided by the PolyU, the total number of staff and student upon redevelopment would be about 34,650 persons at year 2030.

5.1.3 While the proposed redevelopment will mainly enhance the existing facilities and would only serve the students and staff of the PolyU, it is anticipated that no material traffic impact to the surrounding road network is anticipated.

5.1.4 Thus, it is considered that the proposed redevelopment would not cause any adverse traffic impact to the surrounding road network from the traffic point of view.

5.2 Conclusion

5.2.1 Based on the above findings, no material traffic impact to the surrounding road network is anticipated from the traffic engineering point of view for the proposed redevelopment.

5.2.2 Hence, it can be concluded that the proposed redevelopment is acceptable from a traffic engineering point of view.

Drawings

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TECHNICAL FEASIBILITY STUDY FOR THE REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

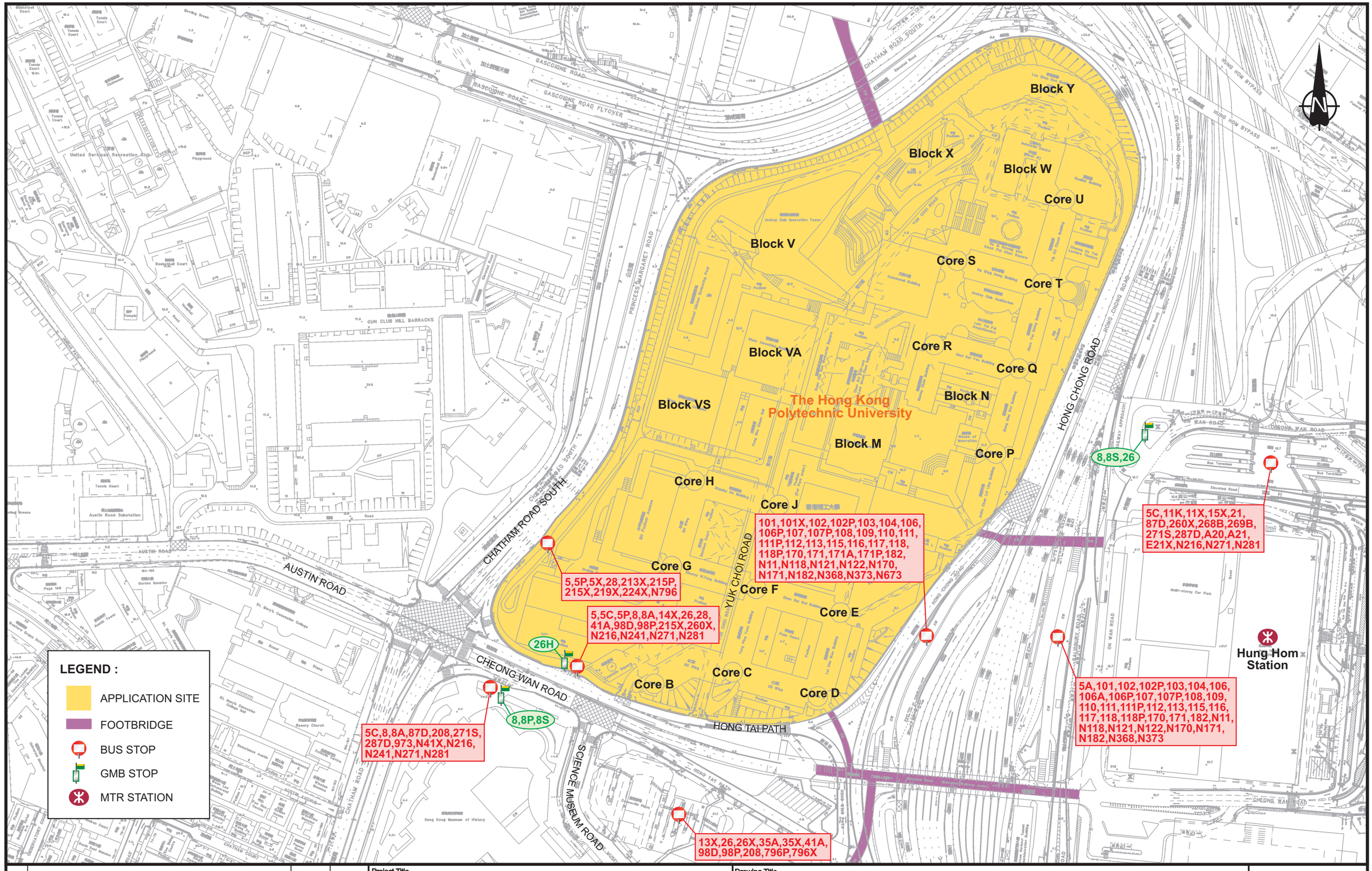
SITE LOCATION

Designed	Checked	Scale	Date	Drawing No.	Rev.
MST	MYL	NTS	SEP 2023	1.1	-

SYSTRA MVA

CHK50756410/TIA/F11.CDR/LLH/6SEP23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TECHNICAL FEASIBILITY STUDY FOR THE REVIEW OF BUILDING HEIGHT RESTRICTION OF THE MAIN CAMPUS OF THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

EXISTING PUBLIC TRANSPORT SERVICES IN THE VICINITY

Designed	Checked	Scale	Date	Drawing No.	Rev.
MST	MYL	NTS	SEP 2023	3.1	-

SYSTRA MVA

CHK50756410/TIA/F31.CDR/LLH/6SEP23

Original Size : A3