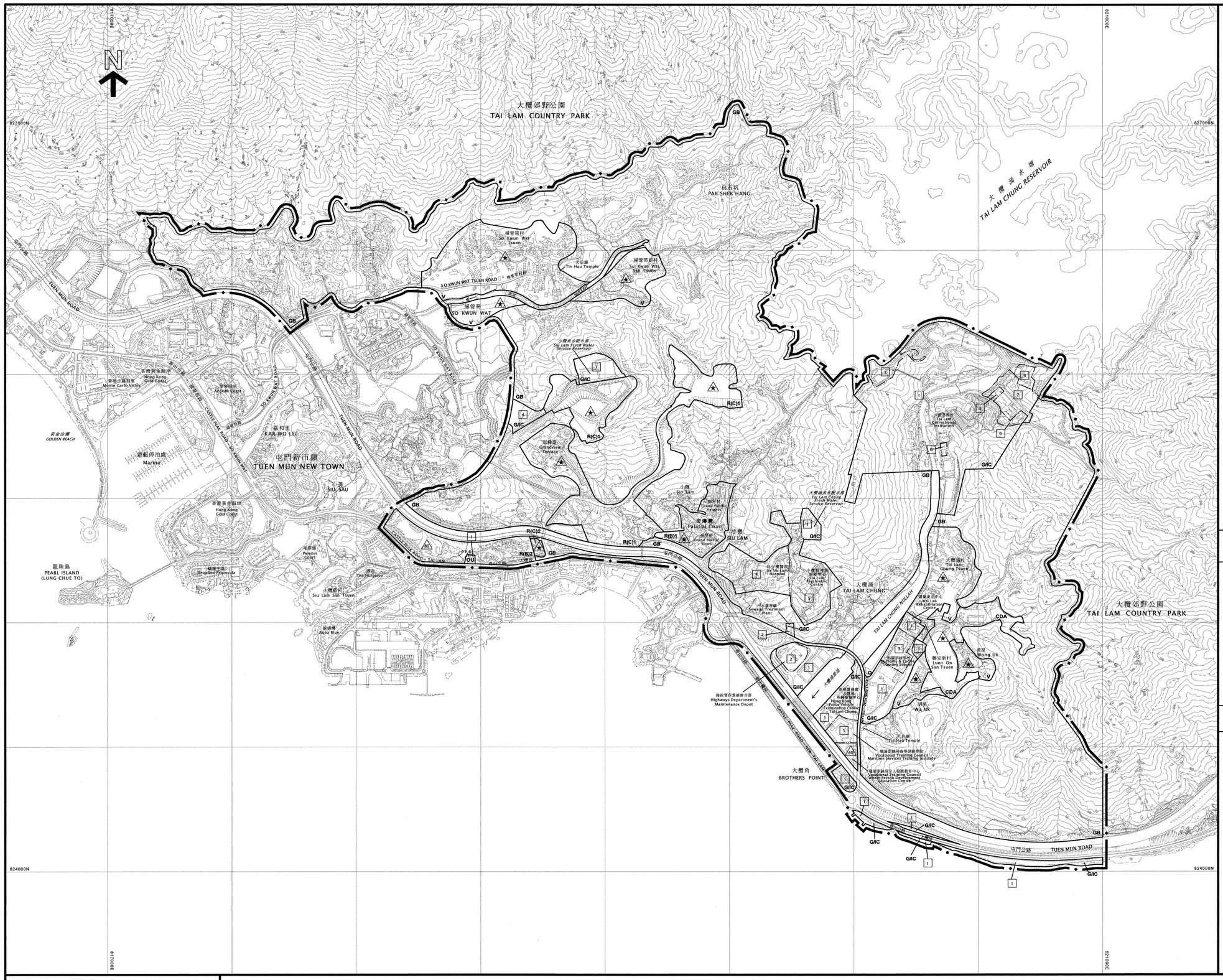



## 圖例
## NOTATION

### ZONES — 地帶

| | | |
|---|---|---|
| COMPREHENSIVE DEVELOPMENT AREA | CDA | 綜合發展區 |
| RESIDENTIAL (GROUP B) | R(B) | 住宅（乙類） |
| RESIDENTIAL (GROUP C) | R(C) | 住宅（丙類） |
| VILLAGE TYPE DEVELOPMENT | V | 鄉村式發展 |
| GOVERNMENT, INSTITUTION OR COMMUNITY | G/IC | 政府、機構或社區 |
| OPEN SPACE | O | 休憩用地 |
| OTHER SPECIFIED USES | OU | 其他指定用途 |
| GREEN BELT | GB | 綠化地帶 |

### COMMUNICATIONS — 交通

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

### MISCELLANEOUS — 其他

| | | |
|---|---|---|
| BOUNDARY OF PLANNING SCHEME | | 規劃範圍界線 |
| 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) | 1 | 最高建築物高度（樓層數目） |
| PETROL FILLING STATION | P F S | 加油站 |

## 土地用途及面積一覽表
## SCHEDULE OF USES AND AREAS

| USES | 大約面積及百分率 APPROXIMATE AREA & % 公頃 HECTARES | % 百分率 | 用途 |
|---|---|---|---|
| COMPREHENSIVE DEVELOPMENT AREA | 6.45 | 1.36 | 綜合發展區 |
| RESIDENTIAL (GROUP B) | 10.46 | 2.21 | 住宅（乙類） |
| RESIDENTIAL (GROUP C) | 22.13 | 4.67 | 住宅（丙類） |
| VILLAGE TYPE DEVELOPMENT | 32.33 | 6.83 | 鄉村式發展 |
| GOVERNMENT, INSTITUTION OR COMMUNITY | 65.75 | 13.88 | 政府、機構或社區 |
| OPEN SPACE | 0.78 | 0.16 | 休憩用地 |
| OTHER SPECIFIED USES | 0.14 | 0.03 | 其他指定用途 |
| GREEN BELT | 304.78 | 64.36 | 綠化地帶 |
| NULLAH | 9.07 | 1.92 | 明渠 |
| MAJOR ROAD ETC. | 21.69 | 4.58 | 主要道路等 |
| TOTAL PLANNING SCHEME AREA | 473.58 | 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２０１５年１２月１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 1 DECEMBER 2015

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

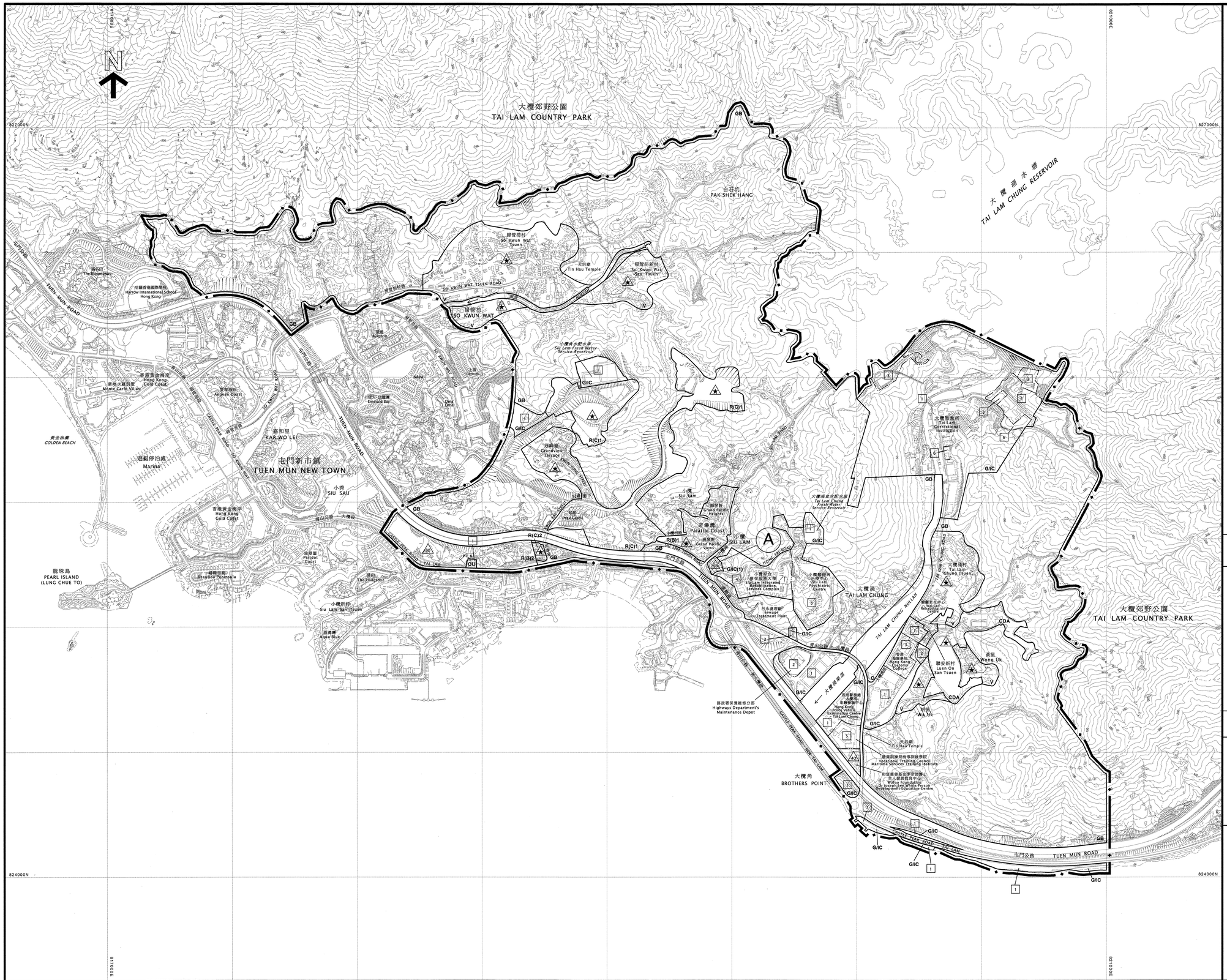
# 香港城市規劃委員會依據城市規劃條例擬備的掃管笏分區計劃大綱圖
# TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
# SO KWUN WAT - OUTLINE ZONING PLAN

SCALE 1:7 500 比例尺

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

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

圖則編號 PLAN No. S/TM-SKW/13


N
大欖郊野公園
TAI LAM COUNTRY PARK
大欖涌水塘
TAI LAM CHUNG RESERVOIR
白石坑
PAK SHEK HANG
掃管笏村
SO KWUN WAT TSUEN
掃管笏
SO KWUN WAT
掃管笏新村
SO KWUN WAT SAN TSUEN
天后廟
Tin Hau Temple
小欖供水配水庫
Siu Lam Fresh Water Service Reservoir
大欖涌水配水庫
Tai Lam Chung Fresh Water Service Reservoir
小欖
SIU LAM
大欖涌
TAI LAM CHUNG
大欖涌污水處理廠
Tai Lam Chung Sewage Treatment Plant
大欖涌
TAI LAM CHUNG NULLAH
大欖
TAI LAM
大欖新村
Tai Lam Chung Tsuen
大欖懲教所
Tai Lam Centre for Correctional Institution
小欖精神康復大廈
Siu Lam Integrated Rehabilitation Services Complex
小欖社區康復中心
Siu Lam Psychiatric Day Centre
大欖戒毒康復中心
Tai Lam Centre for Rehabilitation
青山公路 — 大欖段
CASTLE PEAK ROAD — TAM TAI LAM
青山公路
CASTLE PEAK ROAD
屯門公路
TUEN MUN ROAD
掃管笏路
SO KWUN WAT ROAD
掃管笏村路
SO KWUN WAT TSUEN ROAD
大欖涌道
TAI LAM CHUNG ROAD
小欖路
SIU LAM ROAD
大欖路
TAI LAM ROAD
大欖隧道
TAI LAM TUNNEL
大欖涌橋
TAI LAM CHUNG NULLAH
大欖涌道
TAI LAM CHUNG ROAD
青山公路 — 大欖段
CASTLE PEAK ROAD — TAM TAI LAM
大欖角
BROTHERS POINT
路政署保養總部分部
Highways Department's Maintenance Depot
大欖涌
TAI LAM CHUNG
大欖
TAI LAM
大欖新村
Tai Lam Chung Tsuen
大欖懲教所
Tai Lam Centre for Correctional Institution
大欖戒毒康復中心
Tai Lam Centre for Rehabilitation
大欖郊野公園
TAI LAM COUNTRY PARK
掃管笏
SO KWUN WAT
掃管笏村
SO KWUN WAT TSUEN
掃管笏新村
SO KWUN WAT SAN TSUEN
天后廟
Tin Hau Temple
小欖供水配水庫
Siu Lam Fresh Water Service Reservoir
大欖涌水配水庫
Tai Lam Chung Fresh Water Service Reservoir
小欖
SIU LAM
大欖涌
TAI LAM CHUNG
大欖涌污水處理廠
Tai Lam Chung Sewage Treatment Plant
大欖
TAI LAM
大欖新村
Tai Lam Chung Tsuen
大欖懲教所
Tai Lam Centre for Correctional Institution
小欖精神康復大廈
Siu Lam Integrated Rehabilitation Services Complex
小欖社區康復中心
Siu Lam Psychiatric Day Centre
大欖戒毒康復中心
Tai Lam Centre for Rehabilitation

# ~~APPROVED~~ *DRAFT* SO KWUN WAT
# OUTLINE ZONING PLAN NO. S/TM-SKW/13*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) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of the draft development permission area plan conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(4) A use or development of any land or building permitted under an earlier draft or approved plan including development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without permission from the Town Planning Board.

(6) Any use or development of land or building falling within the boundaries of the Plan but not within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the first draft outline zoning plan without permission from the Town Planning Board.

(7) 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.

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

(9) 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) maintenance, repair or demolition of a building;

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

(c) maintenance or repair of road, railway track, watercourse, nullah, sewer and drain;

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

(e) rebuilding of New Territories Exempted House;

(f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, by a New Territories Exempted House; and

(g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.

(10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (9)(a) to (9)(d) and (9)(g) above and those specified below require permission from the Town Planning Board:

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

(11) (a) Temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

(b) Except as otherwise provided in paragraph 11(a), temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

(c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

(12) 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.

(13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

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

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

~~APPROVED~~ ***DRAFT*** SO KWUN WAT
OUTLINE ZONING PLAN NO. S/TM-SKW/13***A***

Schedule of Uses


| | Page |
|---|---|
| COMPREHENSIVE DEVELOPMENT AREA | 1 |
| RESIDENTIAL (GROUP B) | 4 |
| RESIDENTIAL (GROUP C) | 6 |
| VILLAGE TYPE DEVELOPMENT | 8 |
| GOVERNMENT, INSTITUTION OR COMMUNITY | 10 |
| OPEN SPACE | 12 |
| OTHER SPECIFIED USES | 13 |
| GREEN BELT | 14 |

COMPREHENSIVE DEVELOPMENT AREA

| Column 1<br>Uses always permitted | Column 2<br>Uses that may be permitted with or without conditions on application to the Town Planning Board |
|---|---|
| | Eating Place<br>Educational Institution<br>Flat<br>Government Refuse Collection Point<br>Government Use (not elsewhere specified)<br>House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes)<br>Institutional Use (not elsewhere specified)<br>Library<br>~~Market~~<br>Off Course Betting Centre<br>Office<br>Place of Entertainment<br>Place of Recreation, Sports or Culture<br>Private Club<br>Public Clinic<br>Public Convenience<br>Public Transport Terminus or Station<br>Public Utility Installation<br>Public Vehicle Park (excluding container vehicle)<br>Recyclable Collection Centre<br>Religious Institution<br>Residential Institution<br>Rural Committee /Village Office<br>School<br>Shop and Services<br>Social Welfare Facility<br>Utility Installation for Private Project |

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (Cont'd )

Planning Intention

This zone is intended for comprehensive development/redevelopment of the area for residential use with the provision of commercial, open space and other supporting facilities, if any, to serve the residential neighbourhood. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.

Remarks

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

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

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

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

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

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

(vi) programmes of development in detail;

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

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

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

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

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (Cont'd )

Remarks (Cont'd)

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

(c) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total gross floor area (GFA) of 105,990$m^2$ and a maximum building height of 18 storeys (70 mPD).

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

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

## RESIDENTIAL (GROUP B)

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

### Planning Intention

This zone is intended primarily for sub-urban medium-density residential developments in rural areas 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

(a) 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 domestic gross floor area (GFA) of 97,120$m^2$, a maximum non-domestic GFA of 465$m^2$ and a maximum building height of 102mPD.

(b) On land designated "Residential (Group B)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 plot ratio of 3.6 and the maximum building height in terms of mPD as stipulated on the Plan.

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

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

RESIDENTIAL (GROUP C)

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

Planning Intention

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

(Please see next page)

RESIDENTIAL (GROUP C) (Cont'd)

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum plot ratio, site coverage and building height specified below or the plot ratio, site coverage and height of the building which was in existence on the date of first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater:

| Sub-area | Maximum Plot Ratio | Maximum Site Coverage | Maximum Building Height | |
|---|---|---|---|---|
| | | | No. of Storey | Building Height |
| R(C)1 | 0.4 | – | 3 storeys (excluding basement floor(s)) | 10.5m |
| R(C)2 | 0.6 | 40% | 7 storeys (excluding basement floor(s)) | 24.5m |

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

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

VILLAGE TYPE DEVELOPMENT

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

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

Eating Place
Library
School
Shop and Services

(Please see next page)

VILLAGE TYPE DEVELOPMENT (Cont'd)

Planning Intention

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

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.

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

GOVERNMENT, INSTITUTION OR COMMUNITY

| Column 1<br>Uses always permitted | Column 2<br>Uses that may be permitted with or without conditions on application to the Town Planning Board |
|---|---|
| Ambulance Depot | Animal Boarding Establishment |
| Animal Quarantine centre (in Government building only) | Animal Quarantine Centre (not elsewhere specified) |
| Broadcasting, Television and/or Film Studio | Columbarium |
| Correctional Institution | Crematorium |
| Eating Place (Canteen, Cooked Food Centre only) | Driving School |
| Educational Institution | Eating Place (not elsewhere specified) |
| Exhibition or Convention Hall | Firing Range |
| Field Study/Education/Visitor Centre | Flat ***(not elsewhere specified)*** |
| ***Flat (Government Staff Quarters only) (on land designated "G/IC(1)" only)*** | Funeral Facility |
| Government Refuse Collection Point | Helicopter Fuelling Station |
| Government Use (not elsewhere specified) | Helicopter Landing Pad |
| Hospital | Holiday Camp |
| Institutional Use (not elsewhere specified) | Hotel |
| Library | House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) |
| Market | Marine Fueling Station |
| Pier | Off-course Betting Centre |
| Place of Recreation, Sports or Culture | Office |
| Public Clinic | Petrol Filling Station |
| Public Convenience | Place of Entertainment |
| Public Transport Terminus or Station | Private Club |
| Public Utility Installation | Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation |
| Public Vehicle Park (excluding container vehicle) | Refuse Disposal Installation (Refuse Transfer Station only) |
| Recyclable Collection Centre | Residential Institution |
| Religious Institution | Sewage Treatment/Screening Plant |
| Research, Design and Development Centre | Shop and Services ***(not elsewhere specified)*** |
| Rural Committee /Village Office | Utility Installation for Private Project |
| School | Zoo |
| Service Reservoir | |
| Social Welfare Facility | |
| Training Centre | |
| Wholesale Trade | |

(Please see next page)

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Planning Intention

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

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storey(s) (excluding basement floor(s)) or mPD as stipulated on the Plan, or the height of the existing building which was in existence on the date of the publication in the Gazette of the notice of the So Kwun Wat OZP No. S/TM-SKW/10 on 7.5.2010, whichever is the greater.

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

## OPEN SPACE

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

### Planning Intention

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

OTHER SPECIFIED USES

| Column 1<br>Uses always permitted | Column 2<br>Uses that may be permitted with or without conditions on application to the Town Planning Board |
|---|---|
| For "Petrol Filling Station" only | |
| Petrol Filling Station | Government Use ~~(not elsewhere specified)~~<br>Public Utility Installation |

Planning Intention

This zone is intended primarily for the provision of petrol filling station.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storey (excluding basement floor(s)) as stipulated on the Plan.

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

GREEN BELT

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

(Please see next page)

GREEN BELT (Cont'd)

Planning Intention

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

Remarks

Any ***diversion of stream,*** filling of pond/land or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the publication in the Gazette of the notice of the draft So Kwun Wat Outline Zoning Plan No. S/TM-SKW/10 on 7.5.2010 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

~~APPROVED~~ ***DRAFT*** SO KWUN WAT OUTLINE ZONING PLAN NO. S/TM-SKW/13***A***

EXPLANATORY STATEMENT

EXPLANATORY STATEMENT

~~APPROVED~~ ***~~DRAFT~~*** SO KWUN WAT OUTLINE ZONING PLAN NO. S/TM-SKW/13***~~A~~***

CONTENTS PAGE


| | | | |
|---|---|---|---|
| 1. | INTRODUCTION | | 1 |
| 2. | AUTHORITY FOR THE PLAN AND PROCEDURE | | 1 |
| 3. | OBJECT OF THE PLAN | | 3 |
| 4. | NOTES OF THE PLAN | | 3 |
| 5. | THE PLANNING SCHEME AREA | | ~~3~~***4*** |
| 6. | POPULATION | | ~~4~~***5*** |
| 7. | BUILDING HEIGHT RESTRICTION IN THE AREA | | 5 |
| 8. | OPPORTUNITIES AND CONSTRAINTS | | ~~6~~***7*** |
| 9. | GENERAL PLANNING INTENTION | | ~~7~~***8*** |
| 10. | LAND USE ZONINGS | | |
| | 10.1 | Comprehensive Development Area | 8 |
| | 10.2 | Residential (Group B) | 9 |
| | 10.3 | Residential (Group C) | 10 |
| | 10.4 | Village Type Development | 11 |
| | 10.5 | Government, Institution or Community | 1~~1~~***2*** |
| | 10.6 | Open Space | 1~~2~~***3*** |
| | 10.7 | Other Specified Uses | 1~~2~~***3*** |
| | 10.8 | Green Belt | 13 |
| 11. | TRANSPORT AND COMMUNICATION | | 1~~3~~***4*** |
| 12. | UTILITY SERVICES | | 1~~3~~***4*** |
| ***13.*** | ***CULTURAL HERITAGE*** | | ***15*** |
| ~~1~~3***14***. | IMPLEMENTATION | | 1~~4~~***5*** |
| ~~1~~4***15***. | PLANNING CONTROL | | 1~~4~~***5*** |

# ~~APPROVED~~ ***DRAFT*** SO KWUN WAT OUTLINE ZONING PLAN NO. S/TM-SKW/13***A***

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

## EXPLANATORY STATEMENT

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

## 1. INTRODUCTION

This Explanatory Statement is intended to assist an understanding of the ~~approved~~ ***draft*** So Kwun Wat Outline Zoning Plan (OZP) No. S/TM-SKW/13***A***. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land-use zonings of the Plan.

## 2. AUTHORITY FOR THE PLAN AND PROCEDURE

2.1 The land within the So Kwun Wat OZP was previously included in the draft So Kwun Wat Development Permission Area (DPA) Plan No. DPA/TM-SKW/1 which was exhibited for public inspection under section 5 of the Town Planning Ordinance (the Ordinance) on 18 June 1993.

2.2 On 14 May 1996, the draft So Kwun Wat DPA Plan No. DPA/TM-SKW/1 was approved by the then Governor in Council under section 9(1)(a) of the Ordinance.

2.3 Under the power delegated by the then Governor, the then Secretary for Planning, Environment and Lands, directed the Board on 13 March 1995, under section 3(1)(a) of the Ordinance, to prepare an OZP for the So Kwun Wat area.

2.4 On 7 June 1996, the draft So Kwun Wat OZP No. S/TM-SKW/1 was exhibited for public inspection under section 5 of the Ordinance.

2.5 On 11 May 1999, the Chief Executive in Council (CE in C) under section 9(1)(a) of the Ordinance approved the draft OZP, which was renumbered as S/TM-SKW/2. On 22 June 1999, the CE in C referred the approved So Kwun Wat OZP No. S/TM-SKW/2 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. ~~Since then, t~~***T***he OZP ***was*** ~~has been~~ ***subsequently*** amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance.

2.6 On 12 December 2000, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft So Kwun Wat OZP, which was renumbered as S/TM-SKW/5. On 12 March 2002, the CE in C referred the approved OZP No. S/TM-SKW/5 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. ~~Since then, t~~***T***he OZP ***was subsequently*** ~~has been~~ amended ~~once~~ and exhibited for public inspection under section 5 of the Ordinance.

2.7 On 11 March 2003, the CE in C under section 9(1)(a) of the Ordinance, approved the draft So Kwun Wat OZP, which was ~~subsequently~~ renumbered as S/TM-SKW/7. On 8 July 2003, the CE in C referred the approved So Kwun Wat OZP No. S/TM-SKW/7 to the Board for amendment under section 12(1)(b)(ii) of the

Ordinance. ~~Since then, t~~***T***he OZP ***was subsequently*** ~~has been~~ amended ~~once~~ and exhibited for public inspection under section 5 of the Ordinance.

2.8 On 5 October 2004, the CE in C under section 9(1)(a) of the Ordinance, approved the draft So Kwun Wat OZP, which was ~~subsequently~~ renumbered as S/TM-SKW/9. On 3 November 2009, the CE in C referred the approved So Kwun Wat OZP No. S/TM-SKW/9 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. ***On 7 May 2010, the draft So Kwun Wat OZP No. S/TM-SKW/10 was gazetted and exhibited for public inspection under section 5 of the Ordinance.***

~~2.9 On 7 May 2010, the draft So Kwun Wat OZP No. S/TM-SKW/10, incorporating amendments mainly to rezone two sites at Siu Lam from "Government, Institution or Community" ("G/IC") to "Residential (Group C)1" ("R(C)1") and their peripheral areas from "G/IC" to "Green Belt" ("GB"), to revise the building height restrictions for "R(C)1" and "Residential (Group C)2" ("R(C)2") zones, to impose building height restrictions on "G/IC" and "Other Specified Uses" annotated "Petrol Filling Station" ("OU(PFS)") zones, to adjust the areas shown as "Road" and "Nullah" to reflect respectively the Tuen Mun Road improvement work and drainage project at So Kwun Wat Tsuen, and to adjust the zoning boundaries of some "G/IC" sites to be in line with their respective Government land allocation, was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of two representations were received. The representations were published for three weeks for public comment until 6 August 2010, and no comment was received. On 19 November 2010, after giving consideration to the representations under section 6B(1) of the Ordinance, the Board decided not to uphold the representations.~~

2.~~9~~10 On 12 April 2011, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft So Kwun Wat OZP, which was subsequently renumbered as S/TM-SKW/11. ~~On 6 May 2011, the approved So Kwun Wat OZP No. S/TM-SKW/11 was exhibited for public inspection under section 9(5) of the Ordinance.~~

~~2.11~~ On 29 April 2014, the CE in C referred the approved So Kwun Wat OZP No. S/TM-SKW/11 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. ~~The reference back for the OZP was notified in the Gazette on 16 May 2014 under section 12(2) of the Ordinance.~~ ***The OZP was subsequently amended and exhibited for public inspection under section 5 of the Ordinance.***

~~2.12 On 13 March 2015, the draft So Kwun Wat OZP No. S/TM-SKW/12, incorporating amendments related to the rezoning of a site to the north of Castle Peak Road – Tai Lam from "GB" to "Residential (Group B)2" ("R(B)2") with stipulation of development restrictions for the zone, was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of 143 valid representations were received. On 29 May 2015, the representations were published for three weeks for public comment and two comments were received. On 22 September 2015, after giving consideration to the representations and comments under section 6B(1) of the Ordinance, the Board decided not to uphold the representations.~~

2.1~~0~~3 On 1 December 2015, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft So Kwun Wat OZP, which was ~~subsequently~~ renumbered as S/TM-SKW/13. On 11 December 2015, the approved So Kwun Wat OZP No. S/TM-SKW/13 ~~(the Plan)~~ was exhibited for public inspection under section 9(5) of

the Ordinance.

***2.11 On 13 December 2021, the CE in C referred the approved So Kwun Wat OZP No. S/TM-SKW/13 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The reference back of the OZP was notified in the Gazette on 21 January 2022 under section 12(2) of the Ordinance.***

***2.12 On _____2022, the draft So Kwun Wat OZP No. S/TM-SKW/14 (the Plan), incorporating amendment for rezoning a site at Hong Fai Road from "Government, Institution or Community" ("G/IC") and "Green Belt" ("GB") to "Government, Institution or Community (1)" ("G/IC(1)"), was exhibited for public inspection under section 5 of the Ordinance.***

## 3. OBJECT OF THE PLAN

3.1 The object of the Plan is to indicate the broad land-use zonings for So Kwun Wat OZP area so that development and redevelopment within the Planning Scheme Area (the Area) can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.

3.2 The Plan is to illustrate the broad principles of development and ***planning*** control only. It is a small-scale plan and the transport alignments and boundaries between the land-use zones may be subject to minor alterations as detailed planning ***and development*** 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 Area and not to overload the road network in this Area.

3.4 The boundary of the Area is delineated having regard to physical and topographical features such as road, drainage channel and hills. Therefore, the Area boundary does not necessarily follow the Heung boundaries which are used for administration purpose only. Also, the name of the Plan is to follow that of the geographical area and has no implications on development rights, particularly Small House applications.

## 4. NOTES OF THE PLAN

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

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

## 5. THE PLANNING SCHEME AREA

5.1 The Planning Scheme Area, covering an area of about 473.58 ha, is located to the south-east of Tuen Mun New Town. It is bounded to the north and the east by the dam of Tai Lam Chung Reservoir and the Tai Lam Country Park, to the south by Castle Peak Road and the coast, and to the west and south-west by the Tuen Mun New Town. The boundary of the Area is shown by a heavy broken line on the Plan.

5.2 The Area is situated along the southern coast of the North West New Territories (NWNT) near the south-eastern approach to the Tuen Mun New Town. It comprises three main valleys, namely So Kwun Wat Valley, Siu Lam Valley and Tai Lam Chung Valley, with intervening spurs rising to about 120 metres above Principal Datum (mPD). Land uses in the Area comprise mainly residential areas, Government, institution or community (GIC) uses and village settlements. There are patches of farmland which are still under active cultivation in the So Kwun Wat valley.

5.3 The Area is fronting the sea to the south-east and various active marine traffic and navigational aids are found in the adjacent sea areas.

5.4 Since mid-1980's, there has been a widespread conversion of agricultural land for open storage uses in the New Territories. Such conversion of agricultural land to open storage sites has occurred in areas around So Kwun Wat Tsuen and the central flat land of Tai Lam Chung.

5.5 In recognition of the traditional burial right of the indigenous villagers and the locally based fishermen, some burial grounds have been preserved on the northern and eastern parts of the Area.

~~5.6 So Kwun Wat Site of Archaeological Interest and Tai Lam Site of Archaeological Interest are located within the Area. Within the boundary of the Area, there are two graded historic buildings, i.e. Hum Ying Study Hall (Grade 3) and Jun Ying Study Hall (Grade 3) in So Kwun Wat Tsuen. All the above sites of archaeological interest and graded historic buildings are worthy of preservation. The Antiquities Advisory Board (AAB) also released a list of new items in addition to the list of 1,444 historic buildings. These items are subject to grading assessment by the AAB. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the website of the AAB at http://www.aab.gov.hk. Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposals might affect the above sites of archaeological interest, graded historic buildings, new items pending grading assessment and their immediate environs. If disturbance to the sites of archaeological interest is unavoidable, the project proponent shall engage a professional archaeologist to conduct a detailed Archaeological Impact Assessment to evaluate the archaeological impact imposed by the proposed works. If necessary, the archaeologist shall apply for a licence from the Antiquities Authority under the Antiquities and Monuments Ordinance (Cap. 53) for~~

~~an archaeological field investigation and propose appropriate mitigation measures to the satisfaction of the AMO of the LCSD.~~

## 6. POPULATION

6.1 ~~According to the 2011 Census~~ ***Based on the 2016 Population By-census***, the population of the Area was ***estimated by PlanD as*** about ~~7,600~~ ***8,050*** persons. The population concentrates in the residential developments of Grand Pacific Heights, and Grand Pacific Views at Siu Lam and around several recognized villages and village settlements in the Area, including So Kwun Wat Tsuen, So Kwun Wat San Tsuen, Tai Lam Chung Tsuen, Wong Uk, Wu Uk, Luen On San Tsuen and some scattered cottages. It also includes the people residing in Government institutions.

6.2 Apart from usual natural growth in the existing villages, future expansion of population of the Area will be concentrated in the residential developments at Siu Lam and the "Comprehensive Development Area" ***("CDA")*** zone at Tai Lam Chung. ~~It is estimated that the planned population of the Area would be about 16,955 persons.~~ ***It is estimated that the total planned population of the Area would be about 20,585 persons***.

## 7. BUILDING HEIGHT RESTRICTION IN THE AREA

7.1 In order to provide better planning control on the development intensity and building height upon development/redevelopment, to address public demand for greater certainty and transparency in the statutory planning system, and to meet the growing community aspirations for a better living environment, a review of the So Kwun Wat OZP has been taken in 2010 with a view to incorporating appropriate building height restrictions for various development zones to guide future development/redevelopment. In the absence of building height control, tall buildings may proliferate at random locations and the scale may be out-of-context in the locality, resulting in negative impacts on the visual quality of the Area and may sometimes obstruct air ventilation. In order to prevent excessively tall or out-of-context buildings, to preserve some key urban design attributes (e.g. stepped building height from the waterfront and preservation of public view to the ridgelines) and to provide better control on the building heights of developments in the Area, building height restrictions are imposed for the development zones on the Plan.

7.2 So Kwun Wat is generally a low-rise and low-density area. Most of the area is zoned "GB". The existing high-rise residential development in the area is within the area zoned "Residential (Group B)1" ("R(B)1"), which has a building height restriction of 102mPD. A medium-rise comprehensive residential development has been planned at Tai Lam Chung and is zoned ~~"Comprehensive Development Area" (~~"CDA"~~)~~ and development within the "CDA" zone is subject to a maximum building height of 18 storeys (70 mPD). Another planned medium-rise residential development zoned ***"Residential (Group B)2" (***"R(B)2"***)*** which is sandwiched between Tuen Mun Road and Castle Peak Road – Tai Lam has a building height restriction of 80mPD. The building height profile of other developable areas in So Kwun Wat is mainly low-rise. Under the extant OZP, developments within "Village Type Development" ("V") zone are restricted to 3 storeys (8.23m), developments within ***"Residential (Group C)1" (***"R(C)1"***)*** zone are restricted to 3 storeys (excluding basement floor(s)) and 10.5m, and developments within ***"Residential (Group C)2" (***"R(C)2"***)*** are restricted to 7

storeys (excluding basement floor(s)) and 24.5m.

7.3 Almost half of the developable land on the OZP is zoned "G/IC" and is mostly developed and being occupied by various GIC facilities. Major ones include the Tai Lam Correctional Institution at the northern end of Tai Lam Chung Nullah~~;~~***, the Hong Kong Police Vehicle Examination Centre – Tai Lam Chung,*** ~~Customs & Excise Training School~~ ***the Hong Kong Customs College***, Vocational Training Council (VTC) Maritime Services Training Institute and ~~VTC~~ ***Wofoo Foundation Dr Joseph Lee*** Whole Person Development Education Centre on the east bank of Tai Lam Chung Nullah; Siu Lam Psychiatric Centre, Tai Lam Chung Fresh Water Service Reservoir and a sewage treatment plant on the west bank of Tai Lam Chung Nullah. These facilities are mostly low-rise with building heights ranging from 1 to 6 storeys. To maintain the low building height profile within the Area and the semi-rural character, the "G/IC" sites have been restricted to maximum building height ranging from 1 to 6 storeys to reflect their existing building height or the building height agreed amongst relevant Government departments. The site for the ~~VTC~~ ***Wofoo Foundation Dr Joseph Lee*** Whole Person Development Education Centre is restricted to 40mPD based on the design of the development ***while the site for the planned redevelopment of government staff quarters at Hong Fai Road is restricted to 90mPD taking into account the nature of the planned use and high-rise residential development to its immediate northwest***. There is a petrol filling station in the Castle Peak Road – Tai Lam which is zoned ***"Other Specified Uses" annotated "Petrol Filling Station" (***"OU(PFS)"***)***. To reflect the existing building height and to make reference with the lease restriction, the "OU(PFS)" site is restricted to 1 storey.

7.4 In 2015, an Expert Evaluation on air ventilation assessment (AVA EE 2015) was undertaken to assess the wind environment of the Area and the likely impact of the existing and proposed building heights of the development sites within the Area. The AVA EE 2015 also assessed the air ventilation impact of future development at the site zoned "R(B)2" located to the north of Castle Peak Road – Tai Lam with specific building height restrictions.

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

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

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

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

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

(e) other factors, such as site constraints, 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 with building heights already exceeding the building height restrictions in terms of mPD and/or number of storey(s) as shown on the Notes of the Plan and/or stipulated on the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

## 8. OPPORTUNITIES AND CONSTRAINTS

### 8.1 Opportunities

Castle Peak Road and Tuen Mun Road provide access to the Area. Upgrading of Castle Peak Road from Tsuen Wan to So Kwun Wat to a dual 2-lane carriageway has been completed alleviating the previous traffic congestion problems in the Area. Besides, reconstruction and improvement works to Tuen Mun Road have also been completed.

### 8.2 Constraints

8.2.1 A new regional sewage treatment works with the associated public sewer system are being planned to serve the Tuen Mun East, including the So Kwun Wat OZP area, in the long term. Prior to the commissioning of the new regional sewage treatment works and the associated public sewer system, the project proponents for the developments in the area may need to treat and dispose of the sewage arising from the developments to meet the requirements of the Water Pollution Control Ordinance. The project proponents for the developments may be further required to make provision for the connection of the sewage arising from the developments to the new public sewer when commissioned.

8.2.2 There are two recognized villages in the Area namely, So Kwun Wat Tsuen (including So Kwun Wat San Tsuen) and Tai Lam Chung Tsuen (including Wong Uk and Wu Uk). Sufficient land will have to be reserved for their future expansion.

8.2.3 The potential sub-urban development area in the Area is confined to the valley floors. The steep slopes extending from the Tai Lam Country Park are not suitable for development and are generally zoned ~~"Green Belt"~~ ***"GB"***.

8.2.4 ~~As mentioned in paragraph 5.6 above,~~ So Kwun Wat Site of Archaeological Interest and Tai Lam Site of Archaeological Interest fall within the boundary of the Plan. Within the boundary of the Area, there are two graded historic buildings, i.e. Hum Ying Study Hall (Grade 3) and Jun Ying Study Hall (Grade 3) in So Kwun Wat Tsuen. These sites of archaeological interest and graded historic buildings are worthy of preservation and any development or redevelopment affecting them should be avoided as far as possible. Prior consultation with the ***Antiquities and Monuments Office (***AMO***)*** ~~of LCSD~~ is required for any development or redevelopment affecting these sites of

archaeological interests and graded historic buildings.

8.2.5 All developments within the Area are subject to the control of the Airport Height Restrictions (AHR) prescribed in Hong Kong Airport (Control of Obstructions) Ordinance (Cap.301) in respect of the Hong Kong International Airport at Chek Lap Kok. The complex pattern of AHR may result in a disparate restriction on permissible building height within the same development site. It is important to note that no building shall be permitted to exceed the prescribed AHR. In the context of AHR, "building" includes the whole, or any part, of any building, mast, hoist or crane or other structure projecting skywards such as curb and cat ladder. ***In addition, no part of any structures and equipment used during construction or for maintenance after the completion of the construction works shall exceed the AHR limits.***

8.2.6 Much of the Area falls within the Consultation Zone of the existing Tai Lam Chung Pre-chlorination House. The design population for the area within the Consultation Zone should be within the limit set out in the relevant study reports.

## 9. GENERAL PLANNING INTENTION

9.1 The planning intention for the Area is to retain the semi-rural characteristics by preserving hill slopes and other natural features and designating sub-urban type of development in appropriate areas. The types of sub-urban developments include private residential development and village housing.

9.2 The emphasis of planning for the Area is to encourage environmental improvement, to preserve the natural setting and to stimulate physical upgrading of the area. It is envisaged that by providing incentives through appropriate upzoning, the remaining open storage yards could be removed and the environment could thereby be improved.

9.3 In the designation of various zones in the Area, considerations have been given to the natural environment, physical landform, existing settlements, land status, availability of infrastructure, local development pressures and various relevant planning studies. Other than the above, buildings and places of historical and archaeological interest should be preserved in the Area as far as possible.

## 10. LAND-USE ZONINGS

10.1 Comprehensive Development Area ("CDA"): Total Area: 6.45 ha

10.1.1 The planning intention of this zone is for comprehensive development/redevelopment of the area for residential use with the provision of commercial, open space and other supporting facilities, if any, to serve the residential neighbourhood. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints. Although existing uses are tolerated, pursuant to section 4A(1) of the Ordinance, any development/

redevelopment on sites under this zoning requires planning permission under section 16 of the Ordinance. Pursuant to Section 4A(2) of the Ordinance, the applicant is required to submit a Master Layout Plan (MLP) together with information specified in the Notes for the approval of the Board. The intention is to ensure that development/redevelopment would be designed in a comprehensive manner, taking into account various planning considerations such as environmental quality, neighbourhood compatibility, infrastructural provision as well as traffic and phasing requirements. The approved MLP shall be made available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.

10.1.2 There is one "CDA" in the Area which is located on the eastern side of Tai Lam Chung Nullah. The site is largely vacant. The "CDA" is intended for sub-urban residential development and village housing which are compatible with the surrounding rural environment. In order not to block the direct sight line from the walking trails in the Country Park, the maximum building height should not exceed 70mPD and 18 storeys. Furthermore, to avoid creating a wall effect, building blocks should be in the range of 3 to 18 storeys. The maximum total gross floor area for this site is restricted to 105,990$m^2$.

10.1.3 The "CDA" site is in close proximity to Tai Lam Chung Tsuen, Wong Uk and Wu Uk. To meet the Small House demand, the developer concerned has to provide 80 Small House sites within the "CDA".

10.1.4 Care has to be taken to avoid damaging the high pressure gas main in the vicinity of the site when development of the zone proceeds.

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

10.2 Residential (Group B) ("R(B)"): Total Area: 10.46 ha

10.2.1 The planning intention of this zone is primarily for sub-urban medium-density residential developments in rural areas where commercial uses serving the residential neighbourhood may be permitted on application to the Board. This zone covers the existing residential developments of Grand Pacific Heights and Grand Pacific Views at Siu Lam which are designated as "R(B)1". Developments and/or redevelopments within the "R(B)1" sub-area are subject to the following restrictions.

(i) Maximum Domestic GFA : 97,120$m^2$

(ii) Maximum Non-domestic GFA : 465$m^2$

(iii) Maximum Building Height : 102mPD

10.2.2 An area sandwiched between Tuen Mun Road and Castle Peak Road – Tai Lam is zoned "R(B)2". The developments within the area are subject to a maximum plot ratio of 3.6 and the building height restriction of 80mPD. ~~As the "R(B)2" zone is falling within an area close to the AHR under the~~

~~current two-runway system in the range of 87mPD to 89mPD, all structures, including roof top structures of the development, should not exceed the AHR.~~ According to the AVA EE 2015, five non-building areas (NBAs) are recommended to be incorporated within the area including a 20m-wide NBA measured from the western boundary of the "R(B)2" zone, a 20m-wide NBA in alignment with Tsing Fat Street, a 20m-wide NBA to the north of the "OU(PFS)" site, a 20m-wide NBA in alignment with Tsing Tai Road, and a 20m-wide NBA in alignment with Lok Yi Street. For the alignment of these NBAs, reference should be made to the AVA EE 2015. Due to the elongated shape of the site and the site configuration, these NBAs are recommended to facilitate wind penetration through the development sites within the area under both annual and summer prevailing winds. In addition to the NBAs, the AVA EE ***2015*** also recommended that minimisation of podium and fulfilment of building separation requirements in accordance with the Sustainable Building Design (SBD) Guidelines should be adopted where appropriate. To take forward the recommendations of the AVA EE 2015, the requirements for NBAs or further AVA assessments ***have been/***will be incorporated into the lease.

10.2.3 To address the vehicular emission from Tuen Mun Road and Castle Peak Road, air buffer distance (20m from Tuen Mun Road and 5m from Castle ~~Peal~~ ***Peak*** Road) is recommended to be provided for the "R(B)2" site to meet the Hong Kong Planning Standards and Guidelines requirements.

10.2.4 As the "R(B)1" zone in Siu Lam and the "R(B)2" zone located to the north of Castle Peak Road – Tai Lam are situated adjacent to Tuen Mun Road and Castle Peak Road, noise mitigation measures such as the use of screening structures and the adoption of self-protective building layout are required.

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

10.3 Residential (Group C) ("R(C)"): Total Area: 22.13 ha

10.3.1 The planning intention of this zone is primarily for low-rise, low-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board. This zone reflects the existing and committed residential developments and reserves lands for future sub-urban residential developments with ancillary supporting facilities.

10.3.2 For the zoned areas located adjacent to Tuen Mun Road and Castle Peak Road, noise mitigation measures such as the use of screening structures and the adoption of self-protective building layout are required.

10.3.3 There are two sub-areas within this zone, namely ~~"Residential (Group C)1"~~ ***"R(C)1"*** and ~~"Residential (Group C)2"~~ ***"R(C)2"***. Their locations and development parameters are described as follows:

(a) ~~"Residential (Group C)1" (~~"R(C)1"~~)~~: Total Area: 21.83 ha

The area to the north of Tuen Mun Road at Siu Lam is zoned "R(C)1". Residential developments and/or redevelopments within this zone are restricted to the following restrictions or the plot ratio and height of the existing building, whichever is the greater:

(i) Maximum Plot Ratio: 0.4

(ii) Maximum Building Height: 10.5m

(iii) Maximum No. of Storeys: 3 storeys (excluding basement floor(s))

(b) ~~"Residential (Group C)2" (~~"R(C)2"~~)~~: Total Area: 0.30 ha

An area to the southwest of Siu Lam and north of Castle Peak Road – Tai Lam is zoned "R(C)2". Residential developments and/or redevelopments within this zone are restricted to the following restrictions or the plot ratio, site coverage and height of the existing building, whichever is the greater:

(i) Maximum Plot Ratio: 0.6

(ii) Maximum Site Coverage: 40%

(iii) Maximum Building Height: 24.5m

(iv) Maximum No. of Storeys: 7 storeys (excluding basement floor(s))

10.3.4 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the plot ratio/site coverage/building height restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual merits.

10.3.5 However, for any existing building with plot ratio/site coverage/building height already exceeding the plot ratio/site coverage/building height restrictions as shown on the Notes of the Plan, there is a general presumption against such application for minor relaxation except under exceptional circumstances.

10.4 Village Type Development ("V"): Total Area: 32.33 ha

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

10.4.2 The boundaries of the "V" zones are drawn up having regard to the existing "village environs", the anticipated Small House demand for the next ten years, traffic noise impact, topography, site constraints and the provision of public services. Village expansion areas and other infrastructural improvements will be guided by detailed layout plans whenever applicable.

10.4.3 Recognized villages in the Area include So Kwun Wat Tsuen (including So Kwun Wat San Tsuen) and Tai Lam Chung Tsuen (including Wong Uk and Wu Uk). Since some of the land within the "village environs" of Tai Lam Chung Tsuen was previously used for open storage of containers, these areas had been included within the "CDA" zone and the future developer is required to provide serviced land within the "CDA" site for Small House development. Land in the "V" zone together with the areas to be formed and serviced by the developer concerned will provide adequate land to meet the anticipated Small House demand in the Area.

10.5 Government, Institution or Community ("G/IC"): Total Area: ~~65.75~~ ***65.82***ha

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

10.5.2 Extensive areas along both sides of Tai Lam Chung Nullah and at Siu Lam are zoned "G/IC" to reflect the existing and planned uses. Existing GIC facilities include the Tai Lam Correctional Institution, the Siu Lam Psychiatric Centre, the Siu Lam Fresh Water Service Reservoir and its extension, the Tai Lam Chung Fresh Water Service Reservoir, ***the Hong Kong Police Vehicle Examination Centre,*** the VTC Maritime Services Training Institute, the ~~Customs and Excise Training School~~ ***Hong Kong Customs College***, the Tai Lam Chung Fire Station, the Wai Lan Rehabilitation Centre, a sewage treatment plan, and the ~~VTC~~ ***Wofoo Foundation Dr Joseph Lee*** Whole Person Development Education Centre.

10.5.3 A site to the east of the ~~Customs and Excise Training School~~ ***Hong Kong Customs College*** and to the west of the "CDA" zone in Tai Lam Chung is reserved for the Tuen Mun Sewerage – Eastern Coastal Sewerage Extension project and other Government works. An area to the northwest of Grandview Terrace is reserved for a secondary school. The site of the ex-Siu Lam Hospital is planned for a rehabilitation complex.

***10.5.4 A "G/IC(1)" site at Hong Fai Road is for the redevelopment of the existing Correctional Services Department's Junior Staff Married Quarters and is subject to a maximum building height of 90mPD.***

10.5.~~4~~***5*** The "G/IC" sites abutting Tuen Mun Road and Castle Peak Road will be exposed to high traffic noise. The Director of Environmental Protection has to be consulted if noise sensitive uses are proposed in these "G/IC" sites.

10.5.~~5~~***6*** Developments and redevelopments in the "G/IC" sites are subject to

building heights in terms of number of storeys (excluding basement floors(s)) or in terms of mPD as stipulated on the Plan or the height of the existing building, whichever is the greater. To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual merits.

10.6 Open Space ("O"): Total Area: 0.78 ha

10.6.1 The planning intention of this zone is primarily to provide outdoor open-air public space for active and/or passive recreational uses serving the needs of local residents as well as the general public.

10.6.2 A strip of land along the eastern side of Tai Lam Chung Nullah is zoned "O" which is intended to be developed into a nullah-side promenade. Additional open space will be provided within the "R(B)", "R(C)" and "CDA" zones.

10.7 Other Specified Uses ("OU"): Total Area: 0.14 ha

10.7.1 The planning intention of this zone is to provide land for a petrol filling station.

10.7.2 The petrol filling station is located to the southwest of Siu Lam and north of Castle Peak Road - Tai Lam.

10.7.3 Developments and redevelopments in the site are subject to building height of 1 storey (excluding basement floor(s)) as stipulated on the Plan. To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual merits.

10.8 Green Belt ("GB"): Total Area: ~~304.78~~ ***304.71***ha

10.8.1 The planning intention of this zone is primarily to define the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. The zoned areas may include foothills, lower hill slopes, spurs, isolated knolls, woodland, traditional burial ground or vegetated land which occur at the urban fringe. There is a general presumption against development within this zone. However, limited developments may be permitted with or without conditions on application to the Board, and each application will be considered on its individual merits taking into account the relevant Town Planning Board Guidelines.

10.8.2 The extensive areas covered by the hilly slopes with exuberant natural vegetation within the Area are zoned "GB". Burial grounds for the indigenous villagers and locally based fishermen are also found in this zone.

10.8.3 As ***diversion of stream,*** filling of pond/land and excavation of land may cause adverse impacts on the natural environment, permission from the

Board is required for such activities.

## 11. TRANSPORT AND COMMUNICATION

### 11.1 Road Network

11.1.1 The Area is served by Castle Peak Road and Tuen Mun Road. Reconstruction and improvement works to Tuen Mun Road have been completed.

11.1.2 Tai Lam Chung is now served by Tai Lam Chung Road, an important local distributor. The road ***and Luen Hong Lane have*** ~~has~~ to be improved to tie in with the developments in the "CDA" zone at Tai Lam Chung.

### 11.2 Transport Provision

The Area is currently served by buses, public light buses, and taxis. The bus-bus interchange at Tai Lam Chung is in operation to facilitate interchanging of bus passengers between bus routes on Tuen Mun Road, between bus routes on Castle Peak Road and between bus routes on Tuen Mun Road and Castle Peak Road.

## 12. UTILITY SERVICES

### 12.1 Water Supply

No capacity problem regarding water supply is envisaged, but suitable and new connections to some areas will need to be constructed by the future developers/project proponent and agreed with the relevant authorities.

### 12.2 Sewerage and Sewage Treatment

There is proposed sewerage works to extend the public sewerage network to Siu Lam and Tai Lam Chung. A new regional sewage treatment works with the associated public sewer system are being planned to serve the Tuen Mun East, including the So Kwun Wat OZP area, in the long term. Prior to the commissioning of the new regional sewage treatment works and the associated public sewer system, the project proponents for the developments in the area may need to treat and dispose of the sewage arising from the developments to meet the requirements of the Water Pollution Control Ordinance. The project proponents for the developments may be further required to make connection of the sewage arising from the development to the new public sewer at their own costs when commissioned.

### 12.3 Electricity

The Area has long been supplied with electricity. It is anticipated that there will not be any problem in the provision of electricity supply to the Area.

### 12.4 Gas

Gas pipelines have been installed along Castle Peak Road from So Kwun Tan to Siu Lam.

## *13. CULTURAL HERITAGE*

*13.1 So Kwun Wat Site of Archaeological Interest and Tai Lam Site of Archaeological Interest are located within the Area. Within the boundary of the Area, there are two graded historic buildings, i.e. Hum Ying Study Hall (Grade 3) and Jun Ying Study Hall (Grade 3) in So Kwun Wat Tsuen. All the above sites of archaeological interest and graded historic buildings are worthy of preservation. The Antiquities Advisory Board (AAB) also released a list of new items in addition to the list of 1,444 historic buildings. These items are subject to grading assessment by the AAB. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the website of the AAB at http://www.aab.gov.hk.*

*13.2 Prior consultation with the AMO should be made if any development, redevelopment or rezoning proposals might affect the above sites of archaeological interest, graded historic buildings, new items pending grading assessment as well as any other historic building/structures with potential heritage value identified subsequently and their immediate environs. If disturbance to the sites of archaeological interest is unavoidable, the project proponent shall engage a professional archaeologist to conduct a detailed Archaeological Impact Assessment to evaluate the archaeological impact imposed by the proposed works. If necessary, the archaeologist shall apply for a licence from the Antiquities Authority under the Antiquities and Monuments Ordinance (Cap. 53) for an archaeological field investigation and propose appropriate mitigation measures to the satisfaction of the AMO.*

## 1~~3~~*4*. IMPLEMENTATION

1~~3~~*4*.1 The Plan provides a broad land use framework for development control and implementation of planning proposals. More detailed plans will be prepared as a basis for public works planning and private developments.

1~~3~~*4*.2 At present, there is no overall programme for the provision of infrastructure within the Area. The implementation process will be in stages and may stretch over a long period depending on the availability of resources. It will be undertaken through the participation of both the public and private sectors.

1~~3~~*4*.3 The provision of infrastructure, e.g. road widening and laying of services, will be implemented through the Public Works Programme and the Local Public Works Improvement Programmes as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned use indicated on the Plan, provided that their proposals have met government requirements.

## 1~~4~~*5*. PLANNING CONTROL

1~~4~~*5*.1 The types of permitted developments and uses within the Area are listed in the Notes to the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted and no separate

permission is required.

14*5*.2 Uses of land or building which were in existence immediately before the first publication in the Gazette of the Notice of the draft DPA plan and which are not in compliance with the terms of the Plan may have adverse impacts on the environment, drainage and traffic of the Area. Although no action is required to make such use conform to this Plan, any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or, if permission is required, in accordance with a permission granted by the Board. The Board will consider these applications on their individual merits. Those alteration and/or modification works which may lead to an environmental improvement or upgrading to the Area may be considered favourably by the Board.

14*5*.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering the planning applications, will take into account all relevant planning considerations which may include the departmental outline development plans and layout plans, and the guidelines published by the Board. The outline development plans and layout plans are available for public inspection at the ~~Planning Department~~ ***PlanD***. 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~~ ***PlanD***. 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 relevant District Planning Office of the ~~Planning Department~~ ***PlanD***. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

14*5*.4 Any development, other than those referred to in paragraph 15.1 above or in conformity with this Plan or with the permission of the Board, undertaken or continued on or after 18 June 1993 on land included in ~~a plan of~~ the So Kwun Wat DPA ***Plan***, may be subject to enforcement proceedings under the Ordinance. Any ***diversion of stream,*** filling of pond/land and excavation of land in the relevant zone on or after the exhibition of the specific plan referred to in the Notes of the relevant zone without the permission from the Board may also be subject to enforcement proceedings.

**TOWN PLANNING BOARD**
~~**DECEMBER 2015**~~ _____ ***2022***

小欖

Siu Lam

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

## FINAL PLANNING STATEMENT

August 2022


**URBIS Limited**
in association with

SMEC Asia Ltd.
ATKINS
Ozzo Technology (HK) Ltd.
Wu Hill & Associates Ltd.

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

## Final Supporting Planning Statement

(Doc Ref: 007 ADD1-Rev6)

**URBIS LIMITED**

| | | | |
|---|---|---|---|
| **Prepared by :** | *Charlotte Lau* | ***P*** | August 2022<br>**Date** |
| **Checked by :** | *Winona Ip* | ***SP*** | August 2022<br>**Date** |
| **Approved for Issue by:** | *Alan MacDonald* | ***PD*** | August 2022<br>**Date** |

## TABLE OF CONTENTS

1. INTRODUCTION ..... 4

1.1 Background ..... 4

2. SITE CONTEXT ..... 5

2.1 Location and Statutory Planning Framework ..... 5
2.2 Indicative Scheme of the Proposed Redevelopment ..... 6
2.3 Accessibility ..... 7
2.4 Overview ..... 8

3. DESIGN CONSIDERATION(S) ..... 9

3.1 Building Design Considerations For The Proposed Development ..... 9

4. LANDSCAPE PROPOSAL ..... 11

4.1 Introduction ..... 11
4.2 Relevant Leglislation and Guidelines ..... 11
4.3 Landscape Design Principles ..... 11
4.4 Landscape Layout Plan ..... 12
4.5 Hard Landscape Treatments ..... 13
4.6 Soft Landscape Treatments ..... 15

5. TECHNICAL ASSESSMENTS ..... 17

5.1 Introduction ..... 17
5.2 Summary of Tree Preservation Proposal – Annex A ..... 17
5.3 Summary of Visual Impact Assessment – Annex B ..... 17
5.4 Summary of Preliminary Environmental Review – Annex C ..... 18
5.5 Summary of Drainage Impact Assessment – Annex D ..... 19
5.6 Summary of Sewerage Impact Assessment – Annex E ..... 20
5.7 Summary of Traffic Impact Assessment – Annex F ..... 20
5.8 Summary of Geotechnical Planning Review – Annex G ..... 20
5.9 Overview ..... 21

## Figure List


| | |
|---|---|
| Figure 1.1 | Redevelopment Site Location on Aerial Photograph |
| Figure 1.2 | Redevelopment Site Location on Outline Zoning Plan |
| Figure 1.3 | Redevelopment Site Location on Survey Map |
| Figure 1.4 | Surrounding Development of Redevelopment Site |
| Figure 1.5 | Surrounding Development of Redevelopment Site |
| Figure 1.6 | Statutory Notes Attached to the Approved So Kwun Wat OZP No. S/TM-SKW/13 |
| Figure 1.7 | Proposed Ground Floor Plan & Lower Ground Floor Plan |
| Figure 1.8 | Proposed Upper Ground 1/F Plan |
| Figure 1.9 | Proposed Upper Ground 2/F Plan |
| Figure 1.10 | Proposed Mezzanine Floor Plan |
| Figure 1.11 | Proposed Typical Floor Plan |
| Figure 1.12 | Proposed Roof Plan |
| Figure 1.13 | Proposed Top Roof Plan & Upper Roof Plan |
| Figure 1.14 | Section A-A |
| Figure 1.15 | Landscape Layout Plan (Overall Level) |
| Figure 1.16 | Landscape Layout Plan at Ground Level |
| Figure 1.17 | Landscape Layout Plan at Podium Deck / Mezzanine Level |
| Figure 1.18 | Landscape Section A-A and B-B |
| Figure 1.19 | Proposed Zoning Amendment S/TM-SKW/13 |
| Figure 1.20 | Site Coverage of Greenery and Open Space Provision |


## Annexes


| | |
|---|---|
| Annex A | Tree Preservation Proposal |
| Annex B | Visual Impact Assessment |
| Annex C | Preliminary Environmental Review Report |
| Annex D | Drainage Impact Assessment |
| Annex E | Sewerage Impact Assessment |
| Annex F | Traffic Impact Assessment |
| Annex G | Geotechnical Planning Review Report |

# 1. INTRODUCTION

## 1.1 BACKGROUND

1.1.1 According to the Administration, it is the Government's established policy[1] that Civil Service Housing Benefits (i.e. Departmental Quarters (DQs) should, subject to the availability of resources, be provided to eligible civil servants as a type of housing benefit or for operational needs.

1.1.2 Ever since the supporting announcement in the 2014 Policy Address, the Government has committed to expedite DQ projects for the disciplined services departments (DSDs[2]). Currently, four out of eight DQ projects have been completed and most of the residents have moved in. Besides these eight projects, the Government is also taking forward other DQ development projects proactively.

1.1.3 With respect to the policy support, the development opportunity of the subject site (the Site) at Hong Fai Road, Siu Lam, Tuen Mun (Figure 1.1) would be enhanced for married rank and file disciplined services and local married officers in all ranks in order to maintain morale and facilitate retention. In January 2021, Correctional Services Department (CSD) has commissioned consultant (URBIS Limited) to review the optimal development potential of the Site for the provision of DQ units and making recommendations on the development scheme through a planning, environmental and engineering feasibility study. The main objective of this redevelopment proposal is to achieve better utilization of land resources.

1.1.4 The existing site in Siu Lam is zoned "Government, Institution or Community" (G/IC) under the Approved So Kwun Wat Outline Zoning Plan (OZP) No. S/TM-SKW/13 with an approximate site area of 1,844m2 under the existing permanent government land allocation (PGLA). There are at present three existing building blocks of Junior Staff Married Quarters with two four-storey blocks and one three-storey block, comprising a total of 39 DQ units at the said site. To maximize the number of DQ units to be provided in the project, CSD has explored with other relevant government departments, with a view to enlarging the project site area by including adjoining lands of the Site suitable for the DQ redevelopment. It was agreed to include additional stripes of adjoining lands of the existing quarters site which will expand the project site area to about 2,700m2. The Site has long been utilized by CSD since 1977, and the proposed redevelopment could better utilize the valuable land resources and improve the living environment of the Staff Quarters.

---

[1] Legislative Council Secretariat, 2014, Legislative Council Paper LC Paper No. CB(2)1031/13-14(08) for Construction and Provision of Departmental Quarters for Disciplined Services Departments

[2] The eight projects include Blissful Villa of the ImmD, Yau Yue Wan Customs Staff Quarters, Kwun Tong Disciplined Services Quarters, and Tin Wan Correctional Services Department Staff Quarters, which have been completed; as well as Fan Garden of the HKPF, Pak Shing Kok Married Quarters of the FSD, Tsz Wan Shan Staff Quarters of the C&ED and Tseung Kwan O Area 123 Departmental Quarters of the C&ED, which are under construction.

# 2. SITE CONTEXT

## 2.1 LOCATION AND STATUTORY PLANNING FRAMEWORK

2.1.1 The existing condition of the Site, land uses and building height profile of the Site and the adjoining areas (Figures 1.2 and 1.3) are described briefly below:

- Location: The redevelopment site is covering an area of about 2,700 m² falls mainly within "G/IC" zone with a strip of land to the west zoned under "Green Belt". A portion of the Site which lies within "Green Belt" zone is mainly formed and currently used by the existing Staff Quarters as vehicular access and car parking area. The Site by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east within a "G/IC" cluster of a total area about 10.3 ha (Figure 1.4). The planning intention of this zone is primarily for the provision of G/IC facilities serving the needs of the local residents and / or a wider district, region or the territory. It is also intended to provide the land for uses directly related to, or in support of, the work of Government organisations that provide essential services to meet community and institutional needs.
- Land Status: The net area of the Site is about 2,700 m2 with 1,844 m2 udner the existing PGLA consisting of two 4-storey blocks and one 3-storey block of CSD's Junior Staff Married Quarters.
- Surrounding Development: In the close proximity beyond the north-west boundary across Siu Lam Road lies a private development, namely, Palatial Coast zoned Residential (Group B)1 (R(B)1). To its south east across Hong Fai Road lies the newly built Integrated Rehabilitation Services Complex. The Site is also overlooked by two areas of natural terrain, located within the southeastern part of the Site and to the south of the Site above Hong Fai Road. Both areas have an angular elevations greater than 20 degree from the proposed redvelopment. About 150m south across the Tuen Mun Highway lies another "G/IC" clusters included a CSD's Married Staff Quarters, Marine Police West Divisional Headquarters, Customs Detector Dog Division Headquarters cum Tai Lam Dog Base, and HK Observatory Terminal Doppler Weather Radar Station. The indicative scheme of the proposed redevelopment is supported by prevailing government policy and comprises a building design and layout that is compatible with its environs and is in line with the prevailing planning intentions for the Site and within So Kwun Wat area. (Refer to Figure 1.5)
- Existing Building and the Surrounding Height Profiles: the Site is currently three existing DQ buildings (two 4-storey blocks and one 3-storey block) comprising 39 DQ units, Palatial Coast to the north zoned R(B)1 is the closest high-rise residential development within the 500m catchment from the Site with 26 storeys at about 99mPD and the newly built Integrated Rehabilitation Services Complex at about 98mPD (high block). The existing residential development of Palatial Coast at Siu Lam, and an area sandwiched between Tuen Mun Road and Castle Peak Road – Tai Lam planned for medium-density residential developments are zoned R(B)1 and R(B)2 respectively. A total of about 22.13 hectares of land at Siu Lam to the northwest of the Site is zoned "Residential (Group C)" to reflect the existing and committed low-rise, low-density residential developments. The indicative scheme of the proposed redevelopment will consider the surrounding height profiles, in particular the existing and planned medium-density residential development nearby zoned "R(B)" which have a maximum BH restriction of 80mPD and 102mPD and a plot raion (PR) of about 2.2 and 3.6, which are comparable with the proposed redevelopment (Figure 1.5);
- Existing OZP Restriction: According to the Notes of the Approved So Kwun Wat OZP No. S/TM-SKW/13, the G/IC zone is subject to a maximum BH of 4 storeys excluding basements and "Flat" uses is under Column 2; (Refer to Figure 1.6); and
- Airport Height Restriction: The building height including all roof-top structures for the proposed development within the Site is subject to the "restricted height" (more commonly

known as Airport Height Restriction (AHR)) specified in the plans prescribed under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301). No part of building or structure or equipment erected or to be erected (including any addition or fitting to such building or structure or equipment) within the Site shall exceed the AHR specified in the plans.

## 2.2 INDICATIVE SCHEME OF THE PROPOSED REDEVELOPMENT

2.2.1 The redevelopment site covers an area of about 2,700 m2. It falls mainly on an existing PGLA no. GLA-TM27/MGS/74, which is allocated to CSD, and other lands in the adjoining areas. The Site is bounded by the Hong Fai Road to the south-east side, the Siu Lam Road to the south-west and north-west side, and a parcel of private land and other unleased land to the north-east side.

2.2.2 The existing PGLA occupies an area of about 1,844 m2. With a view to maximize the numbers of DQ units, CSD has explored with Architectural Services Department (ArchSD), Planning Department (PlanD) and Lands Department (LandsD) and agreed amongst all parties to add two strips of adjoining lands to the Site, forming a total area of about 2,700 m2 with vehicular access area from the existing Siu Lam Road. This can maximise the land potential for an overall better living environment of the Staff Quarters.

2.2.3 The existing site currently falls within an area zoned "Government, Institution or Community" ("G/IC") and "Green Belt" ("GB") on the approved So Kwun Wat Outline Zoning Plan (OZP) No. S/TM-SKW/13. According to the Notes of the OZP, the G/IC zone is subject to a maximum building height (BH) of 4 storeys excluding basements and "Flat" uses is under Column 2. Therefore, an OZP amendment would be required for the realisation of the Proposed Departmental Quarters and a Building Height Restriction (BHR) of about +90mPD at main roof level is proposed to exploit the full development potential of the Site. The Site is proposed to be rezoned from "G/IC" and "GB" to "G/IC(1)" and, to "G/IC(1)" with "Flat (Government Staff Quarters only)" under Column 1 use which is always permitted, subject to a maximum BH of +90mPD at the main roof level to allow design flexibility.

2.2.4 This indicative scheme of the proposed redevelopment will first demolish the existing buildings on the subject site and construct a 21-storey block with 136 DQ units and ancillary facilities including a management office, a multi-function room and car parking spaces. In view of the projected demand, F-grade and G-grade units will help provide for both eligible Officer grade and rank and file (R&F) staff. Therefore, subject to the endorsement of Government Property Agency, the DQ grade mix will be 34 F-grade units and 102 G-grade units.

Table 1.1 Development Parameters of the Indicative Scheme

| Development Parameters | Development Parameters |
|---|---|
| Redevelopment Site: | About 2,700 $m^2$ |
| Proposed Plot Ratio | PR: 3.6 |
| Proposed Gross Floor Area (Domestic): | About 9,720 $m^2$ |
| Proposed Site Coverage[3]: | 65% / 1,755$m^2$ |

[3] According to the Building (Planning) Regulations, the Site has three sides surrounded by roads, namely Siu Lam Road and Hong Fai Road (i.e. with not less than 4.5 m wide) is classified as a "Class C site". The proposed site coverage has not exceeded the limit (65%) set by the said regulation.

| | |
|---|---|
| Podium Area<br>Residential Tower | - About 52.7%<br>- About 29% |
| Proposed Building Height:<br><br>Domestic Parts<br><br>Podium / car parking<br><br>Transfer Structure | About +89mPD[4] / Total 21 storeys (excluding one basement floor for plant room)<br>- 51.6m / 1/F to 16/F (3 m per floor) / 17/F (3.6m) / 17 Residential Storeys<br>- 17m (3.6m per podium floor) / 2 car parking podium storeys / 4m mezzanine level / 5.8 ground floor parking<br>- 2.3m |
| Proposed Nos. of Units (Figure 1.11): | Total 136 DQ units (1 blocks with 8 units per floor)<br>- 34 F-grade units of 70m2<br>- 102 G-grade units of 55m2 |
| Projected Residents[5] (3 bedrooms unit): | About 544 Residents |
| Proposed Private Car Parking Spaces:<br>for residents<br>for visitors | Total 59<br>- 54 (including 1 accessible car parking spaces)<br>- 5 (including 1 accessible car parking spaces) |
| Proposed Loading/ Unloading Space for Goods Vehicle: | 1 |
| Proposed Pick-up/Drop-off bay for Private Car/Taxi: | 1 |
| Proposed Motorcycle Parking: | 10 |
| Greening Area: | Not less than 540m$^2$ (20%) |
| Proposed Open Space: | Not less than 544 m$^2$ |
| Completion Year | 2028 |
| Operational Year | 2029 |

Remark: the development parameters are indicative in nature which are subject to further review in detailed design stage

## 2.3 ACCESSIBILITY

[4] With respect to the existing site formation level of about 11mPD - 22mPD, the proposed building height under the indicative scheme is 89mPD and is considered compatable with the surrounding developments.

[5] Calculation of projected population is based on assumption of about 4 persons per unit on the existing population in Siu Lam Psychiatric Centre Staff Married Quarters.

2.3.1 The existing vehicular run-in and run-out situated at Siu Lam Road will be maintained and improved for accessing the development. The development site is around 300m to the north of Castle Peak Road Tai Lam roundabout which connects with Tuen Mun Road and Castle Peak Road and hence is highly accessible from different parts of the HKSAR territories.

## 2.4 OVERVIEW

2.4.1 The Site is located within the "G/IC" cluster of the Approved So Kwun Wat OZP No. S/TM-SKW/13. The surrounding developments, land uses, existing and permitted BHs and the topography within the close vicinity have been considered for deciding the development potential of the area. Given that land is a scarce resource and that, there is a high demand and target production rate for DQs, it is suggested that this planning proposal, which seeks to obtain the right to build DQs with a PR of 3.6 at a maximum building height of approximately 90mPD at the main roof level, will make a positive contribution towards addressing the preceding high demand on DQs whilst also optimising the development potential of the Site without generating adverse impacts to the surrounding environment.

# 3. DESIGN CONSIDERATION(S)

## 3.1 BUILDING DESIGN CONSIDERATIONS FOR THE PROPOSED DEVELOPMENT

3.1.1 The planning for the proposed development has taken into account the following design considerations (Figure 1.3):

a) Regulatory and Guidelines Compliance: The proposed redevelopment aims to create a harmonious built environment that complies with all relevant guidelines, regulations and standards. These include conformity with the principles set out in the prevailing Approved So Kwun Wat OZP No. S/TM-SKW/13, the AHR specified in the plans prescribed under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301), the Hong Kong Planning Standards and Guidelines (HKPSG), the Air Pollution Control Ordinance (APCO) Cap 311[6]; the Waste Disposal Ordinance and Waste Disposal (Chemical Waste) (General) Regulation; techincal circular ETWB TC(W) No.29/2002 regarding all geotechnical features; DEVB TC(W) no. 3/2012; the joint circular, Development Bureau Technical Circular No. 2/2015 and Environmental Bureau Circular Memorandum No. 3/2015 on "Green Government Buildings" on the adoption of energy efficient features and renewable energy technologies; the Practice Note for Authorised Person, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-152[7], the Buildings Ordinance (BO) Cap 123[8] and the Building (Planning) Regulations (B(P)R) Cap 123F etc.

According to the Guidelines for Parking Provision for New Disciplined Services Quarters Projects, it is Security Bureau's (SB) promulgated policy to exempt all GFA of above-ground car parking area and to adopt the flat unit to car parking space ratio of 2.5:1 and the flat unit to motorcycle parking space ratio of 15:1. For the provision of visitor car parking, the proposed redevelopment will adopt the requirements under the HKPSG. These guidelines and ordinances have been used as tools to explore an optimal development arrangement on the Site.

b) Building Height: The BH restrictions pertaining to surrounding developments range from about 3 storeys to 99mPD. According to the Section 1.1.2 to 1.1.4, in order to maximize the utilization of the Site for the provision of DQ units, the indicative scheme of the proposed redevelopment of the project is proposed to adopt a building height of 89mPD with 17 residential storeys plus 4 storeys for podium/ car parking. As the existing formation level of the Site is ranging from 11mPD to 22mPD and the physical height of the proposed development will be about 70.9m the resultant elevation of the development will rise to about a maximum +90mPD at main roof level. This at a height which is consistent with the prevailing building height profile within the surroundings of the Site with Palatial Coast at about 99 mPD with 26 storeys. The site is within the So Kwun Wat area and adjoins the Tuen Mun New Town which falls within the Density Zone 3 where maximum PR 3.6 is applicable in accordance to the HKPSG. The proposed podium can increase the separation between the residential floors and the carriageways, therefore, providing the shielding effect of

---

[6] The Air Pollution Control Ordinance (Cap. 311) sets out Air Quality Objectives (AQOs) in 2014 and provides for the periodic review of the AQO sat least once every five years with a view to promoting the conservation and best use of air in the public interest.

[7] This practice note promulgates guidelines on building design that will enhance the quality and sustainability of the built environment in Hong Kong.

[8] To provide for the planning, design and construction of buildings and associated works; to make provision for the rendering safe of dangerous buildings and land; to make provision for regular inspections of buildings and the associated repairs to prevent the buildings from becoming unsafe; and to make provision for matters connected therewith.

the noise generated from the carriageways. It is suggested that the proposed building height at about a maximum +90mPD at main roof level will not cause any incompatiability in terms of existing building height profile within the surrounding area abut. It will also have the benefit of optimising the development potential of the Site.

c) Noise Impact and Air Quality: Building setback of about 19m from Siu Lam Road, 8m from Hong Fai Road and 43m from Tuen Mun Road to the sensitive uses of the Proposed Redevelopment have been made to minimize the potential air quality and road traffic noise impact from the major roads in the vicinity of the Site. Moreover, architectural fins and acoustic windows are also employed to further alleviate road traffic noise impact. With the implementation of mitigation measures above, adverse noise and air quality impact on the Proposed Redevelopment is not anticipated.

d) Greening Coverage*:* The provision of not less than 20% total Site Coverage of Greenery is proposed to enhance visual amenity of the proposed development and help mitigate the heat island effect. A minimum of 10% Site Coverage of Greenery or 50% of the total greenery is to be provided at-grade. The proposed provision complies with the minimum requirement of 20% total Site Coverage of Greenery with 10% at-grade greenery for a site smaller than 2ha as stipulated under the the Development Bureau's Technical Circular (Works) No. 3/2012 - Site Coverage of Greenery for Government Building Projects. This will contribute to improvement of local environmental conditions and enhance visual amenity (Figure 1.13). The courtyard of the proposed development has been designed with recreational area and leisure space for the future residents. Greening opportunities within the Site have been maximised as far as possible to enhance the visual amenity of the proposed development and blend in with the vegetated "GB" in the close vicinity. For compensating the proposed tree felled, a compensatory planting ratio of not less than 1:1 in terms of quantity has been suggested. The proposed compensatory planting ratio complies with the Development Bureau's Technical Circular (Works) No. 4/2020 – Tree Preservation.

e) Open Space: It is projected that the development will accommodate to 544 residents. The proposed development will include not less than 544m$^2$, equivalent to a minimum of 1m$^2$ per person, of open space including recreational facilities for residents of all ages and abilities, and various planting areas. These are located on the ground floor and at podium level. The proposed open space provision complies with the requirement of 1m$^2$ of local open space per person stipulated under the HKPSG and will provide valuable open space that can be enjoyed by the future residents. The open space and the recreational area are, furthermore, separated from the driveway and the Emergency Vehicular Access (EVA) to provide a discrete and secure open space (Figure 1.7).

f) Visual Impact: the building design of the proposed development has been carefully designed with respect to the impacts from the surrounding uses, suggestions / requirements as stated in the relevant regulations / ordinances / guidelines. The proposed development with a maximum BH of about +90mPD at the main roof level will not only allow more spaces for the innovative and sustainable building design, but also the layout has taken into account mitigation measures such as careful building disposition, setback, façade treatment, etc. in order to minimize the visual impact of the proposed redevelopment. Moreover, an at grade opening as a cross ventilation mitigation measure at Siu Lam Road will also help to improve internal circulation within the proposed development. Combining at grade parking spaces with noise setback from Tuen Mun Road can also efficiently utilise the scarce land resource which has been presented on the layout of the proposed development.

3.1.2 All of the above planning and design principles and parameters were adopted and taken into account during the formulation of the proposed development scheme.

# 4. LANDSCAPE PROPOSAL

## 4.1 INTRODUCTION

4.1.1 This Landscape Proposal describes the landscape design framework which creates an integrated landscape system within the Proposed Development.

4.1.2 All of the relevant legislation and guidelines were adopted and taken into account during the formulation of the Landscape Proposal.

## 4.2 RELEVANT LEGLISLATION AND GUIDELINES

In preparation of this Landscape Proposal, reference has been made to the following legislation, technical circulars, practice notes and publications:

• Forests and Countryside Ordinance (Cap. 96);

• Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);

• Country Parks Ordinance (Cap. 208);

• Development Bureau Technical Circular (Works) No. 4/2020 (DEVB TC(W) No. 4/2020)

• Development Bureau Technical Circular (Works) No. 5/2020 Registration and Preservation of Old and Valuable Trees (DEVB TC(W) No. 5/2020)

• Development Bureau Technical Circular (Works) No. 6/2015 -- Maintenance of Vegetation and Hard Landscape Features;

• Joint Practice Note (JPN No. 3) - Landscape and Site Coverage of Greenery

• Planning Department Practice Note for Professional Persons No. 1/2019 Processing and Compliance Checking of Landscape Submissions related to Planning Applications

• Agriculture, Fisheries and Conservation Department Publication - 'Check List of Hong Kong Plants 2012' (2012);

• Agriculture, Fisheries and Conservation Department Publication - 'Rare and Precious Plants of Hong Kong' (2003);

• Hong Kong Planning Standards and Guidelines (HKPSG); and

• Development Bureau Technical Circular (Works) No. 3/2012 -- Site Coverage of Greenery for Government Building Projects).

## 4.3 LANDSCAPE DESIGN PRINCIPLES

4.3.1 Reference has been made to the landscape setting of the Proposed Development, landscape measures stipulated under the Explanatory Statement (ES) of the Approved So Kwun Wat Outline Zoning Plan (OZP) No. S/TM-SKW/13 and relevant guidelines and requirements under HKPSG, to formulate a set of landscape principles to inform the preparation of the Landscape Layout Plan in support of the Layout Plan. The landscape proposal encompasses the following principal objectives:

<u>Establishing a high-quality functional open space network</u>

- To provide an interconnected open space network that affords users opportunities for both passive and active recreation within the Proposed Development; and

- To introduce tree planting and landscape treatments that can contribute to the provision of shading to enhance the thermal comfort of the Proposed Development.

Enhancing connectivity

- To establish well-connected pedestrian network within the Proposed Development; and

- To promote accessibility with facilities and designs that consider the needs of the elderly and disabled.

Enhancing compatibility with its natural surroundings

- To provide planting on ground level, podium deck level and along the podium edge to soften the appearance of the Proposed Development and to provide a continuous green network between the surrounding and the Proposed Development; and

- To minimise possible impact to existing trees and slopes as far as possible.

## 4.4 LANDSCAPE LAYOUT PLAN

4.4.1 The landscape layout plan aims to capture the landscape resources and amenity value offered by the close proximity to the sea and being surrounded by medium and low-density residential development setting and lush Green Belt area. The design takes into consideration aesthetic, functional and sustainability aspects of the Proposed Development and its surroundings. The landscape areas have been designed to provide various recreational facilities for all residents and to allow ease of access and circulation. Greening opportunities within the Proposed Development have been optimised as far as possible to enhance the visual amenity and to promote a desirable microclimate of the Proposed Development.

4.4.2 Connectivity: The design of the proposed DQ seeks to maximise greening areas as much as possible. The main landscape area is located within the centre of the development. The Redevelopment Site will be provided with more space for high-level planting for enhancing the quality of the building and leisure area for family gathering and enjoyment to meet greening requirements (Figure 1.13).

4.4.3 Vistas: The inclusion of designated activity areas such as a multi-purpose terrace or a seating area will permit through vistas to the immediate surroundings and beyond. A number of views will be achievable from within the Proposed Development. These will vary in aspect and will consist of the following:

Ocean View – to the Southwest across Castle Peak Road – Tai Lam. Views can be achievable from the Mezzanine Level and above.

Green Belt Views – to the Northeast and Southeast overlooking lush hillside vegetation in Green Belt zone. Views can be achievable from the Mezzanine Level and above.

Neighbourhood Garden View – to the Northwest overlooking and open space of the nearby residential clubhouse and the hillsides beyond. Views can be achievable from the Mezzanine Level and above.

Internal Views – views can be achievable from the internal circulation spaces and recreational areas that will be subject to a variation of hard and soft landscape treatments. Within such areas, vistas will be enhanced through the application of greening on podium edge.

4.4.4 Overall Open Space Provision: A comprehensive open space network of not less than 544m$^2$ (equivalent to not less than 1 m$^2$ of open space per resident, see Table 4.1 and Figure 1.15, 1.16, 1.17 and 1.19), has been proposed as part of the Proposed Development to provide ample opportunities for users to rest, interact and carry out recreational activities. Open spaces for the enjoyment of the residents are proposed at 2 levels i.e., Ground Floor (about 18mPD) and Podium Deck / Mezzanine Level (about 31mPD). The two open spaces can be connected via 2 residential lifts and are visually connected with level difference less than 15m (3 storeys). Recreational facilities will be provided within the open spaces for residents of all ages and abilities.

Open Space at Ground Floor (+17.95mPD) This open space will provide a transitional landscape area, between the Staff Quarters and its immediate environs, for the residents to rest and relax. Dense tree and shrub planting is proposed along the north and northeast perimeter walls. Outdoor seats, multi-purpose court and pavilion will be provided for small gathering. Trellis canopies are also proposed at seating areas to provide shade and shelter and optimal comfort for the users.

Open Space at Podium Deck / Mezzanine Floor (+30.95mPD) This open space comprises a cluster of recreational facilities which promote healthy lifestyles and facilitate parental/mutual care among different age groups. These include an exercise area with fitness equipment, a covered children's play area in proximity with each other to cater to different social and physical activities as well as promoting intergeneration, bonding, and social interaction within the residential community. Outdoor seating, semi-outdoor seating, multi-purpose terraces and a multi-purpose court etc. are proposed to provide a variety of resting / social spaces to cater to different user preferences. Indicative landscape sections depicting the proposed open space and landscape treatment are illustrated in Figure 1.18.

Table 4.1 – Summary of Open Space Provision

| Item | Population | Required Open Space Provision | Open Space Provided |
|---|---|---|---|
| Open Space Provision | 544 Residents | 544m$^2$ (1m$^2$ per person according to HKPSG) | Not less than 544m$^2$ (Not less than 1m$^2$ per person) |

4.4.5 Site Coverage of Greenery of not less than 20% of the total site area will be provided, in accordance with the requirement under Technical Circular (Works) No. 3/2012 - Site Coverage of Greenery for Government Building Projects. (see Table 4.2 and Figure 1.15, 1.16, 1.17 and 1.19), Not less than 50% of the total greenery provision or 10% of the site area will be provided at-grade.

Table 4.2 – Summary of Greenery Provision

| Item | Site Area | Total Greenery Required | Greenery Required At-grade | Total Greenery Provided | Greenery Provided At-grade |
|---|---|---|---|---|---|
| Site Coverage of Greenery | 2,700m$^2$ | 540m$^2$ / 20% | 270m$^2$ / 10% | Not less than 540m$^2$ / 20% | Not less than 270m$^2$ / 10% |

## 4.5 HARD LANDSCAPE TREATMENTS

4.5.1 Hard landscape elements include EVA, footpath paving, planters, benches, furniture, trellis canopies/pavilions, surfaces finishes and chromatic treatment. These elements will be designed and selected according to the following general criteria:

• High quality, visually appealing and functional

• Durability – utilise long-lasting or permanent materials and finishes

• Low-to-medium maintenance – utilise materials that are not stained easily and are easily cleaned

• Safety – utilise materials and elements that are free of harmful chemicals and are installed in a manner that avoids trip hazards, accident or other risks. The materials employed will strictly meet technical / design requirements to ensure that they, at specified locations, can function as emergency gathering spaces.

4.5.2 The table below shows the preliminary schedule of finishes for hardscape based on the general selection criteria listed in Section 4.5.1:

Table 4.2 – Indicative Hard Landscape Materials

| Area | Materials (Subject to detailed design) |
|---|---|
| EVA / Driveway | Driveway: Permeable concrete pavers, artificial/natural stone setts<br>Kerbs: Concrete kerb blocks, Artificial/natural granite kerb blocks |
| Ground Level Paving | Feature Areas: Natural stone setts<br>General Areas: Concrete or clay pavers |
| Podium Deck Paving | General Paving: Natural stone setts, concrete or clay pavers<br>Terrace/Deck Areas: Composite decking |
| Inter-generational Recreation Area | Proprietary children play equipment and fitness stations for adults<br>Safety matting |
| Fence Wall | Low level: Concrete wall with stone cladding<br>High level: Permeable metal fencing |
| Planters | Concrete with stone or rendered finish |

*All proposed pavers shall be slip-resistant.

4.5.3 Lighting - All accessible external areas and open spaces will be provided with sufficient illumination to meet the required lighting standards. The lighting design includes two types of lighting as follows:

- Safety Lighting: Sufficient lighting with minimum lux level will be provided along the circulation routes to ensure safety and will last between midnight until early morning. Recessed lights or anti-glare in-ground lights shall be provided at locations where pathways change levels. Only sufficient light will be provided, and glare will be avoided.

- Landscape Lighting: Low level lighting such as wall recessed lights and bollard lighting for sitting areas will be provided to minimise visual intrusion of high lamp poles to users; and spot lighting for focal points and entrance signage. No lighting will be installed on trees to prevent damage to trees.

4.5.4 Barrier-Free Access - The Proposed Development will be designed according to the latest version of the Building Department's Design Manual: Barrier Free Access. All pedestrian pavements will be accessible by wheelchair. Ramps of gradient no greater than 1:12 will be provided where level changes except in the situations of minor rise, maximum 1:10 or 1:8 gradient will be acceptable for

maximum rise of 150mm or 75mm respectively. Handrails and grab bars will be provided where appropriate for the mobility impaired, as well as the elderly.

4.5.5 Safety Standards - All outdoor facilities will comply with the relevant safety standards and guidelines including proprietary play equipment, fitness equipment and safety surfacing for the Inter-generational Recreation Area with noise-absorbing materials incorporated and the use of polished materials such as metal and glass avoided.

## 4.6 SOFT LANDSCAPE TREATMENTS

4.6.1 Soft landscape elements include planting, planting soil, drainage materials and various soil improvement materials. The aim of the planting design is to create an attractive environment with year-round interest. A variety of flowering species, foliage shrubs and groundcovers will be planted for ornamental effect with seasonal interest and highlights. Mixture of native and exotic plant species will be adopted to enhance the biodiversity of the Proposed Development. The plant species selection takes into considerations the amenity value, the suitable size, the market availability, and the ease of maintenance for future party, which contributes to the sustainability of long-lasting quality landscape. (see Table 4.3)

4.6.2 The planting regime will ultimately be subject to detailed design but an indicative planting schedule with species, sizes and spacing of trees and plants is provided in Table 4.3.

Table 4.3: Indicative List of Proposed Plant Species

| Species | | Size | | Typical spacing (mm) |
|---|---|---|---|---|
| Scientific Name | Chinese Name | Height (mm) | Spread (mm) | |
| Podium Deck / Mezzanine Floor (+30.95mPD) | | | | |
| Trees | | | | |
| *Camellia japonica* | 山茶 | Standard | | Min. 3m |
| *Lagerstroemia indica* | 紫薇 | Standard | | Min. 4m |
| *Viburnum odoratissimum* | 珊瑚樹 | Standard | | Min. 4m |
| Shrubs | | | | |
| *Melastoma malabathricum* | 野牡丹 | 450 | 300 | 300 |
| *Rhododendron simsii* | 紅杜鵑 | 300 | 300 | 300 |
| *Rhodomyrtus tomentosa* | 桃金娘 | 300 | 300 | 300 |
| *Schefflera arboricola* | 鵝掌藤 | 400 | 300 | 300 |
| Groundcover | | | | |
| *Lantana montevidensis* | 小葉馬纓丹 | 300 | 250 | 250 |
| *Ophiopogon intermedius* 'Variegata' | 花葉沿階草 | 200 | 150 | 150 |
| Trailing Plant on Podium Edge | | | | |
| *Lantana montevidensis* | 小葉馬纓丹 | 300 | 250 | 250 |
| Ground Floor (+17.95mPD) | | | | |
| Trees | | | | |
| *Camellia japonica* | 山茶 | Standard | | Min. 3m |

| Species | | Size | | Typical spacing (mm) |
|---|---|---|---|---|
| Scientific Name | Chinese Name | Height (mm) | Spread (mm) | |
| *Plumeria rubra* | 紅花雞蛋花 | Standard | | Min. 6m |
| *Viburnum odoratissimum* | 珊瑚樹 | Standard | | Min. 4m |
| Shrubs | | | | |
| *Ixora chinensis* | 龍船花 | 300 | 250 | 250 |
| *Murraya paniculata* | 九里香 | 600 | 400 | 400 |
| Groundcover | | | | |
| *Lantana montevidensis* | 小葉馬纓丹 | 250 | 250 | 250 |
| *Ophiopogon intermedius* 'Variegata' | 花葉沿階草 | 200 | 150 | 150 |

4.6.3 Podium Edge Treatments: Compensatory tree planting along the podium edge on Mezzanine Level will be provided to soften the appearance of the residential towers and the podium when viewed from the outside. The podium edge will be enhanced by understory shrub planting as well as trailing plants to drape over the parapet wall to soften the podium edge.

4.6.4 Soil Depth, Size of Planting Areas and Drainage: For planters, a minimum of 1,200 mm soil depth will be provided for the tree planting, a minimum of 600 mm soil depth will be provided for the shrub planting and a minimum of 300 mm soil depth will be provided for groundcover areas. All planting areas will be provided with a sub-soil drainage system with a proprietary drainage cell layer or drainage aggregate with a geo-textile filter membrane and will have drainage outlets connected to a piped drainage system.

4.6.5 Irrigation: Automatic or manual irrigation system will be provided as appropriate. For manual irrigation, water points will be provided at 40 m spacing covering all planting areas. To reduce the use of potable water for irrigation purpose, the adoption of rainwater harvesting / grey water reuse system will be investigated during further study at the stage of detailed design.

# 5. TECHNICAL ASSESSMENTS

## 5.1 INTRODUCTION

5.1.1 Technical assessments have been undertaken to assess the potential impact of the proposed redevelopment with respect to drainage, visual impact, traffic, environmental, geotechnical and sewerage. Relevant legislation, standards and guidelines were taken into account when carrying out the impact assessments. The findings of technical assessments are summarized in Annexes A to G and briefly stated below for easy reference.

Air Ventilation Assessment (AVA)

5.1.2 According to "Housing Planning and Lands Bureau – Technical Circular No. 1/06, Environment, Transport and Works Bureau – Technical Circular No. 1/06" issued on 19 July 2006, the Proposed Redevelopment does not fall within the criteria for air ventilation assessment. Significant adverse air ventilation impact on the surrounding pedestrian environment is not anticipated. Hence, an AVA might not be necessary for this rezoning.

Chlorine Hazard Assessment (CHA)

5.1.3 It has been advised by Water Supplies Department that Tai Lam Chung No 2 Chlorination Station ("TLCCS") will be delisted from potentially Hazardous Installations (PHI) in Q3 of 2024 tentatively. As there is no overlap between the delisting programme of TLCCS and the programme of the Proposed Redevelopment, chlorine hazard assessment ("CHA") report shall not be required.

5.1.4 There is no On-site Chlorine Generation Plant (OSCG) to be installed at Tai Lam Chung No.2 Chlorination Station. Liquid chlorine will be replaced by sodium hypochlorite solution either produced by OSCG from other water treatment works or local supplier. The delisting programme of TLCCS and the programme of the Proposed Redevelopment will be reviewed to confirm the necessity of CHA report prior to any construction works of the Proposed Redevelopment. If there will be an overlapping of both programmes, submission of the CHA report is required.

## 5.2 SUMMARY OF TREE PRESERVATION PROPOSAL – ANNEX A

5.2.1 A total of 40 trees will inevitably be required to be felled and a total of 40 compensatory trees is proposed for the new redevelopment which is equivalent to a 1:1 compensatory ratio in terms of quantity. Opportunities for compensatory planting within the site are limited by the building footprint and the operational requirements of vehicular access (EVA and parking). Within the constraints of the Site, it is considered feasible to be able to plant a total number of 40 compensatory trees of standard size with average Diameter at breast height (DBH) of 100mm (or a mix of tree size with same total DBH) will be planted within the Proposed Development. Due to the space constraints, tree species with a small to medium ultimate size have been selected. A combination of native and exotic species has been selected in order to enhance the sustainability, biodiversity and visual attractiveness of the Site and integrate the development with the surrounding green belt. The proposed 40 compensatory trees meet the compensatory tree ratio of a minimum of 1:1 in terms of quantity, as required under DevB TC(W) No. 4/2020.

## 5.3 SUMMARY OF VISUAL IMPACT ASSESSMENT – ANNEX B

5.3.1 The Visual Impact Assessment (VIA) is provided in Annex B. The purpose of the VIA is to assess the potential visual impacts arising from the Proposed Redevelopment at Siu Lam within the surrounding context. A VIA has been carried out to assess the residual visual impacts arising upon completion of the Proposed Redevelopment (the assessment of the construction stage impacts are not required

under TPB PG-No.41). Overall, the visual impact significance of the Proposed Redevelopment as shown on Figures 5.1 to 5.6 under Annex B is assessed as Moderately Adverse. The proposed visual mitigation measures including the alignment and arrangement of the Proposed Redevelopment, the sensitive aesthetic architectural design and chromatic treatment of built structures, compensatory tree planting, amenity landscape design and greening measures on the podium structure, as well as maintaining a building height which is consistent with the prevailing building height profile within the surroundings of the Site will contribute to reducing and soften the visual impacts but they will not be sufficient to completely eliminate them and reduce the overall residual impact to a lower significance threshold. More details and a summary of the degree of impacts to key public viewing points are provided in Annex B. In conclusion, the overall visual impact significance of the Proposed Redevelopment is assessed as Moderately Adverse, that is, the Proposed Redevelopment will, with or without mitigation measures, result in overall terms some negative visual effects to most of the identified key public viewing points.

## 5.4 SUMMARY OF PRELIMINARY ENVIRONMENTAL REVIEW (PER) – ANNEX C

### Noise Impact

5.4.1 During the construction stage of the Proposed Redevelopment, with the implementation of the good site practices and noise mitigation measures, no adverse construction noise impact is anticipated.

5.4.2 The Site of the Proposed Redevelopment is surrounded by residential premises and natural landscape in the vicinity. To the east of the Site is the Integrated Rehabilitation Service Complex (IRSC) at Ex-Siu Lam Hospital Site currently under construction. A quantitative assessment has been conducted to evaluate the fixed source noise impact from the IRSC on the Proposed Redevelopment. It is concluded that no adverse fixed noise impact on the noise sensitive uses of the Proposed Redevelopment arising from the operation of the IRSC is anticipated. Apart from the fixed noise sources of IRSC, no other fixed noise source is identified within 300m surrounding the Site. As such, no adverse fixed source noise impact on the Proposed Redevelopment is anticipated.

5.4.3 Most of the electrical and mechanical (E&M) equipment will be installed inside plant rooms, adverse fixed noise impact arising from the operation of the Proposed Redevelopment is not anticipated.

5.4.4 For road traffic noise, the predicted noise impact on the Proposed Redevelopment shall comply with the standards as recommended in Chapter 9 Environment of the HKPSG with the mitigation measures in place. The road traffic noise mitigation measures in terms of self-protecting building design and arrangement have been considered and incorporated into the layouts including architectural fins and acoustic windows. With the aforementioned proposed mitigation measures in place, the road traffic noise levels at the noise sensitive receivers of the Proposed Redevelopment shall comply with the criterion of 70dB(A) recommended in Chapter 9 of HKPSG.

### Air Quality Impact

5.4.5 During the construction stage, to avoid adverse dust impact on the air sensitive receivers nearby, good site practice, good engineering practice and dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be provided, implemented and maintained during the construction phase of the Proposed Redevelopment. With the implementation of dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation, dust generation can be controlled and significant fugitive dust impact is therefore not anticipated.

5.4.6 The minimum buffer distances required between industrial chimneys and active open spaces are recommended in Chapter 9 Environment of HKPSG standards. Based on the site visit, no existing chimney was identified within 200m from the boundary of the Site. In addition, no adverse air quality impact from the redevelopment of the ex-Siu Lam Hospital into IRSC was concluded in its PER study.

Therefore, no adverse air quality impact from the chimney emission on the Proposed Redevelopment is anticipated.

5.4.7 The minimum buffer distances required between different types of roads and active open spaces are recommended in Chapter 9 Environment of HKPSG standards as well. No adverse air quality impact on the Proposed Redevelopment from the vehicular emission is anticipated with the sufficient buffer distance provided between these air pollution sources and the Proposed Redevelopment.

5.4.8 For the emergency generator of the Proposed Redevelopment, with reference to Guidelines on Application for Installation of Emergency Generators, the exhaust outlets of emergency generation room shall be sited at such a place where the ventilation is good and in such a manner that the emissions from them can be adequately dispersed without hindrance; and these exhaust outlets shall be distant from the nearby inhabitants as farthest as possible such that their emissions will not cause or contribute to any forms of air pollution. No adverse air quality impact from the Proposed Redevelopment on the surrounding air sensitive uses is anticipated.

Water Quality Impact

5.4.9 During the construction stage, water quality impacts can be properly controlled with the implementation of good site practice. Portable toilets will be provided for construction workers on-site. Provided these measures are implemented, it is unlikely that any adverse water quality impacts from the Site will be generated during the construction phase. The contractor shall apply for a Discharge License from Environmental Protection Department (EPD) under the Water Pollution Control Ordinance. All site discharges shall be treated in accordance with the terms and conditions of the Discharge License.

5.4.10 During the operation stage, no adverse water quality impact is anticipated from the wastewater / sewage generated by the Proposed Redevelopment. A separate Sewerage Impact Assessment Report has been prepared and concluded that there will be no adverse sewerage impact from the Proposed Redevelopment. Overall, therefore, no adverse water quality impacts are anticipated during the construction or operational phases of the Proposed Redevelopment.

Waste Management

5.4.11 With the development of Waste Management Plan and implementation of good site practices, the waste generated during construction phase can be greatly reduced. Provided that good site practices recommended are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase. During the operation phase, the major type of waste generated will be domestic wastes generated from the residents of the Proposed Redevelopment. Since this kind of waste will be collected on a regular basis by waste collectors and will be disposed of at landfill, and domestic waste will be collected on a regular basis by Food and Environmental Hygiene Department or private collector, and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation. With the implementation of recommended mitigation measures, adverse waste impacts generated during the construction and operation phase of the Proposed Redevelopment are not anticipated.

Land Contamination

5.4.12 An appraisal of the past and present land-use of the Project Site was carried out and it is confirmed that no evidence of historic land contamination issues was identified and need to be dealt with prior to the Proposed Redevelopment.

## 5.5 SUMMARY OF DRAINAGE IMPACT ASSESSMENT – ANNEX D

5.5.1 According to the Drainage Impact Assessment (DIA), the proposed development will alter the drainage regime within the Site and the vicinity area. The cumulated runoff from the Site and surrounding catchment will flow to the existing 300mm and 450mm U channel located at the north boundary of the Site. Part of the collected runoff will then drain to 3000mm X 2500mm underground stormwater pipe via and existing culvert and underground Ø450mm circular pipe. Thus, the existing stormwater system will have sufficient capacity to receive stormwater runoff from the Proposed Development and surrounding catchments. As such, no insurmountable problems with respect to flood risks within surrounding areas are anticipated.

## 5.6 SUMMARY OF SEWERAGE IMPACT ASSESSMENT – ANNEX E

5.6.1 A summary of Sewerage Impact Assessment (SIA) are included in Annex E. A total average daily dry weather flow from the Proposed Development is estimated to be 201.3$m^3$/day during the operation stage. The cumulative flow from the Site and relative catchments represents equal to/ less than 55% of the local sewerage capacity (i.e. from Manhole FMH1066248 to FMH1066237). Therefore, no adverse impact on the local sewerage system is expected.

## 5.7 SUMMARY OF TRAFFIC IMPACT ASSESSMENT – ANNEX F

5.7.1 The vehicular access for the Proposed Redevelopment will be located at Siu Lam Road similar to the existing situation. Totals of 59 car parking spaces (including 2 accessible car parking spaces) and 10 motorcycle parking spaces will be provided within the Site. In addition, one loading/unloading space for goods vehicle and one pick-up/drop-off bay for car/taxis will be provided on the G/F of the proposed redevelopment. It is noted that as disciplinary staff have to working on shift basis, the trip rates observed at the existing DQ sites are generally lower than the trip rates for private housing. Nevertheless, to provide conservative estimates, the higher trip rates for private housing are adopted to estimate the additional traffic to be induced by the Proposed Redevelopment, i.e. around 50 pcu's (20 in and 30 out) and 39 pcu's (20 in and 19 out) in the AM and PM peak hour respectively.

5.7.2 The results of the traffic assessments indicate that all the key junctions in the vicinity of the Site would perform within capacity during the AM and PM peak periods without or with the proposed redevelopment, i.e. the proposed redevelopment would not create significant traffic impact on the nearby road network.

5.7.3 Around 80 pedestrians are anticipated to be generated by the proposed redevelopment during peak hours. Over 30 regular daily bus routes (excluding special peak hour routes) are available at the nearby bus stops at Castle Peak Road (Tai Lam) and Tuen Mun Road Bus Interchange (Kowloon bound), the additional demand by the proposed re-development would be minimal, i.e. with an additional 1 -2 passengers per bus trip

5.7.4 Pedestrian facilities along the major pedestrian route of the site were assessed. The results of the assessments indicate that all the concerned footpaths and crossings would perform satisfactorily with sufficient spare capacities without or with the proposed development. Enhancement of pedestrian crossing adjacent to the Site would be further explored in the detailed design stage of the Project.

## 5.8 SUMMARY OF GEOTECHNICAL PLANNING REVIEW – ANNEX G

5.8.1 A Geotechnical Planning Review was conducted for the proposed redevelopment based on the available geological and geotechnical data, and it is concluded that the proposed redevelopment is geotechnically feasible. Significant geotechnical hazards / constraints that may adversely affect the future redevelopment are not evident from the available information. There are two existing geotechnical features, 6SW-D/F273 and 6SW-D/F295 which will be retained and modified respectively under the redevelopment. A natural terrain hazard study should be carried out for the existing natural hillsides located on the upslope of the Site to determine any potential natural terrain hazards and their

associated impacts. It is also recommended that project-specific ground investigation should be carried out to facilitate the detailed engineering designs.

## 5.9 OVERVIEW

5.9.1 As stated above, various technical assessments have been undertaken with respect to the visual, environmental, drainage, sewerage, traffic and geotechnical impacts. These assessments all proved that the proposed DQ would not generate insurmountable impacts on the surrounding environment.

# FIGURES

All figures and drawings shows an indicative scheme only

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Redevelopment Site Location on Aerial Photograph

| Scale | Date | Figure No. |
|---|---|---|
| 1:1,000 @ A3 | July 2022 | 1.1 |

All figures and drawings shows an indicative scheme only

**LEGEND**

- Redevelopment Site
- G/IC — Government, Institution or Community
- R(B) — Residential (Group B)
- GB — Green Belt

Note: Adopted from part of the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 gazetted on 11 December 2015.

Adopted from part of the Draft Tuen Mun Outline Zoning Plan No. S/TM/36 gazetted on 22 July 2022.

Palatial Coast
R(B)1
LPG Store
Block 1
Club House
GB
SIU LAM TSUEN ROAD
SIU LAM ROAD
HONG FAI ROAD
Siu Lam Psychiatric Centre Senior Staff Married Quarters
WIP Jan 2020
G/IC
4
6
R(B)
OZP No. S/TM-SKW/13
OZP No. S/TM/36
Integrated Rehabilitation Services Complex (IRSC)
NORTH
0 10 20 30 40 50m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Redevelopment Site Location on Outline Zoning Plan

| Scale | Date | Figure No. |
|---|---|---|
| 1:1,000 @ A3 | August 2022 | 1.2 |

All figures and drawings shows an indicative scheme only

Palatial Coast

Siu Lam Tsuen Road

Siu Lam Road

Tuen Mun Road

Hong Fai Road

Castle Peak Road - Tai Lam

TUEN MUN ROAD

Block 1

Block 2

Club House

Podium (Car Park under)

Grand Pacific Resort Club

Siu Lam Psychiatric Centre Junior Staff Married Quarters

LPG Store

PH

PO

RCP

TS

ET

WIP Oct 2013

**LEGEND**

Redevelopment Site

**Integrated Rehabilitation Services Complex (IRSC)**

NORTH

0 10 20 30 40 50m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Redevelopment Site Location on Survey Map

| Scale | Date | Figure No. |
|---|---|---|
| 1:1,000 @ A3 | July 2022 | 1.3 |

All figures and drawings shows an indicative scheme only

1

Palatial Coast

Siu Lam Tsuen Road

Siu Lam Road

Tuen Mun Road

Hong Fai Road

Castle Peak Road - Tai Lam

TUEN MUN ROAD

Podium (Car Park under)

Block 2

Block 1

Club House

Grand Pacific Resort Club

PH

LPG Store

Psychiatric Centre Married Quarters

Siu Lam Psychiatric Centre Junior Staff Married Quarters

WIP Oct 2013

**LEGEND**

Redevelopment Site

**Residential Development**

1 Palatial Coast

**LAND USE**

Government, Institution or Community

Residential (Group B)

Green Belt

**Integrated Rehabilitation Services Complex (IRSC)**

NORTH

0 10 20 30 40 50m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Surrounding Development of Redevelopment Site

Scale: 1:1,000 @ A3

Date: July 2022

Figure No.: 1.4

All figures and drawings shows an indicative scheme only

## LEGEND

Redevelopment Site

**Residential Development**

1. Palatial Coast
2. The Castle Bay
3. Castle Peak Villas
4. Fiona Garden
5. Barbecue Gardens
6. Peak Castle
7. Grandview Terrace

**Government, Institution or Community**

1. Siu Lam Psychiatric Centre
2. Officers' Married Quarters Siu Lam Psychiatric Centre Block B
3. Integrated Rehabilitation Services Complex (IRSC)
4. CSD Married Staff Quarters
5. Marine Police West Divisional Headquarters
6. Hong Kong Observatory Terminal Doppler Weather Radar Station
7. Customs Detector Dog Division Headquarters cum Tai Lam Dog Base
8. Hong Kong Customs College

**LAND USE**

- Comprehensive Development Area
- Government, Institution or Community
- Village Type Development
- Residential (Group B)
- Residential (Group C)
- Open Space
- Green Belt
- Other Specified Uses

0 50 100 150 200 250m

NORTH

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Surrounding Development of Redevelopment Site

| Scale | Date | Figure No. |
|---|---|---|
| 1:5,000 @ A3 | July 2022 | 1.5 |

GOVERNMENT, INSTITUTION OR COMMUNITY

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



GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Planning Intention

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

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storey(s) (excluding basement floor(s)) or mPD as stipulated on the Plan, or the height of the existing building which was in existence on the date of the publication in the Gazette of the notice of the So Kwun Wat OZP No. S/TM-SKW/10 on 7.5.2010, whichever is the greater.

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

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

`A'

A'

GUARD HOUSE

GAS GOVER KIOSK

BUILDING LINE ABOVE

17.95

EVA

LAY-BY

SITE BOUNDARY W/. FENCE WALL

MANAGE-MENT OFFICE

ENTRANCE LOBBY

18.10

P.R.

TOILET

EMERGENCY GENERATOR ROOM

TRANSFORMER ROOM

LOADING / UNLOADING BAY FOR GV / RCV

RAMP UP 1 : 8

RCP

SWITCH ROOM (ESS.) & MAIN SWITCH ROOM

PLANT ROOM

PLANT ROOM

PLANT ROOM

UNEXCAVATED AREA

BUILDING LINE ABOVE

RETAINING WALL

HONG FAI ROAD

康輝路

TUEN MUN ROAD

屯門公路

小欖路

CUL

15.30

LIFT PIT

LOWER GROUND FLOOR PLAN

**LEGEND**

Redevelopment Site

0 5 10 15 20 25m

NORTH

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Proposed Ground Floor Plan & Lower Ground Floor Plan

Scale: 1:400 @ A3

Date: August 2022

Figure No.: 1.7

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

小欖路

TUEN MUN ROAD

屯門公路

HONG FAI ROAD

康輝路

SITE BOUNDARY

RETAINING WALL

UNEXCAVATED AREA

PLANT ROOM

RAMP UP 1:8

RAMP DOWN 1:8

LOBBY

23.75

23.90

**LEGEND**

Redevelopment Site

NORTH

0 5 10 15 20 25m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Proposed Upper Ground 1/F Plan

Scale: 1:400 @ A3

Date: July 2022

Figure No.: 1.8

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

HONG FAI ROAD

TUEN MUN ROAD

小欖路

康輝路

電門公路

SITE BOUNDARY

RETAINING WALL

UNEXCAVATED AREA

RAMP DOWN 1:8

PLANT ROOM

LOBBY

27.35

27.50

**LEGEND**

Redevelopment Site

NORTH

0 5 10 15 20 25m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

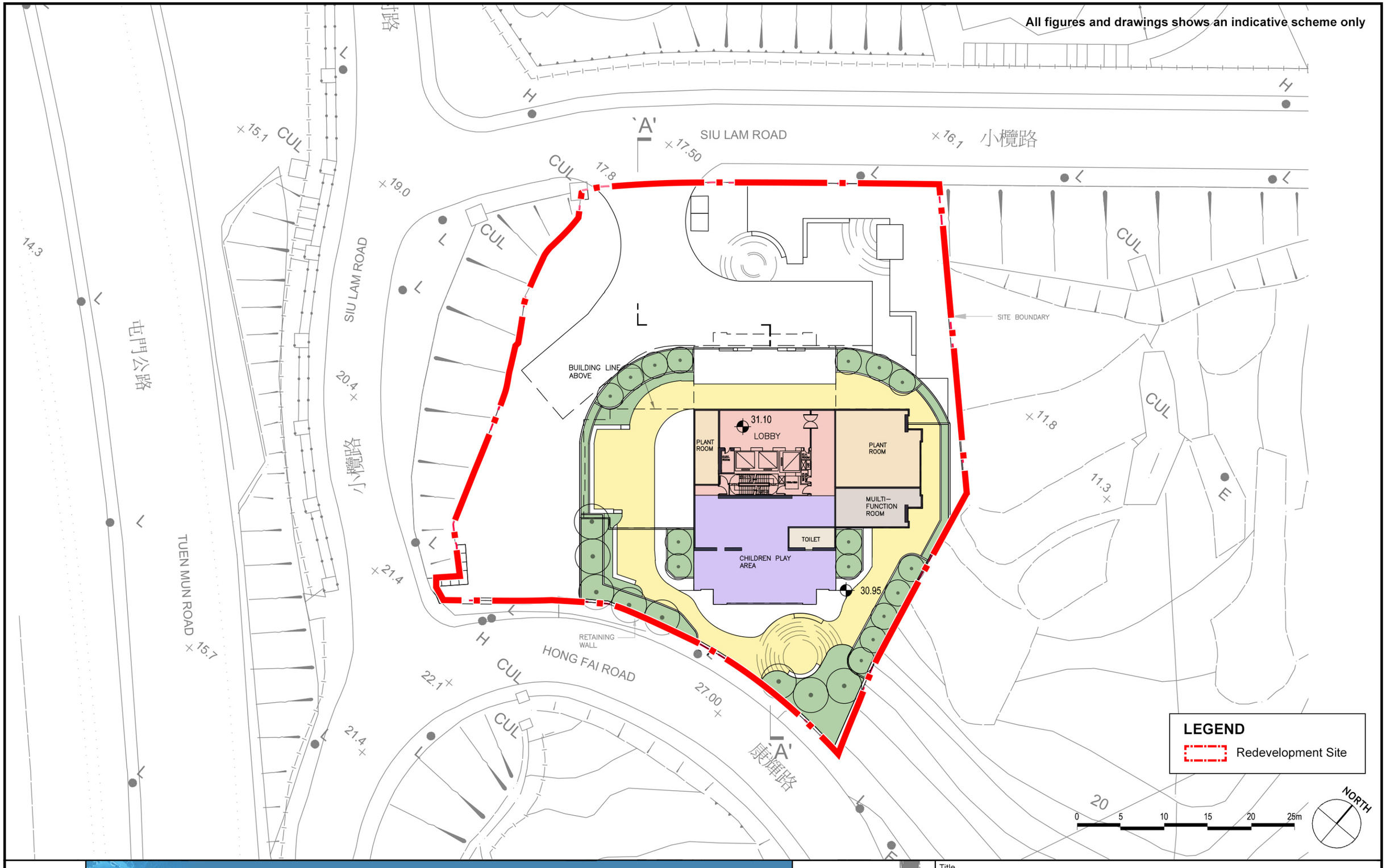
Title: Proposed Upper Ground 2/F Plan

Scale: 1:400 @ A3

Date: August 2022

Figure No.: 1.9

All figures and drawings shows an indicative scheme only



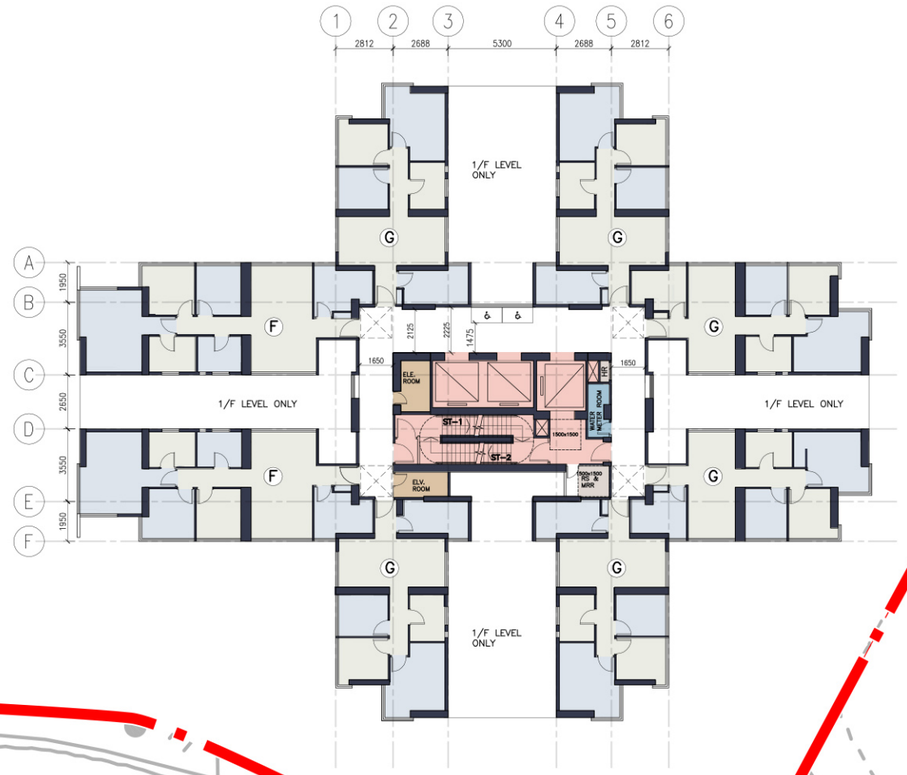

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Proposed Mezzanine Floor Plan

| Scale | Date | Figure No. |
|---|---|---|
| 1:400 @ A3 | August 2022 | 1.10 |

All figures and drawings shows an indicative scheme only

SIU LAM ROAD




LEGEND

Redevelopment Site

0 5 10 15m

NORTH

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Proposed Typical Floor Plan

Scale: 1:300 @ A3

Date: August 2022

Figure No.: 1.11

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

BUILDING LINE ABOVE

88.85

89.00

PLANT ROOM

PLANT ROOM

PLANT ROOM

1500x1500

ST-1

ST-2

PLANT ROOM

**LEGEND**

Redevelopment Site

0 5 10 15m

NORTH

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Proposed Roof Plan

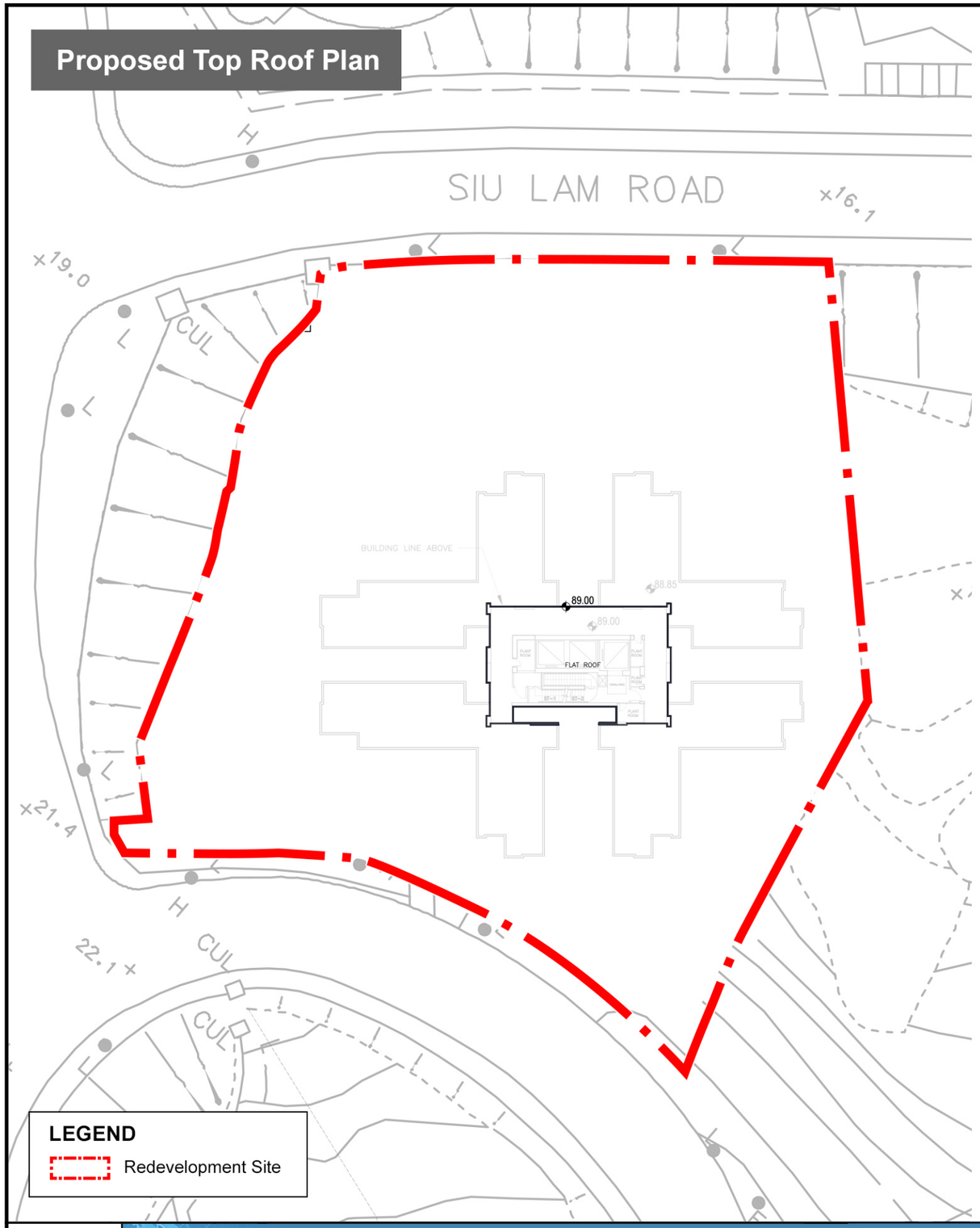
Scale: 1:300 @ A3

Date: August 2022

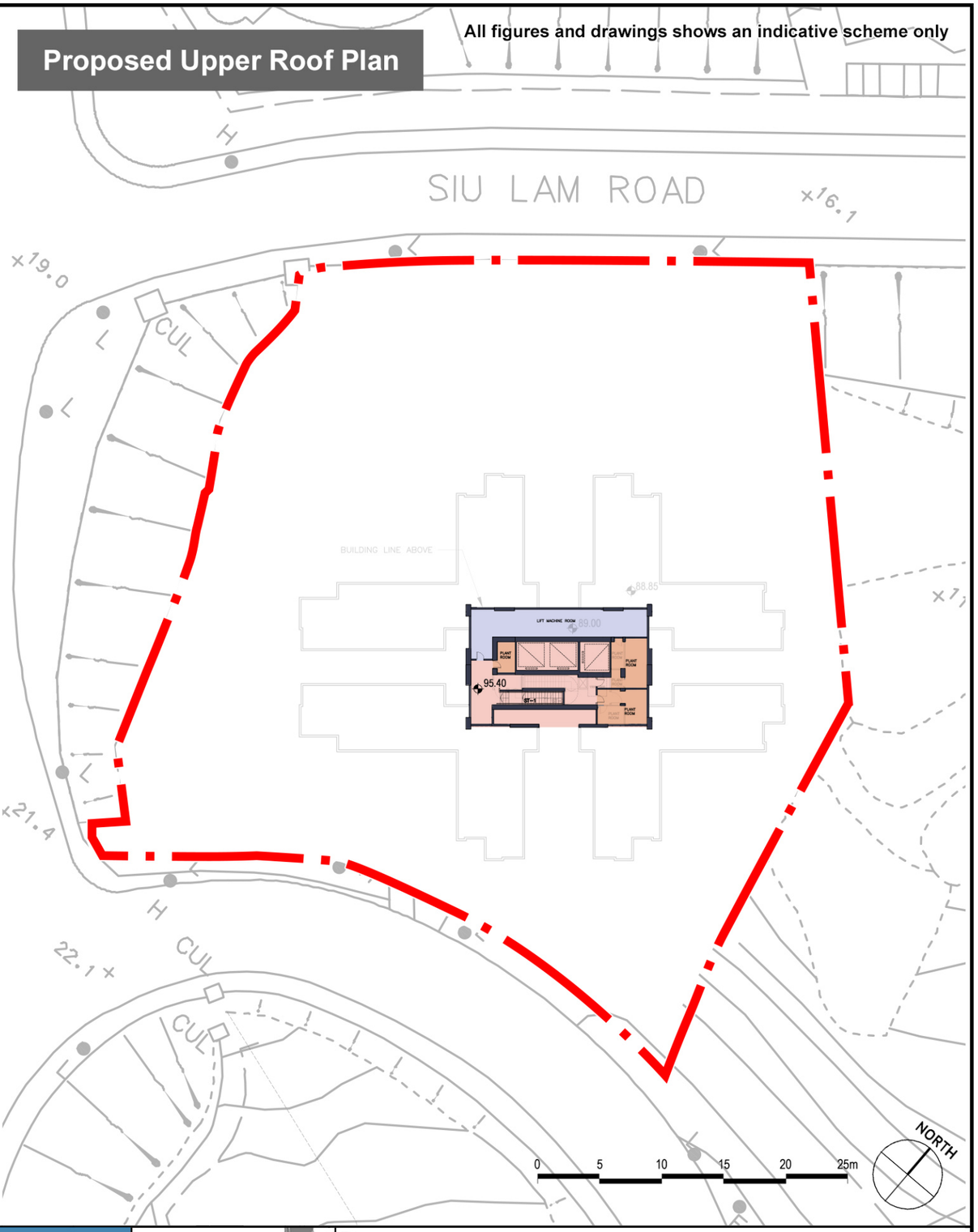
Figure No.: 1.12

All figures and drawings shows an indicative scheme only

## Proposed Top Roof Plan




## Proposed Upper Roof Plan




**LEGEND**

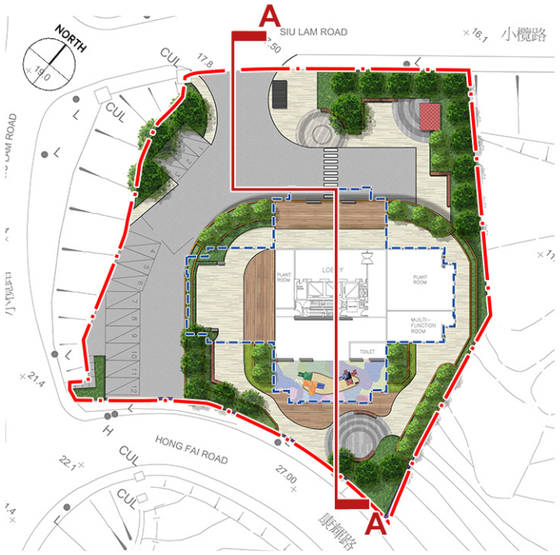
Redevelopment Site

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

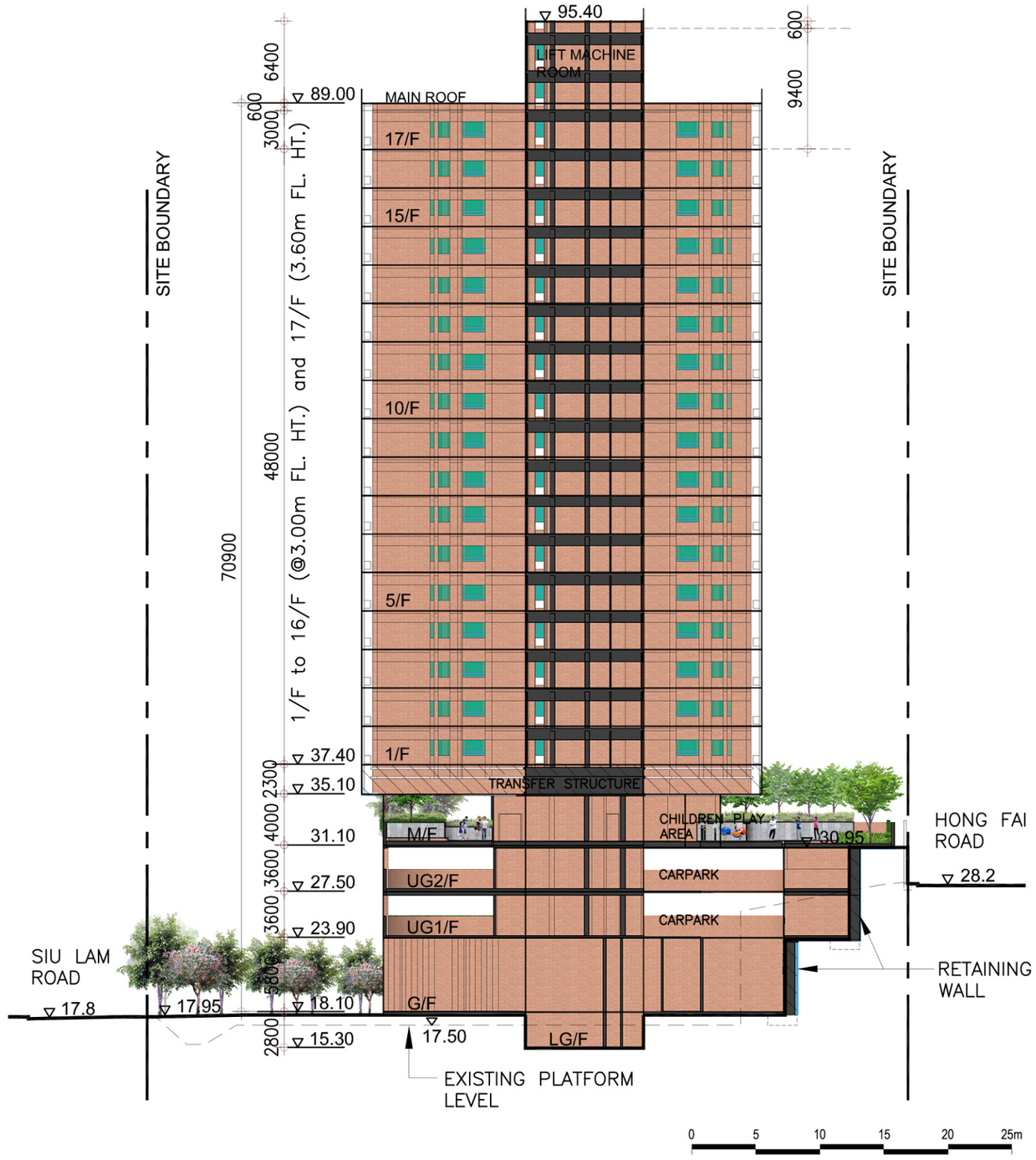
Title: Proposed Top Roof Plan & Upper Roof Plan

| Scale | Date | Figure No. |
|---|---|---|
| 1:400 @ A3 | August 2022 | 1.13 |

All figures and drawings shows an indicative scheme only




KEY PLAN




**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Section A-A

Scale: 1:400 @ A3

Date: July 2022

Figure No.: 1.14

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

HONG FAI ROAD

Multi-purpose Court

pavilion

+17.95 mPD

+32.20 mPD

+31.10 mPD

+31.60 mPD

+30.95 mPD

PLANT ROOM

LOBBY

ELEC. ROOM

ELV. ROOM

MULTI–FUNCTION ROOM

TOILET

**LEGEND**

- Redevelopment Site
- Building Line Above
- Raised Planter
- Compensatory Trees
- Low Planter
- Bench
- Feature Paving
- Paving
- Multi-purpose Wood Terrace
- Guardhouse
- Children's Play Area

NORTH

0 5 10 15m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Landscape Layout Plan (Overall Level)

Scale: 1:300 @ A3

Date: July 2022

Figure No. 1.15

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

Multi-purpose Court

pavilion

+17.95 mPD

+17.95 mPD

LOBBY

PLANT ROOM

PLANT ROOM

MUILTI–FUNCTION ROOM

TOILET

CHILDREN PLAY AREA

HONG FAI ROAD

SIU LAM ROAD

小欖路

## LEGEND

- Redevelopment Site
- Building Line Above
- Raised Planter
- Compensatory Trees
- Low Planter
- Bench
- Feature Paving
- Paving
- Children's Play Area

NORTH

0 5 10 15m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Landscape Layout Plan at Ground Level

Scale: 1:300 @ A3

Date: July 2022

Figure No.: 1.16

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

HONG FAI ROAD

Multi-purpose Court

pavilion

+17.95 mPD

+31.10 mPD

+32.20 mPD

+31.60 mPD

+30.95 mPD

PLANT ROOM

LOBBY

ELEC. ROOM

ELV. ROOM

MULTI–FUNCTION ROOM

TOILET

## LEGEND

- Redevelopment Site
- Building Line Above
- Raised Planter
- Compensatory Trees
- Low Planter
- Bench
- Feature Paving
- Paving
- Multi-purpose Wood Terrace
- Guardhouse
- Children's Play Area

0 5 10 15m

NORTH

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

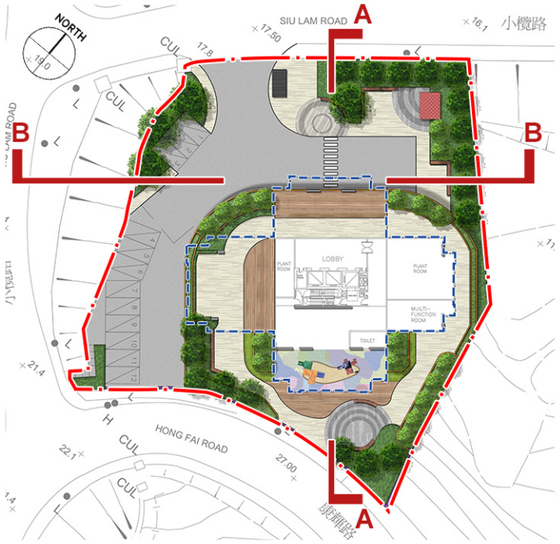
Title: Landscape Layout Plan at Podium Deck / Mezzanine Level

Scale: 1:300 @ A3

Date: July 2022

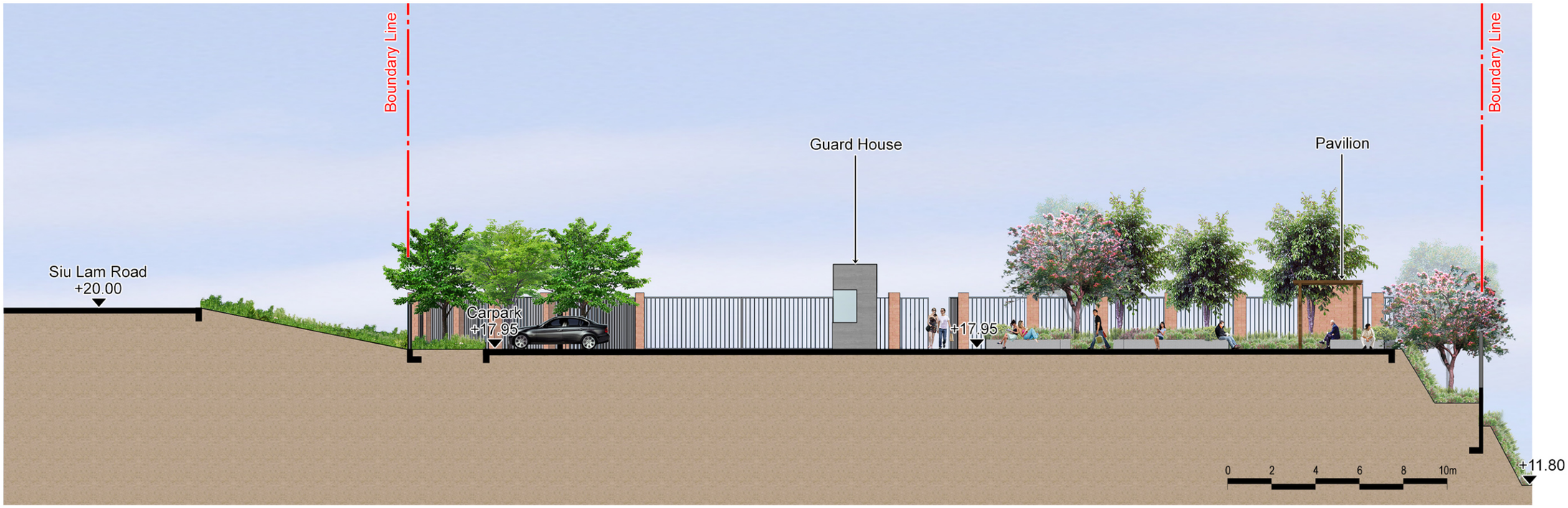
Figure No. 1.17

All figures and drawings shows an indicative scheme only




KEY PLAN

SECTION A-A




SECTION B-B

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Landscape Section A-A & Section B-B

Scale: As Shown @ A3

Date: August 2022

Figure No.: **1.18**

## GOVERNMENT, INSTITUTION OR COMMUNITY

| Column 1<br>Uses always permitted | Column 2<br>Uses that may be permitted with or without conditions on application to the Town Planning Board |
|---|---|
| Ambulance Depot | Animal boarding Establishment |
| Animal Quarantine centre (in government building only) | Animal Quarantine Centre (not elsewhere specified) |
| Broadcasting, television and/or Film Studio | Columbarium |
| Correctional Institution | Crematorium |
| Eating Place (Canteen, Cooked Food Centre only) | Driving School |
| Educational Institution | Eating Place (not elsewhere specified) |
| Exhibition or Convention Hall | Firing Range |
| Field Study/Education/visitor Centre | Flat |
| Flat (Government Staff Quarters on land designated "G/IC(1)" only) | Funeral Facility |
| Government Refuse Collection Point | Helicopter Fuelling Station |
| Government Use (not elsewhere specified) | Helicopter Landing Pad |
| Hospital | Holiday Camp |
| Institutional Use (not elsewhere specified) | Hotel |
| Library | House (other than rebuilding of new Territories exempted House or replacement of existing domestic building by New territories Exempted House permitted under the covering Notes) |
| Market | Marine Fueling Station |
| Pier | Off-course Betting Centre |
| Place of Recreation, Sports or Culture | Office |
| Public Clinic | Petrol Filling Station |
| Public Convenience | Place of Entertainment |
| Public Transport Terminus or Station | Private Club |
| Public Utility Installation | Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation |
| Public Vehicle Park (excluding container vehicle) | Refuse Disposal Installation (Refuse Transfer Station only) |
| Recyclable Collection Centre | Sewerage Treatment/Screening Plant |
| Religious Institution | Shop and Services |
| Research, Design and Development Centre | Utility Installation for Private Project |
| Rural Committee/ Village Office | Zoo |
| School | |
| Service Reservoir | |
| Social Welfare Facility | |
| Training Centre | |
| Wholesale Trade | |

### Planning Intention

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

### Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storey(s) (excluding basement floor(s)) or mPD as stipulated on the Plan, or the height of the existing building which was in existence on the date of the publication in the Gazette of the notice of the So Kwun Wat OZP No. S/TM-SKW/10 on 7.5.2010, whichever is the greater.

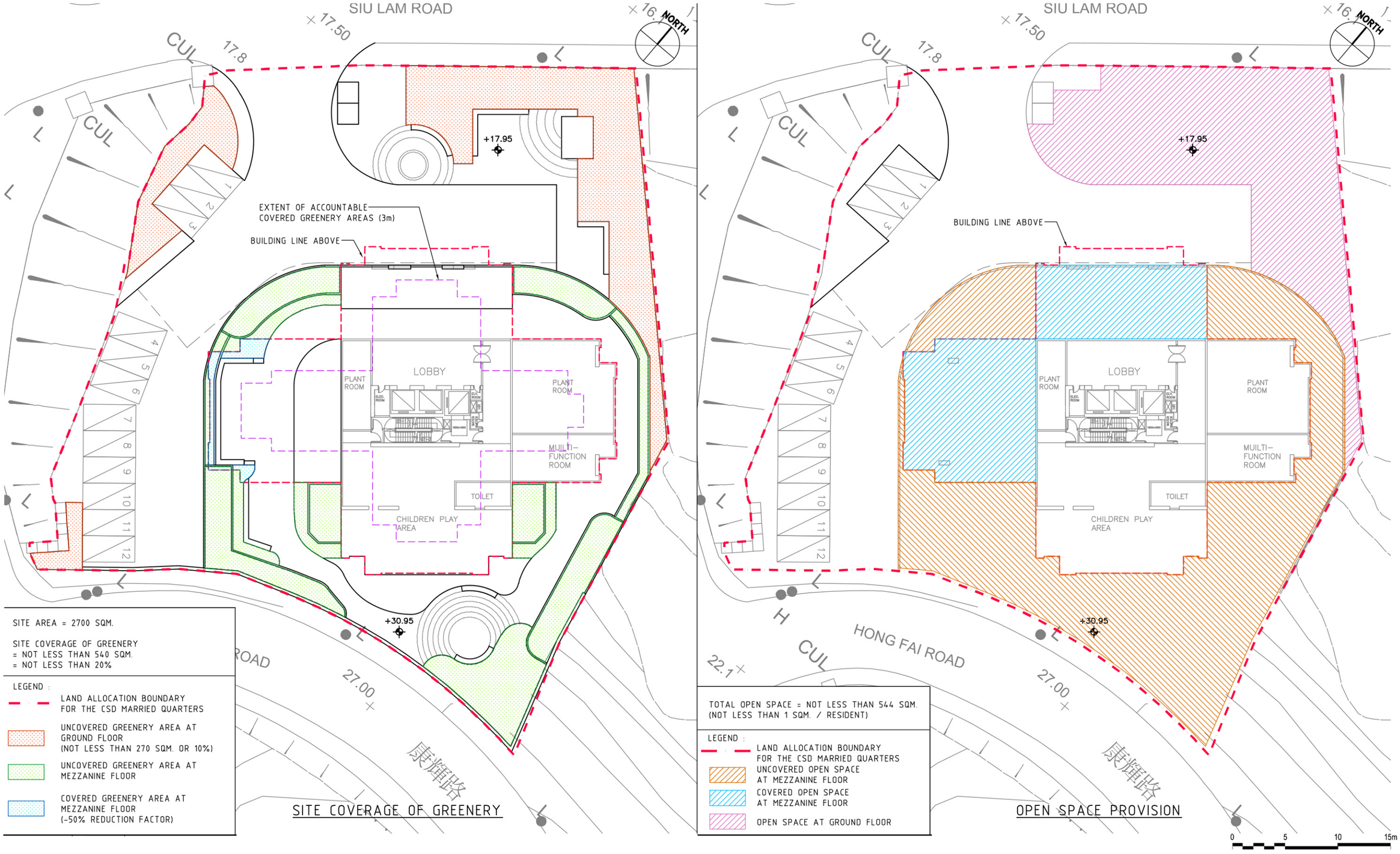
(b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Proposed Zoning Amendment S/TM-SKW/13

Scale: N.T.S. @ A3 | Date: August 2022 | Figure No. 1.19

All figures and drawings shows an indicative scheme only




**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Site Coverage of Greenery and Open Space Provision

| Scale | Date | Figure No. |
|---|---|---|
| 1:350 @ A3 | July 2022 | **1.20** |

# Annex A -
## Tree Preservation Proposal

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Tree Preservation Proposal

Document Ref. No.004
ADD1 – Rev2

| | | |
|---|---|---|
| **Prepared by :** | **Freddy WAN** | July 2022<br>**Date** |
| **Checked by :** | **Winona IP** | July 2022<br>**Date** |
| **Approved for issue by:** | **Alan MACDONALD** | July 2022<br>**Date** |

# Table of Contents

**Page**

**1 Introduction ..... 1**

**2 Tree Survey Methodology ..... 1**

2.1 Standards and References ..... 1
2.2 Definition ..... 2
2.3 Survey Data ..... 2

**3 Findings of Tree Survey ..... 3**

**4 Tree Recommendations ..... 3**

**5 Compensatory Tree Proposal ..... 5**

**6 Conclusion ..... 6**

# Annexes

**Annex A1 Tree Assessment Schedule**

**Annex A2 Tree Drawings**

**Annex A3 Tree Survey Photos**

# 1 INTRODUCTION

**1.1.1** This report is to provide a preliminary assessment of the existing trees affected by the redevelopment of existing quarters (hereinafter "the Proposed Development") within the boundary of the Redevelopment Site which consists of (i) existing Allocation boundary of GLA-TM27/ MGS /74 ("CSDMQ") and its associate right-of-way, (ii) a portion of the registered slope 6SW-D/F 295 and the correspondingly abutting pedestrian pavement, (iii) existing green area between CSDMQ and Hong Fai Road and associated slope modification works. URBIS Limited is commissioned by Correctional Services Department (hereinafter "CSD") to carry out a tree preservation and landscape proposal to the satisfaction of PlanD, CSD and other relevant government bureaux/departments as necessary to identify any valuable trees to be preserved in order to minimize the landscape impact on existing trees and preserve good quality trees.

**1.1.2** This report will also set out the tree compensation principle for the affected trees. A detailed tree assessment will be carried out for the submission and approval of the Tree Preservation and Removal Proposal (TPRP) delineated in DEVB TC(W) 04/2020 at later stages prior to commencement of construction.

# 2 TREE SURVEY METHODOLOGY

## 2.1 Standards and References

**2.1.1** The Tree Survey has been undertaken with reference to the following technical circulars, practice notes and publications:

* Forests and Countryside Ordinance (Cap. 96);
* Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
* Country Parks Ordinance (Cap. 208);
* Development Bureau Technical Circular (Works) No. 4/2020 – Tree Preservation;
* Development Bureau Technical Circular (Works) No. 5/2020 – Registration and Preservation of Old and Valuable Trees;
* Development Bureau Technical Circular (Works) No. 6/2015 - Maintenance of Vegetation and Hard Landscape Features
* Agriculture, Fisheries & Conservation Department Publication - 'Check List of Hong Kong Plants' (2012);
* Agriculture, Fisheries & Conservation Department Publication - 'Rare and Precious Plants of Hong Kong' (2003);
* Agriculture, Fisheries & Conservation Department Nature Conservation Practice Note No. 02 (Rev. Jun 2006) – Measurement of Diameter at Breast Height (DBH);
* Rural Planning and Improvement Strategy - Minor Projects Environmental Guidance Note [Annex 3 Planning Environment and Lands Technical Circular No. 3/94 - Tree Preservation [Appendix A General Regulation 740 (GR740)]
* Development Bureau Guideline – Guidelines on Tree Transplanting (September 2014)
* Development Bureau – 'Handbook on Tree Management';
* Development Bureau – 'Street Tree Selection Guide';

- Civil Engineering & Development Department – 'Greening Master Plan of Tuen Mun District'; and
- Geotechnical Engineering Office Publication No. 1/2011 – Technical Guidelines on Landscape Treatment for Slopes.

## 2.2 Definition

**2.2.1** A plant is considered a "tree" if its trunk diameter measures 95mm or more at a height of 1.3m above ground level (refer AFCD NCPN No. 02 – Measurement of Diameter at Breast Height (DBH)).

## 2.3 Survey Data

**2.3.1** In accordance with DevB TC(W) No. 4/2020, all existing trees in the Redevelopment Site with a trunk diameter larger than 95mm (300mm girth) measured at 1300mm above ground level have been surveyed. Where practical, all trees were surveyed individually, in which case the following information was identified and recorded:

- Tree number;
- Species (scientific names and Chinese common names);
- Height;
- Crown spread;
- Trunk diameter at breast height (measured at 1.3 metres from the ground);
- An assessment of form (good / average / poor);
- An assessment of health (good / average / poor);
- An assessment of amenity value (high/ medium/ low);
- The suitability for transplanting (high / medium / low);
- An assessment of structural condition (good / average / poor);
- The conservation status of the tree species (indicates rarity and protection status under relevant ordinances of a species in Hong Kong);
- The government department responsible for maintaining the tree;
- Whether the tree is included in the Register of Old and Valuable Trees promulgated under DEVB TC(W) No. 5/2020;
- Whether the tree is potentially registrable in accordance with the criteria as set out in DEVB TC(W) No. 5/2020;
- Whether the tree species is included in the latest edition of the publication 'Rare and Precious Plants of Hong Kong' issued by AFCD;
- Recommended tree treatment;
- Additional remarks are provided for trees to which special importance is ascribed due to special attributes including protected status; rarity; age over 100 years, outstanding size or form; and cultural or historical significance; and
- Photographic records.

# 3 FINDINGS OF TREE SURVEY

**3.1.1** The tree survey was carried out from 29th to 31st March 2021 by means of an individual tree survey. The extent of Tree Survey boundary is shown on Tree Survey Plan (Drawing **TS01** in **Annex A2**). The existing trees surveyed are summarised in the following paragraphs and in the Tree Assessment Schedule in **Annex A1**.

A total of 36 nr and 5 nr of trees[1] were surveyed within and outside the Redevelopment Site respectively. Of the 36 nr of trees, 18 were located within the existing allocation boundary of GLA-TM27/ MGS /74 and 18 outside but within the Redevelopment Site are likely to be affected by the Proposed Development.

No tree in this survey was found to be included in the current Register of Old and Valuable Trees as on date 26 May, 2022, or potentially registrable in accordance with the criteria set out in DEVB TC(W) No.5/2020. There is no tree of Particular Interest, or Rare or Precious species or Protected Species identified in the survey.

### 3.1.2 Existing Tree Conditions Within the Redevelopment Site

The average tree height of the 36 trees (diameter at 1.3m height measuring 95mm or more) surveyed within the Redevelopment Site was 8m, the average crown size 5m, and the average trunk diameter 247.67mm.

The general conditions of the trees surveyed within the Redevelopment Site ranged from poor to average. There were 14 tree species found within the Redevelopment Site, with the native *Macaranga tanarius* var. *tomentosa* the most dominant species followed by another native of *Ficus hispida*. Also found were some common fruit bearing trees including *Dimocarpus longan*, *Carica papaya* and *Artocarpus heterophyllus*.

### 3.1.3 Existing Individual Tree Condition Outside the Redevelopment Site

There were 5 trees (diameter at 1.3m height measuring 95mm or more) located outside but in close proximity to the Redevelopment Site. These 5 trees were found along the eastern and the southern boundaries of the Redevelopment Site. The average tree height was 6m, the average crown size 5m, and the average trunk diameter 188.40mm.

The general conditions of the trees outside the Redevelopment Site boundary ranged from poor to average. The native *Macaranga tanarius* var. *tomentosa* and the exotic *Bauhinia purpurea* were the only tree species found outside the Redevelopment Site but within the vicinity.

# 4 TREE RECOMMENDATIONS

### 4.1.1 Works Affecting Existing Trees

Out of all 41 surveyed trees, 36 trees (which include 18 within the existing allocation boundary of GLA-TM27/ MGS / 74 and 18 outside but within the Redevelopment Site) will unavoidably be affected by the works associated with the Proposed Development including site formation works, slope modification works and construction works of the Proposed Staff Quarters building. Tree Treatment Plan (Drawing Nos. **TT01** in **ANNEX A2**) depicts the impact of existing trees by the Proposed Department.

[1] No. of surveyed trees does not include the count of weed species *Leucaena leucocephala* which does not require prior approval for removal or compensation according to DEVB TC(W) 04/2020.

### 4.1.2 Treatment for Existing Trees Within Redevelopment Site Boundary

Proposed treatment for the surveyed trees within the Redevelopment Site is shown in both the Tree Assessment Schedule in **ANNEX A1** and on Tree Treatment Plan (Drawing **TT01** in **ANNEX A2**).

According to the Tree Assessment Schedule and taking into account the criteria outlined under DEVB TC(W) No. 4/2020, none of the affected 36 trees are suitable for transplanting and therefore all of the trees are proposed to be removed. The justifications for the tree recommendations are respectively substantiated in the Tree Assessment Schedule and Tree Survey Photos in **ANNEX A1** and **ANNEX A3**. **Table 4.1** summarises the recommendations for existing trees within the Redevelopment Site.

**Table 4.1 – Recommendations for Existing Trees within Redevelopment Site Boundary**

| Botanical Name | Chinese Name | Retain | Transplant | Remove | Total |
|---|---|---|---|---|---|
| *Acacia confusa* | 台灣相思 | 0 | 0 | 3 | 3 |
| *Araucaria columnaris* | 柱狀南洋杉 | 0 | 0 | 1 | 1 |
| *Artocarpus heterophyllus* | 菠蘿蜜 | 0 | 0 | 1 | 1 |
| *Bauhinia purpurea* | 紅花羊蹄甲 | 0 | 0 | 1 | 1 |
| *Bauhinia* x *blakeana* | 洋紫荊 | 0 | 0 | 2 | 2 |
| *Carica papaya* | 番木瓜 | 0 | 0 | 2 | 2 |
| *Celtis sinensis* | 朴樹 | 0 | 0 | 2 | 2 |
| *Cinnamomum burmannii* | 陰香 | 0 | 0 | 1 | 1 |
| *Dimocarpus longan* | 龍眼 | 0 | 0 | 4 | 4 |
| *Ficus hispida* | 對葉榕 | 0 | 0 | 5 | 5 |
| *Hibiscus tiliaceus* | 黃槿 | 0 | 0 | 3 | 3 |
| *Livistona chinensis* | 蒲葵 | 0 | 0 | 1 | 1 |
| *Macaranga tanarius* var. *tomentosa* | 血桐 | 0 | 0 | 8 | 8 |
| *Schefflera heptaphylla* | 鵝掌柴 | 0 | 0 | 2 | 2 |
| **Grand Total[2] =** | | **0** | **0** | **36** | **36** |

### 4.1.3 Treatment for Existing Trees Outside Redevelopment Site Boundary

All of the 5 trees surveyed outside / in close proximity to the Redevelopment Site will be affected by the works of boundary hoarding and fence wall of the Proposed Development.

Out of the 5 trees affected, T46 was located on stable flat ground with some branches and twigs leaning toward the Redevelopment Site. T46 was recommended to be retained with pruning works, considering that

[2] 1 nr of undesirable species *Leucaena leucocephala* (銀合歡) in addition to the 36 nrs of tree was surveyed within the Redevelopment Site Boundary for which neither prior approval nor compensation is required according to clause 25(a) and I (v)b 1 in Appendix to DEVB TC(W) 04/2020, it is therefore not counted into the Grand Total.

the potential loss of crown due to the conflict between the tree and the works is within tolerable extent. The tree condition is expected to be recoverable under normal maintenance measures during and after the proposed construction works.

The other 4 affected trees (T77, T78, T103 and T104) are located on slope and leaning. As the proposed works nearby might severely affect their structural stability of these leaning trees on slope, and trees on slope are in general considered impractical to be transplanted, these 4 trees are therefore recommended to be removed. The justifications for the tree recommendations are respectively substantiated in the Tree Assessment Schedule and Tree Survey Photos in **ANNEX A1** and **ANNEX A3**.

Proposed treatment for the surveyed trees outside the Redevelopment Site is summarized below in **Table 4.2**. Further details are shown in the Tree Assessment Schedule in **ANNEX A1** and on Tree Treatment Plan (Drawing **TT01** in **ANNEX A2**).

**Table 4.2 – Recommendations for Existing Trees outside Redevelopment Site Boundary**

| Botanical Name | Chinese Name | Retain / Retain and Prune | Transplant | Remove | Total |
|---|---|---|---|---|---|
| *Bauhinia purpurea* | 紅花羊蹄甲 | 0 | 0 | 1 | 1 |
| *Macaranga tanarius* var. *tomentosa* | 血桐 | 1 | 0 | 3 | 4 |
| **Grand Total =** | | **1** | **0** | **4** | **5** |

**4.1.4** A total of 40 nos. of existing trees will unavoidably be affected by the Proposed Development and are recommended to be removed.

# 5 COMPENSATORY TREE PROPOSAL

**5.1.1** According to I(v) b 1 in Appendix C of DEVB TC(W) 04/2020 implementation of compensatory tree planting shall be of a ratio not less than 1:1 in terms of number, 40 number of trees will be compensated within the Redevelopment Site for the loss of 40 existing trees.

**5.1.2** The compensatory tree proposal is depicted on the Compensatory Tree Plan (Drawing Nos. **TC01** in **Annex A2**). The actual layout and species of the Compensatory Tree Plan will ultimately be subject to the detailed design of the Proposed Development.

**5.1.3** Opportunities for compensatory planting within the Redevelopment Site are limited by the building footprint and the operational requirements of vehicular access (EVA and parking). Considering the site constraints, 40 nos. of trees of standard size, species of small-medium size are proposed for on-site compensation. Subject to detail design, a combination of native and exotic species is proposed to enhance the sustainability, biodiversity and visual attractiveness of the Redevelopment Site and integrate the development with the surrounding Greenbelt. **Table 5.1** tabulates the proposed Compensatory Tree Schedule.

**Table 5.1 – Compensatory Tree Planting Schedule**

| Scientific Name | Chinese Name | Responsible Maintenance Party | Size | Spacing | Quantity |
|---|---|---|---|---|---|
| *Camellia japonica* | 山茶 | HKCSD | Standard | Min. 3m | 15 |
| *Viburnum odoratissimum* | 珊瑚樹 | HKCSD | Standard | Min. 4m | 12 |
| *Plumeria rubra* | 紅花雞蛋花 | HKCSD | Standard | Min. 6m | 4 |
| *Lagerstroemia indica* | 紫薇 | HKCSD | Standard | Min. 4m | 9 |
| **Total** | | | | | **40** |

# 6 CONCLUSION

**6.1.1** In summary, there are 41[3] existing trees within the Redevelopment Site / outside but in proximity to the Redevelopment Site. A total of 40 trees will be affected by the Proposed Works and recommended to be removed, while 1 no of these outside is recommended to be retained and pruned.

**6.1.2** 40 nr. of standard-size trees for compensation at a ratio of 1:1 in number according to DEVB TC(W) No.04/2020 is proposed.

**6.1.3** After the implementation of the tree planting proposal, there will be 40 nos. new trees planted within the Redevelopment Site.

[3] In addition to these 41 trees, 1 number of *Leucaena leucocephala* (銀合歡), a weed species not requiring prior approval for removal or compensation was surveyed and excluded from the counts of trees.

小欖

Siu Lam

# Annex A1 -
## Tree Assessment Schedule

# Tree Assessment Schedule (Trees with DBH measuring 95mm or more)

Project Title: Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam

te of Tree Survey: 29, 30, 31 March 2021 Surveyed by: Freddy Wan (ISA Certified Arborist No. HK-0965A)

**Revision 2 (June 2022)**

| Tree No. | Species | | Measurements | | | | Amenity value | Form | Health condition | Structural condition | Suitability for transplanting | | Conservation status | Recommendation | | Maintenance department to provide comments on TPRP | | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scientific name | Chinese name | soil level at root collar (mPD) | height (m) | DBH (mm) | crown spread (m) | (high (H)/ medium (M) /low (L)) | (good (G)/average (A)/ poor (P)) | | | (high (H)/ medium (M) /low (L)) | Remarks | | (retain/ transplant/ remove) | Justification | Before | After | |
| **Existing Trees Within Redevelopment Site** | | | | | | | | | | | | | | | | | | |
| T20 | *Acacia confusa* | 台灣相思 | 17.62 | 18 | 649 | 12 | L | P | A | P | L | • Poor form and structural condition.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Irrecoverable form after transplanting as substantial pruning would be required to enable transplanting. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form and structural conditions.<br>• Impractical for transplanting.<br>• Root zones confined between existing structures leading to severe deformation, hence formation of a reasonable rootball size for transplanting became infeasible. | LandsD | - | Codominant trunks with included bark, pruned and large wound resulted, leaning, dieback twigs, roots severed due to construction of u-channel. |
| T21 | *Acacia confusa* | 台灣相思 | 17.58 | 16 | 557 | 10 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Irrecoverable form after transplanting as substantial pruning would be required to enable transplanting. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting.<br>• Root zones confined between existing structures leading to severe deformation, hence formation of a reasonable rootball size for transplanting became infeasible. | LandsD | - | Leaning, roots severed due to construction of u-channel, wound on trunk, dead branch. |
| T22 | *Araucaria columnaris* | 柱狀南洋杉 | 16.01 | 14 | 621 | 4 | M | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD | - | On slope. |
| T23 | *Acacia confusa* | 台灣相思 | 15.23 | 9 | 169 | 5 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD | - | On slope, asymmetric tree crown. |
| T24 | *Bauhinia x blakeana* | 洋紫荊 | 16.68 | 10 | 255 | 7 | L | P | A | A | L | • Poor form.<br>• constricted root zones by concrete structures, formation of large, flat and balanced rootball to support this size of tree for transplanting not possible. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD (TMTL400) | - | Leaning, bent trunk, seam on trunk. |
| T25 | *Bauhinia x blakeana* | 洋紫荊 | 16.50 | 7 | 296 | 4 | L | P | A | P | L | • Poor form and structural condition.<br>• Poor health condition with large wound and stunk cavity not suitable for transplanting | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD (TMTL400) | - | Topped, low live crown ratio, large wound and trunk cavity. |
| T26 | *Hibiscus tiliaceus* | 黃槿 | 15.64 | 4 | 169 | 3 | L | P | A | P | L | • Poor form and structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD (TMTL400) | - | On slope, topped, uprooted and bent trunk, pruned trunk. |
| T27 | *Hibiscus tiliaceus* | 黃槿 | 15.53 | 7 | 420 | 6 | L | P | A | P | L | • Poor form and structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD (TMTL400) | - | On slope, codominant trunks, uprooted, wound at base, broken trunk. |
| T28 | *Hibiscus tiliaceus* | 黃槿 | 15.91 | 9 | 505 | 8 | L | P | A | P | L | • Poor form and structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD (TMTL400) | - | On slope, uprooted, codominant trunks with included bark, pruned trunk, broken trunk. |
| T34 | *Celtis sinensis* | 朴樹 | 15.52 | 13 | 468 | 7 | L | A | A | P | L | • Poor structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • Affected by slope work on feature no. 6SW-D/F295 in Site 3a.<br>• Impractical for transplanting. | LandsD | - | On slope, codominant trunks with included bark, root girdling, dead branches. |
| T40 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 11.92 | 7 | 343 | 9 | L | A | A | A | L | • As pioneer species, it has low tolerance to transplanting shock. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | Codominant trunks, cracks on trunk, climbers on tree, broken branches. |
| T41 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 13.93 | 7 | 318 | 7 | L | A | A | A | L | • As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, with included bark, codominant branches, climbers on tree, dead branches. |
| T42 | *Ficus hispida* | 對葉榕 | 13.53 | 5 | 158 | 4 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, codominant trunks, climbers on tree. |
| T43 | *Ficus hispida* | 對葉榕 | 12.90 | 5 | 108 | 3 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, asymmetric tree crown, root collar buried in soil, climbers on tree. |
| T44 | *Ficus hispida* | 對葉榕 | 13.40 | 6 | 117 | 4 | L | A | A | P | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor structural condition.<br>• Impractical for transplanting. | CSD | - | On slope, root-plate heaved, asymmetric tree crown, climbers on tree. |

## Tree Assessment Schedule (Trees with DBH measuring 95mm or more)

Project Title: Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam

te of Tree Survey: 29, 30, 31 March 2021 Surveyed by: Freddy Wan (ISA Certified Arborist No. HK-0965A)

**Revision 2 (June 2022)**

| Tree No. | Species | | Measurements | | | | Amenity value | Form | Health condition | Structural condition | Suitability for transplanting | | Conservation status | Recommendation | | Maintenance department to provide comments on TPRP | | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scientific name | Chinese name | soil level at root collar (mPD) | height (m) | DBH (mm) | crown spread (m) | (high (H)/ medium (M) /low (L)) | (good (G)/average (A)/ poor (P)) | | | (high (H)/ medium (M) /low (L)) | Remarks | | (retain/ transplant/ remove) | Justification | Before | After | |
| T45 | *Ficus hispida* | 對葉榕 | 14.40 | 4 | 204 | 2 | L | P | P | P | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form, health and structural condition.<br>• Impractical for transplanting. | CSD | - | On slope, leaning, embedding nearby pipe, crack on trunk, wound on trunk, climbers on tree. |
| T58 | *Dimocarpus longan* | 龍眼 | 17.28 | 10 | 277 | 9 | M | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, growing close to concrete structure, dead branch. |
| T58A | *Carica papaya* | 番木瓜 | 19.09 | 7 | 200 | 3 | L | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, growing close to concrete structure, codominant stems. |
| T58B | *Carica papaya* | 番木瓜 | 22.04 | 6 | 321 | 3 | L | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, codominant branches. |
| T59 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 16.04 | 7 | 127 | 4 | M | A | A | A | L | • As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, wound at base, transverse cracks on trunk, growth of epicormics, lost one of codominant trunks and large wound remained. |
| T60 | *Schefflera heptaphylla* | 鵝掌柴 | 17.14 | 7 | 140 | 4 | M | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, wound and cavity at base, bent trunk. |
| T63 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 25.15 | 7 | 204 | 6 | L | A | A | A | L | • As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, codominant trunks with one of them topped, dieback twigs. |
| T64 | *Artocarpus heterophyllus* | 菠蘿蜜 | 23.86 | 5 | 99 | 2 | M | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, growing close to building. |
| T65 | *Dimocarpus longan* | 龍眼 | 24.31 | 8 | 162 | 6 | M | A | G | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, bent trunk, codominant branches. |
| T66 | *Livistona chinensis* | 蒲葵 | 25.11 | 10 | 255 | 4 | M | P | G | A | L | • Poor form.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | LandsD | - | On slope, leaning, bent trunk, wound on trunk. |
| T67 | *Ficus hispida* | 對葉榕 | 21.02 | 7 | 169 | 5 | L | P | A | A | L | • Poor form.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | CSD | - | On slope, dieback twigs, broken branch, with included bark. |
| T68 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 20.60 | 6 | 111 | 2 | L | P | P | A | L | • Poor form and health.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form and health.<br>• Impractical for transplanting. | CSD | - | On slope, leaning, abruptly bent, leading shoot dieback. |
| T69 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 21.15 | 9 | 185 | 4 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | CSD | - | On slope, leaning, growth of epicormics. |
| T70 | *Schefflera heptaphylla* | 鵝掌柴 | 22.26 | 6 | 111 | 4 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | CSD | - | On slope, asymmetric tree crown. |
| T71 | *Dimocarpus longan* | 龍眼 | 23.34 | 7 | 111 | 4 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, growth of epicormics. |
| T72 | *Celtis sinensis* | 朴樹 | 24.83 | 10 | 309 | 4 | L | P | A | A | L | • Poor form.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | LandsD | - | On slope, asymmetric tree crown, leading shoot broken, wound on trunk. |
| T73 | *Dimocarpus longan* | 龍眼 | 24.74 | 8 | 121 | 4 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, dieback twigs. |
| T74 | *Cinnamomum burmannii* | 陰香 | 23.12 | 9 | 124 | 4 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, growth of epicormics, dieback twigs. |

## Tree Assessment Schedule (Trees with DBH measuring 95mm or more)

Project Title: Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam

te of Tree Survey: 29, 30, 31 March 2021 Surveyed by: Freddy Wan (ISA Certified Arborist No. HK-0965A)

**Revision 2 (June 2022)**

| Tree No. | Species | | Measurements | | | | Amenity value | Form | Health condition | Structural condition | Suitability for transplanting | | Conservation status | Recommendation | | Maintenance department to provide comments on TPRP | | Additional Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scientific name | Chinese name | soil level at root collar (mPD) | height (m) | DBH (mm) | crown spread (m) | (high (H)/ medium (M) /low (L)) | (good (G)/average (A)/ poor (P)) | | | (high (H)/ medium (M) /low (L)) | Remarks | | (retain/ transplant/ remove) | Justification | Before | After | |
| T75 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 22.20 | 10 | 204 | 5 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | CSD | - | On slope, leaning. |
| T76 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 22.07 | 8 | 150 | 3 | L | P | A | P | L | • Poor form and structural condition.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form and structural condition.<br>• Impractical for transplanting. | CSD | - | On slope, leaning, abruptly bent, wound on trunk. |
| T106 | *Bauhinia purpurea* | 紅花羊蹄甲 | 27.52 | 2 | 179 | 2 | L | P | P | P | L | • Poor form, health and structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form, health and structural condition.<br>• Impractical for transplanting. | LandsD | - | On slope, growth of epicormics, extensive crack through trunk. |
| * As *Leucaena leucocephala* does not require prior approval for removal or compensation according to DEVB TC(W) 04/2020, it is not included into the counts of number of surveyed trees | | | | | | | | | | | | | | | | | | |
| *T105 | *Leucaena leucocephala* | 銀合歡 | 27.01 | 7 | 191 | 6 | L | A | A | P | L | • Undesirable species.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor structural condition.<br>• Undesirable species.<br>• Impractical for transplanting. | LandsD | - | On slope, codominant trunks with included bark. |
| **Existing Trees Outside Redevelopment Site** | | | | | | | | | | | | | | | | | | |
| T46 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 12.69 | 6 | 121 | 6 | L | P | P | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock. | Nil | Retain and Prune | • In conflict with proposed construction layout.<br>• Potential loss of crown due to the conflict between the tree and the works is within tolerable extent. | LandsD | LandsD | Leaning, asymmetric tree crown, dieback twigs. |
| T77 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 23.51 | 8 | 191 | 4 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | LandsD | - | On slope, leaning, codominant branches. |
| T78 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 20.84 | 8 | 146 | 4 | L | P | A | A | L | • Poor form.<br>• As pioneer species, it has low tolerance to transplanting shock.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form.<br>• Impractical for transplanting. | LandsD | - | On slope, leaning, wound on trunk, dieback branch, growth of epicormics. |
| T103 | *Macaranga tanarius* var. *tomentosa* | 血桐 | 27.88 | 5 | 318 | 7 | L | A | A | A | L | • Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Impractical for transplanting. | LandsD | - | On slope, leaning, growth of epicormics, dieback twigs. |
| T104 | *Bauhinia purpurea* | 紅花羊蹄甲 | 27.54 | 3 | 166 | 4 | L | P | P | P | L | • Poor form, health and structural condition.<br>• Tree grown on slope and formation of proper root ball necessary for transplanting is inhibited. | Nil | Remove | • In conflict with proposed construction layout.<br>• Poor form, health and structural condition.<br>• Impractical for transplanting. | LandsD | - | On slope, asymmetric tree crown, leading shoot broken, climbers on tree, suckers from base. |

LEGENDS

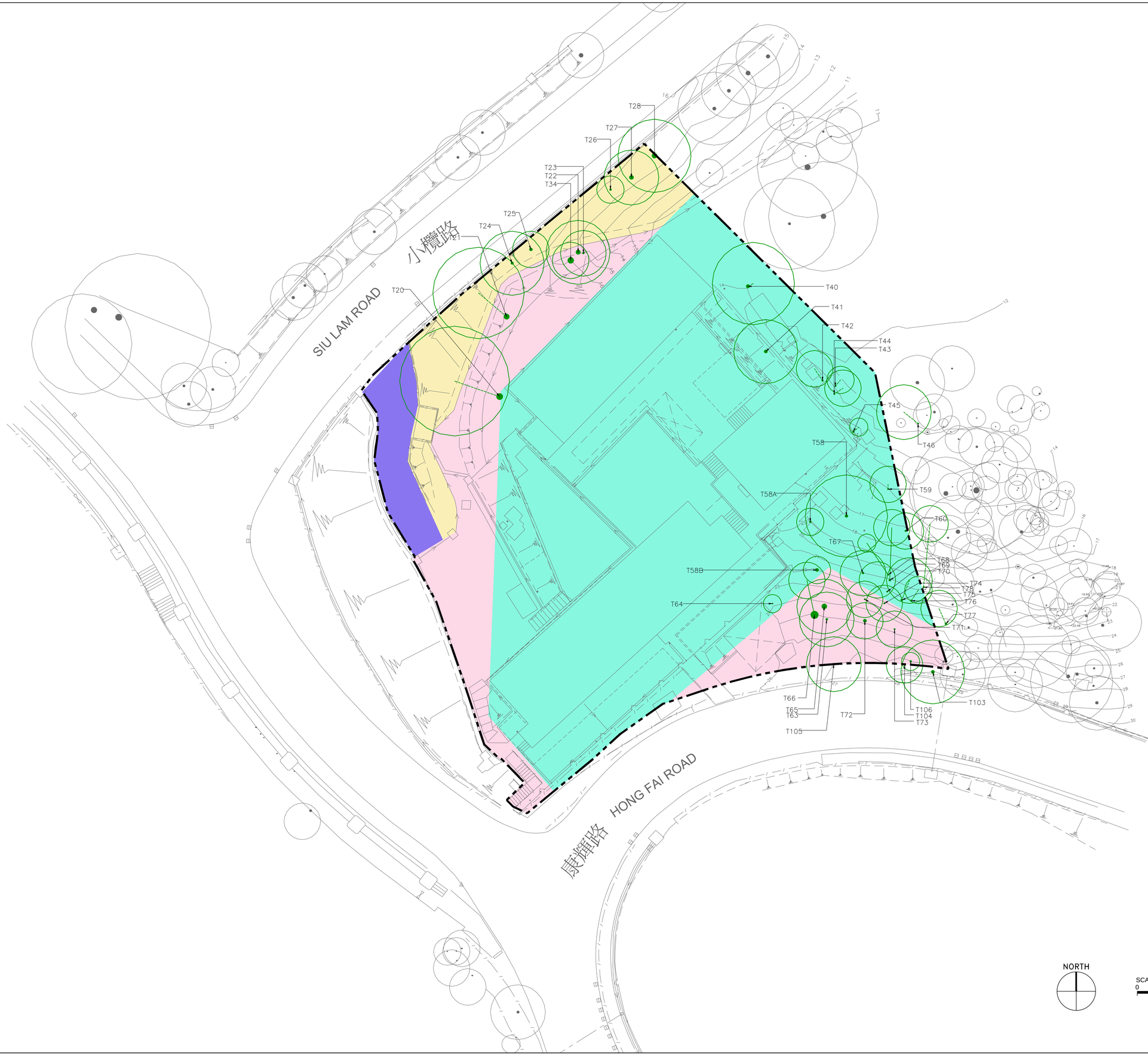
Land Owner / Tree Maintenance Responsible Agent:

| | |
|---|---|
| | CSD / CSD |
| | DLO, LandsD / DLO, LandsD |
| | DLO, LandsD / TMTL400 |

小欖

Siu Lam

# Annex A2 -
## Tree Drawings




LEGEND:

- REDEVELOPMENT SITE BOUNDARY
- TREE SURVEY BOUNDARY
- Txx EXISTING TREES
- EXISTING TREES NOT COVERED IN THIS TPRP
- LEANING OR UNBALANCED TREE FORMS

LAND OWNER / TREE MAINTENANCE RESPONSIBLE AGENT:

- CSD / CSD
- DLO / DLO
- DLO / TMTL400
- DLO / CSD

| Amendment Numbers | Date | Amendment Description | Drawn by | Checked by | Approved by |
|---|---|---|---|---|---|
| A | OCT 2021 | BOUNDARY REVISED | AL | CL | AM |


Urbis Limited

**Planning, Urban Design, Landscape, Golf & Environmental Consultants**

Urbis Limited, 11/F Siu On Centre, 188 Lockhart Road, Wan Chai, Hong Kong. Tel 2802 3333 Fax 2802 8062

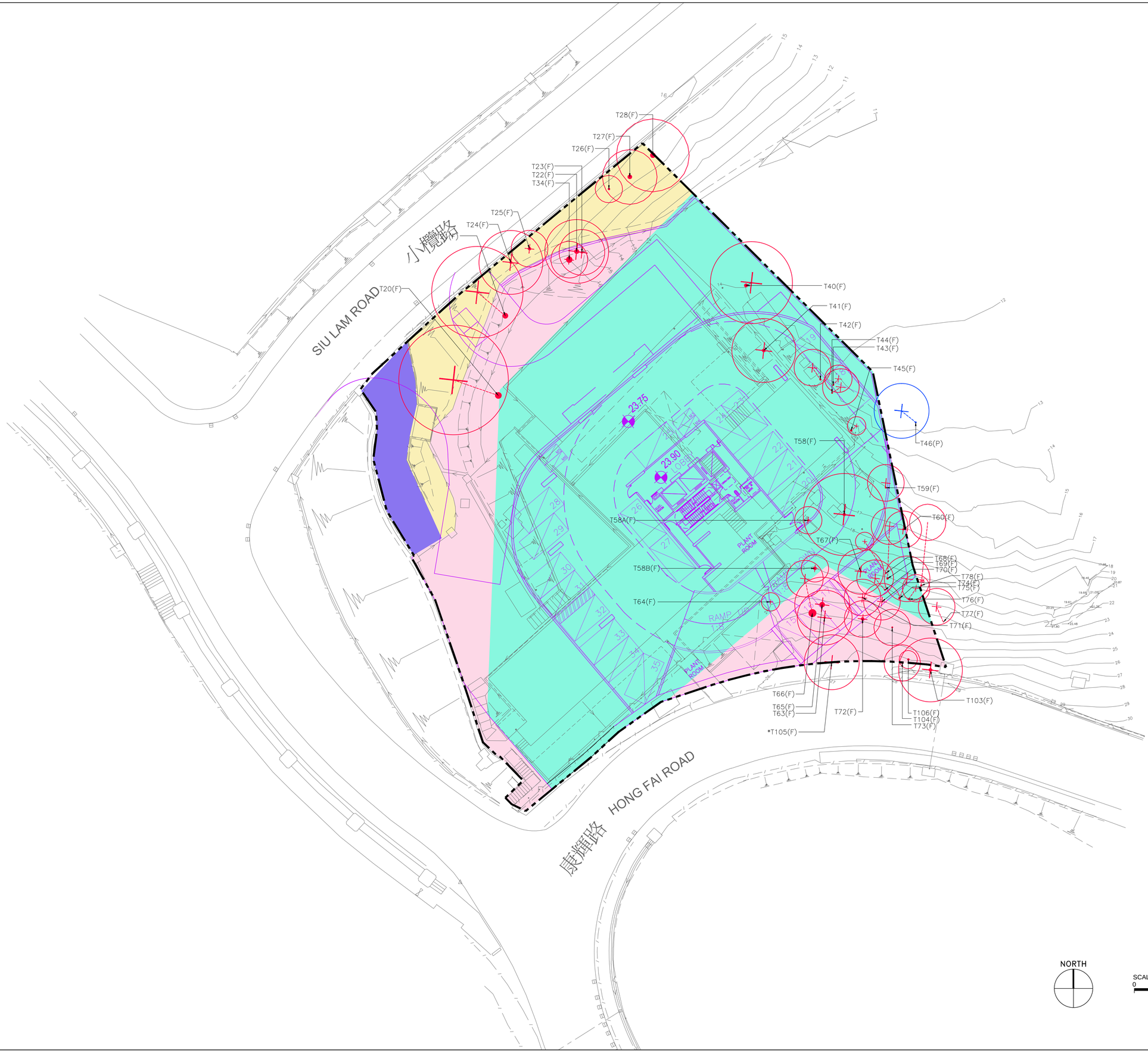

**Job title**

REDEVELOPMENT OF STAFF QUARTERS FOR CORRECTIONAL SERVICES DEPARTMENT AT HONG FAI ROAD, SIU LAM

**Drawing title**

# TREE SURVEY PLAN

| | | | |
|---|---|---|---|
| **Drawn** | PM | **Scale** | 1:200 @ (A1) 1:400 @ (A3) |
| **Designed** | CL | **Date** | DEC 2021 |
| **Approved by** | AM | **Dwg. No.** | TS-01A |




LEGEND:

- REDEVELOPMENT SITE BOUNDARY
- TREE SURVEY BOUNDARY
- T46(P) TREES TO BE RETAINED AND PRUNED
- Txx(F) TREES TO BE REMOVED
- LEANING OR UNBALANCED TREE FORMS
- PROPOSED LAYOUT

LAND OWNER / TREE MAINTENANCE RESPONSIBLE AGENT:

- CSD / CSD
- DLO / DLO
- DLO / TMTL400
- DLO / CSD

NOTE :

*T105(F) TREE OF UNDESIRABLE SPECIES LEUCAENA LEUCOCEPHALA FOR WHICH NEITHER PRIOR APPROVAL NOR COMPENSATION IS REQUIRED ACCORDING TO DEVB TC(W) 04/2020.

| Amendment Numbers | Date | Amendment Description | Drawn by | Checked by | Approved by |
|---|---|---|---|---|---|
| A | OCT 2021 | BOUNDARY REVISED | AL | CL | AM |


Urbis Limited

**Planning, Urban Design, Landscape, Golf & Environmental Consultants**

Urbis Limited, 11/F Siu On Centre, 188 Lockhart Road, Wan Chai, Hong Kong. Tel 2802 3333 Fax 2802 8062

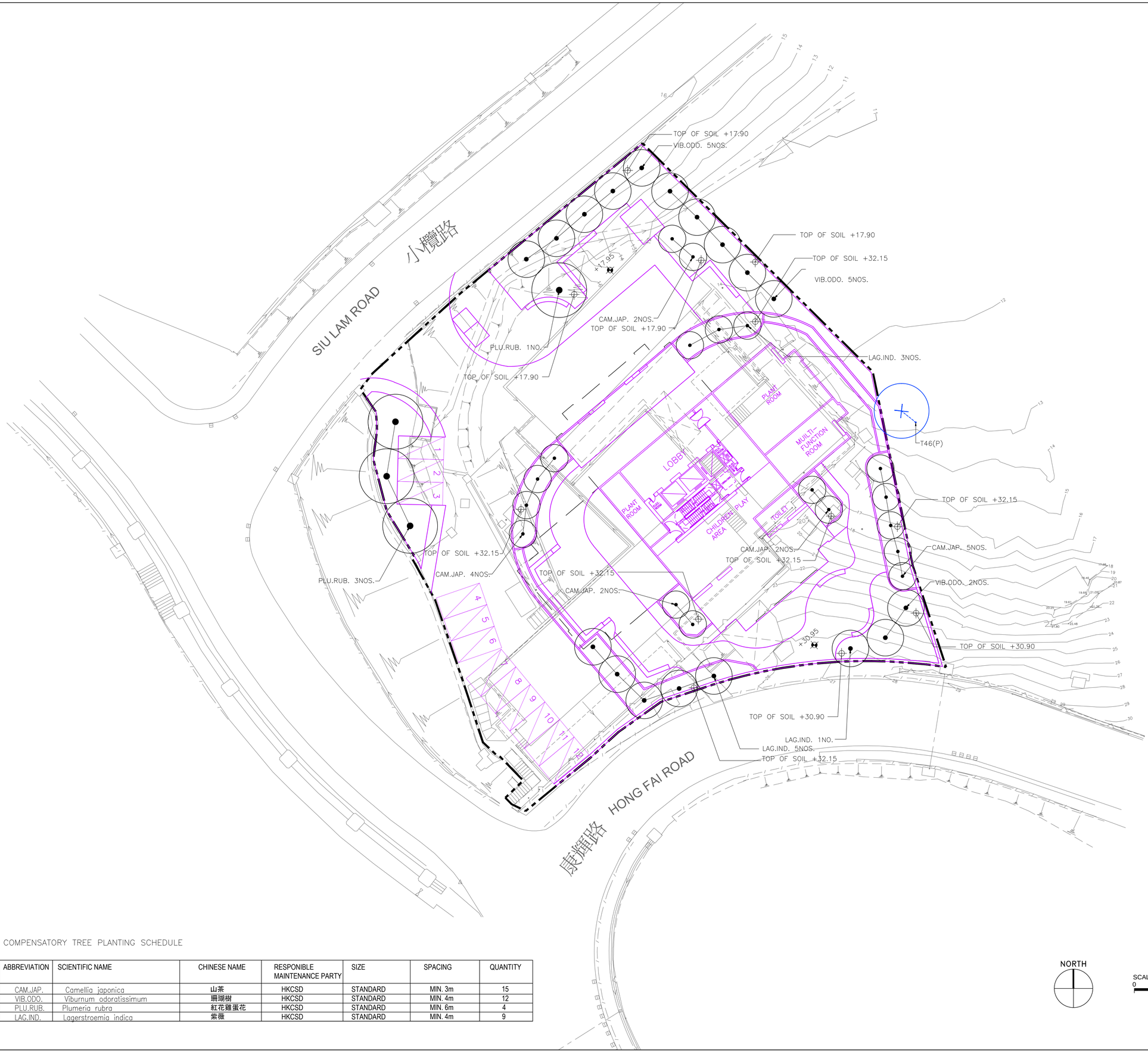

**Job title**

REDEVELOPMENT OF STAFF QUARTERS FOR CORRECTIONAL SERVICES DEPARTMENT AT HONG FAI ROAD, SIU LAM

**Drawing title**

# TREE TREATMENT PLAN

| | | | |
|---|---|---|---|
| Drawn | PM | Scale | 1:200 @ (A1) 1:400 @ (A3) |
| Designed | CL | Date | DEC 2021 |
| Approved by | AM | Dwg. No. | TT-01A |




COMPENSATORY TREE PLANTING SCHEDULE

| ABBREVIATION | SCIENTIFIC NAME | CHINESE NAME | RESPONIBLE MAINTENANCE PARTY | SIZE | SPACING | QUANTITY |
|---|---|---|---|---|---|---|
| CAM.JAP. | Camellia japonica | 山茶 | HKCSD | STANDARD | MIN. 3m | 15 |
| VIB.ODO. | Viburnum odoratissimum | 珊瑚樹 | HKCSD | STANDARD | MIN. 4m | 12 |
| PLU.RUB. | Plumeria rubra | 紅花雞蛋花 | HKCSD | STANDARD | MIN. 6m | 4 |
| LAG.IND. | Lagerstroemia indica | 紫薇 | HKCSD | STANDARD | MIN. 4m | 9 |

NORTH

SCALE 1 : 200
0 2 4 6 8 10m

LEGEND:

- REDEVELOPMENT SITE BOUNDARY
- TREE SURVEY BOUNDARY
- COMPENSATORY TREES
- T46(P) TREES TO BE RETAINED AND PRUNED
- PROPOSED LAYOUT

| Amendment Numbers | Date | Amendment Description | Drawn by | Checked by | Approved by |
|---|---|---|---|---|---|
| A | OCT 2021 | BOUNDARY REVISED | AL | CL | AM |


Urbis Limited
Planning, Urban Design, Landscape, Golf & Environmental Consultants
Urbis Limited, 11/F Siu On Centre, 188 Lockhart Road, Wan Chai, Hong Kong. Tel 2802 3333 Fax 2802 8062


**Job title**

REDEVELOPMENT OF STAFF QUARTERS FOR CORRECTIONAL SERVICES DEPARTMENT AT HONG FAI ROAD, SIU LAM

**Drawing title**

COMPENSATORY TREE PLAN

| | | | |
|---|---|---|---|
| Drawn | PM | Scale | 1:200 @ (A1) 1:400 @ (A3) |
| Designed | CL | Date | DEC 2021 |
| Approved by | AM | Dwg. No. | TC-1 |

小欖

Siu Lam

# Annex A3 -
## Tree Survey Photos

T20 (Acacia confusa); Recommendation: Remove
Description: Overview of T20; leaning.

T20 (Acacia confusa); Recommendation: Remove
Description: Overview of T20; dieback twigs.

T20 (Acacia confusa); Recommendation: Remove
Description: Roots severed due to construction of u-channel.

T20 (Acacia confusa); Recommendation: Remove
Description: Roots severed due to construction of u-channel.

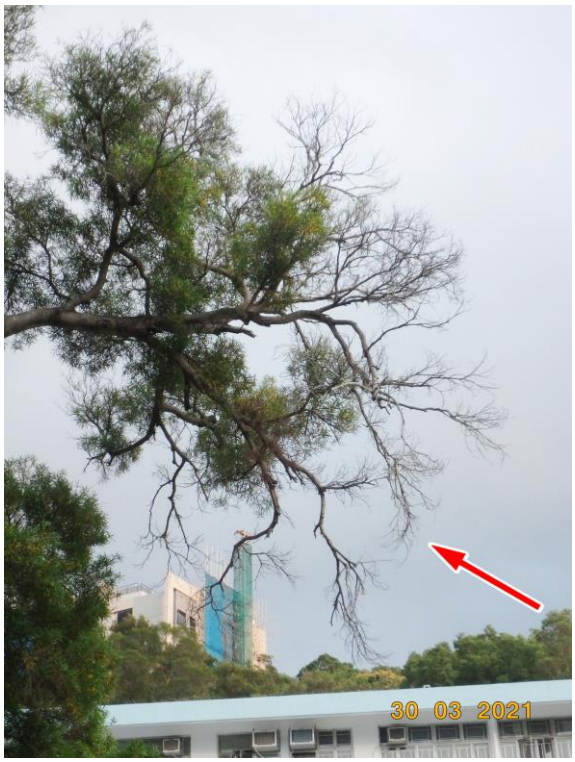
T20 (Acacia confusa); Recommendation: Remove
Description: Codominant trunks with included bark, pruned and large wound resulted.

T20 (Acacia confusa); Recommendation: Remove
Description: Codominant trunks with included bark, pruned and large wound resulted.

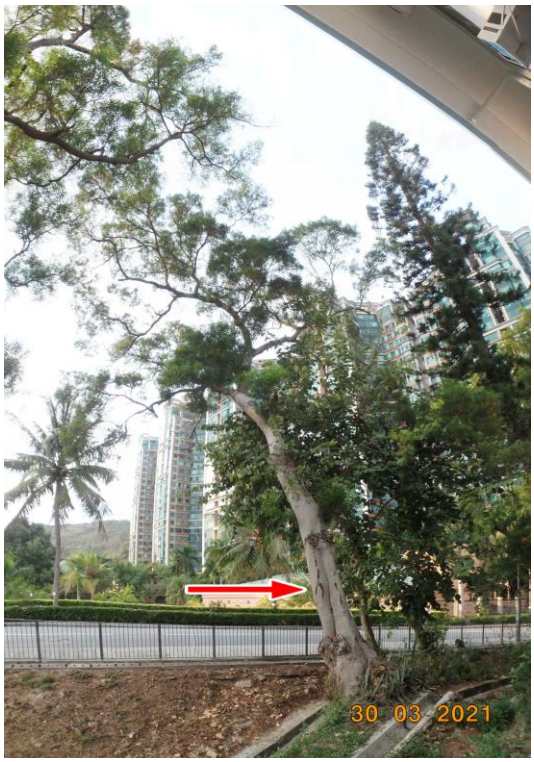
T20 (Acacia confusa); Recommendation: Remove
Description: Codominant trunks with included bark, pruned and large wound resulted.

T20 (Acacia confusa); Recommendation: Remove
Description: Dieback twigs.

T20 (Acacia confusa); Recommendation: Remove
Description: Dieback twigs.




T20 (Acacia confusa); Recommendation: Remove
Description: Dieback twigs.




T21 (Acacia confusa); Recommendation: Remove
Description: Overview of T21; leaning.

T21 (Acacia confusa); Recommendation: Remove
Description: Overview of T21; leaning.

T21 (Acacia confusa); Recommendation: Remove
Description: Leaning, roots severed due to construction of u-channel.

T21 (Acacia confusa); Recommendation: Remove
Description: Leaning, roots severed due to construction of u-channel.

T21 (Acacia confusa); Recommendation: Remove
Description: Wound on trunk.

T21 (Acacia confusa); Recommendation: Remove
Description: Wound on trunk.

T21 (Acacia confusa); Recommendation: Remove
Description: Dead branch.

T21 (Acacia confusa); Recommendation: Remove
Description: Dead branch.

T21 (Acacia confusa); Recommendation: Remove
Description: Dead branch.

T21 (Acacia confusa); Recommendation: Remove
Description: Roots severed due to construction of u-channel.

T22 (Araucaria columnaris); Recommendation: Remove
Description: Overview of T22; on slope.

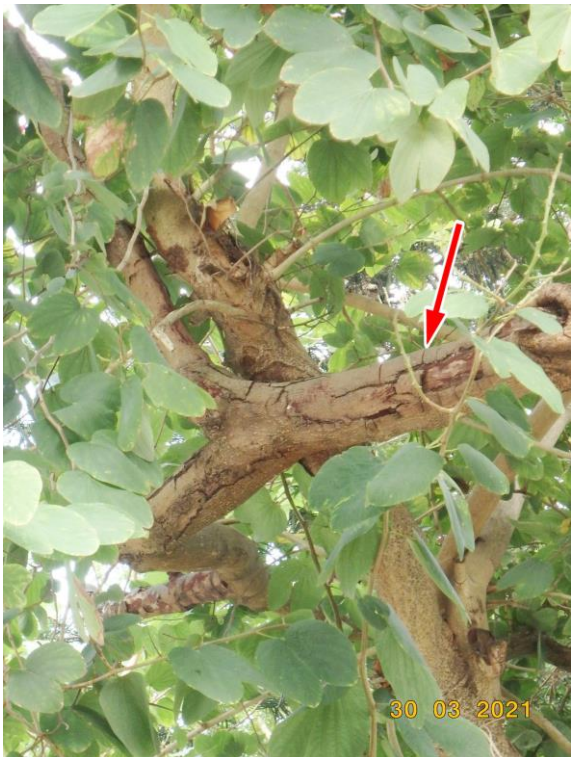
T22 (Araucaria columnaris); Recommendation: Remove
Description: Base of T22; on slope with rootzone believed to have deformed, constricted root zone by concrete structure, formation of large, flat and balanced rootball for transplanting not possible, removal is recommended.

T23 (Acacia confusa); Recommendation: Remove
Description: Overview of T23; asymmetric tree crown.

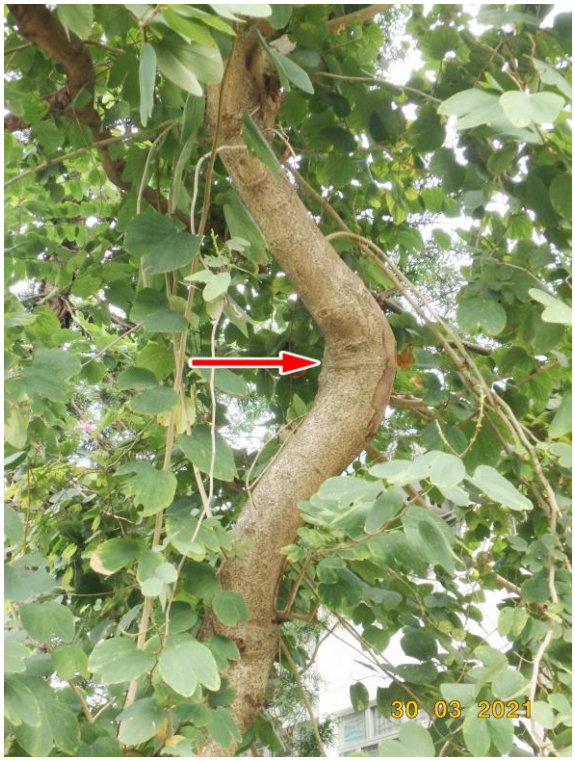
T23 (Acacia confusa); Recommendation: Remove
Description: Base of T23; on slope with rootzone believed to have deformed, constricted root zone by concrete structure, formation of large, flat and balanced rootball for transplanting not possible, removal is recommended.

T24 (Bauhinia x blakeana); Recommendation: Remove
Description: Overview of T24.

T24 (Bauhinia x blakeana); Recommendation: Remove
Description: Base of T24; leaning.




T24 (Bauhinia x blakeana); Recommendation: Remove
Description: Seam on trunk.




T24 (Bauhinia x blakeana); Recommendation: Remove
Description: Bent trunk.

T24 (Bauhinia x blakeana); Recommendation: Remove
Description: Base of T24; leaning; constricted root zone by concrete structures, formation of large, flat and balanced rootball to support this size of tree for transplanting not possible, removal is recommended.

T25 (Bauhinia x blakeana); Recommendation: Remove
Description: Overview of T25; topped, low live crown ratio.

T25 (Bauhinia x blakeana); Recommendation: Remove
Description: Base of T25; topped.

T25 (Bauhinia x blakeana); Recommendation: Remove
Description: poor health condition with large wound and trunk cavity not suitable for transplanting.

T25 (Bauhinia x blakeana); Recommendation: Remove
Description: Large wound.

T26 (Hibiscus tiliaceus); Recommendation: Remove
Description: Overview of T26; on slope, topped, uprooted and bent trunk.

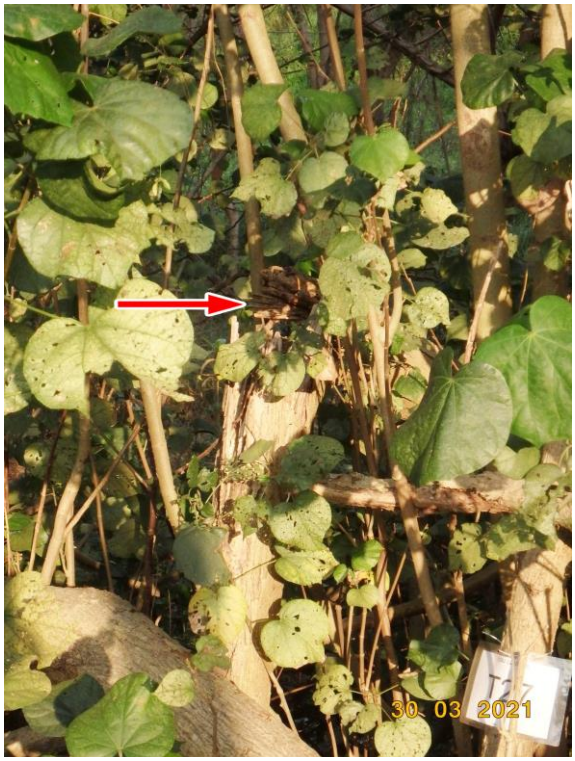
T26 (Hibiscus tiliaceus); Recommendation: Remove
Description: Base of T26; topped, uprooted. Located next to structure not possible to form balanced rootball for transplanting.

T26 (Hibiscus tiliaceus); Recommendation: Remove
Description: Pruned trunk, topped. Poor health and form condition not justified for transplanting.

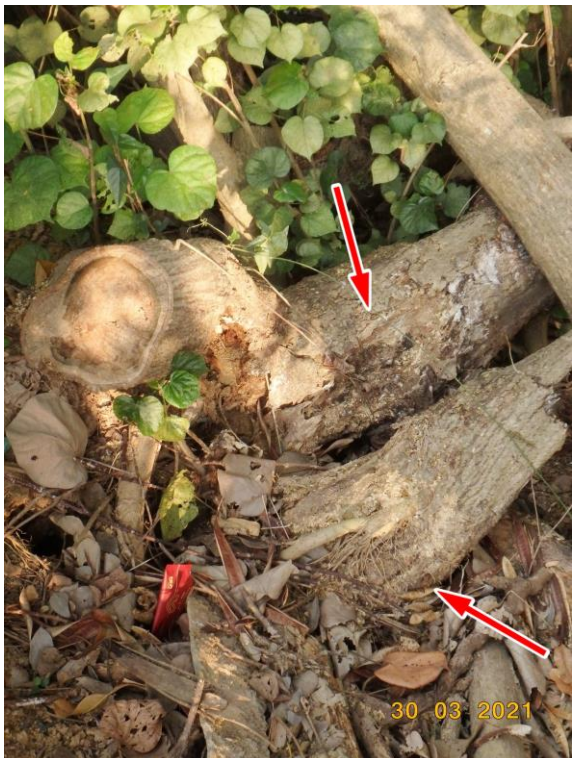
T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Overview of T27; on slope, codominant trunks, uprooted.

T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Base of T27; uprooted, wound at base.

T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Base of T27; uprooted, wound at base. Poor health and form condition not justified for transplanting.



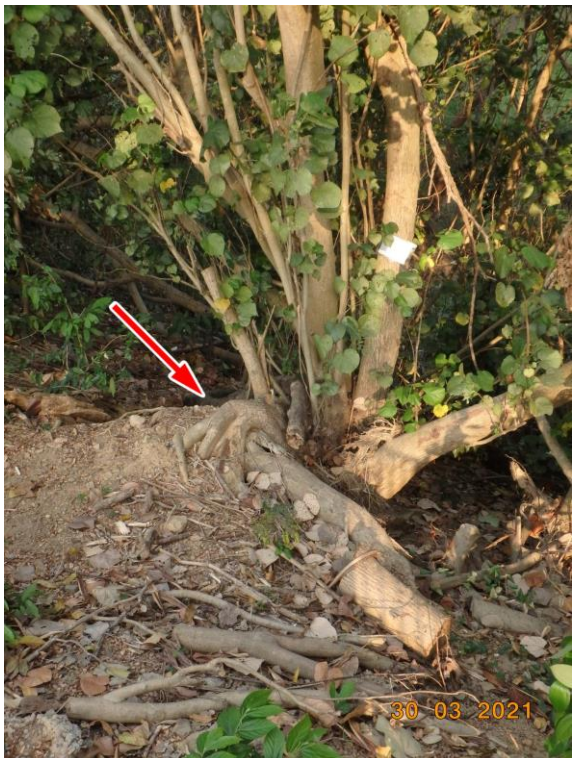

T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Broken trunk.




T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Codominant trunks, uprooted, wound at base. Poor health and form condition not justified for transplanting.

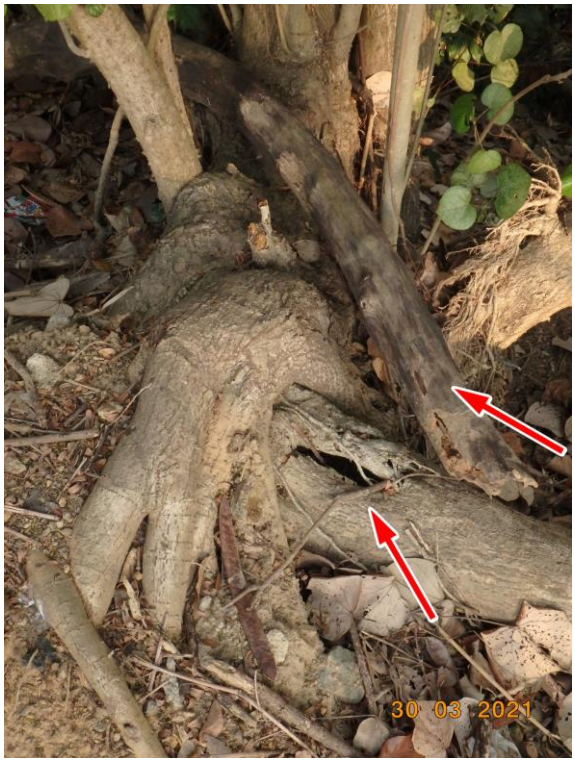
T27 (Hibiscus tiliaceus); Recommendation: Remove
Description: Codominant trunks, uprooted, wound at base. Poor health and form condition not justified for transplanting.

T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Overview of T28; on slope, codominant trunks, uprooted.



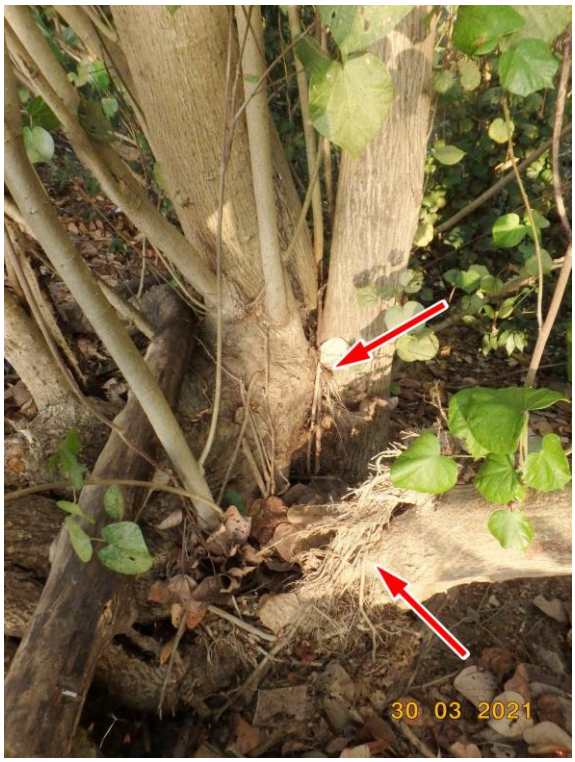

T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Located on slope with deformed root zone not able to form balanced rootball for transplanting, poor form condition not justified for transplanting.

T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Pruned trunk.




T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Uprooted, codominant trunks with included bark.

T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Broken trunk, codominant trunks with included bark.




T28 (Hibiscus tiliaceus); Recommendation: Remove
Description: Broken trunk, codominant trunks with included bark.

T34 (Celtis sinensis); Recommendation: Remove
Description: Overview of T34.

T34 (Celtis sinensis); Recommendation: Remove
Description: Located next to concrete structure with deformed root zone not able to form large flat balanced rootball to support this size of tree for transplanting.

T34 (Celtis sinensis); Recommendation: Remove
Description: Codominant trunks with included bark.

T34 (Celtis sinensis); Recommendation: Remove
Description: Dead branches.

T34 (Celtis sinensis); Recommendation: Remove
Description: Dead branches.

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T40. Poor conditions in health and form and grew next to structure not able to form balance rootball for transplanting. Transplanting is not justified.

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant trunks, climbers on tree.

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant trunks

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Broken branches.

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Broken branches.

T40 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Cracks on trunk.

T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T41; on slope. Poor conditions in form and grew on slope with deformed root zone not able to form balanced rootball for transplanting. Transplanting is not justified.

T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant branches, climbers on tree.

T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: With included bark, codominant branches.

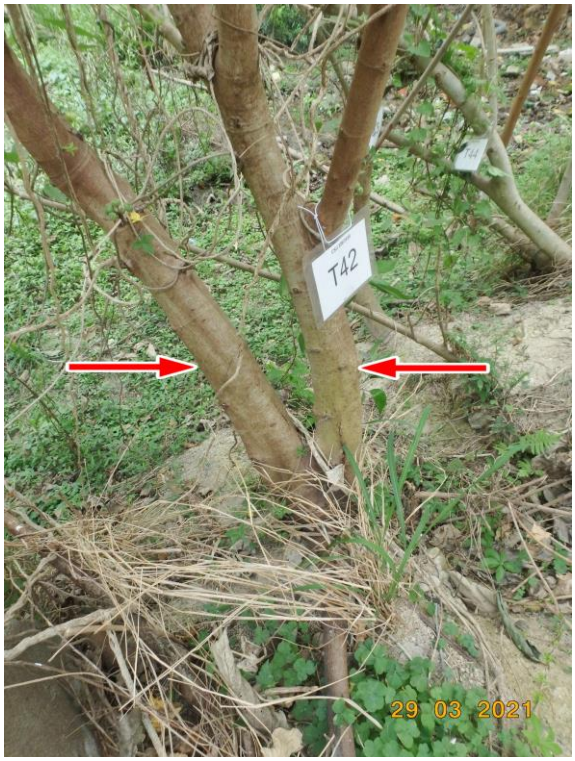
T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: With included bark, codominant branches.

T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Dead branches.

T41 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Dead branches.

T42 (Ficus hispida); Recommendation: Remove
Description: Overview of T42; on slope. Grew on slope and next to structure with deformed root zone not able to form balanced rootball for transplanting. Transplanting is not justified.

T42 (Ficus hispida); Recommendation: Remove
Description: Overview of T42; on slope, climbers on tree.




T42 (Ficus hispida); Recommendation: Remove
Description: Codominant trunks.

T43 (Ficus hispida); Recommendation: Remove
Description: Overview of T43; on slope, asymmetric tree crown, climbers on tree.

T43 (Ficus hispida); Recommendation: Remove
Description: Base of T43; root collar buried in soil. Deformed root zone anticipated not able to form balanced rootball for transplanting. Transplanting is not justified.

T43 (Ficus hispida); Recommendation: Remove
Description: Base of T43; root collar buried in soil.

T44 (Ficus hispida); Recommendation: Remove
Description: Overview of T44; on slope, asymmetric tree crown, climbers on tree.

T44 (Ficus hispida); Recommendation: Remove
Description: Base of T44; root-plate heaved. Deformed root zone observed not able to form balanced rootball for transplanting. Transplanting is not justified.

T44 (Ficus hispida); Recommendation: Remove
Description: Base of T44; on slope, root-plate heaved, asymmetric tree crown.

T45 (Ficus hispida); Recommendation: Remove
Description: Overview of T45; on slope, leaning,, climbers on tree. Grew out of concrete structure, extremely deformed root zone intertwining with the structure, formation of rootball for transplanting not possible. Poor conditions in health and form, not justified for transplanting.

T45 (Ficus hispida); Recommendation: Remove
Description: Base of T45; embedding nearby pipe.

T45 (Ficus hispida); Recommendation: Remove
Description: Base of T45; embedding nearby pipe.

T45 (Ficus hispida); Recommendation: Remove
Description: Crack on trunk.

T45 (Ficus hispida); Recommendation: Remove
Description: Crack on trunk, wound on trunk.

T45 (Ficus hispida); Recommendation: Remove
Description: Crack on trunk, wound on trunk.

T46 (Macaranga tanarius var. tomentosa);
Recommendation: Retain and Prune
Description: Overview of T46; leaning, asymmetric tree crown.

T46 (Macaranga tanarius var. tomentosa);
Recommendation: Retain and Prune
Description: Overview of T46; leaning, asymmetric tree crown.

T46 (Macaranga tanarius var. tomentosa);
Recommendation: Retain and Prune
Description: Base of T46.

T46 (Macaranga tanarius var. tomentosa);
Recommendation: Retain and Prune
Description: Dieback twigs.

T46 (Macaranga tanarius var. tomentosa);
Recommendation: Retain and Prune
Description: Dieback twigs.

T58 (Dimocarpus longan); Recommendation: Remove
Description: Overview of T58; on slope, growing close to concrete structure.

T58 (Dimocarpus longan); Recommendation: Remove
Description: Base of T58; on slope, growing close to concrete structure. Formation of rootball for transplanting not possible.

T58 (Dimocarpus longan); Recommendation: Remove
Description: Dead branch.

T58A (Carica papaya); Recommendation: Remove
Description: Overview of T58A; on slope, growing close to concrete structure.

T58A (Carica papaya); Recommendation: Remove
Description: Base of T58A; growing close to concrete structure, codominant stems. Formation of rootball for transplanting not possible.

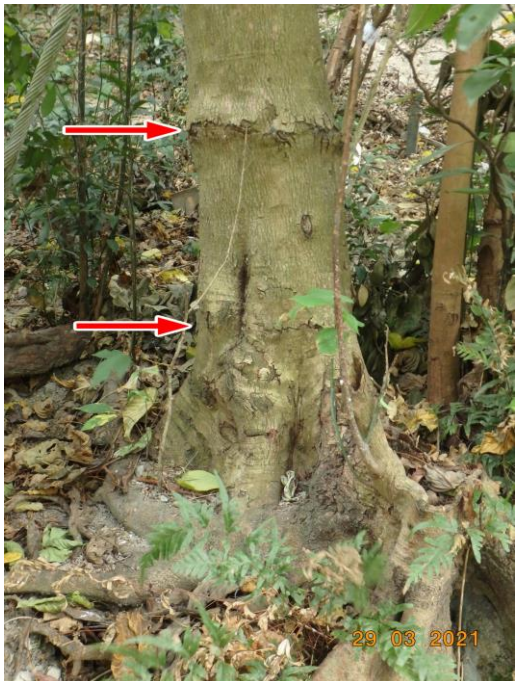
T58A (Carica papaya); Recommendation: Remove
Description: Codominant stems.

T58B (Carica papaya); Recommendation: Remove
Description: Overview of T58B; on slope.

T58B (Carica papaya); Recommendation: Remove
Description: Base of T58B; on slope, codominant branches. Grew out of sloping shortcrete with extremely constricted and deformed root zone, formation of rootball for transplanting not possible.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T59; on slope.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T59.




T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T59; transverse cracks on trunk. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible, poor condition in health with consecutive transverse cracks on trunk, transplanting not justified.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Transverse cracks on trunk.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Growth of epicormics.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Transverse cracks on trunk.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Transverse cracks on trunk. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible, poor condition in health with consecutive transverse cracks on trunk, transplanting not justified.

T59 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Wound at base, lost one of codominant trunks and large wound remained.

T60 (Schefflera heptaphylla); Recommendation: Remove
Description: Overview of T60; on slope.

T60 (Schefflera heptaphylla); Recommendation: Remove
Description: Base of T60.

T60 (Schefflera heptaphylla); Recommendation: Remove
Description: Base of T60; wound and cavity at base. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible, poor condition in health with cavity at base, transplanting not justified.

T60 (Schefflera heptaphylla); Recommendation: Remove
Description: Base of T60; wound and cavity at base.

T60 (Schefflera heptaphylla); Recommendation: Remove
Description: Bent trunk.

T63 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T63; on slope. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T63 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T63; codominant trunks with one of them topped.

T63 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant trunks.

T63 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Dieback twigs.

T63 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant trunks with one of them topped.

T64 (Artocarpus heterophyllus); Recommendation: Remove
Description: Overview of T64; on slope, growing close to building. Grew on slope and next to structure with deformed root zone, formation of balanced rootball for transplanting not possible.

T64 (Artocarpus heterophyllus); Recommendation: Remove
Description: Base of T64; on slope, growing close to building.

T65 (Dimocarpus longan); Recommendation: Remove
Description: Overview of T65; on slope.

T65 (Dimocarpus longan); Recommendation: Remove
Description: Base of T65; on slope. Grew on slope and next to structure with deformed root zone, formation of balanced rootball for transplanting not possible.

T65 (Dimocarpus longan); Recommendation: Remove
Description: Bent trunk, codominant branches.

T66 (Livistona chinensis); Recommendation: Remove
Description: Overview of T66; on slope, leaning, bent trunk.

T66 (Livistona chinensis); Recommendation: Remove
Description: Base of T66; on slope, leaning, bent trunk. Highly deformed, grew on slope and out of structure with deformed root zone, formation of balanced rootball for transplanting not possible.

T66 (Livistona chinensis); Recommendation: Remove
Description: Wound on trunk.

T67 (Ficus hispida); Recommendation: Remove
Description: Overview of T67; on slope. Poor condition in health and form, grew on slope and out of structure with deformed root zone, formation of balanced rootball for transplanting not possible.

T67 (Ficus hispida); Recommendation: Remove
Description: Base of T67; on slope.

T67 (Ficus hispida); Recommendation: Remove
Description: Broken branch.

T67 (Ficus hispida); Recommendation: Remove
Description: Included bark.

T67 (Ficus hispida); Recommendation: Remove
Description: Broken branch.

T67 (Ficus hispida); Recommendation: Remove
Description: Dieback twigs.

T68 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T68; on slope, leaning, abruptly bent.

T68 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T68; on slope, leaning. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T68 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T68; on slope, leaning.

T68 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Leading shoot dieback.

T68 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Leading shoot dieback.

T69 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T69; on slope, leaning. Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T69 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T69; on slope.

T69 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Growth of epicormics.

T70 (Schefflera heptaphylla); Recommendation: Remove
Description: Overview of T70; on slope, asymmetric tree crown.

T70 (Schefflera heptaphylla); Recommendation: Remove
Description: Base of T70; on slope.
Grew on slope with deformed root zone around concrete debris formation of balanced rootball for transplanting not possible, poor form not justifiable for transplanting

T71 (Dimocarpus longan); Recommendation: Remove
Description: Overview of T71; on slope.

T71 (Dimocarpus longan); Recommendation: Remove
Description: Base of T71; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

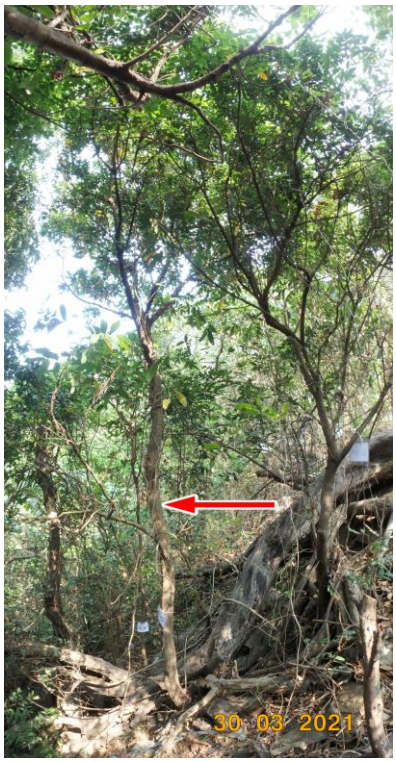
T71 (Dimocarpus longan); Recommendation: Remove
Description: Growth of epicormics.

T72 (Celtis sinensis); Recommendation: Remove
Description: Overview of T72; on slope, asymmetric tree crown.

T72 (Celtis sinensis); Recommendation: Remove
Description: Base of T72; on slope.
Grew on slope with deformed root zone around concrete debris, formation of balanced rootball for transplanting not possible.

T72 (Celtis sinensis); Recommendation: Remove
Description: Wound on trunk.

T72 (Celtis sinensis); Recommendation: Remove
Description: Leading shoot broken.




T73 (Dimocarpus longan); Recommendation: Remove
Description: Overview of T73; on slope.

T73 (Dimocarpus longan); Recommendation: Remove
Description: Base of T73; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible, poor tree form not justifiable for transplanting

T73 (Dimocarpus longan); Recommendation: Remove
Description: Dieback twigs.

T74 (Cinnamomum burmannii); Recommendation: Remove
Description: Overview of T74; on slope.

T74 (Cinnamomum burmannii); Recommendation: Remove
Description: Base of T74; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T74 (Cinnamomum burmannii); Recommendation: Remove
Description: Growth of epicormics.

T74 (Cinnamomum burmannii); Recommendation: Remove
Description: Dieback twigs.

T74 (Cinnamomum burmannii); Recommendation: Remove
Description: Dieback twigs.

T75 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T75; on slope, leaning.

T75 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T75; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T76; on slope, leaning.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T76; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Abruptly bent.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Wound on trunk.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Wound on trunk.

T76 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Wound on trunk.

T77 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T77; on slope, leaning.

T77 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T77; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T77 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Codominant branches.

T78 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T78; on slope, leaning.

T78 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T78; on slope, leaning, wound on trunk.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T78 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T78; on slope, leaning.

T78 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Dieback twigs.

T78 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Growth of epicormics.

T103 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T103; on slope, leaning.

T103 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Overview of T103; on slope, leaning.
Grew on slope with deformed root zone, constricted within concrete structure formation of balanced rootball for transplanting not possible.

T103 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T103; on slope, leaning, growth of epicormics.

T103 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Base of T103; on slope, leaning, growth of epicormics.

T103 (Macaranga tanarius var. tomentosa);
Recommendation: Remove
Description: Dieback twigs.

T104 (Bauhinia purpurea); Recommendation: Remove
Description: Overview of T104; on slope, asymmetric tree crown, climbers on tree.

T104 (Bauhinia purpurea); Recommendation: Remove
Description: Overview of T104; on slope, asymmetric tree crown, climbers on tree.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T104 (Bauhinia purpurea); Recommendation: Remove
Description: Base of T104; on slope, suckers from base.

T104 (Bauhinia purpurea); Recommendation: Remove
Description: Leading shoot broken, climbers on tree.

T104 (Bauhinia purpurea); Recommendation: Remove
Description: Leading shoot broken.

T105 (Leucaena leucocephala); Recommendation: Remove
Description: Overview of T105; on slope.

T105 (Leucaena leucocephala); Recommendation: Remove
Description: Overview of T105; on slope.
Weed species
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible.

T105 (Leucaena leucocephala); Recommendation: Remove
Description: Base of T105; codominant trunks with included bark.

T105 (Leucaena leucocephala); Recommendation: Remove
Description: Base of T105; codominant trunks with included bark.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Overview of T106; on slope.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Overview of T106; on slope.
Grew on slope with deformed root zone, formation of balanced rootball for transplanting not possible. Poor form not justifiable for transplanting.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Overview of T106; on slope.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Base of T106; growth of epicormics, extensive crack through trunk.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Extensive crack through trunk.

T106 (Bauhinia purpurea); Recommendation: Remove
Description: Extensive crack through trunk.

小欖

Siu Lam

# Annex B -
# Visual Impact Assessment

# PROPOSED AMENDMENT TO THE APPROVED SO KWUN WAT OUTLINE ZONING PLAN NO. S/TM-SKW/13 FOR REDEVELOPMENT OF CORRECTIONAL SERVICES DEPARTMENT'S STAFF QUARTERS AT HONG FAI ROAD, SIU LAM

## ANNEX B
## VISUAL IMPACT ASSESSMENT

**Document No. 003**
**ADD1-Rev 5**

**URBIS LIMITED**

**August 2022**

| | | |
|---|---|---|
| Prepared by : | *Sandy Ling* | August 2022<br>Date |
| Checked by : | *Tim Osborne* | August 2022<br>Date |
| Approved for Issue by: | *Tim Osborne* | August 2022<br>Date |

# TABLE OF CONTENTS


**1 INTRODUCTION ..... 3**

1.1 BACKGROUND AND CONTEXT ..... 3
1.2 PURPOSE AND OBJECTIVES ..... 3
1.3 OVERVIEW OF VISUAL IMPACT ASSESSMENT REPORT ..... 3

**2 APPRAISAL METHODOLOGY ..... 4**

2.1 INTRODUCTION ..... 4
2.2 IDENTIFICATION OF BASELINE VISUAL CONDITIONS ..... 4
2.3 ASSESSMENT AREA ..... 4
2.4 VISUAL ELEMENTS AND RESOURCES ..... 5
2.5 PUBLIC VIEWING POINTS ..... 5
2.6 APPRAISAL OF VISUAL CHANGE ..... 5
2.7 IDENTIFICATION OF SOURCES OF IMPACT ..... 6
2.8 VISUAL MITIGATION PROPOSALS ..... 6
2.9 EVALUATION OF OVERALL VISUAL IMPACT ..... 6

**3 BASELINE VISUAL CONDITIONS ..... 9**

3.1 EXISTING SITE CONDITIONS ..... 9
3.2 ASSESSMENT AREA ..... 9
3.3 EXISTING VISUAL ELEMENTS ..... 10
3.4 VIEWING POINTS ..... 10
3.5 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST (FIGURE 5.1) ..... 10
3.6 VP2: PEDESTRIANS ON SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST (FIGURE 5.2) ..... 11
3.7 VP3: PEDESTRIANS ON SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST (FIGURE 5.3) ..... 11
3.8 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST (FIGURE 5.4) ..... 11
3.9 VP5: PEDESTRIANS ON CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST (FIGURE 5.5) ..... 11
3.10 VP6: PEDESTRIANS ON CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH (FIGURE 5.6) ..... 12

**4 VISUAL APPRAISAL ..... 13**

4.1 DESIGN PROPOSAL ..... 13
4.2 VISUAL MITIGATION MEASURES ..... 13
4.3 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST (FIGURE 5.1) ..... 14
4.4 VP2: PEDESTRIANS AT SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST (FIGURE 5.2) ..... 15
4.5 VP3: PEDESTRIANS AT SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST (FIGURE 5.3) ..... 16
4.6 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST (FIGURE 5.4) ..... 16
4.7 VP5: PEDESTRIANS AT CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST (FIGURE 5.5) ..... 17
4.8 VP6: PEDESTRIANS AT CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH (FIGURE 5.6) ..... 18

**5 CONCLUSION AND SUMMARY OF IMPACTS ..... 19**

5.1 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST ..... 19
5.2 VP2: PEDESTRIANS AT SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST ..... 19
5.3 VP3: PEDESTRIANS AT SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST ..... 19
5.4 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST ..... 19
5.5 VP5: PEDESTRIANS AT CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST ..... 19

5.6 VP6: PEDESTRIANS AT CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH ..... 19
5.7 SUMMARY OF IMPACTS ..... 20
5.8 OVERALL ASSESSMENT OF VISUAL IMPACTS ..... 20

## LIST OF TABLES

Table 2.1 Relationship between Receptor Sensitivity and Magnitude of Change in Defining Impact Significance
Table 4.1 Visual Mitigation Measures
Table 5.1 Significance of Visual Impacts

## LIST OF FIGURES

Figure 1 Site Location Plan & Existing Visual Context
Figure 2 Extract of the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
Figure 3.1 Visual Elements
Figure 3.2 Visual Envelope & Viewpoint Locations
Figure 4 Development Layout Plan
Figure 5.1 VP1 – View from Tai Lam Chung Reservoir – Looking towards the Southwest
Figure 5.2 VP2 – View from Siu Lam Road Footpath near the Palatial Coast Roundabout – Looking towards the Southwest
Figure 5.3 VP3 – View from Siu Lam Tsuen Road Footpath – Looking towards the East
Figure 5.4 VP4 – View from Castle Peak Road-Tai Lam Southbound Bus Stop – Looking towards the East
Figure 5.5 VP5 – View from Ching Lai Road Footpath – Looking towards the Northeast
Figure 5.6 VP6 – View from Castle Peak Road–Tai Lam Footpath near Roundabout – Looking towards the North
Figure 6 Visual Mitigation Plan

## LIST OF ABBREVIATIONS

| | |
|---|---|
| AHR | Airport Height Restriction |
| CSD | Correctional Services Department |
| EIA | Environmental Impact Assessment |
| EIAO | Environmental Impact Assessment Ordinance |
| HK | Hong Kong |
| HKPSG | Hong Kong Planning Standards and Guidelines |
| LMP | Landscape Masterplan |
| MM | Mitigation Measure |
| OZP | Outline Zoning Plan |
| TPB | Town Planning Board |
| VE | Visual Envelope |
| VIA | Visual Impact Assessment |
| VP | Viewpoint |
| VSR | Visually Sensitive Receiver |
| ZVI | Zone of Visual Influence |

# 1 Introduction

## 1.1 BACKGROUND AND CONTEXT

1.1.1 URBIS Limited has been appointed by The Correctional Services Department ("CSD") to complete a Visual Impact Assessment ("VIA") for the amendment of the current Outline Zoning Plan ("OZP") required for the Proposed Redevelopment of the CSD Staff Quarters (Proposed Redevelopment) at Hong Fai Road in Siu Lam, for CSD.

1.1.2 The Proposed Redevelopment Site area (approximately 2,700sqm in size) is immediately surrounded by Hong Fai Road to the south, Siu Lam Road to the north and east, a densely vegetated slope to the west and located on part of the lush foothills south of the Tai Lam Chung Reservoir, in the Northwest New Territories (**Figure 1**). The existing formation levels within the Site range from approximately +11mPD to +27mPD.

1.1.3 The existing CSD Staff Married Quarters (3-4 storey buildings) will first be completely demolished and the Proposed Redevelopment will replace them with a taller single building block to provide more accommodation units and enhanced ancillary facilities for the residents by better utilising and maximising the development potential of the current subject Site. The proposed maximum building height of the Proposed Redevelopment (Ground Floor + 2 Carpark + 1 Mezzanine + 17 Residential storeys) is approximately +89mPD at the main roof level, which is considered generally compatible with the existing height profiles of the adjacent residential buildings (up to 28 storeys high) and surrounding developments currently in the area (maximum building height of approximately +98mPD).

## 1.2 PURPOSE AND OBJECTIVES

1.2.1 The purpose and key objectives of this VIA is to identify and assess any potential visual impacts arising from the Proposed Redevelopment within the surrounding context of Siu Lam – So Kwun Wat, in the Northwest New Territories (**Figures 3.1 and 3.2**).

1.2.2 This VIA provides a description of the VIA methodology, the scope of the Proposed Redevelopment, identifies the existing baseline conditions, visual elements, the potential sources of visual impact, and provides an assessment of the level of visual impacts to the surrounding area due to the implementation of the Proposed Redevelopment. Visual mitigation measures are recommended and the overall visual impact of the Proposed Redevelopment is assessed.

## 1.3 OVERVIEW OF VISUAL IMPACT ASSESSMENT REPORT

- **Section 1** introduces and describes the project **background and context** of this Visual Impact Assessment, as well as the project **purpose and objectives**.
- **Section 2** outlines the **appraisal methodology** for the assessment of visual impacts.
- **Section 3** identifies the **visual baseline** of the existing conditions surrounding the Site.
- **Section 4** proposes **visual mitigation measures** for the Proposed Redevelopment and then provides the **visual appraisal** which assesses the potential visual impact of the Proposed Redevelopment on the surrounding visual resources, elements and visual character and to the visually sensitive receivers surrounding the Site.
- **Section 5** draws an overall **conclusion** for the Visual Impact Assessment.

# 2 Appraisal Methodology

## 2.1 INTRODUCTION

2.1.1 The methodology for this VIA follows the requirements set out in the Town Planning Board Guidelines on the Submission of Visual Impact Assessment to the Town Planning Board (TPB PG-No.41).

2.1.2 Appraisal of visual impacts is not an objective science but is based upon a structured and reasoned evaluation of predicted impacts, informed by professional judgement and experience.

2.1.3 The methodology adopted for this visual impact appraisal consists of:

- Identification of Baseline Conditions (Assessment Area, Visual Elements and Resources and Viewing Points);
- Identification of key public viewpoints and visually receptive receivers and their sensitivity;
- Identification of Potential Sources of Impact;
- Identification of Magnitude of Visual Change;
- Identification of Potential Mitigation Measures;
- Appraisal of Significance of Visual Impacts; and
- Evaluation of Overall Visual Impact.

2.1.4 These stages are described in more detail below.

## 2.2 IDENTIFICATION OF BASELINE VISUAL CONDITIONS

2.2.1 In order to clearly identify the visual impacts of a Proposed Development, it is necessary to establish the existing baseline visual conditions of the surrounding environment. For these purposes, the project Study Area is defined by reference to the project's Visual Envelope (see below).

2.2.2 During the identification of baseline visual conditions, the following items are defined:

- The Existing Site Conditions and Assessment Area of the Proposed Project;
- Visual Elements and Resources; and
- Viewing Points.

2.2.3 The identification of these baseline conditions are the product of both desk-top research and field surveys.

## 2.3 ASSESSMENT AREA

2.3.1 The assessment area is the visual envelope within which the Proposed Development is pronouncedly visible from key sensitive viewers. The extent of the assessment area varies case by case depending on the size of the development, the site context and the distance and location of the sensitive viewers. A larger building will more likely give a more distinct visual impact than a smaller building at the same distance. Groups of buildings seen at a farther distance may be visually less distinct than the close-up views of individual buildings.

2.3.2 The assessment area is determined with regard to the size of the Proposed Development, the distance of the development and its potential visibility from the selected viewing points. The visual envelope forms the Assessment Area for the purposes of the VIA report.

## 2.4 VISUAL ELEMENTS AND RESOURCES

2.4.1 Visual Elements and Resources are the component features of a landscape or townscape which shape its appearance and visual character to those who see it. Key Visual Elements and Resources may include major physical structures, visual resources or attractors (e.g. Victoria Harbour, natural coastlines, ridgelines, mountain backdrop, woodland, streams, etc.) and / or visual eyesores or detractors (e.g. pylons, sewage treatment plants, refuse collection points, ventilation shaft buildings, quarries, etc.) that currently exist or are known to be planned within the assessment area should be reported / recorded.

2.4.2 Different Visual Elements and Resources may enhance, degrade or neutralize the overall visual impact of the Proposed Development being assessed. Victoria Harbour and its surrounding ridgelines are recognised as particularly important positive Visual Elements in the Hong Kong context.

2.4.3 Different aspects of Visual Elements and Resources give the landscape its visual character, including their scale (e.g. buildings, topographic features, etc.), variety of visual texture, pattern, form and colour. These features affect the visual character of a landscape and the type of development that can be accommodated within it without significantly changing this visual character.

2.4.4 Where committed future major developments fall within the assessment area, its Visual Elements and Resources are also considered, as far as they are known.

## 2.5 PUBLIC VIEWING POINTS

2.5.1 TPB PG-No.41 notes that "In the highly developed context of Hong Kong, it is not practical to protect private views without stifling development opportunity and balancing other relevant considerations. In the interest of the public, it is far more important to protect public views, particularly those easily accessible and popular to the public or tourists. VIA should primarily assess the impact on sensitive public viewers from the most affected viewing points. The viewing points could be kinetic or static. They include key pedestrian nodes, popular areas used by the public or tourists for outdoor activities, recreation, rest, sitting-out, leisure, walking, sight-seeing, and prominent travel routes where travellers' visual attention may be caught by the proposed development."

2.5.2 The TPB PG-No. 41 states that "For identification of key public viewing points, the applicants may refer to Chapter 11 on Urban Design Guidelines in the Hong Kong Planning Standards and Guidelines ("HKPSG"), the Explanatory Statements of relevant statutory plans, adopted outline development plans and layout plans, and completed planning studies available for public reference. Local viewpoints should be determined with reference to the setting of the project and views of local significance."

## 2.6 APPRAISAL OF VISUAL CHANGE

2.6.1 Under the TPB PG-No. 41, the effects of the visual changes on the assessment area and sensitive public viewers shall be appraised. Visual changes may be positive or negative and they are not necessarily mutually exclusive. The visual appraisal will take into account the following aspects:

- Visual Composition;
- Visual Obstruction;
- Effect on Visual Resources; and
- Effect on Public Viewers.

2.6.2 The magnitude of visual change depends on a number of factors, including the physical extent of the change, the landscape and visual context of the change – i.e. a set of circumstances / facts surrounding the change, the compatibility of the project with the surrounding landscape; and the time-scale of the change – i.e. whether it is temporary (short, medium or long term), permanent but potentially reversible, or permanent and irreversible.

## 2.7 IDENTIFICATION OF SOURCES OF IMPACT

2.7.1 The key sources of visual impact of the Proposed Development are identified. These will generally be matters such as the completed development itself, associated buildings, structures and infrastructure works, such as highways, pumping stations and electricity substations etc., used to service the Proposed Development. It should be noted that Sources of Impact may be Positive or Negative.

## 2.8 VISUAL MITIGATION PROPOSALS

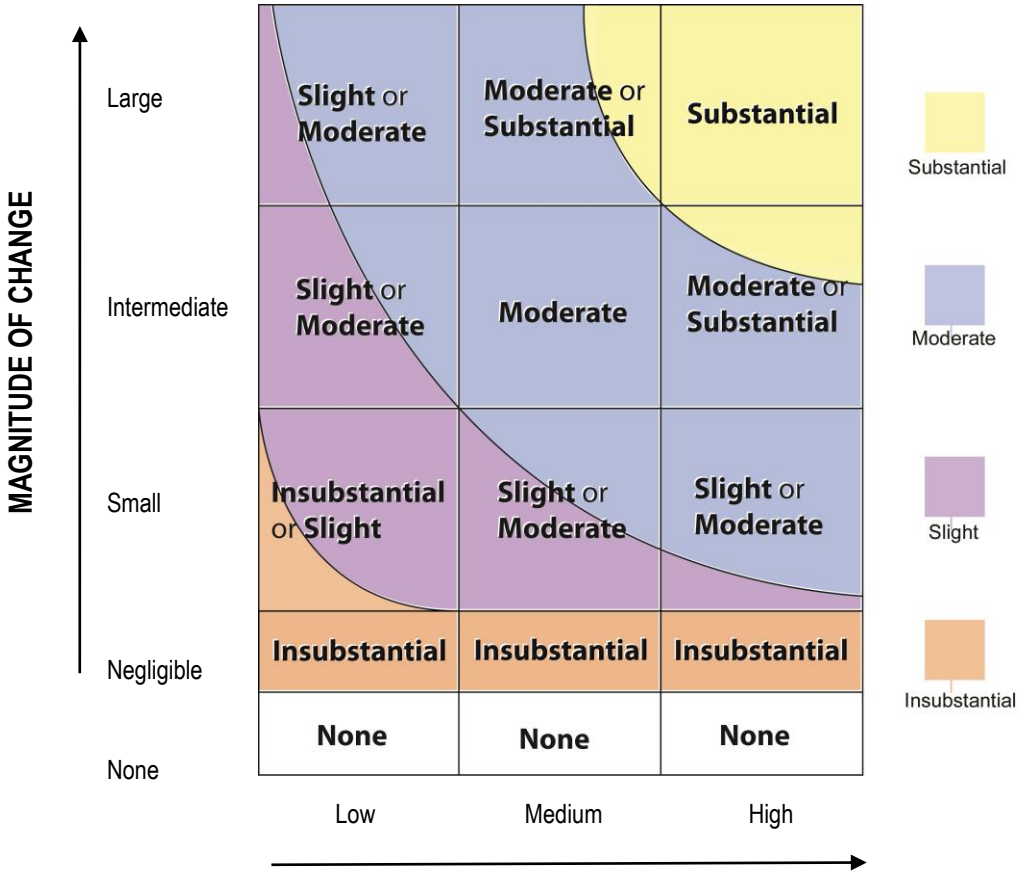
2.8.1 Sources of visual impact are, where possible, subject to specific mitigation proposals so that the significance of the impacts are reduced. Mitigation measures can be part of the project design (e.g. the location of buildings; colour treatment of building façades, etc.) or can be added to the basic project design (e.g. tree planting to screen a development).

## 2.9 EVALUATION OF OVERALL VISUAL IMPACT

2.9.1 The overall visual impact of the Proposed Development is evaluated, taking into account the sensitivity of the key public viewers, visual resources and visual amenities likely to be affected, the magnitude, extent and duration of impact and any resultant improvement or degradation in the visual quality and character of the surrounding areas, and the planning intention and known planned developments in the area.

2.9.2 Impacts of the completed project scenario are assessed (as the construction phase impacts are not required to be assessed under TPB PG-No. 41). Impacts are also assessed on the assumption that the mitigation measures are all in place (and the planting fully mature). **Table 2.1** below shows the matrix used to assess the visual impacts. The matrix is a means of subdividing and categorising the continuous spectrum of the potential impact significance from zero impact ("None") at the bottom left corner of the table, to the maximum possible impact ("Substantial") at the top right corner of the table. There are four thresholds of impact significance, namely insubstantial, slight, moderate, and substantial, depending on the combination of a negligible-small-intermediate-large Magnitude of Change and a low-medium-high degree of Sensitivity. For some combinations of classification levels of Magnitude of Change and Receptor Sensitivity, there are two possible impact significance thresholds. When the Magnitude of Change and Receptor Sensitivity are assessed to be towards the higher ends of each classification level the resultant impact significance would be deemed to be the higher of the two impact significance thresholds.

***Table 2.1: Relationship between Receptor Sensitivity and Magnitude of Change in Defining Impact Significance***




***Note: the magnitude of change may be Positive or Adverse.***

*Notes:*

*1. The Magnitude of Change may be Positive or Adverse, it is assumed to be Adverse unless otherwise stated.*

*2. The colours in the table categorise the total spectrum of impacts rising from the lowest value at the bottom left corner to the highest value at the top right corner. It may be seen that for some combination of classification levels of Magnitude of Change and Receptor Sensitivity, there are two possible impact significance thresholds. When the Magnitude of Change and Receptor Sensitivity are assessed to be towards to higher ends of each classification level the resultant impact significance would be deemed to be the higher of the two impact significance thresholds.*

2.9.3 The significance of impacts are assessed as 'Substantial Adverse' or 'Substantial Positive', 'Moderate Adverse' or 'Moderate Positive', 'Slight Adverse' or 'Slight Positive', 'Negligible' and 'None'. 'Negligible' impacts are deemed to make no significant difference to the character of views, even though the Project Site and development may be physically visible. 'None' indicates that the project is not visible at all and hence there are no visual impacts and no difference to the character of views.

2.9.4 Finally, a single summary assessment of the impacts is made based on the following thresholds as stated in the TPB PG-No.41:

- **Enhanced** – if the Proposed Development in overall terms will improve the visual quality and complement the visual character of its setting from most of the identified key public viewing points;
- **Partly Enhanced / Partly Adverse** – if the Proposed Development will exhibit enhanced visual effects to some of the identified key public viewing points and at the same time, with or without mitigation measures, exhibit adverse visual effects to some other key public viewing points;
- **Negligible** – if the Proposed Development will, with or without mitigation measures, in overall terms have insignificant visual effects to most of the identified key public viewing points, or the visual effects would be screened or filtered by other distracting visual elements in the assessment area;
- **Slightly Adverse** – if the Proposed Development will, with or without mitigation measures, result in overall terms some negative visual effects to most of the identified key public viewing points;
- **Moderately Adverse** – if the Proposed Development will, with or without mitigation measures, result in overall terms negative visual effects to most of the key identified key public viewing points; and
- **Significantly Adverse** – if the Proposed Development will in overall terms cause serious and detrimental visual effects to most of the identified key public viewing points even with mitigation measures.

# 3 Baseline Visual Conditions

## 3.1 EXISTING SITE CONDITIONS

3.1.1 The Proposed Redevelopment Site area (approximately 2,700sqm in size) is immediately surrounded by Hong Fai Road to the south, Siu Lam Road to the north and east, a densely vegetated slope to the northwest and located on part of the lush foothills south of the Tai Lam Chung Reservoir, in the Northwest New Territories (**Figure 1**). The slope rises up towards the Tai Lam Chung Reservoir (at approximately +65mPD) and Tai Lam Country Park is located further to the north. The Site is located to the north of Tuen Mun Road, south and east of the Palatial Coast private residential development and west of Siu Lam Psychiatric Centre and Integrated Rehabilitation Services Complex (IRSC).

3.1.2 The existing urban fringe residential visual character and context of the Site is illustrated on **Figure 1**. The existing formation levels within the Site ranges from approximately +11mPD to +27mPD. The Site area at ground level is not highly visible unless viewed from its immediate surroundings as the Site area is mostly situated at a lower formation level than the surrounding roads, and in a fairly secluded location. From the Site looking out, there are views to the lush steep vegetated slopes, dense woodland hillsides and ridgelines above to the northeast. From the upper levels of the existing buildings, over and above the noise barrier, there are distant views out to the sea to the southwest.

3.1.3 The Site area currently falls mainly within areas zoned as "Government, Institution or Community" with a maximum building height restriction of 4 storeys, along with a small area of "Green Belt" on The Approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/13 gazetted on 11/12/2015. Directly adjacent to the Site area, there are extensive areas zoned "Green Belt" to the north, east and further north and west. There are areas zoned "G/IC" and "R(B)" with a maximum building height restriction of +102mPD in the surrounding context. There are extensive areas zoned "GB" to the east and further northeast of the Site (**Figure 2**).

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

3.1.5 The Proposed Redevelopment Site area is also currently subject to the "restricted height" (more commonly known as Airport Height Restriction (AHR)) specified in the plans prescribed under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301). No part of building or structure or equipment erected or to be erected (including any addition or fitting to such building or structure or equipment) within the site shall exceed the AHR specified in the plans.

## 3.2 ASSESSMENT AREA

3.2.1 The Zone of Visual Influence ("ZVI") is the area from which any part of the proposed project can possibly be seen. Based on the location, position and height of the Proposed Development, the ZVI has been mapped with reference to its visibility within the surrounding environment and is shown on **Figure 3.2**. The ZVI / Visual Envelope ("VE") extends out to the edge of the Tai Lam Chung Reservoir approximately 840m to the northeast of the Site, the existing buildings at Siu Lam Psychiatric Centre to the east of the Site and just beyond Castle Peak Road to the south and southwest of the Site.

3.2.2 Views of the Proposed Development will mostly be from the west and south directions with more prominent views from Siu Lam Tsuen Road and Siu Lam Road to the west of the Site due to the existing landform. As the Site sits at approximately +15mPD, some people located on the upper levels of the surrounding buildings within distances of up to one kilometre away may have views of the Proposed Development. There will also be visual shadows within the ZVI from which the Site will not be visible due to the densely vegetated slopes and lush hillsides surrounding the Site and due to obstruction by buildings between potential viewers and the Proposed Site area.

## 3.3 EXISTING VISUAL ELEMENTS

3.3.1 The existing visual context is shaped by the combined composition of all the visual elements which come into sight of the viewers. The key visual elements, including those with positive visual qualities ie. "visual attractors" and those with negative visual qualities ie. "visual detractors", are listed below and shown on **Figures 3.1 and 3.2**.

3.3.2 Key Positive Visual Elements / Visual Attractors:

- Tai Lam Chung River and Tai Lam Chung Reservoir;
- Existing natural hillside topography, ridgelines and vegetation on the surrounding hillside slopes;
- Existing roadside trees adjacent to the footpath in close proximity to the Site;
- Existing amenity Landscape Design and amenity planting in the surrounding Developments;
- Existing open sky;
- Sea / channel to the south; and
- Tsing Ma Bridge and Kap Shui Mun Bridge.

3.3.3 Key Negative Visual Elements / Visual Detractors:

- Construction works in close proximity to the Site;
- Existing large elevated / at-grade roads / expressways and associated cut slopes in close proximity to the Site – Tuen Mun Road and Castle Peak Road (major east-west route heavily trafficked);
- Existing Siu Lam Psychiatric Centre and Integrated Rehabilitation Services Complex (IRSC); and
- Tung Chung East land reclamation.

## 3.4 VIEWING POINTS

3.4.1 Key public viewing points within the ZVI have been identified (**Figure 3.2**) and described in the sections below.

- VP1: Visitors to Tai Lam Chung Reservoir – Looking Southwest;
- VP2: Pedestrians on Siu Lam Road Footpath near the Palatial Coast Roundabout – Looking Southwest;
- VP3: Pedestrians on Siu Lam Tsuen Road Footpath – Looking East;
- VP4: Travellers at Castle Peak Road-Tai Lam Southbound Bus Stop – Looking East;
- VP5: Pedestrians on Ching Lai Road Footpath – Looking Northeast; and
- VP6: Pedestrians on Castle Peak Road–Tai Lam Footpath near Roundabout – Looking North.

## 3.5 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST (FIGURE 5.1)

3.5.1 The Tai Lam Chung Reservoir trail is part of a popular hiking trail, rising up to approximately +65mPD at this VP location. The existing view towards the Proposed Site comprises existing densely vegetated slopes down towards the sea in the foreground with some filtered views of the ridgelines on Lantau Island beyond in the far distance. As well as the Palatial Coast residential development in the middle ground, there are glimpse views of other residential developments in the distance.

3.5.2 This section of Tai Lam Chung Reservoir path is popular with hikers. The quality of view is important to hikers as they are out there to enjoy the natural environment and views of nature. Their views are transient and short-lived. As such, the public viewers on Tai Lam Chung Reservoir are considered to have a ***High*** sensitivity to visual change.

## 3.6 VP2: PEDESTRIANS ON SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST (FIGURE 5.2)

3.6.1 Siu Lam Road branches off from Siu Lam Tsuen Road in Siu Lam, at approximately +13mPD at this VP location. The existing view towards the Proposed Site comprises the existing vegetated lower slope and the Palatial Coast residential development in the middle ground.

3.6.2 This section of Siu Lam Road footpath near the Palatial Coast residential development roundabout and Green Minibus Stop is mainly only used by the local residents living in this area. The quality of view is important to pedestrians but their primary focus is on their destination. Their views are transient and short-lived. As such, the pedestrians on the Siu Lam Road footpath near the Palatial Coast residential development roundabout are considered to have a ***Medium*** sensitivity to visual change.

## 3.7 VP3: PEDESTRIANS ON SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST (FIGURE 5.3)

3.7.1 Siu Lam Tsuen Road runs parallel to Tuen Mun Road and Castle Peak Road in Siu Lam, at approximately +15mPD at this VP location. The existing view towards the Proposed Site comprises the Palatial Coast residential development, Siu Lam Tsuen Road and adjacent noise barrier in the foreground, an existing heavily vegetated slope and parts of the Integrated Rehabilitation Services Complex (IRSC) buildings above the tree line in the background.

3.7.2 This section of Siu Lam Tsuen Road footpath near the Palatial Coast residential development is mainly only used by the local residents living in this area. The quality of view is important to pedestrians but their primary focus is on their destination. Views are transient and short-lived. As such, the pedestrians on the Siu Lam Tsuen Road footpath near the Palatial Coast residential development are considered to have a ***Medium*** sensitivity to visual change.

## 3.8 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST (FIGURE 5.4)

3.8.1 Castle Peak Road-Tai Lam runs parallel to Tuen Mun Road in Siu Lam, at approximately +10mPD at this VP location. The existing view towards the Proposed Site comprises some vegetation in the foreground, the Palatial Coast residential development and parts of the Integrated Rehabilitation Services Complex (IRSC) buildings above the tree line in the background.

3.8.2 This section of Castle Peak Road-Tai Lam footpath near the southbound bus stop is mainly only used by the local residents living in this area. The quality of view is important to pedestrians but their primary focus is on the road and approaching buses. Views are transient and short-lived. As such, the pedestrians on the Castle Peak Road-Tai Lam footpath near the southbound bus stop are considered to have a ***Medium*** sensitivity to visual change.

## 3.9 VP5: PEDESTRIANS ON CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST (FIGURE 5.5)

3.9.1 Ching Lai Road branches off from Castle Peak Road in Siu Lam, at approximately +28mPD at this VP location. The existing view towards the Proposed Site comprises some vegetation in the foreground, the Palatial Coast residential development, part of the noise barrier, an existing heavily vegetated slope and parts of the Integrated Rehabilitation Services Complex (IRSC) buildings above the tree line in the background.

3.9.2 This section of Ching Lai Road footpath is mainly only used by the local residents living in this area. The quality of view is important to pedestrians but their primary focus is on their destination. Views are transient and short-lived. As such, the pedestrians on the Ching Lai Road footpath are considered to have a ***Medium*** sensitivity to visual change.

## 3.10 VP6: PEDESTRIANS ON CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH (FIGURE 5.6)

3.10.1 Castle Peak Road-Tai Lam runs parallel to Tuen Mun Road in Siu Lam, at approximately +22mPD at this VP location. The existing view towards the Proposed Site comprises some vegetation and Tuen Mun Road in the foreground, an existing heavily vegetated slope in the middle ground and part of the Palatial Coast residential development behind the tree line in the background.

3.10.2 This section of Castle Peak Road-Tai Lam footpath near the roundabout is mainly only used by the local residents living in this area. The quality of view is important to pedestrians but their primary focus is on their destination. Views are transient and short-lived. As such, the pedestrians on the Castle Peak Road-Tai Lam footpath near the roundabout are considered to have a ***Medium*** sensitivity to visual change.

# 4 Visual Appraisal

## 4.1 DESIGN PROPOSAL

4.1.1 The existing CSD Staff Married Quarters (3-4 storey buildings) will first be completely demolished and the Proposed Redevelopment will replace them with a taller building block to provide more accommodation units and ancillary facilities for the residents by better utilising and maximising the development potential of the current subject Site. The proposed maximum building height of the Proposed Redevelopment (Ground Floor + 2 Carpark + 1 Mezzanine + 17 Residential storeys) is approximately +89mPD at the main roof level, which is considered generally compatible with the existing height profiles of the adjacent residential buildings (up to 28 storeys high) and surrounding developments currently in the area (maximum building height of approximately +98mPD).

4.1.2 The proposed building height of the Redevelopment does not exceed the "restricted height" (more commonly known as Airport Height Restriction (AHR)) specified in the plans prescribed under the Hong Kong Airport (Control of Obstructions) Ordinance (Cap. 301).

4.1.3 The proposed tree and shrub planting in planters along the podium edge on the Mezzanine Level will provide some shade and help to soften the appearance of the residential tower and the podium when viewed from outside the Site. These proposed trees will be compensatory trees of heavy standard and standard size. Trailing plants are also proposed to be planted over the outer layer to drape over the parapet wall to soften the podium edge.

4.1.4 After the completion of the redevelopment, the Proposed Development will generate visual impacts affecting the visual experience of the viewers in the surrounding area due to the presence of the Proposed Development itself and the loss of some associated existing trees and shrubs. The proposed master layout plan of the Proposed Development is illustrated on **Figure 4**. The visual impacts of the Proposed Development on the Key Public Viewing Points are summarised in **Table 5.1** and the effects are described briefly below with reference to the four aspects listed in TPB-PG-No.41. The locations of the Public Viewing Points are shown on **Figure 3.2**.

## 4.2 VISUAL MITIGATION MEASURES

4.2.1 The visual mitigation measures seek to reduce or eliminate the visual impacts of the Proposed Development Project. The following visual mitigation proposals listed in **Table 4.1** will be introduced as part of the development of the Project, as shown on the Visual Mitigation Plans (**Figure 6**).

***Table 4.1: Visual Mitigation Measures***

| Reference ID | Visual Mitigation Measures |
|---|---|
| **OM1** | Alignment and Arrangement of the Proposed Development |
| **OM2** | Sensitive Aesthetic Architectural Design and Chromatic Treatment of Built Structures and Proposed Development |
| **OM3** | Sensitive Reinstatement of the Affected Slope Areas and Site Boundaries |
| **OM4** | Amenity Landscape Areas and Greenery on the Proposed Development Structures |
| **OM5** | Control of Exterior Night Time Lighting in the Proposed Development |

4.2.2 **OM1** – The alignment and arrangement of the Proposed Development is proposed to minimise disturbance to the existing slope. The building form will be articulated to break down the visual solidity of the block and enhance its visual appearance.

4.2.3 **OM2** – Building materials will have the appearance of being lightweight and building finishes will be in recessive or neutral colours and will not include visually intrusive materials or elements. Innovative façade treatment e.g. the use of different colour tones / building design will be explored at the detailed design stage to enhance visual interest of the proposed built structures and promote visual harmony with the surroundings. Compatible design, materials and surface finishes of the proposed building and structures shall blend in with the nearby existing external appearance of the surrounding buildings to achieve visual uniformity. Finishing materials shall take due consideration of form, colour, micro- and macro-textures, and reflectivity / light absorbance to avoid glare.

4.2.4 **OM3** – All existing slopes affected by the construction of the Proposed Building will be sensitively reinstated in a manner that responds to the existing context and character. In particular, vegetation will be re-established to recreate the existing green backdrop.

4.2.5 **OM4** – Tree, shrub and groundcover planting and vertical greening will be undertaken both within the surrounding landscape areas and on the building structure where possible to mitigate the scale and impact of the Proposed Development and enhance the general visual amenity by softening the hard built edges. Planting will be provided along the podium edge where feasible to reduce the visual impact of the Proposed Development and improve the compatibility with the surrounding environment and provide visual relief and amenity for users and surrounding VSRs. The new and reinstated vegetation will create an attractive environment for the Proposed Development. The planting will take a number of years to fully establish and mature so the full effects of the mitigation measures will not be seen until some 10 years after the completion of the Proposed Development.

4.2.6 **OM5** – Lighting for the proposed building exteriors and landscape areas will be sensitively designed to reduce glare and visual impact at night.

## 4.3 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST (FIGURE 5.1)

4.3.1 The view of the Proposed Development Site from the Tai Lam Chung Reservoir trail looking towards the southwest will be relatively distant (approximately 840m). Following the construction of the Proposed Development, the lower portion will be obscured by the existing trees on the hillside slopes and the Proposed Development will only be partially visible.

4.3.2 Effects on Visual Composition: The Proposed Development will introduce another small built element to the existing visual composition. Due to its location and proposed height, although it will be clearly visible, the Proposed Development will be seen as a continuation of the existing adjacent buildings and perceived as part of the group of buildings rather than a single building by itself. The unaffected existing and retained slope vegetation will help to preserve the general green aspect and visual character of views from this viewpoint.

4.3.3 Effects on Visual Obstruction: The Proposed Development will result in some small visual obstruction of the sea and vegetated slopes of Lantau behind in the far distance. However, the Proposed Development will not obscure any existing visible ridgelines or skylines, with the existing character of view maintained.

4.3.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will be removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted.

4.3.5 Effects on Public Viewers: Following the construction of the Proposed Development, hikers / pedestrians at VP1 on the Tai Lam Chung Reservoir trail will have permanent and partial views of the Proposed Development over the top of the existing tree canopies, at a distance of approximately 840m. The existing trees and vegetation on the slopes in front of the Site will block views of the lower portion of the Proposed Development. Whilst the Proposed Development will be a clearly visible new element, due to its location adjacent to a group of existing taller residential buildings, the Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***High*** sensitivity of the public viewers will result in a ***Slight*** residual visual impact significance following the implementation of visual mitigation measures. Mitigation measures will include preservation of existing trees and protection of vegetation on existing slopes and reinstatement planting of vegetation on affected slopes. The Building will be designed to minimise visual bulk with appropriate architectural features, finishes and chromatic treatments.

## 4.4 VP2: PEDESTRIANS AT SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST (FIGURE 5.2)

4.4.1 The view of the Proposed Development Site from the Siu Lam Road footpath near the Palatial Coast residential development roundabout and Green Minibus Stop looking towards the southwest will be relatively close (approximately 110m). Following the construction of the Proposed Development, the lower portion will be obscured by the existing trees on the hillside slope and the Proposed Development will only be partially visible.

4.4.2 Effects on Visual Composition: The Proposed Development will introduce another built element to the existing visual composition. Due to its location and proposed height, although it will be clearly visible, the Proposed Development will be seen as a continuation of the existing adjacent buildings and seen as part of a group of buildings rather than a single building by itself. The unaffected existing and retained slope vegetation will help to preserve the general green aspect and visual character of the views from this viewpoint and screen the lower portion of the Proposed Development.

4.4.3 Effects on Visual Obstruction: The Proposed Development will result in some visual obstruction of the open sky. However, the Proposed Development will not obscure any existing visible ridgelines, preserving much of the existing character of view.

4.4.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will have been removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted.

4.4.5 Effects on Public Viewers: Following the construction of the Proposed Development, pedestrians at VP2 on this part of the Siu Lam Road footpath near the Palatial Coast residential development roundabout and Green Minibus Stop will have permanent and partial views of the Proposed Development over the top of the existing tree canopies, at a distance of approximately 110m. The existing trees and vegetation on the slope in front of the Site will block views of the lower storeys of the Proposed Development. Whilst the Proposed Development will be a clearly visible new element, due to its location adjacent to a group of existing taller residential buildings, the Development will constitute an ***Intermediate*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Moderate*** residual visual impact significance following the implementation of visual mitigation measures. Mitigation measures will include preservation of existing trees and protection of vegetation on existing slopes and reinstatement planting of vegetation on affected slopes. The Building will be designed to minimise visual bulk with appropriate architectural features, finishes and chromatic treatments.

## 4.5 VP3: PEDESTRIANS AT SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST (FIGURE 5.3)

4.5.1 The view of the Proposed Development Site from the Siu Lam Tsuen Road footpath looking towards the east will be very close (approximately 60m). Following the construction of the Proposed Development, it will be fully visible and obscure some existing buildings and trees on the hillside slope behind the Site.

4.5.2 Effects on Visual Composition: The Proposed Development will introduce a major built element to the existing visual composition. Due to its location and proposed height, the Proposed Development will be prominent, clearly visible and a lot taller than the existing buildings to be demolished and replaced within the Site, representing a major change to the existing visual composition even though its style and form will be more compatible with the existing adjacent buildings. The new building will be taller and thinner than the old building which is low but with a wider footprint. The unaffected existing and retained slope vegetation and the proposed low level greening at street and podium level will help to preserve the general green aspect and visual character of the Site area when viewed from this viewpoint.

4.5.3 Effects on Visual Obstruction: The Proposed Development will result in some visual obstruction of the vegetated slope, existing buildings in the background and some of the open skyline. However, the Proposed Development will not obscure any existing visible natural ridgelines.

4.5.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will have been removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted. Proposed planting at street and podium levels will add a new visual resource to the site when viewed from this viewpoint.

4.5.5 Effects on Public Viewers: Following the construction of the Proposed Development, pedestrians at VP3 on the Siu Lam Tsuen Road footpath looking towards the east will have permanent and full views towards the Proposed Development at a distance of approximately 60m. The Proposed Development will constitute a ***Large*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Substantial*** visual impact significance following the construction of the Proposed Development, and the implementation of visual mitigation measures. Mitigation measures will focus on reducing the perceived visual bulk of the Building through articulation of the façades and the adoption of appropriate architectural features, finishes and chromatic treatments and the introduction of planting on the podium edge.

## 4.6 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST (FIGURE 5.4)

4.6.1 The view of the Proposed Development Site from the Castle Peak Road-Tai Lam Southbound Bus Stop looking towards the east will be relatively close (approximately 180m). Following the construction of the Proposed Development, the lower portion of the Proposed Development will be totally obscured by the existing trees and the Proposed Development will only be partially visible through the vegetation.

4.6.2 Effects on Visual Composition: The Proposed Development will introduce another built element to the existing visual composition. Due to its location and proposed height, although it will only be partially visible, the Proposed Development will be seen as a continuation of the existing adjacent buildings and perceived as part of a group of buildings rather than a single building. The unaffected existing and retained vegetation will help to preserve the general green aspect and visual character of the view from this viewpoint. The rest of the visual composition will be unaffected.

4.6.3 Effects on Visual Obstruction: The Proposed Development will result in some visual obstruction of the vegetated slope and buildings in the background and some open sky. However, the Proposed Development will not obscure any existing visible ridgelines.

4.6.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will have been removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted.

4.6.5 Effects on Public Viewers: Following the construction of the Proposed Development, pedestrians at VP4 near the Castle Peak Road-Tai Lam Southbound Bus Stop looking towards the east will have permanent and partial views towards the Proposed Development at a distance of approximately 180m. The Proposed Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Slight*** visual impact significance following the construction of the Proposed Development and the implementation of visual mitigation measures. Mitigation measures will include preservation of existing trees and protection of vegetation on existing slopes and reinstatement planting of vegetation on affected slopes. The Building will be designed to minimise visual bulk with articulation of the building façades, appropriate architectural features, finishes and chromatic treatments.

## 4.7 VP5: PEDESTRIANS AT CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST (FIGURE 5.5)

4.7.1 The view of the Proposed Development Site from the Ching Lai Road Footpath looking towards the northeast will be relatively close (approximately 130m). Following the construction of the Proposed Development, the lower portion of the building will be obscured by the existing noise barrier and trees located in front.

4.7.2 Effects on Visual Composition: The Proposed Development will introduce another built element to the existing visual composition. Due to its location and proposed height, although it will be clearly visible, the Proposed Development will be seen as a continuation of the existing adjacent buildings and perceived as a part of the group of buildings rather than a single building by itself. The unaffected existing and retained slope vegetation will help to preserve the general green aspect and visual character of the view from this viewpoint. The rest of the visual composition will be unaffected.

4.7.3 Effects on Visual Obstruction: The Proposed Development will result in visual obstruction of the open sky behind the high-rise block. However, the Proposed Development will not obscure any existing visible ridgelines.

4.7.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will have been removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted.

4.7.5 Effects on Public Viewers: Following the construction of the Proposed Development, pedestrians at VP5 on the Ching Lai Road Footpath looking towards the northeast will have permanent and full views towards the Proposed Development at a distance of approximately 130m. The Proposed Development will constitute an ***Intermediate*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Moderate*** visual impact significance following the construction of the Proposed Development and the implementation of visual mitigation measures. Mitigation measures will include preservation of existing trees and protection of vegetation on existing slopes and reinstatement planting of vegetation on affected slopes. The Building will be designed to minimise visual bulk with articulated building façades, appropriate architectural features, finishes and chromatic treatments.

## 4.8 VP6: PEDESTRIANS AT CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH (FIGURE 5.6)

4.8.1 The view of the Proposed Development Site from the Castle Peak Road–Tai Lam Footpath near the roundabout looking towards the north will be relatively close (approximately 170m). Following the construction of the Proposed Development, the lower portion of the Proposed Development will be obscured by the existing trees and slope and it will only be partially visible.

4.8.2 Effects on Visual Composition: The Proposed Development will introduce another built element to the existing visual composition. Due to its location and proposed height, although it will be clearly visible, the Proposed Development will be seen as a continuation of the existing adjacent buildings and seen as part of a group of buildings rather than a single building by itself. The unaffected existing and retained slope vegetation will help to preserve the general green aspect and visual character of the view from this viewpoint. The rest of the visual composition will be unaffected.

4.8.3 Effects on Visual Obstruction: The Proposed Development will result in some visual obstruction of the existing adjacent buildings in the background and some open sky. However, the Proposed Development will not obscure any existing visible ridgelines.

4.8.4 Effects on Visual Elements / Resources: The construction of the Proposed Development will impact a small part of the existing wooded slope within the Site. Only existing trees generally affected due to direct conflict with the Proposed Development will have been removed. However, the retention and preservation of existing trees and vegetation will be possible outside the Site boundary. No other existing visual resources will be physically impacted.

4.8.5 Effects on Public Viewers: Following the construction of the Proposed Development, pedestrians at VP6 on the Castle Peak Road–Tai Lam Footpath near the roundabout looking towards the north will have permanent and partial views towards the Proposed Development at a distance of approximately 170m. The Proposed Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Slight*** visual impact significance following the construction of the Proposed Development and the implementation of visual mitigation measures. Mitigation measures will include preservation of existing trees and protection of vegetation on existing slopes and reinstatement planting of vegetation on affected slopes. The Building will be designed to minimise visual bulk with appropriate articulation of the façades, architectural features, finishes and chromatic treatments.

# 5 Conclusion and Summary of Impacts

## 5.1 VP1: VISITORS TO TAI LAM CHUNG RESERVOIR – LOOKING SOUTHWEST

5.1.1 The Proposed Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***High*** sensitivity of the public viewers will result in a ***Slight*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is many.

## 5.2 VP2: PEDESTRIANS AT SIU LAM ROAD FOOTPATH NEAR THE PALATIAL COAST ROUNDABOUT – LOOKING SOUTHWEST

5.2.1 The Proposed Development will constitute an ***Intermediate*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Moderate*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is few.

## 5.3 VP3: PEDESTRIANS AT SIU LAM TSUEN ROAD FOOTPATH – LOOKING EAST

5.3.1 The Proposed Development will constitute a ***Large*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Substantial*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is few.

## 5.4 VP4: TRAVELLERS AT CASTLE PEAK ROAD-TAI LAM SOUTHBOUND BUS STOP – LOOKING EAST

5.4.1 The Proposed Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Slight*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is many.

## 5.5 VP5: PEDESTRIANS AT CHING LAI ROAD FOOTPATH – LOOKING NORTHEAST

5.5.1 The Proposed Development will constitute an ***Intermediate*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Moderate*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is few.

## 5.6 VP6: PEDESTRIANS AT CASTLE PEAK ROAD–TAI LAM FOOTPATH NEAR ROUNDABOUT – LOOKING NORTH

5.6.1 The Proposed Development will constitute a ***Small*** magnitude of change to the existing view. This when combined with the ***Medium*** sensitivity of the public viewers will result in a ***Slight*** visual impact significance following the implementation of visual mitigation measures. The number of public viewers at this viewpoint is few.

## 5.7 SUMMARY OF IMPACTS

5.7.1 The methodology for deriving the magnitude of change upon the Public Viewers and the significance of the visual impacts are described in **Section 2**.

5.7.2 A summary of the degree of impacts to the key public viewing points is provided below in **Table 5.1**.

***Table 5.1: Significance of Visual Impacts***

*(Note: All impacts are adverse unless otherwise stated)*

| VP | Receiver Number (Very Few, Few, Many, Very Many) | Degree of Visibility of Source(s) of Visual Impact (Full, Partial, Obscured) | Approximate Distance Between Visually Sensitive Receivers & Nearest Source(s) of Impact | Receptor Sensitivity (Low, Medium, High) | Magnitude of Change (Large, Intermediate, Small, Negligible, None) | Impact Significance during Operation Phase (Substantial, Moderate, Slight, Insubstantial, None) |
|---|---|---|---|---|---|---|
| **VP1** | Many | Partial | ~840m (At +65mPD) | High | Small | ***Slight*** |
| **VP2** | Few | Partial | ~110m (At +13mPD) | Medium | Intermediate | ***Moderate*** |
| **VP3** | Few | Full | ~60m (At +15mPD) | Medium | Large | ***Substantial*** |
| **VP4** | Many | Partial | ~180m (At +10mPD) | Medium | Small | ***Slight*** |
| **VP5** | Few | Full | ~130m (At +28mPD) | Medium | Intermediate | ***Moderate*** |
| **VP6** | Few | Partial | ~170m (At +22mPD) | Medium | Small | ***Slight*** |

## 5.8 OVERALL ASSESSMENT OF VISUAL IMPACTS

5.8.1 The softening of the Proposed Development edges through the alignment and arrangement of the Proposed Development, articulation of the building facades, sensitive aesthetic architectural design, building finishes and chromatic treatment in relation to the surroundings as well as maintaining a building height which is consistent with the prevailing building height profile within the surroundings of the Site are proposed as important visual mitigation measures. Mitigation planting, albeit of limited screen value for close and low-level roadside views due to the location and height of the Proposed Development, will continue to enhance the visual amenity of and within the Proposed Development for the future users and local community.

5.8.2 After the implementation of the proposed recommended mitigation measures, there will still be some adverse residual visual impacts that will be experienced from all of the selected public viewpoints. Although the implementation of the proposed recommended mitigation measures will help to reduce the magnitude of the residual visual impacts during the operation phase, they will not be sufficient enough to eliminate them due to the scale and high visibility of the Proposed Development.

5.8.3 Public viewers at one of the six viewpoints (VP3) will experience **Substantial** residual visual impacts following the construction of the Proposed Development. This is primarily due to the close distance of view and the Proposed Development is fully visible located in front of the vegetated slope and is thus a more prominent feature and generates a greater change within the visual context.

5.8.4 Public viewers at two of the six viewpoints (VP2 and VP5) will experience **Moderate** residual visual impacts following the construction of the Proposed Development. The reduced visual impact significance is primarily due to the longer distance of view and the Proposed Development is mostly only partially visible at these viewing points, due either to the angle of view or existing topographic and vegetation screens, reducing the prominence of the Proposed Development.

5.8.5 Public viewers at three of the six viewpoints (VP1, VP4 and VP6) will experience **Slight** residual visual impacts following the construction of the Proposed Development. The visual impact significance is primarily due to the distance of view and the presence of existing topographic and vegetation screens which reduce the overall visibility of the Proposed Development.

5.8.6 To conclude, based on the above Visual Impact Assessment, the overall visual impact significance of the Proposed Development as shown on **Figures 5.1** to **5.6** is considered to be ***Moderately Adverse***, that is, the Proposed Development will, with or without the implementation of the recommended mitigation measures, result in overall terms some negative visual effects to most of the identified key public viewing points. The overall visual impacts of the Proposed Development as part of the Proposed Redevelopment of the CSD Staff Quarters are considered to be generally compatible and acceptable within the existing visual context of Siu Lam, So Kwun Wat in the Northwest New Territories.

# Figures

**LEGEND**

Redevelopment Site

**Integrated Rehabilitation Services Complex (IRSC)**

NORTH

0 10 20 30 40 50m

**All figures and drawings shows an indicative scheme only**

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: Site Location Plan & Existing Visual Context

| Scale | Date | Figure No. |
|---|---|---|
| 1:1,000 @ A3 | July 2022 | 1 |

All figures and drawings shows an indicative scheme only

**LEGEND**

- Redevelopment Site
- G/IC — Government, Institution or Community
- R(B) — Residential (Group B)
- GB — Green Belt

Note: Adopted from part of the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 gazetted on 11 December 2015.

Adopted from part of the Draft Tuen Mun Outline Zoning Plan No. S/TM/36 gazetted on 22 July 2022.

Palatial Coast
R(B)1
LPG Store
Block 1
Club House
GB
SIU LAM TSUEN ROAD
SIU LAM ROAD
HONG FAI ROAD
Siu Lam Psychiatric Centre Senior Staff Married Quarters
WIP Jan 2020
G/IC
4
GB
G/IC
6
R(B)
OZP No. S/TM-SKW/13
OZP No. S/TM/36
HONG FAI ROAD
Integrated Rehabilitation Services Complex (IRSC)
NORTH
0 10 20 30 40 50m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Extract of the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13

| Scale | Date | Figure No. |
|---|---|---|
| 1:1,000 @ A3 | August 2022 | 2 |

All figures and drawings shows an indicative scheme only

Black Point
Urmston Road
Castle Peak
Lung Kwu Tan
Tuen Mun
Castle Peak Road
Tai Lam Country Park
Tai Lam Chung Reservoir
So Kwun Wat
Castle Peak Bay
Tsuen Wan
Tai Lam Chung
Tuen Mun Road
Tai Lam Kok
Ma Wan
Tsing Ma Bridge
Tsing Yi
Rambler Channel
Ma Wan Channel
Kap Shui Mun Bridge
The Brothers
Chek Lap Kok
Hong Kong International Airport
Tung Chung East Reclamation
Tung Chung
Lantau Island
Lantau North (Extension)Country Park
Lantau North Country Park

**LEGEND**

- Redevelopment Site
- Ridgeline

NORTH

0 1 2 3km

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Visual Elements

Scale: 1:60,000 @ A3

Date: July 2022

Figure No.: 3.1

All figures and drawings shows an indicative scheme only

Tai Lam Chung Reservoir

VP1

Palatial Coast

VP2

Siu Lam Tsuen Road

VP3

Siu Lam Road

Castle Peak Road - Tai Lam

VP4

Tuen Mun Road

Hong Fai Road

VP5

VP6

Siu Lam Psychiatric Centre

Integrated Rehabilitation Services Complex (IRSC)

Tai Lam Chung

NORTH

0 50 100 150 200 250m

**LEGEND**

- Redevelopment Site
- Visual Envelope
- VP1 View from Tai Lam Chung Reservoir
- VP2 View from Siu Lam Road Footpath near the Palatial Coast Roundabout
- VP3 View from Siu Lam Tsuen Road Footpath
- VP4 View from Castle Peak Road-Tai Lam Southbound Bus Stop
- VP5 View from Ching Lai Road Footpath
- VP6 View from Castle Peak Road–Tai Lam Footpath near Roundabout

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Ubis Limited 雅邦

Title: Visual Envelope & Viewpoint Locations

| Scale | Date | Figure No. |
|---|---|---|
| 1:5,000 @ A3 | July 2022 | 3.2 |

All figures and drawings shows an indicative scheme only

SIU LAM ROAD

Multi-purpose Court

pavilion

+17.95 mPD

+17.95 mPD

+32.20 mPD

+31.10 mPD

+32.20 mPD

+32.20 mPD

+31.60 mPD

+31.10 mPD

+32.20 mPD

+31.10 mPD

+32.20 mPD

+31.60 mPD

+30.95 mPD

Multi-purpose Court

PLANT ROOM

LOBBY

PLANT ROOM

MULTI-FUNCTION ROOM

TOILET

HONG FAI ROAD

小欖路

康澤路

**LEGEND**

- Redevelopment Site
- Building Line Above
- Raised Planter
- Compensatory Trees
- Low Planter
- Bench
- Feature Paving
- Paving
- Multi-purpose Wood Terrace
- Guardhouse
- Children's Play Area

NORTH

0 5 10 15m

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

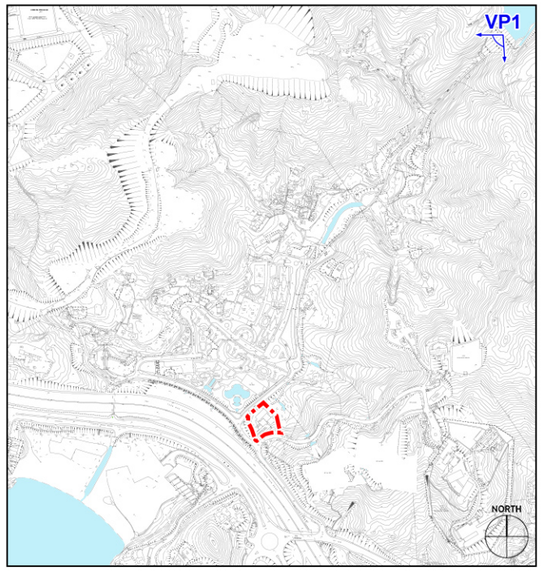
Title: Proposed Development Layout Plan

Scale: 1:300 @ A3

Date: July 2022

Figure No.: 4

EXISTING CONDITION




KEY PLAN

PROPOSED SCHEME

**All figures and drawings shows an indicative scheme only**

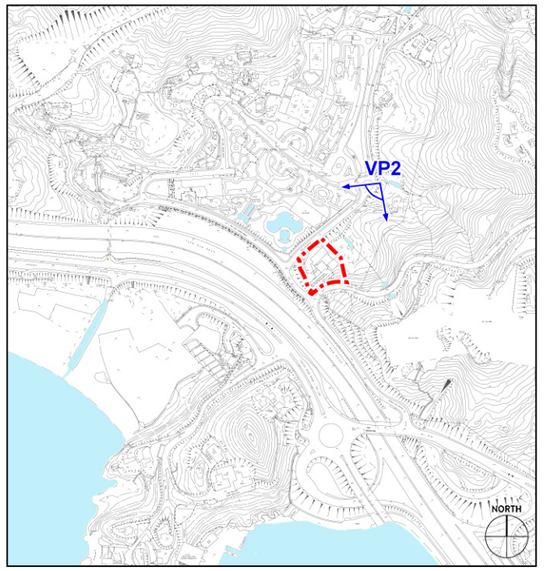
**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP1 – View from Tai Lam Chung Reservoir – Looking Southwest

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.1** |

**EXISTING CONDITION**

**PROPOSED SCHEME**




**KEY PLAN**

**All figures and drawings shows an indicative scheme only**

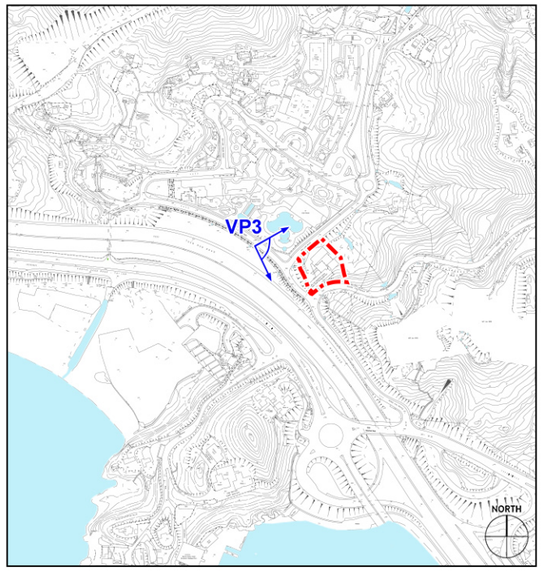
**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP2 – View from Siu Lam Road Footpath near the Palatial Coast Roundabout – Looking Southwest

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.2** |

**EXISTING CONDITION**

**PROPOSED SCHEME**




**KEY PLAN**

**All figures and drawings shows an indicative scheme only**

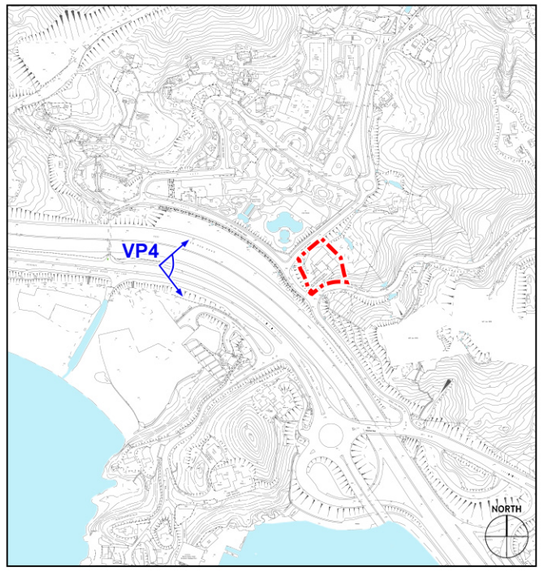
**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP3 – View from Siu Lam Tsuen Road Footpath – Looking East

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.3** |

**EXISTING CONDITION**

**PROPOSED SCHEME**




**KEY PLAN**

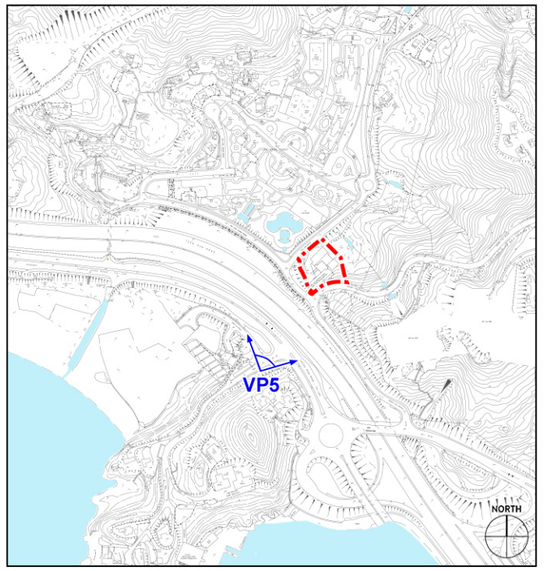
**All figures and drawings shows an indicative scheme only**

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP4 – View from Castle Peak Road – Tai Lam Southbound Bus Stop – Looking East

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.4** |

**EXISTING CONDITION**




**KEY PLAN**

**PROPOSED SCHEME**

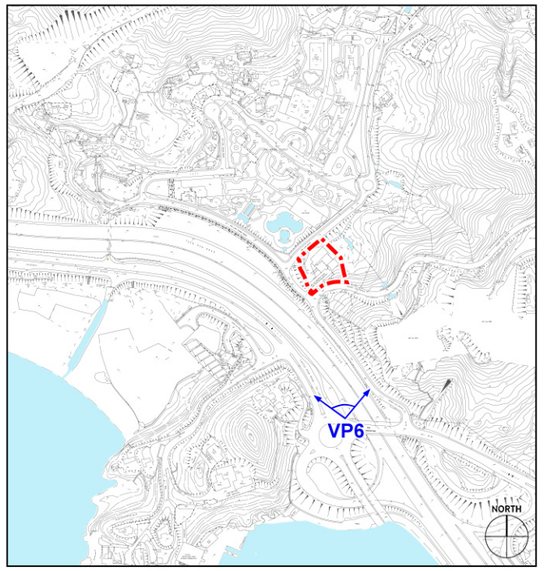
**All figures and drawings shows an indicative scheme only**

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP5 – View from Ching Lai Road Footpath – Looking Northeast

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.5** |

**EXISTING CONDITION**




**KEY PLAN**

**PROPOSED SCHEME**

**All figures and drawings shows an indicative scheme only**

**Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam**

Title: VP6 – View from Castle Peak Road – Tai Lam Footpath near Roundabout – Looking North

| Scale | Date | Figure No. |
|---|---|---|
| N.T.S. @ A3 | July 2022 | **5.6** |

All figures and drawings shows an indicative scheme only

| ID No. | Visual Mitigation Measures |
|---|---|
| OM1 | Alignment and Arrangement of the Proposed Development |
| OM2 | Sensitive Aesthetic Architectural Design and Chromatic Treatment of Built Structures and Proposed Development |
| OM3 | Sensitive Reinstatement of the Affected Slope Areas and Site Boundaries |
| OM4 | Amenity Landscape Areas and Greenery on the Proposed Development Structures |
| OM5 | Control of Exterior Night Time Lighting in the Proposed Development |

**LEGEND**

- Redevelopment Site
- Building Line Above
- Raised Planter
- Compensatory Trees
- Low Planter
- Bench
- Feature Paving
- Paving
- Multi-purpose Wood Terrace
- Guardhouse
- Children's Play Area

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

Title: Visual Mitigation Plan

Scale: 1:300 @ A3

Date: July 2022

Figure No.: 6

# Annex C -
# Preliminary Environmental Review Report

SMEC
Member of the Surbana Jurong Group

local people
global experience

D01 – Preliminary Environmental Review

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

30 August 2022
Prepared for Urbis Limited

# Table of Contents


1 PROJECT BACKGROUND ..... 1-1
1.1 Introduction ..... 1-1
1.2 Site Description ..... 1-1
1.3 Project Description ..... 1-1
1.4 Objectives of this Report ..... 1-2

2 AIR QUALITY ..... 2-1
2.1 Introduction ..... 2-1
2.2 Environmental Legislation and Standards ..... 2-1
2.3 Review of Air Quality Impact ..... 2-3
2.4 Conclusions ..... 2-4

3 NOISE IMPACT ..... 3-1
3.1 Introduction ..... 3-1
3.2 Environmental Legislation and Standards ..... 3-1
3.3 Potential Noise Impact during Construction ..... 3-2
3.4 Fixed Noise Impacts during Operation ..... 3-3
3.5 Aircraft Noise Impacts during Operation ..... 3-3
3.6 Traffic Noise Impacts during Operation ..... 3-3
3.7 Conclusion ..... 3-5

4 WATER QUALITY ..... 4-1
4.1 Introduction ..... 4-1
4.2 Environmental Legislation and Standards ..... 4-1
4.3 Water Sensitive Receivers ..... 4-1
4.4 Potential Impacts ..... 4-1
4.5 Mitigation Measures ..... 4-2
4.6 Conclusion ..... 4-3

5 WASTE MANAGEMENT ..... 5-1
5.1 Environmental Legislation and Standards ..... 5-1
5.2 Potential Impacts ..... 5-1
5.3 Mitigation Measures ..... 5-3
5.4 Conclusions ..... 5-4

6 LAND CONTAMINATION ..... 6-1
6.1 Environmental Legislation and Standards ..... 6-1
6.2 Assessment Methodology ..... 6-1
6.3 Site Appraisal Findings ..... 6-1
6.4 Conclusion ..... 6-2

7 CONCLUSIONS AND RECOMMENDATIONS ..... 7-1
7.2 Air Quality ..... 7-1
7.3 Noise Impact ..... 7-1
7.4 Water Quality ..... 7-2
7.5 Waste Management ..... 7-2
7.6 Land Contamination ..... 7-2


# List of Tables


Table 2-1: Hong Kong Air Quality Objectives ..... 2-1
Table 2-2: HKPSG Minimum Setback Distances ..... 2-2
Table 2-3: HKPSG Recommended Setback Distances from Industrial Chimneys ..... 2-3
Table 3-1: Construction Noise Criteria for Non-Restricted Hours ..... 3-1
Table 3-2: Acceptable Noise Levels for Fixed Noise Source ..... 3-2
Table 3-3: Summary of Road Traffic Noise Standards ..... 3-2

Table 3-4: Schedule of Road Traffic Noise Mitigation Measures ..... 3-5
Table 4-1: Water Sensitive Receivers ..... 4-1

## List of Figures

Figure 1-1: Site Location and its Environs ..... 1-1
Figure 2-1: Buffer Distance Requirement from the Surrounding Roads ..... 2-5
Figure 3-1: Locations of the Assessment Points for Noise Sensitive Receivers ..... 3-6
Figure 3-2: Proposed Noise Mitigation Measures ..... 3-7
Figure 4-1: Water Sensitive Receivers within 500m Study Area ..... 4-4

# 1 PROJECT BACKGROUND

## 1.1 Introduction

1.1.1 According to the Administration, it is the Government's established policy that Civil Service Housing Benefits (i.e., Departmental Quarters ("DQs") should, subject to the availability of resources, be provided to eligible civil servants as a type of housing benefit or for operational needs. It is envisaged that the demand for DQs will continue to rise. Therefore, it is proposed to redevelop Correctional Services Department ("CSD") Junior Staff Married Quarters bounded by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east ("the Site" or "the Project") to maximise the numbers of DQ units so as to achieve better utilization of land resources.

1.1.2 Part of the Site is zoned as 'Government, Institution or Community' ("G/IC") comprising two 4-storey blocks and one 3-storey block of CSD's Junior Staff Married Quarters. There is a strip of additional land to the south-east zoned G/IC. The strip of additional land to the north-west falls within 'Green Belt' ("GB") zone on the approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/13.

1.1.3 According to the Notes of OZP, the "G/IC" zone is subject to a maximum building height of four storeys excluding basements. The scope of the project is (a) to demolish the existing buildings on the subject site and (b) to construct a building of about 21 storeys which is beyond the scope of minor relaxation of building height restriction under the OZP.

1.1.4 According to the Notes of the OZP, 'Flat' use is under Column 2 of the "G/IC" and "GB" zones. To facilitate the redevelopment project of DQ, amendments to the OZP are required by rezoning the areas zoned "GB" and "G/IC" to "G/IC(1)" and to revise the maximum building height of the "G/IC" zone with 'Flat' as Column 1 uses.

1.1.5 SMEC is commissioned to carry out a Preliminary Environmental Review ("PER") of the Project, as one of the supporting reports, for amendments to the OZP for submission to the Rural and New Town Planning Committee of the TPB for approval and exhibition under Section 5 of the *Town Planning Ordinance* ("TPO").

## 1.2 Site Description

1.2.1 The Site is bounded by Siu Lam Road to the north-west and Hong Fai Road to the south-west with a total area of about 2,700m$^2$ in Siu Lam. Part of the Site is currently a vacant land overgrown with weeds and different tree groups, while part of the Site is covered by existing Siu Lam Psychiatric Centre Junior Staff Married Quarters.

1.2.2 The Site location and its environs are shown on ***Figure 1-1*** which the uses surrounding the Site include:

- To the north and northwest: dwellings
- To the east and northeast: natural landscape
- To the southeast: Integrated Rehabilitation Services Complex at Ex-Siu Lam Hospital Site
- To the south and west: Tuen Mun Road, Castle Peak Road (New Tai Lam), CSD Married Staff Quarters.

## 1.3 Project Description

1.3.1 The Proposed Redevelopment will involve the construction of a 21-storey building (including 4-storey of podium/carparks and 17-storey of residential units) with a site area of approximately 2,700m$^2$, a proposed plot ratio of 3.6 and a total gross floor area (GFA) of about 9,720m$^2$.

1.3.2 The Proposed Redevelopment will comprise the followings:

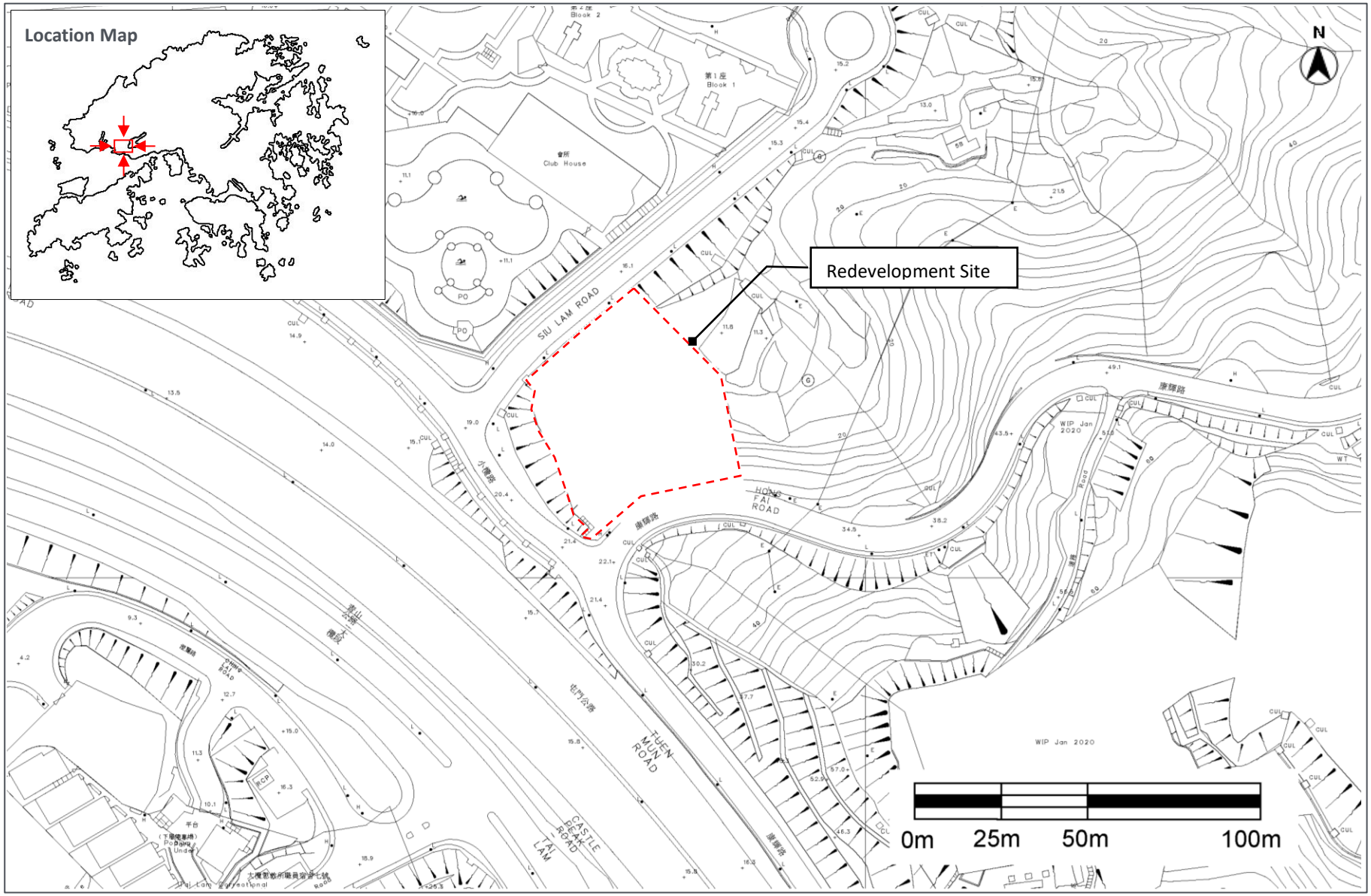
- Private carpark
- Podium
- Residential Units

## 1.4 Objectives of this Report

1.4.1 The objectives of this PER Report are to:

- Assess baseline environmental conditions
- Identify all sensitive receivers and potential pollution sources
- Recommend necessary mitigation measures to alleviate any unacceptable impacts

*Figure 1-1: Site Location and its Environs*



# 2 AIR QUALITY

## 2.1 Introduction

2.1.1 This section assesses the potential air quality impact associated with the Proposed Redevelopment during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

## 2.2 Environmental Legislation and Standards

### Air Quality Objectives

2.2.1 The prevailing Air Quality Objectives (AQOs) established under the *Air Pollution Control Ordinance* (APCO) (Cap. 311) enacted from 1 January 2022 are given in ***Table 2-1***.

*Table 2-1: Hong Kong Air Quality Objectives*

| POLLUTANT | AVERAGING TIME | NEW AQOs (EFFECTIVE FROM 1 JANUARY 2022) | |
|---|---|---|---|
| | | CONCENTRATION LIMIT [1] ($\mu g/m^3$) | NUMBER OF EXCEEDANCES ALLOWED |
| Sulphur Dioxide ($SO_2$) | 10-minute | 500 | 3 |
| | 24-hour | 50 | 3 |
| Respirable Suspended Particulates (RSP or $PM_{10}$) [2] | 24-hour | 100 | 9 |
| | Annual | 50 | Not applicable |
| Fine Suspended Particulates (FSP or $PM_{2.5}$) [3] | 24-hour | 50 | 35 (18 days for Government projects) |
| | Annual | 25 | Not applicable |
| Nitrogen Dioxide ($NO_2$) | 1-hour | 200 | 18 |
| | Annual | 40 | Not applicable |
| Ozone ($O_3$) | 8-hour | 160 | 9 |
| Carbon Monoxide (CO) [4] | 1-hour | 30,000 | 0 |
| | 8-hour | 10,000 | 0 |
| Lead (Pb) | Annual | 0.5 | Not applicable |

**Notes:**

1. All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.
2. RSP means suspended particles in air with a nominal aerodynamic diameter of 10μm or less.
3. FSP means suspended particles in air with a nominal aerodynamic diameter of 2.5μm or less.
4. The 8-hour mean of CO concentration is calculated based on Item 9 of Schedule 5 of APCO. The maximum daily 8-hour mean concentration of CO in air is selected by examining 8-hour running averages, calculated from CO hourly data and updated each hour, that is:
   - **(a)** the first calculation period for a day is the period from 5pm on previous day to 1am on that day.
   - **(b)** the last calculation period for a day is the period from 4pm to 12 midnight on that day.

### Air Pollution Control (Construction Dust) Regulation

2.2.2 Enacted under Section 43 of the APCO, *the Air Pollution Control (Construction Dust) Regulation* defines notifiable and regulatory works to ensure effective dust abatement measures have been properly implemented to reduce dust emissions for a number of construction activities.

2.2.3 The Regulation requires that advance notice is given to the Environmental Protection Department ("EPD") for any notifiable work[1] and the contractor shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation, which also includes dust control and suppression measures.

### Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

2.2.4 This Regulation requires Non-road Mobile Machinery (NRMM), except those exempted, to comply with the prescribed emission standards. All regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes.

### Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations

2.2.5 Enacted under Section 43 of the APCO, the *Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations* stipulate that a prior approval from EPD will be required if the total fuel consumption capacity of any fuel-burning equipment or its chimney on premises to be installed or altered exceeds (a) 25L of conventional liquid fuel per hour; or (b) 30kg of conventional solid fuel per hour; or (c) 1,150MJ of any gaseous fuel per hour.

### Hong Kong Planning Standards and Guidelines

2.2.6 The minimum buffer distances required between different types of roads and active open spaces are recommended in Chapter 9 Environment of *Hong Kong Planning Standards and Guidelines* ("HKPSG") and are summarised in ***Table 2-2*** for ease of reference.

*Table 2-2: HKPSG Minimum Setback Distances*

| Pollution Source | Type Of Road | Buffer Distance | Permitted Uses |
|---|---|---|---|
| Road and Highways | Trunk Road and Primary Distributor | >20m | Active and passive recreation use |
| | | 3 - 20m | Passive recreational use |
| | | <3m | Amenity areas |
| | District Distributor | >10m | Active and passive recreational use |
| | | <10m | Passive recreational uses |
| | Local Distributor | >5m | Active and passive recreational use |
| | | <5m | Passive recreational use |
| | Under Flyovers | - | Passive recreational use |

**Source:** Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

2.2.7 The minimum buffer distances required between industrial chimneys and active open spaces are recommended in HKPSG as well. The relevant buffer distances of HKPSG are summarised in ***Table 2-3*** for ease of reference.

1 Notifiable works include site formation, reclamation, demolition of a building, work carried out in any part of a tunnel that is within 100m of any exit to the open air, construction of the foundation of a building, construction of the superstructure of a building and road construction work.

*Table 2-3: HKPSG Recommended Setback Distances from Industrial Chimneys*

| Pollution Source | Difference in Height between Industrial Chimney Exit and the Site | Buffer Distance | Permitted Uses |
|---|---|---|---|
| Industrial Chimneys | < 20m | > 200m | Active and passive recreation use |
| | | 5 – 200m | Passive recreational use |
| | 20 – 30m | > 100m | Active and passive recreational use |
| | | 5 – 100m | Passive recreational uses |
| | 30 – 40m | > 50m | Active and passive recreational use |
| | | 5 – 50m | Passive recreational use |
| | > 40m | > 10m | Active and passive recreational use |

**Source:** Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

## 2.3 Review of Air Quality Impact

### Construction Phase

2.3.1 Fugitive dust is the major air quality impact arising from the construction activities of the Proposed Redevelopment, such as demolition, excavation, stockpiling, earth moving, transferring or handling of dusty materials. As the footprint of the 21-storey building block is limited, and no deep excavation is required for the Proposed Redevelopment, the scale of aforementioned dusty activities is small.

2.3.2 The air sensitive uses surrounding the Site are the residential uses and a social welfare facility. To avoid adverse dust impact on the ASRs nearby, good site practice, good engineering practice and dust control measures stipulated in the *Air Pollution Control (Construction Dust) Regulation* shall be provided, implemented and maintained during the construction phase of the Proposed Redevelopment.

2.3.3 With the implementation of dust control measures stipulated in the *Air Pollution Control (Construction Dust) Regulation*, dust generation can be controlled and significant fugitive dust impact is therefore not anticipated.

2.3.4 In addition, the EPD's Recommended Pollution Control Clause (RPCC) for Construction Contract in COP should be incorporated in the relevant works contract. The RPCC are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers.

### Operation Phase

#### Chimney Emission

2.3.5 The ex-Siu Lam Hospital to the east of the Site will be redeveloped into an Integrated Rehabilitation Service Complex ("IRSC"). The construction work of the IRSC is currently in progress. In accordance with the PER Report of the IRSC dated July 2015 provided by the Social Welfare Department ("SWD") on 10 March 2021, emergency generator shall be used for emergency uses only. In addition, there will be no boiler and associated chimney in the IRSC as advised by SWD. Therefore, there would be no adverse air quality impact on the surrounding air sensitive uses arising from the development of the IRSC.

2.3.6 A Site visit was conducted on 18 February 2021 to identify the potential air pollution sources in the vicinity of the Site. Based on the site, no existing chimney was identified within 200m from the Site. Therefore, the buffer distance between industrial chimneys and air sensitive uses recommended in Table 3.1 of Chapter 9 in HKPSG has been satisfied. No adverse air quality impact from chimney emission is therefore anticipated.

2.3.7 For the emergency generator of the Proposed Redevelopment, with reference to *Guidelines on Application for Installation of Emergency Generator*s, the exhaust outlets of emergency generation room shall be sited at such a place where the ventilation is good and in such a manner that the emissions from them can be adequately dispersed without hindrance; and these exhaust outlets shall be distant from the nearby inhabitants as farthest as possible such that their emissions will not cause or contribute to any forms of air pollution. The chimney design shall comply with the Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations as mentioned in ***Section 2.2.5*** in detailed design stage.

### Vehicular Emission from Open Road

2.3.8 Tuen Mun Road, Siu Lam Road and Hong Fai Road are the major roads in the vicinity of the Site as shown on ***Figure 2-1.*** With reference to the Annual Traffic Census 2020 published by the Transport Department ("TD"), Tuen Mun Road between Wong Chu Road and Sham Tseng is classified as Expressway ("EX") whilst Siu Lam Road and Hong Fai Road are not listed in the Traffic Census. Therefore, Siu Lam Road and Hong Fai Road are considered to be a Local Distributor ("LD") or a local road. There is no specific minimum buffer distance requirement between sensitive uses and Expressway in Table 3.1, Chapter 9 of the HKPSG. Therefore, the minimum buffer distance of 20m between air sensitive uses and trunk road / primary distributor for Tuen Mun Road and minimum buffer distance of 5m between air sensitive uses and Local Distributor for Siu Lam Road and Hong Fai Road are adopted in this assessment.

2.3.9 As illustrated on ***Figure 2-1,*** a small portion of the Site is located within the recommended buffer zone. Nevertheless, there are no air sensitive uses (i.e. residential block) within the recommended buffer zone. In order to avoid adverse air quality impact from vehicular emission, the buffer zone is recommended for the Proposed Redevelopment with the following requirements:

- No fresh air intake / openable window of air sensitive uses and active recreational uses in the open space shall be located within the buffer zone.
- Any air sensitive uses within the buffer zone shall rely on fresh air intake / openable window located outside the buffer zone for ventilation.

2.3.10 With the provision of the buffer zone, the buffer distances recommended in HKPSG will be maintained between air sensitive uses and concerned roads. Therefore, no adverse air quality impact on the Site from vehicular emission is anticipated.

## 2.4 Conclusions

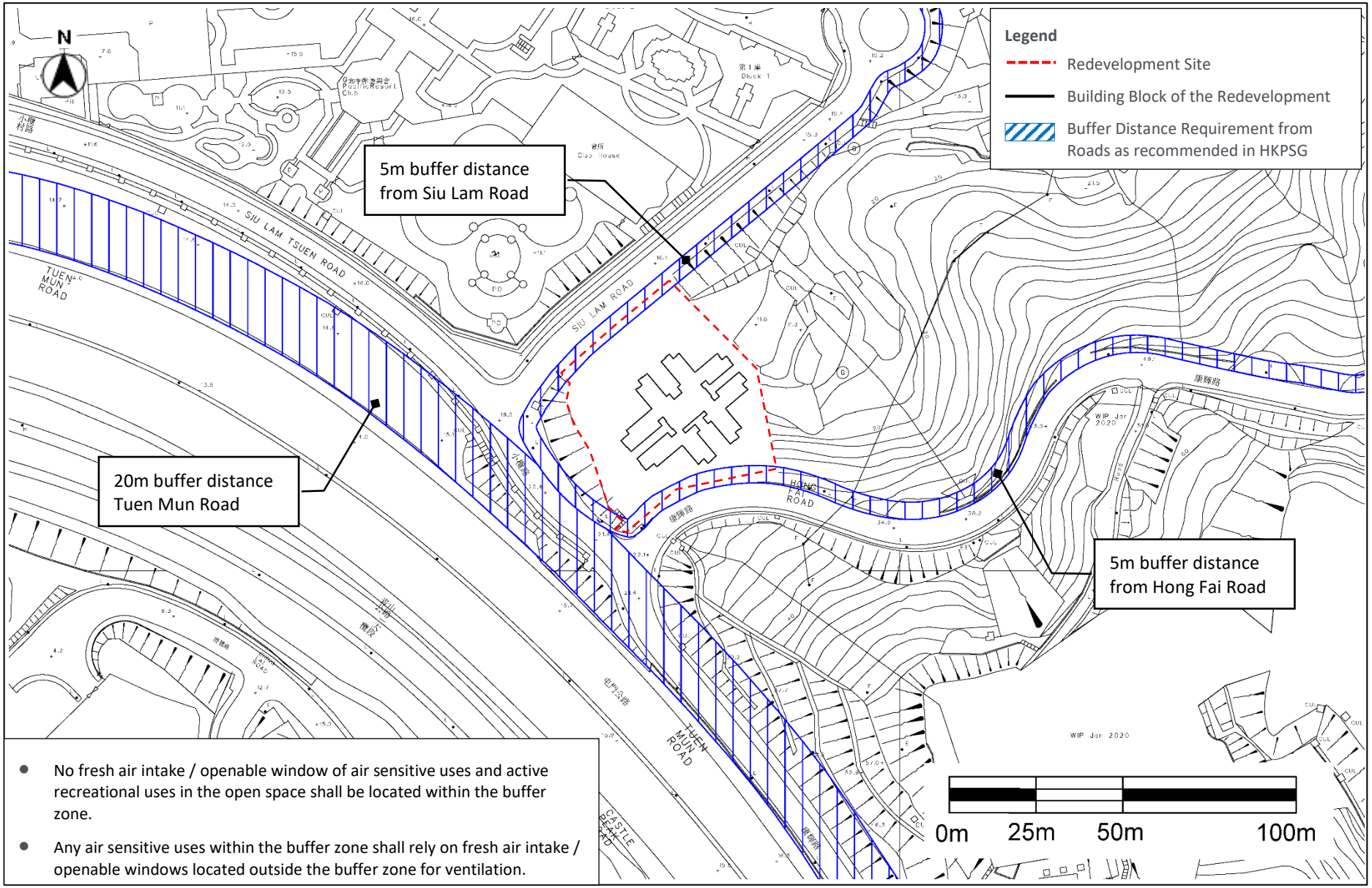
2.4.1 With the implementation of the recommended mitigation measures and good site practice, adverse air quality impact during the construction phase is not anticipated.

2.4.2 No existing chimney was identified within 200m from the Redevelopment Site. In addition, no adverse air quality impact from the development of the ex-Siu Lam Hospital into IRSC was concluded in its PER study. Therefore, no adverse air quality impact from the chimney emission on the Proposed Redevelopment is anticipated.

2.4.3 No adverse air quality impact on the Proposed Redevelopment from the vehicular emission is anticipated with the sufficient buffer distance provided between these air pollution sources and air sensitive uses of the Proposed Redevelopment. No adverse air quality from the Proposed Redevelopment on the surrounding air sensitive uses is also anticipated.

2.4.4 Overall, therefore, no adverse air quality impact is anticipated during construction and operation phases of the Proposed Redevelopment.

*Figure 2-1: Buffer Distance Requirement from the Surrounding Roads*



# 3 NOISE IMPACT

## 3.1 Introduction

3.1.1 The potential noise impacts in associated with the Project during the construction and operation phases are assessed in the section. Mitigation measures are recommended where required.

## 3.2 Environmental Legislation and Standards

### Noise Control Ordinance (Cap. 400)

3.2.1 The main piece of legislation controlling environmental noise impact is the *Noise Control Ordinance* ("NCO"). The NCO enables regulations and Technical Memoranda ("TMs") to be enacted, which introduce detailed control criteria, measurement procedures and other technical matters. Environmental noise is governed under the following TMs:

- Technical Memorandum on Noise from Construction Work other than Percussive Piling ("GW-TM")
- Technical Memorandum on Noise from Percussive Piling ("PP-TM")
- Technical Memorandum on Noise from Construction Work in Designated Areas ("DA-TM")
- Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites ("IND-TM")

3.2.2 According to EPD's Plan No. EPD/AN/NT-03 for Tuen Mun, Sham Tseng and Ma Wan, the Site is entirely located within a Designated Area and so the DA-TM is applicable.

3.2.3 A Construction Noise Permit ("CNP") must be obtained by the contractor for any percussive piling at any time. CNP must also be obtained for the use of any Powered Mechanical Equipment ("PME") and/or Prescribed Construction Works ("PCWs") within restricted hours as defined in the NCO (for all days 7pm to 7am the next day and at all times on general holidays or Sundays).

3.2.4 In addition to a CNP, hand-held breakers having a mass of above 10kg and any air compressor capable of supplying compressed air at 500kPa or above for carrying out construction work must be fitted with a Noise Emission Label ("NEL") issued under the *Noise Control (Hand Held Percussive Breakers) Regulations* and the *Noise Control (Air Compressors) Regulations* of the NCO.

3.2.5 There is no statutory control for noise arising from construction activities (other than percussive pilling) during normal working hours (7am to 7pm from Monday to Saturday, not including general holidays). Nevertheless, *Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN2/93 Noise from Construction Activities – Non-statutory Controls* ("ProPECC PN2/93") recommends the noise criteria as shown in ***Table 3-1*** and guideline to minimise the potential construction noise impact during normal working hours.

*Table 3-1: Construction Noise Criteria for Non-Restricted Hours*

| NOISE SENSITIVE USE | $L_{eq\ (30\ MIN)}$ NOISE CRITERIA BETWEEN 0700 AND 1900 ON ANY DAY NOT BEING A SUNDAY OR GENERAL HOLIDAY |
|---|---|
| Dwellings | 75 dB(A) |
| School | 70 dB(A) (or 65 dB(A) during examination) |

3.2.6 For fixed plant noise during operation phase, the requirements of IND-TM shall be complied with. Table 2 of IND-TM stipulates the day, evening and night time Acceptable Noise Levels ("ANLs") for Noise Sensitive Receivers ("NSRs") according to the corresponding Area Sensitive Rating ("ASR"), which is determined by Influencing Factors ("IFs") in accordance with the IND-TM. These are summarised in ***Table 3-2***.

*Table 3-2: Acceptable Noise Levels for Fixed Noise Source*

| TIME PERIOD | ANL, dB(A) | | |
|---|---|---|---|
| | ASR "A" | ASR "B" | ASR "C" |
| Day (0700 to 1900 hours) | 60 | 65 | 70 |
| Evening (1900 to 2300 hours) | | | |
| Night (2300 to 0700 hours) | 50 | 55 | 60 |

3.2.7 The Site is located in a low-density residential area consisting of some departmental quarters and isolated high-rise developments in the vicinity, the site should be classified as "Type (ii) Low density residential area" according to the IND-TM. For those sensitive facades of the Proposed Redevelopment which are directly affected by the identified IF in the vicinity i.e. Tuen Mun Road, Area Sensitivity Rating (ASR) "C" shall be considered. For those sensitive facades do not have line-of-sight to Tuen Mun Road, i.e. not affected by IF, ASR "A" shall be considered.

### Hong Kong Planning Standards & Guidelines (HKPSG)

3.2.8 The noise criteria for planned fixed noise source shall follow the requirements of Table 4.1 of Chapter 9 of HKPSG:

(a) 5dB(A) below the appropriate ANLs shown in Table 2 of IND-TM, and

(b) the prevailing background noise levels

3.2.9 As recommended in Table 4.1 of Chapter 9 Environment of HKPSG, standards for road traffic noise in terms of $L_{10(1\text{-hr})}$ for the following uses relying on opened windows for ventilation are shown in ***Table 3-3.***

*Table 3-3: Summary of Road Traffic Noise Standards*

| USES | NOISE CRITERIA $L_{10(1\text{-hr})}$, dB(A) |
|---|---|
| All domestic premises including temporary housing accommodation | 70 |
| Hotels and hostels | 70 |
| Offices | 70 |
| Educational institutions including kindergartens, child care centres and all others where unaided voice communication is required | 65 |
| Places of public worship and courts of law | 65 |
| Diagnostic rooms and wards of hospitals, clinics, convalescences and residential care homes for the elderly | 55 |

## 3.3 Potential Noise Impact during Construction

3.3.1 A construction noise impact assessment has been carried out to demonstrate the feasibility of the proposed construction programme of the Project in terms of construction noise impact based on the procedures given in GW-TM issued under the NCO where appropriate.

3.3.2 Sources of noise during construction phase will be arising from various demolition and construction activities, particularly with the use of Powered Mechanical Equipment ("PME").

3.3.3 Predicted construction noise levels at the NSRs are lower than the construction noise criteria at dwellings. Therefore, it is concluded that adverse construction noise impact on the NSRs in the vicinity arising from the Proposed Redevelopment is not anticipated.

3.3.4 The mitigation measures recommended in ProPECC PN2/93 should be implemented where applicable. In addition, the noise control requirements given in the *Recommended Pollution Control Clauses for Construction Contracts* should be incorporated in the construction contracts and be enforced accordingly.

3.3.5 With the implementation of the abovementioned mitigation measures, adverse construction noise impact is not anticipated.

## 3.4 Fixed Noise Impacts during Operation

3.4.1 A noise impact assessment has been carried out to demonstrate the feasibility of the proposed design of the Project in terms of fixed source noise impact.

3.4.2 The Site of the Proposed Redevelopment is surrounded by residential premises and natural landscape in the vicinity. The major noise sources are the VRV outdoors units on the roof of Integrated Rehabilitation Service Complex ("IRSC") at Ex-Siu Lam Hospital Site to the east of the Site.

3.4.3 The predicted overall noise levels from the VRV outdoors units of IRSC are lower than the noise criteria in both day and evening time periods. Therefore, it is concluded that adverse fixed noise impact on the noise sensitive uses of the Proposed Redevelopment arising from the operation of the IRSC is not anticipated.

3.4.4 Besides, two pump houses at Palatial Coast have been identified in the vicinity of the Site. According to the site visit conducted in February 2021, these two pump houses are enclosed by concrete structure. As such, no adverse fixed noise impact from the pump houses is anticipated.

3.4.5 On the other hand, the Electrical and Mechanical ("E&M") equipment, such as water pumps, lift machines, transformers, etc., will be installed in plant rooms of the Proposed Redevelopment. Air conditioning units are expected to be installed for the dwellings of the Proposed Redevelopment. However, the power ratings of these systems are considered as small and the potential noise impact to the offsite NSRs shall be minimal.

3.4.6 The guidance of "*Good Practices on Ventilation System Noise Control*" and "*Good Practices on Pumping System Noise Control*" issued from EPD shall be referred to. The fixed noise sources within the Proposed Redevelopment will be designed to meeting HKPSG standards as stipulated in ***Section 3.2.8***. No fixed source noise from the Proposed Redevelopment upon the surrounding sensitive receivers is anticipated.

## 3.5 Aircraft Noise Impacts during Operation

3.5.1 According to the findings of Environmental Impact Assessment ("EIA") report for the *Expansion of Hong Kong International Airport into a Three-Runway System* (AEIAR-185/2014*,* "3RS"), the NEF 25 contours predicted for different operation scenarios of the 3RS would be about 1km away from the Proposed Redevelopment. Hence, direct or indirect mitigation measures shall not be required for the Proposed Redevelopment.

3.5.2 Nevertheless, a review of the use of acoustic insulation in form of well-gasketted window to enhance the indoor living environment in the detailed design stage of the Proposed Redevelopment is recommended.

## 3.6 Traffic Noise Impacts during Operation

3.6.1 A traffic noise impact assessment has been carried out to demonstrate the feasibility of the proposed design of the Project in terms of road traffic noise impact. The peak hour road traffic noise levels have been predicted using a computer noise model, RoadNoise, which follows the prediction procedures of the UK Department of Transport's *Calculation of Road Traffic Noise* ("CRTN"), as recommended in Chapter 9 Environment of HKPSG.

3.6.2 All road sections situated within 300m of the Redevelopment Site have been considered as the sources of traffic noise. The assessment was carried out based on the projected peak hourly traffic flows in 2044, which corresponds to the maximum projected traffic conditions within 15 years of occupancy of the Proposed Redevelopment, anticipated to be in 2029.

### Noise Sensitive Receivers ("NSRs")

3.6.3 The noise sensitive uses e.g. living rooms and bedrooms of the Proposed Redevelopment are considered to be NSRs of road traffic noise impact. All noise sensitive uses other than the residential units (e.g. management office) will be equipped with air conditioning system and will not rely on opened window/door for ventilation.

3.6.4 These NSRs will be provided with prescribed windows for natural ventilation complying with the *Building (Planning) Regulations, Cap 123* ("B(P)R"). The noise standards stipulated in the HKPSG are applicable to noise sensitive uses which rely on opened windows for ventilation. Thus, assessment points ("APs") for NSRs are assigned to these prescribed windows. The APs were all taken to be 1m from the exterior façade of opened windows and 1.2m above the floor of the APs as shown in ***Figure 3-1.***

3.6.5 For the living/dining rooms, openings not required to meet prescribed ventilation requirement will be installed with maintenance windows, which will normally be closed and openable with a special key only for cleaning and maintenance purpose. For the bedrooms, in order to enhance the indoor lighting performance, fixing glazing would be used at façade next to the openable windows. Locations of maintenance windows and fixed glazing are shown in ***Figure 3-1.***

### Proposed Road Traffic Noise Mitigation Measures

3.6.6 Exceedance of road traffic noise criteria were predicted at some APs. In order to alleviate the road traffic noise impact, road traffic noise mitigation measures recommended in Section 4.3 of *Chapter 9 of HKPSG* have been referred to. The road traffic noise mitigation measures in terms of self-protecting building design and arrangement have been considered and incorporated into the layouts as follows:

#### 1m Architectural Fins (Absorptive)

3.6.7 Two 1m long architectural fins (Absorptive) in full-height are proposed at two locations of the façade facing Tuen Mun Road, as shown in ***Figure 3-2***. The architectural fins would be fitted with absorptive linings on the side facing the NSRs to compensate the potential degradation caused by the multiple reflection effects between the architectural fins and the building structure.

#### Acoustic Windows (Baffle Type)

3.6.8 Acoustic windows (baffle type) ("AW-BT") will be provided to the NSRs which still have noise exceedances to further mitigate the residual noise impact after with provision of the architectural fins (Absorptive), as shown in ***Figure 3-2***. To suit different room sizes, two types of AW-BT have been proposed. The design of the acoustic windows from precedent cases for San Po Kong Public Housing and Hang Seng Management College Hostel have been adopted for the Proposed Redevelopment.

### Schedule of Mitigation Measures

3.6.9 The proposed noise mitigation measures are shown in and are listed in ***Table 3-4*** below.

*Table 3-4: Schedule of Road Traffic Noise Mitigation Measures*

<table>
<tr><th>MITIGATION MEASURES</th><th>DESCRIPTION</th></tr>
<tr><td>Fixed Glazing / Maintenance Windows</td><td>Maintenance windows or fixed glazing will be provided at certain noise sensitive facades. Locations refer to Figure 3-1.</td></tr>
<tr><td>1m Long Architectural Fins (Absorptive)</td><td>1m long architectural fins (absorptive) will be proposed at the facades of APs B-4 and C-1</td></tr>
<tr><td>For Room Size >10m$^2$:<br>AW-BT - Type 1</td><td>Installation of AW-BT - Type 1 at the following noise sensitive facades:
<table>
<tr><th>AP ID</th><th>Floor No.</th><th>AP ID</th><th>Floor No.</th></tr>
<tr><td>A-4</td><td>1/F-17/F</td><td>C-1</td><td>1/F-17/F</td></tr>
<tr><td>B-1</td><td>1/F-17/F</td><td>C-4</td><td>1/F-17/F</td></tr>
<tr><td>B-4</td><td>1/F-17/F</td><td>D-1</td><td>1/F-17/F</td></tr>
</table></td></tr>
<tr><td>For Room Size <10m$^2$:<br>AW-BT - Type 2</td><td>Installation of AW-BT - Type 2 at the following noise sensitive facades:
<table>
<tr><th>AP ID</th><th>Floor No.</th><th>AP ID</th><th>Floor No.</th></tr>
<tr><td>A-1</td><td>1/F-17/F</td><td>C-3</td><td>1/F-17/F</td></tr>
<tr><td>A-2</td><td>1/F-17/F</td><td>D-2</td><td>1/F-17/F</td></tr>
<tr><td>A-3</td><td>1/F-17/F</td><td>D-3</td><td>1/F-17/F</td></tr>
<tr><td>B-2</td><td>1/F-17/F</td><td>D-4</td><td>1/F-17/F</td></tr>
<tr><td>B-3</td><td>1/F-17/F</td><td>G-2</td><td>12/F-17/F</td></tr>
<tr><td>C-2</td><td>1/F-17/F</td><td>H-4</td><td>8/F-17/F</td></tr>
</table></td></tr>
</table>

3.6.10 With the aforementioned proposed mitigation measures in place, the road traffic noise levels at the NSRs of the Proposed Redevelopment shall comply with the criterion of 70dB(A) recommended in *Chapter 9 of HKPSG.*

3.6.11 Moreover, a Noise Impact Assessment ("NIA") report would be submitted by the Applicant at the detailed design stage to demonstrate the noise mitigation measures to achieve 100% compliance with the noise criteria of *HKPSG* and to the satisfaction of EPD.

## 3.7 Conclusions

3.7.1 Overall, therefore, there will be no adverse noise impact during the construction and operation phases of the Proposed Redevelopment.

*Figure 3-1: Locations of the Assessment Points for Noise Sensitive Receivers*

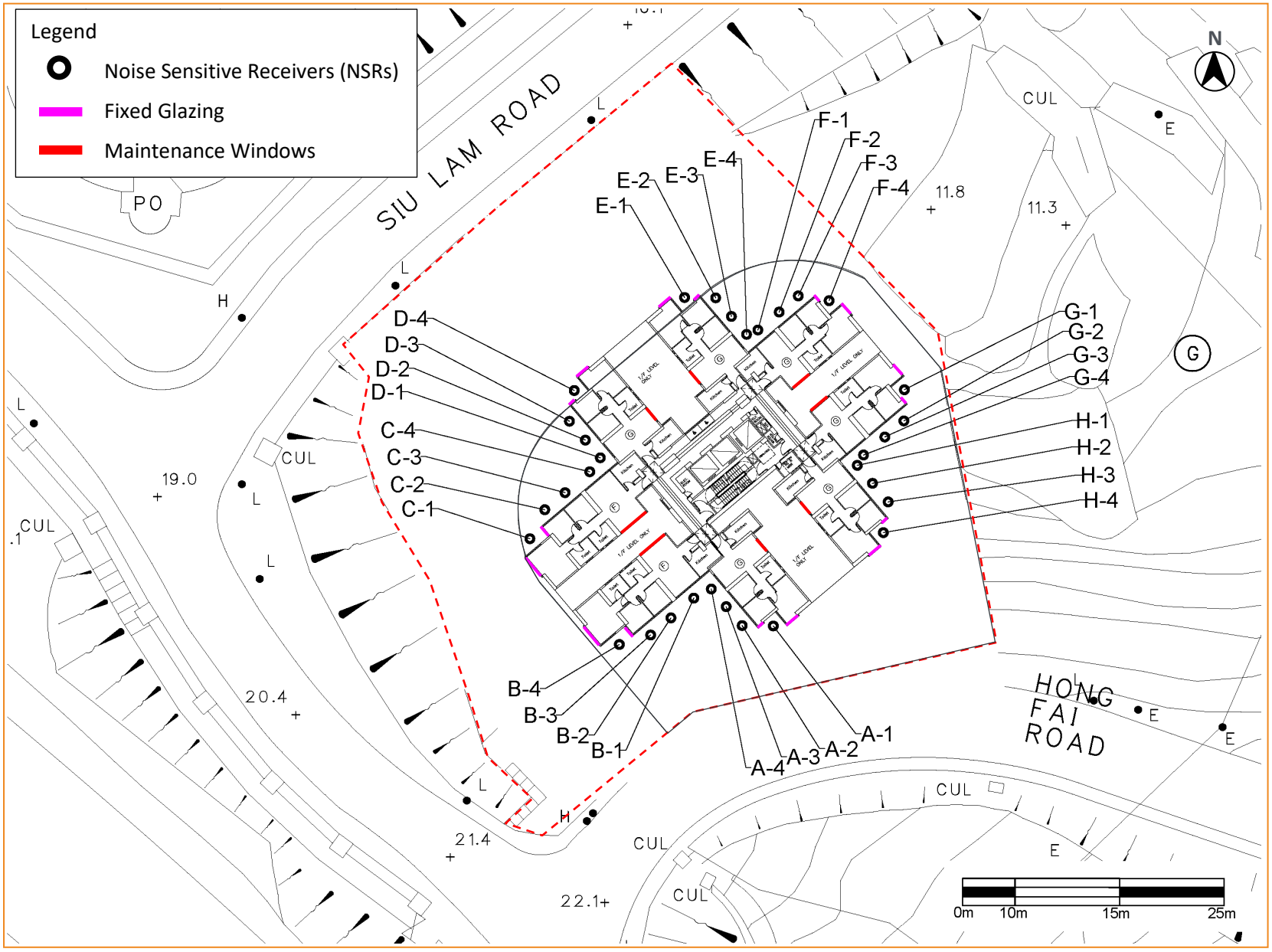
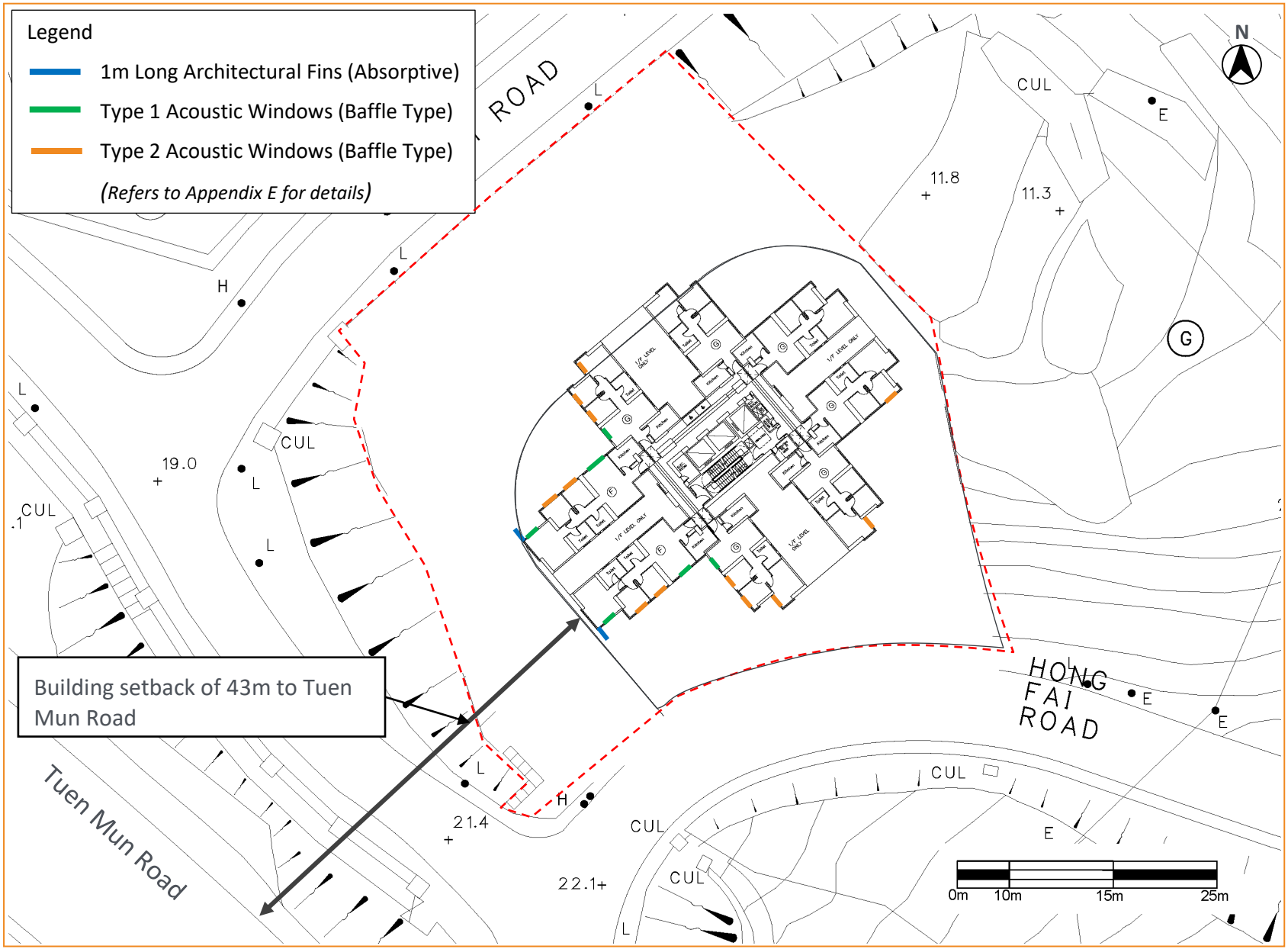


*Figure 3-2: Proposed Noise Mitigation Measures*



# 4 WATER QUALITY

## 4.1 Introduction

4.1.1 This section assesses the potential water quality impact associated with the Proposed Redevelopment during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

## 4.2 Environmental Legislation and Standards

### Water Pollution Control Ordinance (Cap. 358)

4.2.1 An amendment to the Water Pollution Control Ordinance ("WPCO") was enacted in 1990 and provides a mechanism for setting effluent standards. These are included in the *Technical Memorandum* ("TM") *Standards for Effluents Discharged in to Drainage and Sewerage Systems, Inland and Coastal Waters* ("WPCO Cap 358, S.21"). All discharges into government sewerage systems, marine and inland waters are required to comply with the standards stipulated in the TM.

### Construction Site Drainage, ProPECC PN1/94

4.2.2 Under ProPECC Practice Note PN1/94 *Construction Site Drainage* ("ProPECC PN1/94"), various guidelines for the handling and disposal of construction site discharges are included. The guidelines include the use of sediment traps, wheel washing facilities for vehicles leaving the Site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment.

### Drainage Plan subject to Comment by Environmental Protection Department, ProPECC PN5/93

4.2.3 Under ProPECC Practice Note PN5/93 *Drainage Plan subject to Comment by Environmental Protection Department* ("ProPECC PN5/93"), various guidelines for the pollution control for discharge to storm drains and foul sewers, such as the use of grease trap for wastewater from the restaurant kitchen, the use of silt removal facilities for open surface channel led to stormwater drains, etc., are included. The guidelines also include the requirements for submission of drainage plans.

## 4.3 Water Sensitive Receivers

4.3.1 In order to identify the water sensitive receivers ("WSRs"), a desktop study on the OZP, topographic maps and aerial photos has been conducted together with the site visits. The WSRs in the vicinity of the Site are summarised in ***Table 4-1*** and shown on ***Figure 4-1***.

*Table 4-1: Water Sensitive Receivers*

| WSR ID | Description | Type |
|---|---|---|
| W01 | Siu Lam Beach | Non-gazetted beaches |
| W02 | Sea next to Siu Lam | Open marine water |
| W03 | Watercourse to the northeast of the Site | Semi-natural stream |
| W04 | Watercourse to the north of the Site | Semi-natural stream |

## 4.4 Potential Impacts

### Construction Phase

4.4.1 Muddy runoff from the Site may be generated during the construction phase, especially during the rainy season. If the muddy water is not properly controlled, it would lead to increased amounts of suspended solids in the drainage system.

4.4.2 Wash water from vehicles and equipment; silt from any on-site stockpiles of soil, cement and grouting materials; and spillage of fuels, oil and lubricants from construction vehicles and plant may generate water quality impacts. If these pollution sources are not properly controlled, it would lead to increased amounts of suspended solids, grease and oil, pH, Biochemical Oxygen Demand ("BOD"), etc. in the drainage system.

4.4.3 There is also the issue of sewage generated by construction workers on-site. The sewage may results in high levels of $NH_3$-N, BOD and E.coli if it is not dispose of properly before discharging into drainage system.

### Operation Phase

4.4.4 The major source of sewage / wastewater during operation phase would be sewage and grey water from toilets, washing basin, kitchens and bathrooms. All such kinds of wastewater need to be properly collected and discharged to public sewerage system.

4.4.5 There is existing municipal sewerage connection available along the Siu Lam Road and Siu Lam Tsuen Road to the southwest and the west of the Site, respectively. The sewerage connection and any necessary infrastructure will be designed to allow sewage arising from the Proposed Redevelopment flow into the existing municipal sewerage system.

4.4.6 A separate Sewerage Impact Assessment ("SIA") Report for the Proposed Redevelopment is provided which covers the assumptions and methods commonly adopted in Hong Kong. It is concluded in the SIA report that there will be there will be no unacceptable sewerage impact on the municipal sewerage system arising from the Proposed Redevelopment. On this basis, there will be no adverse water quality impacts resulting from the operation of the Proposed Redevelopment since all the sewage arising from the Proposed Redevelopment would be discharged to the municipal sewerage system.

4.4.7 Non-point / diffuse source pollution, such as dust, tyre scraps, oil, etc. might be washed from road surface and /or open areas into the nearby drainage system during rainstorms. Proper drainage systems with silt traps within the Site should be considered during the detailed design stage. The drainage system and silt traps within the Site should be regularly cleaned and maintained.

## 4.5 Mitigation Measures

### Construction Phase

4.5.1 During construction, it is recommended that portable toilets should be provided for construction workers. These will be supplied, maintained and emptied (at a sewage treatment facility) by a specialist contractor.

4.5.2 The construction contractor shall also follow good site practice and be responsible for the design construction, operation and maintenance of all the mitigation measures as specified in ProPECC PN1/94 for construction site drainage.

4.5.3 In addition, the EPD's RPCC for Construction Contract in COP should be incorporated in the relevant works contract. The RPCC are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers.

### Operation Phase

4.5.4 Sewage generated during the operation phase, including sewage generated from the toilets, washing basins, kitchens and bathrooms will be collected and discharged to municipal sewerage system. Furthermore, the design of the drainage system should also follow the ProPECC PN5/93,

which provide useful non-statutory guidelines for pollution control on different types of discharge to minimize water quality impact from proposed drainage systems. Therefore, no adverse water quality impact arising from the Proposed Redevelopment is anticipated.

4.5.5 With the provision of the abovementioned measures, no adverse water quality impacts are therefore anticipated during operation phase.

## 4.6 Conclusions

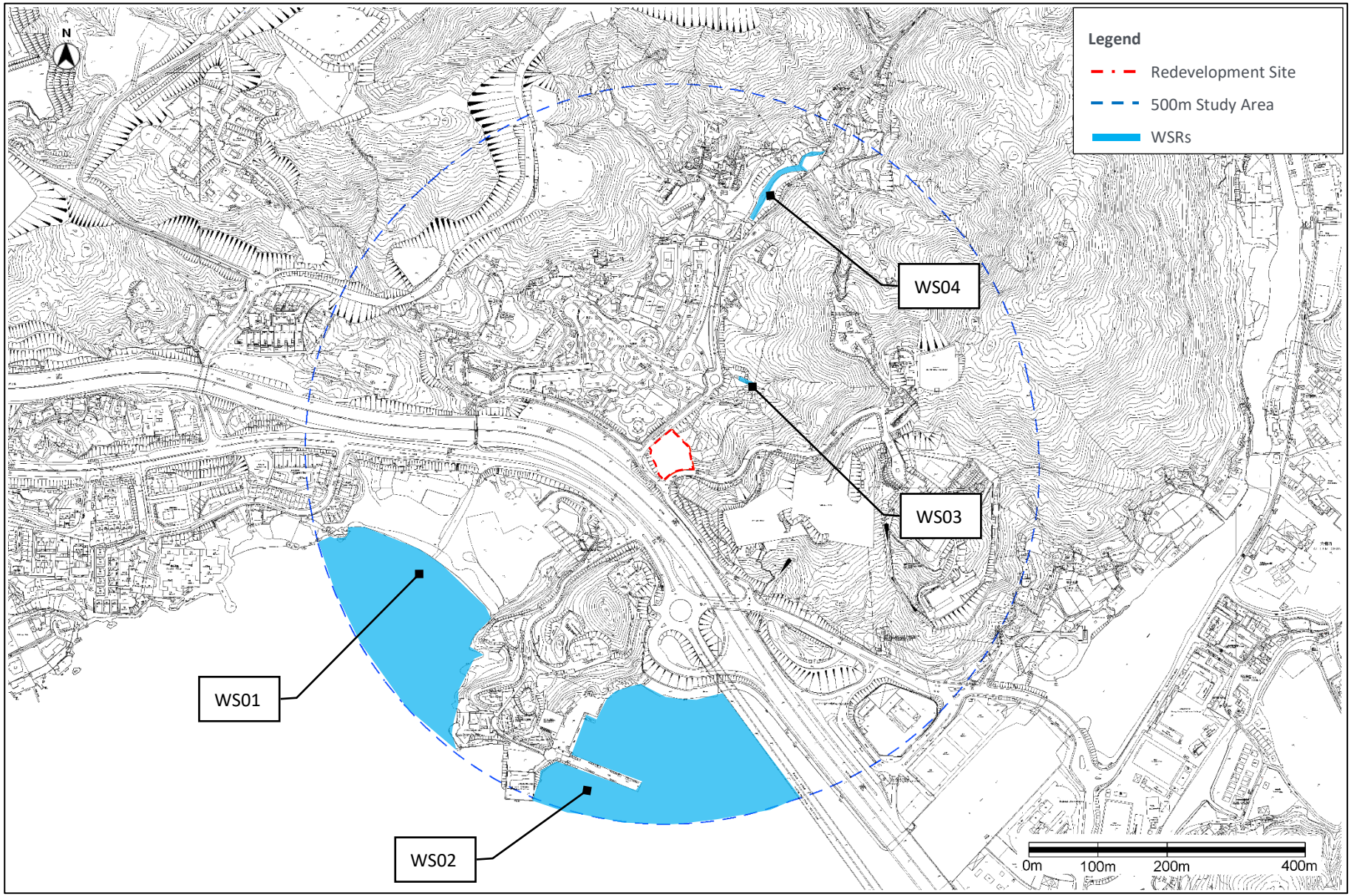
4.6.1 During construction, water quality impacts can be properly controlled with the implementation of good site practice, as stated in ***Section 4.5.2***. Portable toilets will be provided for constructions workers on-site. Provided these measures are implemented, it is unlikely that any adverse water quality impacts from the Site will be generated during the construction phase.

4.6.2 The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges shall be treated in accordance with the terms and conditions of the Discharge Licence.

4.6.3 During operation, no adverse water quality impact is anticipated from the wastewater / sewage generated by the Proposed Redevelopment. The separate SIA Report has been prepared and concluded that there will be no adverse sewerage impact from the Proposed Redevelopment.

4.6.4 Overall, therefore, no adverse water quality impacts are anticipated during the construction or operational phases of the Proposed Redevelopment.

*Figure 4-1: Water Sensitive Receivers within 500m Study Area*



# 5 WASTE MANAGEMENT

## 5.1 Environmental Legislation and Standards

5.1.1 In carrying out the assessment, references have been made to the following relevant legislation, documents and guidelines that are applicable to waste management and disposal in Hong Kong:

- The Waste Disposal Ordinance (Cap. 354) ("WDO") setting out requirements for storage, handling and transportation of all types of wastes, and subsidiary legislation such as the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N), the Waste Disposal (Charges for Disposal of Chemical Waste) Regulation (Cap. 354J) and the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C).
- Land (Miscellaneous Provisions) Ordinance (Cap. 28).
- Public Health and Municipal Services Ordinance – Public Cleansing and Prevention of Nuisances Regulation (Cap.132BK)
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.
- Environmental, Transport and Works Bureau ("ETWB") Technical Circular (Works) No. 19/2005, Environmental Management on Construction Sites.
- ETWB Technical Circular (Works) No. 22/2003A, Additional Measures to improve Site Cleanliness and Control Mosquito Breeding on Construction Sites.
- Development Bureau ("DevB") Technical Circular (Works) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials.
- Civil Engineering and Development Department ("CEDD") Technical Circulars (CEDD TC No. 11/2019), Management of Construction and Demolition Materials.
- Building Department Practice Notes for Registered Contractors (PNRC 17), Control of Environmental Nuisance from Construction.
- CEDD Project Administration Handbook for Civil Engineering Works (PAH).

## 5.2 Potential Impacts

### Construction Phase

5.2.1 Demolition of existing buildings and construction of new building will be included in the construction phase. The key potential waste sources during the construction phase are:

- Inert Construction and Demolition ("C&D") materials (e.g. waste concrete, surplus soil etc.)
- Non-inert C&D materials (e.g. wood and plastics)
- Chemical wastes such as waste battery, waste lubricating oil from vehicles / plant maintenance
- General refuse generated by site workers

#### Inert C&D Materials

5.2.2 Inert C&D materials are those which do not decompose, such as debris, rubble, earth and concrete, and which are suitable for land reclamation and site formation.

5.2.3 The major source on inert C&D materials during construction phase will be demolition of the existing buildings and re-profiling of the Site.

5.2.4 Inert C&D materials should be reused on-site as far as practicable and efforts should be made to optimise cut and fill requirements during the detailed design. Good site practice and mitigation measures should be implemented, as recommended in ***Section 5.3***. Surplus inert C&D materials should be sent off-site for reuse or recycle as far as practicable. The remaining materials should be sent to pubic fill reception facilities, Fill Bank at Tuen Mun Area 38.

5.2.5 As most of the inert C&D materials generated is demolished material and building waste, and no backfilling shall be required for construction, the inert C&D material which to be re-used onsite is limited. Hence, the inert C&D material will be disposed of at public reception facilities. Moreover, the reuse of inert C&D materials in public filling reception facilities would be agreed with relevant authorities before disposal.

5.2.6 With the implementation of recommended good site practice and mitigation measures, no adverse waste impact from the handling, transportation or disposal of inert C&D materials during construction of the Project is anticipated.

### Non-inert C&D Materials

5.2.7 Non-inert C&D materials, are those which can decompose such as bamboo, timber, vegetation, packaging waste and other organic material, and which are therefore unsuitable for land reclamation.

5.2.8 The major source on non-inert C&D materials during construction will be removal of topsoil and vegetation during site formation and building waste including non-inert C&D materials such as timber formwork, packaging waste.

5.2.9 On-site sorting should be carried out for non-inert C&D materials generated from the works. Recyclable materials, such as metal, paper product, timber and plastic, should be collected by local recyclers for recycling. All non-inert C&D materials should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is West New Territories Landfill ("WENT") Landfill.

5.2.10 Moreover, the disposal of C&D wastes of landfills would be agreed with relevant authorities before disposal. With the implementation of the waste handling measures as mentioned above and control measures listed in ***Section 5.3***, no adverse waste impact from the handling, transportation or disposal of non-inert C&D materials during construction of the Proposed Redevelopment is anticipated.

### General Refuse

5.2.11 General refuse from workers is similar to domestic waste and includes packaging and organic material.

5.2.12 On-site sorting should be carried out general refuse generated from the works. Recyclable materials, such as metals, paper and plastic, should be collected by local recyclers for recycling. All general refuse should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is North West New Territories Transfer Station (NWNTTS).

5.2.13 With the implementation of the waste handling measures as mentioned above and control measures as listed in ***Section 5.3***, no adverse waste impact from the handling, transportation or disposal of general refuse from workforce during construction of the Proposed Redevelopment is anticipated.

### Chemical Waste

5.2.14 Several hundred kilograms of chemical waste, such as spent lubricants or waste batteries, may be generated given the small scale of the works. A licensed collector shall be employed to handle and dispose of all chemical waste. Furthermore, the chemical waste should be handled in accordance with EPD's *Code of Practice on the Packaging, Labelling and Storage Chemical*

*Waste*. Disposal of chemical waste shall be at an appropriate licensed facility as directed by the Authority, such as landfill, the Chemical Waste Treatment Centre ("CWTC"), a licensed chemical waste recycler, etc.

5.2.15 With the implementation of the good site practice and recommended mitigation measures, no adverse waste impact from the handling, transportation or disposal of chemical waste during the construction of the Proposed Redevelopment is anticipated.

### Operation Phase

5.2.16 During the operation phase, the major type of waste will be domestic waste from the residents. Except a certain amount of domestic waste would be reused and recycled, the surplus domestic waste will be collected on a regular basis by the waste collectors and will be disposed of at a landfill managed by EPD, no adverse impacts from handling, transportation or disposal are anticipated. Nevertheless, mitigation measures proposed in ***Section 5.3*** should be implemented to minimize domestic waste generation.

5.2.17 With the implementation of the recommended waste handling and control measures, no adverse impacts associated with waste management is anticipated during the operation phase of the Proposed Redevelopment.

## 5.3 Mitigation Measures

### Construction Phase

5.3.1 Waste management shall be controlled through contractual requirements as well as through statutory requirements.

5.3.2 A Waste Management Plan ("WMP"), which is part of the Environmental Management Plan under ETWB TC(W) 19/2005, should be developed by the Contractor and submitted to Engineer/Architect for approval before the commencement of any construction works. The objectives of the WMP will be to identify any potential environmental impact from the generation of waste at the Site; to recommend appropriate waste handling, collection, sorting, disposal and recycling measures in accordance with requirements of the current regulations; and to categorise and permit segregation of C&D materials where practicable (i.e. inert material / non-inert material) for disposal considerations i.e. public fill / landfill.

5.3.3 The Contractors should adopt good housekeeping practices with reference to the WMP such as waste segregation prior to disposal. Besides the provision of stockpiling and segregating areas at site, effective collection of site wastes is required to prevent waste materials being blown around by wind, flushed or leached into nearby waters, or creating odour nuisance or pest and vermin problems. Waste storage areas should be well maintained and cleaned regularly.

5.3.4 A trip-ticket system should be established in accordance with DevB TC(W) No. 6/2010 and the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation* to monitor the disposal of public fill and solid wastes at public filing facilities and landfills, and to control fly-tipping. A trip-ticket system should be included as one of the contractual requirements for the contractor to strictly implement.

5.3.5 Whenever there are excess recyclable construction materials, including bricks, plastics and metals, reuse and recycling should be carried out as far as practicable to minimize the amount of waste disposal. Other inert non-recyclable materials such as concrete, asphalt, etc. should be treated as public fill. Non-inert and non-recyclable wastes should be disposed at designated landfill sites.

5.3.6 General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the construction contractor to remove general refuse from the Site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of "wind-blown" materials.

5.3.7 For chemical waste, the Contractor should follow the "trip-ticket" system of which the arrangement of production, collection and disposal in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*.

5.3.8 In addition, the EPD's RPCC for Construction Contract in COP should be incorporated in the relevant works contract. The RPCC are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers.

### Operation Phase

5.3.9 The building management shall encourage proper waste management in line with the government policy. The waste management hierarchy shall be adopted by the building management to manage waste in a sustainable manner. The waste management hierarchy is a concept which shows the desirability of various waste management methods and comprises the following in order of preference:

- Avoidance
- Minimisation
- Recycling / reuse

5.3.10 The waste generated during the operation of the Proposed Redevelopment will mainly be general refuse comprising recyclable waste, such as paper, aluminium cans, plastic bottles, etc., and non-recyclable waste such as food waste. Waste shall be segregated, collected and stored in appropriate waste receptacles, each with a proper cover to minimize odour and hygiene issues. Different kinds of waste shall be regularly collected by licensed waste collectors and taken off-site for proper recycling or disposal, respectively.

## 5.4 Conclusions

5.4.1 With the development of WMP and to implement the good site practices recommended therein, the waste generated during construction phase can be greatly reduced. Provided that good site practices recommended are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.

5.4.2 During the operation phase, the major type of waste generated will be domestic wastes generated from students and staff of the Proposed Redevelopment. Since this kind of waste will be collected on a regular basis by waste collectors and will be disposed of at landfill, and domestic waste will be collected on a regular basis by FEHD or licenced collector, and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.

5.4.3 With the implementation of recommended mitigation measures, adverse waste impacts generated during the construction and operation phase of the Proposed Redevelopment are not anticipated.

# 6 LAND CONTAMINATION

## 6.1 Environmental Legislation and Standards

6.1.1 The land contamination assessment has been conducted in accordance with the following legislation, standard and guidelines:

- EPD Guidance Note for Contaminated Land Assessment and Remediation.
- EPD Practice Guide for Investigation and Remediation of Contaminated Land.
- Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management

## 6.2 Assessment Methodology

6.2.1 The assessment for land contamination of the Site was carried out with reference to EPD's Practice Guide. A normal land contamination assessment will involve the following steps:

(a) Carry out site appraisal, including background information collection

(b) Design site investigation ("SI") strategy and prepare a Contamination Assessment Plan ("CAP") for EPD's approval

(c) Conduct SI according to the approved CAP

(d) Interpret SI results and prepare a Contamination Assessment Report ("CAR") for EPD's approval

(e) Plan and design remediation strategy and prepare a Remediation Assessment Plan ("RAP") for EPD's approval

(f) Carrying out the remediation works

(g) Preparing the Remediation Report ("RR") for EPD's endorsement

## 6.3 Site Appraisal Findings

6.3.1 Site appraisal was conducted with an aim to identify any potential contamination source due to past and present land-use activities at the Site that may have caused land contamination.

### Historical Use of the Site

6.3.2 Aerial photographic records for the Site between Year 1963 to Year 2016, available at the Survey and Mapping Office ("SMO") of Lands Department, were reviewed, these records revealed that the Site was originally a vacant land in Year 1963 prior to the construction of the existing CSD staff quarters. In Year 1976, the construction works of existing CSD staff quarters, which is a residential use, was completed and the Site was occupied by three residential building blocks until today. As advised by CSD, there is no underground fuel storage tank or dangerous goods store within the Site. There is no evidence of any past land uses within the Site that could have resulted in contamination.

### Site Walkover

6.3.3 A site walkover was carried out 18 February 2021, the existing staff quarters are still occupied by the residents. As advised by CSD, no underground diesel tank and dangerous goods store present in the Site. No existing development with potential land contamination activities was observed on the Site. Hence, no land contamination issue is anticipated due to the existing uses.

### Dangerous Goods & Incident Records

6.3.4 Regional Office (West) of EPD was contacted to review if any record of registered Chemical Waste Producers or accident spillage / leakage of dangerous or chemical is kept by the office. Email reply confirmed that they do not have any record of registered Chemical Waste Producers or accident spillage / leakage of dangerous or chemical. In addition, Fire Services Department (FSD) was also contacted to review any current / past licences for storage of Dangerous Goods ("DG"), registration of DG licence, fire incidents, spillage / leakage of DG, etc. relating to the Site.

FSD replied and confirmed that there was no record of DG licence, fire incidents or incidents of spillage / leakage of DG within the Site.

### Conclusion from Site Appraisal

6.3.5 Based on recorded nature of the past and present land use activities, no potentially contaminating activities was anticipated at the Site. Site reconnaissance revealed that there is no existing activities carried out at the Site that has potential to cause land contamination.

6.3.6 As no potential land contamination sources and issues were identified, further land contamination investigation is considered not necessary. As such, steps b) to g) of ***Section 6.2.1*** shall not be required.

## 6.4 Conclusions

6.4.1 A detailed investigation of the past and present land-use of the Project Site was carried out and it is confirmed that no evidence of historic land contamination issues was identified and need to be dealt with prior to the Proposed Redevelopment.

# 7 CONCLUSIONS AND RECOMMENDATIONS

7.1.1 This PER has been conducted for the Proposed Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam.

7.1.2 The results of the assessments indicate that the Proposed Redevelopment will not generate any unacceptable environmental impacts during construction and operation phases, provided that all recommended mitigation measures and good site practices are strictly implemented by the Applicant.

7.1.3 Overall, no adverse environmental impact is anticipated during the construction or operation phases of the Proposed Redevelopment. Specific conclusions for air quality, noise, water quality, waste management and land contamination are as follows:

## 7.2 Air Quality

7.2.1 With the implementation of the recommended mitigation measures and good site practice, adverse air quality impact during the construction phase is not anticipated.

7.2.2 No existing chimney was identified within 200m from the Redevelopment Site. In addition, no adverse air quality impact from the redevelopment of the ex-Siu Lam Hospital into IRSC was concluded in its PER study. Therefore, no adverse air quality impact from the chimney emission on the Proposed Redevelopment is anticipated.

7.2.3 No adverse air quality impact on the Proposed Redevelopment from the vehicular emission is anticipated with the sufficient buffer distance provided between these air pollution sources and the Proposed Redevelopment. No adverse air quality from the Proposed Redevelopment on the surrounding air sensitive uses is also anticipated.

7.2.4 Overall, therefore, no adverse air quality impact is anticipated during construction and operation phases of the Proposed Redevelopment.

## 7.3 Noise Impact

7.3.1 During the construction phase of the Proposed Redevelopment, with the implementation of the mitigation measures, no adverse noise impact is anticipated.

7.3.2 To the east of the Site is the IRSC at Ex-Siu Lam Hospital Site currently under construction. A noise assessment for fixed noise source was conducted and no adverse fixed noise impact on the Proposed Redevelopment arising from the operation of the IRSC is anticipated.

7.3.3 Besides, two pump houses at Palatial enclosed by concrete structure, which may not have adverse fixed noise impact on the Proposed Redevelopment. Apart from the above, no other fixed noise source has been identified within 300m surrounding the Site. Therefore, no adverse fixed source noise impact on the Proposed Redevelopment is anticipated.

7.3.4 Most of the M&E equipment will be installed inside plant rooms. With the provision of good practices as mentioned in ***Section 3.4.4***, adverse fixed noise impact arising from the operation of the Proposed Redevelopment is not anticipated.

7.3.5 For aircraft noise, although the Proposed Redevelopment is located at more than 1km away from the Noise Exposure Forecast (NEF) 25 contour of the HKIA under the 3RS hence is suitable for noise sensitive uses, the use of acoustic insulation in form of well-gasketted window to enhance the indoor living environment would be reviewed in the detailed design stage.

7.3.6 For road traffic noise, the predicted noise impact on the Proposed Redevelopment shall comply with the standards as recommended in Chapter 9 Environment of the HKPSG with the mitigation measures recommended in place.

7.3.7 Overall, therefore, there will be no adverse noise impact during the construction and operation phases of the Proposed Redevelopment.

## 7.4 Water Quality

7.4.1 During construction, water quality impacts can be properly controlled with the implementation of good site practice. Portable toilets will be provided for constructions workers on-site. Provided these measures are implemented, it is unlikely that any adverse water quality impacts from the Site will be generated during the construction phase.

7.4.2 The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges shall be treated in accordance with the terms and conditions of the Discharge Licence.

7.4.3 During operation, no adverse water quality impact is anticipated from the wastewater / sewage generated by the Proposed Redevelopment. The separate SIA Report has concluded that there will be no adverse sewerage impact from the Proposed Redevelopment.

7.4.4 Overall, therefore, no adverse water quality impacts are anticipated during the construction or operational phases of the Proposed Redevelopment.

## 7.5 Waste Management

7.5.1 With the development of WMP and to implement the good site practices recommended therein, the waste generated during construction phase can be greatly reduced. Provided that good site practices recommended are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.

7.5.2 During the operation phase, the major type of waste generated will be domestic wastes generated from students and staff of the Proposed Redevelopment. Since this kind of waste will be collected on a regular basis by registered collectors and will be disposed of at landfill, and domestic waste will be collected on a regular basis by FEHD or licenced collector, and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.

7.5.3 With the implementation of recommended mitigation measures, adverse waste impacts generated during the construction and operation phase of the Proposed Redevelopment are not anticipated.

## 7.6 Land Contamination

7.6.1 An appraisal of the past and present land-use of the Project Site was carried out and it is confirmed that no evidence of historic land contamination issues was identified and need to be dealt with prior to the Proposed Redevelopment.

local people
global experience

SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.

www.smec.com

小欖

Siu Lam

# Annex D -
# Drainage Impact Assessment

SMEC
Member of the Surbana Jurong Group

local people
global experience

# D02 – Drainage Impact Assessment Report

## Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

30 August 2022
Prepared for Urbis Limited

# Table of Contents

1 PROJECT BACKGROUND ..... 1-1
1.1 Introduction ..... 1-1
1.2 Site Description ..... 1-1
1.3 Project Description ..... 1-1
1.4 Objectives of this Report ..... 1-2
1.5 Reference Materials ..... 1-2
2 EXISTING ENVIRONMENT AND DRAINAGE CONDITIONS ..... 2-1
2.1 Site Location and Topography ..... 2-1
2.2 Existing Baseline Conditions ..... 2-1
2.3 Sewage Discharge for the Proposed Redevelopment ..... 2-1
3 DRAINAGE ANALYSIS AND CONCLUSION ..... 3-1
3.1 Assumptions and Methodology ..... 3-1
3.2 Existing and Proposed Condition ..... 3-1
3.3 Proposed Drainage Layout Plan and ..... 3-1
3.4 Results and Conclusions ..... 3-1

# List of Figures

Figure 1.1: Site Location and its Environs ..... 1-3
Figure 2.1: Existing Stormwater Drainage Plan ..... 2-2
Figure 3.1: Indicative Proposed Drainage Diversion Layout ..... 3-2

# 1 PROJECT BACKGROUND

## 1.1 Introduction

1.1.1 According to the Administration, it is the Government's established policy that Civil Service Housing Benefits (i.e., Departmental Quarters ("DQs") should, subject to the availability of resources, be provided to eligible civil servants as a type of housing benefit or for operational needs. It is envisaged that the demand for DQs will continue to rise. Therefore, it is proposed to redevelop Correctional Services Department ("CSD") Junior Staff Married Quarters bounded by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east ("the Site" or "the Project") to maximise the numbers of DQ units so as to achieve better utilization of land resources.

1.1.2 Part of the Site is zoned as 'Government, Institution or Community' ("G/IC") comprising two 4-storey blocks and one 3-storey block of CSD's Junior Staff Married Quarters. There is a strip of additional land to the south-east zoned G/IC. The strip of additional land to the north-west falls within 'Green Belt' ("GB") zone on the approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/13.

1.1.3 According to the Notes of OZP, the "G/IC" zone is subject to a maximum building height of four storeys excluding basements. The scope of the project is (a) to demolish the existing buildings on the subject site and (b) to construct a building of about 21 storeys which is beyond the scope of minor relaxation of building height restriction under the OZP.

1.1.4 According to the Notes of the OZP, 'Flat' use is under Column 2 of the "G/IC" and "GB" zones. To facilitate the redevelopment project of DQ, amendments to the OZP are required by rezoning the areas zoned "GB" and "G/IC" to "G/IC(1)" and to revise the maximum building height of the "G/IC" zone with 'Flat' as Column 1 uses.

1.1.5 SMEC is commissioned to carry out a Drainage Impact Assessment ("DIA") of the Project, as one of the supporting reports, for amendments to the OZP for submission to the Rural and New Town Planning Committee of the TPB for approval and exhibition under Section 5 of the *Town Planning Ordinance* ("TPO").

## 1.2 Site Description

1.2.1 The Site is bounded by Siu Lam Road to the north-west and Hong Fai Road to the south-west with a total area of about 2,700m$^2$ in Siu Lam. Part of the Site is currently a vacant land overgrown with weeds and different tree groups, while part of the Site is covered by existing Siu Lam Psychiatric Centre Junior Staff Married Quarters.

1.2.2 The Site location and its environs are shown on ***Figure 1.1*** which the uses surrounding the Site include:

- To the north and northwest: dwellings
- To the east and northeast: natural landscape
- To the southeast: Integrated Rehabilitation Services Complex at Ex-Siu Lam Hospital Site
- To the south and west: Tuen Mun Road, Castle Peak Road (Tai Lam), CSD Married Staff Quarters.

## 1.3 Project Description

1.3.1 The Proposed Redevelopment will involve the construction of a 21-storey building (including 4-storey of podium/carparks and 17-storey of residential units) with a site area of approximately 2,700m$^2$, a proposed plot ratio of 3.6 and a total gross floor area (GFA) of about 9,720m$^2$.

1.3.2 The indicative layout of the Proposed Redevelopment can be referred to the Planning Statement.

## 1.4 Objectives of this Report

1.4.1 The objectives of this DIA Report are to:

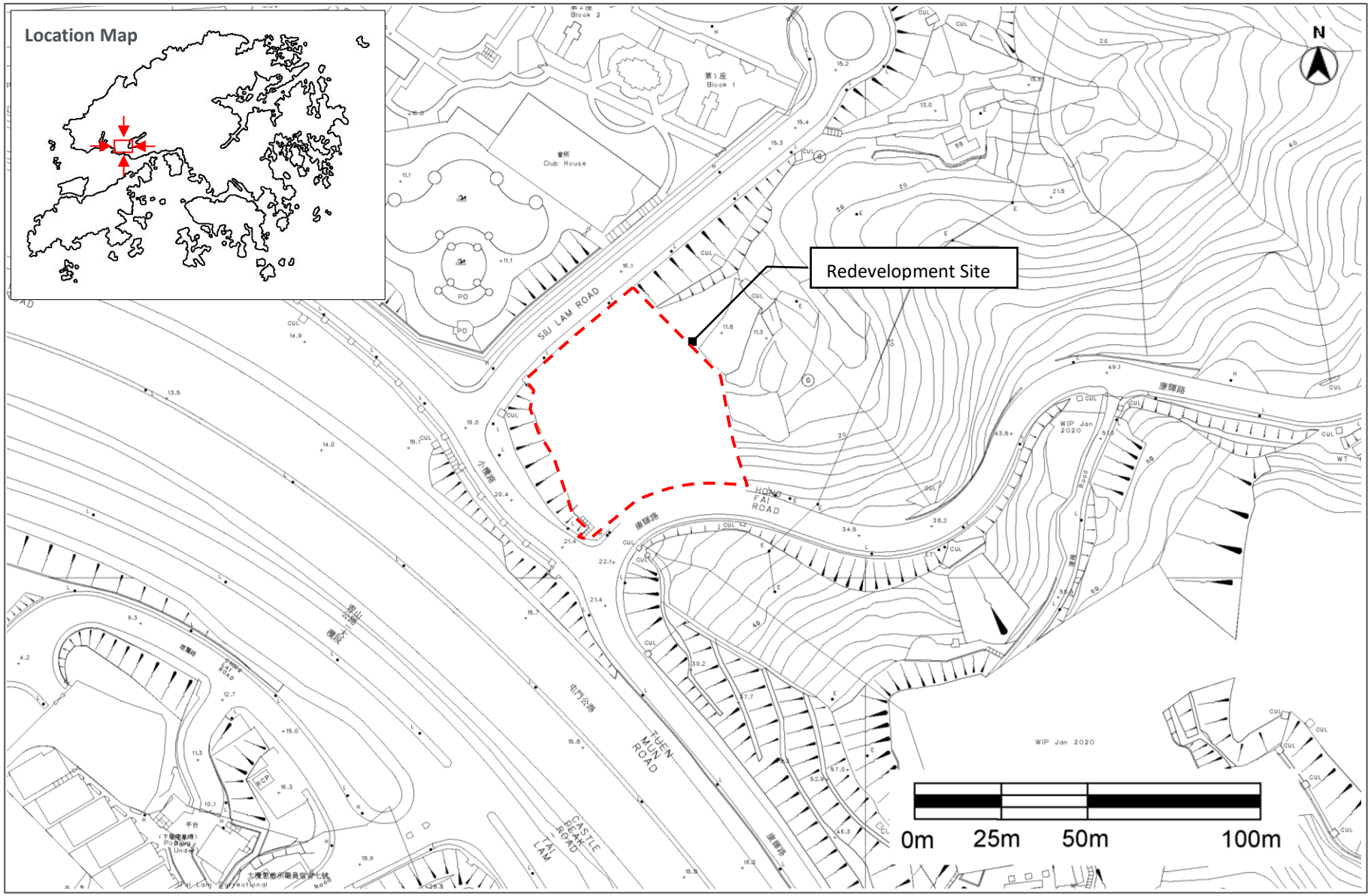
- Assess the potential drainage impacts arising from the Site.
- Recommend the necessary mitigation measures to alleviate any impacts.

## 1.5 Reference Materials

1.5.1 In evaluating the drainage impact arising from the Proposed Redevelopment, the following materials have been referred to:

- Drainage Services Department ("DSD") publication Stormwater Drainage Manual (with Eurocodes incorporated) – Planning, Design and Management (2018 Edition).
- DSD Advice Note No. 1 – Application of the Drainage Impact Assessment Process to Private Sector Projects.
- GeoInfo Map (https://www.map.gov.hk/gm/) reviewed on 15 April 2021.
- Architectural Services Department ("ArchSD") Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam - Technical Feasibility Statement dated 12 August 2017 ("TFS").

*Figure 1.1: Site Location and its Environs*



# 2 EXISTING ENVIRONMENT AND DRAINAGE CONDITIONS

## 2.1 Site Location and Topography

2.1.1 The area of the Site is about 2,700m$^2$ and is located at Siu Lam with levels ranged from +11.6mPD to +15.4mPD.

2.1.2 As illustrated on ***Figure 1.1***, the Site situated in Siu Lam is a polygon shaped land bounded by Siu Lam Road to the south and north, and Hong Fai Road to the east.

## 2.2 Existing Baseline Conditions

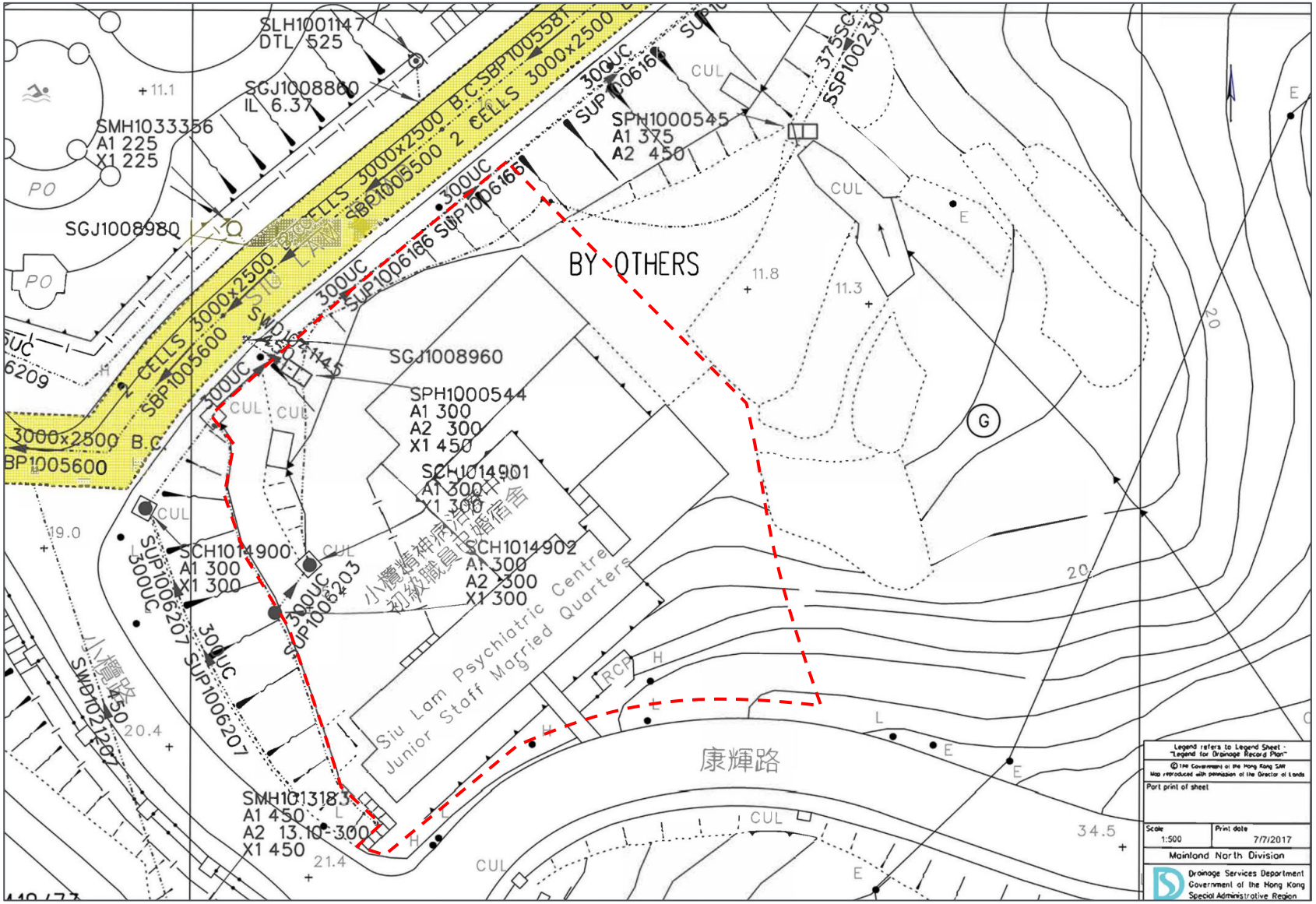
2.2.1 According to the site inspection conducted on 18 February 2021, part of the Site is currently a vacant land overgrown with weeds and different tree groups, another part of the Site is occupied by the Siu Lam Psychiatric Centre Junior Staff Married Quarters. Moreover, several ditches/watercourses were found inside the Site, which are connected to surrounding catchments.

2.2.2 Part of the Site is currently overgrown with weeds and different tree groups, another part of the Site is occupied by existing Siu Lam Psychiatric Centre Junior Staff Married Quarters. Therefore, the Site is currently 30% grassland and 70% concrete paved area.

## 2.3 Sewage Discharge for the Proposed Redevelopment

2.3.1 With reference to the drainage plan shown in ***Figure 2.1***, a Ø450mm existing drainage pipe which located at the northwest of the Site. Stormwater drainage arising from the Proposed Redevelopment is proposed to be discharged to the public drainage system at Manhole SGJ1008960 and then reach the existing box culvert underneath Siu Lam Road.

*Figure 2.1: Existing Stormwater Drainage Plan*



# 3 DRAINAGE ANALYSIS AND CONCLUSION

## 3.1 Assumptions and Methodology

3.1.1 Peak instantaneous runoff before and after the Proposed Redevelopment was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.

3.1.2 Flow capacities of the existing underground circular pipe was calculated using Colebrook-White Equation, while flow capacities of the existing U-channels were calculated using Manning's Equation.

## 3.2 Existing and Proposed Condition

3.2.1 Part of the Site is currently overgrown with weeds and different tree groups, another part of the Site is occupied by existing Siu Lam Psychiatric Centre Junior Staff Married Quarters. Therefore, the Site is currently 30% grassland and 70% concrete paved area.

3.2.2 For the Proposed Redevelopment, it was assumed that the paving condition will be approximately 100%. Since the paving area of the Site will increase to 100%, additional surface runoff will be generated from the site.

## 3.3 Proposed Drainage Layout Plan and

3.3.1 Perimeter drain associated with sand trap are proposed to collect runoff from the Site and to minimise sand/silt go into the drainage system. The collected runoff from the Site will drain to the existing Ø300mm and Ø450mm U-channel. The indicative location was shown in ***Figure 3.1.***

## 3.4 Results and Conclusions

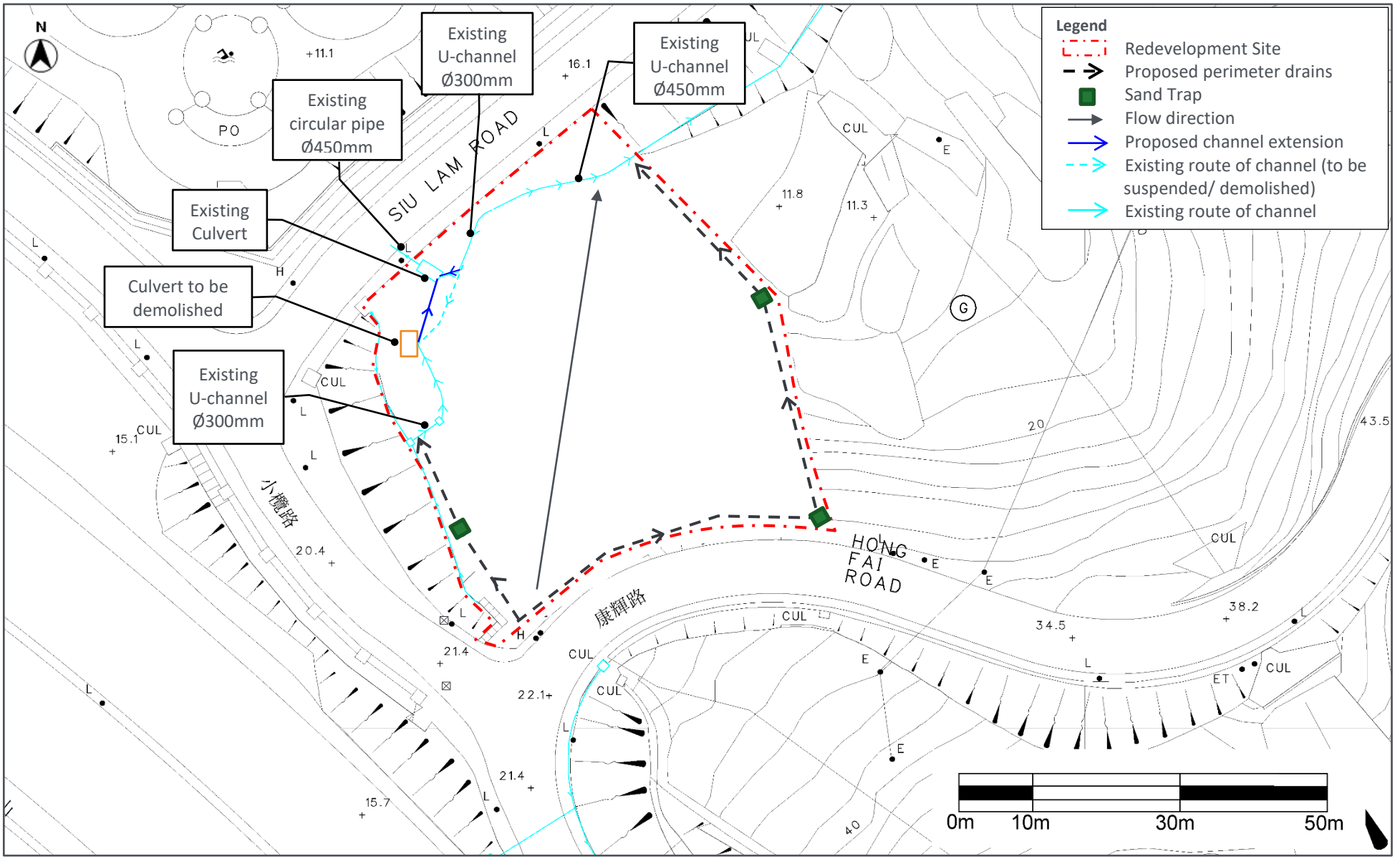
3.4.1 Potential drainage impacts that may arise from the Site after construction of the Proposed Redevelopment have been assessed.

3.4.2 The analysis result shows that the existing stormwater system will have sufficient capacity to receive stormwater runoff from the Proposed Redevelopment and surrounding catchments. As a result, no adverse drainage impact to the existing drainage system is anticipated after the development of the Site.

3.4.3 This DIA Report indicates the initial findings regarding drainage impact and indicative drainage layout. A qualified engineer should be engaged by the Architect/Contractor of the Proposed Redevelopment to review and provide detailed designs for the internal Site drainage layout.

3.4.4 A "Drainage Proposal" including detailed designs based on calculations and quantitative assessments, as well as hydraulic model, if necessary, shall be prepared by the qualified engineer and submitted to the drainage Authority, DSD, for their review and approval prior to the commencement of work.

*Figure 3.1: Indicative Proposed Drainage Diversion Layout*



local people
global experience

SMEC is recognised for providing technical excllence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.

www.smec.com

小欖

Siu Lam

# Annex E -
## Sewerage Impact Assessment

SMEC
Member of the Surbana Jurong Group

local people
global experience

# D03 Sewerage Impact Assessment Report

## Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

30 August 2022
Prepared for Urbis Limited

# Table of Contents

## Main Text

1 INTRODUCTION ..... 1-1
1.1 Background ..... 1-1
1.2 Site Description ..... 1-1
1.3 Project Description ..... 1-1
1.4 Objectives of the Report ..... 1-2
1.5 Reference Materials ..... 1-2
2 EVALUATION OF SEWERAGE IMPACT ..... 2-1
2.1 Existing Baseline Conditions ..... 2-1
2.2 Sewage Discharge for the Proposed Redevelopment ..... 2-1
2.3 Sewerage Impact During Operation Phase ..... 2-1
3 SEWERAGE ANALYSIS AND DISCUSSION ..... 3-1
3.1 Assumptions ..... 3-1
3.2 Methodology ..... 3-1
3.3 Results and Conclusions ..... 3-1

## List of Tables

Table 3.1: Parameters for Estimating Wastewater Generation from the Site ..... 3-1

## List of Figures

Figure 1.1: Site Location and its Environs ..... 1-3
Figure 2.1: Sewerage Layout Plan ..... 2-2

# 1 INTRODUCTION

## 1.1 Background

1.1.1 According to the Administration, it is the Government's established policy that Civil Service Housing Benefits (i.e., Departmental Quarters ("DQs") should, subject to the availability of resources, be provided to eligible civil servants as a type of housing benefit or for operational needs. It is envisaged that the demand for DQs will continue to rise. Therefore, it is proposed to redevelop Correctional Services Department ("CSD") Junior Staff Married Quarters bounded by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east ("the Site" or "the Project") to maximise the numbers of DQ units so as to achieve better utilization of land resources.

1.1.2 Part of the Site is zoned as 'Government, Institution or Community' ("G/IC") comprising two 4-storey blocks and one 3-storey block of CSD's Junior Staff Married Quarters. There is a strip of additional land to the south-east zoned G/IC. The strip of additional land to the north-west falls within 'Green Belt' ("GB") zone on the approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/13.

1.1.3 According to the Notes of OZP, the "G/IC" zone is subject to a maximum building height of four storeys excluding basements. The scope of the project is (a) to demolish the existing buildings on the subject site and (b) to construct a building of about 21 storeys which is beyond the scope of minor relaxation of building height restriction under the OZP.

1.1.4 According to the Notes of the OZP, 'Flat' use is under Column 2 of the "G/IC" and "GB" zones. To facilitate the redevelopment project of DQ, amendments to the OZP are required by rezoning the areas zoned "GB" and "G/IC" to "G/IC(1)" and to revise the maximum building height of the "G/IC" zone with 'Flat' as Column 1 uses.

1.1.5 SMEC is commissioned to carry out a Sewerage Impact Assessment ("SIA") of the Project, as one of the supporting reports, for amendments to the OZP for submission to the Rural and New Town Planning Committee of the TPB for approval and exhibition under Section 5 of the *Town Planning Ordinance* ("TPO").

## 1.2 Site Description

1.2.1 The Site is bounded by Siu Lam Road to the north-west and Hong Fai Road to the south-west with a total area of about 2,700m$^2$ in Siu Lam. Part of the Site is currently a vacant land overgrown with weeds and different tree groups, while part of the Site is covered by existing Siu Lam Psychiatric Centre Junior Staff Married Quarters.

1.2.2 The Site location and its environs are shown on ***Figure 1.1*** which the uses surrounding the Site include:

- To the north and northwest: dwellings
- To the east and northeast: natural landscape
- To the southeast: Integrated Rehabilitation Services Complex at Ex-Siu Lam Hospital Site
- To the south and west: Tuen Mun Road, Castle Peak Road (Tai Lam), CSD Married Staff Quarters.

## 1.3 Project Description

The Proposed Redevelopment will involve the construction of a 21-storey building (including 4-storey of podium/carparks and 17-storey of residential units) with a site area of approximately 2,700m$^2$, a proposed plot ratio of 3.6 and a total gross floor area (GFA) of about 9,720m$^2$.

1.3.1 The Proposed Redevelopment will comprise the followings:

- Private carpark
- Podium
- Residential Units

## 1.4 Objectives of the Report

1.4.1 The objectives of this SIA Report are to:

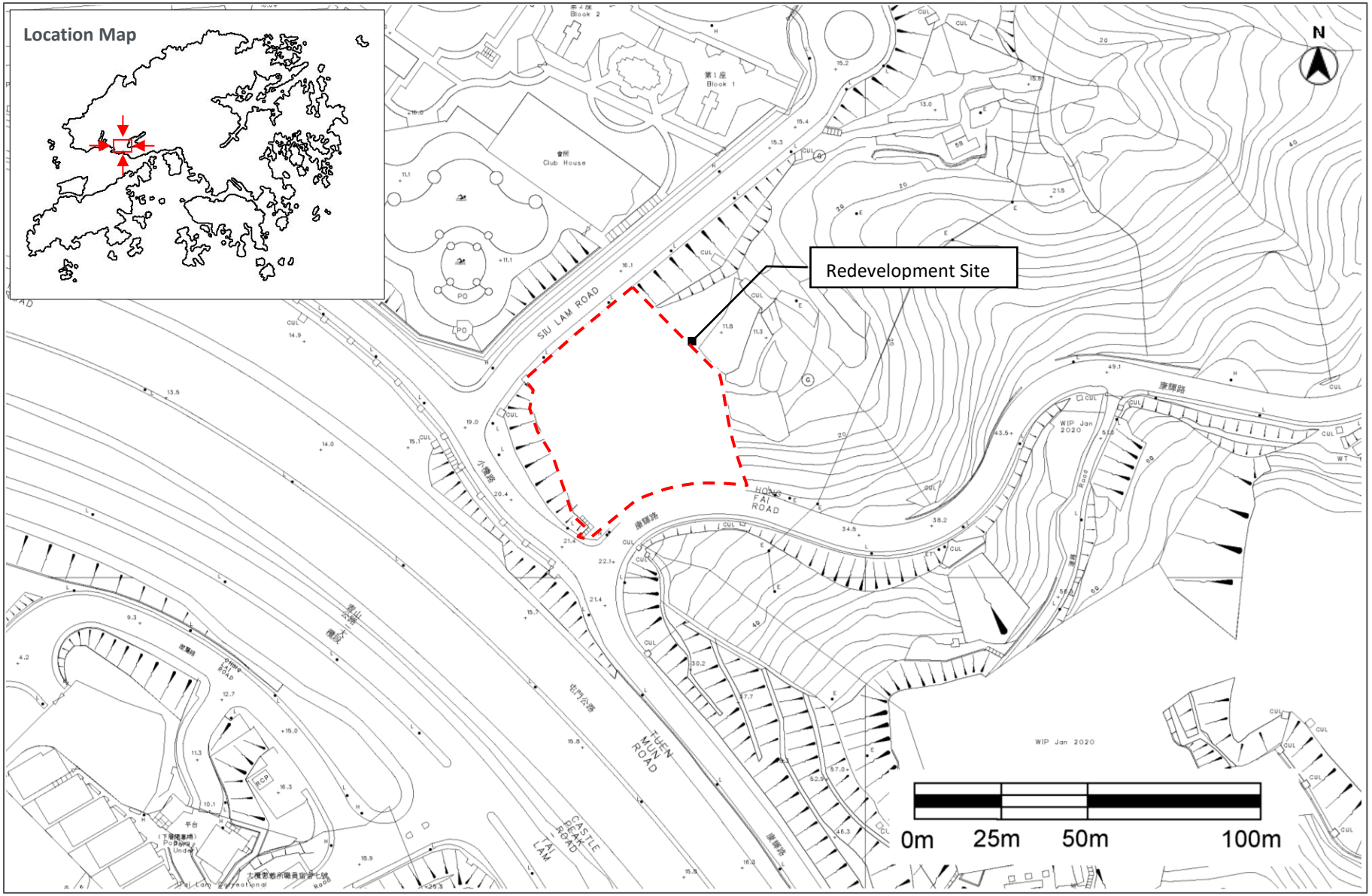
- Assess the potential sewerage impacts arising from the Project
- Recommend the necessary mitigation measures to alleviate the impacts

## 1.5 Reference Materials

1.5.1 In evaluating the sewerage impacts arising from the Proposed Redevelopment, the following sources have been specifically referred to:

- Drainage Services Department (DSD) publication *Sewerage Manual (with Eurocodes incorporated) (Part 1) Key Planning Issues and Gravity Collection System, Third Edition*, May 2013.
- Environmental Protection Department (EPD) publication *Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0*, March 2005, (GESF).
- Drainage Record Sheets (Sheet No. 6-SW-18D and 6-SW-19C)

*Figure 1.1: Site Location and its Environs*



# 2 EVALUATION OF SEWERAGE IMPACT

## 2.1 Existing Baseline Conditions

2.1.1 The pubic sewers in the vicinity of the Site are shown on ***Figure 2.1***.

2.1.2 With reference to the drainage record plans no. 6-SW-18D and 6-SW-19C obtained from DSD, there are existing municipal sewers in the vicinity of the Site with diameter of 500mm that runs from northwest of the Site.

2.1.3 The 500mm pipe at the northwest of the Site then flows further northwest along Siu Lam Tsuen Road. This 500mm pipe connects to a 600mm pipe before flow to the south across Tuen Mun Road and reach Castle Peak Road – Tai Lam.

## 2.2 Sewage Discharge for the Proposed Redevelopment

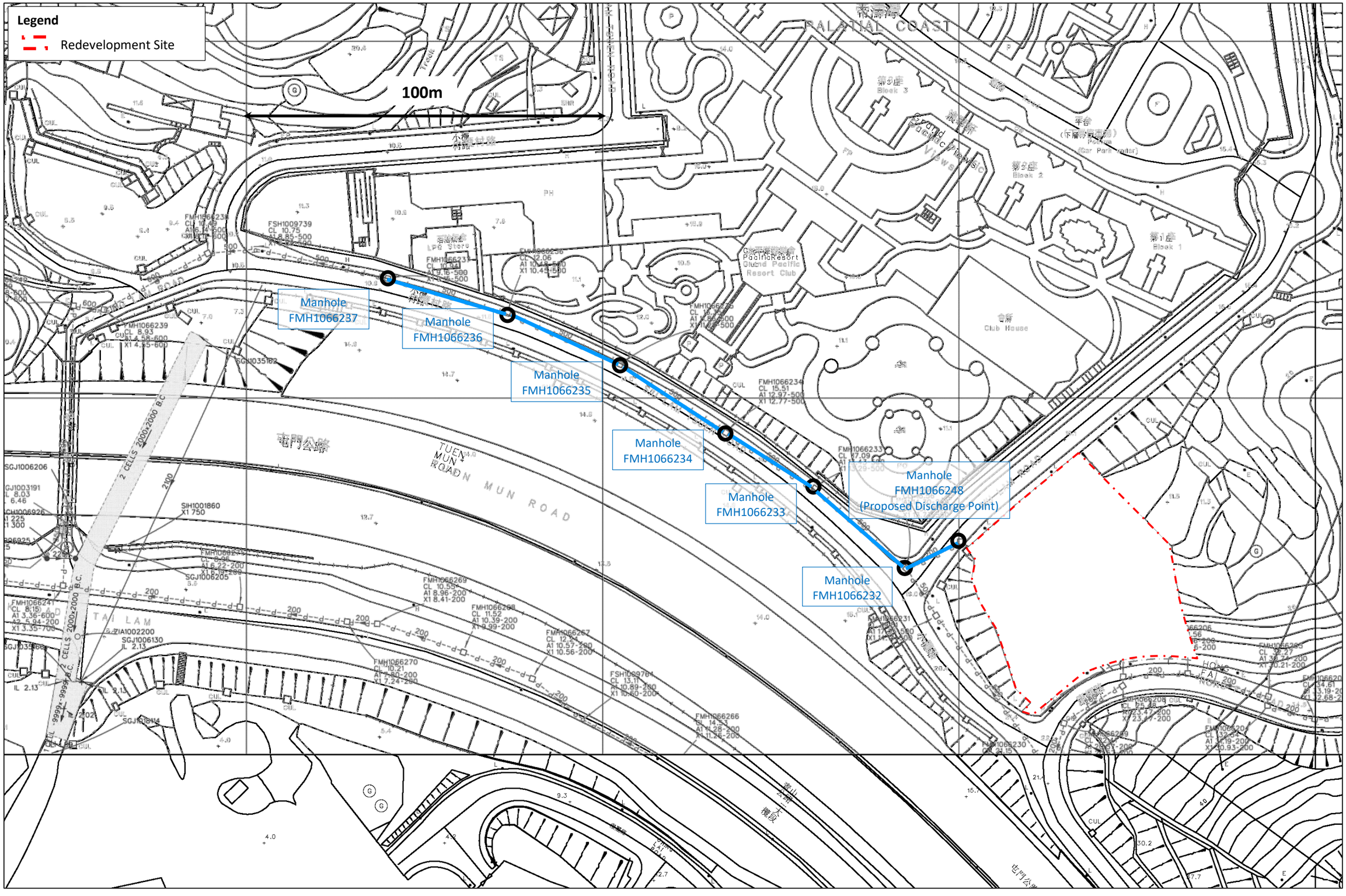
2.2.1 Sewage arising from the Proposed Redevelopment is proposed to be discharged to the municipal sewer at Manhole FMH1066248 to the northwest of the Site and flow through the existing sewer of 200mm to reach Manhole FMH1066232, then flow along a sewer pipe of 500mm diameter beneath Siu Lam Tsuen Road. The proposed sewerage connection to existing municipal sewer is shown ***Figure 2.1***.

## 2.3 Sewerage Impact During Operation Phase

2.3.1 During the operation of the Proposed Redevelopment, the major source of wastewater will be sewage from toilets generated by the residents.

2.3.2 Wastewater will be discharged to the Manhole FMH1066248 at the northwest of the Site and from there will flow along the public sewerage system beneath Siu Lam Tsuen Road.

*Figure 2.1: Sewerage Layout Plan*



# 3 SEWERAGE ANALYSIS AND DISCUSSION

## 3.1 Assumptions

3.1.1 In order to assess the acceptability of the sewerage impact arising from operation of the Proposed Redevelopment, the sewage generation has been estimated based on the assumptions shown in ***Table 3.1***. Unit Flow Factors (UFF), catchment inflow factors and peaking factors were made reference to GESF.

*Table 3.1: Parameters for Estimating Wastewater Generation from the Site*

| PARAMETER | VALUE | JUSTIFICATION |
|---|---|---|
| Generation from Residents | | |
| No. of Flats | 136 flats | Based on current scheme. |
| No. of Resident | 544 persons | As advised by Project Proponent, the average domestic household size of 4.0 was adopted. |
| UFF of Staff | 0.37$m^3$/day/staff | Type R3 of Private Housing in Table T-1 of GESF |
| Catchment Inflow Factor and Peaking Factor | | |
| Catchment Inflow Factor | 1.10 | Catchment inflow factor for Tuen Mun is adopted as stated in Table T-4 of GESF. |
| Peaking Factor | 8 for <1,000<br>6 for 1,000 – 5,000<br>5 for 5,000 – 10,000 | Peaking factor (including stormwater allowance) for facility with existing upstream sewerage is adopted as stated in Table T-5 of GESF. |

## 3.2 Methodology

3.2.1 In order to evaluate the capacities of sewers, the wastewater generation from the upstream and downstream catchments of the receiving sewers are estimated to further study the acceptability of the sewerage impact arising from operation of the Proposed Redevelopment.

3.2.2 The capacities of the downstream sewers have been calculated using Colebrook-White Equation for circular pipes flowing full, assuming full bore flow with no surcharge.

3.2.3 Flow capacities for pipe segments from the proposed discharged Manhole FMH1066248 all the way to Manhole FMH1066237 underneath Siu Lam Tsuen Road were calculated.

3.2.4 Sewerage systems are designed and sized to ensure that (when examined from any point) the downstream sections have sufficient capacity for the sewage flowing from all the sections upstream, provided that the capacity of the upstream sections is not exceeded.

3.2.5 Thus, if the sewerage system can provide sufficient receiving capacity for the cumulative sewage quantities generated from the Project and from the upstream catchments, there should be no unacceptable impact on the downstream sewerage system.

3.2.6 To evaluate the flow rate from staff in office and shops, as well as visitors to shops, the UFFs as recommended in GESF have been used.

## 3.3 Results and Conclusions

3.3.1 Sewer from the Site will be discharged to Manhole FMH1066248 then further to Manhole FMH1066232 flow northwest through a 200mm sewer pipe then flow further northwest along Siu Lam Tsuen Road through a 500mm sewer pipe.

3.3.2 The capacity of the sewerage system has been evaluated while sewage from other properties/uses upstream and downstream discharged to the sewerage system between the Manhole FMH1066248 to Manholes FMH1066237 have been also taken into account in the evaluation.

3.3.3 The sewerage analysis showed that less than 100% of the available capacity will be used and so there should be no unacceptable impact on the existing sewerage system resulting from the addition of the Proposed Redevelopment.

## local people
## global experience

SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.

**www.smec.com**

小欖

Siu Lam

# Annex F -
## Traffic Impact Assessment

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

## Traffic Impact Assessment Study
## Final Report

## August 2022

Ozzo Technology (HK) Ltd
14/F, EIB Tower
No. 4-6 Morrison Hill Road
Wan Chai, Hong Kong
Tel: 3488 5449 Fax: 3020 0370
http:// www.ozzotec.com

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

## Traffic Impact Assessment Study
## Final Report
## August 2022

## Contents Amendment Record

This report has been issued and amended as follows:

| Revision | Description | Prepared / Date | Checked / Date | Approved / Date |
|---|---|---|---|---|
| 5S_a | Final Report | 07/07/2022 LL | 07/07/2022 OC | 25/07/2022 OC |
| 5S_b | Final Report | 11/08/2022 LL | 11/08/2022 OC | 11/08/2022 OC |
| | | | | |
| | | | | |

# CONTENT

**Page**

**1 INTRODUCTION 1**
1.1 Background 1
1.2 Study Objectives 1
1.3 Report Structure 2

**2 THE PROPOSED REDEVELOPMENT 3**
2.1 Site Location and Study Area 3
2.2 The Proposed Redevelopment Parameters 3
2.3 Proposed Parking and Loading / Unloading Provisions 3
2.4 Vehicular Access Arrangement 4

**3 EXISTING TRAFFIC CONDITION 5**
3.1 Existing Road Network 5
3.2 Existing Public Transport Services 5
3.3 Existing Peak Hour Traffic 7
3.4 Adjusted 2021 Traffic Flows 8

**4 FUTURE TRAFFIC SITUATION 9**
4.1 Design Year 9
4.2 Methodology 9
4.3 Historical Traffic Growth 10
4.4 Future Development Intensity in the Area 10
4.5 2032 Background Traffic Flows 11
4.6 2032 Reference Traffic Flows 11
4.7 Development Trip Generations 12
4.8 2032 Design Traffic Flows 13

**5 TRAFFIC IMPACT ASSESSMENTS 14**
5.1 Junction and Road Link Capacity Assessments 14
5.2 Pedestrian Impact Assessment 16
5.3 Public Transport Requirements 18

**6 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT 19**
6.1 Construction Traffic 19
6.2 Junction and Link Capacity Assessments 19

**7 SUMMARY AND CONCLUSION 21**
7.1 Summary 21
7.2 Conclusions 22

# LIST OF TABLES

| | | Page |
|---|---|---|
| Table 2-1 | Summary of Proposed Redevelopment Parameters | 3 |
| Table 2-2 | Proposed Parking and Loading/ Unloading Provisions | 4 |
| Table 3-1 | Public Transport Services in the Study Area | 5 |
| Table 3-2 | Passenger Car Unit Conversion Factors | 8 |
| Table 4-1 | Historical Traffic Data from Annual Traffic Census (2013-2018) | 10 |
| Table 4-2 | 2016-Based TPEDM for Northwest New Territories | 11 |
| Table 4-3 | Estimated Peak Hour Trip Generations by IRSC | 12 |
| Table 4-4 | Peak Hour Development Traffic Generations/ Attractions | 12 |
| Table 5-1 | 2032 Peak Hour Performance at Key Junctions | 14 |
| Table 5-2 | 2032 Peak Hour Performance at Key Road Links | 15 |
| Table 5-3 | 2032 Level of Services (LOS) of Pedestrian Footpaths | 17 |
| Table 5-4 | 2032 Operational Performance of the Cautionary Crossing (P4) | 17 |
| Table 5-5 | 2032 Operational Performance of the Signal Crossing (P6) | 17 |
| Table 6-1 | 2028 Peak Hour Performance at Key Junctions | 19 |
| Table 6-2 | 2028 Peak Hour Performance at Key Road Links | 20 |

# LIST OF FIGURES

Figure 2-1 Site Location and Study Area
Figure 2-2 Proposed Vehicular Access and Parking Arrangements on Ground Floor
Figure 2-3 Proposed Parking Arrangement on Upper Ground Floors (UG1/F and UG2/F)
Figure 3-1 Existing Public Transport Inventory
Figure 3-2 Locations of Traffic Surveys
Figure 3-3 2021 Observed Peak Hour Traffic Flows
Figure 3-4 2021 Projected Peak Hour Traffic Flows
Figure 4-1 2032 Reference Peak Hour Traffic Flows
Figure 4-2 Additional Peak Hour Development Traffic Flows
Figure 4-3 2032 Design Peak Hour Traffic Flows
Figure 5-1 Major Pedestrian Routes between the Subject Site and Nearby Bus Stops

# APPENDIX

Appendix A Swept Path Assessment Results

# 1 INTRODUCTION

## 1.1 Background

1.1.1 The Subject Site is situated at Hong Fai Road in Siu Lam. The area of the Subject Site is about 2,700m$^2$ with 1,844m$^2$ of the existing "Government, Institution or Community" ("G/IC") site consisting of two 4-storey blocks and one 3-storey block of Junior Staff Married Quarters for Correctional Services Department. There is a strip of additional land to the north-west and the future vehicular access falls within "Green Belt" (GB) zone on the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 (the OZP).

1.1.2 To facilitate the redevelopment project of departmental quarter ("Proposed Redevelopment") at the Subject Site, amendment is required to the OZP by rezoning the areas (from GB to G/IC) and to revise the maximum building height of the "G/IC" zone with "Residential institution" and "Flat" as Column 1 uses.

1.1.3 Ozzo Technology (HK) Limited are commissioned to undertake a Traffic Impact Assessment (TIA) Study to assess the traffic impact to be induced by the Proposed Redevelopment on the road network in the vicinity of the Subject Site.

## 1.2 Study Objectives

1.2.1 The objectives of the TIA study are as follows:

- To review the existing traffic conditions of the adjacent road network;
- To estimate the potential traffic generation due to the Proposed Redevelopment;
- To assess the future traffic situation in the surrounding road network;
- To appraise the potential traffic impact of the Proposed Redevelopment on the surrounding road network;
- To recommend improvement proposals, if required; and
- To advise on the internal transport arrangements.

## 1.3 Report Structure

1.3.1 Following this introductory chapter, this report is arranged as follow:

- Chapter 2 describes the Proposed Redevelopment and internal transport provisions;
- Chapter 3 summarizes the existing traffic conditions within the Study Area;
- Chapter 4 provides traffic forecast for the Design Year;
- Chapter 5 presents the traffic and pedestrian impact assessment results;
- Chapter 6 provides the construction traffic impact assessment; and
- a summary of the findings and conclusions of this study is given in Chapter 7.

# 2 THE PROPOSED REDEVELOPMENT

## 2.1 Site Location and Study Area

2.1.1 **Figure 2-1** shows the location of the Subject Site, which is bounded by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east. Beyond the north-west boundary across Siu Lam Road, there is a private development, namely, Palatial Coast.

2.1.2 **Figure 2-1** also shows the proposed Study Area for this TIA Study which includes the key junctions in the vicinity of the Subject Site.

## 2.2 The Proposed Redevelopment Parameters

2.2.1 There are currently three existing department quarters (DQ) buildings (two 4-storey blocks and one 3-stoery block) comprising 39 DQ units. The Proposed Redevelopment is to demolish the existing buildings and construct a 21-storey building compromising a total of 136 DQ units.

2.2.2 **Table 2-1** summarizes the Proposed Redevelopment parameters.

**Table 2-1 Summary of Proposed Redevelopment Parameters**

| Parameters | Proposed |
|---|---|
| Site Area | Approx. 2,700m$^2$ |
| Total GFA | Approx. 9,720m$^2$ |
| Plot Ratio | 3.6 |
| Total No. of DQ units | 136 |

## 2.3 Proposed Parking and Loading / Unloading Provisions

2.3.1 **Table 2-2** summarizes the car parking and loading/ unloading (L/UL) provisions for the Proposed Redevelopment.

**Table 2-2 Proposed Parking and Loading/ Unloading Provisions**

| Type | Vehicle Type | Proposed Provision | Proposed Size |
|---|---|---|---|
| Parking Space | Private Car (1)<br>(including Accessible Car(2) )<br>Visitor Car(2)<br>**Total** | 54<br>(2)<br>5<br>**59** | 5m x 2.5m<br>(5m x 3.5m)<br>5m x 2.5m |
| | Motorcycle (3) | 10 | 2.4m x 1m |
| Loading/ Unloading Space | Goods Vehicle(2) | 1 | 11m x 3.5m |

*Notes: (1) The proposed number of car parking spaces for resided staff is in accordance with the requirement for departmental staff quarter (i.e. 1 space per 2.5 DQ units).*
*(2) The proposed provisions are in accordance with the HKPSG requirement (Private Housing).*
*(3) The proposed number of motorcycle parking spaces for resided staff is in accordance with the requirement for departmental staff quarter (i.e. 1 space per 15 DQ units).*

2.3.2 **Figure 2-2** and **Figure 2-3** show the proposed parking and loading/unloading arrangements at G/F, UG1/F and UG2/F. A total of 59 car parking spaces (including 2 accessible car parking spaces) and 10 motorcycle parking spaces will be provided on G/F–UG2/F and the loading/unloading space for goods vehicle will be provided on the G/F.

2.3.3 In addition, one pick-up/drop-off bay for car/taxis will be provided on the G/F. The swept path assessment results are shown in **Appendix A**.

## 2.4 Vehicular Access Arrangement

2.4.1 **Figure 2-2** shows the proposed vehicular access for the Proposed Redevelopment. As shown in the figure, the vehicular access will be located at Siu Lam Road similar to the existing situation.

2.4.2 The swept paths of a Heavy Goods Vehicle (HGV) entering and leaving the Proposed Redevelopment via the vehicular access are shown in **Appendix A**.

# 3 EXISTING TRAFFIC CONDITION

## 3.1 Existing Road Network

3.1.1 Taking into account the vehicle access/ exit routes to/ from the Subject Site, **Figure 2-1** shows the proposed Study Area for this TIA Study and which includes all the key roads and junctions in the vicinity of the Subject Site.

3.1.2 The Subject Site is bounded by Siu Lam Road to the southwest and northwest, and Hong Fai Road to the southeast. Both Siu Lam Road and Hong Fai Road are single 2-lane carriageway roads providing local access to nearby developments. Hong Fai Road connects with Castle Peak Road – Tai Lam to the south.

3.1.3 Castle Peak Road – Tai Lam is a Rural Road and connects with Tuen Mun Road which is an Expressway and part of the New Territories Circular Road.

## 3.2 Existing Public Transport Services

3.2.1 **Figure 3-1** shows the existing public transport provisions in the vicinity of the Subject Site. Details of the existing public transport services described in **Table 3-1**.

**Table 3-1 Public Transport Services in the Study Area**

| Route No. | Termination Points | | Frequency (Mins) |
|---|---|---|---|
| **Franchised Bus Services** | | | |
| KMB 53 | Yoho Mall (Yuen Long) | Tsuen Wan (Nina Tower) | Daily service every 30-35 minutes |
| KMB 52X | Mong Kok (Park Avenue) | Tuen Mun Central | Daily service every 10-15 minutes |
| | So Kwun Wat | Tuen Mun Central | Weekday AM Peak service at 08:00 |
| KMB 57M | Tuen Mun (Shan King Estate) | Lai King (North) | Daily service every 15-20 minutes |
| KMB 58M | Tuen Mun (Leung King Estate) | Kwai Fong Station | Daily service every 4-9 minutes |
| | Kin Sang | Kwai Fong Station | Mon-Sat AM Peak service |
| | Po Tin | Kwai Fong Station | Mon-Sat AM Peak service |
| KMB 59M | Tuen Mun Pier Head | Tsuen Wan Station | Daily service every 10-15 minutes |
| | Sun Tuen Mun Centre | Tsuen Wan Station | Mon-Sat AM Peak service |
| | Yuet Wu Villa | Tsuen Wan Station | Mon-Sat AM Peak service |
| KMB 59X | Tuen Mun Pier Head | Mong Kok East Station | Daily service every 3-12 minutes |
| | Sun Tuen Mun Centre | Mong Kok East Station | Mon-Sat AM Peak service at 07:15 |
| | Lung Mun Oasis | Mong Kok East Station | Mon-Sat AM Peak service |
| KMB 60M | Tuen Mun station | Tsuen Wan Station | Daily service every 10-15 minutes |
| KMB 60X | Tuen Mun Central | Jordan (West Kowloon Station) | Daily service every 7-12 minutes |
| KMB 61M | Lai King (North) | Yau Oi (South) | Daily service every 12-15 minutes |
| KMB 61A | Yau Oi (South) | Tuen Mun Rd. Interchange (Urban Bound) | Weekday service depart at 06:50 |

| Route No. | Termination Points | | Frequency (Mins) |
|---|---|---|---|
| KMB 61X | Tuen Mun Central | Kowloon City Ferry | Daily service every 10-20 minutes |
| KMB 63X | Hung Shui Kiu (Hung Fuk Estate) | Jordan (West Kowloon Station) | Daily service every 20-30 minutes |
| KMB 66M | Tuen Mun (Tai Hing Estate) | Tsuen Wan Station | Daily service every 12-20 minutes |
| KMB 66X | Tuen Mun (Tai Hing Estate) | Olympic Station | Daily service every 10-20 minutes |
| KMB 67M | Tuen Mun (Siu Hong Court) | Kwai Fong Station | Daily service every 8-13 minutes |
| KMB 67X | Tuen Mun (Siu Hong Court)) | Mong Kok East Station | Daily service every 10-20 minutes |
| KMB 68A | Long Ping Estate | Tsing Yi Station | Daily service every 15-20 minutes |
| KMB 252 | So Kwun Wat | Tuen Mun Road Interchange | Daily service every 15-20 minutes |
| KMB 252X | Lam Tin Station | Handsome Court | Weekday AM Peak service at 07:15<br>Weekday PM Peak service at 18:05 |
| | So Kwun Wat | Handsome Court | Weekday AM Peak service at 07:35 |
| KMB N252 | Mei Foo | Tuen Mun (Sam Shing Estate) | Daily services at 01:05,01:35 |
| KMB 252B | Handsome Court | Tsim Sha Tsui | Mon-Sat. AM Peak services at 07:20,07:35,07:50 |
| KMB 258D | Tuen Mun (Po Tin Estate) | Lam Tin Station | Daily service every 10-15 minutes |
| KMB 258X | Tuen Mun (Po Tin Estate) | Kwun Tong Ferry | Weekday AM Peak service at 07:35 |
| KMB 259D | Tuen Mun (Lung Mun Oasis) | Lei Yue Mun Estate | Daily service every 12-20 minutes |
| | Tuen Mun Pier Head (Siu Hei Court) | Lei Yue Mun Estate | Mon-Sat AM Peak services at 06:55,07:10,07:25,07:40 |
| KMB 259X | Tuen Mun (Lung Mun Oasis) | Kwun Tong Ferry | Weekday AM Peak services at 07:00,07:15,07:30 |
| KMB 259E | Lung Mun Oasis | Tsuen Wan Station | Weekday service at AM peak |
| KMB 261B | So Kwun Wat | Kowloon Station | Weekday AM Peak services at 07:35,07:50 |
| | Sam Shing | Kowloon Station | Mon-Sat AM Peak service |
| KMB N260 | Tuen Mun Pier Head | Mei Foo | Mon-Sat service every 20-30 minutes from 00:00-05:30 |
| KMB 260X | Tuen Mun (Po Tin Estate) | Hung Hom Station | Daily service every 10-15 minutes |
| KMB 263 | Tuen Mun station | Shatin Station | Daily service every 12-15 minutes |
| KMB 263A | Tuen Mun station | Hong Kong Science Park | Weekday AM Peak services at 07:25,07:35 |
| KMB 263C | Tuen Mun station | Tai Po Industrial Estate | Weekday AM Peak service<br>Weekday PM Peak service |
| KMB 960 | Tuen Mun (Kin Sang Estate) | Wan Chai North | Daily service every 4-15 minutes |
| | Tuen Mun (Kin Sang Estate) | Wan Chai (Fleming Road) | Daily service every 4-15 minutes |
| KMB 960A | Central | Hung Shui Kiu (Hung Fuk Estate) | Weekday PM Peak service at 18:30 |
| KMB 960C | Tuen Mun (Fu Tai Estate) | Causeway Bay (Victoria Park) | Weekday AM Peak services at 07:00,07:15 |
| KMB 960P | Hung Shui Kiu (Hung Yuen Road) | Causeway Bay (Victoria Park) | Daily AM Peak service |
| KMB 960S | Tuen Mun (Fu Tai Estate) | Causeway Bay (Victoria Park) | Mon-Sat AM Peak service |
| KMB 960X | Hung Shui Kiu (Hung Yuen Road) | Quarry Bay (King'S Road) | Weekday service at AM peak |
| KMB P960 | Tuen Mun (Leung King Estate) | Causeway Bay (Victoria Park) | Daily service every 30-45 minutes |
| KMB 961 | Tuen Mun (Shan King Estate) | Wan Chai (HKCECE) | Daily service every 7-15 minutes |
| KMB 961P | Tuen Mun (Leung King Estate) | Causeway Bay (Victoria Park) | Weekday service depart at 07:35 |
| KMB 961S | Siu Ong Station (North) | Wan Chai North | Weekday AM Peak service at 07:30 |

| Route No. | Termination Points | | Frequency (Mins) |
|---|---|---|---|
| CTB 962 | Tuen Mun (Lung Mun Oasis) | Causeway Bay (Moreton Terrace) | Daily service every 15-20 minutes |
| CTB 962X | Tuen Mun (Lung Mun Oasis) | Causeway Bay (Moreton Terrace) | Daily service every 10-25 minutes |
| CTB 962B | Tuen Mun (Chi Lok Fa Yuen)) | Causeway Bay (Moreton Terrace) | Daily service every 10-20 minutes |
| | Tuen Mun (Chi Lok Fa Yuen) | Admiralty (West) | Daily service every 10-20 minutes |
| CTB 962P | Lung Mun Oasis | Causeway Bay (Moreton Terrace) | Mon-Sat service every 3-10 minutes |
| CTB 962N | Tuen Mun (Chi Lok Fa Yuen)) | Causeway Bay (Moreton Terrace) | Daily services at 00:50,01:10<br>Daily services at 05:10,05:40 |
| CTB 962E | So Kwun Wat | Taikoo (Kornhill Plaza) | Weekday AM Peak services at 07:15,07:30<br>Weekday PM Peak service at 18:15 |
| CTB 962S | Tuen Mun (Chi Lok Fa Yuen) | Causeway Bay (Moreton Terrace) | Weekday service at AM peak |
| | So Kwun Wat | Causeway Bay (Moreton Terrace) | Weekday AM Peak service at 07:30 |
| CTB N969 | Causeway Bay (Moreton Terrace) | Tin Shui Wai Town Centre Citybus | Overnight service every 20-30 min |
| LWB A33 | Tuen Mun road interchange | Airport | Daily service every 20-30 minutes |
| | Tuen Mun road interchange | Airport (Via Asia-World Expo) | Daily AM Peak services at 06:15,06:45 |
| | Tuen Mun road interchange | Airport (Via So Kwun Wat) | Daily AM Peak services at 05:15,05:45 |
| MTR K51 | Fu Tai | Tai Lam | Daily service every 5-12 minutes |
| CTB N962 | Tuen Mun (Lung Mun Oasis) | Causeway Bay (Moreton Terrace) | Overnight service every 30 minutes |
| **Public Light Bus Services** | | | |
| GMB 140M | Tsing Yi Station | Tuen Mun (Hanford Garden) | Daily service every 14-15 minutes |
| GMB 43B | Tai Lam Chung | Tuen Mun Town Centre | Daily service every 18-30 minutes |

## 3.3 Existing Peak Hour Traffic

3.3.1 To gain an understanding of the existing traffic condition in the Study Area, classified turning movement counts were undertaken at the key junctions in the vicinity of the Subject Site on 23 February 2021 (Tuesday) over the peak periods of 07:00 to 10:00 and 16:00 to 19:00. **Figure 3-2** shows the locations of the surveyed junctions.

3.3.2 All vehicle flows in the subsequent analysis have been converted to passenger car unit (PCU) based on the PCU factors as indicated in Table 2.3.1.1 of Volume 2 of Transport Planning and Design Manual (TPDM) and shown in **Table 3-2**.

**Table 3-2 Passenger Car Unit Conversion Factors**

| Vehicle Type | PCU Conversion Factor |
|---|---|
| | Priority / Roundabout Junction |
| Car / Taxi | 1.00 |
| Public Light Bus / Minibus | 1.50 |
| Light Goods Vehicle | 1.50 |
| Medium/ Heavy Goods Vehicle | 2.80 |
| Bus / Coach | 2.80 |

*Source: Table 2.3.1.1, Chapter 2.3, Volume 2, TPDM-2020*

3.3.3 By applying the above PCU factors, vehicular traffic flows in PCUs are calculated and the AM and PM peak hour is identified to occur at 07:15 - 08:15 and 17:30 - 18:30 respectively. **Figure 3-3** presents the 2021 observed AM and PM peak hour traffic flows on the road network in the vicinity of the Subject Site.

3.3.4 Based in the existing traffic flows, it is identified that all the key junctions and road links within the Study Area operate satisfactorily during the AM and PM peak hours in 2021.

## 3.4 Adjusted 2021 Traffic Flows

3.4.1 To address the potential impact due to the pandemic in 2020/2021, a comparison of the 2021 observed flows at Tuen Mun Road is made with the historical traffic flows recorded on the corresponding link at ATC Core Station No. 5012 (Tuen Mun Road Between Sham Tseng and Tsing Long Highway - Ting Kau Bridge).

3.4.2 It is noted that the 2021 Survey Flows are in general higher than the 2021 Projected Flows with the exception of the westbound traffic in the PM peak hour (i.e. -2.2%). To provide conservative estimates, hence, the 2021 survey data are increased by +3% to derive the 2021 Adjusted Flows. The resulting 2021 Adjusted AM and PM Peak Hour Flows are shown in **Figure 3-4** and are adopted as the baseline situation in subsequent assessments.

# 4 FUTURE TRAFFIC SITUATION

## 4.1 Design Year

4.1.1 The planned operation year of the Proposed Redevelopment is 2029, hence, the "Design Year" for this TIA study is set as 2032, i.e. 3 years after the operation year.

## 4.2 Methodology

4.2.1 In forecasting the future traffic flows on the road network in the Study Area, references are made to the following sources of information which include:

- Historical traffic data from Annual Traffic Census (ATC);
- The forecast population and employment from the 2016-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department; and
- Committed and Planned developments in the Study Area.

4.2.2 The following steps are undertaken to derive the 2032 Peak Hour Reference Flows (i.e. without the Proposed Redevelopment) and Design Flows (i.e. with the Proposed Redevelopment):

| | |
|---|---|
| 2032 Background Flows = | 2021 Adjusted Flows x annual growth factors |
| 2032 Reference Flows = | 2032 Background Flows + additional traffic generated by planned developments |
| 2032 Design Flows = | 2032 Reference Flows + additional traffic generated by the proposed redevelopment |

4.2.3 The traffic impact to be induced by the Proposed Redevelopment is assessed by comparing the 2032 Peak Hour Reference Traffic Flows against the 2032 Design Traffic Flows.

## 4.3 Historical Traffic Growth

4.3.1 To understand the historic trends of traffic growth in the area, reference was made to the 2013 to 2018 Annual Traffic Census (ATC) data as indicated in **Table 4-1**. The traffic data in 2019 and 2020 are excluded due to the occurrence of social activities and COVID-19 respectively.

**Table 4-1 Historical Traffic Data from Annual Traffic Census (2013-2018)**

| Station | Road | Between | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Average Growth Rate p.a. |
|---|---|---|---|---|---|---|---|---|---|---|
| 6052 | Castle Peak Rd - So Kwun Wat & Castle Peak Bay | Siu Lam | Sam Shing St | 19,070 | 18,870 | 18,710 | 19,490 | 19,600 | 20,270 | 1.23% |
| | | | | -- | -1.05% | -0.85% | 4.17% | 0.56% | 3.42% | |
| 5657 | Castle Peak Rd - Sham Tseng, Tsing Lung Tau & Tai Lam | Sham Tseng | Siu Lam | 11,120 | 11,000 | 11,060 | 12,350 | 12160 | 12,460 | 2.30% |
| | | | | -- | -1.08% | 0.55% | 11.66% | -1.54% | 2.47% | |
| 5855 | Tuen Mun Rd | Sham Tseng | Siu Lam | 93,850 | 93,250 | 97,570 | 111,100 | 110,150 | 113,660 | 3.90% |
| | | | | -- | -0.64% | 4.63% | 13.87% | -0.86% | 3.19% | |
| 5857 | Tuen Mun Rd – Siu Lam INT slip rds | Tuen Mun Rd | Castle Peak Rd | 17,390 | 17,200 | 17,060 | 11,610 | 9960 | 10,210 | -10.10% |
| | | | | -- | -1.09% | -0.81% | -31.95% | -14.21% | 2.51% | |
| 6050 | Tuen Mun Rd | Siu Lam | Wong Chu Rd | 96,060 | 95,450 | 99,870 | 105,500 | 97,680 | 102,290 | 1.26% |
| | | | | -- | -0.64% | 4.63% | 5.64% | -7.41% | 4.72% | |
| **TOTAL** | | | | **237,490** | **235,770** | **244,270** | **260,050** | **249,550** | **258,890** | **1.74%** |
| | | | | **--** | **-0.72%** | **3.61%** | **6.46%** | **-4.04%** | **3.74%** | |

*Source: 2013-2018 Annual Traffic Census (ATC) Reports published by Transport Department*

4.3.2 As indicated in **Table 4-1**, there was an increase of traffic volume (+1.74% per annum) on the road network in the vicinity of the Subject Site over the 5-year period from 2013 – 2018.

## 4.4 Future Development Intensity in the Area

4.4.1 As both Tuen Mun Road and Castle Peak Road in the Study area are major strategic roads serving North West New Territories (NWNT) including Tuen Mun, Tin Shui Wai and Yuen Long districts, hence, the 2016-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department for NWNT is referenced. **Table 4-2** presents the population and employment data in Northwest New Territories for 2021 and 2026.

**Table 4-2 2016-Based TPEDM for Northwest New Territories**

| Category | 2021 | 2026 | % Growth p.a. 2021 - 2026 |
|---|---|---|---|
| Population | 1,161,450 | 1,252,900 | 1.53% |
| Employment Places | 295,100 | 312,350 | 1.14% |
| Total | 1,456,550 | 1,565,250 | 1.45% |

*Source: 2016-based TPEDM published by Planning Department (December 2019)*

4.4.2 As shown in the table, the predicted growth of population and employment places in Northwest New Territories from 2021 to 2026 is approximately +1.53% and +1.14% per annum respectively.

## 4.5 2032 Background Traffic Flows

4.5.1 Taking into account of the above factors, it is proposed to adopt an average growth rate of +1.74% per annum, with reference to the historical growth in **Table 4-1** which is higher than the development growth in the NWNT area as shown in **Table 4-2,** to estimate the 2032 peak hour Background Traffic Flows in the Study Area.

4.5.2 Hence, by applying the annual growth factor of +1.74% to the 2021 Adjusted peak hour traffic flows, the 2032 Background Peak Hour Traffic Flows are calculated.

## 4.6 2032 Reference Traffic Flows

4.6.1 An Integrated Rehabilitation Services Complex is currently under construction by Social Welfare Department at Hong Fai Road, Siu Lam (namely “Ex-Siu Lam Hospital Site an Integrated Rehabilitation Services Centre (IRSC)”). The rehabilitation complex will provide day care and psychiatric services with 1,150 residential places for the severely mentally handicapped, the moderately mentally handicapped and the severely physically disabled people. It is expected that the services complex will start operation in 2022. To estimate the peak hour traffic flows to be induced by this new development, referenced is made to Kwai Chung Hospital which is a hospital campus provides full range of psychiatric services and also situated at a hilly environment similar to the new complex in Siu Lam. The estimated trips are summarized in **Table 4-3**.

**Table 4-3 Estimated Peak Hour Trip Generations by IRSC**

| | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | In | Out | In | Out |
| Observed Trip Rates (pcu/hr/bed)(1) | 0.1305 | 0.0438 | 0.0292 | 0.0699 |
| Estimated Trip Generations (pcu/hr) | 150 | 50 | 34 | 80 |

*Notes: (1) Peak Hour trip rates by Kwai Chung Hospital (March 2017)*

4.6.2 Apart from the above new development, according to the published information from Town Planning Board, there is no other major planned or committed development within and in the vicinity of the Study Area.

4.6.3 Hence, by adding the above peak hour trip generations to the 2032 Peak Hour Background Flows, the 2032 Peak Hour Reference Flows (i.e. without the Proposed Redevelopment) are derived and shown in **Figure 4-1**.

## 4.7 Development Trip Generations

4.7.1 In order to estimate the amount of vehicular traffic to be induced by the Proposed Redevelopment, references are made to the pear hour trip generation rates observed at various disciplinary staff quarters as indicated in **Table 4-4**. The trip rates in TPDM for private housing are also shown in the table.

**Table 4-4 Peak Hour Development Traffic Generations/ Attractions**

| | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | In | Out | In | Out |
| **Observed Trip Rates (pcu/hour/flat)** | | | | |
| DQ at Subject Site (39 Flats) | 0.026 | 0.077 | 0.077 | 0.051 |
| DQ site at Sui Man Road, Chai Wan (192 units) | 0.058 | 0.163 | 0.104 | 0.095 |
| DQ site at Yau Yue Wan Village Road (320 flats) | 0.036 | 0.149 | 0.134 | 0.072 |
| TPDM Private Housing: Medium-Density / R(B) [Accessibility Level = B] / Upper Limits | **0.146** | **0.223** | **0.150** | **0.138** |
| **Trip Generations by Proposed Redevelopment (136 Flats)** | | | | |
| **TPDM** Trip Rate (pcu/hour/flat)(1) | 0.146 | 0.223 | 0.150 | 0.138 |
| Estimated Trip generations (pcu/hr) | 20 | 30 | 20 | 19 |
| Total 2-way Trips (pcu/hr) | 50 | | 39 | |

*Notes: (1) Trip rates extracted from TPDM - Private Housing: Medium-Density / R(B) [Accessibility Level = B]*

4.7.2 As shown in **Table 4-4**, it is noted that as disciplinary staff have to working on shift basis, the trip rates observed at the existing DQ sites are generally lower than the TPDM trip rates for private housing. To provide conservative estimates, the higher TPDM trip rates are adopted to estimate the additional traffic to be induced by the Proposed Redevelopment. As a result, totals of 50 pcu's (20 in and 30 out) and 39 pcu's (20 in and 19 out) are anticipated to be generated by the Proposed Redevelopment in the AM and PM peak hour respectively.

4.7.3 By deducting the existing traffic flows generated by the existing DQ units, i.e. 2-way traffic of 4 pcu's (1 in and 3 out) in the AM Peak and 5 pcu's (3 in and 2 out) in the PM peak hour, there would be a net increase of 46 pcu's (19 in and 27 out) and 34 pcu's (17 in and 17 out) in the AM and PM peak hour respectively after the redevelopment.

4.7.4 **Figure 4-2** shows the forecast additional AM and PM peak hour development flows on the road network in the study area.

## 4.8 2032 Design Traffic Flows

4.8.1 By adding the additional development traffic (**Figure 4-2**) onto the forecast 2032 Reference Peak Hour Flows (**Figure 4-1**), the 2032 Design Peak Hour Flows (i.e. with Proposed Redevelopment) are calculated and the results are shown in **Figure 4-3**.

# 5 TRAFFIC IMPACT ASSESSMENTS

## 5.1 Junction and Road Link Capacity Assessments

5.1.1 Based on the 2032 Reference Flows (i.e. without Proposed Redevelopment) and 2032 Design Flows (i.e. with Proposed Redevelopment), junction and link capacity assessments are undertaken and the results are presented in **Table 5-1** and **Table 5-2** respectively.

**Table 5-1 2032 Peak Hour Performance at Key Junctions**

| Jn. ID. | Location | Type | Capacity Index(1) | Reference | | Design | |
|---|---|---|---|---|---|---|---|
| | | | | AM Peak | PM Peak | AM Peak | PM Peak |
| J1 | Siu Lam Road / Access Road of Palatial Coast | Roundabout | DFC | 0.13 | 0.11 | 0.13 | 0.11 |
| J2 | Siu Lam Road / Siu Lam Tsuen Road | Priority | DFC | 0.30 | 0.20 | 0.33 | 0.22 |
| J3 | Hong Fai Road / Siu Lam Road | Priority | DFC | 0.48 | 0.28 | 0.55 | 0.32 |
| J4 | Castle Peak Road – Tai Lam / Hong Fai Road | Priority | DFC | 0.61 | 0.43 | 0.64 | 0.46 |
| J5 | Castle Peak Road – Tai Lam / Castle Peak Road – New Tai Lam | Roundabout | DFC | 0.43 | 0.50 | 0.44 | 0.51 |
| J6 | Castle Peak Road (Tai Lam) / Slip Road from Tuen Mun Road | Signalized | R.C.(C) | 100+% | 100+% | 100+% | 100+% |
| J7 | Castle Peak Road (Tai Lam) / Slip Road to Tuen Mun Road | Signalized | R.C.(C) | 100+% | 100+% | 100+% | 100+% |

*Notes: (1) The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)*
*The Capacity Index for Signalized Junction is Reserve Capacity (RC)*

**Table 5-2 2032 Peak Hour Performance at Key Road Links**

| No. | Location(1) | Direction | Flows (veh/hr) | Reference | | Design | |
|---|---|---|---|---|---|---|---|
| | | | | AM Peak | PM Peak | AM Peak | PM Peak |
| L1 | Hong Fai Road between Siu Lam Road and Castle Peak Road | N/B | Flows | 252 | 210 | 268 | 226 |
| | | | P/Df(2) | 0.36 | 0.30 | 0.38 | 0.32 |
| | | S/B | Flows | 267 | 189 | 291 | 204 |
| | | | P/Df(2) | 0.38 | 0.27 | 0.42 | 0.29 |
| L2 | Castle Peak Road between Siu Lam Interchange and Hong Fai Road | E/B | Flows | 564 | 746 | 574 | 757 |
| | | | P/Df(2) | 0.57 | 0.68 | 0.58 | 0.69 |
| | | W/B | Flows | 344 | 414 | 360 | 424 |
| | | | P/Df(2) | 0.34 | 0.40 | 0.35 | 0.41 |
| L3 | Slip Road between Tuen Mun Road and Siu Lam Interchange | N/B | Flows | 576 | 770 | 584 | 778 |
| | | | P/Df(2) | 0.52 | 0.70 | 0.53 | 0.71 |
| | | S/B | Flows | 393 | 336 | 405 | 344 |
| | | | P/Df(2) | 0.36 | 0.31 | 0.37 | 0.31 |
| L4 | Castle Peak Road between Hong Fai Road and off-slip Road from Tuen Mun Road | N/B | Flows | 536 | 727 | 542 | 732 |
| | | | P/Df(2) | 0.52 | 0.66 | 0.53 | 0.67 |
| | | S/B | Flows | 232 | 405 | 239 | 410 |
| | | | P/Df(2) | 0.23 | 0.37 | 0.23 | 0.37 |
| L5 | Off-slip Road from Tuen Mun Road | E/B | Flows | 341 | 489 | 341 | 494 |
| | | | P/Df(2) | 0.22 | 0.29 | 0.22 | 0.29 |
| L6 | On-slip Road from Tuen Mun Road | W/B | Flows | 478 | 756 | 487 | 763 |
| | | | P/Df(2) | 0.31 | 0.44 | 0.32 | 0.45 |

*Notes: (1) Refer to Figure 3-2 for link locations*
*(2) P/Df = Peak Hourly Flows/Design Flow Ratios (P/Df) for road links*

5.1.2 The assessment results indicated that all of the key junctions and road links in the vicinity of the Proposed Redevelopment would be operating within capacity during the AM and PM peak hour for both the 2032 Reference (without Proposed Redevelopment) and Design (with Proposed Redevelopment) scenarios.

5.1.3 As the amount of additional traffic to be generated by the Proposed Redevelopment are not significant, therefore, it can be concluded that the traffic generated by the Proposed Redevelopment would not cause significant traffic impact to the road network in the vicinity of the Subject Site.

## 5.2 Pedestrian Impact Assessment

5.2.1 To reveal the existing pedestrian conditions, pedestrian count surveys were also undertaken on 23 February 2021 between 07:00 – 19:00 on the footpaths and crossings along the major pedestrian desire lines in the vicinity of the Subject Site. **Figure 5-1** shows the major pedestrian route between the Subject Site and nearby bus stops. As the existing pedestrian flows are small, the concerned footpaths and pedestrian crossings along the major pedestrian route are found to perform satisfactorily with ample capacities.

5.2.2 To estimate the amount of pedestrian to be generated by the proposed redevelopment, references are made to the amount of walk trips recorded at several disciplinary staff quarters. It is estimated that totals of 78 pedestrians (52 out and 26 in) and 82 pedestrians (35 out and 47 in) would be generated by the Proposed Redevelopment in the AM and PM peak hour respectively.

5.2.3 Similar to the projection of vehicular traffic, the future pedestrian flows in the area are derived by applying the following factors:

i) the 2021 observed pedestrian flows are increased by +3% to derive the 2021 Adjusted Flows in order to reflect the potential impact due to COVID-19.

ii) There is no major development in the vicinity of the Site apart from the Integrated Rehabilitation Services Complex. The new hospital complex is situated at high level and hence the amount of pedestrians would be extremely small. Nevertheless, in order to provide conservative estimates, an annual average growth of +1.0% p.a. is applied to the 2021 Adjusted Flows to derive the 2032 Reference Flows (i.e. without Proposed Redevelopment).

iii) By adding the pedestrian flows to be induced by the Proposed Redevelopment to the 2032 Reference Flows, the 2032 Design Flows (i.e. with Proposed Redevelopment) at the key pedestrian links are calculated for subsequent assessments.

5.2.4 **Table 5-3**, **Table 5-4** and **Table 5-5** shows respectively the level of services (LOS) of the pedestrian footpaths and the operation performances of the concerned crossings along the major pedestrian route for both the 2032 Reference and Design scenarios.

**Table 5-3 2032 Level of Services (LOS) of Pedestrian Footpaths**

| Location(1) | Effective Footway Width(2) | 2032 Reference | | 2032 Design | |
|---|---|---|---|---|---|
| | | Peak 5-Minute Flow | Level of Service | Peak 5-Minute Flow | Level of Service |
| P1 | 1.0m | 12 | A | 28 | A |
| P2 | 1.1m | 12 | A | 28 | A |
| P3 | 1.2m | 40 | A | 56 | A |
| P5 | 2.0m | 37 | A | 53 | A |

*Notes: (1) Refer to Figure 5-1*
*(2) Effective width = Narrowest section minus 0.5m shy zone*

**Table 5-4 2032 Operational Performance of the Cautionary Crossing (P4)**

| Location(1) | Crossing Width | Demand (ped/hr) | | Demand/ Capacity ratio | |
|---|---|---|---|---|---|
| | | 2032 Reference | 2032 Design | 2032 Reference | 2032 Design |
| P4 | 2.5m | 338 | 354 | 0.12 – 0.23 | 0.12 – 0.24 |

*Notes: (1) Refer to Figure 5-1*

**Table 5-5 2032 Operational Performance of the Signal Crossing (P6)**

| Location(1) | Crossing Width | Demand (ped/hr) | | Demand / Capacity Ratio | |
|---|---|---|---|---|---|
| | | 2032 Reference | 2032 Design | 2032 Reference | 2032 Design |
| P6 | 3m | 237 | 253 | 8.7% | 9.3% |

*Notes: (1) Refer to Figure 5-1*

5.2.5 The assessment results indicate that all the key footpaths and concerned crossings along the major pedestrian route would perform satisfactorily with ample capacities for both the Reference (without Proposed Redevelopment) and Design (with Proposed Redevelopment) scenarios.

5.2.6 Possible enhancement to the pedestrian crossing condition in the vicinity of the proposed development would be explored with relevant parties at the design stage.

## 5.3 Public Transport Requirements

5.3.1 It is estimated that totals of 78 pedestrians (52 out and 26 in) and 82 pedestrians (35 out and 47 in) would be generated by the proposed redevelopment in the AM and PM peak hour respectively. Assuming all of these pedestrians would take public transport services at the nearby bus stops at Castle Peak Road (Tai Lam) and Tuen Mun Road Bus Interchange (Kowloon bound) in which over 30 regular daily bus routes (excluding special peak hour routes) are available, the additional demand for public transport services would be minimal, i.e. with an additional 1 -2 passengers per bus trip.

# 6 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT

## 6.1 Construction Traffic

6.1.1 The proposed redevelopment is anticipated to be completed by Year 2028, to provide conservative estimates, Year 2028 is adopted as the peak construction period for the construction traffic impact assessment.

6.1.2 As the construction site is small, the estimated construction traffic is around 3-4 vehicles per hour (2 nos. of trucks and 2 nos. of staff car) during peak periods.

6.1.3 The same approach in forecasting the 2032 Reference Peak Hour Traffic (refers to Chapter 4) is adopted to forecast the 2028 Reference Peak Hour Traffic.

6.1.4 The peak hour construction traffic, i.e. 4 vehicles (6 pcu's) per direction, are then added to the 2028 Reference Flows to derive the 2028 Design Flows.

## 6.2 Junction and Link Capacity Assessments

6.2.1 Based on the traffic forecasts, results of the junction and link capacity assessments during the construction year of 2028 are presented in **Table 6-1** and **Table 6-2** respectively.

**Table 6-1 2028 Peak Hour Performance at Key Junctions**

| Jn. ID. | Location | Type | Capacity Index(1) | Reference | | Design | |
|---|---|---|---|---|---|---|---|
| | | | | AM Peak | PM Peak | AM Peak | PM Peak |
| J1 | Siu Lam Road / Access Road of Palatial Coast | Roundabout | DFC | 0.12 | 0.11 | 0.12 | 0.11 |
| J2 | Siu Lam Road / Siu Lam Tsuen Road | Priority | DFC | 0.28 | 0.18 | 0.29 | 0.20 |
| J3 | Hong Fai Road / Siu Lam Road | Priority | DFC | 0.45 | 0.27 | 0.48 | 0.30 |
| J4 | Castle Peak Road – Tai Lam / Hong Fai Road | Priority | DFC | 0.56 | 0.40 | 0.59 | 0.44 |
| J5 | Castle Peak Road – Tai Lam / Castle Peak Road – New Tai Lam | Roundabout | DFC | 0.40 | 0.46 | 0.40 | 0.46 |
| J6 | Castle Peak Road (Tai Lam) / Slip Road from Tuen Mun Road | Signalized | R.C.(C) | 100+% | 100+% | 100+% | 100+% |
| J7 | Castle Peak Road (Tai Lam) / Slip Road to Tuen Mun Road | Signalized | R.C.(C) | 100+% | 100+% | 100+% | 100+% |

*Notes: (1) The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)*
*The Capacity Index for signalized junction is Reserve Capacity (RC)*

**Table 6-2 2028 Peak Hour Performance at Key Road Links**

| No. | Location(1) | Direction | Flows (veh/hr) | Reference | | Design | |
|---|---|---|---|---|---|---|---|
| | | | | AM Peak | PM Peak | AM Peak | PM Peak |
| L1 | Hong Fai Road between Siu Lam Road and Castle Peak Road | N/B | Flows | 243 | 198 | 247 | 202 |
| | | | P/Df(2) | 0.35 | 0.28 | 0.35 | 0.29 |
| | | S/B | Flows | 252 | 180 | 255 | 184 |
| | | | P/Df(2) | 0.36 | 0.26 | 0.36 | 0.26 |
| L2 | Castle Peak Road between Siu Lam Interchange and Hong Fai Road | E/B | Flows | 531 | 697 | 531 | 697 |
| | | | P/Df(2) | 0.54 | 0.63 | 0.54 | 0.63 |
| | | W/B | Flows | 322 | 388 | 326 | 392 |
| | | | P/Df(2) | 0.32 | 0.38 | 0.32 | 0.38 |
| L3 | Slip Road between Tuen Mun Road and Siu Lam Interchange | N/B | Flows | 541 | 719 | 541 | 719 |
| | | | P/Df(2) | 0.49 | 0.65 | 0.49 | 0.65 |
| | | S/B | Flows | 368 | 315 | 372 | 319 |
| | | | P/Df(2) | 0.33 | 0.29 | 0.34 | 0.29 |
| L4 | Castle Peak Road between Hong Fai Road and off-slip Road from Tuen Mun Road | N/B | Flows | 503 | 679 | 503 | 679 |
| | | | P/Df(2) | 0.49 | 0.62 | 0.49 | 0.62 |
| | | S/B | Flows | 216 | 379 | 220 | 383 |
| | | | P/Df(2) | 0.21 | 0.35 | 0.22 | 0.35 |
| L5 | Off-slip Road from Tuen Mun Road | E/B | Flows | 318 | 454 | 322 | 458 |
| | | | P/Df(2) | 0.21 | 0.27 | 0.21 | 0.27 |
| L6 | On-slip Road from Tuen Mun Road | W/B | Flows | 445 | 705 | 445 | 705 |
| | | | P/Df(2) | 0.29 | 0.41 | 0.29 | 0.41 |

*Notes:* *(1) Refer to Figure 3-2 for link locations*
*(2) P/Df = Peak Hourly Flows/Design Flow Ratios (P/Df) for road links*

6.2.2 Based on the traffic forecasts, the assessment results indicate that the key junctions and road links in the vicinity of the Subject Site would operate at an acceptable level during the AM and PM peak hours even with the additional construction traffic during the construction period, i.e. the construction traffic would not create significant traffic impact on the nearby road network.

# 7 SUMMARY AND CONCLUSION

## 7.1 Summary

7.1.1 Correctional Services Department (CSD) intends to redevelop the existing Junior Staff Married Quarters in Siu Lam (the "Proposed Redevelopment"). The nos. of Departmental Quarters would be increased from the existing 39 units to 136 units after the proposed redevelopment.

7.1.2 In order to appraise the existing traffic condition in the area, classified turning movement counts were carried out at the key junctions in the vicinity of the Subject Site over the AM and PM peak periods on 23 February 2021 (Tuesday). The AM and PM peak hours are identified to be 07:15 - 08:15 and 17:30 - 18:30 respectively. Taking into account of the pandemic situation in 2021, adjustments to the observed peak hour traffic flows are applied with reference to the historical traffic growth in the area.

7.1.3 Junction capacity assessments are carried out for the AM and PM peak hours for the key junctions in the vicinity of the Proposed Redevelopment. The results indicate that all the key junctions perform satisfactorily during both the AM and PM peak hours on a weekday in 2021.

7.1.4 The planned operation year for the Proposed Redevelopment is 2029 and hence the "Design Year" for this traffic impact assessment study is set as 2032, i.e. 3 years after the operation year. Having reviewed the historical trend of traffic growth in the area, the planned development and the forecast development intensity in the area, a growth factor of +1.74% per annum is adopted for estimating the 2032 Reference Traffic Flows (i.e. without Proposed Redevelopment).

7.1.5 It is estimated that the Proposed Redevelopment would induce additional traffic of around 46 pcu's in the AM peak hour and 34 pcu's in the PM peak hour compared to the existing situation. The additional development traffic is added to the 2032 Peak Hour Reference Traffic Flows (i.e. without Proposed Redevelopment) to derive the 2032 Peak Hour Design Traffic Flows (i.e. with Proposed Redevelopment).

7.1.6 Traffic impact assessments are undertaken by comparing the peak hour junction performances of the 2032 Reference scenario against the Design scenario. As the amount of additional traffic to be generated by the Proposed Redevelopment is not significant, the differences in junction performances between the Reference and Design scenarios are small.

7.1.7 The results of the assessments indicate that all the assessed junctions in the vicinity of the Subject Site would perform within capacity during the AM and PM peak periods for both scenarios.

7.1.8 Pedestrian impact assessments are also undertaken to assess the performance of the public footpaths and crossings along the major pedestrian route. The results of the assessments indicate that all the concerned footpaths and crossings would perform satisfactorily with sufficient spare capacities for both the 2032 Reference and Design scenarios.

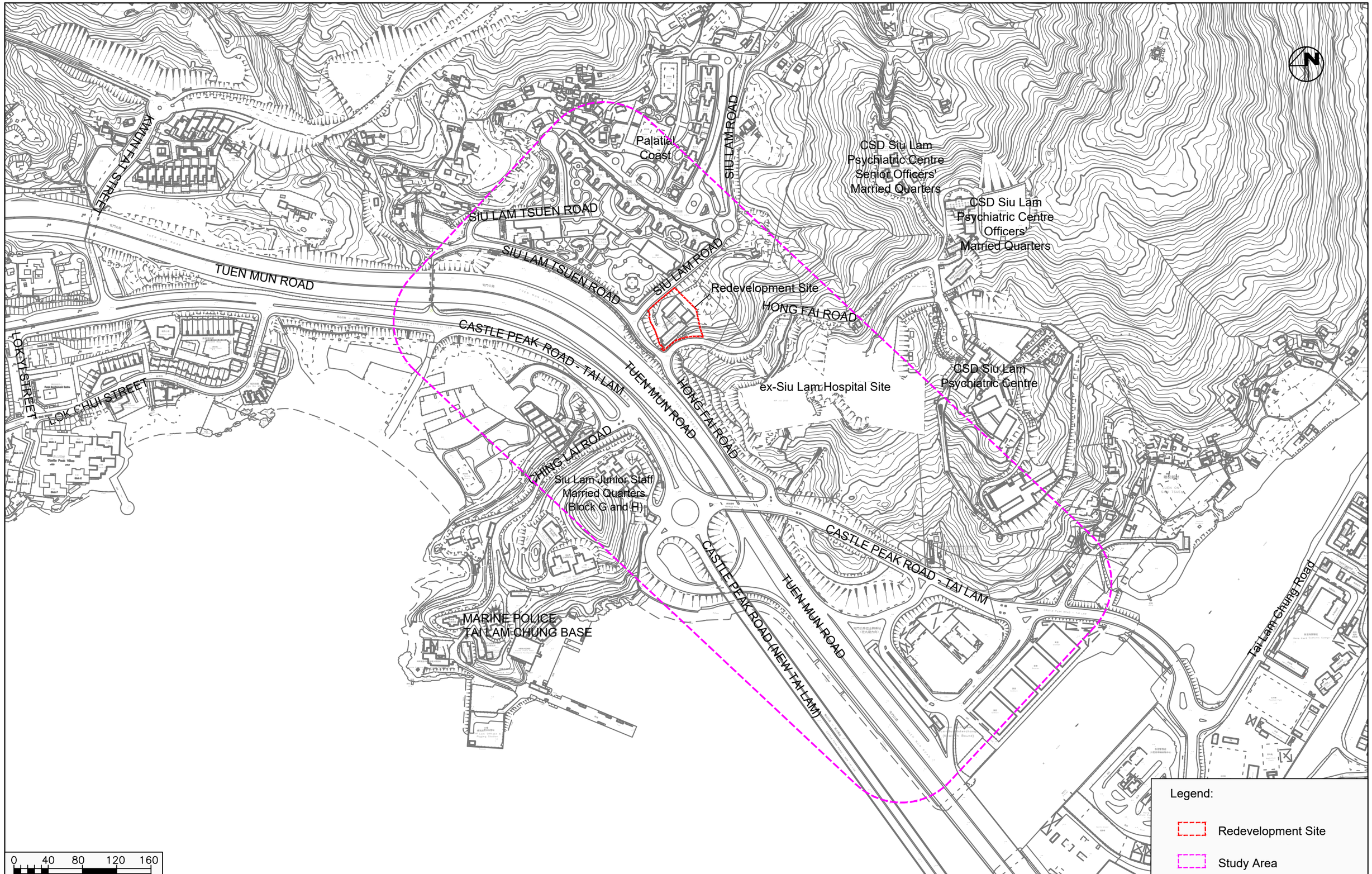
7.1.9 Possible enhancement to the pedestrian crossing condition in the vicinity of the proposed development would be explored with relevant parties at the design stage.

7.1.10 For construction traffic impact assessment, to provide conservative estimates, the completion year of the Proposed Redevelopment, i.e. 2028, is adopted as the peak construction period. As the amount of construction traffic is small, i.e. around 4 vehicles per direction during the AM and PM peak hours, the assessment results indicate that the construction traffic would not create significant traffic impact on the nearby road network over the construction period.

## 7.2 Conclusions

7.2.1 Based on the results of the traffic impact assessment, it is concluded that the Proposed Redevelopment would not induce significant traffic impact on the road and pedestrian networks in the vicinity of the Subject Site.

# Figures




OZZO TECHNOLOGY

| Date | Scale |
|---|---|
| 25/07/2022 | 1:4000 |

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Site Location and Study Area

Architectural Services Department

| Project No. 82077 | Rev. |
|---|---|
| Dwg No. Figure 2-1 | E |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 2-1E.dwg 2022/07/25 16:03:51

Proposed
Run-In/Out

SIU LAM ROAD

S1014

PO

H

L

17.8

GUARD HOUSE

GAS COVER KIOSK

LANDSCAPE AREA

EVA

11.8

11.3

LAY-BY

ENTRANCE LOBBY

MANAGEMENT OFFICE

TOILET

P.R.

EMERGENCY GENERATOR ROOM

TRANSFORMER ROOM

SWITCH ROOM (ESS.)

&

MAIN SWITCH ROOM

P.R.

LANDSCAPE AREA

LOADING / UNLOADING BAY FOR GV / RCV

PLANT ROOM

PLANT ROOM

PLANT ROOM

RCP

RAMP UP 1 : 8

UNEXCAVATED AREA

BUILDING LINE ABOVE

1

2

3

4

5

6

7

8

9

10

11

12

13

14

M1

M2

19.0

20.4

SIU LAM ROAD

小欖路

HONG FAI ROAD

康輝路

0 2.5 5 7.5 10

**LEGENDS**

- Parking Spaces for Private Cars
- Parking Spaces for Motorcycles
- Loading / Unloading Space for Goods Vehicle and Refuse Collection Vehicle
- Pick-up / Drop-off space for Private Car/ Taxi

OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:250

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Proposed Vehicular Access and Parking Arrangements on Ground Floor

Architectural Services Department

Project No. 82077

Dwg No. Figure 2-2

Rev. D

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 2-2D.dwg 2022/07/25 11:23:10

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 2-3C.dwg 2022/07/25 16:03:18

11.8

To/From
Ground Floor

To/From
Upper Ground 2/F

RAMP UP
1:8

RAMP DOWN
1:8

PLANT ROOM

UNEXCAVATED AREA

HONG FAI ROAD
康輝路

Upper Ground 1/F

11.8

To/From
Upper Ground 1/F

LOBBY

PLANT ROOM

RAMP DOWN
1:8

UNEXCAVATED AREA

HONG FAI ROAD
康輝路

Upper Ground 2/F

0 2.5 5 7.5 10

**LEGENDS**

Parking Spaces for Private Cars

Parking Spaces for Motorcycles

OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:250

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

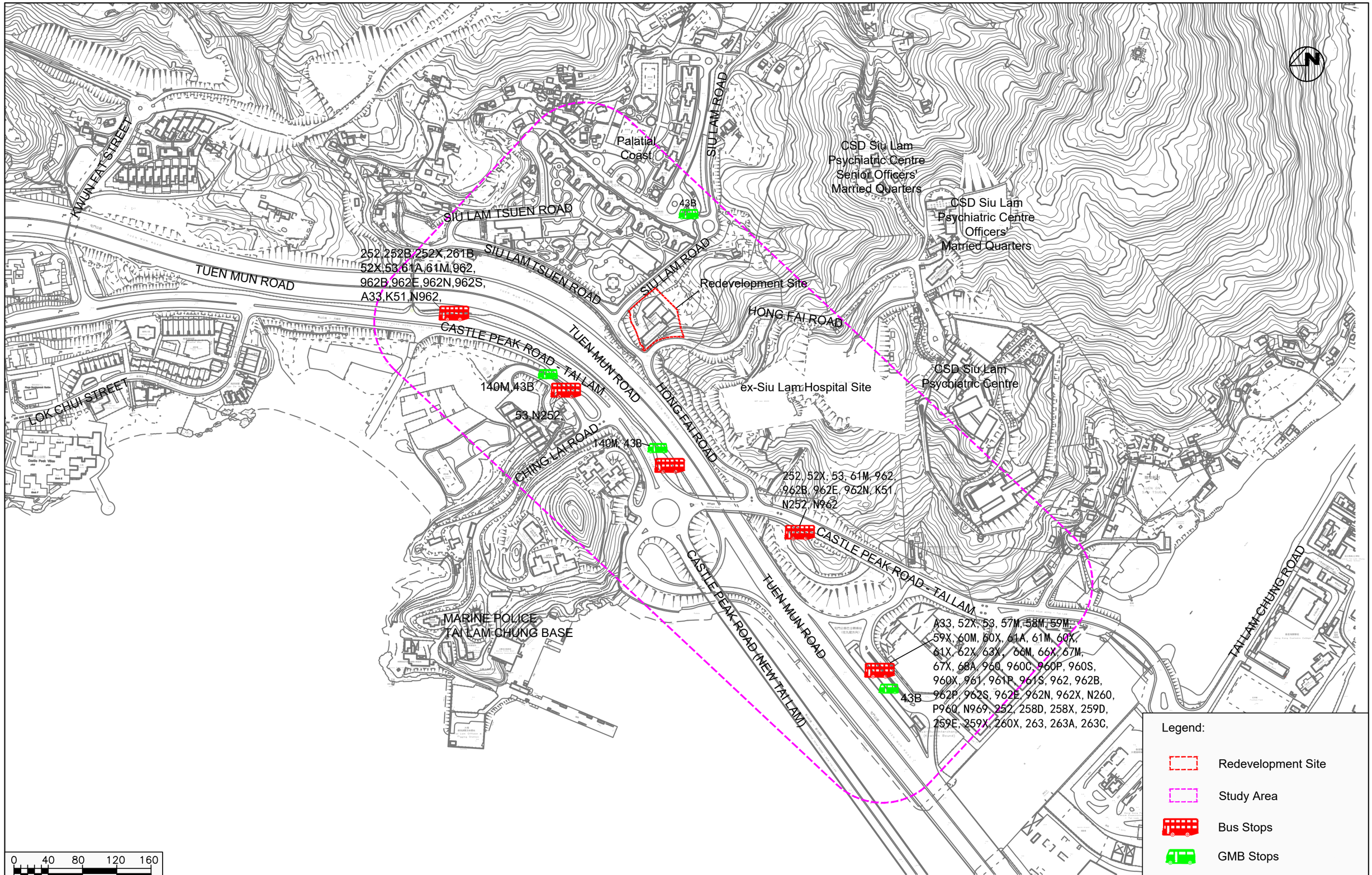
# Proposed Parking Arrangement on Upper Ground Floors (UG1/F and UG2/F)

Architectural Services Department

Project No. 82077

Dwg No. Figure 2-3

Rev. C




Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Existing Public Transport Inventory

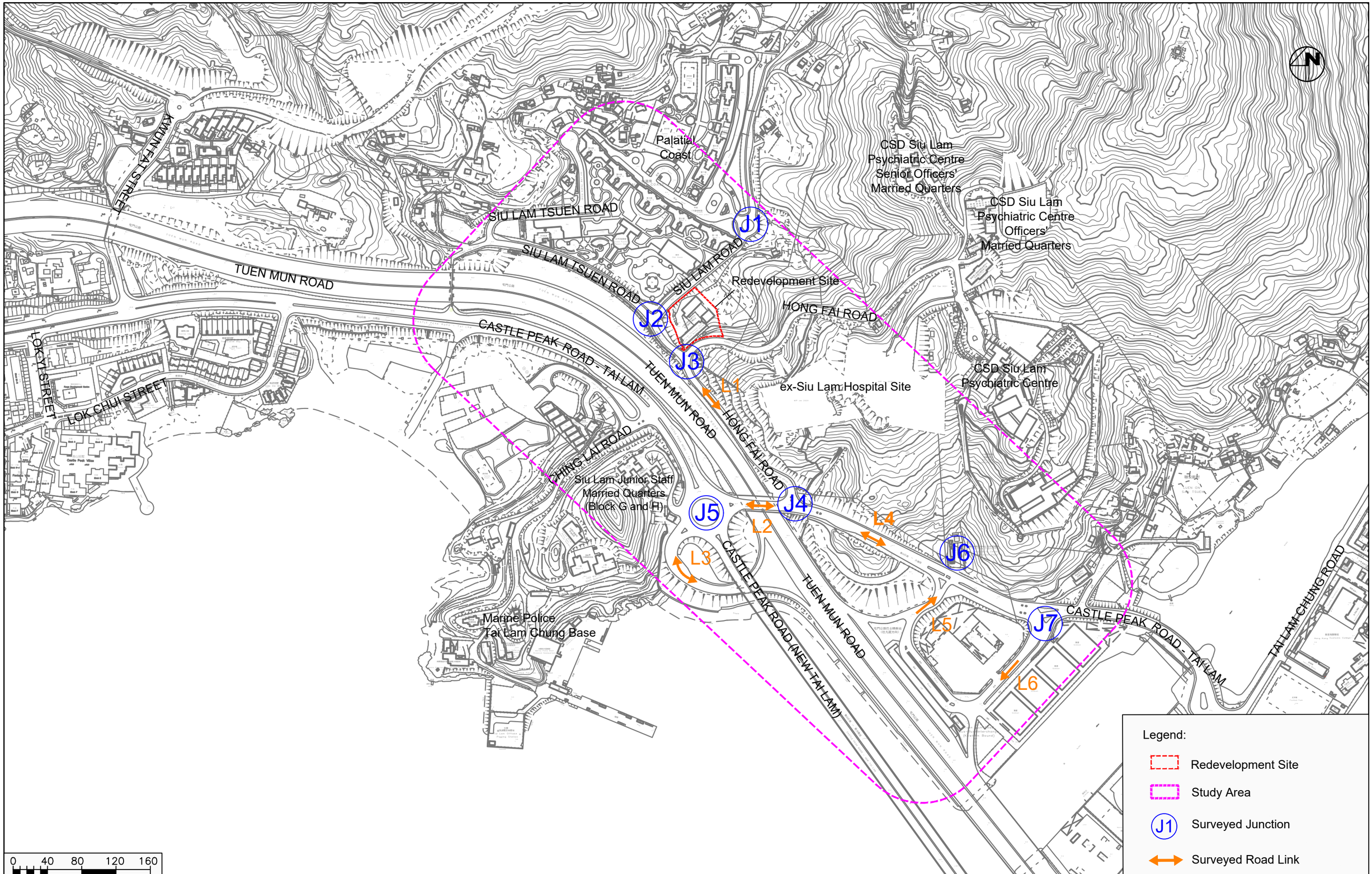
OZZO TECHNOLOGY

Architectural Services Department

| Date | Scale |
|---|---|
| 25/07/2022 | 1:4000 |

| Project No. | Rev. |
|---|---|
| 82077 | E |
| Dwg No. Figure 3-1 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 3-1E.dwg 2022/07/25 16:02:55




OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:4000

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Locations of Traffic Surveys

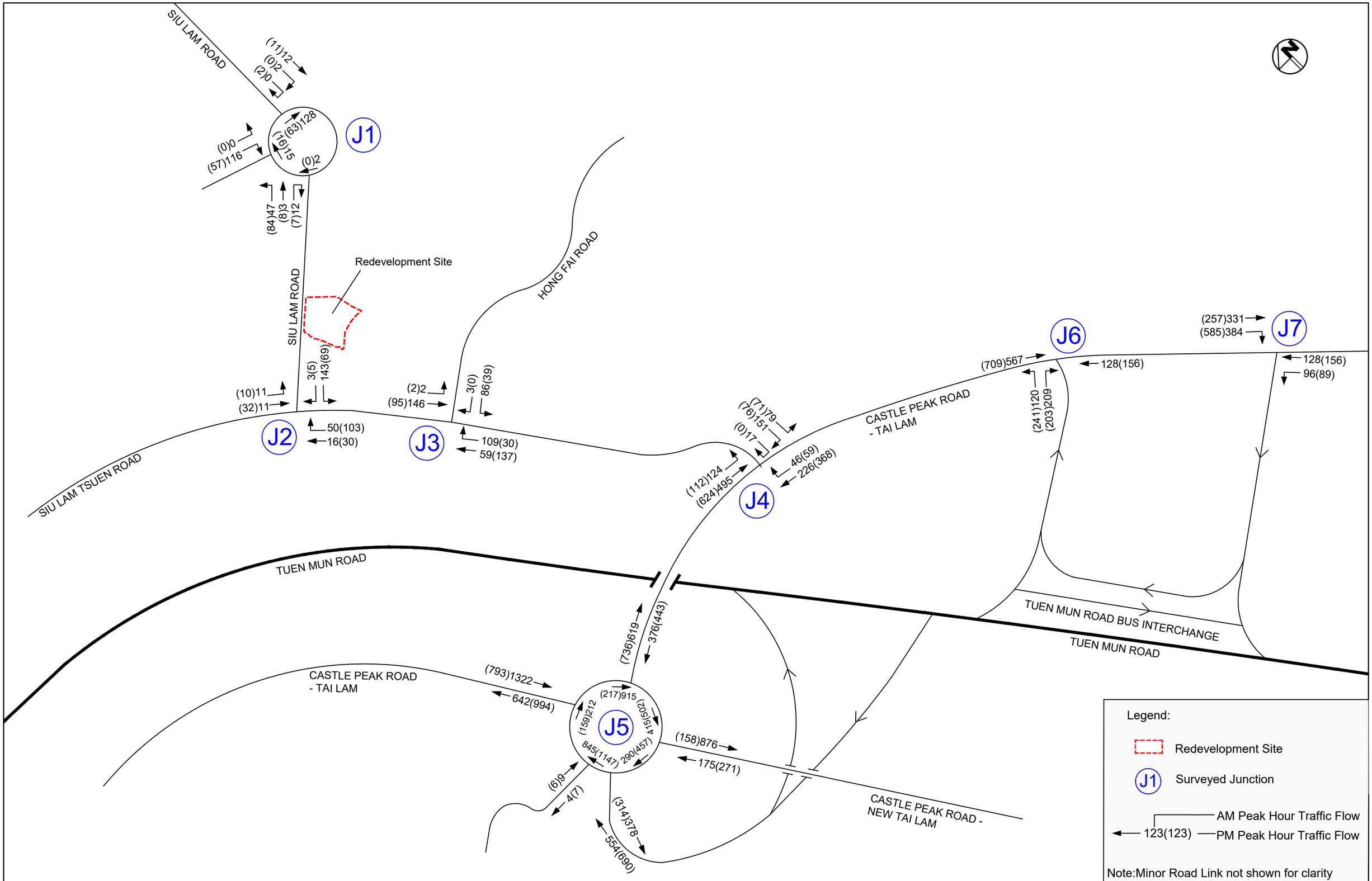
Architectural Services Department

Project No. 82077

Dwg No. Figure 3-2

Rev. G

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 3-2G.dwg 2022/07/25 16:02:20




OZZO TECHNOLOGY

| Date | Scale |
|---|---|
| 25/07/2022 | N.T.S |

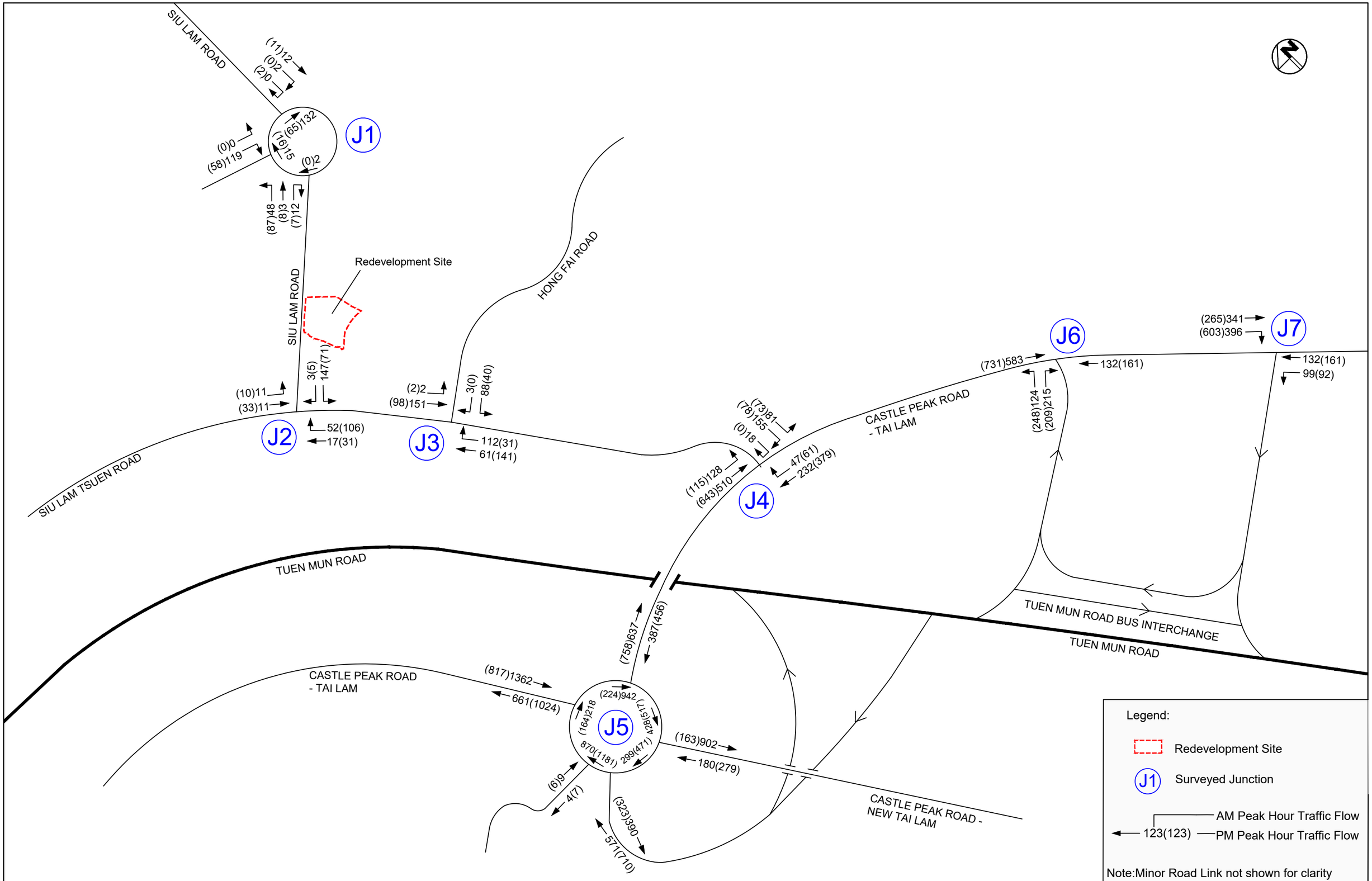
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# 2021 Observed Peak Hour Traffic Flows

Architectural Services Department

| Project No. 82077 | Rev. |
|---|---|
| Dwg No. Figure 3-3 | E |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 3-3E.dwg 2022/07/25 16:01:47




OZZO TECHNOLOGY

Date 25/07/2022 | Scale N.T.S

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

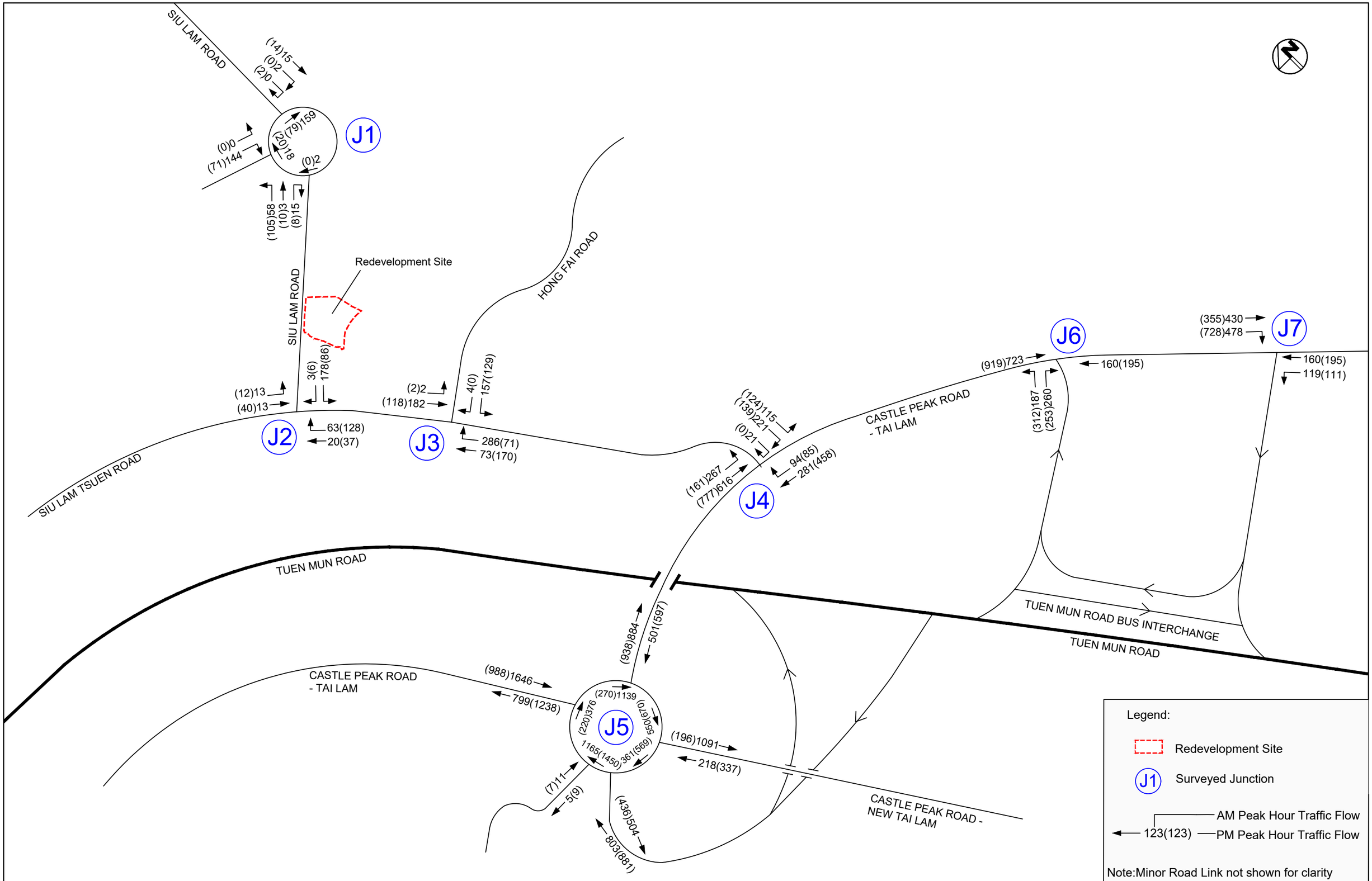
# 2021 Projected Peak Hour Traffic Flows

Architectural Services Department

Project No. 82077 | Rev. E

Dwg No. Figure 3-4

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 3-4E.dwg 2022/07/25 16:01:41




OZZO TECHNOLOGY

| Date | Scale |
|---|---|
| 25/07/2022 | N.T.S |

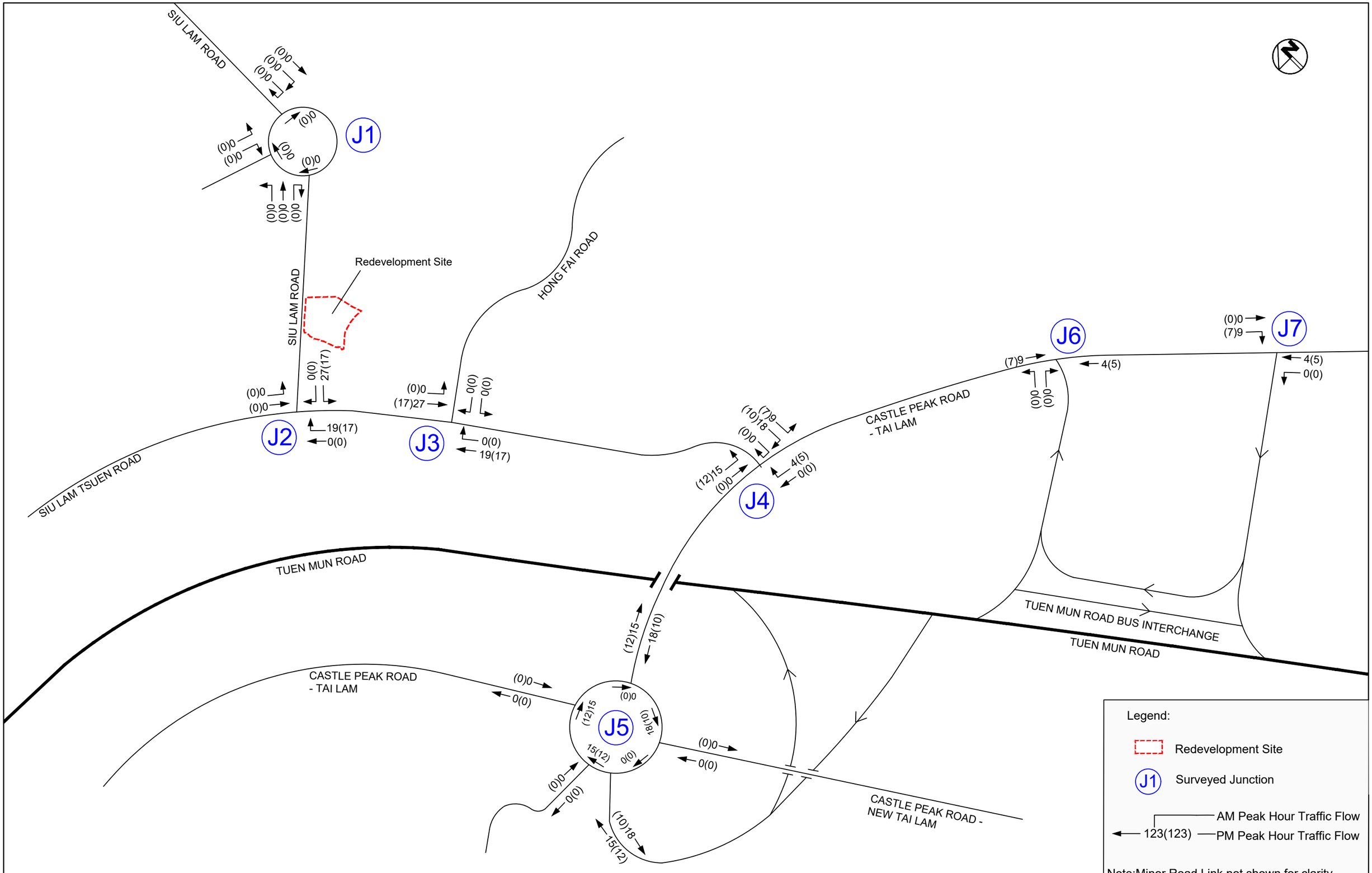
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# 2032 Reference Peak Hour Traffic Flows

Architectural Services Department

| Project No. | 82077 | Rev. |
|---|---|---|
| Dwg No. | Figure 4-1 | E |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 4-1E.dwg 2022/07/25 16:01:35




OZZO TECHNOLOGY

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

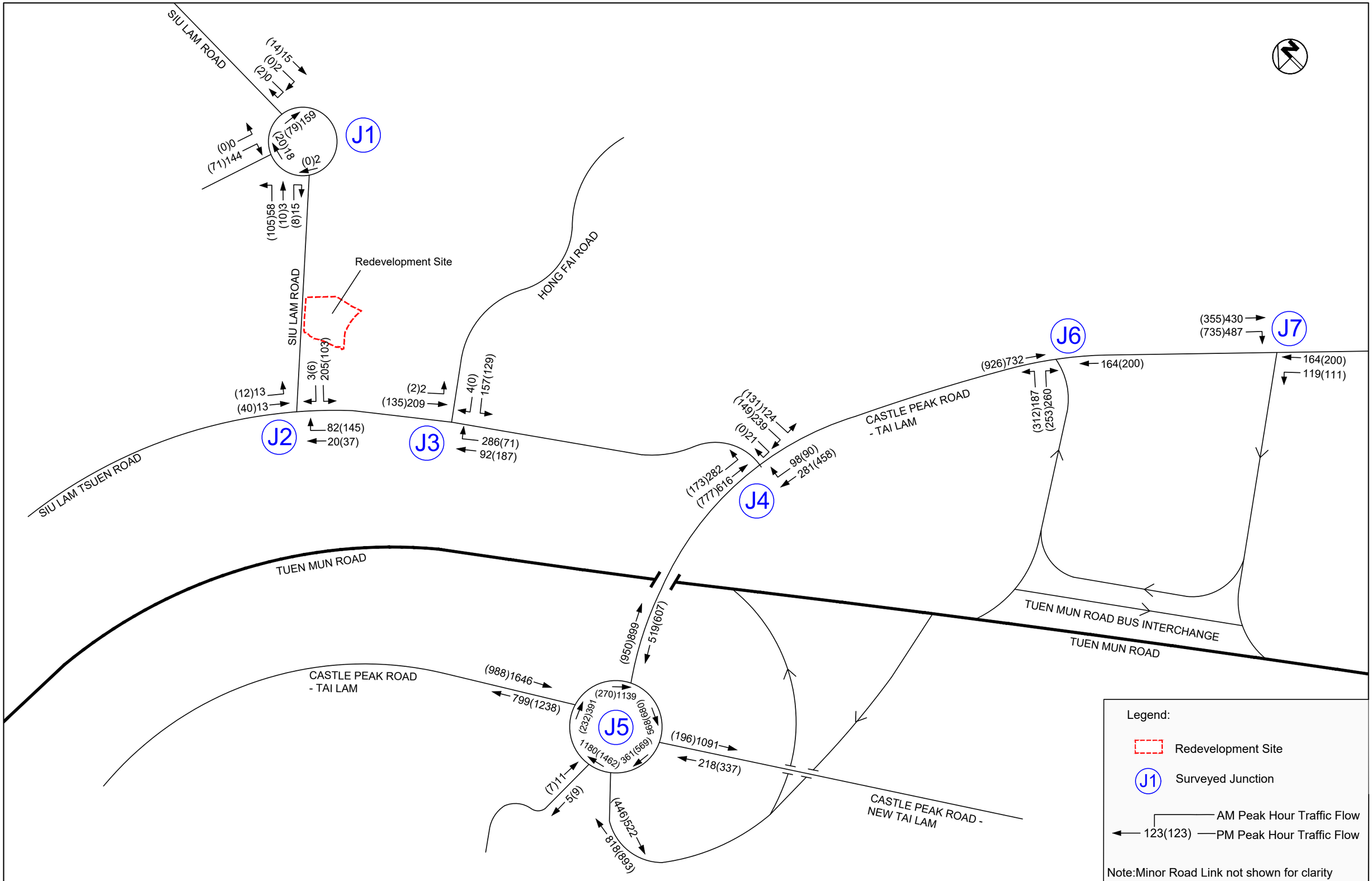
# Additional Peak Hour Development Traffic Flows

| Date | Scale |
|---|---|
| 25/07/2022 | N.T.S |

Architectural Services Department

| Project No. | Rev. |
|---|---|
| 82077 | E |
| Dwg No. Figure 4-2 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 4-2E.dwg 2022/07/25 16:01:29




OZZO TECHNOLOGY

| Date | Scale |
|---|---|
| 25/07/2022 | N.T.S |

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# 2032 Design Peak Hour Traffic Flows

Architectural Services Department

| Project No. 82077 | Rev. |
|---|---|
| Dwg No. Figure 4-3 | E |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 4-3E.dwg 2022/07/25 16:01:23

SIU LAM TSUEN ROAD

SIU LAM ROAD

Redevelopment Site

HONG FAI ROAD

CASTLE PEAK ROAD - TAI LAM

TUEN MUN ROAD

CHING LAI ROAD

ex-Siu Lam Hospital Site

CSD Siu Lam Psychiatric Centre

P1

P2

P3

P4

P5

P6

Siu Lam Junior Staff Married Quarters (Block G and H)

CASTLE PEAK ROAD (NEW TAI LAM)

MARINE POLICE TAI LAM CHUNG BASE

To/From Tuen Mun Road Bus Interchange

0 20 40 60 80

Legend:

- Redevelopment Site
- Surveyed Pedestrian Location
- Pedestrian Routes between the Proposed Development and the Public Transport
- Bus Stops
- GMB Stop

OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:2000

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Major Pedestrian Routes between the Redevelopment Site and Nearby Bus Stops

Architectural Services Department

Project No. 82077

Dwg No. Figure 5-1

Rev. C

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-Figure 5-1C.dwg 2022/07/25 16:01:16

# Appendix A

## Swept Path Assessment Results

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:47:34

SIU LAM ROAD

PO

I–TS1014

GUARD HOUSE

GAS GOVER KIOSK

LANDSCAPE AREA

EVA

11.8

11.3

17.8

19.0

20.4

LAY–BY

ENTRANCE LOBBY

MANAGE-MENT OFFICE

TOILET

P.R.

EMERGENCY GENERATOR ROOM

TRANSFORMER ROOM

SWITCH ROOM (ESS.)

&

MAIN SWITCH ROOM

P.R.

LANDSCAPE AREA

LOADING / UNLOADING BAY FOR RCP

RAMP UP 1 : 8

RCP

PLANT ROOM

PLANT ROOM

PLANT ROOM

UNEXCAVATED AREA

BUILDING LINE ABOVE

1 2 3

4 5 6 7 8 9 10 11 12 13 14

Emergency Exit

L

H

HONG FAI ROAD

康輝路

小欖路

Siu Lam Rd Ah

CUL

UL

0 2.5 5 7.5 10

OZZO TECHNOLOGY

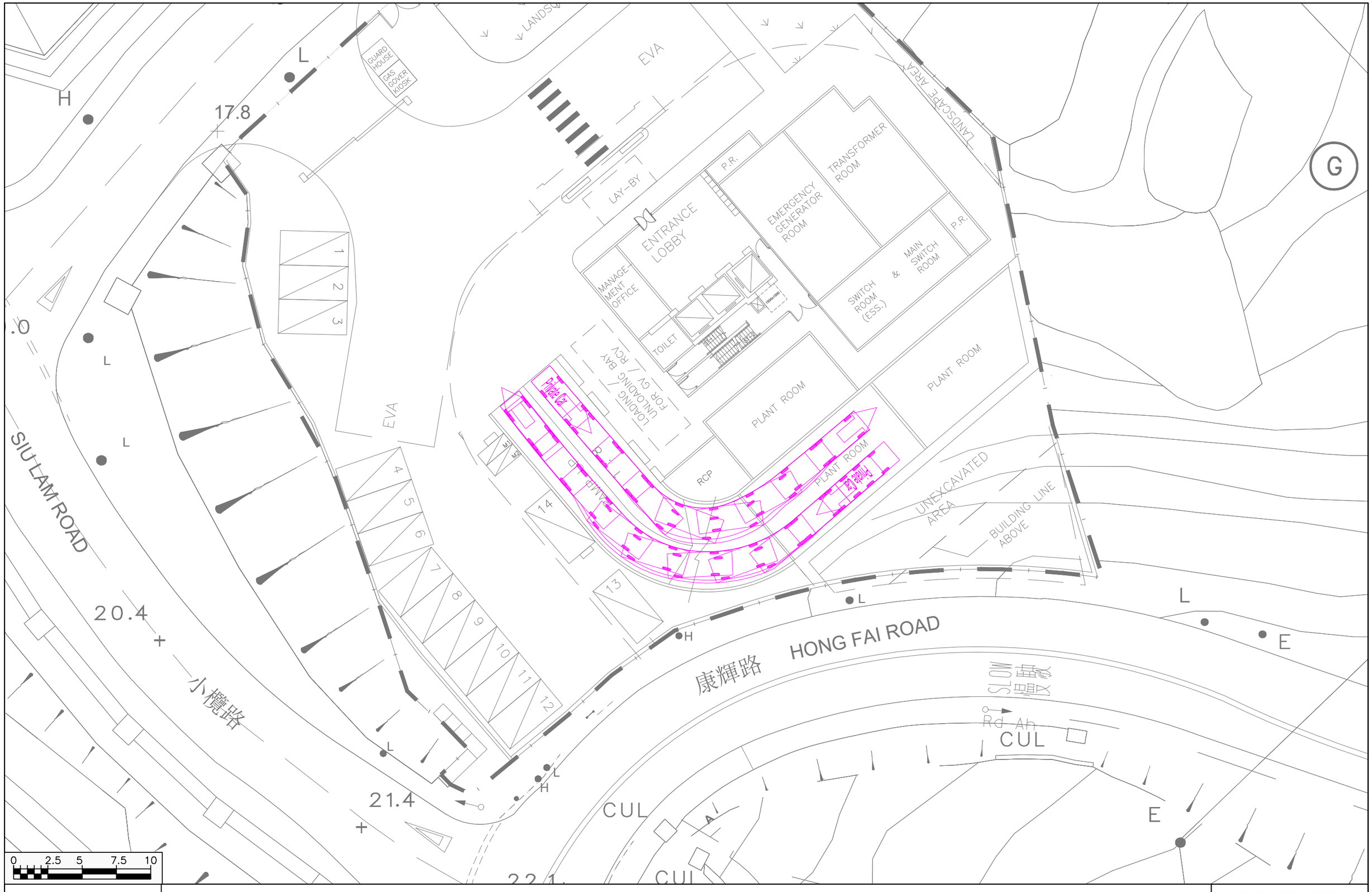
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments at Vehicular Access on Ground Floor

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. GF-SP1 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:47:37




OZZO TECHNOLOGY

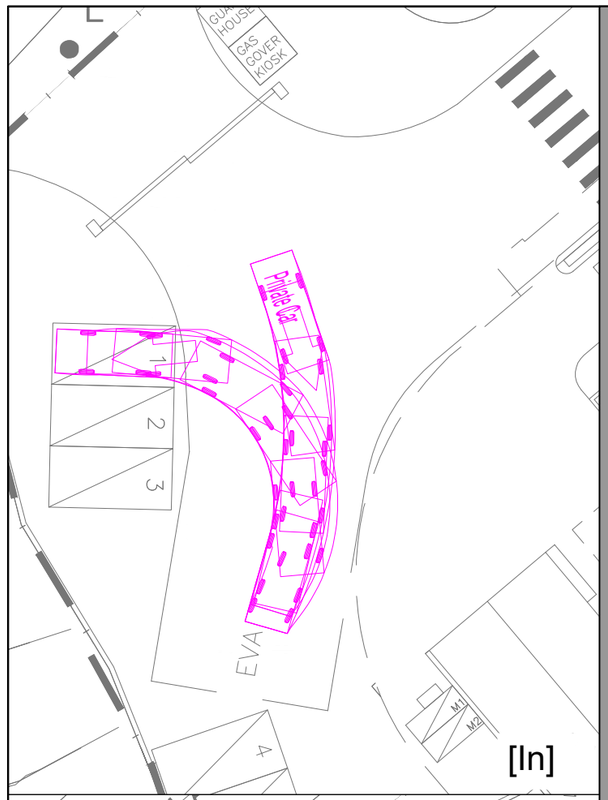
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

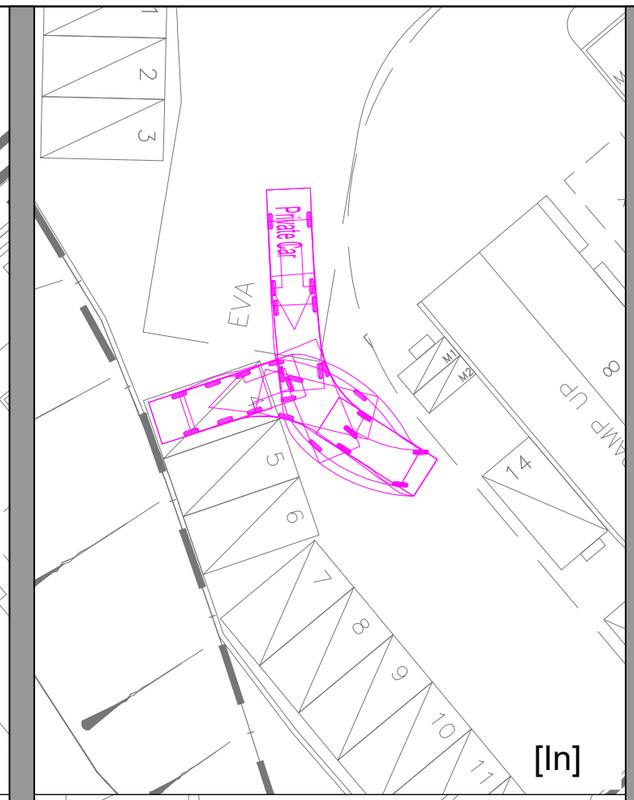
# Private Car Swept Path Assessment on Ramp Connecting Ground Floor and Upper Ground 1/F

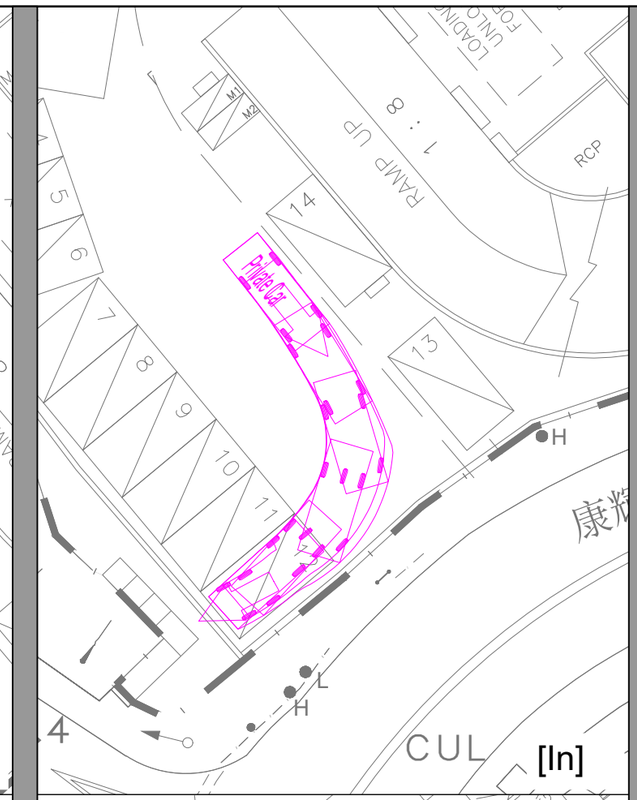
Architectural Services Department

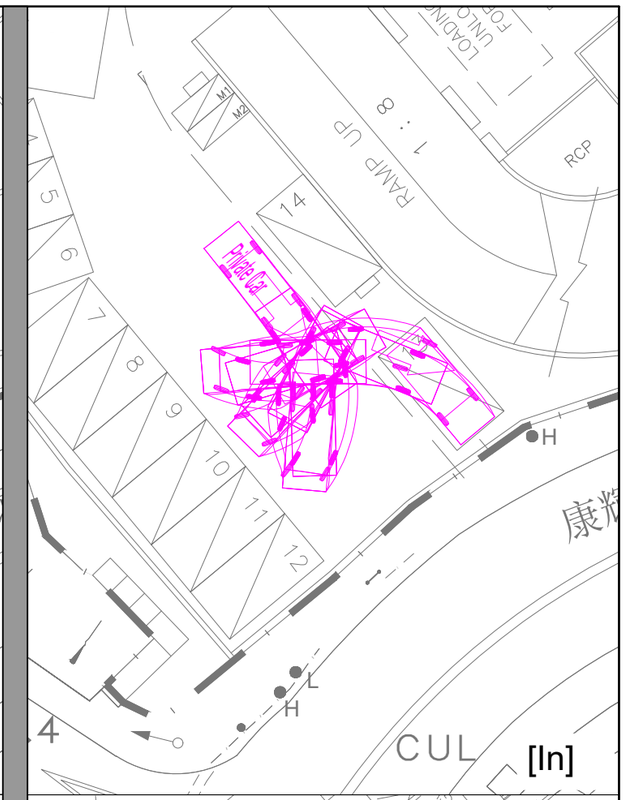
| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. GF-SP2 | |

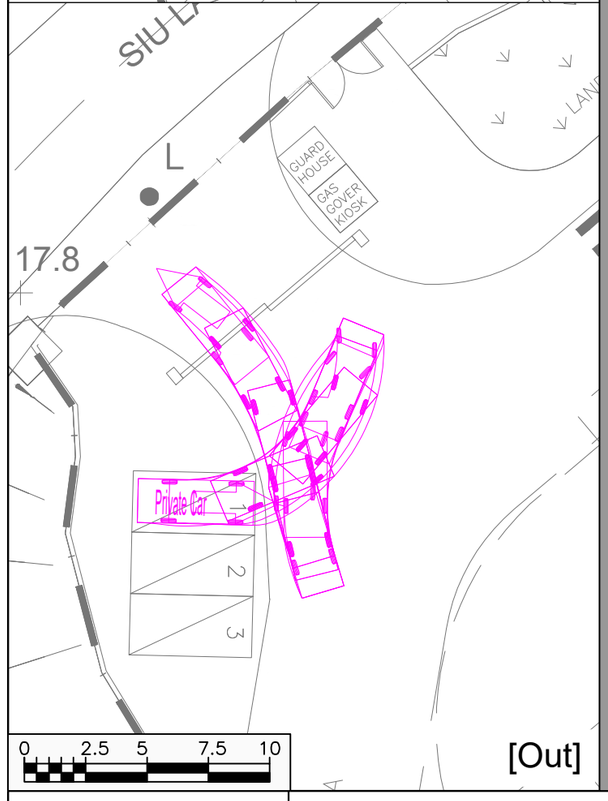
X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:47:56

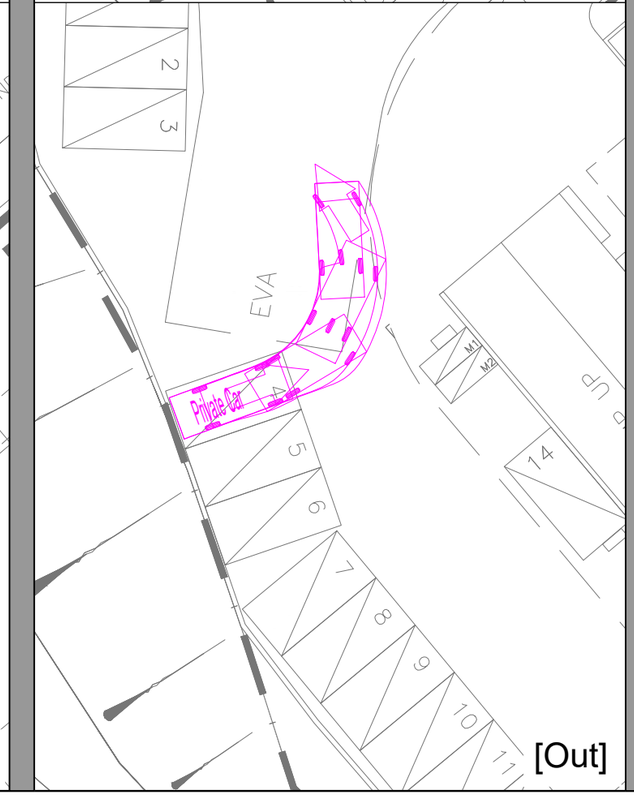


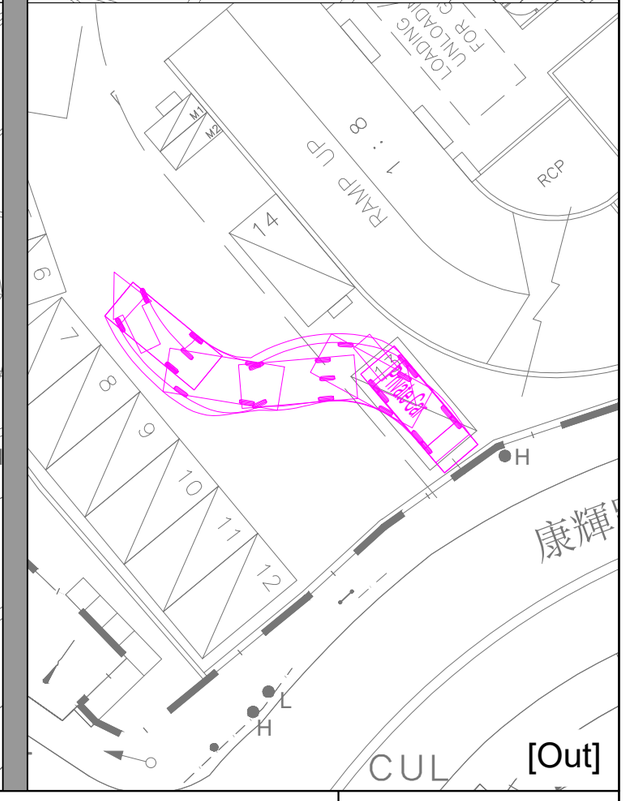






OZZO TECHNOLOGY

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Ground Floor ( Space Nos.1,4,12 and 13 )

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. GF-SP3 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:48:06

0 2.5 5 7.5 10

OZZO TECHNOLOGY

Date 25/07/2022 | Scale 1:250

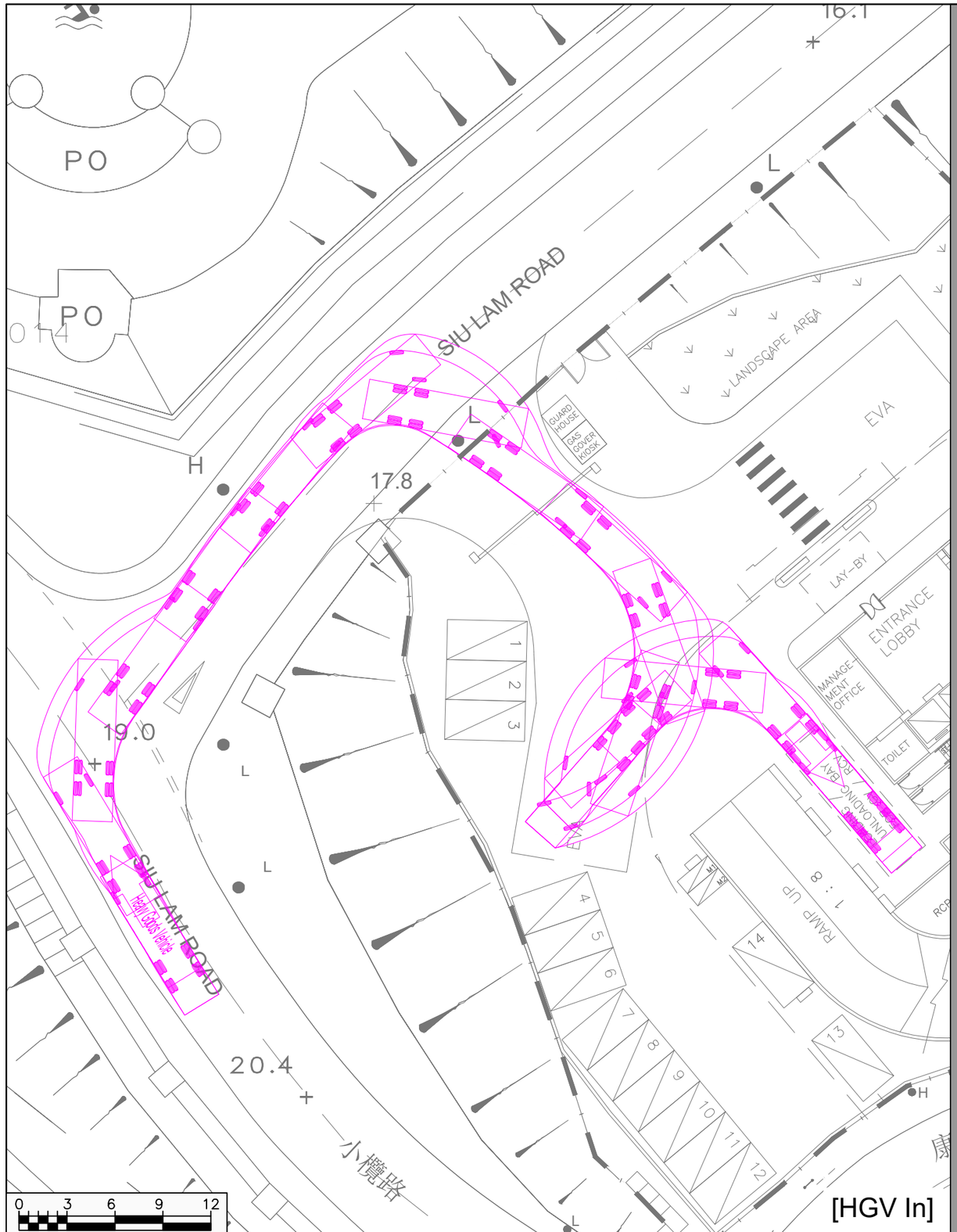
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Ground Floor ( Space No.14 and Private Car/ Taxi Lay-by )

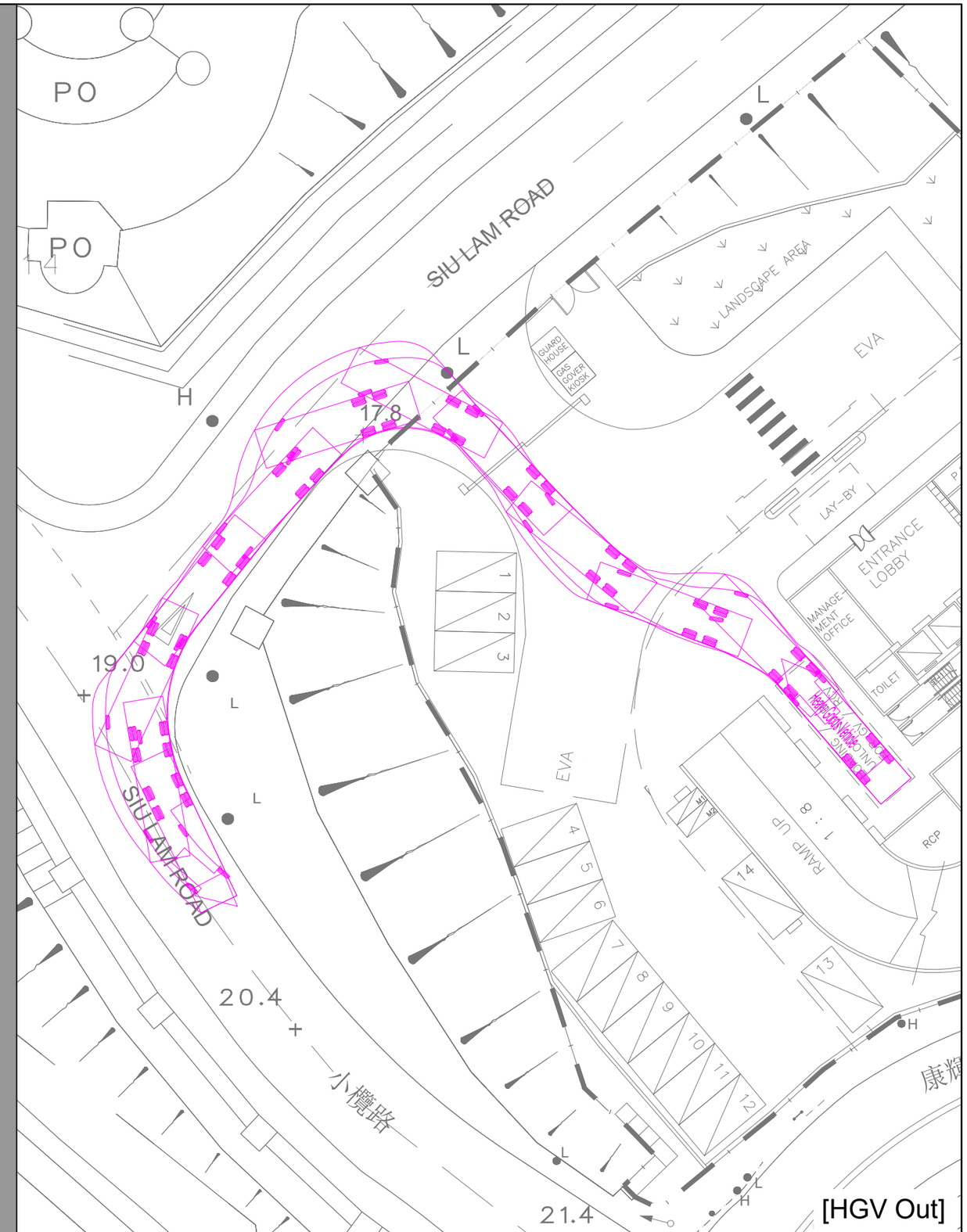
Architectural Services Department

Project No. 82077 | Rev. D
Dwg No. GF-SP4

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:48:12




[HGV In]




[HGV Out]

OZZO TECHNOLOGY

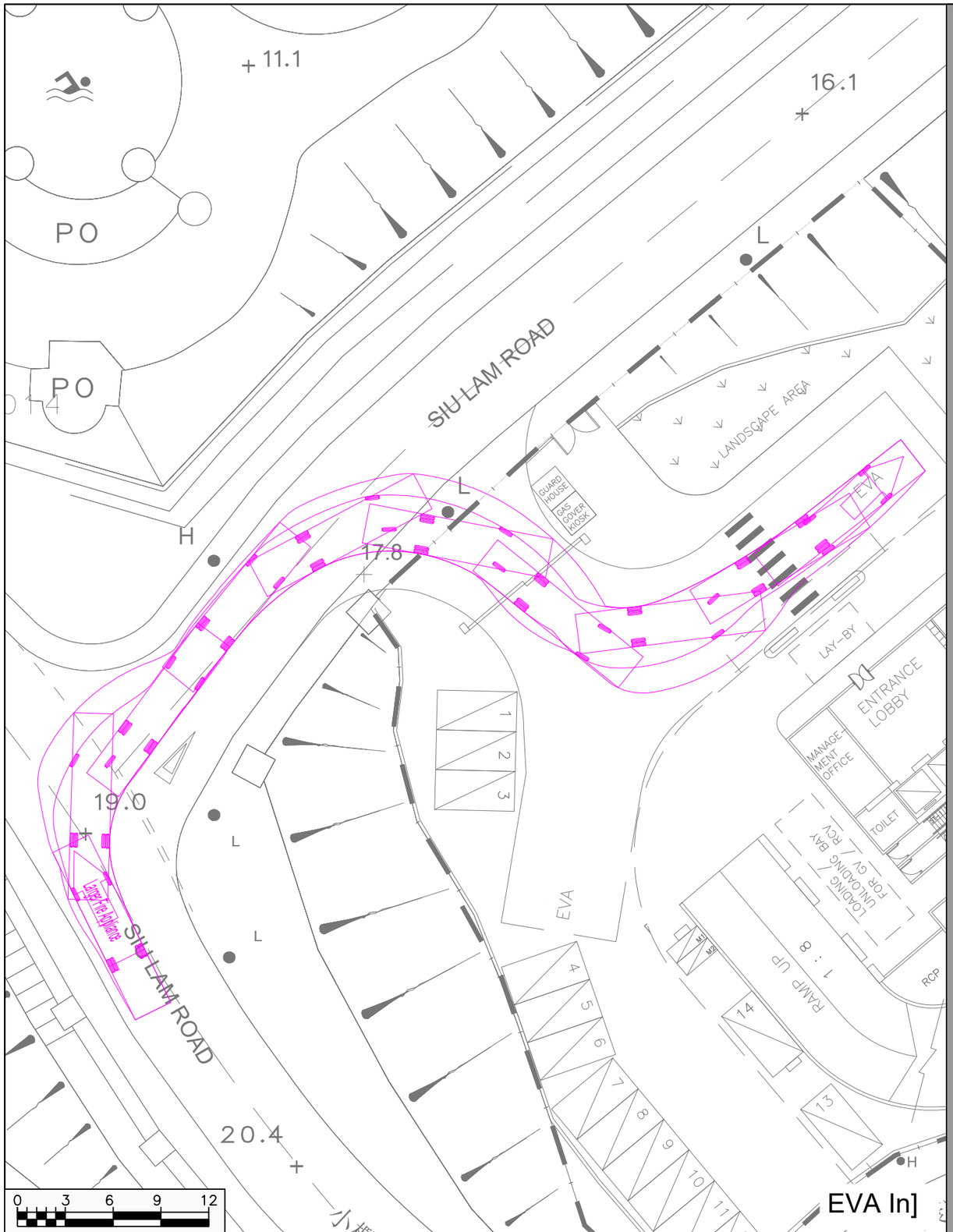
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

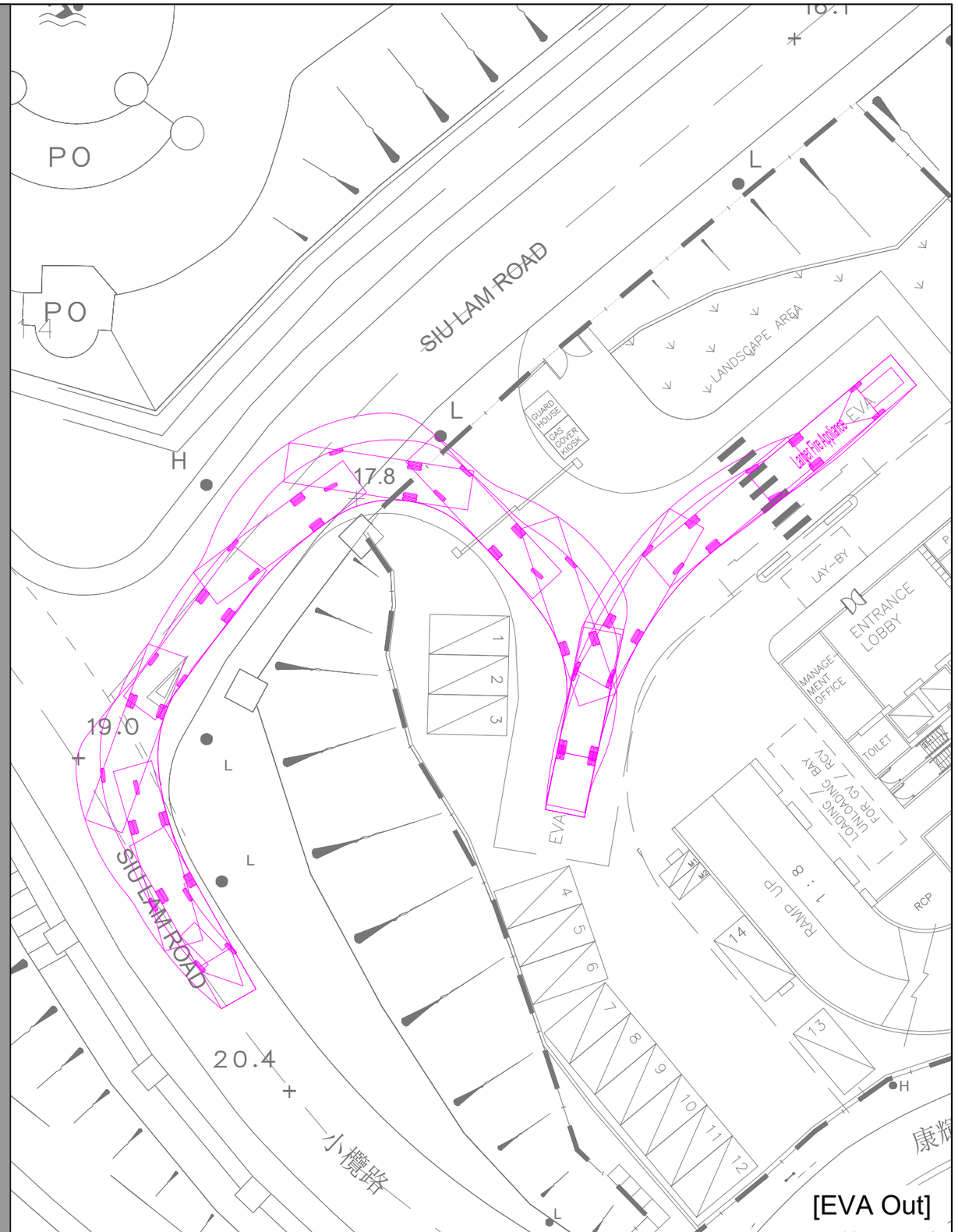
# Heavy Goods Vehicle Swept Path Assessments on Ground Floor

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:300 | 82077 | D |
| | | Dwg No. GF-SP5 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:48:19




OZZO TECHNOLOGY

Date 25/07/2022 | Scale 1:300

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Large Fire Appliance Swept Path Assessment on Ground Floor

Architectural Services Department

Project No. 82077 | Rev. D

Dwg No. GF-SP6

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:48:25

SIU LAM ROAD
PO
H
L
17.8
19.0
20.4
GUARD HOUSE
GAS COVER KIOSK
LANDSCAPE
EVA
Larger Fire Appliance
小欖路
RAMP UP
EVA In]
[EVA Out]
0 2.5 5 7.5 10

OZZO TECHNOLOGY

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Large Fire Appliance Swept Path Assessment on Ground Floor

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. GF-SP7 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-GF-SP-20220725.dwg 2022/07/25 15:48:29

SIU LAM ROAD

N-TS1014

PO

H

L

17.8

19.0

15.1

CUL

evi 589

PB55.8R9

20.4

小欖路

LANDSCAPE AREA

GUARD HOUSE

GAS GOVER KIOSK

EVA

LAY-BY

Private Car

Heavy Goods Vehicle

1 2 3

4 5 6 7 8 9 10 11 12

13 14

RAMP UP 1 : 8

M1 M2

ENTRANCE LOBBY

MANAGE-MENT OFFICE

TOILET

P.R.

EMERGENCY GENERATOR ROOM

TRANSFORMER ROOM

SWITCH ROOM (ESS.)

&

MAIN SWITCH ROOM

P.R.

LOADING / UNLOADING BAY FOR REFUSE COLLECTION VEHICLE

PLANT ROOM

PLANT ROOM

PLANT ROOM

RCP

UNEXCAVATED AREA

BUILDING LINE ABOVE

LANDSCAPE AREA

11.8

HONG FAI ROAD

康輝路

SIU LAM ROAD

Rd Ah

CUL

0 2.5 5 7.5 10

OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:250

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

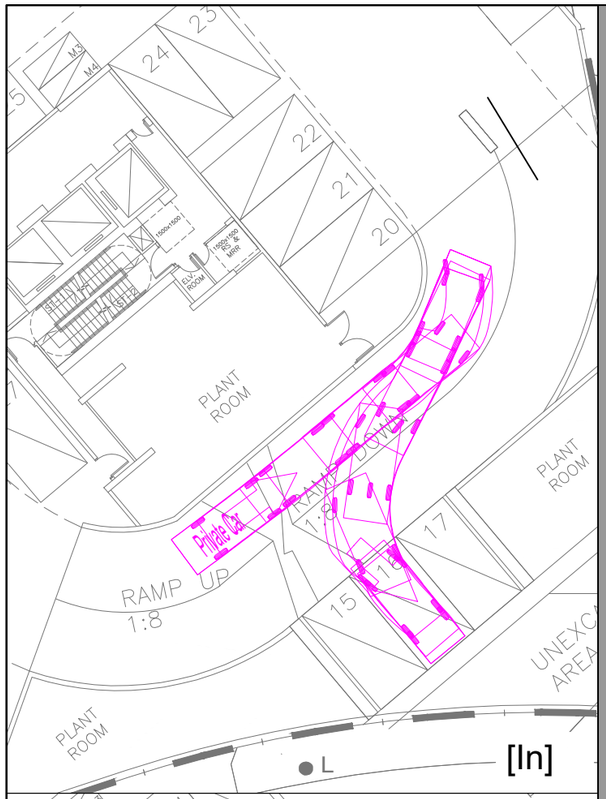
# Heavy Goods Vehicle and Private Car Swept Path Assessments at Vehicular Access on Ground Floor

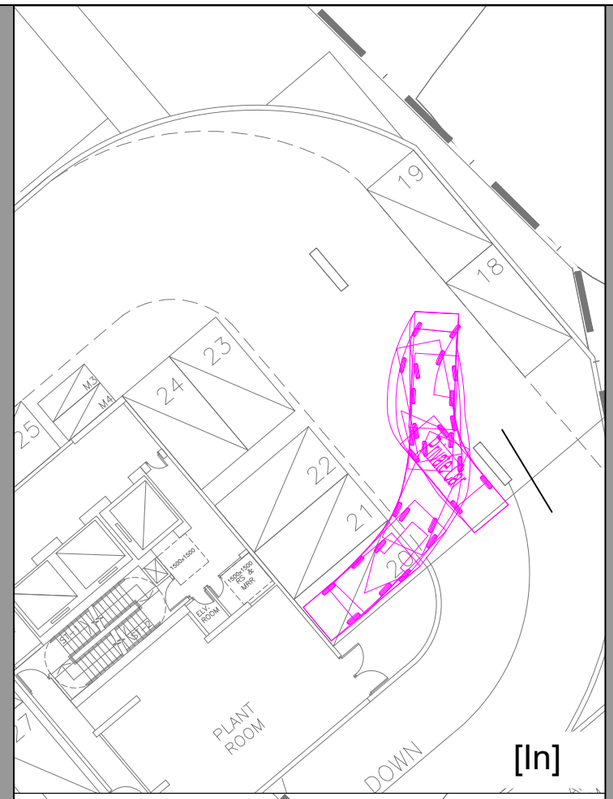
Architectural Services Department

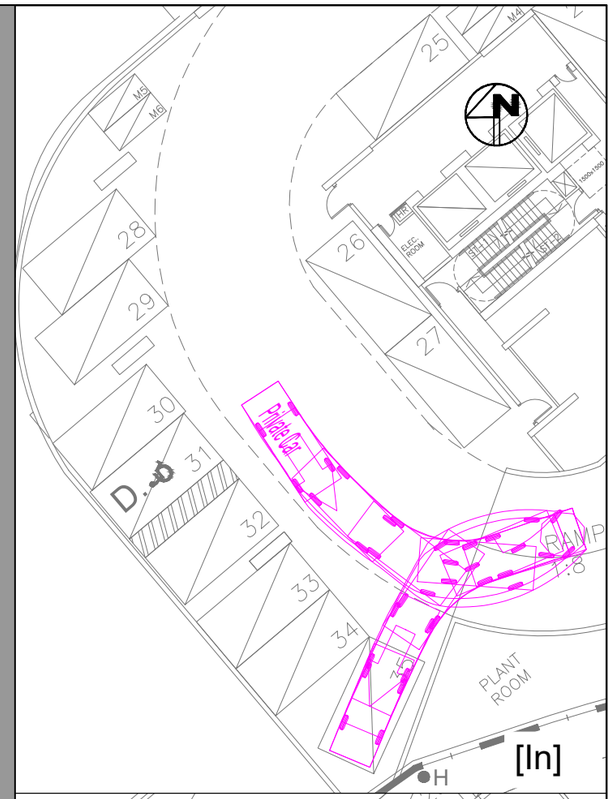
Project No. 82077

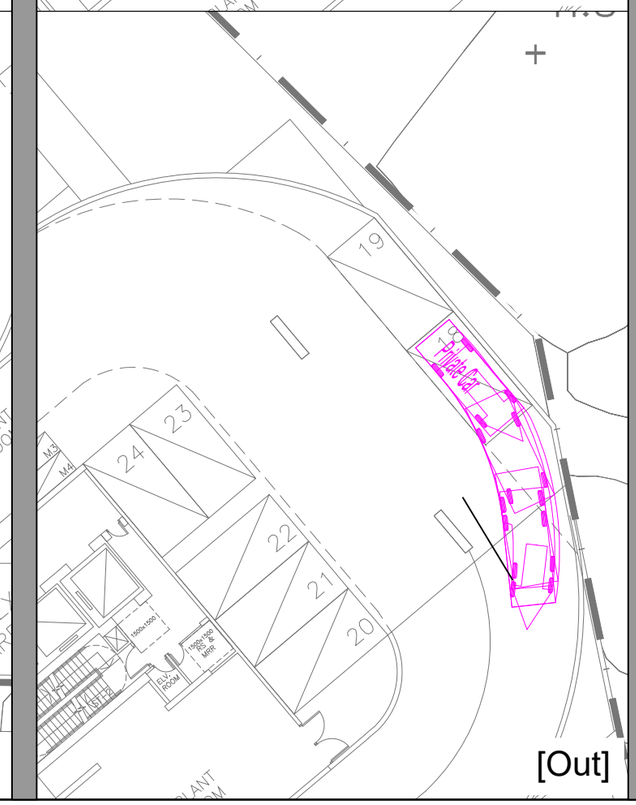
Dwg No. GF-SP8

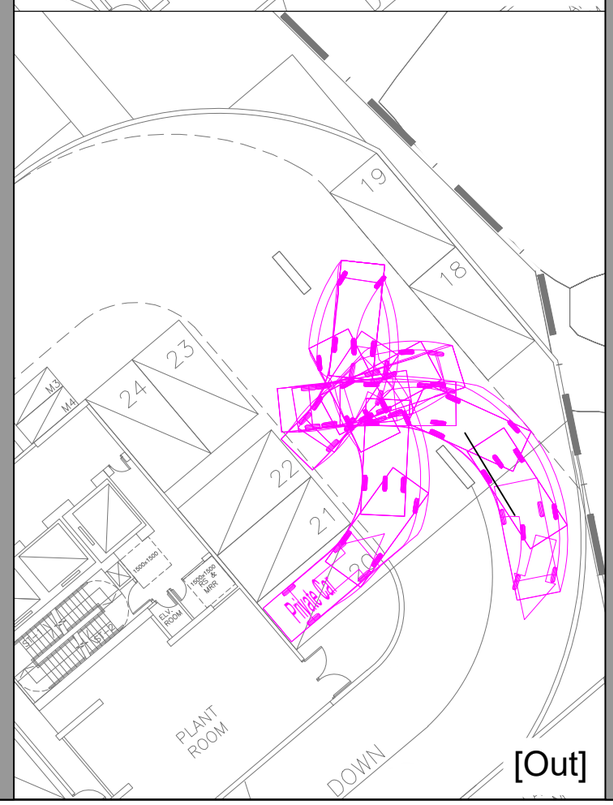
Rev. D

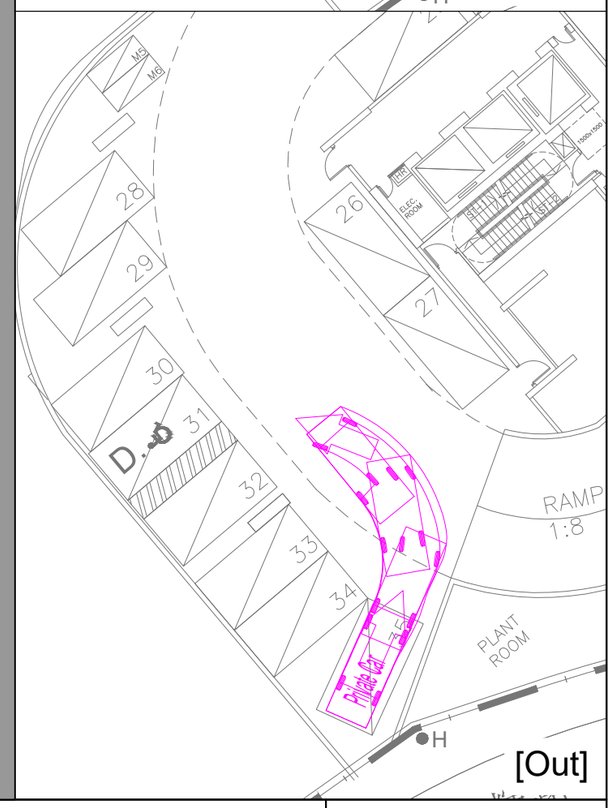







0 2.5 5 7.5 10

OZZO TECHNOLOGY

Date 25/07/2022 | Scale 1:250

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Upper Ground 1/F ( Space Nos.16,18,20 and 35 )

Architectural Services Department

Project No. 82077 | Rev. D
Dwg No. 1F-SP1

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-1F-SP-20220725.dwg 2022/07/25 15:51:42

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-1F-SP-20220725.dwg 2022/07/25 15:51:54

11.8

HONG FAI ROAD

康輝路

Private Car

RAMP UP

RAMP DOWN

PLANT ROOM

UNEXCAVATED AREA

ELEC. ROOM

FHC

[In]

[Out]

0 2.5 5 7.5 10

OZZO TECHNOLOGY

Date 25/07/2022

Scale 1:250

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Upper Ground 1/F ( Space No.28 and Connecting Ramp）

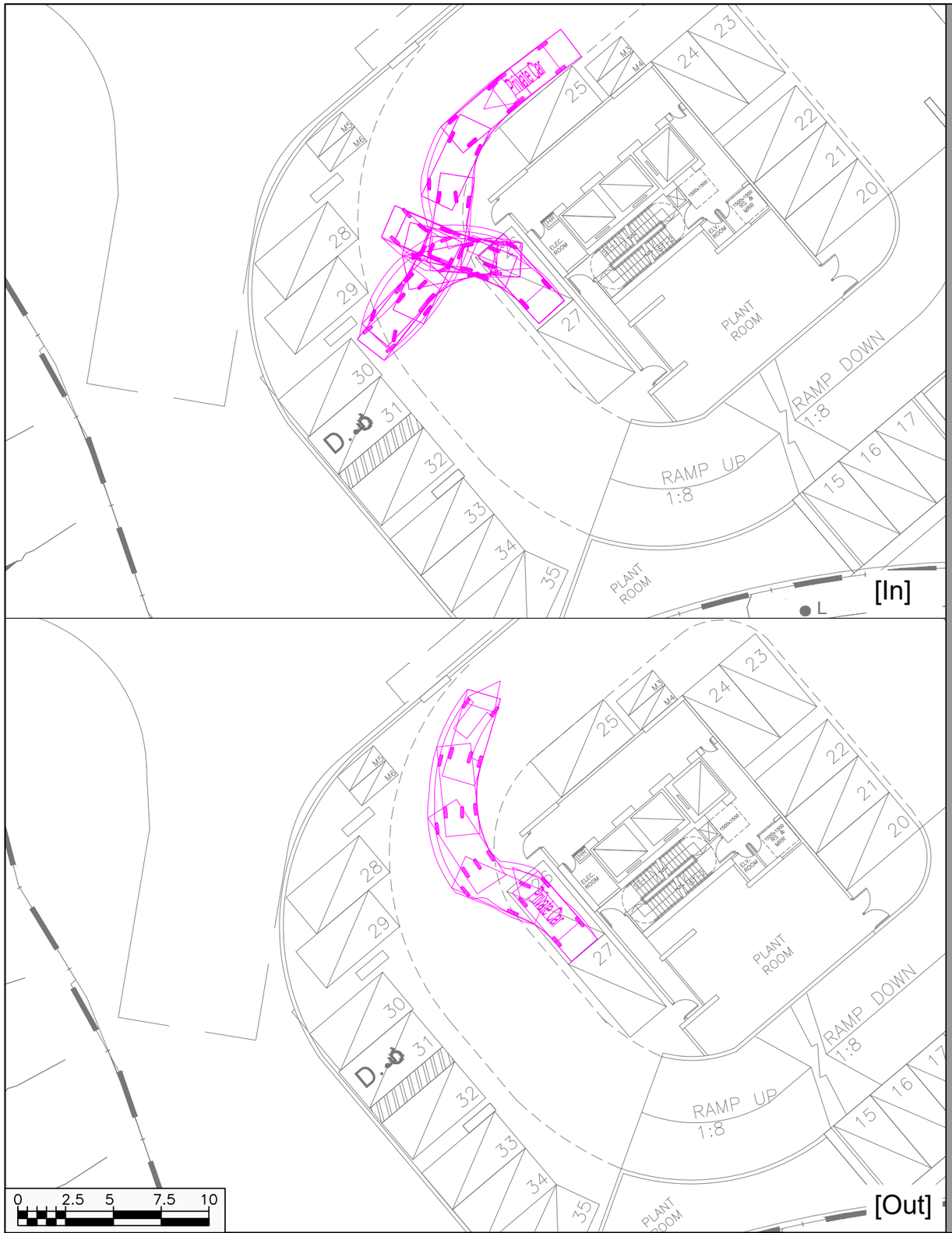
Architectural Services Department

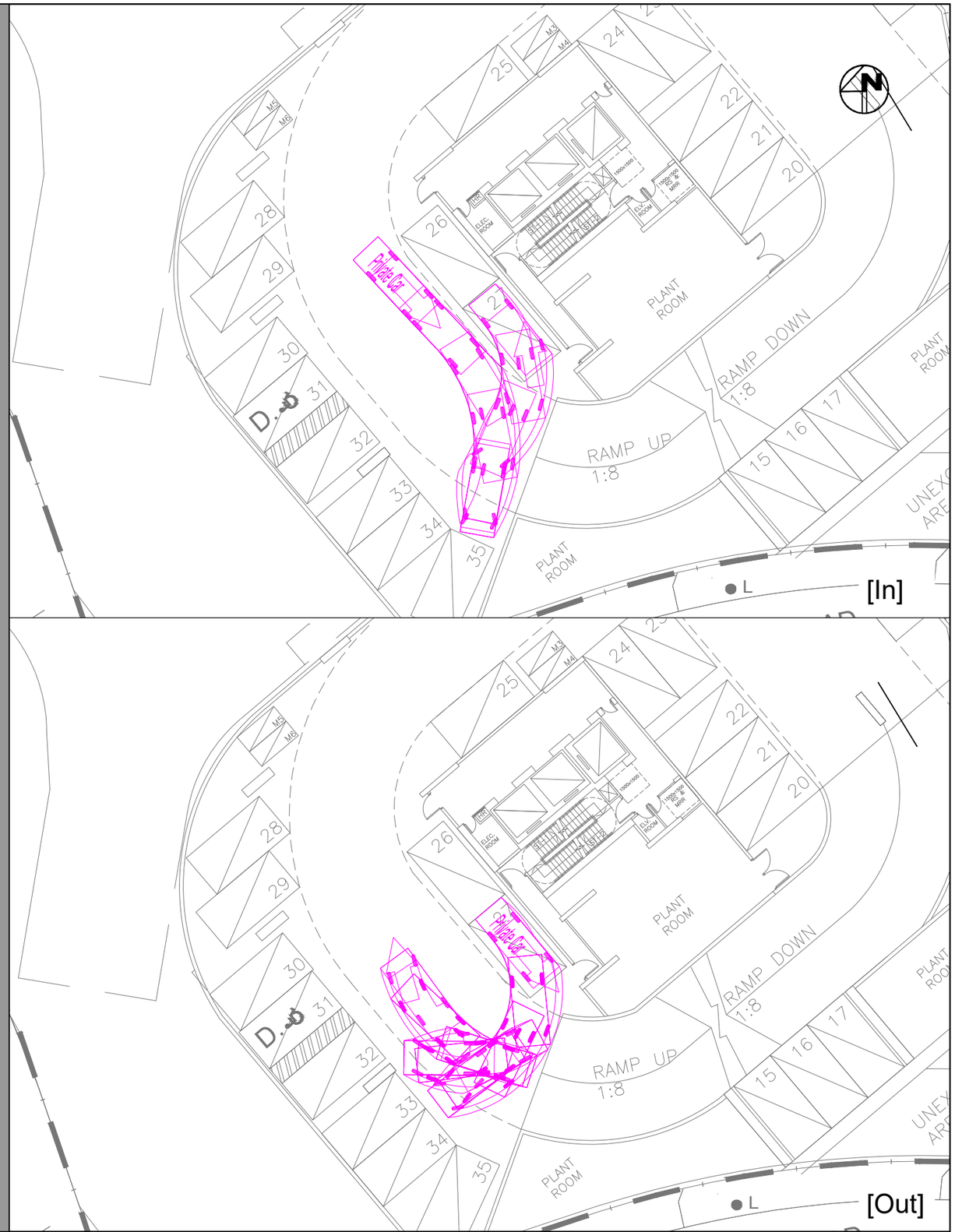
Project No. 82077

Dwg No. 1F-SP2

Rev. D

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-1F-SP-20220725.dwg 2022/07/25 15:52:08



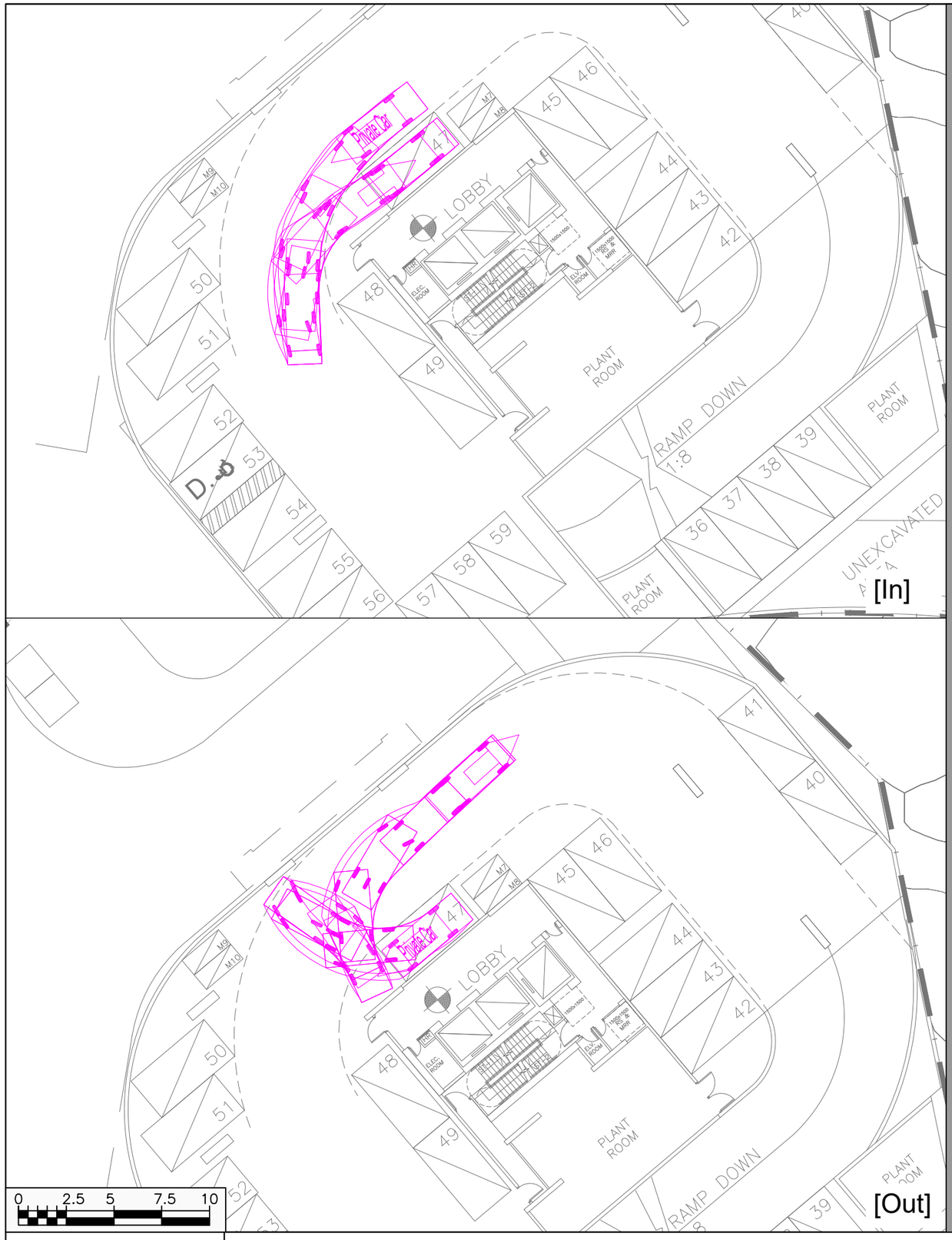

OZZO TECHNOLOGY

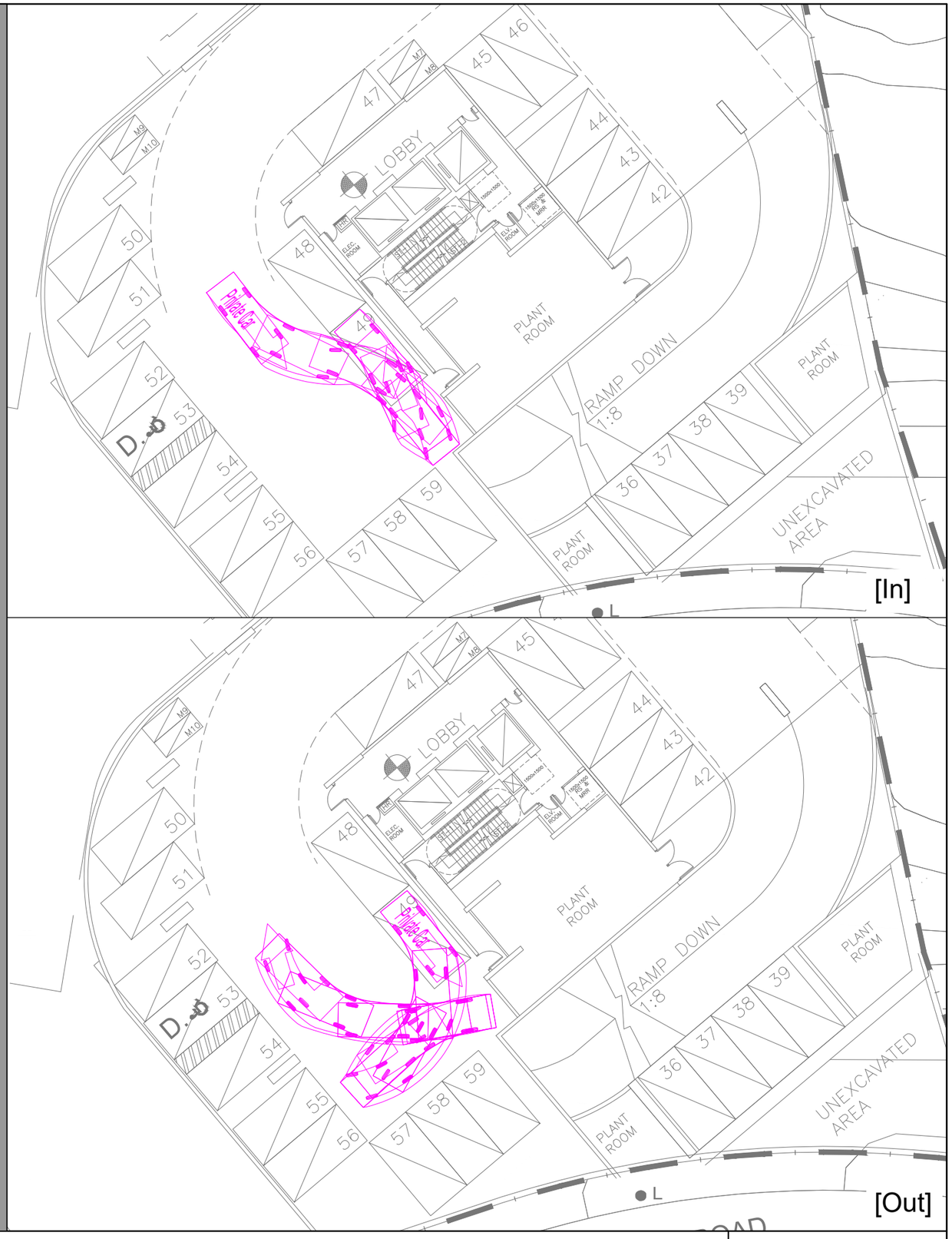
Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Upper Ground 1/F ( Space Nos.26 and 27 )

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. 1F-SP3 | |




OZZO TECHNOLOGY

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

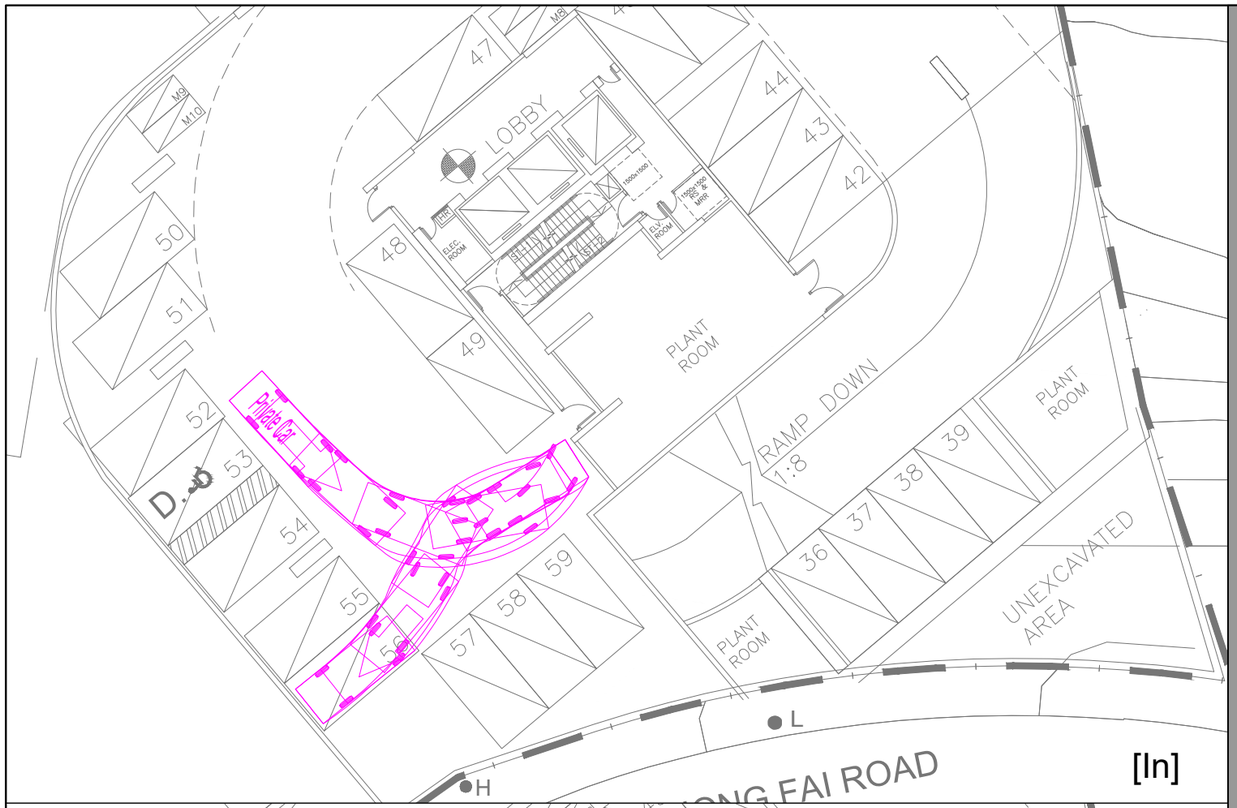
# Private Cars Swept Path Assessments on Upper Ground 2/F ( Space Nos.47 and 49 )

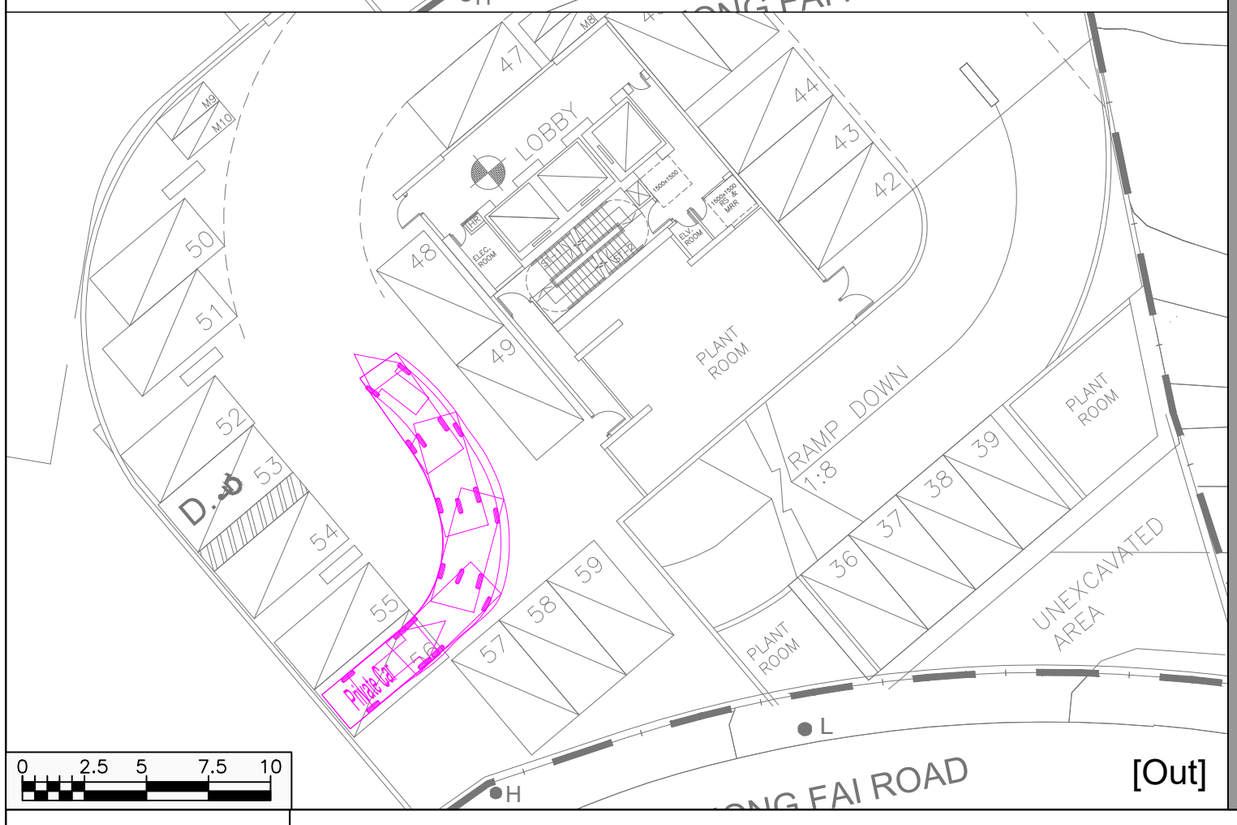
Architectural Services Department

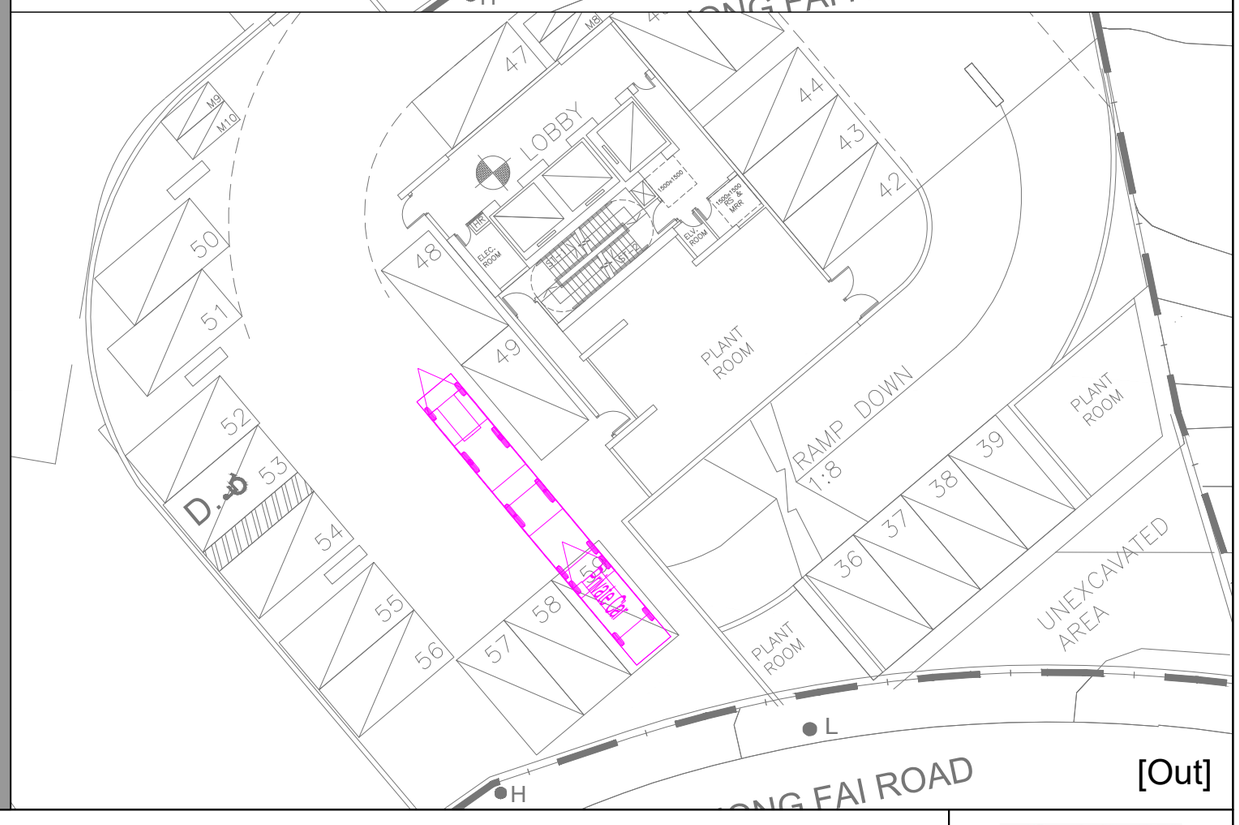
| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. 2F-SP1 | |

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-2F-SP-20220725.dwg 2022/07/25 15:53:06

X:\Ozzo\82077_Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road, Siu Lam\Data\Dwg\82077-2F-SP-20220725.dwg 2022/07/25 15:53:19






0 2.5 5 7.5 10

OZZO TECHNOLOGY

Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13
for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

# Private Cars Swept Path Assessments on Upper Ground 2/F ( Space Nos.56 and 59 )

Architectural Services Department

| Date | Scale | Project No. | Rev. |
|---|---|---|---|
| 25/07/2022 | 1:250 | 82077 | D |
| | | Dwg No. 2F-SP2 | |

小嶺

Siu Lam

# Annex G -
# Geotechnical Planning Review Report

SMEC
Member of the Surbana Jurong Group

local people
global experience

D01 / Geotechnical Planning Review Report

# Proposed Amendment to the Approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 for Redevelopment of Correctional Services Department's Staff Quarters at Hong Fai Road, Siu Lam

June 2022
Prepared for Correctional Services Department

# Table of Contents

## Main Text

1 INTRODUCTION ..... 1-1
1.1 Background ..... 1-1
1.2 Objectives of the Report ..... 1-1
2 SITE DESCRIPTION ..... 2-1
3 DESK STUDY ..... 3-1
3.1 General ..... 3-1
3.2 Published Geology ..... 3-1
3.3 Adjacent Features and Associated Studies ..... 3-1
3.4 Existing Ground Investigation (GI) ..... 3-2
3.5 Past Landslide Records ..... 3-3
3.6 Boulder Inventory ..... 3-3
3.7 Preliminary Geotechnical Appraisal ..... 3-3
4 SITE RECONNAISSANCE ..... 4-4
4.2 The Site ..... 4-4
4.3 Geotechnical Features ..... 4-4
4.4 Natural Terrain ..... 4-5
5 PROPOSED REDEVELOPMENT ..... 5-1
5.1 General ..... 5-1
5.2 Existing Geotechnical Features ..... 5-1
5.3 Adjacent Natural Terrain ..... 5-2
6 CONCLUSIONS AND RECOMMENDATIONS ..... 6-1

## List of Tables

Table 2.1: Existing Geotechnical Features ..... 2-1
Table 3.1: Summary of the Basic Information of Adjacent Features ..... 3-1
Table 3.2: Summary of Previous Studies / Upgrading Works ..... 3-1
Table 3.3: Summary of Previous GIs ..... 3-2
Table 4.1: Summary of Site Observations for Existing Features ..... 4-4
Table 5.1: Consequence-to-Life Category of the Retained Features after Future Redevelopment ..... 5-2

## List of Figures

Figure 1: Site Location Plan
Figure 2: Site Geology Map
Figure 3: Factual Desk Study
Figure 4: Interface with Existing Features

## Appendices

APPENDIX A INDICATIVE REDEVELOPMENT SCHEME
APPENDIX B PREVIOUS GI RECORDS
APPENDIX C PAST LANDSLIDE RECORDS

# 1 INTRODUCTION

## 1.1 Background

1.1.1 According to the Administration, it is the Government's established policy that Civil Service Housing Benefits (i.e., Departmental Quarters ("DQs") should, subject to the availability of resources, be provided to eligible civil servants as a type of housing benefit or for operational needs. It is envisaged that the demand for DQs will continue to rise. Therefore, it is proposed to redevelop Correctional Services Department ("CSD") Junior Staff Married Quarters bounded by Hong Fai Road to the south-east, Siu Lam Road to the south-west and north-west, and a parcel of private land and other unleased land to the north-east ("the Site" or "the Project") to maximise the numbers of DQ units so as to achieve better utilization of land resources.

1.1.2 Part of the Site is zoned as 'Government, Institution or Community' ("G/IC") comprising two 4-storey blocks and one 3-storey block of CSD's Junior Staff Married Quarters. There is a strip of additional land to the south-east zoned G/IC. The strip of additional land to the north-west falls within 'Green Belt' ("GB") zone on the approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/13.

1.1.3 According to the Notes of OZP, the "G/IC" zone is subject to a maximum building height of four storeys excluding basements. The scope of the project is (a) to demolish the existing buildings on the subject site and (b) to construct a building of about 21 storeys which is beyond the scope of minor relaxation of building height restriction under the OZP.

1.1.4 According to the Notes of the OZP, 'Flat' use is under Column 2 of the "G/IC" and "GB" zones. To facilitate the redevelopment project of DQ, amendments to the OZP are required by rezoning the areas zoned "GB" and "G/IC" to "G/IC(1)" and to revise the maximum building height of the "G/IC" zone with 'Flat' as Column 1 uses.

1.1.5 SMEC is commissioned to carry out a Geotechnical Planning Reviewing ("GPR") of the Project, as one of the supporting reports, for amendments to the OZP for submission to the Rural and New Town Planning Committee of the TPB for approval and exhibition under Section 5 of the *Town Planning Ordinance* ("TPO").

## 1.2 Objectives of the Report

1.2.1 In accordance with the guidelines under GEO Advice Note for Planning for Amendment under Town Planning Ordinance (CAP. 131), a Geotechnical Planning Review Report (GPRR) is prepared in support of this proposed amendment. The objectives of this Geotechnical Planning Review are summarized as follows:

(i) Identify any existing geotechnical features and / or natural terrain located within or in close proximity that may potentially affect or be affected by the Site / future development;

(ii) Carry out preliminary review on the stability of the features based on the available background / published information;

(iii) Assess the geotechnical feasibility of the proposed development; and

(iv) Recommend the need for further study based on the results of the preliminary assessments.

# 2 SITE DESCRIPTION

2.1.1 The Site, which is located in Siu Lam, to the northeast of Tuen Mun Road, is encircled by the northeast trending section of Siu Lam Road to its northwest, the northwest trending section of Siu Lam Road to its west and Hong Fai Road to its southeast respectively. On its eastern side, the Site adjoins a natural terrain. The Site is occupied by the existing Siu Lam Psychiatric Centre Junior Staff Married Quarters, which consists of two low-rise residential blocks, with two podiums in between the building structures. Open car park area is situated on the northwestern side of the Site.

2.1.2 There are 6 geotechnical features namely 6SW-D/R34, 6SW-D/R35, 6SW-D/F273, 6SW-D/F295, 6SW-D/CR817 and an unregistered slope, which are located within the Site or in its immediate vicinity. Hence these features may potentially affect or be affected by the proposed residential redevelopment. The maintenance responsibility of these features as indicated in the Systematic Identification of Maintenance Responsibility (SIMAR) of Slopes are summarized in ***Table 2.1*** below. In accordance with Tables 5.1 – 5.4 of the Geotechnical Manual for Slopes and Table 1 of Geotechnical Engineering Office (GEO) Technical Guidance Note 15 (TGN 15), the facility groups at crest and toe of these features, which are based on the current site situations, and the associated Consequence-to-life (CTL) categories are determined and summarized in ***Table 2.1*** below:

*Table 2.1: Existing Geotechnical Features*

| FEATURE NO. | CURRENT FACILITY GROUP AT CREST | CURRENT FACILITY GROUP AT TOE | CONSEQUENCE-TO-LIFE CATEGORY (CTL) | MAINTENANCE PARTY |
|---|---|---|---|---|
| 6SW-D/R34 | Road/Footpath with low traffic density | Residential building | 1 | • ArchSD<br>• TMTL 400 |
| 6SW-D/R35 | Lightly used playground | District open space | 3 | • ArchSD |
| 6SW-D/F273 | Road/Footpath with low traffic density | Residential building | 1 | • HyD |
| 6SW-D/F295 | Road/Footpath with low traffic density | Residential building | 1 | • ArchSD<br>• TMTL 400 |
| 6SW-D/CR817 | Lightly-used open area / facilities | Residential building | 1 | • ArchSD |
| Unregistered Slope | Residential building | Open car park | 1 | • ArchSD |

2.1.3 Apart from the above man-made features, there are also two areas of natural hillsides, overlooking the site from the southeast. The lower natural hillside is located within the southeastern part of the proposed site; whereas the upper natural hillside is separated from the site by Hong Fai Road. The lower hillside is approximately 14 m high, 20 m wide, inclining at an average angle of 25°. The upper hillside is approximately 30 m high, 30 m wide, inclining at 30°.

2.1.4 Both hillsides have an angular elevation of more than 20° from the Site, and there is ground sloping at more than 15° within 50m upslope of the Redevelopment Site. Therefore, the proposed site meets the Alert Criteria under GEO Report 138 for a Natural Terrain Hazard Study.

A plan showing the location of the Site, and its adjacent registered features as well as the extent of natural terrain under study is presented in ***Figure 2.***

# 3 DESK STUDY

## 3.1 General

3.1.1 A review of the available geological and geotechnical data for the Site area and its general vicinity has been carried out. Most of the relevant information was collated from GEO's web-based Geotechnical Information Infrastructure (GInfo), as well as the slope maintenance agents such as HyD and ArchSD. The available information includes published geological data, archived ground investigation (GI) data, Landslide Incident Record, Enhanced Natural Terrain Landslide Inventory (ENTLI), and previous studies / assessments as well as maintenance records relating to the existing registered features. Some of the key findings are presented in ***Figure 2*** and summarized below.

## 3.2 Published Geology

3.2.1 According to the Hong Kong Geological Survey (HKGS) Map Sheet 6 (scale 1:20,000) – Solid and Superficial Geology of Yuen Long (2nd Edition, 2019), the Site and its general vicinity including the natural hillsides to the southeast are generally underlain by fine grained Granite as the solid geology. An extract of the published geological map showing the Site and its vicinity is produced in ***Figure 3***.

## 3.3 Adjacent Features and Associated Studies

3.3.1 For the six adjacent man-made features: 6SW-D/R34, 6SW-D/R35, 6SW-D/F273, 6SW-D/F295, 6SW-D/CR817 and an unregistered fill slope, their basic information is summarized below:

*Table 3.1: Summary of the Basic Information of Adjacent Features*

| FEATURE | TYPE | GEOMETRY | | | CURRENT CTL | MAINTENANCE PARTY |
|---|---|---|---|---|---|---|
| | | LENGTH (m) | HEIGHT (m) | ANGLE (DEGREE) | | |
| 6SW-D/R34 | Retaining Wall | 21 | 5.2 | 90 | 1 | • ArchSD<br>• TMTL 400 |
| 6SW-D/R35 | Retaining Wall | 15 | 3.2 | 90 | 3 | • ArchSD |
| 6SW-D/F273 | Fill Slope | 47 | 6 | 30 | 1 | • HyD |
| 6SW-D/F295 | Fill Slope | 110 | 5.5 | 29 | 1 | • ArchSD<br>• TMTL 400 |
| 6SW-D/CR817 | Cut slope and Retaining Wall | S: 7<br>W: 16 | S: 1<br>W: 2.2 | S: 30<br>W: 90 | 1 | • ArchSD |
| Unregistered Slope | Fill Slope | 55 | 2 | 30 - 50 | 1 | • ArchSD |

3.3.2 Background information search was carried out to identify any previous studies and / or records of upgrading / maintenance works on these features and the results are summarised in the table below.

*Table 3.2: Summary of Previous Studies / Upgrading Works*

| FEATURE | SLOPE ASSESSMENT / UPGRADING WORKS / MAINTENANCE RECORDS |
|---|---|
| 6SW-D/R34 | Stability assessment was prepared by Fugro in 2006 and the slope was considered as up to current GEO standard, and therefore no upgrading works were required. |

| FEATURE | SLOPE ASSESSMENT / UPGRADING WORKS / MAINTENANCE RECORDS |
|---|---|
| 6SW-D/R35 | No record of previous study or upgrading works |
| 6SW-D/F273 | No record of previous study or upgrading works |
| 6SW-D/F295 | No record of previous study or upgrading works |
| 6SW-D/CR817 | No record of previous study or upgrading works |
| Unregistered Slope | No record of previous study or upgrading works |

## 3.4 Existing Ground Investigation (GI)

3.4.1 There are three major archived GI carried out within or in the vicinity of the Redevelopment Site. The relevant GI is summarized in the table below:

*Table 3.3: Summary of Previous GIs*

| PROJECT | GI CONTRACTOR | YEAR | RELEVANT GI STATIONS |
|---|---|---|---|
| Proposed Residential Development at Siu Lam, New Territories (GIU 19543) | Enpack (HK) Ltd. | 1994 | • 1 drillhole *(93939/61)* |
| Consultancy Assignment for Stability Assessment Feature Ref. 6SW-D/R34 off Siu Lam Road, Hong Fai Road (GIU 42860) | Geotechnics & Concrete Engg. (HK) Ltd. | 2005 | • 3 coreholes (*R34-CH1 to CH3*)<br>• 2 trial pits *(R34-TP1 to TP2)* |
| Tuen Mun Sewerage – Investigation, Design and Construction, Castle Peak Road Trunk Sewers (GIU 56293 – 94) | Fugro Geotechnical Services Ltd. | 2012 | • 1 drillhole *(BH10)*<br>• 1 trial pit *(TP8)* |

3.4.2 From the available GI records, the sub-surface profiles of the Site typically consisted of a layer of fill, varying from 1 m to 3 m thick, overlying the saprolite of completely and highly decomposed granite, which ranged from less than 1 m to about 6 m thick. A layer of alluvium of 6 m thick was also encountered in one of the drillholes. The bedrock, consisting of moderately and slightly decomposed granite, was encountered at about 7 to 12 m below ground.

3.4.3 The typical descriptions of the different materials are summarized as follows:

- **Fill** – Sandy, clayey SILT; silty fine to coarse SAND
- **Alluvium** – Medium dense, silty medium SAND
- **Saprolite** – Sandy clayey SILT; Silty fine to coarse SAND
- **Bedrock** – Moderately strong to strong, moderately to slightly decomposed medium-grained GRANITE with closely to medium spaced joints

3.4.4 From the available records, one standpipe was installed in one of the inclined coreholes to measure the groundwater and dry condition was recorded.

3.4.5 The location of existing GI is shown in ***Figure 2***. A summary of the GI findings and groundwater monitoring records is enclosed in ***Appendix B***.

## 3.5 Past Landslide Records

3.5.1 According to GEO's Landslide Incident Record, there is one recorded incident, NT82/191, which is located at feature 6SW-D/F295. The incident occurred in June 1982 involving a shallow slip probably caused by surface infiltration. The location of the incident is shown in ***Figure 2;*** the incident report is enclosed in ***Appendix C***.

3.5.2 According to the Enhanced Natural Terrain Landslide Inventory (ENTLI), there is no recorded past landslide within the study natural hillsides.

## 3.6 Boulder Inventory

3.6.1 According to the Territory-wide Boulder Field Inventory, the northwestern part and the southeastern part of the Site are assigned with boulder polygon no. S6_U and S6_1499 respectively, both indicating no data with respect to the presence of boulders.

## 3.7 Preliminary Geotechnical Appraisal

3.7.1 A Preliminary Geotechnical Appraisal was carried out by ArchSD in 2017 for the proposed redevelopment. In the study, it was concluded that it was geotechnical feasible for the proposed redevelopment. Five registered geotechnical features (6SW-D/R34, 6SW-D/R35, 6SW-D/F273, 6SW-D/F295 and 6SW-D/CR817) located within or in the vicinity of the proposed Site were identified as potentially affecting or being affected by the future redevelopment. The Study also identified two areas of natural hillside catchments within or in the vicinity of the Site, which was considered as satisfying the Alert Criteria under GEO Report 138 for a natural terrain hazard study. It was recommended to carry out GI to confirm the geological profiles and to determine engineering properties / parameters of the materials to facilitate the future detailed designs.

# 4 SITE RECONNAISSANCE

4.1.1 Site reconnaissance was carried out in April 2021 to inspect the general conditions of the Site and its vicinity including the adjacent features and the natural hillsides (refer to **Photos 1 to 24**).

## 4.2 The Site

4.2.1 The Site is located in Siu Lam, at the junction of Siu Lam Road and Hong Fai Road, to the east of Tuen Mun Road. It is currently occupied by the existing Siu Lam Psychiatric Centre Junior Staff Married Quarters (the Quarters), which consists of two residential buildings of 3 and 4 storeys high, with two platforms between these building structures. The two platforms, which lie at approximate 17.5 mPD and 19.5 mPD, consist of playground and open spaces for the Quarters. The Site can be accessed from the south and southeast via a staircase and a footbridge, both connecting Hong Fai Road to the Quarters. For the vehicular access, it is through Siu Lam Road from the north.

4.2.2 Site photos showing the general site area are presented on **Photos 1 to 6**.

## 4.3 Geotechnical Features

4.3.1 There are six features located within or adjacent to the Redevelopment Site. These features were inspected during the site reconnaissance and the key findings are summarized in ***Table 4.1***.

*Table 4.1: Summary of Site Observations for Existing Features*

| FEATURE | GENERAL DESCRIPTIONS |
|---|---|
| 6SW-D/R34<br>***Photos 7 to 8*** | The feature is a northwest facing concrete retaining wall located below Hong Fai Road, and the footbridge that connects Hong Fai Road and the Quarters. The wall is about 5.2 m high, 21 m long and inclining at 90°. Weepholes are present on the wall, which were generally in fair condition without major blockage. There is a drainage channel along the toe of the retaining wall, which appeared clear and dry during the site inspection. The visual condition of the wall surface was generally fair. No significant sign of seepage or distress was identified during the site inspection. |
| 6SW-D/R35<br>***Photos 9 to 10*** | The feature is mainly a northeast facing retaining wall, located along the northern portion of the lower platform of the Site. The wall is about 3.2 m high, 21 m long and inclining at 90°. The northwestern portion of the wall is located in the basement of the building and was not accessible for inspection. The middle portion of the retaining wall is covered by decoration tile; whereas the southeastern portion of the wall is located next to a staircase. The visual condition of the wall surface was generally fair. There is no surface channel or weephole at the wall. No significant sign of distress or seepage was evident during the site inspection. |
| 6SW-D/F273<br>***Photos 11 to 12*** | The feature is a northeast facing fill slope located below the northwest trending section of Siu Lam Road, to the west of the Site. It is also found adjacent to the internal access road and carpark of the Quarters. The slope is about 47 m long, with the maximum height of about 6 m, and inclining at 30°. The slope surface is covered with sparse vegetation. There is a U-channel along the toe of the feature, which appeared dry and clear. No significant sign of distress was evident during the inspection. |

| FEATURE | GENERAL DESCRIPTIONS |
|---|---|
| 6SW-D/F295<br>***Photos 13 to 15*** | The feature is a southeast facing fill slope located directly below the northeast trending section of Siu Lam Road, to the north of the Site. The slope is about 110 m long, with the maximum height of 5.5 m and inclining at 29°. The slope surface is generally covered with sparse vegetation. There is an open U-channel along the toe of the feature, which was partially blocked. There was no significant sign of distress evident during the inspection. |
| 6SW-D/CR817<br>***Photos 16 to 17*** | The feature, which consists of a northwest facing cut slope with toe retaining wall, is located below the refuse collection bay of the Quarters, at the southeastern side of the Site. The cut slope is about 1 m high, 7 m long, inclining at 30° and the concrete retaining wall is about 2.2 m high, 16 m long, inclining at 90°. Weepholes are present on the wall, which were generally in fair condition without major blockage. U-channels are located along the toe and crest of the retaining wall, which appeared clear and dry. The visual condition of the wall surface was generally fair. No significant sign of seepage or distress was identified during the site inspection. |
| Unregistered Slope<br>***Photos 18 to 21*** | The feature is a southwest to northeast facing fill slope, which supports the lower platform of the Quarters. The slope is about 2 m high, 55 m long and inclining at 30° - 50°. The slope surface is generally covered with sparse vegetation; whereas for the steeper portion of feature, located near feature 6SW-D/F295, it is covered with shotcrete. There are surface channels along the toe and crest of the slope, which were partially blocked. A minor slip was evident at the middle portion, with the dimension of about 2 m wide and 1 m high. |

## 4.4 Natural Terrain

4.4.1 A natural terrain is located at the southeastern corner of the Site. The natural terrain is not readily accessible due to the dense vegetation growth. The inspection was carried out at suitable vantage points from the Quarters. The catchment, which consists of a north facing natural hillside, is relatively small in scale. It is about 14 m high, with a lateral extent of about 20 m, and the hillside appeared gently inclined, with a broadly convex profile. There was no sign of distress or evidence of stability evident.

4.4.2 There is another northwest facing natural hillside located further upslope, which is separated from the proposed development Site by the 8 m wide Hong Fai Road. This hillside catchment is approximately 30 m wide and 30 m high that rises from the northwest at about 26mPD to the southeast at about 56mPD. The natural hillside, which is located between the registered features 6SW-D/C282 and 6SW-D/C283, consists of an open hillslope terrain, with moderately inclined planar slope profile. There is the lack of any drainage channel or topographical depression. The natural hillside is densely vegetated, without signs of distress or instability.

4.4.3 Site photos showing the hillsides are presented on **Photos 22 to 24**.

# 5 PROPOSED REDEVELOPMENT

## 5.1 General

5.1.1 From the latest architectural layout plan (***Appendix A***), the proposed redevelopment scheme involves demolition of the existing buildings and the construction of a new building of about 17 storeys, which will be erected at the level of about 18mPD. There is no development for any basement structures.

5.1.2 Since the proposed formation level is in general in line with the existing ground level, no major excavation or filling works is anticipated for forming the site. However, a new retaining wall will need to be constructed along the southwestern to southeastern of the Redevelopment Site to support the level difference between the Site and Hong Fai Road on the uphill side. The proposed new geotechnical features should therefore be properly designed with the support of site-specific GI during the detailed design stage to ensure long-term stability and compliance with the required safety standards.

## 5.2 Existing Geotechnical Features

5.2.1 According to the redevelopment layout plan, the four existing geotechnical features, 6SW-D/R34, 6SW-D/R35, 6SW-D/CR817 and the unregistered fill slope, which are located within the footprint of the proposed building layout, will likely be demolished under the future development.

5.2.2 For feature 6SW-D/F273, which is located to the southwest, at a distance of about 10 m from the proposed structures, it will generally be retained under the proposed redevelopment; whereas for feature 6SW-D/F295, its southern end portion will likely be modified to cater for the new vehicular access that links up Siu Lam Road to the northwest of the Site.

5.2.3 From the available records, there is no stability assessment or upgrading works carried out for features 6SW-D/F273 and 6SW-D/F295. Hence the stability of these two features should be thoroughly checked during the detailed design stage with the support of site-specific GI to ensure the features possess adequate factor of safety. In particular, these two features involve fill slopes, which are subject to potential liquefaction failure if the degree of compaction is inadequate. Remedial works should therefore be designed to upgrade the stability of these features if they are checked to be below the current safety standards. For feature 6SW-D/F295, since the southern end portion will be subject to modification under the redevelopment, the modified feature should be properly designed with the support of site-specific GI during the detailed design stage to ensure long-term stability and compliance with the required safety standards.

5.2.4 Since features 6SW-D/F273 and 6SW-D/F295 will generally be retained, the stability of these features should be duly considered during the design for the proposed site formation and building works to minimize any adverse impact on the features as a result of the future construction. There is no change to the facility groups at the crest and toe of the two features after future redevelopment. As such, their consequence-to-life category (CTL) will remain the same as Category 1. The crest and toe facility groups and the CTL category of the retained features are summarised in Table 5.1 below.

*Table 5.1: Consequence-to-Life Category of the Retained Features after Future Redevelopment*

| FEATURE NO. | FUTURE FACILITY GROUP AT CREST | FUTURE FACILITY GROUP AT TOE | FUTURE CONSEQUENCE-TO-LIFE CATEGORY (CTL) |
|---|---|---|---|
| 6SW-D/F273 | Road/Footpath with low traffic density | Residential building | 1 |
| 6SW-D/F295 | Road/Footpath with low traffic density | Residential building | 1 |

5.2.5 A plan illustrating the interface between the existing features and the proposal redevelopment is shown in ***Figure 4***.

## 5.3 Adjacent Natural Terrain

5.3.1 As aforementioned, there are two areas of natural hillsides in the vicinity of the Site, which will potentially affect or be affected by the redevelopment. For the lower natural hillside, which is situated within the Redevelopment Site, at the southeastern side of the Site, the lower portion will likely be removed to cater for the building development. The remaining upper portion generally consists of a small catchment of about 10 m high and 20 m wide, inclining at about 25°. The stability of the remaining portion should therefore be duly considered during the detailed design of the site formation works under the proposed redevelopment.

5.3.2 For the upper natural hillside, it is situated further upslope to the southeast, and is separated from the Site by an 8 m wide Hong Fai Road. The hillside is relatively small in scale, approximately 30 m wide and 30 m high, inclining at about 30°. This hillside consists of an open hillslope catchment, characterised by a planar profile. There is the lack of over-steepened terrain or abrupt break-in-slope. There is no drainage channel or topographical depression within the catchment area, and there is no record of any previous instability. The potential of significant natural terrain hazards that will affect the Site is considered relatively low.

5.3.3 Nevertheless, the Site satisfies the Alert Criteria for natural terrain hazard study, which should therefore be carried out during the detailed design stage to identify any potential natural terrain hazards, and to assess their respective impacts in affecting the Site.

# 6 CONCLUSIONS AND RECOMMENDATIONS

6.1.1 From the above preliminary geotechnical assessment, which is based on the available geological and geotechnical data, it is concluded that the proposed redevelopment at the subject Site is geotechnically feasible. Significant geotechnical hazards / constraints that may adversely affect the future redevelopment are not evident from the available geotechnical data.

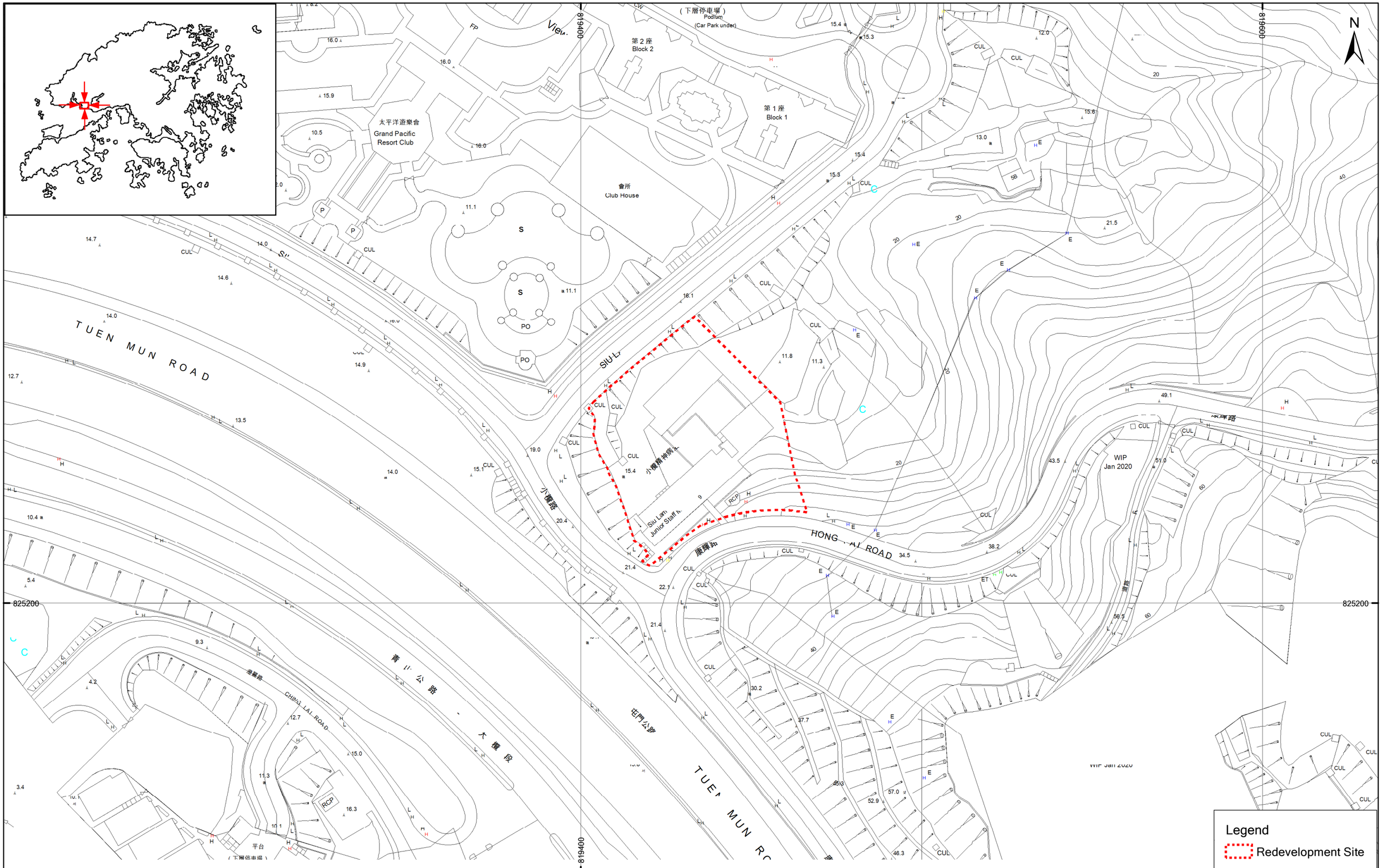
6.1.2 It is recommended that project-specific GI should be carried out during the detailed design stage to collate sufficient and relevant geotechnical data for building up a reliable ground model to facilitate the detailed engineering designs including slope assessment, site formation and foundation designs.

6.1.3 There are two existing features, 6SW-D/F273 and 6SW-D/F295, which will be retained and locally modified respectively under the proposed redevelopment. The stability of these features should be assessed and duly considered during the detailed design in order to prevent any adverse impact on the features as a result of the construction works or vice versa. Upgrading works should be designed to enhance the stability of these features if they are assessed as below the current safety standards. For the remaining portion of Feature 6SW-D/F295, it will need to be modified and further upgraded and hence the existing trees on the slope will be affected. For the proposed modified feature, it should be properly designed based on site-specific GI to ensure adequate factor of safety in meeting the current safety standards.

6.1.4 A natural terrain hazard study should be carried out for the existing natural terrain on the upslope to the southeast of the Site to identify and determine any potential natural terrain hazards and their associated impacts. Mitigation works should be carried out where necessary to prevent the potential hazards that may affect the downslope redevelopment.

6.1.5 A comprehensive instrumentation and monitoring system with mitigation / contingency measures should be formulated during the detailed design to closely monitor the construction impact on the adjacent building structures, roads, slopes and utilities.

# FIGURES

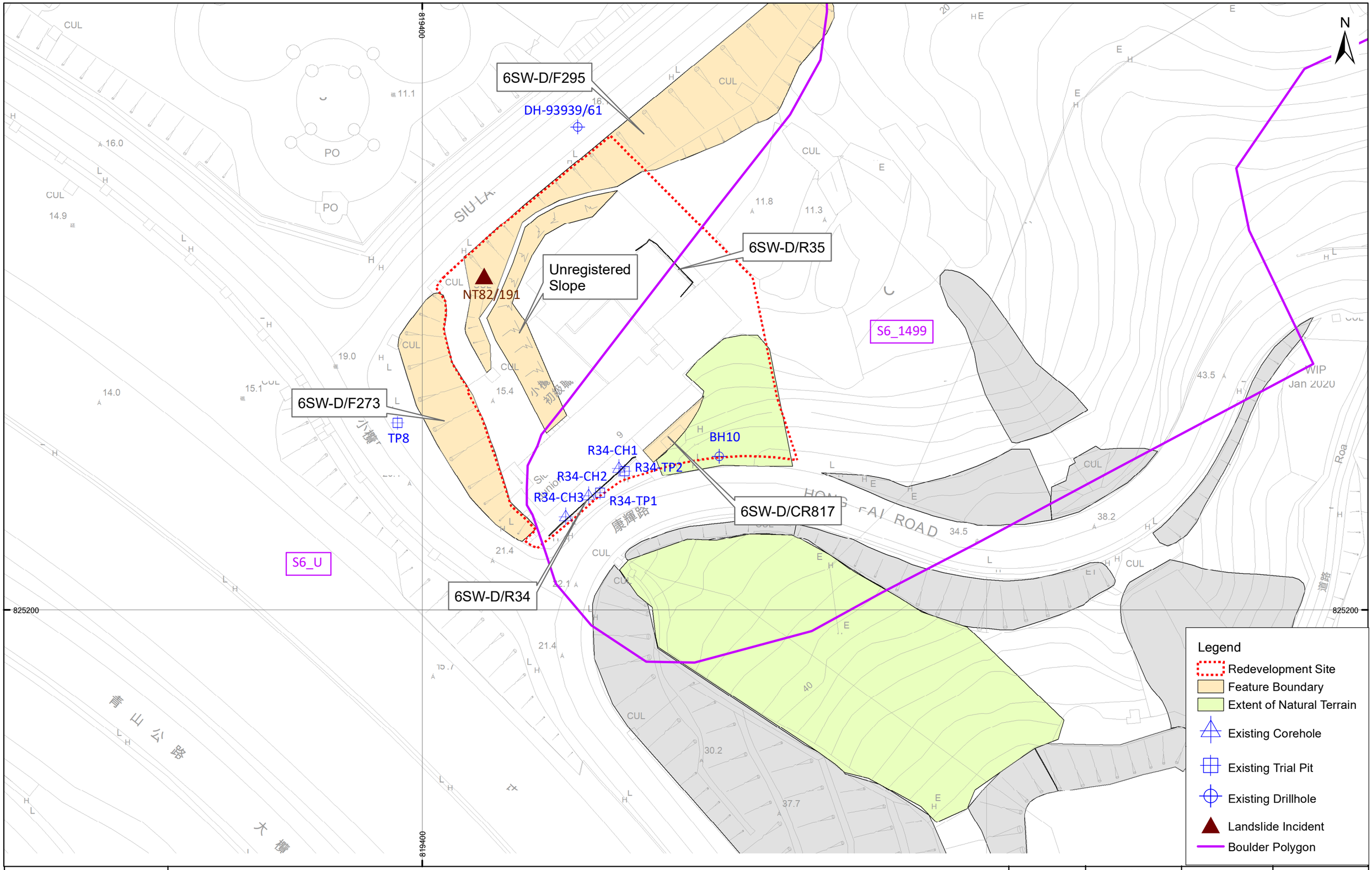



SMEC
Member of the Surbana Jurong Group

Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam

**Site Location Plan**

| | | | |
|---|---|---|---|
| SCALE | 1:1,000 | DATE | June 2022 |
| CHECK | EH | DRAWN | MH |
| JOB NO. | 7076807 | Figure 1 | REV. D |

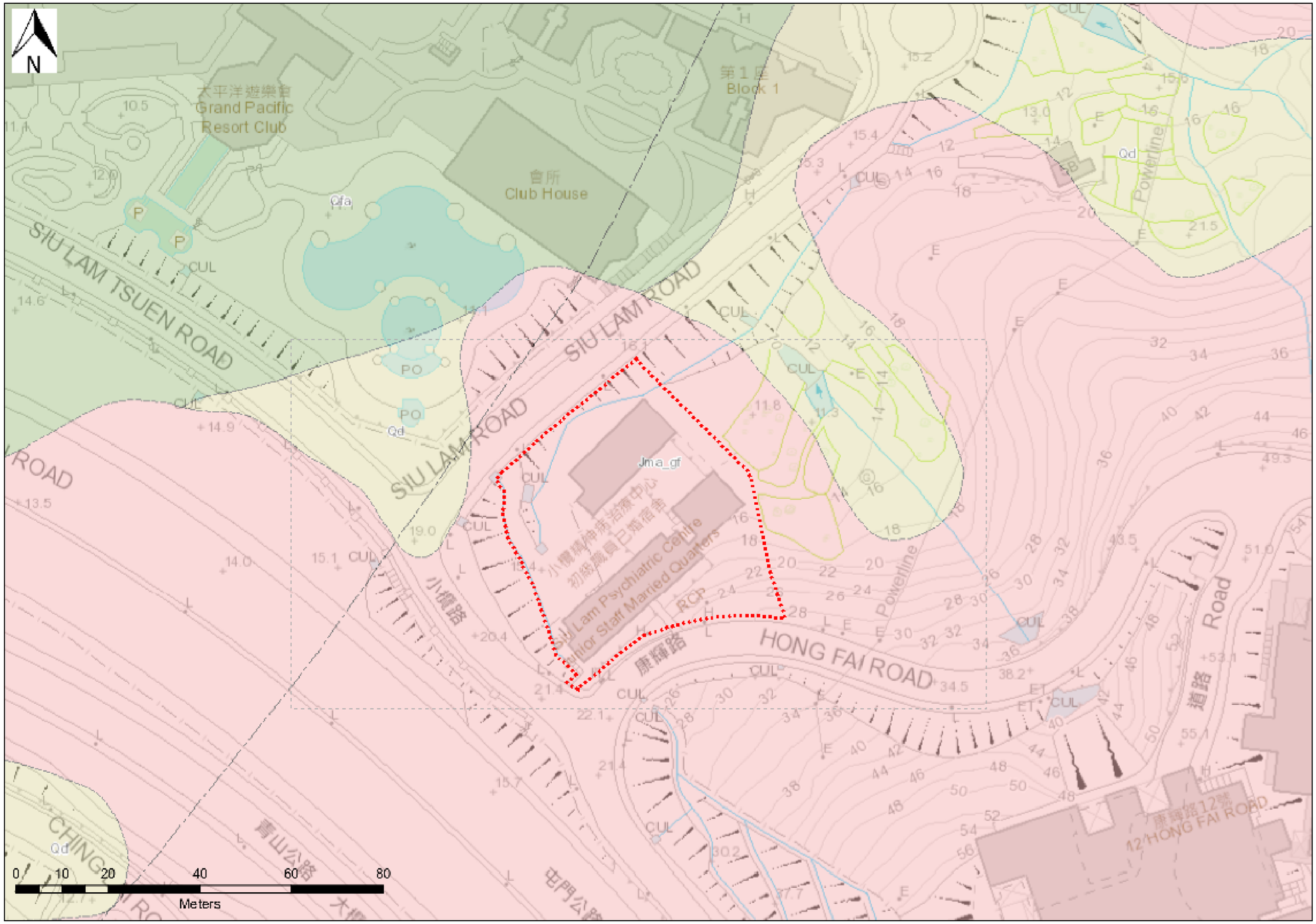



SMEC
Member of the Surbana Jurong Group

Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam

**Factual Desk Study**

| | | | |
|---|---|---|---|
| SCALE | 1:600 | DATE | June 2022 |
| CHECK | EH | DRAWN | MH |
| JOB NO. | 7076807 | Figure 2 | REV. D |




## Legend

Redevelopment Site

### Superficial Deposit

| | |
|---|---|
| Qfa | Clay, silt, sand and gravel; well-sorted to semi-sorted |
| Qd | Debris Flow Deposits |

### Solid Geology

| | |
|---|---|
| Jma_gf | Fine-grained granite |

(Extract from Hong Kong Geological Survey Sheet 6, 2nd Edition, 2019)

SMEC
Member of the Surbana Jurong Group

Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam

**Extract of Published Geology Map**

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | June 2022 |
| CHECK | EH | DRAWN | MH |
| JOB NO. | 7076807 | Figure 3 | REV. D |

6SW-D/F295

6SW-D/R35

Unregistered Slope

6SW-D/F273

6SW-D/CR817

6SW-D/R34

SIU LAM ROAD

HONG FAI ROAD

小欖精神病治療中心
初級職員已婚宿舍

Siu Lam Psychiatric Centre
Junior Staff Married Quarters

小欖路

康輝路

N

## Legend

- Redevelopment Site
- Proposed Development Layout at Ground Level
- Feature Boundary
- Extent of Natural Terrain

| Feature No. | Potential Impact under Proposed Redevelopment |
|---|---|
| 6SW-D/R34<br>6SW-D/R35<br>6SW-D/CR817<br>Unregistered Slope | To be demolished |
| 6SW-D/F295<br>The lower Natural Terrain | To be partially modified / demolished |
| 6SW-D/F273<br>The upper Natural Terrain | Not directly affected |

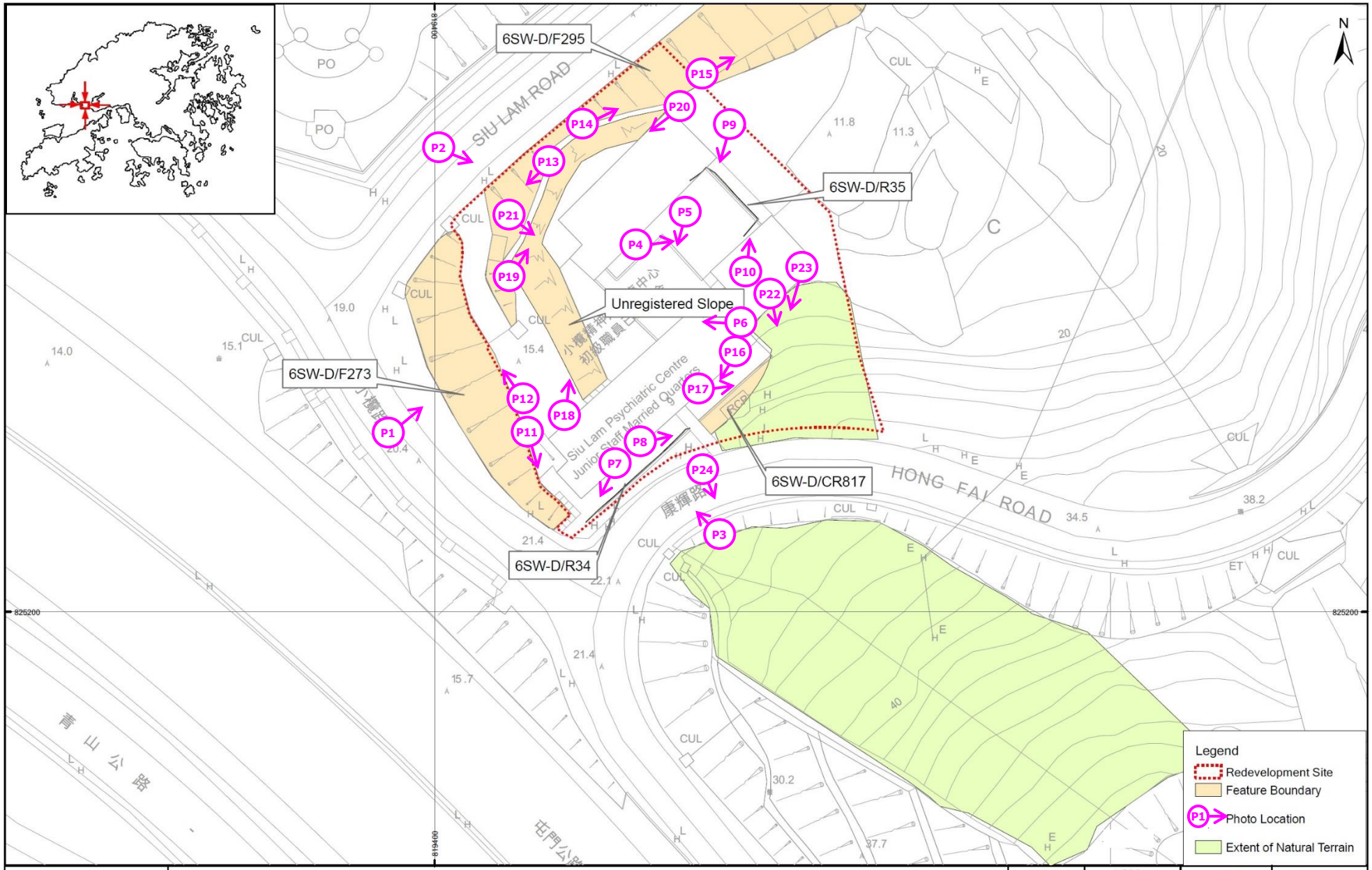
SMEC
Member of the Surbana Jurong Group

Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam

**Interface with Existing Features**

| | | | |
|---|---|---|---|
| SCALE | 1:500 | DATE | June 2022 |
| CHECK | EH | DRAWN | MH |
| JOB NO. | 7076807 | Figure 4 | REV. D |

# PHOTOS




SMEC
Member of the Surbana Jurong Group

Redevelopment of Staff Quarters for CSD at Hong Fai Road, Siu Lam

**Photo Location**

| | | | |
|---|---|---|---|
| SCALE | 1:500 | DATE | June 2022 |
| CHECK | EH | DRAWN | MH |
| JOB NO. | 7076807 | Photo - 1 | REV. E |

| | |
|---|---|
| **Photo 1** | General view at eastern portion of development site |

| | |
|---|---|
| **Photo 2** | General view at northern portion of development site |

| | |
|---|---|
| **Photo 3** | General view at southern entrance of development site |

| | |
|---|---|
| **Photo 4** | General view of lower platform |

| | |
|---|---|
| **Photo 5** | General view of existing buildings |

| | |
|---|---|
| **Photo 6** | General view of upper platform |

| | |
|---|---|
| **Photo 7** | General view of Feature No. 6SW-D/R34 (Facing southwest) |

| | |
|---|---|
| **Photo 8** | General view of Feature No. 6SW-D/R34 (Facing northeast) |

| | |
|---|---|
| **Photo 9** | General view of Feature No.  6SW-D/R35 |

| | |
|---|---|
| **Photo 10** | General view of eastern portion of Feature No. 6SW-D/R35 |

| | |
|---|---|
| **Photo 11** | General view of southern portion of Feature No. 6SW-D/F273 |

| | |
|---|---|
| **Photo 12** | General view of northern portion of Feature No. 6SW-D/F273 |

| | |
|---|---|
| **Photo 13** | General view of western portion of Feature No. 6SW-D/F295 |

| | |
|---|---|
| **Photo 14** | General view of middle portion of Feature No. 6SW-D/F295 |

| | |
|---|---|
| **Photo 15** | General view of eastern portion of Feature No. 6SW-D/F295 |

| | |
|---|---|
| **Photo 16** | General view of Feature No. 6SW-D/CR817 (Facing southwest) |

| | |
|---|---|
| **Photo 17** | General view of Feature No. 6SW-D/CR817 (Facing northeast) |

| | |
|---|---|
| **Photo 18** | General view of southern portion of Unregistered Slope |

| | |
|---|---|
| **Photo 19** | General view of middle portion of Unregistered Slope |

| | |
|---|---|
| **Photo 20** | General view of northern portion of Unregistered Slope |

| | |
|---|---|
| **Photo 21** | A minor slip at middle portion of Unregistered Slope |

| | |
|---|---|
| **Photo 22** | General view of lower Natural Terrain |

| | |
|---|---|
| **Photo 23** | General view of lower Natural Terrain |

| | |
|---|---|
| **Photo 24** | General view of upper Natural Terrain |

# Appendix A INDICATIVE REDEVELOPMENT SCHEME

**(Refer to Appendix 1 of the Supplementary Planning Statement)**

# Appendix B PREVIOUS GI RECORDS

**Planning Consultancy Services for Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road**

Appendix B1 - Summary of Existing GI Data

| GIU | Contractor | Project Name | Year | Investigation No. | Easting | Northing | Orientation | Ground Level (mPD) | Terminated Depth (mbgl) | Retaining Wall / Pavement Thickness (m) | Fill Thickness (m) | Alluvium Thickness (m) | Saprolite Thickness (m) | Rockhead Level (mbgl) | Elevation of Rockhead (mPD) | Material |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19543 | Enpack (H.K.) Ltd | Proposed Residential Development at Siu Lam, New Territories | 1994 | 93939/61 | 819427.59 | 825285.68 | Vertical | 8.24 | 17.06 | - | 3.1 | 6 | 2.6 | 11.6 | -3.36 | Granite |
| 42860 | Geotechnics & Concrete ENGG. (HK.) Ltd. | Consultancy Assignment for Stability Assessment Feature Ref. 6SW-D/R34 Off Siu Lam Road, Hong Fai Road | 2005 | R34-CH1 | 819434.91 | 825225.19 | 35/140 | 15.6 | 5.5 | 1.88 | 2.05 | - | 1.57 | - | - | Granite |
| | | | | R34-CH2 | 819429.52 | 825220.31 | 35/140 | 19.49 | 3.85 | 1.42 | 2.43 | - | - | - | - | Fill |
| | | | | R34-CH3 | 819425.42 | 825216.57 | 40/140 | 19.53 | 4.1 | 1.6 | 2.05 | - | 0.45 | - | - | Granite |
| | | | | R34-TP1 | 819431.56 | 825220.73 | - | 23.46 | 3 | - | 3 | - | - | - | - | Fill |
| | | | | R34-TP2 | 819435.92 | 825224.53 | - | 24.32 | 3 | - | 3 | - | - | - | - | Fill |
| 56293 | Fugro Geotechnical Services Ltd. | Tuen Mun Sewerage -Investigation, Design and Construction, Castle Peak Road Trunk Sewers | 2012 | BH10 | 819452.68 | 825227.24 | Vertical | 26.87 | 13.13 | - | 1 | - | 6.18 | 7.18 | 19.69 | Granite |
| 56294 | Fugro Geotechnical Services Ltd. | Tuen Mun Sewerage -Investigation, Design and Construction, Castle Peak Road Trunk Sewers | 2012 | TP8 | 819395.62 | 825233.16 | Vertical | 19.88 | 1.3 | 0.2 | 1.1 | - | - | - | - | Fill |

**Planning Consultancy Services for Redevelopment of Staff Quarters for Correctional Services Department at Hong Fai Road**

Appendix B2 - Summary of Existing Groundwater Monitoring Records

| GIU | Drillhole No. | Type | Ground level (mPD) | Depth of Piezometer/ Standpipe Tip (m) | Depth of Piezometer/ Standpipe Tip (mPD) | Period of Monitoring | | Highest Measured Groundwater Level (mbgl) | Geology of Response Zone |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | From | To | | |
| 42860 | R34-CH2 | Standpipe | 19.49 | 3.85 | 15.64 | 16/12/2005 | 23/12/2005 | Dry | Fill |

# Appendix C PAST LANDSLIDE RECORDS

Appendix V

G.C.O. Emergency Duty
Incident Report

Report No. NT 191 of 1982...
Date ..15/6/82.....

| | Time | Signature |
|---|---|---|
| Message received :<br>☐ via radio-pager<br>☑ via telephone Verbal report<br>from ☐ Mr. ..... of H/H.K.*/H/K*/H/N.T.*/B.O.O.*<br>☐ Mr. H.N. Lee.... of SCTM/ND Tel.No. 0-823800 | .....<br>10:30 am | <br>[signature] |
| Details of message : Location Sin Lam below Staff Quarter to Mental Hospital.<br>H.O. Report No. .....<br>Type of incident : ☑ landslip ☐ rockfall ☐ wall collapse<br>Affecting : ☐ buildings ☑ squatters ☐ roads<br>☐ others : .....<br>Casualty : ☐ Yes ☑ No<br>Other information : ..... | | .....<br>(Duty Officer*/ Co-ordinator Team .....*) |
| Action taken by Co-ordinator :<br>☐ G.C.O. Officer Mr. ..... despatched to inspect<br>☐ Other action : ..... | .....<br>..... | ..... |
| Action taken by Duty Officer*/~~Emergency Team Member*~~<br>☐ Directed by Co-ordinator to inspect<br>☑ Site inspected<br>☑ Advice given to Mr. Luke ..... of #/N.T. ....<br>☐ Other action taken : ..... | .....<br><br>12:15 pm<br>..... | <br><br>[signature] |

Further action required : .....

Recommended by .....
(Duty Officer*/Co-ordinator Team ...*)

Noted for F.A. by .....
(Co-ordinator Team ..*/S.G.E./U.*/S.G.E./G.*)

* delete as appropriate
☐ tick as appropriate
.... fill in as appropriate

(P.T.O.)

Brief report of inspection : (To be completed by inspecting officer)
(Include sketch plan and sections where appropriate)

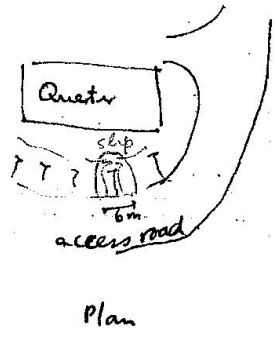
The inspection was made with HN Lee (SC/TM, H.D.) Mr. Luk (H/NT.) M.K. Cham (DLO/TM) and Mr. Law (Works/D.O.T.M.). on 15/6/82. The incident involved a shallow slip on a 5 m high cut slope of partly decomposed granite. the original slip surface is at 70° product. At the crest of the slope is a the back yard of the staff quarter. At the toe is an access road. Corestone ~~which~~ exposed in the slip as well as found in the debris. The debris partly ~~block~~ blocked the access road. but the unblocked width of road is enough for manual vehicular traffic. The slip is probably caused by surface infiltration.

Details of advice given : (To be completed by Inspecting Officer)

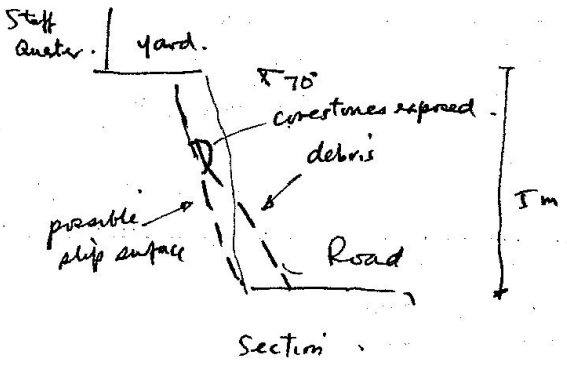
a) Trim slope to smooth profile.
b). cleanup the trimmed slope and the adjacent slopes.

See (56)2 B GCE 9/3/82 (3)

Landslip record card ~~required~~*/not required (To be completed by Inspecting Officer)

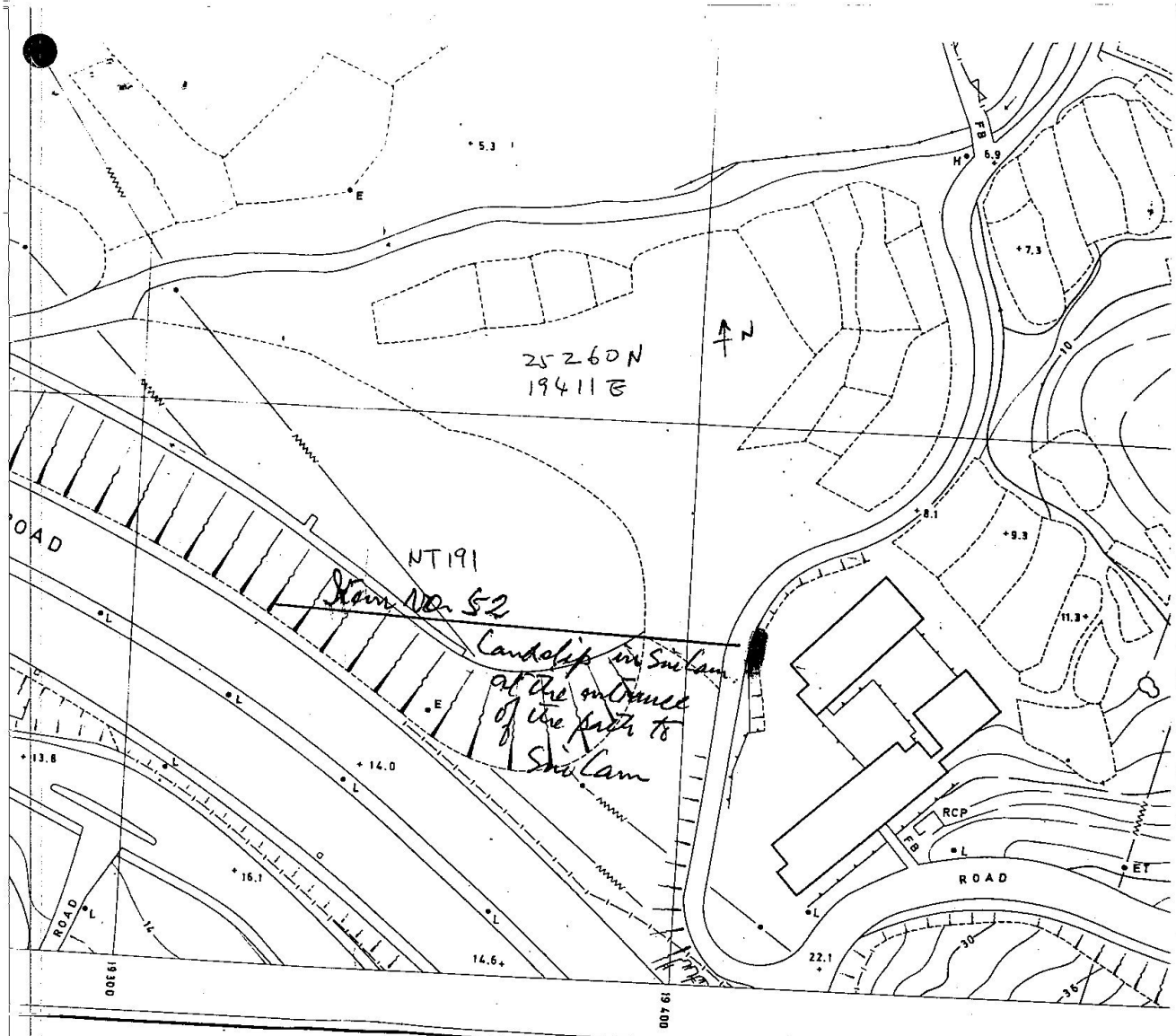



Plan




Section.

*Delete as appropriate




.....Vehicular barrier
.....Boundary stone
.....Cabinet
struction in progress
.....Culvert
.....Dolphin
.Electric pole, pylon
..Electric sub-station
.Electric transformer
.....Fountain
.....Footbridge
.....Ford

FP.....Footpath
F Tk.....Fuel tank
G.....Grave
H.....Fire hydrant
HL....Helicopter landing pad
HWM.....High water mark
Inc.....Incinerator
IC.....Inspection chamber
L.....Lamp post
Lat.....Public latrine
LC.....Level crossing
M.....Monument

MP.....Mile post
MS.....Mile stone
NB.....Navigation beacon
P.....Pavilion
PB.....Pedestrian bridge
PH.....Pump house
Ⓡ.....Restricted access
R.....Ruin
R Com.....Rural committee
RCP.....Refuse collection point
S.....Statue

Slu.....Sluice
Shr.....Shrine
SP.....Railway signal post
Sw P.....Swimming pool
T.....Telephone pole
TG.....Tide gauge
TL.....Traffic light
TS.....Temporary structure(s)
W.....Well
WB.....Weighbridge
WT.....Water tank, tower

Sheet
6-SW
Series-
Minor Amendm
Compiled
Full revision
Hong Kong Metr

part of 6-SW-18D
1:1000

## local people
## global experience

SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.

**www.smec.com**

# Provision of Major Community Facilities and Open Space in So Kwun Wat OZP

| Type of Facilities | Hong Kong Planning Standards and Guidelines (HKPSG) Requirements | Requirement based on OZP Planned Population | Provision | | Surplus/ Shortfall against Planned Provision |
|---|---|---|---|---|---|
| | | | Existing Provision | Planned Provision (including Existing Provision) | |
| District Open Space | 10 ha per 100,000 persons[#] | 2.01 ha | 0.00 ha | 0.78 ha | -1.23 ha |
| Local Open Space | 10 ha per 100,000 persons[#] | 2.01 ha | 0.34 ha | 1.52 ha | -0.50 ha |
| Sports Centre | 1 per 50,000 to 65,000 persons[#]<br><br>(assessed on a district basis) | 0 | 0 | 0 | 0 |
| Sports Ground/ Sport Complex | 1 per 200,000 to 250,000 persons[#]<br><br>(assessed on a district basis) | 0 | 0 | 0 | 0 |
| Swimming Pool Complex – standard | 1 complex per 287,000 persons[#]<br><br>(assessed on a district basis) | 0 | 0 | 0 | 0 |
| District Police Station | 1 per 200,000 to 500,000 persons<br><br>(assessed on a regional basis) | 0 | 0 | 0 | 0 |
| Divisional Police Station | 1 per 100,000 to 200,000 persons<br><br>(assessed on a regional basis) | 0 | 0 | 0 | 0 |
| Magistracy (with 8 courtrooms) | 1 per 660,000 persons<br><br>(assessed on a regional basis) | 0 | 0 | 0 | 0 |

| Type of Facilities | Hong Kong Planning Standards and Guidelines (HKPSG) Requirements | Requirement based on OZP Planned Population | Provision | | Surplus/ Shortfall against Planned Provision |
|---|---|---|---|---|---|
| | | | Existing Provision | Planned Provision (including Existing Provision) | |
| Community Hall | No set standard | N.A | 0 | 0 | N.A. |
| Library | 1 district library for every 200,000 persons<br><br>(assessed on a district basis) | 0 | 0 | 0 | 0 |
| Kindergarten/ Nursery | 34 classrooms for 1,000 children aged 3 to 6[#] | 23 classrooms | 2 classrooms | 2 classrooms | -21 classrooms |
| Primary School | 1 whole-day classroom for 25.5 persons aged 6-11[#]<br><br>(assessed by EDB on a district/ school network basis) | 36 classrooms | 0 classroom | 0 classroom | -36 classrooms<br><br>(Sufficient on a district basis) |
| Secondary School | 1 whole-day classroom for 40 persons aged 12-17[#]<br><br>(assessed by EDB on a territory-wide basis) | 17 classrooms | 0 classroom | 30 classroom | +13 classrooms |
| Hospital | 5.5 beds per 1,000 persons<br><br>(assessed by Hospital Authority on a regional/ cluster basis) | 113 beds | 0 bed | 0 bed | -113 beds<br><br>(Will be catered for in the 2nd Ten-year Hospital Development Plan based on Hospital Authority's assessment on a regional/ cluster basis^) |

| Type of Facilities | Hong Kong Planning Standards and Guidelines (HKPSG) Requirements | Requirement based on OZP Planned Population | Provision | | Surplus/ Shortfall against Planned Provision |
|---|---|---|---|---|---|
| | | | Existing Provision | Planned Provision (including Existing Provision) | |
| Clinic/Health Centre | 1 per 100,000 persons<br><br>(assessed on a district basis) | 0 | 0 | 0 | 0 |
| Child Care Centre | 100 aided places per 25,000 persons[#]<br><br>(assessed by SWD on a local basis) | 80 places | 0 place | 0 place | -80 places[~]<br><br>(A long-term target assessed on a wider spatial context by SWD[~]) |
| Integrated Children and Youth Services Centre | 1 for 12,000 persons aged 6-24[#]<br><br>(assessed by SWD on a local basis) | 0 | 0 | 0 | 0 |
| Integrated Family Services Centre | 1 for 100,000 to 150,000 persons[#]<br><br>(assessed by SWD on a service boundary basis) | 0 | 0 | 0 | 0 |
| District Elderly Community Centre | One in each new development area with a population of around 170,000 or above[#]<br><br>(assessed by SWD) | N.A. | 0 | 0 | N.A. |
| Neighbourhood Elderly Centre | One in a cluster of new and redeveloped housing areas with a population of 15,000 to 20,000 persons, including both public and private housing[#]<br><br>(assessed by SWD) | N.A. | 0 | 0 | N.A. |

| Type of Facilities | Hong Kong Planning Standards and Guidelines (HKPSG) Requirements | Requirement based on OZP Planned Population | Provision | | Surplus/ Shortfall against Planned Provision |
|---|---|---|---|---|---|
| | | | Existing Provision | Planned Provision (including Existing Provision) | |
| Community Care Services (CCS) Facilities | 17.2 subsidised places per 1,000 elderly persons aged 65 or above[#]<br><br>(assessed by SWD on a district basis) | 28 places | 8 places | 8 places | -20 places[~]<br><br>(A long-term target assessed on a wider spatial context by SWD[~]) |
| Residential Care Homes for the Elderly | 21.3 subsidised beds per 1,000 elderly persons aged 65 or above[#]<br><br>(assessed by SWD on a cluster basis) | 35 beds | 0 beds | 0 beds | -35 beds[~]<br><br>(A long-term target assessed on a wider spatial context by SWD[~]) |
| Pre-school Rehabilitation Services | 23 subvented service places for every 1 000 children aged 0-6[#]<br><br>(assessed by SWD on a district basis) | 35 places | 0 places | 0 places | -35 places[~]<br><br>(A long-term target assessed on a wider spatial context by SWD[~]) |
| Day Rehabilitation Services | 23 subvented service places for every 10 000 persons aged 15 or above[#]<br><br>(assessed by SWD on a district basis) | 33 places | 0 places | 160 places | +127 places[~] |
| Residential Care Services | 36 subvented service places for every 10 000 persons aged 15 or above[#]<br><br>(assessed by SWD on a cluster basis) | 51 places | 0 places | 1,150 places | +1,099 places[~] |

| Type of Facilities | Hong Kong Planning Standards and Guidelines (HKPSG) Requirements | Requirement based on OZP Planned Population | Provision | | Surplus/ Shortfall against Planned Provision |
|---|---|---|---|---|---|
| | | | Existing Provision | Planned Provision (including Existing Provision) | |
| Community Rehabilitation Day Centre | 1 centre for every 420 000 persons# (assessed by SWD on a district basis) | 0 | 0 | 0 | 0 |
| District Support Centre for Persons with Disabilities | 1 centre for every 280 000 persons# (assessed by SWD on a district basis) | 0 | 0 | 0 | 0 |
| Integrated Community Centre for Mental Wellness | 1 standard scale centre for every 310 000 persons# (assessed by SWD on a district basis) | 0 | 0 | 0 | 0 |

Note :

The planned resident population in SKW OZP is about 20,137. If including transients, the overall planned population is about 20,585. All population figures have been adjusted to the nearest hundred.

Remark :

\# The requirements exclude planned population of transients.

^ The deficit in provision is based on OZP planned population while the Hospital Authority plans its services on a cluster basis, and takes into account a number of factors in planning and developing various public healthcare services. The New Territories West Cluster provides services for residents in Tuen Mun and Yuen Long districts. There are a number of hospital redevelopment projects planned in the Second Ten-year Hospital Development Plan (HDP), which will provide additional beds for serving the population in the New Territories West Cluster. The projected service demand will be catered for in the Second Ten-year HDP.

~ The deficit in provision is based on OZP planned population while Social Welfare Department (SWD) adopts a wider spatial context/cluster in the assessment of provision of such facility. In applying the population-based planning standards, the distribution of welfare facilities, supply in different districts, service demand as a result of the population growth and demographic changes as well as the provision of different welfare facilities have to be considered. As the HKPSG requirements for these facilities are a long-term goal, the actual provision will be subject to consideration of the SWD in the planning and development process as appropriate. The Government has been adopting a multi-pronged approach with long-, medium- and short-term strategies to identify suitable sites or premises for the provision of more welfare services which are in acute demand.

**September 2022**

致：

| |
|---|
| 屯門區區議會<br>屯門區區議會主席 陳有海先生<br>屯門區區議會副主席 黃丹青先生<br>屯門區區議會工商業、房屋及社會服務委員會主席<br>屯門區區議會地區設施管理及環境衞生委員會主席<br>屯門區區議會交通及運輸委員會主席 |
| tmdcadm@tmdc.had.gov.hk<br>TEL: 2451 3064<br>傳真: (852) 2451 1598<br>地址: 新界屯門屯喜路 1 號屯門政府合署 2 樓 |
| |
| 城市規劃委員會<br>城市規劃委員會主席 |
| tpbpd@pland.gov.hk<br>查詢電話 :2231 4810, 2231 4835<br>傳真號碼 :2877 0245, 2522 8426<br>地址 ： 香港北角渣華道 333 號 北角政府合署 15 樓 |
| |
| 規劃署<br>規劃署署長鍾文傑先生 |
| 地址： 香港北角渣華道 333 號 北角政府合署 17 樓<br>熱線電話： 22315000<br>傳真號碼： 28770389<br>enquire@pland.gov.hk (一般查詢及投訴)<br>tspd@pland.gov.hk (提出意見及建議) |
| |
| 新民黨秘書處<br>地址：香港灣仔軒尼詩道 139 號中國海外大厦<br>11 樓 D-F 室<br>電話：3100 0079<br>傳真：3100 0087<br>電郵：info@npp.org.hk<br><br>新民黨社區辦事處（屯門)<br>地址：屯門海榮路 9 號萬能閣 5 樓 533 室<br>電話：2451 7778<br>傳真：2613 1280 |

| |
|---|
| 實政圓桌<br>實政圓桌　劉啟文先生<br>mt@roundtable.hk |
| |
| 新鴻基地產有限公司<br>新鴻基地產有限公司主席<br><br>香港港灣道 30 號新鴻基中心 45 樓<br>電話： (852) 2827 8111<br>傳真： (852) 2827 2862<br>電郵：shkp@shkp.com |
| |
| 啟勝管理服務有限公司<br>電話：(852) 2828 5123<br>電郵：ksms@kaishing.com.hk |
| |
| 帝濤灣業主委員會<br>帝濤灣業主委員會主席 |

## 有關發展小欖區《掃管笏分區計劃大綱核准圖編號 S/TM- SKW/13》的意見

本人為小欖區居民，得悉規劃署打算發展掃管笏一地段（《掃管笏分區計劃大綱核准圖編號 S/TM- SKW/13》），目的為紀律部隊部門人員的福利及縮短輪侯宿舍的等候時間。本人對此甚為關注，為此，本人僅向　閣下提出下列意見及求助，望祈參考及回覆。

**規劃署的研究與實際有極大偏差**

本人認為小欖精神病治療中心及其一帶新建成的綜合康復服務大樓建築物剛於本年(2022 年)落成，尚未完全啟用，故規劃署就「擬議重建發展進行的技術可行性研究」，不論在交通及運輸、環境、排污、排水、視覺及景觀等，並不準確，與實際會有極大偏差。〔綜合康復服務大樓新增的住宿照顧服務名額 1150 個，日間訓練服務名額 1700 個（未計算大樓投入服務前的服務）〕

同時，康輝路排水有潛在問題，曾於大雨時發生水浸，影響區內近萬名居

民出入。本人相信康輝路及其旁邊的行人路及排水負荷量亦未能得到切合實際情況的評估。

**居民的出入時間未如規劃署所述**

建築物項目為已婚職員宿舍，雖說入住的紀律部隊職員輪班未必影響交通及運輸安排，但本人有理由相信其家人及子女的出行時間會增加相關路段的壓力。

**康輝路排水有潛在問題**

建議如下：

1. **新建築必須附設有足夠車位的地下停車場（每單位 2 個或以上停車位）**

   據日常觀察，現時已建宿舍的的車位數量嚴重不足，其停車場爆滿之外，更在附近路段經常發現路邊違泊情況，相信發展後會對路面構成不可接受的壓力，有關發展對整體交通及運輸會有不可接受的不良影響。包括交通及運輸、環境、排污、排水，將會有不可接受的不良影響。建議每單位 2 個或以上停車位。

2. **限制高度在主水平基準上 24 米，宿舍單位數目在 45 個以內**

   為免進一步影響康輝路一帶交通負荷，以及環境、排污、排水、視覺及景觀的不可接受的負面影響。應把訂明建築物高度限制為主水平基準上 24 米（估計即約 8 層樓高），宿舍單位數目在 45 個以內。

3. **加密小巴班次**

   目前唯一小巴路線(43B)班次約為半小時一班，已不足夠應付居民需要。建議加密 43B 號小巴的班次。

4. **增加公共交通路線**

   目前該區只有一條小巴路線(43B)前往屯門市區，且班次極疏(約為半小時一班)，甚至會出現脫班情況，已不足夠應付居民需要。建議增加公共交通路線**來回屯門公路轉車站至小欖村、帝濤灣及小欖精神病院一帶。**

5. **新建築必須附設公共餐廳**

   現時該區一帶欠缺公共設施，外賣亦未能得到普遍送貨服務，若將來人口增加（包括小欖醫院居民及到訪人士），公共餐廳必然為該區一帶居民所需。

6. **擴闊康輝路及加建小欖村一帶通往青山公路的道路**

康輝路乃小欖村及其一帶居民出入的唯一行車道路，路面是只有兩線行車的雙程路，行人路更只有其中一邊。請在容許建築物興建，人口增加的同時擴闊康輝路及加建小欖村一帶通往青山公路的道路。

**7. 設計時請考慮建成後的噪音反射及光害影響**

由於該區域臨近屯門公路，新落成的建築物勢必將公路的噪音反射到附近一帶住宅，造成回音效應，增加一帶的噪音聲量。另一方面，建築物必有燈光。唯請在建築物設計時，慎重考慮噪音反射及光害因素，並盡量減低其影響。

**8. 請減低施工期間對附近一帶居民的影響（包括操音及交通運輸等）**

康輝路曾因小欖醫院綜合大樓興建而長期封閉部份路段，嚴重影響居民出入；並在施工期間所產生的噪音亦長期影響附近居民。故請於計劃施工前考慮對附近一帶居民的操音及交通運輸等影響。

本人對於紀律部隊宿舍需要擴建來勉留人員深表明白，唯亦請考慮本區居民的實際需要，以及尚未完全投入服務的小欖綜合康復服務大樓對於本區的影響。並請有關部門考慮將宿舍選址到其他區域，又或在樓價空置率上升、樓價正值下降時購置其他物業以達到提升部門人員的福利和勉留人才的目的。上述訴求，望祈接納，敬候賜覆。

謹祝

道安

小欖區居民

姓名：_____

聯絡方法：_____

2022 年 7 月

參考資料：
《小欖懲教署職員已婚宿舍擬重建　樓高 21 層供 136 單位 2028 年入伙》| 香港 01
https://www.hk01.com/sns/article/788436

《雹雨襲港：西環小欖各有車被困》| on.cc 東網 | 港澳
https://hk.on.cc/hk/bkn/cnt/news/20140331/bkn-20140331111947505-0331_00822_001.html

屯門區議會會議文件 2022 年第 14 號 - 擬議修訂
《掃管笏分區計劃大綱核准圖編號 S/TM- SKW/13》
https://www.districtcouncils.gov.hk/tm/doc/2020_2023/tc/dc_meetings_doc/21935/dc_2022_014.pdf

立法會 CB(2)381/14-15(07)號文件5
https://www.legco.gov.hk/yr14-15/chinese/panels/ws/papers/ws20141208cb2-381-7-c.pdf

小欖醫院綜合服務大樓擴建圖
https://www.epd.gov.hk/eia/register/permit/latest/figure/ep5122016figure1.pdf

啟勝管理服務有限公司
KAI SHING MANAGEMENT SERVICES LIMITED
新鴻基地產集團成員
Member of Sun Hung Kai Properties Group

HKQAA
ISO 9001 : 2015
Certificate No.: CC 521
Limited Sites

In Reply Please Quote :
OUR REF. : GPVH/L133/22 Date :

YOUR REF. :

香港北角渣華道 333 號
北角政府合署 17 樓
規劃署
規劃署署長鍾文傑先生

郵寄及電郵 tspd@pland.gov.hk/enquire@pland.gov.hk

敬啟者：

有關：發展小欖區掃管笏分區計畫大綱-懲教署擬重建屯門小欖宿舍之意見

就 貴署提交予屯門區議會於本年 7 月 4 日討論之會議文件 2022 年第 14 號，內容有關擬議修訂《掃管笏分區計劃大綱核准圖編號 S/TM- SKW/13》(下稱「大綱圖 」)，本苑業戶及業委會均表示十分關注有關大綱圖。

由於本苑位置非常接近懲教署擬重建屯門之小欖宿舍，作為有關重建計劃之持份者，懇請 貴署於城規會將根據 《城市規劃條例》第 5 條展示收納有關修訂項目的分區計劃大綱 草圖作公眾諮詢及有關進一步計劃/更新時通知本處，以便本苑業戶及業委會可對修訂提出申述及適時了解。

如對上述事宜有任何疑問，請致電 2450 3380 與服務處職員楊小姐式或本人聯絡。

此致
規劃署署長
鍾文傑先生

吳灌洲

浪/海琴軒服務處
物業及設施經理 吳灌洲謹啟

2022 年 7 月 25 日

10 years+ 商界展關懷 caringcompany
Awarded by The Hong Kong Council of Social Service 香港社會服務聯會頒發

用心服務 做到最好
We Serve You Best