Attachment I of RNTPC Paper No. 11/22 圖例 NOTATION 地帶 综合發展區 CUA H(A) 住宅 (甲類) 住宅(乙類) R(B) R(E) 住宅(戊類) 鄉村式發展 GAC 、機構或社區 0 休憩用地 OTHER SPECIFIED USES OU 其他指定用途 元朗工業報 ruen Long Industrial RAILWAY AND STATION (ELEVATED) 978) 3743-070 鐵路及車站(高架) MISCELLANEOUS 其他 1 Wang Ches Fresh Water Service Reservoir 土地用途及面積一覽表 SCHEDULE OF USES AND AREAS 大約面積及百分率 APPROXIMATE AREA &% 公頃 HECTARES % 百分率 用途 USES 総合發展區 住宅(甲類) 住宅(乙類) 発養機 CHU WONG LING 63.23 37.00 4.63 100.00 44.71 51.88 105.23 38.80 RESIDENTIAL (GROUP E) 住宅(戊類) 政府、機構或社區 体憩用地 其他指定用途 OPEN SPACE GREEN BELT 級化地帶明渠 NULLAH MAJOR ROAD ETC. 主要道路等 夾附的《註釋》屬這份圖則的一部分 THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN 新報代書場 YOHO Town

以正新村 Shung Ghing Sap Txuen 香港城市規劃委員會依據城市規劃條例擬備的元朗分區計劃大綱圖 規劃署遵照城市規劃委員會指示設備 PREPARED BY THE PLANNING DEPARTMENT UNDER THE DIRECTION OF THE TOWN PLANNING BOARD TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD YUEN LONG - OUTLINE ZONING PLAN 圖則編號 SCALE 1:5000 比例尺 PLAN No.

S/YL/25

Ms Wendy LEUNG
CLERK TO THE EXECUTIVE COUNCIL

梁蘊儀女士 行政會議秘書

APPROVED DRAFT YUEN LONG OUTLINE ZONING PLAN NO. S/YL/25A

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

NOTES

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

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3) (a) No action is required to make the existing use of any land or building conform to this Plan until there is a material change of use or the building is redeveloped.
 - (b) Any material change of use or any other development (except minor alteration and/or modification to the development of the land or building in respect of the existing use which is always permitted) or redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Town Planning Board.
 - (c) For the purposes of subparagraph (a) above, "existing use of any land or building" means -
 - (i) before the publication in the Gazette of the notice of the first statutory plan covering the land or building (hereafter referred as 'the first plan'),
 - a use in existence before the publication of the first plan which has continued since it came into existence; or
 - a use or a change of use approved under the Buildings Ordinance which relates to an existing building; and

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- (ii) after the publication of the first plan,
 - a use permitted under a plan which was effected during the effective period of that plan and has continued since it was effected; or
 - a use or a change of use approved under the Buildings Ordinance which relates to an existing building and permitted under a plan prevailing at the time when the use or change of use was approved.
- (4) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.
- (5) Road junctions, alignments of roads and railway tracks, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (6) Temporary uses (expected to be 5 years or less) of any land or building are always permitted as long as they comply with any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, and there is no need for these to conform to the zoned use or these Notes. For temporary uses expected to be over 5 years, the uses must conform to the zoned use or these Notes.
- (7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except where the uses or developments are specified in Column 2 of the Notes of individual zones:
 - (a) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, road, bus/light rail/public light bus stop or lay-by, cycle track, light rail track, taxi rank, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (b) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (c) maintenance or repair of watercourse and grave.
- (8) In any area shown as 'Road', all uses or developments except those specified in paragraph (7) above and those specified below require permission from the Town Planning Board:

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

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

(10) In these Notes,

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

"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 YUEN LONG OUTLINE ZONING PLAN NO. S/YL/25A

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COMPREHENSIVE DEVELOPMENT AREA

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

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Flat

Government Refuse Collection Point

Government Use (not elsewhere specified)

Hotel

House

Institutional Use

(not elsewhere specified)

Library

Off-course Betting Centre

Office

Petrol Filling Station

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park

(excluding container vehicle)

Recyclable Collection Centre

Religious Institution

Residential Institution

School

Shop and Services

Social Welfare Facility

Utility Installation for Private Project

Planning Intention

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

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COMPREHENSIVE DEVELOPMENT AREA (cont'd)

- (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" ("CDA") shall prepare a Master Layout Plan for the approval of the Town Planning Board and include therein the following information:
 - (i) the area of 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 sizes, where applicable;
 - (iii) the details and extent of Government, institution and 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 road proposed to be constructed within the area:
 - (v) the landscape and urban design proposals within the area;
 - (vi) programmes of development in detail;
 - (vii) an environmental assessment report to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;
 - (viii) a drainage and sewerage impact assessment report to examine any possible drainage and sewerage problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;
 - (ix) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;
 - (x) a quantitative air ventilation assessment report to examine any possible air ventilation problems that may be caused by the proposed development and the proposed mitigation measures to tackle them; and
 - (xi) such other information as may be required by the Town Planning Board.

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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 characters 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) On land designated "CDA", 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 specified below:

Site	Development Restrictions
"CDA" at Tai Kiu in Area 4	A maximum domestic plot ratio of 5 for a domestic building or a
"CDA" to the immediate south of Castle Peak Road in Area 12	maximum non-domestic plot ratio of 9.5 for a non-domestic building. For a building that is partly
"CDA" to the immediate north of Castle Peak Road in Area 15	domestic and partly non-domestic, the plot ratio for the domestic part of the building shall not exceed the
"CDA" to the immediate south of the West Rail Long Ping Station in Area 2	product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual
"CDA" covering the West Rail Yuen Long Station and the associated public transport interchange in Area 15	non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 5 divided by the maximum non-domestic plot ratio of 9.5.
"CDA" to the immediate north of Ha Yau Tin Tsuen in Area 12	A maximum plot ratio of 5.

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COMPREHENSIVE DEVELOPMENT AREA (cont'd)

Remarks (cont'd)

- (d) In determining the maximum plot ratio for the purposes of paragraph (c) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (e) In addition to paragraph (d) above, in determining the maximum plot ratio for the "CDA" to the immediate south of the West Rail Long Ping Station in Area 2 and the "CDA" covering the West Rail Yuen Long Station and the associated public transport interchange in Area 15 for the purposes of paragraph (c) above, any floor space that is constructed or intended for use solely as railway station development and associated public transport facilities or GIC facilities, as required by the Government, may also be disregarded.
- (f) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio restriction stated in paragraph (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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RESIDENTIAL (GROUP A)

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

Ambulance Depot

Government Use (not elsewhere specified)

House

Library Market

Place of Recreation, Sports or Culture

Public Clinic

Public Transport Terminus or Station

(excluding open-air terminus or station) Office

Public Vehicle Park

(excluding container vehicle) (on land designated "R(A)6" only)

Residential Institution

School (in free-standing purpose-designed

building only) Social Welfare Facility

Utility Installation for Private Project

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Exhibition or Convention Hall

Government Refuse Collection Point

Hospital Hotel

Institutional Use (not elsewhere specified)

Petrol Filling Station Place of Entertainment

Private Club

Public Convenience

Public Transport Terminus or Station

(not elsewhere specified) **Public Utility Installation**

Public Vehicle Park

(excluding container vehicle) (not elsewhere specified)

Religious Institution

School (not elsewhere specified)

Shop and Services (not elsewhere specified)

Training Centre

In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room:

Eating Place

Educational Institution

Institutional Use (not elsewhere specified)

Off-course Betting Centre

Office

Place of Entertainment

Private Club

Public Convenience

Recyclable Collection Centre

School

Shop and Services

Training Centre

(Please see next page)

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RESIDENTIAL (GROUP A) (cont'd)

Planning Intention

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

- On land designated "Residential (Group A)" ("R(A)"), "Residential (Group A)2" ("R(A)2"), "Residential (Group A)3" ("R(A)3"), "Residential (Group A)4" ("R(A)4"), and "Residential (Group A)5" ("R(A)5") and "Residential (Group A)8" ("R(A)8"), no new development for a domestic or non-domestic building shall exceed a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5, as the case may be, and a maximum building height of 30 storeys excluding basement(s) for "R(A)" and "R(A)2" zones, a maximum building height of 25 storeys excluding basement(s) for "R(A)3" and "R(A)4" zones,—and a maximum building height of 90mPD for "R(A)5" zone and a maximum building height of 100mPD for "R(A)8" zone. For new development of a building that is partly domestic and partly non-domestic, the plot ratio for the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 5 divided by the maximum non-domestic plot ratio of 9.5.
- (b) On land designated "R(A)", "R(A)2", "R(A)3", "R(A)4", and "R(A)5" and "R(A)8", no addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the relevant maximum domestic and/or non-domestic plot ratio(s), and the maximum building height stated in paragraph (a) above, or the domestic and/or non-domestic plot ratio(s), and the height of the existing building, whichever is the greater, subject to, as applicable -
 - (i) the plot ratio(s) and height of the existing building shall apply only if any addition, alteration and/or modification to or redevelopment of an existing building is for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building; or
 - (ii) the maximum domestic and/or non-domestic plot ratio(s), and the maximum building height stated in paragraph (a) above shall apply if any addition, alteration and/or modification to or redevelopment of an existing building is not for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building.
- (c) On land designated "R(A)2" and "R(A)3", no new development or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum site coverage of 80%. No addition, alteration and/or modification to an existing building shall exceed the site coverage restriction stated above or the site coverage of the existing building, whichever is the greater.

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RESIDENTIAL (GROUP A) (cont'd)

Remarks (cont'd)

- (d) On land designated "Residential (Group A)1", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall exceed a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5, as the case may be, and a maximum building height of 25 storeys excluding basement(s). For a building that is partly domestic and partly non-domestic, the plot ratio for the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 5 divided by the maximum non-domestic plot ratio of 9.5.
- (e) On land designated "Residential (Group A)6" ("R(A)6"), 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 6.7 and a maximum building height of 185mPD, or the plot ratio and height of the existing building, whichever is the greater.
- (f) On land designated "Residential (Group A)7" ("R(A)7"), no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 5 and a maximum building height of 90mPD, or the plot ratio and height of the existing building, whichever is the greater.
- (e) and (f) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (f)(h) In determining the maximum plot ratio on land designated "R(A)5", "R(A)6" and "R(A)8", any floor space that is constructed or intended for use solely as GIC facilities as required by the Government, may be disregarded.
- (g)(i) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a), (b) or, (d), (e) or (f) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraphs (a), (b), and (d), (e) and (f) above may thereby be exceeded.
- (h)(j) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, building height and/or site coverage restrictions stated in paragraphs (a), (b), (c), and (d), (e) and (f) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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RESIDENTIAL (GROUP B)

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

Flat

Government Use (Police Reporting Centre, Post Office only)

House Library

Residential Institution

School (in free-standing purpose-designed

building only)

Utility Installation for Private Project

Ambulance Depot

Eating Place

Educational Institution

Government Refuse Collection Point

Government Use (not elsewhere specified)

Hospital Hotel

Institutional Use (not elsewhere specified)

Off-course Betting Centre

Office

Petrol Filling Station Place of Entertainment

Place of Recreation, Sports or Culture

Private Club Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park (excluding container

vehicle)

Recyclable Collection Centre

Religious Institution

School (not elsewhere specified)

Shop and Services Social Welfare Facility

Training Centre

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RESIDENTIAL (GROUP B) (cont'd)

Planning Intention

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

- (a) On land designated "Residential (Group B)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 3.5, a maximum site coverage of 50% and a maximum building height of 25 storeys (excluding basement car park).
- (b) 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 plot ratio of 3 and a maximum building height of 25 storeys (excluding basement car park).
- (c) 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 and a maximum building height of 55mPD.
- (d) In determining the maximum plot ratio—and site coverage for the purposes of paragraphs (a), (b) and (c) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and/or building height restrictions stated in paragraphs (a), (b) and (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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RESIDENTIAL (GROUP E)

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

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

Ambulance Depot

Government Use (not elsewhere specified)

Public Transport Terminus or Station

(excluding open-air terminus or station)

Utility Installation for Private Project

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Exhibition or Convention Hall

Flat

Government Refuse Collection Point

Hospital Hotel House

Institutional Use (not elsewhere specified)

Library Office

Petrol Filling Station
Place of Entertainment

Place of Recreation, Sports or Culture

Private Club
Public Clinic

Public Convenience

Public Transport Terminus or Station

(not elsewhere specified)

Public Utility Installation

Public Vehicle Park

(excluding container vehicle)

Religious Institution Residential Institution

School

Shop and Services

Social Welfare Facility

Training Centre

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RESIDENTIAL (GROUP E) (cont'd)

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

Schedule I: for open-air development or for building other than industrial or industrial-office building (cont'd)

In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room:

Eating Place

Educational Institution

Institutional Use (not elsewhere specified)

Library

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports and Culture

Private Club

Public Clinic

Public Convenience

Recyclable Collection Centre

School

Shop and Services

Social Welfare Facility

Training Centre

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RESIDENTIAL (GROUP E) (cont'd)

Column 1 Uses always permitted

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

Schedule II: for existing industrial or industrial-office building[®]

Ambulance Depot

Art Studio (excluding those involving direct provision of services or goods)

Bus Depot

Eating Place (Canteen only)

Government Refuse Collection Point

Government Use (not elsewhere specified)

Information Technology and

Telecommunications Industries

Non-polluting Industrial Use

(excluding industrial undertakings

involving the use/storage of Dangerous Goods^{\(\Delta \)})

Office (Audio-visual Recording Studio,

Design and Media Production,

Office Related to Industrial Use only)

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park

(excluding container vehicle)

Radar, Telecommunications Electronic

Microwave Repeater, Television and/or

Radio Transmitter Installation

Recyclable Collection Centre

Research, Design and Development Centre

Shop and Services (Motor-vehicle

Showroom on ground floor, Service

Trades only)

Utility Installation for Private Project

Warehouse (excluding Dangerous

Goods Godown)

Cargo Handling and Forwarding Facility Industrial Use (not elsewhere specified)

Off-course Betting Centre

Office (not elsewhere specified)

Petrol Filling Station

Place of Recreation, Sports or Culture (not elsewhere specified)

Private Club

Shop and Services (not elsewhere specified) (ground floor only except Ancillary Showroom[#] which may be permitted on

any floor)

Vehicle Repair Workshop

Wholesale Trade

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RESIDENTIAL (GROUP E) (cont'd)

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

Schedule II: for existing industrial or industrial-office building[@] (cont'd)

In addition, the following uses are always the purpose-designed permitted in non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/ unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:

In addition, the following use may permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:

Commercial Bathhouse/Massage Establishment **Eating Place**

Educational Institution

Exhibition or Convention Hall

Institutional Use (not elsewhere specified)

Library

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Clinic

Religious Institution

School (excluding kindergarten)

Shop and Services

Training Centre

Social Welfare Facility (excluding those involving residential care)

- An industrial or industrial-office building means a building which is constructed for or intended to be used by industrial or industrial-office purpose respectively as approved by the Building Authority.
- Dangerous Goods refer to substances classified as Dangerous Goods and requiring a licence for their use/storage under the Dangerous Goods Ordinance (Cap. 295).
- Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

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RESIDENTIAL (GROUP E) (cont'd)

Planning Intention

This zone is primarily intended for the phasing out of existing industrial uses through redevelopment (or conversion) for residential use on application to the Town Planning Board. Whilst existing industrial uses will be tolerated, new industrial developments are not permitted in order to avoid perpetuation of industrial/residential interface problem.

- (a) On land designated "Residential (Group E)", no new development or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 5 and a maximum building height of 30 storeys excluding basement(s).
- (b) On land designated "Residential (Group E)1", no new development or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 5, a maximum site coverage of 60% for the lowest two floors (excluding basement(s)) and 30% for the floors above, and a maximum building height of 85mPD.
- (c) On land designated "Residential (Group E)2" ("R(E)2"), no new development or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic plot ratio of 5, a maximum non-domestic plot ratio of 0.22 and a maximum building height of 85mPD.
- (e)(d) No addition, alteration and/or modification to an existing building shall result in a total development in excess of the plot ratio, building height and site coverage stated in paragraphs (a),-and (b) and (c) above, or the plot ratio, height and site coverage of the existing building, whichever is the greater, except for modification of an existing building to a domestic building or a building that is partly domestic and partly non-domestic, in which case the development shall not exceed the relevant maximum plot ratio, building height and site coverage specified in paragraphs (a),-and (b) and (c) above.
- (e) In determining the maximum plot ratio on land designated "R(E)2", any floor space that is constructed or intended for use solely as GIC facilities as required by the Government, may be disregarded.
- (d)(f) In determining the maximum plot ratio for the purposes of paragraphs (a), (b), and (c) and (d) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.

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RESIDENTIAL (GROUP E) (cont'd)

Remarks (cont'd)

- (e)(g) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a), (b), or (c) or (d) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraphs (a), (b), and (c) and (d) above may thereby be exceeded.
- (f)(h) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, building height and/or site coverage restrictions stated in paragraphs (a), (b), and (c) and (d) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (g)(i) On land designated "Residential (Group E)1", non-building area(s) with a minimum width of 1.5m from the lot boundaries abutting Wang Yip Street West and Tak Yip Street shall be provided.
- (h)(j) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restriction stated in paragraph $\frac{g}{i}$ above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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VILLAGE TYPE DEVELOPMENT

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

Agricultural Use

Government Use (Police Reporting Centre,

Post Office only)

House (New Territories Exempted House only)

On-Farm Domestic Structure

Religious Institution (Ancestral Hall only)

Rural Committee/Village Office

Eating Place

Flat

Government Refuse Collection Point

Government Use (not elsewhere specified) #

House (not elsewhere specified)

Institutional Use (not elsewhere specified) #

Petrol Filling Station

Place of Recreation, Sports or Culture

Private Club Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation #

Public Vehicle Park

(excluding container vehicle) Religious Institution (not elsewhere

specified) #

Residential Institution #

School#

Shop and Services

Social Welfare Facility #

Utility Installation for Private Project

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

Eating Place Library School Shop and Services - 17 - <u>S/YL/25A</u>

VILLAGE TYPE DEVELOPMENT (cont'd)

Planning Intention

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

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the existing building, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted

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

Ambulance Depot

Animal Quarantine Centre (in Government building only)

Broadcasting, Television and/or Film Studio Cable Car Route and Terminal Building Eating Place (Canteen, Cooked Food Centre only)

Educational Institution

Exhibition or Convention Hall

Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified)

Hospital

Institutional Use (not elsewhere specified)

Library Market

Place of Recreation, Sports or Culture

Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park (excluding container vehicle)

Recyclable Collection Centre

Religious Institution

Residential Institution (Hostel and Dormitory only) (on land designated "G/IC(5)" and "G/IC(6)" only)

Research, Design and Development Centre Rural Committee/Village Office

School

Service Reservoir Social Welfare Facility

Training Centre

Wholesale Trade

Animal Boarding Establishment

Animal Quarantine Centre (not elsewhere specified)

Columbarium

Correctional Institution

Crematorium **Driving School**

Eating Place (not elsewhere specified)

Flat

Funeral Facility

Helicopter Fuelling Station Helicopter Landing Pad

Holiday Camp

Hotel House

Off-course Betting Centre

Office

Petrol Filling Station Place of Entertainment

Private Club

Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

Refuse Disposal Installation

(Refuse Transfer Station only)

Residential Institution (not elsewhere specified)

Sewage Treatment/Screening Plant

Shop and Services (not elsewhere specified)

Utility Installation for Private Project

Zoo

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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 specified below or the height of the existing building, whichever is the greater:

Sub-area	Maximum Building Height
	(Number of Storeys excluding basement(s))
Government, Institution or	8
Community (G/IC)	
G/IC(1)	3
	(8 for 'School' and 'Hospital' uses)
G/IC(2)	15
G/IC(3)	17
G/IC(4)	25

- (b) On land designated "G/IC(5)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 95mPD or the height of the existing building, whichever is the greater.
- (c) On land designated "G/IC(6)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 75mPD or the height of the existing building, whichever is the greater.
- (d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraphs (a), (b) and (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OPEN SPACE

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

Planning Intention

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

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OTHER SPECIFIED USES

Column 1 Uses always permitted

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

For "Business" only

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

Ambulance Depot

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Exhibition or Convention Hall

Government Use (Police Reporting Centre,

Post Office only)

Information Technology and

Telecommunications Industries

Institutional Use (not elsewhere specified)

Library

Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods^{\(\Delta\)})

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park (excluding container

vehicle)

Radar, Telecommunications Electronic

Microwave Repeater, Television and/or Radio

Transmitter Installation

Recyclable Collection Centre

Religious Institution

Research, Design and Development Centre

School (excluding free-standing purpose-

designed building and kindergarten)

Shop and Services

Training Centre

Utility Installation for Private Project

Broadcasting, Television and/or Film Studio Cargo Handling and Forwarding Facility Government Refuse Collection Point Government Use (not elsewhere specified)

Hotel

Non-polluting Industrial Use (not elsewhere specified)

Petrol Filling Station

School (not elsewhere specified)

Social Welfare Facility (excluding

those involving residential care)

Warehouse (excluding Dangerous

Goods Godown)

Wholesale Trade

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OTHER SPECIFIED USES (cont'd)

Column 1 Uses always permitted

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

For "Business" only (cont'd)

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

Ambulance Depot

Art Studio (excluding those involving direct provision of services or goods)

Bus Depot

Eating Place (Canteen only)

Government Refuse Collection Point

Government Use (not elsewhere specified)

Information Technology and

Telecommunications Industries

Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods^{\(\Delta\)})

Office (excluding those involving direct provision of customer services or goods)

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park (excluding container vehicle)

Radar, Telecommunications Electronic

Microwave Repeater, Television and/or

Radio Transmitter Installation

Recyclable Collection Centre

Research, Design and Development Centre

Shop and Services (Motor-vehicle Showroom

on ground floor, Service Trades only)

Utility Installation for Private Project Warehouse (excluding Dangerous

Goods Godown)

In addition, for building without industrial undertakings involving offensive trades or the use/storage of Dangerous Goods^{\(\Delta\)}, the following use is always permitted:

Office

Broadcasting, Television and/or Film Studio Cargo Handling and Forwarding Facility Industrial Use (not elsewhere specified) Off-course Betting Centre Office (not elsewhere specified) **Petrol Filling Station** Place of Recreation, Sports or Culture (not elsewhere specified) Private Club Shop and Services (not elsewhere

specified) (ground floor only except Ancillary Showroom# which may be permitted on any floor)

Vehicle Repair Workshop

Wholesale Trade

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OTHER SPECIFIED USES (cont'd)

Column 1 Uses always permitted

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

For "Business" only (cont'd)

Schedule II: for industrial or industrial-office building[®] (cont'd)

In addition, the following uses are always permitted in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:

In addition, the following use may be permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion:

Commercial Bathhouse/Massage Establishment

Eating Place

Educational Institution

Exhibition or Convention Hall

Institutional Use (not elsewhere specified)

Library

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Clinic

Religious Institution

School (excluding kindergarten)

Shop and Services

Training Centre

Social Welfare Facility (excluding those involving residential care)

- [®] An industrial or industrial-office building means a building which is constructed for or intended to be used by industrial or industrial-office purpose respectively as approved by the Building Authority.
- Dangerous Goods refer to substances classified as Dangerous Goods and requiring a licence for their use/storage under the Dangerous Goods Ordinance (Cap. 295).
- [#] Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

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OTHER SPECIFIED USES (cont'd)

For "Business" only (cont'd)

Planning Intention

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

- (a) On land designated "Other Specified Uses" annotated "Business" ("OU(Business)"), 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 5 and a maximum building height of 15 storeys excluding basement(s), or the plot ratio and height of the existing building, whichever is the greater.
- (b) On land designated "OU(Business(1))", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 9.5 and a maximum building height of 20 storeys excluding basement(s).
- (c) In determining the maximum 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, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (d) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a) or (b) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraphs (a) and (b) above may thereby be exceeded.
- (e) On Yuen Long Town Lots No. 392, 393 and 532, a non-building area of 5m wide should be provided abutting Wang Yip Street West and Tak Yip Street.
- (f) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

Column 1	Column 2
Uses always permitted	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 Utility Installation not ancillary to the Specified Use

Planning Intention

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

Remarks

No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 1 storey excluding basement(s).

For "Sewage Treatment Works" only

Sewage Treatment Plant

Government Use Utility Installation not ancillary to the Specified Use

Planning Intention

This zone is primarily intended for the provision of sewage treatment works.

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 2 storeys excluding basement(s) or the height of the existing building, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "Industrial Estate" only

Ambulance Depot

Broadcasting, Television and/or Film Studio

Cargo Handling and Forwarding Facility

Dangerous Goods Godown

Eating Place

Gas Works

Government Refuse Collection Point

Government Use (not elsewhere specified)

Industrial Use

Information Technology and

Telecommunications Industries

Office

Petrol Filling Station

Private Club

Public Convenience

Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park

(excluding container vehicle)

Radar, Telecommunications Electronic

Microwave Repeater, Television and/or

Radio Transmitter Installations

Refuse Disposal Installation

Research, Design and Development Centre

Shop and Services

Social Welfare Facility (excluding those

involving residential care)

Training Centre

Utility Installation for Private Project

Warehouse (excluding Dangerous

Goods Godown)

Wholesale Trade

Asphalt Plant/Concrete Batching Plant

Electric Power Station

Library

Off-course Betting Centre

Offensive Trades

Oil Depot, Oil Refinery and

Petro-chemical Plant

Place of Recreation, Sports or Culture

Service Industries (not elsewhere specified)

Planning Intention

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

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OTHER SPECIFIED USES (cont'd)

For "Industrial Estate" only (cont'd)

- (a) On land designated "OU(Industrial Estate)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum gross floor area of 1,687,625m² and a maximum building height of 8 and 10 storeys excluding basement(s) for areas annotated Area (a) and Area (b) respectively.
- (b) In determining the maximum gross floor area for the purposes of paragraph (a) above:
 - (i) any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded; and
 - (ii) any floor space that is constructed or intended for use solely as public utility installations, public car/lorry parks, public transportation facilities or Government, institution or community facilities, as may be required by Government, may be disregarded.
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the gross floor area and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "LRT Terminus with Commercial/Residential Development" only

Ambulance Depot

Flat

Government Use (not elsewhere specified)

Library Market

Place of Entertainment

Place of Recreation, Sports or Culture

Public Clinic

Public Transport Terminus or Station

(excluding open-air terminus or station)

Residential Institution

School (in free-standing purpose-designed

building only) Social Welfare Facility

Utility Installation for Private Project

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Exhibition or Convention Hall

Government Refuse Collection Point

Hotel

Institutional Use (not elsewhere specified)

Office

Petrol Filling Station

Place of Entertainment

Private Club

Public Convenience

Public Transport Terminus or Station

(not elsewhere specified)

Public Utility Installation

Public Vehicle Park (excluding container

vehicle)

Religious Institution

School (not elsewhere specified)

Shop and Services (not elsewhere specified)

Training Centre

In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room:

Eating Place

Educational Institution

Institutional Use (not elsewhere specified)

Off-course Betting Centre

Office

Place of Entertainment

Private Club

Public Convenience

Recyclable Collection Centre

School

Shop and Services

Training Centre

(Please see next page)

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OTHER SPECIFIED USES (cont'd)

For "LRT Terminus with Commercial/Residential Development" only (cont'd)

Planning Intention

This zone is intended primarily for LRT terminus with residential and/or commercial uses, and other supporting public transport facilities.

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic gross floor area of 66,460m², a maximum non-domestic gross floor area of 25,940m² and a maximum building height of 32 storeys excluding basement(s), or the domestic gross floor area, non-domestic gross floor area and height of the existing building, whichever is the greater.
- (b) In determining the maximum gross floor area for the purposes of paragraph (a) above:
 - (i) 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; and
 - (ii) any floor space that is constructed or intended for use solely as public transport facilities, railway station development, or Government, institution, community or social welfare facilities, as required by the Government, may also be disregarded.
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the gross floor area and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "Public Car Park with Ground Floor Retail Shops" only

Public Vehicle Park (excluding container vehicle)

Shop and Services (ground floor only)

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Government Refuse Collection Point

Government Use (Police Reporting Centre,

Post Office only)

Library

Off-course Betting Centre

Office

Petrol Filling Station
Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Convenience

Public Transport Terminus or Station

Public Utility Installation Religious Institution

School (excluding free-standing purpose-designed building)

Shop and Services (not elsewhere specified)

Social Welfare Facility

Utility Installation for Private Project

Planning Intention

This zone is intended primarily for public car park with ground floor retail shops.

Remarks

- (a) On land designated "OU(Public Car Park with Ground Floor Retail Shops)", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 9.5 and a maximum building height of 30 storeys excluding basement(s).
- (b) On land designated "OU(Public Car Park with Ground Floor Retail Shops(1))", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 5 and a maximum building height of 15 storeys excluding basement(s).

(Please see next page)

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OTHER SPECIFIED USES (cont'd)

For "Public Car Park with Ground Floor Retail Shops" only (cont'd)

Remarks (cont'd)

- (c) In determining the maximum 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, 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 as public car park shall be included for plot ratio calculation.
- (d) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a) or (b) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraphs (a) and (b) above may thereby be exceeded.
- (e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "Public Car Park and Petrol Filling Station with Ground Floor Retail Shops" only

Public Vehicle Park (excluding container vehicle)

Petrol Filling Station

Shop and Services (ground floor only)

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Government Refuse Collection Point

Government Use (Police Reporting Centre,

Post Office only)

Library

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club

Public Convenience

Public Transport Terminus or Station

Public Utility Installation Religious Institution

School (excluding free-standing purpose-designed building)

Shop and Services (not elsewhere specified)

Social Welfare Facility

Utility Installation for Private Project

Planning Intention

This zone is intended primarily for public car park and petrol filling station with ground floor retail shops.

Remarks

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 9.5 and a maximum building height of 25 storeys excluding basement(s).
- (b) In determining the maximum plot ratio for the purposes of paragraph (a) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, 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 as public car park shall be included for plot ratio calculation.

(Please see next page)

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OTHER SPECIFIED USES (cont'd)

For "Public Car Park and Petrol Filling Station with Ground Floor Retail Shops" only (cont'd)

Remarks (cont'd)

- (c) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (a) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (a) above may thereby be exceeded.
- (d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "Public Car Park to include Retail and Residential Uses" only

As specified on the Plan Broadcasting, Television and/or Film

Studio

Commercial Bathhouse/Massage

Establishment

Eating Place

Educational Institution

Government Refuse Collection Point

Government Use (Police Reporting Centre,

Post Office only)

Library

Off-course Betting Centre

Office

Place of Entertainment

Place of Recreation, Sports or Culture

Private Club Public Clinic

Public Convenience

Public Transport Terminus or Station

Public Utility Installation Religious Institution

School (excluding free-standing purpose-designed building)

Shop and Services (not elsewhere specified)

Social Welfare Facility

Utility Installation for Private Project

Planning Intention

This zone is intended primarily for public car park with retail and residential uses.

Remarks

(a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic gross floor area of 11,356m², a maximum non-domestic gross floor area of 11,777m² and a maximum building height of 25 storeys excluding basement(s).

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OTHER SPECIFIED USES (cont'd)

For "Public Car Park to include Retail and Residential Uses" only (cont'd)

Remarks (cont'd)

- (b) In determining the maximum gross floor area 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. Any floor space that is constructed or intended for use as public car park shall be included for gross floor area calculation.
- (c) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the gross floor area for the building on land to which paragraph (a) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum gross floor area specified in paragraph (a) above may thereby be exceeded.
- (d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the gross floor area and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (cont'd)

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

For "Art Storage and Public Open Space" only

As specified on the Plan

Government Use Utility Installation not ancillary to the Specified Use

Planning Intention

This zone is primarily intended for art storage and provision of public open space.

Remarks

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum gross floor area of 12,6945,968m² and a maximum building height of 23mPD. Public open space of not less than 590m² shall be provided.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of gross floor area and/or building height restrictions stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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GREEN BELT

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

Agricultural Use
Barbecue Spot
Government Use (Police Reporting Centre only)
Nature Reserve
Nature Trail
On-Farm Domestic Structure
Picnic Area
Public Convenience
Tent Camping Ground

Wild Animals Protection Area

Animal Boarding Establishment Broadcasting, Television and/or Film Studio

Burial Ground

Cable Car Route and Terminal Building Columbarium (within a Religious Institution or extension of existing Columbarium only)

Crematorium (within a Religious Institution or extension of existing Crematorium only)

Field Study/Education/Visitor Centre

Firing Range

Flat

Golf Course

Government Refuse Collection Point Government Use (not elsewhere specified)

Helicopter Landing Pad

Holiday Camp

House

Petrol Filling Station

Place of Recreation, Sports or Culture Public Transport Terminus or Station

Public Utility Installation

Public Vehicle Park (excluding container vehicle)

Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation

Religious Institution Residential Institution

Rural Committee/Village Office

School

Service Reservoir

Social Welfare Facility

Utility Installation for Private Project

Zoo

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.

Attachment IV of RNTPC Paper No. 11/22

<u>APPROVED-DRAFT YUEN LONG OUTLINE ZONING PLAN NO. S/YL/25A</u> <u>EXPLANATORY STATEMENT</u>

EXPLANATORY STATEMENT

APPROVED-DRAFT YUEN LONG OUTLINE ZONING PLAN NO. S/YL/25A

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APPROVED-DRAFT YUEN LONG OUTLINE ZONING PLAN NO. S/YL/25A

(Being an Approved *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. <u>INTRODUCTION</u>

This explanatory statement is intended to assist an understanding of the approved *draft* Yuen Long Outline Zoning Plan (OZP) No. S/YL/25A. It reflects the planning intentions and objectives of the Town Planning Board (the Board) for the various land use zonings of the Plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURES

- 2.1 On 10 July 1987, under the power delegated by the then Governor, the then Secretary for Lands and Works, directed the Board, under section 3 of the Town Planning Ordinance (the Ordinance), to prepare a draft OZP for Yuen Long New Town. The draft Yuen Long OZP No. S/YL/1 was exhibited under section 5 of the Ordinance on 12 April 1991. The draft Yuen Long OZP No. S/YL/2 incorporating amendments to reflect changing circumstances was exhibited for public inspection under section 7 of the Ordinance on 3 November 1995. On 9 December 1997, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was renumbered as S/YL/3.
- 2.2 On 5 May 1998, the CE in C referred the approved Yuen Long OZP No. S/YL/3 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended three times and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances. On 14 December 1999, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/7.
- 2.3 On 21 November 2000, the CE in C referred the approved Yuen Long OZP No. S/YL/7 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended four times and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances. On 26 November 2002, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/12.
- 2.4 On 17 February 2004, the CE in C referred the approved Yuen Long OZP No. S/YL/12 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances. On 14 March 2006, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/15.

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- 2.5 On 20 June 2006, the CE in C referred the approved Yuen Long OZP No. S/YL/15 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances. On 21 October 2008, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/18.
- 2.6 On 4 January 2011, the CE in C referred the approved Yuen Long OZP No. S/YL/18 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended twice and exhibited for public inspection under section 5 or 7 of the Ordinance to reflect the changing circumstances. On 6 December 2011, the CE in C under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/21.
- 2.7 On 8 September 2015, the CE in C referred the approved Yuen Long OZP No. S/YL/21 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The OZP was then amended and exhibited for public inspection under section 5 of the Ordinance. On 18 October 2016, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/23.
- 2.8 On 4 June 2019, the CE in C referred the approved Yuen Long OZP No. S/YL/23 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 14 June 2019 under section 12(2) of the Ordinance. OZP was then amended and exhibited for public inspection under section 5 of the Ordinance. On 7 December 2021, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/25.
- 2.9 On 29 January 2021, the draft Yuen Long OZP No. S/YL/24 was exhibited for public inspection under section 5 of the Ordinance. The main amendments on the Plan included (i) the rezoning of a site at Yau Tin Road East from "Government, Institution or Community (1)" ("G/IC(1)") to "G/IC(6)"; (ii) the rezoning of a site at the junction of Kung Um Road and Lam Hi Road from "Open Space" ("O") to "Other Specified Uses" annotated "Art Storage and Public Open Space"; (iii) the rezoning of a site at Sai Kai Road from "O" to "Village Type Development", and other amendments to reflect the current uses and as built site conditions. During the two month exhibition period, one representation was received. On 9 April 2021, the representation was published for three weeks for public comment and a total of three comments on the representation were received. After giving consideration to the representation and comments on 6 August 2021, the Board decided not to propose any amendment to the draft OZP to meet the representation. 3 May 2022, the CE in C referred the approved Yuen Long OZP No. S/YL/25 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 13 May 2022 under section 12(2) of the Ordinance.
- 2.10 On 7 December 2021, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Yuen Long OZP, which was subsequently renumbered as S/YL/25. On 17 December 2021, the approved Yuen Long OZP No. S/YL/25 (the Plan) was exhibited for public inspection under section 9(5) of the Ordinance. xx December 2022, the draft Yuen Long OZP No. S/YL/26

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(the Plan) was exhibited for public inspection under section 5 of the Ordinance. The main amendments on the Plan included (i) the rezoning of a site at Tai Kei Leng from "Open Space" and "Residential (Group B)" to "Residential (Group A)6"; (ii) the rezoning of a site at Lam Hi Road from "Other Specified Uses" annotated "Art Storage and Public Open Space" to "Residential (Group A)7"; (iii) the rezoning of a site at Wang Yip Street East from "Other Specified Uses" annotated "Business" to "Residential (Group E)2", and other amendments to reflect the current uses and as-built conditions.

3. OBJECT OF THE PLAN

- 3.1 The object of the Plan is to indicate the broad land use zonings and transport networks for Yuen Long New Town so that development and redevelopment within the New Town can be put under statutory planning control. Such control is necessary to achieve the Government's objective of developing Yuen Long New Town into a balanced new town and a regional centre for the North West New Territories (NWNT).
- 3.2 The Plan is to illustrate the broad principles of development only. It is a small scale plan. The transport alignments and boundaries between land use zones may be subject to minor adjustments as detailed planning proceeds. There would be cases that small pieces of land not intended for building development purposes, such as amenity area, slope, access road, are included in the development zones. In general, such areas should not be taken into account in plot ratio and site coverage calculations.

4. NOTES OF THE PLAN

- 4.1 Attached to the Plan is a set of Notes which shows the type of uses or developments which are always permitted within the Planning Scheme Area (the Area) and in particular zones and which may be permitted by the Board, with or without conditions on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at http://www.info.gov.hk/tpb.

5. PLANNING SCHEME AREA

5.1 The Area, covering Yuen Long New Town, is about 561 ha. The Area is situated in the middle of the Yuen Long plain in NWNT. It is bounded by the outer edge of Yuen Long *INNOPARK*-Industrial Estate in the north, Yuen Long Highway in the south, the Yuen Long Kau Hui group of villages in the east and Long Tin Road in the west. The boundary of the Area is shown by a heavy broken line on the Plan.

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- The Area contains a wide variety of existing land uses which include arable land mainly village settlements and residential developments in the south, high-rise commercial and residential developments in the Yuen Long Town proper and industrial developments in the north. Yuen Long New Town is one of the major centres for the provision of commercial and community facilities in the NWNT. The proposals on the Plan would enhance the role of Yuen Long New Town as the regional centre for the NWNT.
- 5.3 For planning and reference purposes, the Area is subdivided into 19 Planning Areas as shown on the Plan.

6. <u>POPULATION</u>

According to the 2016 2021 Population By-Census, the total population of the Area was about 160,050 169,900. It is estimated that the planned population of the Area would be about 180,600 190,170.

7. OPPORTUNITIES AND CONSTRAINTS

7.1 <u>Development Opportunities</u>

- 7.1.1 Yuen Long New Town is located at the centre of a large plain and is suitable for development into the regional centre of the NWNT.
- 7.1.2 Yuen Long New Town is the focal point of the existing and planned transport networks in the region. With the improvement in the external transportation network with the Mainland and urban Kowloon, in particular the West Rail Tuen Ma Line, Yuen Long New Town has been developed as the regional centre of the NWNT.
- 7.1.3 There are large pieces of flat land which would be put to more intensive use around the Yuen Long Town proper and would enhance Yuen Long New Town as the regional centre of the NWNT. The eastern development area located close to the West Rail Yuen Long Station is a new development node and is being developed as the gateway to the New Town.

7.2 Development Constraints

- 7.2.1 Underground cavernous marble is found in some parts of the Area. The underground cavities may affect the design of foundations and hence the location and construction cost of high-rise developments.
- 7.2.2 There are many recognized villages within the Area. It is necessary to preserve them and provide adequate areas for village expansion purpose.
- 7.2.3 Developments in the Yuen Long Town proper along both sides of Castle Peak Road have been substantially completed. Redevelopment will largely be left to market forces. Additional community and commercial facilities would mainly be provided in the peripheral areas.

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8. FORM AND STRUCTURE OF THE NEW TOWN

- 8.1 The development form of the New Town is basically a "core" of high-rise developments along both sides of Castle Peak Road with the development intensity and building height generally descending to the peripheral areas, and industrial developments are situated at the northern fringe. The southern, eastern and western parts of the New Town are bounded and well served by Yuen Long Highway, Tsing Long Highway, as well as Long Tin Road and Long Ping Road respectively. Local distributor roads are connected to these major roads at strategic locations.
- 8.2 To the south and east of the existing built-up areas of the New Town are the extension areas where new developments are completed or proposed. Higher-order commercial and residential developments are located in the eastern extension area. Strips of land in the southern extension area are reserved for the provision of open space to serve as buffer to Yuen Long Highway to the south. Within the extension areas, vehicular access will be improved. Government, institution or community (GIC) facilities will be consolidated at suitable locations to meet planning standards.

9. LAND USE ZONINGS

- 9.1 Comprehensive Development Area ("CDA"): Total Area 18.6817.12 ha
 - 9.1.1 This zone is intended for comprehensive development/redevelopment of the area for residential and/or commercial uses with the provision of open space and other supporting facilities. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.
 - 9.1.2 The area-adjacent to the West Rail Long Ping Station in Area 2 and at the West Rail Yuen Long Station and its adjoining area in Area 15 are is designated as "CDA" to facilitate the implementation of comprehensive commercial/residential developments adjacent to or on top of the railway stations and the associated public transport interchanges. These This two "CDA" sites are is subject to a maximum domestic plot ratio of 5 for a domestic building or a maximum non-domestic plot ratio of 9.5 for a non-domestic building.
 - 9.1.3 The "CDA" zone at Tai Kiu in Area 4 is intended for commercial/ residential development. The "CDA" zoning is to encourage redevelopment of the area in a comprehensive manner, taking into account its proximity to the town centre. However, due to the presence of the existing Tai Kiu Village, there is a need for resolving the problems associated with the clearance and relocation arrangement of the village. This "CDA" site is subject to a maximum domestic plot ratio of 5 for a domestic building or a maximum non-domestic plot ratio of 9.5 for a non-domestic building.
 - 9.1.4 There are three other "CDAs" *sites* located along both sides of Castle Peak Road near the Light Rail terminus in Areas 12 and 15 intended for

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comprehensive commercial/residential developments. The "CDA" *site* located to the north of Ha Yau Tin Tsuen in Area 12 is subject to a maximum plot ratio of 5 and has been developed for residential use, known as YOHO Town. The other two "CDAs" *sites* have largely been developed as YOHO Midtown and Grand YOHO, and are subject to a maximum domestic plot ratio of 5 for a domestic building or a maximum non-domestic plot ratio of 9.5 for a non-domestic building. Owing to the strategic locations of these areas and the presence of underground cavities, these sites are purposely zoned "CDA" so that the developers are required to prepare Master Layout Plans (MLPs) for the approval of the Board.

- 9.1.5 Pursuant to section 4A(1) of the Ordinance, any development/ redevelopment in this zone would require the approval of the Board by way of planning application under section 16 of the Ordinance. Except as otherwise expressly provided that it is not required by the Board, an applicant for permission for development on land designated "CDA" shall prepare a MLP together with the information as specified in the Notes of the Plan which includes, amongst others, an environmental assessment report, a traffic impact assessment report, a drainage and sewerage impact assessment report, landscape and urban design proposals, programmes of development and a quantitative air ventilation assessment (AVA) report, for the approval of the Board under section 4A(2) of the Ordinance. A copy of the approved MLP shall be made available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.
- 9.1.6 The achievement of the maximum plot ratio is subject to the satisfactory demonstration to the Board that a proposed development has taken account of the capacities of infrastructure and other environmental constraints on the site.
- 9.1.7 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the above development restrictions may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits and the relevant criteria for consideration of such relaxation are as follows:
 - (a) amalgamating smaller sites for achieving better urban design and local area improvements;
 - (b) accommodating the bonus plot ratio granted under the Buildings Ordinance in relation to surrender/dedication of land/area for use as public passage/street widening;
 - (c) providing better streetscape/good quality street level public space;
 - (d) providing separation between buildings to enhance air ventilation and visual permeability; and

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(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, visual and air ventilation impacts, as appropriate, would be resulted from the innovative building design.

9.2 <u>Residential (Group A) ("R(A)")</u>: Total Area 63.2366.38 ha

- 9.2.1 This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.
- 9.2.2 The zone covers mainly public and private residential developments. Existing public housing estates in Yuen Long that fall within this zone include Shui Pin Wai Estate in Area 1 and Long Ping Estate in Area 8. Private residential developments within this zone are located in Areas 2, 3, 4, 5, 7, 9, 10, 11 and 13, covering mainly the central areas of the Yuen Long Town proper. Under this zoning, a range of commercial uses as indicated in the Notes are permitted as of right on the lowest three floors of a building. In fact, the ground and first floors of most of the existing private residential buildings under this zoning are usually occupied by shops and services and eating places.
- 9.2.3 Apart from public housing estates and private residential developments, some sites under this zoning along Castle Peak Road Yuen Long have been developed entirely for commercial/office purposes. The purpose-built commercial/office buildings were built mainly when the area was zoned "Commercial/Residential".
- 9.2.4 Developments or redevelopments in areas zoned "R(A)" are subject to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5, and a maximum building height of 30 storeys excluding basement(s).
- 9.2.5 Five strips of land abutting the northern side of the section of Castle Peak Road Yuen Long between Fung Cheung Road and Fung Nin Road are zoned "R(A)2" subject to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5, and a maximum building height of 30 storeys excluding basement(s). According to the consultancy study of Expert Evaluation on AVA of Yuen Long Town (YL AVA(EE) Study) conducted in 2008, sites zoned "R(A)2" are restricted to a maximum site coverage of 80% with a minimum of 2m wide non-building area to be provided abutting Castle Peak Road Yuen Long.
- 9.2.6 For sites zoned "R(A)3" and "R(A)4", which are on the southern side of the section of Castle Peak Road Yuen Long between Fung Cheung Road and Fung Nin Road are restricted to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5. According to the YL AVA(EE) Study, to improve future local wind environment, the building height in the southern side of Castle Peak Road Yuen Long

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should be lower than that for the northern side so as to avoid skimming flow. Thus, land zoned "R(A)3" and "R(A)4" is restricted to a maximum building height of 25 storeys excluding basement(s). Land zoned "R(A)3", being abutting the southern side of Castle Peak Road – Yuen Long, is restricted to a maximum site coverage of 80% with a minimum of 2m wide non-building area to be provided abutting Castle Peak Road – Yuen Long. Upon redevelopment of the sites in the "R(A)2" and "R(A)3" zones, a separation of buildings between the northern and southern sides of the road will be about 35m-40m and, thus, contribute to the future wind environment in the area.

- 9.2.7 Two sites in Area 13 are zoned "R(A)1" subject to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5. The "R(A)1" site to the south of Shap Pat Heung Road has been developed as "Atrium House", "La Grove" and "Park Signature". To be in line with the nearby low to medium-rise developments including medium-rise residential developments, village housing and open space, developments in this zone are restricted to a maximum building height of 25 storeys excluding basement(s). According to the YL AVA(EE) Study, Area 13 would enjoy ample breezes. However, to avoid potential local adverse air ventilation problem, the concepts of 'inter-building spacing' or 'courtyard' by providing adequate space between buildings at wind direction should be applied as far as practicable in the design and layout of future developments in the "R(A)1" zone.
- 9.2.8 A site in Area 7 zoned "R(A)5" has been developed for residential use known as "The Spectra", which is subject to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5 and a maximum building height of 90mPD.
- 9.2.9 A site in Area 14 at Tai Kei Leng zoned "R(A)6" is intended for public housing development. GIC facilities and local open space will be provided within the site. The area is subject to a maximum plot ratio of 6.7 and a maximum building height of 185mPD. To facilitate the provision of public vehicle parking spaces to meet the local demand, "Public Vehicle Park (excluding container vehicle)" use is always permitted within the "R(A)6" sub-area.
- 9.2.10 A planning brief setting out the planning parameters and the design requirements of public housing development at the "R(A)6" zone will be provided to guide its future development.
- 9.2.11 For the site zoned "R(A)6", an Air Ventilation Assessment Expert Evaluation (AVA-EE) has been carried out for the site and concluded that design measures, including building separations, setbacks and open areas, would alleviate the potential air ventilation impacts on the surrounding wind environment. A quantitative AVA shall be carried out at the detailed design stage. Requirements of the design measures and quantitative AVA shall be incorporated in the planning brief for implementation as appropriate.

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- 9.2.12 A site in Area 13 zoned "R(A)7" is intended for private subsidised housing development. The area is subject to a maximum plot ratio of 5 and a maximum building height of 90mPD.
- 9.2.13 A site in Area 2 zoned "R(A)8" has been developed for residential use known as "Sol City", which is subject to a maximum domestic plot ratio of 5 or a maximum non-domestic plot ratio of 9.5 and a maximum building height of 100mPD.
- 9.2.14 For the "R(A)5", "R(A)6" and "R(A)8" zones, in determining the maximum plot ratio of the developments and/or redevelopments, any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded to facilitate the provision of these facilities.
- 9.2.915 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the plot ratio/gross floor area, building height and/or site coverage restrictions may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits with reference to the criteria in paragraph 9.1.7 above.
- 9.2.106 The residential developments along Castle Peak Road Yuen Long are subject to traffic noise impacts. Where appropriate, the building design of new developments/redevelopments should incorporate the best practicable environmental mitigation measures. The Director of Environmental Protection should be consulted on the environmental mitigation measures if needed. Efforts should also be made to reduce the noise level at source, such as the provision of noise reducing friction course on road surface.
- 9.2.147 According to the YL AVA(EE) Study, future developers are encouraged to adopt other design measures that could minimize negative air ventilation impact. These include, inter alia, lower podium height, greater permeability of podium, wider gap between buildings, reducing building height for buildings with wide façade facing prevailing wind directions, irregular building heights stepping towards the north and minimizing the blocking of breezeway through positioning of building towers and podiums.
- 9.2.148 The width of some sections of the footways along Castle Peak Road Yuen Long falls short of the standard requirement. Setting back of some new buildings may be required for widening the footways. The maximum site coverage restriction mentioned in paragraphs 9.2.5 and 9.2.6 above are also relevant for the purpose of footway widening.
- 9.2.19 The plot ratio control under "R(A)6" and "R(A)7" zones is regarded as being stipulated in a "new or amended statutory plan" according to the Joint Practice Note No. 4 "Development Control Parameters Plot Ratio/Gross Floor Area", and shall be subject to the streamlining arrangements stated therein.

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9.3 <u>Residential (Group B) ("R(B)")</u>: Total Area 37.0036.93 ha

- 9.3.1 Residential sites within this zone are in Areas 6, 13, 14 and 16 mainly located in the southern part of the Town. This zone is intended primarily for medium-density residential development where commercial uses serving the residential neighbourhood may be permitted on application to the Board.
- 9.3.2 "Park Royale", "Scenic Gardens", "Parkside Villa" and "Emerald Green", amongst others, in Areas 6 and 13 and "The Reach", "Sereno Verde", "Grand Del Sol" and "Villa Premiere" in Area 14 are zoned "R(B)". Within the "R(B)" zone, residential development is restricted to a maximum plot ratio of 3.5, a maximum site coverage of 50% and a maximum building height of 25 storeys (excluding basement car park).
- 9.3.3 According to the YL AVA(EE) Study, Areas 13 and 14 would enjoy ample breezes. However, to avoid potential local adverse air ventilation problem, the concepts of 'inter-building spacing' or 'courtyard' by providing adequate space between buildings at wind direction should be applied as far as practicable in the design and layout of future developments in the "R(B)" zone in Areas 13 and 14.
- 9.3.4 In Area 16, a site zoned "R(B)1" has been developed for residential use known as "One Regent Place" with a maximum plot ratio of 3 and a maximum building height of 25 storeys (excluding basement car park) so as to be compatible with the developments in the surrounding areas. Similarly, another site zoned "R(B)2" has been developed for residential use known as "The Parcville" with a maximum plot ratio of 3 and a maximum building height of 55mPD. According to the YL AVA(EE) Study, buildings on these sites should avoid blocking north-easterlies or easterlies, which are the prevailing wind directions.
- 9.3.5 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the above restrictions may be considered by the Board through the planning permission system. Each application will be considered on its individual planning merits with reference to the criteria in paragraph 9.1.7 above.

9.4 Residential (Group E) ("R(E)") : Total Area 4.635.35 ha

9.4.1 This zone covers an area at Wang Chau Road in Area 5 and parts of Tung Tau Industrial Area to the west of Wang Yip Street West,—and to the north of Tak Yip Street and at the junction of Po Yip Street and Long Yip Street in Area 7. This zone is intended primarily for phasing out of existing industrial uses through redevelopment (or conversion) for residential use on application to the Board. Whilst existing industrial uses will be tolerated, new industrial developments are not permitted in order to avoid perpetuation of industrial/residential interface problems. The developers will be required to submit adequate information to demonstrate that the new residential development will be environmentally acceptable, and suitable mitigation measures, if required, will be implemented to address the potential industrial/residential interface problems.

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- 9.4.2 The "R(E)1" sites in Tung Tau are subject to environmental impacts including adverse traffic noise impacts, noise from the pumping station to its north and industrial/residential interface problems from nearby industrial operations. The building design of new developments/ redevelopments within "R(E)1" should incorporate environmental mitigation measures, including self-protecting building layout design with no direct line of sight to the noise sources, noise barriers and adequate separation, where appropriate, to meet all relevant criteria under the Hong Kong Planning Standards and Guidelines (HKPSG).
- 9.4.3 For "R(E)1" and "R(E)2" sites in Tung Tau Industrial Area Besides, according to the YL AVA(EE) Study, developers in developing these sites should adopt a podium-free building design, or if podium cannot be avoided, to provide a stepped podium or allow greater permeability of podium to minimize air ventilation impact on the local area. Slab-type building facing north-east which would block prevailing wind of north-easterlies should be avoided. Furthermore, if the proposed development falls within the scope of projects that require AVA as specified under the Housing, Planning and Lands Bureau and Environment, Transport and Works Bureau Joint Technical Circular No. 1/2006 on AVA, the developer is required to undertake an AVA to examine the local wind environment and identify any possible opportunity/problem areas for design improvement.
- 9.4.34 In existing industrial buildings, new developments involving offensive trades will not be permitted. Any modification of use from non-industrial to industrial uses within existing industrial buildings except those specified in Column 1 of Schedule II in the Notes will also require the permission of the Board.
- 9.4.45 Developments or redevelopment within sites zoned "R(E)" are subject to a maximum plot ratio of 5 and a maximum building height of 30 storeys excluding basement(s).
- 9.4.56 For sites zoned "R(E)1" at Tung Tau, they are restricted to a maximum plot ratio of 5, a maximum site coverage of 60% for the lowest two floors (excluding basement(s)) and 30% for the floors above and a maximum building height of 85mPD. Non-building area(s) with a minimum width of 1.5m is designated from the lot boundaries abutting Wang Yip Street West and Tak Yip Street to create a pleasant pedestrian environment. No structures other than minor landscape structures and street furniture should be provided on the non-building area(s). Ancillary car parking should be accommodated in the basement. Strong justifications are required for providing ancillary carpark above ground level.
- 9.4.7 For a site zoned "R(E)2" at Tung Tau, it is restricted to a maximum domestic plot ratio of 5, a maximum non-domestic plot ratio of 0.22 and a maximum building height of 85mPD.
- 9.4.68 To provide flexibility for innovative design, minor relaxation of the plot ratio, building height and/or site coverage restrictions may be

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considered by the Board through the planning permission system. Each application will be considered on its individual planning merits with reference to the criteria in paragraph 9.1.7 above. Under exceptional circumstances, minor relaxation of the non-building area restriction may be considered by the Board through the planning permission system.

9.4.9 The plot ratio control under "R(E)2" zone is regarded as being stipulated in a "new or amended statutory plan" according to the Joint Practice Note No. 4 "Development Control Parameters Plot Ratio/Gross Floor Area", and shall be subject to the streamlining arrangements stated therein.

9.5 <u>Village Type Development ("V")</u>: Total Area 100.00 ha

- 9.5.1 The planning intention of this zone is to reflect existing recognized and other villages, and to provide land considered suitable for village expansion and reprovisioning of village houses affected by Government projects. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Board.
- 9.5.2 There are many well-established recognized villages within the Area, such as Wang Chau Fuk Hing Tsuen, Wang Chau Tung Tau Wai, Wang Chau Yeung Uk Tsuen, Wang Chau Sai Tau Wai, Wang Chau Lam Uk Tsuen, Wang Chau Chung Sum Wai, Fung Chi Tsuen, Shui Pin Wai, Shui Pin Tsuen, Shui Tin Tsuen, Shan Pui, Nam Pin Wai, Sai Pin Wai, Tai Wai Tsuen, Wong Uk Tsuen, Ying Lung Wai, Tsoi Uk Tsuen, Ma Tin Tsuen, Ha Yau Tin Tsuen, Sheung Yau Tin Tsuen and Lung Tin Tsuen. Village expansion areas and other infrastructural improvements will be guided by more detailed layout plans.

9.6 Government, Institution or Community ("G/IC"): Total Area 44.3571 ha

- 9.6.1 This zone is intended primarily for the provision of GIC facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- 9.6.2 Major existing GIC facilities include a community centre, Yuen Long Swimming Pool Complex, Yuen Long Town Hall, Long Ping Community Hall and Yuen Long Stadium in Area 6, 3 clinics in Areas 2 and 9, a divisional fire station in Area 11, a police station and Yuen Long Theatre in Area 3, the Government offices in Areas 2 and 4, and a bus terminus in Area 2. Most of the existing schools and the proposed schools also fall within this zone. There are currently 15 primary

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- schools, 19 secondary schools and 2 special schools within this zone in Yuen Long New Town. The proposed/planned school sites are located in Areas 12 and 13.
- 9.6.3 Developments or redevelopments in areas zoned "G/IC" are restricted to a maximum building height of 8 storeys excluding basement(s). The building height restriction could meet the operational requirements of most GIC facilities and serve as visual and spatial relief in Yuen Long New Town.
- 9.6.4 Eight sites are zoned "G/IC(1)" and subject to a maximum building height of 3 storeys excluding basement(s), except for school and hospital uses which could be developed up to 8 storeys excluding basement(s). The restriction will help ensure that the developments in these sites are in keeping with the adjacent environment.
- 9.6.5 There are three existing GIC developments, namely the Government Offices in Area 4, Maxwell House (CLP Power Substation cum Staff Quarters) and Police Staff Quarters in Area 3, which are significantly taller than other GIC facilities in Yuen Long New Town. They are zoned "G/IC(2)", "G/IC(3)" and "G/IC(4)" with building height restrictions of 15 storeys, 17 storeys and 25 storeys excluding basement(s) to reflect the height of the existing buildings.
- 9.6.6 A site at the junction of Shap Pat Heung Road and Tai Shu Ha Road West is zoned "G/IC(5)". This zone is intended for a youth hostel development. Developments within this sub-area are subject to a maximum building height restriction of 95mPD. An AVA EE has been conducted for the proposed youth hostel development scheme. With the implementation of design measures, including (i) minimization of site coverage, (ii) a void podium deck at the first floor of the proposed youth hostel; and (iii) appropriate setbacks from Shap Pat Heung Road, Tai Shu Ha Road West and the western site boundary, permeability is promoted and wind penetration through the site is facilitated. Upon development of the site, the project proponent is required to implement design measures identified in the AVA EE report.
- 9.6.7 A site near the junction of Castle Peak Road Yuen Long and Yau Tin East Road is zoned "G/IC(6)". This zone is intended for a social welfare service complex cum youth hostel. Developments within this sub-area are subject to a maximum building height restriction of 75mPD. Prior to the development of the site, the project proponent is required to submit noise impact assessment and provide noise mitigation measures to meet all relevant criteria under the HKPSG.
- 9.6.8 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 application will be considered on its individual planning merits with reference to the criteria in paragraph 9.1.7 above.

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9.6.9 Adequate areas have been reserved on the Plan for the provision of GIC facilities in accordance with the HKPSG.

9.7 Open Space ("O"): Total Area 51.8849.84 ha

- 9.7.1 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. Facilities of particular importance are Yuen Long Park in Area 6, Tung Tau Industrial Area Playground in Area 7 and Yuen Long Jockey Club Town Square in Area 10. More local open spaces will be provided in the detailed layout plans and these are not shown on the Plan.
- 9.7.2 A strip of open space with a width of about 80m has been reserved to the north of Yuen Long Highway. Apart from providing recreational and sports facilities, the open space will also serve as a buffer area between Yuen Long Highway and the areas located to the north.
- 9.7.3 Another strip of land in Area 13 intended for landscape walkway is a key breezeway for the town centre. It is also intended to serve as a pedestrian connection linking the planned open space to the south.

9.8 Other Specified Uses ("OU"): Total Area 105.23104.04 ha

9.8.1 This zone denotes areas allocated or reserved for the following specific uses:

(a) Business

- About 6.935.74 ha of land at Tung Tau, Area 7 is zoned "OU" (i) annotated "Business" or "Business(1)". Land zoned for this purpose is primarily intended for general business uses. A mix of information technology and telecommunications industries, non-polluting industrial, office and other commercial uses are always permitted in new "business" buildings. However, in order to ensure that the concerns on fire safety and environmental impacts are properly addressed, only less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public is always permitted in existing industrial or industrial-office (I-O) buildings within this zone. As it is not possible to phase out existing polluting and hazardous industrial uses all at once, it is necessary to ensure compatibility of the uses within the same industrial or I-O building until the whole building is transformed to cater for the new non-polluting business uses. Development within this zone should make reference to the relevant Town Planning Board Guidelines.
- (ii) Developments or redevelopments in areas zoned "OU(Business)" are restricted to a maximum plot ratio of 5 and a maximum building height of 15 storeys excluding basement(s). One site is designated "OU(Business(1))" which is restricted to a maximum plot ratio of 9.5 and a maximum building height of 20

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storeys excluding basement(s).

(iii) According to the YL AVA(EE) Study, to minimize negative air ventilation impact, buildings at Yuen Long Town Lots No. 392, 393 and 532, a non-building area of 5m wide should be provided along Wang Yip Street West and Tak Yip Street at Yuen Long Town Lots No. 392, 393 and 532. Furthermore, developers in developing sites in Area 7 should adopt a podium-free building design, or if podium cannot be avoided, adopt a stepped podium or allow greater permeability of podium to minimize air ventilation impact on the local area. Slab-type building facing north-east which would block prevailing wind of north-easterlies should be avoided.

(b) Petrol Filling Station

This zone is intended primarily for the provision of petrol filling station. Three petrol filling stations are located in Areas 6, 9 and 14. Development in the zone is restricted to a maximum building height of 1 storey excluding basement(s).

(c) Sewage Treatment Works

This zone is intended primarily for the provision of sewage treatment works. A sewage treatment plant is located in Area 19. Development in the zone is restricted to a maximum building height of 2 storeys excluding basement(s).

(d) Industrial Estate

- (i) This zone (about 86.33 ha) is intended to provide/reserve land for the development of an industrial estate for industries to be admitted by the Hong Kong Science and Technology Parks Corporation according to the criteria set by the Corporation. Industries to be included would normally not be accommodated in conventional industrial buildings because of their specific requirements. This zone, located in Area 19, has been developed as the Yuen Long *INNOPARK*-Industrial Estate.
- (ii) Within this zone, the maximum total gross floor area (GFA) of all developments or redevelopments (except public utility installations, public car/lorry parks, public transport facilities, GIC facilities and ancillary facilities) is 1,687,625m², which is equivalent to a plot ratio of 2.5 for the area designated for industrial development and a plot ratio of 5 for a site designated for estate centre as set out in the lease for the Yuen Long *INNOPARK*—Industrial—Estate. Developments in the area annotated Area (a) on the Plan are restricted to a maximum of 8 storeys excluding basement(s) and developments in the area annotated Area (b) on the Plan, i.e. the estate centre site, are restricted to a maximum of 10 storeys excluding basement(s).

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(e) LRT Terminus with Commercial/Residential Development

This zone is intended primarily for Light Rail terminus with residential and/or commercial uses, and other supporting public transport facilities and has been developed as "Sun Yuen Long Centre". It is located in Area 15. Development is restricted to a maximum domestic GFA of 66,460m², a maximum non-domestic GFA of 25,940m² and a maximum building height of 32 storeys excluding basement(s).

(f) Public Car Park with Ground Floor Retail Shops

This zone is intended primarily for public car park with ground floor retail shops. Three sites have been developed under this zoning. Two public car parks with ground floor retail shops are located in Areas 2 and 5. Development is restricted to a maximum plot ratio of 9.5 and a maximum building height of 30 storeys excluding basement(s). The one in Tung Tau business area, Area 7, is designated as "OU(Public Car Park with Ground Floor Retail Shops(1))" and is restricted to a maximum plot ratio of 5 and a maximum building height of 15 storeys excluding basement(s).

(g) Public Car Park and Petrol Filling Station with Ground Floor Retail Shops

This zone is intended primarily for public car park and petrol filling station with ground floor retail shops. A site has been developed under this zoning in Area 10. It is restricted to a maximum plot ratio of 9.5 and a maximum building height of 25 storeys excluding basement(s).

(h) Public Car Park to include Retail and Residential Uses

This zone is intended primarily for public car park with retail and residential uses and has been developed as "Springdale Villas" in Area 6. It is restricted to a maximum domestic GFA of 11,356m², a maximum non-domestic GFA of 11,777m² and a maximum building height of 25 storeys excluding basement(s).

(i) Art Storage and Public Open Space

This zone is intended primarily for art storage and the provision of public open space. It is located in Area 13. Development in the zone is restricted to a maximum GFA of 12,6945,968m² and a maximum building height of 23mPD. Public open space of not less than 590m² shall be provided. Requirements for the provision of public open space would be stipulated in the conditions of land lease as appropriate.

9.8.2 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the plot ratio/GFA and/or building height restrictions may be considered by the Board through the planning permission system, except the "OU(Petrol Filling Station)" zone. Each application will be considered on its individual planning merits with reference to the criteria in paragraph 9.1.7 above.

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9.9 Green Belt ("GB"): Total Area 38.80 ha

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 sprawl as well as to provide passive recreational outlets. This zone includes three well-vegetated knolls in Areas 16, 17 and 18. The intention is to preserve the existing natural setting of these knolls. 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 would be considered on its individual merits taking into account the relevant Town Planning Board Guidelines.

10. TRANSPORT AND COMMUNICATIONS

10.1 Roads

- 10.1.1 The road networks in Yuen Long New Town have improved considerably in recent years.
- 10.1.2 Yuen Long Highway is the main through route for east-west traffic as well as an important trunk road. Castle Peak Road Yuen Long, Yuen Long On Ning Road, Yuen Long On Lok Road, Kau Yuk Road, Ma Tong Road and Shap Pat Heung Road are important local distributors.
- 10.1.3 Tsing Long Highway is an important trunk road linking Yuen Long New Town with Kowloon via Kam Tin and Tsing Yi.
- 10.1.4 Long Tin Road and Long Ping Road provide linkage in the periphery of Yuen Long New Town.
- 10.1.5 Pursuant to section 13A of the Ordinance, the road scheme authorized under the Roads (Works, Use and Compensation) Ordinance (Chapter 370) shall be deemed to be approved under the Ordinance.

10.2 Railways

- 10.2.1 The Light Rail system provides efficient transport service both within the New Town and between Yuen Long, Tin Shui Wai and Tuen Mun. The Light Rail system runs along the Castle Peak Road.
- 10.2.2 The West Rail Tuen Ma Line provides a sub-regional passenger link connecting the NWNT to the urban areas from Nam Cheong in West Kowloon to Tuen Mun via Mei Foo, Tsuen Wan West, Kam Sheung Road, Yuen Long, Long Ping, Tin Shui Wai and Siu Hong.

10.3 Other Public Transport Modes

Apart from bus and public light bus services between Yuen Long New Town and other parts of the territory, the New Town is also served by feeder buses linking up various areas in Yuen Long with the Light Rail system. The bus services are complemented by taxi services.

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10.4 Off-street Parking

10.4.1 Off-street car parking spaces in the Yuen Long Town proper are in great demand as large number of vehicles from its hinterland are attracted by the availability of higher-order services. Five sites are reserved on the Plan for public car parking use. Some sites may also include commercial and residential uses and petrol filling stations. They are zoned "OU" and annotated "Public Car Park with Ground Floor Retail Shops", "Public Car Park to include Retail and Residential Uses" and "Public Car Park and Petrol Filling Station with Ground Floor Retail Shops" on the Plan.

10.4.2 Public vehicle park (excluding container vehicle) in most of the zones may be considered by the Board through the planning permission system.

11. <u>UTILITY SERVICES</u>

11.1 Water Supply

- 11.1.1 The existing water treatment works capacity available in the NWNT will soon be fully committed. Further treatment works capacity, if required, would be made available from the future extension to Ngau Tam Mei Water Treatment Works. Extension of water supply system will be required if there is a substantial increase in the future water demand arising from development proposals for large residential developments.
- 11.1.2 The presence of sub-surface cavities may necessitate restrictions on groundwater abstraction. Because of concern over possible ground movement caused by pumping of water from the marble stratum, a supply of mains water is available for new developments in the Yuen Long Town proper for flushing purpose.

11.2 Sewerage and Sewage Treatment

- 11.2.1 Yuen Long Town proper has a well-developed sewerage network and provision has been made at the sewage treatment works located to the north of Yuen Long *INNOPARK*-Industrial Estate to treat most of the sewage from Yuen Long. The new development areas in Yuen Long Kau Hui, Yuen Long East and Yuen Long South would be served by the planned NWNT sewerage scheme with a sewage treatment plant at San Wai.
- 11.2.2 The sewerage system in the southern areas is less formalized. Uncontrolled discharges into the nullahs are common practices. New trunk sewers are being constructed along the southern parts of Yuen Long Town proper. The construction programme of the said trunk sewer would tie in with the building development programme of these areas.

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11.3 Electricity

Yuen Long is well supplied with electricity via the 400kV network serving the New Territories. Adequate sites have been reserved for electric sub-stations within the New Town.

11.4 Gas

A piped gas supply system from Tai Po to Yuen Long via the gas takeoff station in Au Tau provides gas supply to all parts of Yuen Long New Town.

12. <u>CULTURAL HERITAGE</u>

- 12.1 Within the boundary of the Area, there is a declared monument, namely I Shing Temple, a number of graded and proposed graded historic buildings in the "List of the 1,444 Historic Buildings in Building Assessment", a number of new items pending grading assessment in the "List of new items and new categories with assessment results". All of the above declared monument, graded and proposed graded historic buildings, and new items are worthy of preservation. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the website of the Antiquities Advisory Board at http://www.aab.gov.hk.
- 12.2 Prior consultation with the Antiquities and Monuments Office of Development Bureau should be made if any development, redevelopment or rezoning proposals might affect the above declared monument, graded and proposed graded historic buildings, new items pending grading assessment and their immediate environs.

13. <u>IMPLEMENTATION</u>

- 13.1 Although existing uses non-conforming to the statutory zonings are tolerated, any material change of use and any other development/redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Board. The Board has published a set of guidelines for the interpretation of existing use in the urban and new town areas. Any person who intends to claim an "existing use right" should refer to the guidelines and will need to provide sufficient evidence to support his claim. The enforcement of the zonings mainly rests with the Buildings Department, the Lands Department and the various licensing authorities.
- 13.2 The Plan provides a broad land use framework within which more detailed non-statutory plans for the Area have been and are being prepared by the Planning Department. These detailed plans are used as the basis for public works planning and site reservation within Government departments. Disposal of sites is undertaken by the Lands Department. Public works projects are coordinated by the Civil Engineering and Development Department in conjunction with the client departments and other works departments, such as the Highways Department and the Architectural Services Department. In the course of implementing the Plan, the Yuen Long District Council would also be consulted as appropriate.

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

TOWN PLANNING BOARD DECEMBER-2021 2022

Agreement No. CE 10/2020 (CE)

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long - Feasibility Study

> FINAL REPORT (SHAP PAT HEUNG AND TAI KEI LENG) (ISSUE 3)

November 2022







Agreement No. CE 10/2020 (CE)

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Final Report (Shap Pat Heung and Tai Kei Leng)

406041/S&T/040/Issue 3

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November 2022

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LIST OF ABBREVIATIONS

Abbreviation	Meaning			
AMO	Antiquities and Monuments Office			
AOI	Area of Influence			
ASR	Air Sensitive Receiver			
AVA	Air Ventilation Assessment			
BDTM	Base District Traffic Model			
C&D	Construction & Demolition			
CEDD	Civil Engineering and Development Department			
CLP	China Light and Power Co Ltd.			
DIA	Drainage Impact Assessment			
DP	Designated Project			
DSD	Drainage Services Department			
EB	Eastbound			
EIAO	Environmental Impact Assessment Ordinance			
EFS	Engineering Feasibility Study			
EPD	Environmental Protection Department			
EIAO	Environmental Impact Assessment Ordinance			
EPD	Environmental Protection Department			
FW	Fresh Water			
GEO	Geotechnical Engineering Office			
GFA	Gross Floor Area			
GI	Ground Investigation			
GLA	Government Land Allocations			
G/IC (Zoning)	Government, Institution or Community			
HD	Housing Department			
HKBN	Hong Kong Broadband Network Limited			
HKCGC	Hong Kong and China Gas Company Limited (Towngas)			
НКНА	Hong Kong Housing Authority			
HKPSG	Hong Kong Planning Standards and Guidelines			
НКТ	Hong Kong Telecom			
HyD	Highways Department			
IDC	Investigation, Design and Construction			
LandsD	Lands Department			
LVIA	Landscape & Visual Impact Assessment			
LCA	Landscape Characteristic Area			
LR	Landscape Resource			
NB	Northbound			
NSR	Noise Sensitive Receiver			
NTHS	Natural Terrain Hazard Study			
OZP	Outline Zoning Plan			
pcu	Passenger Car Unit			

Abbreviation	Meaning
PER	Preliminary Environmental Review
РН	Public Housing
PTI	Public Transport Interchange
PTTIA	Preliminary Traffic and Transportation Impact Assessment
R (Zoning)	Residential
RC	Reserve Capacity
RFC	Ratio of Flow to Capacity
RSP	Respirable Suspended Particulates
SB	Southbound
SDM	Stormwater Drainage. Manual
SPH Site	Shap Pat Heung Site
SPS	Sewage Pumping Station
SI	Site Investigation
SSF	Subsidised Sale Flats
S/R	Service Reservoir
SW	Salt Water
SWL	Sound Power Level
TD	Transport Department
TKL Site	Tai Kei Leng Site
TML	Tuen Ma Line
TGN15	Geotechnical Engineering Office Technical Guidance Note No.15
TPDM	Transport Planning & Design Manual
TPEDM	Territorial Population and Employment Data Matrices
VSRs	Visually Sensitive Receivers
V/C Ratio	Volume to Capacity Ratio
WB	Westbound
WSD	Water Supplies Department

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1 INTRODUCTION

1.1 Background

- 1.1.1 In accordance with the 2019 Policy Address, the Government plans to adopt different strategies to increase land supply for development. To meet this policy objective, Planning Department (PlanD) has accorded priority to the study of 160 hectares brownfield sites that are closer to existing infrastructure and assess their suitability for public housing development based on the findings of the "Study on Existing Profile and Operations of Brownfield Sites in the New Territories Feasibility Study" completed in 2019. Eight clusters were identified with higher development potential for public housing development and the Shap Pat Heung Site and Tai Kei Leng Site were two of them.
- 1.1.2 At present, there is a vast amount of agricultural land in the New Territories (NT), especially the north-eastern and north-western parts, mainly occupied by open storage yards, warehouses and other industrial/ rural workshops, which can generally be referred to as brownfield sites. The operations on brownfield sites are generally low in land utilisation efficiency, and often lead to environmental and traffic issues. Brownfield sites are scattered in different areas, vary in size, are of irregular shape and lack convenient access to highway. In the absence of comprehensive planning of these land parcels, some brownfield sites in NT are underutilised with development potential. Shap Pat Heung and Tai Kei Leng sites (the Sites) which are one of these potential sites, has been undertaken by Civil Engineering and Development Department (CEDD) to conduct an Engineering Feasibility Study to examine the engineering feasibility of developing public housing and associated G/IC facilities as required at the Sites.
- 1.1.3 The Sites are situated closely to Yuen Long New Town and Yuen Long Highway. The Shap Pat Heung (SPH) site is located to the East of Yuen Long Highway and next to Chuk San Tsuen which is currently zoned as "Agriculture" ("AGR") on the approved Tai Tong Outline Zoning Plan (OZP) No. S/YL-TT/18. Whilst the site at Tai Kei Leng (TKL) is currently zoned as "Open Space" ("O") and slightly encroaches upon "Residential (Group B)" ("R(B)") on the approved Yuen Long OZP No. S/YL/25. Location of the Sites are shown in **Figure No. 406041/S&T/GEN/001**.
- 1.1.4 The Sites are mainly intended for public housing development (Development) by the Housing Department (HD). The proposed domestic plot ratio and development parameters have been assessed, evaluated and optimized to cope with engineering/development constraints on the housing developments and its surroundings identified during the course of this Assignment.

1.2 Scope of the Study

1.2.1 Binnies Hong Kong Limited (Binnies), formerly known as Black & Veatch Hong Kong Limited (BV), were commissioned by CEDD of the HKSAR Government under Agreement No. CE 10/2020 (CE) in July 2020 to undertake the feasibility study (the Study) for site formation and infrastructure works for supporting public housing developments at the Sites.

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1.2.2 The Study is to determine the scope of infrastructure works for supporting the public housing development; to assess the various impacts pertaining to the development and the associated infrastructure works; to recommend the mitigation measures to keep the potential impacts due to the development and infrastructure works within the acceptable level; and to establish implementation strategies and programmes for the infrastructure works.

1.3 Description of the Site

- 1.3.1 The Sites are shown in **Figure No. 406041/S&T/GEN/001**. A comprehensive review has been carried out to confirm the exact boundary of the Sites taking into account the relevant Departments' comments received and findings of the various technical assessments, and the site constraints/specific requirements arising from the interface with the Sites.
- 1.3.2 For both Sites, the boundaries have been adjusted during the course of the Assignment to cover those areas on which reviews and technical assessments were carried out due to new or upgrading of existing infrastructure works outside the Sites, which are needed for serving the proposed Development.

1.4 Purpose of this Report

- 1.4.1 The objectives of this Report are listed as follows:
 - a) A brief summary of the overall Assignment process;
 - b) Findings, proposals and recommendations of the Assignment;
 - c) Details of PELPs, vehicular, cycle track and pedestrian circulation networks for the Assessment Area and their surrounding;
 - d) The approach, methodology and results of the technical assessments;
 - e) The recommendation on implementation and phasing for the Infrastructure Works;
 - f) Study output including all relevant key engineering information and programme information; and
 - g) A3 size drawings and a set of A1 size negatives together with an electronic version in Microstation (.dgn) format for the Optimal Scheme.

1.5 Structure of the Report

- 1.5.1 This report is prepared in accordance with the requirements under Clauses 6.13 of the Brief.
- 1.5.2 This report has been divided into seventeen sections.
 - **Section 1** introduces the project background and project description;

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- **Section 2** presents the preliminary development proposal;
- **Sections 3 to 15** summarise the findings and recommendations of various technical assessments for the proposed public housing development, including air ventilation, traffic and transport, pedestrian

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connectivity, geotechnical, site formation, drainage, sewerage, water supply, utilities, sustainability, land requirement, environment, landscape and visual and land contamination and remediation;

Section 16 presents a tentative implementation programme; and

Section 17 provides the conclusion to the report.

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2 PROPOSED DEVELOPMENT LAYOUT PLANS AND DEVELOPMENT PARAMETERS

2.1 General

2.1.1 This chapter describes the proposed layout plans and the development parameters for the proposed development sites.

2.2 Site Description

- 2.2.1 The SPH site is located to the East of Yuen Long Highway and next to Chuk San Tsuen and the TKL site is located to the north of Tai Kei Leng Road and to the west of Shap Pat Heung Road. The Sites are situated closely to Yuen Long New Town and Yuen Long Highway. The notional layouts of the Sites are illustrated in **Figure Nos.** 406041/S&T/FR/0201 to 0202.
- 2.2.2 The existing ground level of the SPH site ranges from +6.7mPD to +11.1mPD approximately and no registered or non-registered man-made feature within the site boundary.
- 2.2.3 The existing ground level of the TKL site ranges from +6.0mPD to +7.0mPD approximately. Two registered fill slopes, feature nos. 6NW-D/F12 and 6NW-B/FR247, which aim to support the Tai Kei Leng Road are located outside the southern east boundary of the site.

2.3 Development Parameters and Layout

Tai Kei Leng Site

In the TKL Site, the proposed development comprises of three residential towers situated on top of a 4-storey retail/welfare/carpark podium with a building height of ~20m (~+27mPD). The residential towers Towers 1 to 3 are planned to have 41 to 45 domestic storeys with maximum building height of not more than +170mPD. Due to the increase in GFA concession for promotion of MiC as allowed under Joint Practice Note No. 8 promulgated in July 2022, an additional 5 domestic storeys may be proposed leading to an increase of about 15m in the building height. The maximum building height under this scenario will be 185mPD. The number of storeys of the buildings are subject to review.

Shap Pat Heung Site

In the SPH Site, the proposed development consists of 4 residential towers in the eastern portion of the Site. The residential towers Towers 1 to 4 are planned to have 36 to 49 domestic storeys with maximum building height of not more than +160mPD. Due to the increase in GFA concession for promotion of MiC as allowed under Joint Practice Note No. 8 promulgated in July 2022, an additional 7 domestic storeys may be proposed leading to an increase of about 25m in the building height. The maximum building height under this scenario will be 185mPD. Towers 1 to 3 shares the same 4-storey podium of carpark, retail and welfare facilities with a building height of ~20m (~+28mPD). Facing opposite the residential towers is a 4-storey welfare block cum bus-terminus with a building height of ~20m (~+28mPD) while in the western

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part of the Site, area is reserved for a proposed school. The number of storeys of the buildings are subject to review.

2.3.3 The preliminary development parameters of the Sites are shown in **Tables 2.1** as below:

Table 2.1 - Proposed Development Parameters at SPH and TKL

Public Housing	Shap Pat Heung	Tai Kei Leng					
Development	5.1.up 1 0.01.100.1.g	- w. 1101 20118					
Net Site Area	About 2.7 ha	About 1.8 ha					
Max. PR							
- Domestic	Domestic 6.5						
- Non-domestic ¹	Not ex	ceed 0.2					
Max GFA							
- Domestic	About 178,300 m ²	About 114,800 m ²					
- Non-domestic							
• Retail	About 2,400m ² (SSF)/About	About 1,500 m ² (SSF)/About 1,950					
	3,000m ² (PRH)	m ² (PRH)					
Others (including	About 2,390m ² (SSF/About	About 1,590 m ² (SSF)/About 1,140					
Kindergartens)	1,790m ² (PRH)	m ² (PRH)					
	41						
• Social welfare ²	About 8,900 m ²	About 5,740 m ²					
No. of Storeys							
- Domestic	About 49 (About 56 ³)	About 45 (About 50 ³)					
- Non-domestic	About 5	About 5					
No. of Flats ⁴	About 4,470 (PRH)/About 3,570	About 2,870 (PRH)/About 2,300					
	(SSF)	(SSF)					
Population ⁵	About 12,516 (PRH)/About	About 8,036(PRH)/About 6,440					
	9,996 (SSF)	(SSF)					
Max. Building Height	+160mPD (+185mPD ³)	+170mPD (+185mPD ³)					
Tentative Completion	2031	2031					
Year							
	GIC facilities (GFA to be formulated	by relevant B/Ds in detailed					
planning)							
Primary School	About 5,268 m ²	N/A					

Notes

- 1. excluding the GIC facilities and car park which are exempted from PR calculation on OZP
- 2. equivalent to 5% of domestic GFA and is exempted from PR calculation
- 3. taken into account extra domestic storeys required to accommodate additional GFA concessions for promotion of Modular Integrated Construction as allowed under JPPN 8 promulgated in July 2022
- 4. the housing type is subject to further confirmation by the implementation agent and 10% design contingency is allowed in the assessments

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5. assuming average household size as 2.8



3 PRELIMINARY AIR VENTILATION ASSESSMENT (AVA)

3.1 General

- 3.1.1 Qualitative assessment (Expert Evaluation) of wind environments with the proposed public housing development have been carried out.
- 3.1.2 Preliminary AVA has been conducted for the Project to establish guiding principles in air ventilation terms and evaluate the proposed developments in accordance with the Technical Guide for AVA for developments in Hong Kong (i.e. the Joint HPLB-ETWB Technical Circular on AVA No. 1/06).

3.2 Site Wind Availability

Tai Kei Leng

3.2.1 A meso-scale Regional Atmospheric Modelling System (RAMS) was used to produce a simulated 10-year wind climate at the horizontal resolution of 0.5km x 0.5km covering the whole territory of Hong Kong. The RAMS data of the grid for TKL Site (X: 051 Y: 068) has been extracted from the Site Wind Availability Data of Planning Department's website.

Shap Pat Heung

3.2.2 A RAMS system was used to provide 10-year simulated wind climate with a horizontal resolution of 0.5km x 0.5km covering the whole of Hong Kong. The RAMS data of the grid (X: 052 Y: 068) for SPH Site has been extracted from the Site Wind Availability Data of Planning Department's website.

3.3 Existing Condition

Tai Kei Leng

- 3.3.1 TKL Site is located in the Yuen Long district. The topography is generally flat and the Yuen Long Highway and the nullah along Long Ho Road act as a major breezeway for the winds to reach the TKL Site. Terrain of concern to air ventilation performance includes the knoll of Ho Hok Shan spanning from the east to southeast of the Site with peak heights ranging from +149.4mPD to +220.4mPD. However, the base of these knolls are at minimum around 1km away from the Site and these hilly terrain are too far away to have a significant adverse air ventilation impact on the TKL Site. Hence, influence of local topography to the wind flow pattern around the TKL Site is considered minor.
- 3.3.2 There are numerous existing low to high rise buildings surrounding the TKL Site to the west to northwest, while existing development to the south and southeast of the Sites is low-rise in nature.
- 3.3.3 The ground level elevation of the nearby Yuen Long Highway (between +10.3mPD to +14.5mPD) and the slip roads leading to Shap Pak Heung Interchange (from +10.3mPD to +16.9mPD) is higher than the site. Noise barriers of 4m high are present along Yuen Long Highway and its eastbound slip road leading to Shap Pak Heung Interchange and Shap Pak Heung Road. Some noise barriers ranging from 3m to 5m are planned along Tai Kei Leng under the Yuen Long South Development. These road

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structures and noise barriers may obstruct a portion of low-level E and S winds from reaching the site. As these road structures and noise barriers are low-rise in nature, the obstruction of low level wind is considered minor, while high level wind remains unobstructed.

- 3.3.4 According to the wind availability data, the annual wind directions of the area include easterlies, north-easterlies and southerlies. The wind probability from the E and NNE directions are 15.8% and 15.7%, respectively, which are considered to be the dominant wind direction for the area. The S (11.8%) wind is also a dominant prevailing wind direction other than the E and NNE winds. It is anticipated that the surrounding road network would be the main air corridors under the annual conditions with E and S winds generally unobstructed. The low-rise road structures and noise barriers will have minor obstruction to low level E and S winds while high level wind remains unobstructed. The existing medium- to high-rise development of Yuen Long Town, e.g., Villa Premiere, Grand Del Sol, The Reach etc, will obstruct a portion of NNE wind from reaching the site. Due to the close proximity of The Reach and the TKL Site, obstruction of NNE wind by the Reach is more prominent, especially to the western side of the TKL Site.
- 3.3.5 During summer conditions, prevailing winds from the S, SSE, SSW are the dominant wind directions. As the existing development to the south and southeast of the site is low-rise in nature, the summer prevailing winds are generally unobstructed, except a portion of low-level S winds obstructed by Yuen Long Highway and its noise barrier. Yet, as the road structures and noise barriers are low-rise in nature, the obstruction to low level southerly winds would be minor, while high level wind remains unobstructed.

Shap Pat Heung

- 3.3.6 SPH Site is located in the Yuen Long district. The topography is generally flat with slight increased elevation towards the eastern and southeastern part of the site. Yuen Long Highway and the nullah along Long Ho Road act as a major breezeway for the winds to reach the SPH Site. The elevation of the area to the east and southeast of the site gradually increases into the hilly terrain of Ho Hok Shan with a peak elevation of about +200mPD at more than approximately 400m from the site. Even though Ho Hok Shan is closer to the SPH Site than the TKL Site, the distance of the knoll away from the SPH Site is still large enough that the terrain of Ho Hok Shan is unlikely to provide a significant shielding effect to the SPH Site and affect the wind availability adversely. Hence, the influence of local topography to the wind flow pattern around the SPH Site is considered low.
- 3.3.7 The SPH Site is surrounded by low-rise village houses and structures. The elevation of the nearby Yuen Long Highway is higher than the site. The elevated road structures and noise barriers along Yuen Long Highway will obstruct a portion of low-level wind from reaching the site. As these road structures and noise barriers are low-rise in nature, the obstruction of low level wind is considered minor, while high level wind remains unobstructed.
- 3.3.8 According to the wind availability data, the annual wind directions of the area include easterlies, north-easterlies and southerlies, same as TKL Site. The wind probability from the NNE direction is 16.20% which is considered to be the dominant wind direction for the area. The E (16.10%) and S (11.50%) wind are also dominant

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- prevailing wind directions other than the NNE wind. It is anticipated that the nullah and the surrounding road network will act as air corridors. The existing low-rise buildings and structures in the vicinity of SPH Site is not expected to obstruct wind availability to the SPH Site.
- 3.3.9 During summer conditions, prevailing winds from the S, SSE, SSW are the dominant wind directions. The low-rise village houses and structures located to the south of the site are not expected to obstruct wind availability to the site. Wind performance of SPH Site is expected to be unobstructed under annual and summer conditions.

3.4 Building Design Features

Tai Kei Leng

- 3.4.1 Building design features incorporated into the proposed development to improve air ventilation at the TKL Site can be seen in **Figure No. 406041/S&T/FR/0301**.
- 3.4.2 The building design of the proposed development in TKL Site has taken measures to improve air ventilation performance of the proposed development while simultaneously meeting target development parameters (e.g., flat production requirements) and other environmental and building constraints (e.g., prescribed window requirement, alignment of access roads to residential towers etc.). proposed development in TKL has provided building separations of at least 15m in width between the three towers. The provided separations are generally aligned along SSE to E direction and facilitates SSE and E wind flow to downstream areas such as The Reach, Sereno Verde, village houses at Tai Kei Leng and beyond. Furthermore, building setbacks from the TKL Site boundary is implemented in all directions. There are building setbacks of minimum 3m to at least 15m from the boundary. There are also setbacks of proposed structures from the site boundary as shown in **Figure No. 406041/S&T/FR/0301** can help prevailing winds of different directions to flow pass the TKL Site. The notional layout of the TKL Site includes open area (location of open area subject to review) at the northeastern and southwestern corners of the site for wind access to The Reach and village houses at Tai Kei Leng.

Shap Pat Heung

- 3.4.3 Building design features incorporated into the proposed development to improve air ventilation at the site is shown in **Figure No. 406041/S&T/FR/0302**.
- 3.4.4 The building design of the proposed development in SPH Site has taken measures to improve air ventilation performance of the proposed development while simultaneously meeting target development parameters (e.g., flat production requirements) and other environmental and building constraints (e.g., prescribed window requirement, alignment of access roads to residential towers etc.). The proposed development in SPH Site has provided building separations of at least 15m wide between the residential towers. The provided separations are generally aligned with northeastern wind and facilitates wind flow to downstream areas of Kong Tau San Tsuen and beyond. Furthermore, building setback of at least 3m to not less than 15m from the site boundary is provided and an open area between Tower 3 and Tower 4 is reserved along the eastern boundary. The building disposition at the SPH Site also favours southern winds with the access road and the low-rise welfare block

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and school providing a corridor for wind flow to downstream areas of Long Ho Road, Yuen Long Highway, Hoover Garden and beyond. With these measures, the design of the proposed development at the SPH Site alleviates the air ventilation impact on the surrounding wind environment.

3.5 Air Ventilation Assessment

Tai Kei Leng

Annual Prevailing Winds

- 3.5.1 Once the E wind reaches the TKL Site, high-level and pedestrian-level E wind can reach downstream areas of TKL Site by moving pass the open areas at the northern and southern boundary proposed in the TKL Site, benefiting The Reach and the village houses along Tai Kei Leng Road. The building setback of at least 15m of Tower 1 from the southern site boundary allows E wind to flow through the site at pedestrian and high levels to reach the downstream area of village houses at Tai Kei Leng. The proposed high-rise buildings within the site will obstruct some prevailing E winds from reaching areas such as Sereno Verde, The Reach and some village houses of Tai Kei Leng but with the provision of building gaps and setback, the negative impact is reduced. A building setback of 9m from the northern boundary resulting in at least 15m building separation between Tower 3 and the residential tower of The Reach would allow E wind penetration to The Reach. A building separation of not less than 15m between Tower 1 and Tower 2 (above 4/F) will facilitate E wind penetration through the site to reach the downstream village houses of Tai Kei Leng to the west of the Site. To add, the proposed high-rise buildings will be able to capture some highlevel wind and create a downwash benefiting the pedestrian area near Tower 3 and Tai Kei Leng Road and the unfavourable impact on the surrounding area can be reduced. Under eastern wind, even without the proposed development, Sereno Verde would block a portion of easterlies. Hence, notable wind blockage due to the development at TKL Site to Yuen Long Town further downstream is not expected.
- 3.5.2 For NNE wind, a portion of the wind would be blocked by the structures in the upstream area such as Villa Premiere, a part of Grand del Sol and The Reach which causes the blockage while NNE wind can flow over the low rise Sheung Yau Tin Tsuen reaching the Site. The remaining wind would then use Shap Pat Heung Road to reach TKL Site. The proposed development diverts the wind originally flowing into the middle of the TKL Site to the sides and increases wind flow flowing through Tai Kei Leng Road. Pedestrian-level and high-level NNE winds can reach downstream areas such as Shung Ching San Tsuen and beyond using the eastern edges of the TKL Site along Tai Kei Leng Road. Therefore, the air ventilation impact of the proposed development in TKL Site on downstream areas is anticipated to be reduced. As the number of village houses to the west and southwest of the Site is low with little sensitive uses, air ventilation impact due to the blockage of NNE wind by the proposed development to downstream receivers is considered minimal. Considering that the separation distance between the TKL Site and the downstream Shung Ching San Tsuen and Tai Kei Leng to the south of Yuen Long Highway is more than 120m, wind can settle and replenish before reaching these downstream developments, therefore

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- the wind blockage effect on these downstream areas by the proposed development is not expected to be significant. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the pedestrian area near Tower 3 and Tai Kei Leng Road, as well as within the TKL Site.
- Under S wind, the wind flows through Tai Kei Leng, an area with low-rise village, 3.5.3 south of Yuen Long Highway and then it flows atop of the nullah of Long Ho Road and Yuen Long Highway. Some low-level S wind is obstructed by Yuen Long Highway and its noise barriers before reaching the TKL Site but overall, the incoming S wind to TKL Site is largely unobstructed. It is noted that the proposed residential towers would block a portion of S wind accessing downstream areas which mainly affects The Reach. Some S wind can still flow through the west side of TKL reaching downstream areas using the open area (not less than 15m wide) at the southwestern corner of the Site. High-level S wind can also penetrate over the podium (about 20m above ground) through the building gap of not less than 15m wide between Tower 2 and Tower 3 to reach The Reach. The decline of wind flowing to The Reach is expected and the setback provided on the west side of the proposed residential towers and the provision of building gap of at least 15m in width between Tower 2 and Tower 3 would alleviate the potential blockage effect. On the eastern side of the Site, pedestrian level S wind is diverted around the edge of the TKL Site and increases wind flow flowing along Tai Kei Leng Road. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the internal access road. For development further downstream of The Reach along Shap Pat Heung Road, The Reach directly to the north of the TKL Site would block a significant portion of the wind flowing from TKL Site in existing conditions to areas further downstream along Shap Pat Heung Road even without the proposed development. Consequently, the change of impact to the downstream areas from the proposed development in TKL Site in comparison to the existing condition within the Site, where the wind would already be obstructed by the Reach, is considered low.

Summer Prevailing Winds

- 3.5.4 SSE wind flows through the low-rise village houses and structures in Kong Tau San Tsuen and Tai Kei Leng, it then passes the nullah of Long Ho Road and the Yuen Long Highway and reaches the TKL Site. The SSE wind availability in the TKL Site is largely unobstructed except a portion of low-level wind obstructed by Yuen Long Highway and its noise barrier, as well as the planned noise barriers along Tai Kei Leng Road proposed under the Yuen Long South Development. SSE pedestrian-level and highlevel wind can flow along either side of TKL Site using the outer edges of the TKL Site along Tai Kei Leng Road and open area on the west side and northeastern corner of the TKL Site to downstream areas of The Reach and Sereno Verde. High-level SSE wind can also make use of the proposed building gap between Tower 2 and Tower 3 (of not less than 15m wide) to flow into The Reach. Thus, the negative impact on the wind environment on the surroundings is predicted to be lessened. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow at the TKL Site.
- 3.5.5 Under SSW wind, the wind flows through the low-rise village houses and structures



in Tai Kei Leng, then it blows pass the nullah of Long Ho Road and Yuen Long Highway and before reaching TKL Site. The SSW wind availability in the TKL Site is largely unobstructed due to the nature of low-rise structures in the land to the south of the Site, except a portion of low-level wind obstructed by Yuen Long Highway and its noise barrier. It is noted that the proposed residential towers would block a portion of SSW wind accessing downstream areas which mainly affects The Reach. The proposed development diverts the wind originally flowing into the middle of the Site to the sides and increases wind flow flowing through the western and eastern setback and along Tai Kei Leng Road. Some SSW wind can still flow from Yuen Long Highway to the open area along the western side of the TKL Site and to The Reach while SSW wind to Sheung Yau Tin Tsuen can flow around the edge of the Site along Tai Kei Leng Road. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the open area near Tower 1.

Shap Pat Heung

Annual Prevailing Winds

- 3.5.6 E wind flow to the SPH Site is not expected to be affected significantly due to the nature of the surroundings upstream of the Site. Pedestrian and high-level E winds can flow pass the SPH Site using the building setback of not less than 15m wide along the access road at the south of SPH Site to reach downstream areas of Kong Tau Tsuen and the TKL Site to the west of Shap Pat Heung Interchange. The building separation between Tower 3 and Tower 4 of not less than 15m wide also provide access for the incoming E wind. High-level E wind can flow atop the low-rise welfare block with a building height of ~20m and school with a building height ~25m to reach the downstream area of Yuen Long Highway and further beyond. The open area provided between Tower 4 and the Welfare Block and the open area and ball court within the school site may provide potential flow path for E wind at pedestrian level, yet its effectiveness shall be subject to further analysis by quantitative mean at detailed design stage. Easterly wind after passing through SPH Site can take advantage of the separation provided by Yuen Long Highway, which is a major breezeway, to settle and replenish beyond the wake area before reaching the development in Yuen Long Town on the other side of Yuen Long Highway. Hence, the negative adverse impact brought by the proposed development is reduced. To add, the proposed high-rise buildings of Towers 1 to 3 will be able to capture some high-level wind and create a downwash benefiting wind flow to Chuk San Tsuen along the eastern boundary of the Site.
- 3.5.7 NNE wind flow is mostly unobstructed as the buildings (village houses) in the upstream area of Shek Tong Tsuen and Chuk San Tsuen are not large enough to cause significant blockage to the wind flow coming to the SPH Site. Much of the wind would flow over the vacant land between the village houses to reach the SPH Site. Pedestrian and high-level winds from the NNE directions can penetrate through the site along the building setback provided from the proposed development in the SPH Site. The majority of the wind flow at the SPH Site is expected to pass through the edges of the site boundary and through the building gaps of the towers. There is a building setback of at least 15m from the eastern boundary near Tower 4 for uninterrupted NNE wind



flow to downstream areas of Kong Tau Tsuen and Tai Kei Leng. The building setback of 11m from the eastern boundary together with the open area near Tower 3 that allows NNE wind at all levels to flow through the site to downstream areas of Kong Tau Tsuen. Furthermore, NNE high-level wind can take advantage of building gaps (above 4/F) of at least 15m between Tower 2 and Tower 3 for wind penetration atop the Welfare Block with a building height of ~20m and through the Site. As the SPH Site is surrounded by low-rise structures, there is plenty of room for northeasterly winds to divert around the proposed development and settle beyond the wake area downstream. Therefore, the potential air ventilation impact of the proposed development in SPH Site on downstream areas of Kong Tau Tsuen is reduced. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to Chuk San Tsuen and the watercourse along the eastern boundary of the Site.

3.5.8 Under S wind, the wind flows through part of the structures at Kong Tau Tsuen and vacant land to reach the SPH Site. S wind availability is not expected to decrease noticeably at the SPH Site. There are several corridors that can be utilized for both high-level and pedestrian-level S wind. From the western boundary of the SPH Site to the proposed school, open area of about 14m wide is available for pedestrian-level S wind to flow to downstream area Long Ho Road, Yuen Long Highway, Hoover Garden and YOHO Town. Then in the middle of the Site between the school and the welfare block, pedestrian wind is also able to reach downstream areas along the access road providing a building separation of not less than 15m wide. Southern wind to the east of the Site would be diverted by the development (the podium and Tower 3) to the edge of the Site to the village houses of Chuk San Tsuen while high level S winds can pass through the Site freely and atop the low-rise school (building height of \sim 25m) and welfare block (building height of \sim 20m) using the western part of the Site. Adverse ventilation impact would be alleviated with the design of the proposed development at SPH Site. As the SPH Site is surrounded by low-rise structures, there is plenty of room for southern wind to divert around the proposed development and settle beyond the wake area downstream at Chuk San Tsuen. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the access road and open area adjacent to Tower 3 along the eastern boundary of the Site.

Summer Prevailing Winds

3.5.9 Some obstruction of low level SSE wind flow comes from the scattered structures on top of the largely vacant land to the southeast of the SPH Site. It is, however, negligible as the village houses are too small to pose as an effective obstruction. On the western side of the Site, SSE wind can take advantage of the SPH Site design with low-level SSE wind able to penetrate the Site through the open area to the west and east of the proposed school, as well as along the access road aligning in SSE (providing a gap of at least 15m wide between the school and welfare block cum bus-terminus) direction to downstream areas of Long Ho Road, Yuen Long Highway, Sheung Yau Tin Tsuen and Hoover Garden. High-level SSE winds can also flow uninterrupted and atop the low-rise school site (building height of ~25m) and the welfare block (building height of ~20m). Higher level wind can enter the Site through the separation between



Tower 3 and Tower 4 (not less than 15m wide) and flow above the welfare block to penetrate through the Site to Yuen Long Highway and Hoover Garden. Hence, adverse ventilation impact would be alleviated with the design of the proposed development at SPH Site. Considering the separation distance of the SPH Site with the downstream development of Hoover Garden and Sheung Yau Tin Tsuen is more than 150m, the potential wind blockage effect to development on the other side of Yuen Long Highway by the high-rise buildings at the Site is not significant. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the open area adjacent to Tower 1 and the access road. In order to improve pedestrian SSE wind flow at the Site, the bus-terminus is recommended to adopt permeable design to minimise wall structure on the sides as far as practicable and the opportunity to incorporate low level setback of the podium structure along the façade facing the bus-terminus shall be explored during the detailed design stage.

- 3.5.10 Potential obstruction of SSW wind flow comes from the scattered structures on top of the largely vacant land to the southeast of the SPH Site. It is, however, negligible as the village houses are too small to pose as an effective obstruction. For SSW wind conditions, similar to other southern winds, much of SSW winds can flow to downstream areas of Long Ho Road and Yuen Long Highway at the western side of the SPH Site and along the edge of the site boundary. Lower-level winds may either flow to downstream areas using the open area to the west of the proposed school (9m wide) or the space between the school and the welfare block (at least 15m wide). Some higher-level SSW winds should also be able to flow atop the low-rise school and welfare block to reach the downstream areas. On the eastern part of the Site, SSW wind can flow through the Site via the open area and building setback of Tower 3 along the eastern boundary (10m wide) to the downstream area of Chuk San Tsuen. Adverse ventilation impact would be alleviated with the design of the proposed development at SPH Site. To add, the proposed high-rise buildings will be able to capture some high-level wind and create a downwash benefiting wind flow to the access road and open area between the residential towers and the welfare block.
- 3.5.11 A summary of prevailing winds is shown in **Appendix A**.
- 3.5.12 The two housing sites are located at approximately 370m apart aligning to E-W direction and separated by the major breezeway of Yuen Long Highway. Under the E wind condition, SPH Site is located at the upstream of TKL Site. Easterly wind after passing through SPH Site can take advantage of the separation provided by Yuen Long Highway, which is a major a breezeway, to settle and replenish beyond the wake area before reaching TKL Site and Yuen Long Town. The potential cumulative impact posed by the two Sites is therefore expected to be insignificant.

3.6 Summary

3.6.1 A qualitative assessment of the wind performance of the Developments has been carried out. Annual prevailing wind directions were found to be NNE, E and S while summer prevailing wind directions were found to be SSW, S, SSE. The notional layout of the Sites has carefully considered designs to aid air ventilation while balancing the need to provide adequate domestic and non-domestic GFA and ancillary facilities to

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achieve the target development need. The key design features include the followings: *TKL Site*

- Building separation of at least 15m wide between Tower 1 and Tower 2 to facilitate the penetration of E wind;
- Building separation of at least 15m wide between Tower 2 and Tower 3 to facilitate the penetration of SSE and S winds;
- Building setback of at least 9m wide from the northern boundary and at least 15m wide from the southern boundary to facilitate the penetration of E wind; and
- Open areas located at the northeastern and southwestern corners of the Site to facilitate the penetration of E wind and S and SSE wind, respectively.

SPH Site

- Building separation of at least 15m wide between Tower 2 and Tower 3 to facilitate the penetration of NNE wind;
- Building separation of at least 15m wide between Tower 3 and Tower 4 to facilitate the penetration of E and SSE winds;
- Building setback of at least 10m wide from the eastern boundary and at least 15m wide from the southern boundary to facilitate the penetration of NNE, SSW and E, winds;
- Open area located south of Tower 3 to facilitate the penetration of NNE, SSW and E winds; and
- The S wind aligned access road to facilitate the penetration of S, SSE and SSW wind between the school and the welfare block.
- 3.6.2 It is considered that the potential impact to the wind environment of the surroundings would be alleviated and overall no significant adverse air ventilation impact is anticipated from the proposed development with the incorporation of mitigation measures mentioned in this report.
- 3.6.3 The two housing sites are located at approximately 370m apart aligning to E-W direction and separated by Yuen Long Highway, which is a major breezeway. The SPH and TKL Sites are not located directly upstream or downstream from one another in most of the prevailing summer and annual wind directions, with the exception being E wind. Under the E wind condition, TKL Site is located at the downstream of SPH Site, therefore potentially causing a cumulative impact of a larger wind wake to the downstream area west of TKL Site. However, considering the separation distance between the two Sites and the presence of Yuen Long Highway acting as a major breezeway, it is expected that the wind wake created from SPH Site under E wind will be able to recover and replenish beyond the wake area before reaching TKL Site. Hence, the potential cumulative impact posed by the two Sites is therefore expected to be insignificant.
- 3.6.4 The potential concerned areas identified in the AVA-EE would be area to the immediate north of the TKL Site where a portion of the incoming southerlies are



blocked by the proposed development. In particular, the wake area produced by the blockage of the tall residential towers would affect The Reach to the immediate north of the development. For SPH Site, potential concerned area would be Chuk San Tsuen to the immediate northeast of the Site. The residential towers would be blocking some incoming SSW and S winds to Chuk San Tsuen, but on the other hand would also be able to capture some high level NNE and E wind as downwash to Chuk San Tsuen. Mitigation measures as recommended below shall be critically considered during the detailed design stage of the housing development to further alleviate the potential air ventilation impact.

- 3.6.5 The Development shall not be limited to the proposed design and shall include other features as far as possible at the detailed design stage, including the provision of effective building separation(s) and setback in alignment with the prevailing wind, to facilitate penetration of wind across the Site. Mitigation measures for air ventilation will be reviewed again at the next stage with detail architectural layout design. For instance, the following recommendations shall be considered:
 - Building Permeability equivalent to 20% to 33.3% of total frontal area with reference to PNAP APP-152;
 - Minimisation of podium bulk with ground coverage;
 - Building setback with reference to PNAP APP-152;
 - Site Coverage of Greenery with reference to PNAP APP-152;
 - Avoidance of long continuous façades;
 - Adopt permeable podium design such as communal podium garden, void podiums, terraced podium etc;
 - Adopt permeable design of carpark and bus-terminus by architectural features e.g. maximising the use of railing to minimise wall structure; and
 - Reference can also be made to recommendations of design measures in the Hong Kong Planning Standards and Guidelines.
- 3.6.6 In addition to the above list of recommendations, it is recommended that a quantitative AVA (in form of Initial Study) shall be conducted, if required, for the public housing development by HKHA at the detailed design stage to review the building design, quantify the potential air ventilation impact and assess the effectiveness of the proposed mitigation measures to optimise the building arrangement.
- 3.6.7 From the air ventilation point of view, no insurmountable issue is anticipated for the purpose development with the incorporation of good building design features.



Binnies

PRELIMINARY TRAFFIC AND TRANSPORT IMPACT ASSESSMENT (TTIA) 4

4.1 General

This chapter provides a summary of the key findings in the Preliminary TTIA. The 4.1.1 existing and planned road networks and traffic impacts due to the proposed developments are presented.

4.2 Methodologies

Existing Traffic Condition

- 4.2.1 In order to determine the existing traffic demand within the AOI during peak periods, a traffic survey in the form of manual classified counts were carried out during the periods from 0730 to 0930 and from 1700 to 1900 of typical weekdays on 16th and 22nd October of Year 2020. The locations of the surveyed junctions / links are illustrated in Figure No. 406041/S&T/FR/0401.
- 4.2.2 In order to determine the existing traffic demand within the AOI during Saturday peak periods, a traffic survey in the form of manual classified counts were also carried out during the periods from 1430 to 1730 of typical Saturday on 28th November of Year 2020 for the selected critical junctions. The locations of the surveyed junctions are also illustrated in Figure No. 406041/S&T/FR/0401.

Design Year

4.2.3 The population intake of the proposed development will likely occur in years 2031 upon completion in 2030/31. Thus, the design years adopted for the PTTIA will be years 2036 (5 years after population intake's year). The years of population intake will be subject to further confirmation. A buffer of 10% will be added to the flat no. or population for public housing site for technical assessment purpose.

Traffic Model Methodology for Base Year Model

- 4.2.4 Transport Department's 2015-based Base District Traffic Model (BDTM) "NTW1" covering Yuen Long and Tin Shui Wai were adopted to develop the LAM. The "NTW1" traffic model were cordoned off and fine-tuned for providing traffic flows within the AOI to improve the efficiency of modelling run time.
- The base year model network of the 2015-based BDTM provides a basis for 4.2.5 developing 2020 base year LAM network. The model network will be checked and updated to 2020 condition.

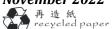
Traffic Model Methodology for Future Design Year

4.2.6 Similar to base year model development, MVCTS for future years adopted the latest 2016-based TPEDM planning data. Cordon matrices were provided by MVCTS for building up the initial matrices for future year LAM.

4.3 **Existing Road Networks**

4.3.1 The Sites are located in closed proximity to Yuen Long New Town and Yuen Long Highway. Shap Pat Heung is located next to the Long Ho Road, east of the Yuen Long Highway, north of the Kong Tau San Tsuen and west of the Shek Tong Tsuen. Tai Kei

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- Leng is located next to Tai Kei Leng Road, east of the Sereno Verde, north of the Yuen Long Highway, south of The Reach and west of the Shap Pat Heung Road.
- 4.3.2 The location of the Shap Pat Heung presents a critical issue in providing proper accesses to site since it is currently situated in locations that is only accessible by substandard single track road of Long Ho Road via a bridge. Long Ho Road is connected to Yuen Long Town via either Tai Shui Ha Road West or Yau Tin West Road only.
- 4.3.3 The location of the Tai Kei Leng also presents a critical issue in providing proper accesses to site since the traffic on Tai Kei Leng Road may be significantly congested during peak hours due to the existing traffic. Traffic queue may tail back on Tai Kei Leng Road from the junction of Shap Pat Heung Road and Tai Kei Leng Road during peak hours.
- 4.3.4 Long Ho Road is a local single track road, connecting local villages along Long Ho Road to Yau Tin West Road, Tai Shu Ha Road West and Tai Shu Ha Road East.
- 4.3.5 Tai Shu Ha Road East is a one-way road from the north to the south connecting Yuen Long Town Center and Shap Pat Heung. Local widening to single track road after the junction with Long Ho Road is provided. Tai Shu Ha Road West is a local road in single-2 configuration with one traffic lane running both northbound and southbound traffic. It is the key road connecting Yuen Long Town Centre and Shap Pat Heung area.
- 4.3.6 Yau Tin West Road is a local one-way road between the junction with Yuen Lung Street and Kong Yau Road. Local widening to single track road between Kong Yau Road and Long Ho Road is provided. It connects the local villages along Long Ho Road to Yuen Long Center.
- 4.3.7 Kong Yau Road is a local single track road, connecting Yau Tin West Road and Fung Cheung Road.
- 4.3.8 Fung Cheung Road is a local single-2 configuration road, connecting the local residential development and traffic from Yuen Long Town South and Yuen Long Town Center where by majority of the traffic to/from Yuen Long Town Center from/to Yuen Long Town South will utilize this road. Local widening to single-4 configuration road at junctions are generally observed at the interstation with Fung Ki Road and Ma Tong Road. Junctions along Fung Cheung Road are currently operating within its capacity, in which some movements are operating closed to its capacity during normal peaks hours.
- 4.3.9 Fung Ki Road is a single-2 configuration road, connecting Shap Pat Heung Road to Fung Cheung Road, where by majority of the traffic to/from Yuen Long Town Center from/to Yuen Long Town South will utilize this road.
- 4.3.10 Shap Pat Heung Road is a dual carriageway for the section between Tai Tong Road and Shap Pat Heung Interchange. The remaining section at the west of Tai Tong Road is a single 2-lane carriageway. Local widening to dual-3 lane at junctions are provided at the intersection with Tai Tong Road and Fung Ki Road. Shap Pat Heung Road currently serves a major connecting between Yuen Long Highway and the portion of Yuen Long Town to the south of Castle Peak Road Yuen Long. Eastern part of Shap

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Pat Heung Road is currently operating within its capacity, in which some movements are operating closed to its capacity during normal peaks hours.

- 4.3.11 Tai Kei Leng Road is a single-2 configuration road, connecting Shap Pat Heung Road to Tai Tong Road providing southern corridor for motorize heading from/to Shap Pat Heung Road to/from Yuen Long South. Local widening to dual carriageway at junctions are provided at the intersection with Shap Pat Heung Road.
- 4.3.12 Tai Tong Road between Ma Tong Road and Tai Tong Tsuen is a single-2 configuration road, connecting Yuen Long South and Yuen Long Town Center, where by majority of the traffic to/from Tai Tong area from/to Yuen Long Town Center will utilize this road.
- 4.3.13 Shap Pat Heung Interchange is located at the junction amongst Yuen Long Highway and Shap Pat Heung Road, whereby majority of the traffic to the southern part of Yuen Long from Yuen Long Highway will utilize this interchange. Shap Pat Heung Interchange is currently operating within its capacity, in which some movements are operating closed to its capacity during normal peaks hours.
- 4.3.14 Yuen Long Highway is an expressway in a mainly dual-3 configuration and partly dual-2 configuration, running in the east-west direction at the south of Yuen Long Town. It connects Tsing Long Highway in the east and Tuen Mun Road in the west. It caters mainly for the traffic between New Territories West and Kowloon. Pok Oi Interchange is located at the junction amongst Yuen Long Highway and Castle Peak Road Yuen Long Section, whereby majority of the traffic to Yuen Long Town from Kowloon will utilise this interchange.

4.4 Existing Traffic Conditions

- 4.4.1 Analysis of the observed traffic data indicates that the AM and PM peak hour flows for weekday occurred from 0815 to 0915 and from 1715 to 1815 respectively and day peak hour flow for Saturday occurred from 1630 to 1730. The observed weekday peak hour traffic flows are summarized and presented in **Figure No. 406041/S&T/FR/0402**.
- 4.4.2 Existing operational performance of the key junctions were assessed by calculating the reserve capacity (RC) for signal-controlled junctions, and the Design Flow / Capacity Ratio (DFC) for priority junctions and roundabouts. The existing junction and road link performance are summarized in **Table 4.1** and **Table 4.2** respectively.

Table 4.1 Existing Junction Performance

Dof	Junction	Method of	Dwazudwa	2020 RC / DFC (1)			
Ref.		Control	Drawing	AM Peak	PM Peak	Weekend	
J1	Pok Oi Interchange	Roundabout	B1	0.72	0.71	0.68	
J2	Castle Peak Road-Yuen Long / Long Yat Road / Long Lok Road	Signal	B2	28%	51%	61%	
J3	Long Yat Road / Long Wo Road	Signal	В3	34%	44%	-	
J4	Long Yat Road / Yuen Long Kau Hui Road	Priority	B4	0.23	0.21	-	
J5	Castle Peak Road – Yuen Long / Yuen Long On Lok Road / Long Lok Road	Signal	В5	30%	35%	-	



D-C	Years and are	Method of D		202	2020 RC / DFC (1)			
Ref.	Junction	Control	Drawing	AM Peak	PM Peak	Weekend		
J6	Castle Peak Road – Yuen Long / Fung Cheung Road	Signal	В6	31%	54%	-		
J7A	Fung Cheung Road / Kin Lok St /	Duionitra	В7	0.76	0.71	-		
J7B	Fung Yau Street North	Priority	В/	0.83	0.61	-		
J8	Kong Yau Road / Yau Tin West Road	Priority	В8	0.11	0.29	-		
J9	Fung Cheung Road / Kong Yau Road	Priority	В9	0.70	0.44	-		
J10	Ma Tong Road / Fung Cheung Road / Fung Ki Road	Signal	B10	26%	28%	22%		
J11	Tai Tong Road / Ma Tong Road	Signal	B11	28%	15%	-		
J12	Yau Tin West Road / Long Ho Road	Priority	B12	0.12	0.19	-		
J13	Long Ho Road / Bridge near the Site	Priority	B13	0.09	0.06	-		
J14	Shap Pat Heung Interchange	Roundabout	B14	0.93	0.91	0.87		
J15	Shap Pat Heung Road / Tai Kei Leng Road	Signal	B15	12%	41%	-		
J16	Shap Pat Heung Road / Fung Ki Road	Signal	B16	32%	41%	-		
J17	Shap Pat Heung Road / Tai Tong Road	Signal	B17	43%	40%	40%		
J18A	Shap Pat Heung Road / Tai Shu Ha	Dwiewitzz	D10	0.33	0.26	-		
J18B	Road East / Tai Shu Ha Road West	Priority	B18	0.35	0.42	-		
J19A	Tai Tong Road / Tai Shu Ha Road	Priority	B19	0.39	0.38	-		
J19B	East / Tai Shu Ha Road West	riioiity	DIJ	0.34	0.44	-		
J20A	Tai Kei Leng Road / Tai Shu Ha	Priority	B20	0.76	<u>1.08</u>	0.76		
J20B	Road East / Tai Shu Ha Road West	111011ty	DZU	0.46	0.56	0.45		
J21	Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road	Roundabout	B21	0.38	0.47	-		

Note: (1) RC = Reserve Capacity, DFC = Design Flow / Capacity Ratio

4.4.3 The results in **Table 4.1** indicate that all the key junctions are currently operating within capacities during weekday peak periods (i.e. RC >0% and DFC <1.0), except J20A – Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West is currently operating over its capacity. During weekend peak period, all selected critical junctions are currently operating within capacities and the traffic condition is better than weekday peak periods, except J10 – Ma Tong Road / Fung Cheung Road / Fung Ki Road is currently operating worse than that in weekday peak periods.

Table 4.2 Existing Road Links Performance

Ref.	Ref. Road Direc		Direction Capacity (pcu/hr)		2020 Observed Flow (pcu/hr)		V/C Ratio	
				AM Peak	PM Peak	AM Peak	PM Peak	
L1	Yuen Long Highway (Between Pok Oi	NB	4,000	4,065	3,550	1.02	0.89	
	Interchange and Shap Pat Heung Interchange)	SB	4,000	3,270	3,225	0.82	0.81	
1.2	Yuen Long Highway (Between Shap Pat L2 Heung Interchange and Tong Yan San Tsuen Interchange)	EB	6,100	5,660	4,935	0.93	0.81	
LΖ		WB	6,100	4,775	4,895	0.78	0.80	

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Ref.	Road	HITACTION	Capacity (pcu/hr)			V/C Ratio	
				AM Peak	PM Peak	AM Peak	PM Peak
L3	Shap Pat Heung Road (Between Shap Pat	EB	2,000	1,050	960	0.53	0.48
ь	Heung Interchange and Fung Ki Road)	WB	2,000	755	950	0.38	0.48
L4	Shap Pat Heung Road (Between Fung Ki	EB	2,000	745	620	0.37	0.31
L4	Road and Tai Tong Road)	WB	2,000	455	500	0.23	0.25
15	L5 Tai Lam Tunnel	NB	5,400	1,915	3,535	0.35	0.65
LS		SB	5,400	5,120	2,280	0.95	0.42
L6	Yuen Long Highway (North of Pok Oi	NB	8,200	6,430	5,500	0.78	0.67
LO	Interchange)	SB	6,100	4,635	4,735	0.76	0.78
L7	Slip Road next to the mainline of Yuen Long Highway (Between Shap Pat Heung Interchange and Pok Oi Interchange)	NB	4,000	2,080	1,660	0.52	0.42
L8	Slip Road next to the mainline of Yuen Long Highway (Between Shap Pat Heung Interchange and Pok Oi Interchange)	SB	4,000	1,645	1,935	0.41	0.48
1.0	V Ti M+ D J	NB	920	130	80	0.14	0.09
L9	Yau Tin West Road	SB	920	65	105	0.07	0.11
110	I and Ha Dood	EB	920	60	60	0.07	0.07
L10	Long Ho Road	WB	920	45	80	0.05	0.09
111	Duid as a say Chan Dat House a City	NB	920	55	40	0.06	0.04
L11 B	Bridge near Shap Pat Heung Site	SB	920	45	40	0.05	0.04

4.4.4 The results in **Table 4.2** indicate that all the above road links are currently operating within capacity (i.e. V/C ratios below 1.0) except L1 - Yuen Long Highway (Between Pok Oi Interchange and Shap Pat Heung Interchange).

4.5 Proposed Access Arrangements and Public Transport Facilities

- 4.5.1 SPH and TKL are located at Long Ho Road and Tai Kei Leng Road respectively. Long Ho Road will be widened to standard single-2 lanes carriageway and Tai Kei Leng Road will be widened to dual-2 lane carriageway under Yuen Long South Development Study. It is assumed that the widening of Long Ho Road and Tai Kei Leng Road will be completed before the population intake of the proposed developments. The exact date of the implementation and completion date will be further reviewed in later design stage.
- 4.5.2 Currently, there is only a sub-standard single track access road connecting SPH to Long Ho Road via a bridge. Therefore, it is proposed to widen the section of this single track access road within SPH to standard 7.3m single-2 lanes carriageway to improve the accessibility of SPH. The proposed local road network serving for SPH and TKL is shown in **Figure No. 406041/S&T/FR/0403**.
- 4.5.3 Based on the estimated public transport demand, a bus-terminus with sawtooth bus bay design is proposed at SPH to provide a minimum of 3 bus bays and 6 stacking spaces for 3 terminal routes subject to actual bus service route planning at the later stage. In addition, 1 urban taxi stand and 1 NT taxi stand will also be provided at the new access road at SPH.

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- 4.5.4 For TKL, 4 double-width bays will be provided at Tai Kei Leng Road eastbound and total 50m layby will be provided at Tai Kei Leng Road westbound (with a general layby and 2 bus bays).
- 4.5.5 The preliminary layout of the bus-terminus and layby is illustrated in **Figure Nos. 406041/S&T/FR/0404** and **0405**. The exact size, layout and arrangement would be carried out in detailed design stage.

4.6 Operation Traffic Impact Assessment

4.6.1 Traffic forecasts were developed for Design Year 2036. The operational TIA would identify the critical issues and recommend any associated traffic improvement schemes to alleviate the identified traffic problem as necessary.

Road Capacity Assessment

4.6.2 The operational performance of the identified critical junctions and road links were assessed for Design Year 2036. The results are summarized in **Tables 4.3** to **4.4** respectively.

Table 4.3 Junction Performance in Design Year 2036

				RC / DFC (1)			
				2036			36
Ref.	Junction	Method of Control	Drawing	Reference Case		Design Case	
		Control		AM	PM	AM	PM
				Peak	Peak	Peak	Peak
J1	Pok Oi Interchange	Roundabout	B22 ⁽²⁾	0.70	0.71	0.78	0.77
J2	Castle Peak Road-Yuen Long / Long Yat Road / Long Lok Road	Signal	B2	25%	44%	21%	41%
J3	Long Yat Road / Long Wo Road	Signal	В3	27%	40%	24%	36%
J4	Long Yat Road / Yuen Long Kau Hui Road	Priority	B4	0.33	0.21	0.33	0.21
J5	Castle Peak Road – Yuen Long / Yuen Long On Lok Road / Long Lok Road	Signal	B23 ⁽²⁾	16%	15%	<u>13%</u>	13%
J6	Castle Peak Road - Yuen Long / Fung Cheung Road			67%	87%	57%	81%
J7A	Fung Cheung Road / Kin Lok St / Fung	Signal	B30 ⁽³⁾	<u>13%</u>	11%	13%	11%
J7B	Yau Street North		DJU				
J8	Kong Yau Road / Yau Tin West Road	Priority	В8	0.11	0.29	0.11	0.29
J9	Fung Cheung Road / Kong Yau Road	Priority	В9	0.50	0.33	0.50	0.33
J10	Ma Tong Road / Fung Cheung Road / Fung Ki Road	Signal	B10	21%	11%	19%	<u>10%</u>
J11	Tai Tong Road / Ma Tong Road	Signal	B11	24%	17%	23%	15%
J12	Yau Tin West Road / Long Ho Road	Priority	B12	0.17	0.22	0.45	0.45
J13	Long Ho Road / Bridge near the SPH	Priority	B13/B37	0.10	0.07	0.68	0.48
J14	Shap Pat Heung Interchange	Roundabout	B33 ⁽²⁾	<u>0.99</u>	<u>1.14</u>	<u>1.36</u>	<u>1.23</u>
J15	Shap Pat Heung Road / Tai Kei Leng Road	Signal	B25 ⁽²⁾	39%	71%	17%	51%
J16	Shap Pat Heung Road / Fung Ki Road	Signal	B16	38%	27%	38%	27%
J17	Shap Pat Heung Road / Tai Tong Road	Signal	B17	40%	32%	38%	30%
J18A	Shap Pat Heung Road / Tai Shu Ha	Desire esites	D10	0.44	0.34	0.44	0.34
J18B	Road East / Tai Shu Ha Road West	Priority	B18	0.46	0.35	0.47	0.35

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					RC / I	DFC (1)		
Ref.	Junction	Method of Control	Drawing	2036 Reference Case		2036 Design Case		
				AM Peak	PM Peak	AM Peak	PM Peak	
J19A	Tai Tong Road / Tai Shu Ha Road East	Driority	B19	0.15	0.18	0.15	0.18	
J19B	/ Tai Shu Ha Road West	Priority	Triority	D19	0.18	0.23	0.20	0.24
J20A	Tai Kei Leng Road / Tai Shu Ha Road	Signal	B26 ⁽²⁾	35%	47%	<u>-3%</u>	<u>13%</u>	
J20B	East / Tai Shu Ha Road West	Priority	B20 ⁽²⁾	0.20	0.25	0.20	0.25	
J21	Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road	Roundabout	B27 ⁽²⁾	0.60	0.45	0.76	0.53	
J22	Yuen Ching Road / Yau Tin West Road	Priority	B28 ⁽²⁾	0.21	0.17	0.43	0.35	

Note:

- (1) RC = Reserve Capacity, DFC = Design Flow / Capacity Ratio
- (2) Planned junction layout under other studies
- (3) Proposed junction layout under other studies
- 4.6.3 The assessment results in **Table 4.3** indicate that all the critical junctions would be operated within their capacities except J5 Castle Peak Road Yuen Long / Yuen Long On Lok Road / Long Lok Road, J7 Fung Cheung Road / Kin Lok St / Fung Yau Street North, J10 Ma Tong Road / Fung Cheung Road / Fung Ki Road, J14 Shap Pat Heung Interchange and J20A Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West would be operated over its capacities in Design Year 2036.

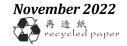


Table 4.4 Road Links Performance in Design Year 2036

				2036 Refer		36 Reference Case		2	036 Des	sign Cas	e
Ref.	Road	Dir.	Capacity ⁽¹⁾ (pcu/hr)	Traffic Flow (pcu/hr)		V/C Ratio		Traffic Flow (pcu/hr)		V/C Ratio	
				AM	PM	AM	PM	AM	PM	AM	PM
L1	Yuen Long Highway Between Pok Oi Interchange and Shap Pat	NB	4,000	3,575	3,395	0.89	0.85	4,090	3,810	1.02	0.95
	Heung Interchange)	SB	4,000	3,565	3,095	0.89	0.77	3,565	3,095	0.89	0.77
L2	Yuen Long Highway (Between Shap Pat Heung Interchange and	EB	6,100	5,595	5,160	0.92	0.85	6,380	5,790	<u>1.05</u>	0.95
	Tong Yan San Tsuen Interchange)	WB EB	6,100	5,640	4,975	0.92	0.82	6,415	5,415	<u>1.05</u>	0.89
L3	Shap Pat Heung Road (Between Shap Pat Heung Interchange and		2,000	1,240	1,130	0.62	0.57	1,240	1,130	0.62	0.57
13	Fung Ki Road)	WB	2,000	865	985	0.43	0.49	870	990	0.44	0.50
L4	I 4 Chan Dat Haung Dood (Datuson Fung V: Dood and Toi Tong Dood)		2,000	835	735	0.42	0.37	840	740	0.42	0.37
L4	Shap Pat Heung Road (Between Fung Ki Road and Tai Tong Road)	WB	2,000	480	490	0.24	0.25	490	495	0.25	0.25
1.5	Toi Low Tunnol	NB	5,400	2,230	3,580	0.41	0.66	2,535	3,865	0.47	0.72
L5	Tai Lam Tunnel	SB	5,400	4,945	2,185	0.92	0.40	5,395	2,370	1.00	0.44
1.6			8,200	6,985	5,735	0.85	0.70	7,690	6,240	0.94	0.76
L6	Yuen Long Highway (North of Pok Oi Interchange)	SB	6,100	5,260	5,265	0.86	0.86	5,870	5,640	0.96	0.92
L7	Slip Road next to the mainline of Yuen Long Highway (Between Shap Pat Heung Interchange and Pok Oi Interchange)	NB	4,000	2,675	1,980	0.67	0.50	2,895	2,150	0.72	0.54
L8	Slip Road next to the mainline of Yuen Long Highway (Between Shap Pat Heung Interchange and Pok Oi Interchange)	SB	4,000	2,145	2,100	0.54	0.53	2,810	2,550	0.70	0.64
L9	Yau Tin West Road	NB	920	225	170	0.24	0.18	385	295	0.42	0.32
L9	Tau Till West Roau	SB	920	90	120	0.10	0.13	325	270	0.35	0.29
1.10	I II - D I	EB	920	160	155	0.17	0.17	380	325	0.41	0.35
L10 Long	Long Ho Road	WB	920	85	115	0.09	0.13	325	270	0.35	0.29
1 1 1	D. I. Cl. D. III. C.	NB	920	60	45	0.07	0.05	535	400	0.58	0.43
L11	Bridge near Shap Pat Heung Site	SB	920	45	40	0.05	0.04	490	420	0.53	0.46

- 4.6.4 The results in **Table 4.4** indicate that all the above road links will still operate within capacity (i.e. V/C ratios below 1.0.) in design year 2036 except L1 Yuen Long Highway (Between Pok Oi Interchange and Shap Pat Heung Interchange) and L2 Yuen Long Highway (Between Shap Pat Heung Interchange and Tong Yan San Tsuen Interchange).
- 4.6.5 Due to site constraint, L1- Yuen Long Highway (Between Pok Oi Interchange and Shap Pat Heung Interchange) is bounded by existing northbound and southbound slip roads on both sides. There is no space to widen this section of Yuen Long Highway.

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- 4.6.6 To improve the operational performance of L2 Yuen Long Highway (Between Shap Pat Heung Interchange and Tong Yan San Tsuen Interchange), the feasibility of road widening of this section of Yuen Long Highway would be investigated.
- 4.6.7 In view that the concerned road links are strategic roads supporting the district-based transport network, the improvement works of the overloaded strategic roads shall be considered and implemented by strategic highway projects. Manageable congestion on the concerned overloaded strategic roads would be expected before the commissioning of the strategic roads improvement works.

Road Capacity Assessment

Castle Peak Road - Yuen Long / Yuen Long On Lok Road / Long Lok Road (J5)

4.6.8 Based on the planned junction layout under "Yuen Long Town Land Lot No. 510", it is proposed to modify the junction layout of Castle Peak Road – Yuen Long westbound to provide two "turn left" traffic lanes, one "straight ahead" traffic land and one "turn right" traffic lane as illustrated in **Appendix B**, which is similar to the current junction layout.

Ma Tong Road / Fung Cheung Road / Fung Ki Road (J10)

4.6.9 It is proposed to extend the flare lane section of Fung Ki Road north to 60m as illustrated in **Appendix B**.

Shap Pat Heung Interchange (J14) and Shap Pat Heung Road / Tai Kei Leng Road (J15)

- 4.6.10 It is proposed to widen the traffic lane at Shap Pat Heung Interchange eastbound from 2 lanes to 3 lanes and provide an exclusive left turn traffic lane (connecting to Tai Kei Leng Road) as illustrated in **Appendix B**.
- 4.6.11 In addition, it is also proposed to provide an exclusive straight ahead traffic lane at the slip road from Yuen Long Highway westbound as illustrated in **Appendix B**.

Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West (J20)

4.6.12 Based on the planned junction layout under Yuen Long South's Study, it is further proposed to convert the whole junction (including J20A and J20B) into a signalized junction as illustrated in Appendix B. In order to maximise the junction capacities and simplify the method of control, it is also proposed to convert Tai Shu Ha Road West from two-way to one-way northbound operation as illustrated in Appendix B. The alternative routes for the banned Tai Shu Ha Road West southbound traffic are illustrated in Appendix B.

Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road (J21)

- 4.6.13 To facilitate the one-way operation at J20A, hatched road marking would be proposed at Tai Shu Ha Road West southbound as illustrated in **Appendix B**.
- 4.6.14 With the improvement measures, the operational performance of the junctions were reassessed with the proposed improvement schemes and the results are summarized in **Table 4.5**.



Table 4.5 Junction Performance under Proposed Improvement Scheme in Design Year 2036

Ref.	Junction	Method of Control	Drawing	RC / DFC (1) 2036 Design Case	
		Control		AM Peak	PM Peak
J5	Castle Peak Road - Yuen Long / Yuen Long On Lok Road / Long Lok Road	Signal	B31	22%	28%
J10	Ma Tong Road / Fung Cheung Road / Fung Ki Road	Signal	B32	29%	24%
J14	Shap Pat Heung Interchange	Roundabout	B33	0.78	<u>0.91</u>
J15	Shap Pat Heung Road / Tai Kei Leng Road	Signal	B33	17%	51%
J20	Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West	Signal	B34	19%	41%
J21	Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road	Roundabout	B36	0.76	0.53

Note: (1) RC = Reserve Capacity, DFC = Design Flow / Capacity Ratio

- As shown in **Table 4.5**, J5 Castle Peak Road Yuen Long / Yuen Long On Lok Road / Long Lok Road, J10 Ma Tong Road / Fung Cheung Road / Fung Ki Road, J15 Shap Pat Heung Road / Tai Kei Leng Road, J20 Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West and J21 Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road would operate with DFC ≤ 0.85 or RC ≥15% in Design Year 2036 with the proposed improvement schemes, except J14 Shap Pat Heung Interchange would operate with DFC ≤ 0.95.
- 4.6.16 Due to limitation of site constraints with sightline and safety issue, it has difficulty to provide exclusive left turn left for Yuen Long Highway Slip Road eastbound to Shap Pat Heung Road. In addition, the junction performance of J14 have been improved from DFC of 1.14 to 0.91, under design scenario with proposed improvement scheme comparing with reference scenario, there is no further improvement scheme proposed for J14.
- 4.6.17 Due to limitation of site constraints and the adjacent area of the junction are bounded by development, there are no improvement schemes proposed for J7 Fung Cheung Road / Kin Lok Street / Fung Yau Street North.

4.7 Construction Traffic Impact

4.7.1 The major construction traffic generation from the proposed Development during construction are mainly from site formation cut/fill works, transporting the construction/ demolition materials and etc. According to the latest construction programe, it is estimated that the peak construction traffic generated from the proposed Development will generate and attract 17 pcu/hr per direction in AM and PM peak in 2026. The excavated materials generated from the site formation works will be transported to the available public fill reception facilities via Yuen Long Highway. Considering the relatively low volume of construction traffic generated by the proposed Development, it is anticipated that no insurmountable impact on the existing road network due to the proposed Development during construction stage in 2026.

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4.8 Parking Provisions

- 4.8.1 Private car, motor-cycle, light good vehicle parking spaces and loading/unloading bays will be provided inside the Site.
- 4.8.2 Based on the assumed latest development parameters and the requirements as stipulated in the Hong Kong Planning Standard and Guidelines (HKPSG), the proposed parking provisions for the public housing developments are summarized in **Tables**4.6 to 4.8. HD will liaise with TD on the parking provision at detailed design stage.

Table 4.6 Parking and Loading/Unloading Bays Requirements

Table 4.6 Parking and Loading/Unloading Bays Requirements				
Parking Facilities	Requirement			
Domestic				
Car Parking Spaces	1 per 8-14 flats (outside 500m radius of rail station) R1 = 0.52 R2 = 1 (outside 500m radius of a rail station) Parking Requirement = GPS (1/4 or 1/7) x R1 x R2			
Accessible Car Parking Spaces	1 space for 1-50 car parking spaces; 2 spaces for 51-150 car parking spaces; 3 spaces for 151-250 car parking spaces; 4 spaces for 251-350 car parking spaces; 5 spaces for 351-450 car parking spaces; 6 spaces for more than 450 car parking spaces			
Motorcycle Parking Spaces	1 per 110-250 flats			
Bicycle Parking Spaces	1 per 15 flats			
"Shared Use " LGV and Light Bus Space	1 per 260 flats			
Goods Vehicle Loading/Unloading Bays	2 per block for overnight parking			
Visitor Car Parking Spaces	Up to 5 per block			
Retail				
Car Parking Spaces	1 per 150-300 sq.m GFA			
Goods Vehicle Loading/Unloading Bays	1 per 800-1,200 sq.m GFA			
Primary Schools				
Car Parking Spaces	1 per 4-6 classrooms			
Lay-By for Taxis and Private Cars	1 per 2-3 classrooms			
Lay-By for School Buses	min. 3 lay-bys			
Kindergartens (parking provisions subject to the requirements of Housing Authority)				
Car Parking Spaces	0-1 per 4-6 classrooms			
Lay-By for Taxis and Private Cars	1 per 5-8 classrooms			
Lay-By for School Buses	min. 2 lay-bys			
V. t. P	no parson /two parson flats are evaluded from the calculation of the everall			

Note: For public rental housing development, one person/two person flats are excluded from the calculation of the overall parking provision of private carparking spaces, motorcycle parking spaces and shared-use spaces for LGV and Light Bus.

Table 4.7 Parking and Loading/Unloading Bays Requirements - SPH

	Requirement			
Parking Facilities	Subsidised Sale Flat (SSF)	Public Rental Housing (PRH)		
Domestic				
Car Parking Spaces (Accessible Car Parking Spaces)	266-465 (4-6)	333-582 (4-6)		
Motorcycle Parking Spaces	15-33	18-41		
Bicycle Parking Spaces	238	298		
"Shared Use " LGV and Light Bus Space	14	18		
Goods Vehicle Loading/Unloading Bays	2 per block	2 per block		
Visitor Car Parking Spaces	5 per block	5 per block		

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	Requir	ement	
Parking Facilities	Subsidised Sale Flat (SSF)	Public Rental Housing (PRH)	
Retail			
Car Parking Spaces	8-16	10-20	
Goods Vehicle Loading/Unloading Bays	2-3	3-4	
Primary school (classroom)			
Car Parking Spaces	4	6	
Lay-By for Taxis and Private Cars	8-	-12	
Lay-By for School Buses	min. 3	lay-bys	
Kindergartens (parking provisions subject to	the requirements of Hou	sing Authority)	
Car Parking Spaces	0-3		
Lay-By for Taxis and Private Cars	1-3		
Lay-By for School Buses	min. 2	lay-bys	

Note: Housing Department will liaise with Transport Department on the parking provision at detailed design stage.

Table 4.8 Parking and Loading/Unloading Bays Requirements - TKL

	Requir	ement	
Parking Facilities	Subsidised Sale Flat (SSF)	Public Rental Housing (PRH)	
Domestic			
Car Parking Spaces (Accessible Car Parking Spaces)	171-299 (3-4)	214-374 (3-5)	
Motorcycle Parking Spaces	10-21	12-27	
Bicycle Parking Spaces	154	192	
LGV Parking Spaces	9	12	
Goods Vehicle Loading/Unloading Bays	2 per block	2 per block	
Visitor Car Parking Spaces	5 per block	5 per block	
Retail			
Car Parking Spaces	5-10	7-13	
Goods Vehicle Loading/Unloading Bays	2	2-3	
Kindergartens (parking provisions subject to t	he requirements of Hous	ing Authority)	
Car Parking Spaces	0-3		
Lay-By for Taxis and Private Cars	1-2		
Lay-By for School Buses	min. 2	lay-bys	

Note: Housing Department will liaise with Transport Department on the parking provision at detailed design stage.

4.9 Review on Additional Demand on Tuen Ma Line (TML)

- 4.9.1 It is estimated that both Developments would generate 3,504 patronage/hr peak public transport trips at the AM Peak. Model split for the PT trips has made reference to MVA's in-house Public Transport Model. It is estimated that about 57% of the PT demand would be Bus-to-Rail, which equivalent to 1,997 patronage/hr generated to Tuen Ma Line from the Development. The PT demand distributed to the urban direction and loaded onto the critical section (from Kam Sheung Road Station to Tsuen Wan West Station) of Tuen Ma Line would be 1,698 patronage/hr (i.e. 85%).
- 4.9.2 According to LC Paper No. CE(4)712/20-21(03), the maximum carrying capacities of TML will be 56,200 pphpd based on a loading density of 6ppsm (i.e. 6ppl/m²) and therefore about 37,500 pphpd based on a loading density of 4ppsm (i.e. 4ppl/m²).
- 4.9.3 Having taken into consideration of the additional demand from the Development, the forecasted additional v/c at the critical section of TML at the AM peak would be

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increased by 0.045 (4ppl/m²) or 0.030 (6ppl/m²).

4.10 Summary

4.10.1 With the implementation of the proposed improvement works, it is anticipated that the proposed development will not induce insurmountable problem to the traffic network from traffic point of view.



5 PRELIMINARY GEOTECHNICAL ASSESSMENT (GA)

5.1 General

5.1.1 This chapter aims to summarize the geological and geotechnical information about the housing sites and their vicinity, identify potential geotechnical impacts that may arise from the proposed developments, and recommend the necessary improvements or upgrading works, if any.

5.2 Ground Condition

As shown on the Geological Map Sheet No.6 – Solid and Superficial Geology, the geological stratum of the proposed Sites is generally covered by Holocene Alluvium (Qa) and Pleistocene Terraced Alluvium (Qpa). The Shap Pat Heung site is dominated by metamorphosed Lapilli lithic-bearing coarse ash crystal tuff of Tai Mo Shan Formation (Jts_cat), superficial deposits are mainly consisting of terraced alluvium (Qpa) with little Debris flow deposits (Qpd) at southern corner. Tai Kei Leng site is underlain by metamorphosed fine- to medium-grained crystalline marble with minor chert (Csyl) and medium- to coarse-grained crystalline marble (Csym) of Long Ping member and Ma Tin member, Yuen Long Formation, superficial deposits are mainly Terraced alluvium (Qpa).

Shap Pat Heung Site

- 5.2.2 The available site investigation records in the vicinity of the site were retrieved from the GIU at the time of information search. The interpreted geological profile based on the retrieved GI are shown in **Figure Nos. 406041/S&T/FR/0501** to **0503.** A general geological profile of the site is summarized as follows:
 - a) The upper most layer is fill with thickness up to 3m.
 - b) Underlying the fill is alluvium with thickness up to 10.1m.
 - c) Below the alluvium is mainly completely to highly decomposed tuff.
 - d) Bedrock (tuff) is encountered at a depth of 35m below ground level.

Tai Kei Leng Site

- 5.2.3 The available site investigation records in the vicinity of the site were retrieved from the GIU at the time of information search. The interpreted geological profile based on the retrieved GI are shown in **Figure Nos. 406041/S&T/FR/0504** to **0506.** A general geological profile of the site is summarized as follows:
 - a) The upper most layer is fill with thickness up to 7.4m.
 - b) Underlying the fill is alluvium with thickness up to 25.25m or karst deposit with thickness up to 8m.
 - c) Below the alluvium or karst deposit is mainly completely to highly decomposed rock, consist of metasiltstone or quartz porphyry.
 - d) Bedrock (metasiltstone, quartz porphyry or marble) is encountered at a depth up to 135m below ground level. The rockhead level varied.

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Part of TKL site falls within the Scheduled Area No.2. The extend of the Scheduled Areas No.2 is added to **Figure No. 406041/S&T/FR/0507**.

5.3 Groundwater Regime

5.3.1 Groundwater monitoring records for relevant vertical drillholes have been retrieved and inspected. Existing and Site-specific Records are summarized in **Table 5.1**.

Table 5.1 - Groundwater Monitoring Records

Site	Highest Groundwater Level (mPD)	Highest Groundwater Level (meter below ground level)
SPH	+5.74	1.05
TKL	+4.51	0.64

5.4 Preliminary Geotechnical Assessment

Geotechnical Appraisal Related to Man-made Features

- 5.4.1 A review of existing slopes and retaining walls within and in the vicinity of the Sites that may affect or be affected by the proposed works is carried out.
- 5.4.2 Guidance given in the Geotechnical Engineering Office Technical Guidance Note No. 15 (TGN 15) regarding the travel angle of landslide debris and the crest influence zones for slopes and retaining walls is adopted for determining if any geotechnical features affect or is affected by the proposed works. The crest influence zone is taken as the feature height. If the proposed works at toe of a feature is within the extreme travel distance of the potential landslide debris of the feature, the failure of the feature is considered to be affecting the proposed works and shall be considered in the Geotechnical Assessment.
- 3 unregistered features and 3 registered features are identified in proximity to the SPH Site and 4 registered features are identified in proximity to the TKL Site; these features will affect the proposed site formation works. Further assessment is recommended. The findings of the review for 3 unregistered and 2 registered features are summarised in **Table 5.2**.

Table 5.2 - Findings of Features

Site	Feature No.	Affected by/ Affecting proposed works	Proposed to be Further Assessed or Demolished /Modified	CTL Category (Future)	Required Factors of Safety
	S2*	Affecting	Further Assessment	1	1.4
SPH	S3*	Affecting	Further Assessment	1	1.4
	S4*	Affecting	Further Assessment	1	1.4



Site	Feature No.	Affected by/ Affecting proposed works	Proposed to be Further Assessed or Demolished /Modified	CTL Category (Future)	Required Factors of Safety
	6NW-B/F6	Affecting	Further Assessment	1	1.4
	6NW- B/FR12	Affecting	Further Assessment	1	1.4
	6NW- B/FR20	Affecting	Further Assessment	1	1.4
	6NW-B/FR 247	Affecting	Further Assessment	1	1.4
TIZI	6NW-D/F 12	Affecting	Further Assessment	1	1.4
TKL	6NW- D/F129	Affecting	Further Assessment	1	1.4
	6NW- D/F14	Affecting	Further Assessment	1	1.4

^{*}S2, S3 and S4 comprises a concrete retaining wall sits on sloping ground.

- Review of existing geotechnical information indicates that there are no significant geotechnical constraints on features affected or affecting the proposed developments and that common modification measures could be employed to provide the required factors of safety as stipulated in WBTC No. 13/99.
- 5.4.5 To facilitate the future development, new features will be constructed within the Sites; the features shall be designed in accordance to Geotechnical Manual for Slopes, Geoguide 1 Guide to Retaining wall Design and other relevant circulars and standards as promulgated by the Hong Kong Government.

Geotechnical Consideration and Geotechnical Constraints

- 5.4.6 GI was carried out within and outside of the site boundary; therefore, the geological profile is interpreted based on existing and site-specific GI.
- 5.4.7 Based on the review of existing data, SPH Site is covered by approximate 1.00m to 3.00m thick of fill layer and 7.00m to 10.10m of alluvium layer. Thickness of completely decomposed to highly decomposed tuff (CD/HDT) ranged from 3.50m to 21.35m and bedrock lies at a depth of 35m below ground level. According to existing geological information, the southern portion of site is cut by NW SE-trending fault. The ground profile shall be verified by site specific ground investigation in later stage of project.
- 5.4.8 TKL Site is covered by 0.40m to 7.40m thick of fill layer. Alluvium with thickness up to 25.25m or karst deposit with thickness up to 8m were found in the existing GI records. Underlying the alluvium or karst deposit is completely to highly decomposed rock (metasiltstone or quartz porphyry). Bedrock (Metasiltstone, quartz porphyry or marble) lies at -9.44mPD to beyond -123.78mPD. The ground

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profile shall be verified by site specific ground investigation in later stage of project.

- 5.4.9 Such complex geology induced variable underground profile and affects the foundation works design. The choice of piles will be affected by the need to cope with variable ground conditions and the feasibility of the differ pile types will be dependent on the capability of the drilling equipment or driveability considerations. From economic point of view, the housing block layout may need to adjust to avoid the complex ground alignment. Special care should be paid on the ground Investigation in later stage.
- 5.4.10 According to the latest site formation design, no substantial retaining structures are proposed. Hence no significant consolidation settlement is expected. Settlement due to the proposed works are expected to be controllable and will not affect the feasibility of the proposed development. As part of the proposed Tai Kei Leng site is located within Scheduled Area No. 2, the design and construction of foundation works in the Scheduled Area would comply with the requirements for the submissions laid down in ETWB TC(W) No. 4/2004. All design of permanent foundations works including GI proposals in the Scheduled Area would be submitted to GEO for checking. The nomination of geotechnical site supervision for GI and foundation works in the Scheduled Area would be subject to the agreement by GEO.
- 5.4.11 Due to the access problem and land issue of this project, only limited site-specific GI could be carried out, this limited GI information cannot provide comprehensive ground information for the site. According to available geological information, deep bedrock levels, presence of marble and related geological features such as marble cavities, inferred fault zone are the potential geological constraints of the site. Further GI works would aim on addressing these uncertainties.

Feasibility of the Infrastructure

5.4.12 This report presented a general description of the existing topography, geological conditions, and man-made features at the Sites. From the current available information, geological and geotechnical constraints are noted. Nevertheless, no substantial site formation works were required for the housing development. A detailed ground model supported by a thoughtful ground investigation could assist the designer selecting a suitable foundation system to overcome such constraints. Geological constraints could be identified by further GI in later stage. As such, the proposed development is considered feasible.

5.5 Natural Terrain Hazard Study (NTHS)

5.5.1 Preliminary screening to determine the need for NTHS with reference to GEO Report No. 138 (Second Edition, 2016) has been conducted. The results are listed in **Table 5.3** below.



		Inclusion Guidelines		
Location	Proposed Facility	(1) Group 1, 2 or 3 Facility [Table 2.2, GEO Report No. 138]	(2) Presence of an undisturbed 'hillside' sloping at more than 15° within 100m horizontally upslope of the facility	Need for NTHS [Satisfying (1) AND (2) => Yes; otherwise => No]
SPH	Residential Building	Group 1	No	No
TKL	Residential Building	Group 1	N/A	N/A

- 5.5.2 The SPH Site is indicated in **Figure No. 406041/S&T/FR/0508.** No natural terrain is overlooking TKL Site.
- 5.5.3 According to the findings, the catchment overlooking SPH Site unsatisfied the "Alert Criteria" and therefore further NTHS is not required.

5.6 Summary

- 5.6.1 This report presented a general description of the existing topography, geological conditions, and man-made features at the Sites. From the current available information, geological and geotechnical constraints are noted. A detailed ground model supported by a thoughtful ground investigation could assist the designer selecting a suitable foundation system to overcome such constraints. Geological constraints could be identified by further GI in later stage. As such, the proposed development is considered feasible.
- 5.6.2 In view of the preliminary findings from the geotechnical assessment, no insurmountable issue is anticipated for the proposed development in the geotechnical aspect.



6 PRELIMINARY SITE FORMATION ASSESSMENT (SFA)

6.1 General

6.1.1 This section is to recommend suitable formation level, profile and designs of the proposed sites and recommend the works required for the proposed sites.

6.2 Site Formation Design Consideration and Constraints

<u>Unsuitable Material Disposal</u>

6.2.1 Since most of the Sites are inaccessible and site specific GI for private land cannot be conducted at this stage, reference is made to the existing GI record and observation during site inspection for estimation of quantities of unsuitable and top soil materials. As the Sites and the associated infrastructure works are not located in low lying area and no deep excavation had been observed from the aerial photos, an average depth of 0.5m unsuitable and top soil material is assumed. The exact quantities of unsuitable and top soil materials will require further confirmation after site specific GI had been completed.

Imported Fill Material

6.2.2 The estimated amount of inert C&D material generated during site formation would be approximately 9,790m³ for SPH site and 4,440m³ for TKL site, of which all are expected to be reused on sites. All inert material is proposed to be reused on site as much as possible while the non-inert material will be disposed offsite. Inert C&D material generated from the Sites are not adequate to cover the total volume of fill. Therefore, imported fill material is required under this Study.

6.3 Proposed Site Formation Works

Proposed Site Formation Works at SPH Site

6.3.1 Subject to the gentle topographic nature of the site, the proposed site formation level will be formed at the level between +11.00mPD at the south vicinity of the site to +7.50mPD at the north vicinity of the site. The proposed site formation level plan and cross sections are shown in **Figure Nos. 406041/S&T/FR/0601** to **0603**.

Proposed Site Formation Works at TKL Site

Subject to the gentle topographic nature of the site, the proposed site formation level will be formed at the level between +7.00mPD at the southwest vicinity of the site to +6.00mPD at the northeast vicinity of the site. The proposed site formation level plan and cross sections are shown in **Figure Nos. 406041/S&T/FR/0604** to **0606**.

6.4 Earthwork Inventory

6.4.1 The earthwork inventories for the Sites and the associated roadwork are shown in **Table 6.1**.



Table 6.1 - Summary of Estimated Quantities of C&D Materials Generated during Site Formation

Phases	Inert C&D	Non-inert C&D	Reused on Site	Dispose (n	d Offsite 1 ³)	Tentative Disposal
rnases	Material (m³)	Material (m³)	(m³)	Inert	Non- inert	Period
SPH	9,790	12,000	9,790	0	12,000	2026/27
TKL	4,440	6,300	4,440	0	6,300	2026/27
Total	14,230	18,300	14,230	0	18,300	2026/27

- 6.4.2 In view of the need of importing a huge volume of suitable material from the fill bank, it is recommended to acquire the filling materials from concurrent projects with huge volume of excavation in the vicinity so as to minimize construction traffic and burden to the fill bank. Further liaison with the excavation-required projects is recommended.
- 6.4.3 It is recommended that comprehensive site-specific ground investigation should be carried out in later stage of this Project in order to review the volume of unsuitable material to be removed.

6.5 Summary

6.5.1 According to the findings of the preliminary site formation assessment, no insurmountable issue is anticipated for the proposed site formation works of the proposed developments.



7 PRELIMINARY DRAINAGE IMPACT ASSESSMENT (DIA)

7.1 General

7.1.1 This chapter aims to assess potential drainage impacts that may arise from the proposed developments, and recommends the necessary improvement or upgrading works, if any.

7.2 Methodologies

- 7.2.1 Drainage record sheets within the Study Area were obtained from Mainland North Division of Drainage Services Department (DSD). The network of the existing drainage is shown at **Figure No. 406041/S&T/FR/0701**. The information is adopted to assess the potential drainage impact arising from the proposed Development under this Assignment.
- 7.2.2 InfoWorks ICM Version 6.0 has been adopted for assessing the potential drainage impact arising from the Development and verifying the effectiveness of the proposed mitigation measures under this Assignment.
- 7.2.3 The software has the benefit of being able to model unsteady, gradually varied flow in looped network with flat or reverse gradients where the direction of flow may reverse. It is therefore well-suited for modelling the study area where the pipes have minimal gradients and are subject to tidal intrusion or backwater effects from the high tidal levels.

Assessment Criteria

7.2.4 According to the SDM, 50-year design return period is recommended for the design of urban branch system. This will be adopted for the design of the proposed drainage works in/near the proposed Development site.

7.3 Existing Drainage Condition

- 7.3.1 The existing drainage network for SPH Catchment A is shown on **Figure No. 406041/S&T/FR/0702**. The rainfall collected by the existing stream running along the SPH Site north east boundary and it flows to the existing twin-cell 3000mm x 2500mm box culvert that connects to the Yuen Long Bypass Floodway.
- 7.3.2 The existing drainage network for SPH Catchment B is shown on **Figure No. 406041/S&T/FR/0702**. The rainfall collects by the existing stream that enters the SPH Site from south west of the site boundary. The stream connects to the existing 2500mm x 1700mm box culvert that connects to the Yuen Long Bypass Floodway.
- 7.3.3 The existing drainage network for TKL Catchment C is shown on **Figure No. 406041/S&T/FR/0702**. The rainfall collects by the existing 1050mm stormwater drain on the north of the site and it flows to the 2500mm x 2250mm box culvert. The rainfall eventually enters the channel located along Yau Tin West Road.

7.4 Potential Drainage Impacts and Proposed Drainage Schemes

7.4.1 All drainage load generated by the Sites are assumed to be discharged to the nearest existing drainage system from the terminal stormwater manhole of each site.

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Detailed design of internal drainage system within each Site will be conducted in the later design stage.

- 7.4.2 For SPH Site within Catchment A, it is proposed to construct a collection point and a 900mm diameter drainage pipe to connect the existing Yuen Long Bypass Floodway at the north west vicinity of the SPH Site as shown in **Figure No. 406041/S&T/FR/0703**. After considering the flow of YLBF, no flooding risk is expected. Therefore, no mitigation measures are required within the housing site.
- 7.4.3 For SPH Site within Catchment B, it is proposed to redirect the existing stream within the catchment to the Yuen Long Bypass Floodway through a proposed twin 1800mm diameter drainage pipes as shown in **Figure No. 406041/S&T/FR/0703**. The reason for redirecting the existing stream that pass through the SPH Site is because it will interrupt with the housing development area.
- 7.4.4 For TKL Site, it is proposed to construct a collection point and a 750mm diameter drainage pipe to connect the existing storm water manhole (SMH1048023) with 1050mm diameter located on the north east vicinity of the site as shown in **Figure No. 406041/S&T/FR/0704**.

Site Proposed Drainage Works

Drainage Pipe: 900mm in 1:100

Twin Drainage Pipe: 1,800mm in 1:100

TKL Drainage Pipe: 750mm in 1:100

Table 7.1 Proposed Drainage Works

7.5 Summary

- 7.5.1 Based on the hydraulic assessment, the proposed drainage works could support the development of the Site whilst there will be no increase in runoff of all catchments after the Development, it is anticipated that there will be no adverse drainage impact on the existing drainage system. Thus, the Development is considered technically feasible from drainage impact point of view.
- 7.5.2 Detailed DIA with the detailed design of the proposed drainage works and mitigation measures will be submitted when more information is available at the detailed design stage.

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8 PRELIMINARY SEWERAGE IMPACT ASSESSMENT (SIA)

8.1 General

8.1.1 This chapter aims to assess potential sewerage impacts that may arise from the proposed developments, and recommends the necessary improvement or upgrading works, if any.

8.2 Methodologies

- 8.2.1 This Preliminary SIA has been carried out in accordance with the following standards, Code of Practice and Design Manuals:
 - Environmental Protection Department's (EPD's) "Guidelines for Estimating Sewerage Flows for Sewerage Infrastructure Planning" (GESF);
 - Drainage Services Department's (DSD's) Sewerage Manual (Part 1) Key Planning Issues and Gravity Collection System; and
 - DSD's Sewerage Manual (Part 2) Pumping Stations and Rising Mains.

8.3 Existing and Planned Sewerage System

- 8.3.1 EPD advised that this development is within the catchment of San Wai Sewage Treatment Works (SWSTW), which is being upgraded, and that sufficient capacity will be timely provided in phase with the TPEDM forecasted population to be accommodated by all existing and planned development within its catchment.
- 8.3.2 Existing sewer near SPH Site convey sewage to Lung Tin Sewage Pumping Station (LT-SPS) and then conveyed to the Ha Tsuen Sewage Pumping Station (HT-SPS) and transferred to SWSTW as shown in **Table 8.1**. Meanwhile the existing sewer near Tai Kei Leng Site collects sewage to the Ping Shun Street Sewage Pumping Station (PSS-SPS) and then to either San Wai Sewage Treatment Works (SW STW) or Yuen Long Sewage Treatment Works (YL STW) or discharge to the existing sewerage network along Long Ho Road to LT SPS and further connects to SW STW as shown in **Tables 8.2** and **8.3**.

Table 8.1 – Summary of Major Existing Sewerage Pipes near Shap Pat Heung connect to San Wai Sewage Treatment Works

Sewerage Pipe Location	Pipe Diameter (mm)
Long Ho Road	500
Shung Ching Road	900
LT SPS Outlet	700
HT SPS Inlet	1500
SW STW Inlet	1200

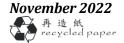


Table 8.2 - Summary of Existing Sewerage Pipes near TKL connect to SW STW

Sewerage Pipe Location	Pipe Diameter (mm)
Shap Pat Heung Road	350-750
Tai Shu Ha Road East	750
Chung Sing Path	850-900
Sewer Chamber Outlet	900-1000
HT SPS Inlet	1500
SW STW Inlet	1200

Table 8.3 - Summary of Existing Sewerage Pipes near TKL connect to LT SPS

Sewerage Pipe Location	Pipe Diameter (mm)
Long Ho Road	500
Shung Ching Road	900
Sham Chung Tsuen Road	900
Sham Chung Road	900

8.4 Sewerage Impact and Proposed Sewerage Scheme

8.4.1 The total ADWF generated from the proposed Developments are estimated to be 0.0597m³/s. At the current stage of the Study, all the public facility is assumed to be located at the non-domestic block for the sewage estimation. Detailed ADWF estimation is provided in **Table 8.4**.

Table 8.4 - Estimation of Sewage Generated from the Development

Sewage Type	Quantity	Unit	
Shap Pat Heung Site			
Residential			
Design residential population *	9,996	person	
Unit flow factor	0.27	m ³ /person/day	
ADWF for residential (SSF)	0.0312	m ³ /s	
Public Facility			
Design "retail & others" population (1)	212	person	
Unit flow factor	0.28	m ³ /employee/day	
ADWF for retail and others	0.0007	m ³ /s	
Design "welfare" population (2)	294	person	
Unit flow factor	0.28	m ³ /employee/day	
ADWF for welfare	0.001	m ³ /s	
Design student population (Primary School)	612	person	



Unit flow factor for students	0.04	m ³ /person/day
ADWF for students	0.0003	m ³ /s
Total ADWF from Shap Pat Heung	0.0332	m ³ /s
Tai Kei Leng Site		
Residential		
Design residential population*	6,440	person
Unit flow factor	0.27	m ³ /person/day
ADWF for residential	0.0201	m³/s
Public Facility		
Design "retail & others" population (3)	108	person
Unit flow factor	0.28	m³/employee/day
ADWF for retail and others	0.0003	m ³ /s
Design "welfare" population (4)	189	person
Unit flow factor	0.28	m³/employee/day
ADWF for welfare	0.0006	m³/s
Total ADWF from Tai Kei Leng	0.0211	m³/s
Total ADWF from Shap Pat Heung and Tai Kei Leng	0.0543	m³/s
Total ADWF from Shap Pat Heung and Tai Kei Leng (with 10% contingency)	0.0597	m³/s

- (1) The floor area adopted to calculate design "retail and others" population is about 4,790m² and primary school teachers of 44 have been included.
- (2) The floor area adopted to calculate design "welfare" population is about 8,900m².
- (3) The floor area adopted to calculate design "retail and others" population is 3,090m².
- (4) The floor area adopted to calculate design "welfare" population is 5,740m².
- * SSF scenario is adopted as a worst-case scenario design.

Proposed Sewerage Works

- 8.4.2 There is no public sewer in the proposed development sites, and instead of upgrading the existing sewer along Long Ho Road, new sewer route will be proposed for collecting the sewage from the proposed development sites. The proposed sewer route is provided in **Figure No. 406041/S&T/FR/0801**. The proposed terminal manholes and relevant pipes are based on the notional layout of the Sites for the purpose of this EFS. The detailed location and the alignment of the proposed sewers and manholes are subject to review at detailed design stage.
- 8.4.3 For SPH Site, the DN450 proposed sewers laid along Long Ho Road then it connects to the proposed sewers laid from TKL Site at Tai Shu Ha Road East and Long Ho Road Roundabout. The DN560 proposed sewers further laid along the east of the Yuen

November 2022 再造紙 recycled paper Long Bypass Floodway (YLBF) to LT SPS as shown in **Figure No. 406041/S&T/FR/0801** and eventually it connects to the SW STW.

8.4.4 For TKL Site, the DN400 proposed sewers laid along Tai Kei Leng Road and Tai Shu Ha Road East. Then, it connects with the proposed sewers from SPH Site and further laid along the east of the Yuen Long Bypass Floodway with DN560 proposed sewers to LT SPS as shown in **Figure No. 406041/S&T/FR/0801** and eventually it connects to the SW STW.

Impact to Existing/Planned Sewage Pumping Station

8.4.5 Under the proposal on sewerage, LTSPS has been considered and the sewerage from the Sites will be delivered to LT SPS. Then, the sewer pipe further connects to HT SPS and eventually conveyed to SW STW.

Source of Sewerage

Estimated average dry weather flow (m³/day)

Estimated flow from LTSPS catchment and other developments

SPH & TKL

Total

Estimated average dry weather flow (m³/day)

16,274

5,156

21,430

Table 8.5 - Estimated Flow intake to LTSPS in 2031

8.4.6 As shown in **Table 8.5**, the LTSPS with design capacity of 24,744 m³/day has sufficient capacity to cater for the additional sewage from the Sites.

8.5 Mitigation Measures

8.5.1 New sewerage pipes with 400mm, 450mm and 560mm diameter for Tai Kei Leng Site and Shap Pat Heung Site are proposed along Tai Kei Leng Road and Long Ho Road to cater the sewage generated from the proposed development sites to the existing infrastructures.

8.6 Management and Maintenance Matrix for Proposed Drainage Works

8.6.1 The parties responsible for construction and maintaining the proposed sewerage works are listed in **Table 8.6** which will be further reviewed in later stage.

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Table 8.6 - Management and Maintenance Matrix

Description of Proposed Sewerage Works	Construction Party	Maintenance Party
Proposed new sewerage	CEDD	DSD
Internal sewerage for the proposed housing site	HD	HD
Internal sewerage for the proposed school sites	To be confirmed	EDB

8.7 Summary

- 8.7.1 Following the implementation of the proposed sewerage works, no insurmountable issue is anticipated for the proposed developments from sewerage viewpoints.
- 8.7.2 Detailed SIA will be conducted at the next stage by looking into the existing developments at upstream/downstream of the proposed housing development. A more accurate assessment on the cumulative impact of the flows from the proposed and existing developments on the capacity of the existing sewerage system will be provided.

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9 PRELIMINARY WATER SUPPLY IMPACT ASSESSMENT (WSIA)

9.1 General

- 9.1.1 This chapter aims to assess potential water supply impacts that may arise from the proposed developments, and recommends the necessary improvement or upgrading works, if any.
- 9.1.2 The capacity of the existing water supply facilities was assessed taken into account the additional water demand generated from the Sites.

9.2 Methodologies

Technical Approach

- 9.2.1 The estimated water demands for the Sites are based on the latest development parameters as indicated in the next section. The estimation is generally with reference to the unit water demands as recommended under WSD's Departmental Instruction (DI) No. 1309 and "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning" published by the Environmental Protection Department (EPD)
- 9.2.2 This report has been undertaken in accordance with the following standards, Code of Practice and Design Manuals:
 - Civil Engineering Design Manual (WSD);
 - EPD's Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF);
 - Manual of Mainlaying Practice (2012 Edition); and
 - WSD's Departmental Instruction (DI) No.1309.

Design Parameters

9.2.3 In accordance with WSD's DI No.1309, the following design parameters and peak demand factors are adopted for the design of proposed water supply system of the Site. **Table 9.1** lists out the relevant design parameter to be used for the assessment.

Table 9.1 - Design Parameters

Tubic 711 Design Furtheren		
Waterworks/Facilities	Requirements	
Service Reservoir Capacity	 Fresh water system – 75% of mean daily demand for interconnected supply zones. Fresh water system – 85% of mean daily demand for isolated supply zones. Flushing water system – 25% and 64% of mean daily demand for salt water and reclaimed water respectively. 	
Peak Flow Rates in Distribution Main	 Fresh water system – 3 times mean 	



	daily demand • Flushing water system – 2 times mean daily demand
Residual Head	 Fresh water system – 20m Fresh water system for firefighting – 17m Flushing water system – 15m
Fire Fighting	 6,000m³/day for residential zones with a discharge pressure of 17m head assuming a draw-off rate of 3,000m³/day through any single pedestal hydrant Fire-fighting requirements for Zone R1=9,900m³/day for 12 hours; Zone R2 = 6,600m³/day for 8 hours & Zone R3 = 3,300m³/day for 6 hours.

9.3 Existing and Planned Water Supply Facilities

Existing Fresh Water Supply Facilities

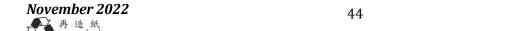
- 9.3.1 The fresh water supply for the existing area within the proposed Development Area is presently fed by Au Tau Primary Fresh Water Service Reservoir (ATPSR) via a network of mains.
- 9.3.2 Au Tau Water Treatment Works (ATWTW) are the source of fresh water supply to ATPSR.
- 9.3.3 The existing fresh water service reservoir supply zones that the Sites fall into are shown in **Figure No. 406041/S&T/FR/0901.**
- 9.3.4 The details of the service reservoir that related to the Sites are listed in **Table 9.2** helow:

Table 9.2 - Details of the Relevant SRs

	AT FW PSR
Existing Capacity (m ³)	100,548
Top Water Level (mPD)	+96.00
Invert Level (mPD)	+87.22

Existing Salt Water Supply Facilities

- 9.3.5 Salt water supply for the Northwest New Territories presently fed by Lok On Pai Salt Water Pumping Station (LOPSW P/S) and Tan Kwai Tsuen Salt Water Service Reservoir (TKT SWSR) via a network of trunk mains and distribution mains.
- 9.3.6 LOPSW P/S was commissioned in mid-2015 with a capacity of 18,100m³, meanwhile the salt water supply only covers as far as part of Yuen Long New Town. SPH site has



no salt water supply from LOPSW P/S; However, the existing salt water supply zone of LOPSW P/S covers the TKL Site. SPH Site is using Temporary Mains - water for Flushing (TMF) to replace salt water for flushing. The existing salt water mains at/ in the vicinity of the Sites are shown in **Figure No. 406041/S&T/FR/0902**.

Planned Water Supply Facilities

9.3.7 According to the Plan of Supply of reclaimed water to Tin Shui Wai, Yuen Long Town and Tuen Mun, it shows that the Wang Chau Reclaimed Water Service Reservoir (WC RWSR) is proposed to supply the flushing water. It is also anticipated that the planned reservoir is able to accommodate the flushing water demand by the proposed development. The details of the flushing water supply was subject to further review by relevant departments, such as CEDD, WSD and DSD.

9.4 Water Demand of the Development

9.4.1 The fresh and salt water unit demands generated from domestic users and service trades in the developments are estimated based on WSD Departmental Instruction No. 1309 (DI No. 1309). The unit demands for fresh water and salt water are shown in **Tables 9.3** and **9.4** respectively.

Table 9.3 - Summary of Fresh Water Unit Demand

Consumer Class	Value	Unit
Residential	230	l/h/d
Service Trade	40	l/h/d
School	25	l/h/d

Table 9.4 - Summary of Salt Water Unit Demand

Consumer Class	Value	Unit
Residential	70	l/h/d
Service Trade	40	l/h/d
School	25	l/h/d

9.4.2 The estimated fresh water and salt water demands of the Sites are summarized in **Table 9.5**. The fresh and salt water demands have been calculated in accordance with DI No. 1309.

Table 9.5 - Summary of Estimated Water Demand

Site	Fresh Water Demand	Salt Water Demand
SPH	3,735m³/day	1,003m³/day
TKL	2,387m³/day	632m³/day



9.5 Recommendations for Fresh Water Supply

Proposed Scheme - Au Tau Fresh Water Primary Service Reservoir (AT FW PSR)

- 9.5.1 According to available information, an existing DN700 distribution mains tee-off from an existing DN1200 trunk main from AT FW PSR that provides fresh water supply to Yuen Long Town area including the Sites via the existing DN700 mains along Castle Peak Road.
- 9.5.2 The capacity assessment and residual head calculation stated that numerous existing pipes could not cater the demand generated from the Sites. Therefore, upgrade of the existing pipes is required which will be mentioned in later section.
- 9.5.3 The proposed fresh water supply schemes to the Sites is shown in **Figure No. 406041/S&T/FR/0903** and summarized in **Table 9.6** below.

Table 9.6 - Summary of Proposed Fresh Water Supply Schemes

Source of FW Supply	Formation Level (mPD)	Residual Head at Connecti on Point (m) ¹	Invert Level (mPD)	Top Water Level (mPD)	MDD Factor ²	Design/ Spare Capacity (m³)	Required Capacity (m³)
Proposed Scheme AT FW PSR	7.0	58.1/57.5	87.22	96	0.85	100,548	5,204

Notes:

9.6 Recommendations for Flushing Water Supply

Proposed Scheme – Planned WC RWSR

- 9.6.1 The proposed flushing water supply for the Sites will be supplied from existing flushing water main network fed by WC RWSR. The existing 300mm and 400mm diameter flushing water mains along Shap Pat Heung Road is required to be upgraded to 700mm diameter and the pipe size for the flushing water mains that connects to SPH Site and TKL Site is proposed to be DN150.
- 9.6.2 In case there is any programme mismatch between the population intake of the Development and the commissioning of the planned WC RWSR, TKT SWSR is proposed as an interim measure by the time of population intake of the Developments as agreed with WSD/System Planning.
- 9.6.3 The proposed salt water supply scheme to the Sites is shown in **Figure No. 406041/S&T/FR/0904** and summarized in **Table 9.7** below.



¹ a minimum residual pressure of 20-metre head should be provided for fresh water supply

² Required Capacity of FWSR = 0.75 MDD for non-isolated supply zone with critical consumers

² Required Capacity of FWSR =0.85 MDD for isolated supply zone without critical consumers

Table 9.7 - Summary of Proposed Flushing Water Supply Schemes

Site	Source of SW Supply	Formation Level (mPD)	Residual Head at Connection Point (m) ¹	Invert Level (mPD)	Top Water Level (mPD)	MDD Factor ²	Design/ Spare Capacity (m³)	Required Capacity (m³)
SHP	Planned WC	7.0	17.1	60.045	67.00	0.25	40.000	251
TKL	RWSR	7.0	27.2	60.845 67.00		40,000	158	

Note:

9.6.4 The above mentioned fresh and flushing water supply schemes are proposed based on the latest information available and are subject to change due to potential intensification of future development and assessments, adjustments and assumptions are subject to further study and verification.

9.7 Smart Water Initiatives and Automatic Meter Readings

9.7.1 The application of the smart water supply initiatives for the proposed housing developments should be explored and implemented as far as possible. Details of the smart water supply initiatives will be taken into consideration in the Detailed Design Stage.

9.8 Grey Water / Rainwater for Non-potable Purposes

9.8.1 The application of the grey water or rainwater for non-potable purposes for the proposed housing developments should be explored and implemented as far as possible. Details of the grey water or rainwater for non-potable purposes will be taken into consideration in the Detailed Design Stage.

9.9 Summary

9.9.1 The results of this Preliminary WSIA have confirmed that the proposed fresh/flushing water supply networks can accommodate the additional demand of the proposed Development and no adverse impact to the existing water supply systems is anticipated.



¹ a minimum residual pressure of 15-metre head should be provided for salt water supply

² Required Capacity of SWSR =0.25 MDD

10 PRELIMINARY UTILITIES IMPACT STUDY (UIS)

10.1 General

10.1.1 This chapter aims to assess potential utility impacts that may arise from the proposed developments, and recommends the necessary improvement or upgrading works, if any.

10.2 General Requirements for Utility Installation

10.2.1 Following the general requirements for various utility installations stipulated in HKPSG, Highways Department Technical Circular 3/90, Drainage Services Department Technical Circular No. 4/2019 "Handling of Utility Services Encroaching upon Public Drainage Facilities" and Public Lighting Design Manual by HyD, the cover and separation requirements for various utility installations are summarized below in **Table 10.1**.

Table 10.1 General Requirement for Underground Utility Installation

Common Utility	Minimu	n Cover	Separation from
	Footpath / Areas without Vehicular Traffic	Road / Areas with Vehicular Traffic	Other Utilities & Planting
HyD public lighting cables	450mm	900mm	-
CLP cables - 132kV - 11kV	1000mm 750mm	1200mm 900mm	Working clearance of 300mm from other utilities for 132kV cables and 150mm from other utilities for 11 kV cables (1m working clearance between 132kV and 11kV)
HKCGC pipes - Low pressure - Intermediate pressure	700mm 1000mm	1100mm 1100mm	Working clearance of 600mm for steel gas pipes, 300mm for other gas pipes
PCCW cables HGC cables HKBN cables Wharf T&T cables NWT cables CTV cables WSD Watermains	450mm 450mm 450mm 450mm 450mm 450mm	900mm 900mm 900mm 900mm 900mm 1000mm	Working clearance of 300mm from other utilities or as required by the service provider 300mm from other utilities



			No trees or shrub with
			penetrating roots
			within 3m from the
			centre line of the
			water mains.
DSD Drainage	450mm	900mm	300mm from the outer
Facilities			face of the existing
			public drainage
			facilities, includes
			sewers, drains and
			manholes etc.

10.3 Existing Utility

Electricity Supply

- 10.3.1 CLP Power Hong Kong Limited (CLP) has been consulted regarding their existing transmission and distribution network in the vicinity of the Sites.
- 10.3.2 SPH Site has a small section of 11kV cable located in the south east of the site. For TKL Site, a 11kV cable is located along Tai Kei Leng Road and a section of the cable is presented in the south east of the site. Both of the Sites have 400kV cable inside the boundary and diversion or removal of the existing transmission cables are therefore required.
- 10.3.3 Some low voltage power cables are presented in both sites supplying electricity to the existing facilities such as warehouses and car washing site. Diversion or removal of the existing transmission cables are therefore required. The arrangement will be further liaised with CLP in later design stages.

Gas Supply

- 10.3.4 Hong Kong and China Gas Company Limited (HKCGC) has been consulted regarding the gas supply issue.
- 10.3.5 Currently there are no existing gas mains within the Sites. For SPH Site, the closest gas main is located on the opposite side of the nullah. For TKL Site, the closest gas main is located in The Reach which is close to the north vicinity of the site boundary. Since there is high pressure gas main in the vicinity of the Sites, Quantitative Risk Assessment for high pressure gas pipe is necessary.
- 10.3.6 There is no planned or ongoing gas pipe network to be laid within and in close proximity to the SPH Site. However, a planned gas pipe is proposed to laid along the north vicinity of TKL Site and a small part of the proposed gas main is laid within the site boundary. The arrangement will be further liaised with HKCGC in the later design stages.

Telecommunication

10.3.7 Telecommunication companies including providers of telephone, broadband and television services have been consulted.



10.3.8 Hong Kong Telecommunications (HKT) Limited has telecommunication service feeds running within the Sites. These existing cables are all laid underground. The cable diversion works and actual connection points would be further liaised with the telecom services undertakers in later design stages.

Street Lighting

10.3.9 There are existing street lights and cables located within the Sites. No planned or ongoing street lighting network to be laid within the Sites.

10.4 Findings and Recommendations on Utilities

Electricity Supply

10.4.1 CLP has been consulted on the power supply to the proposed housing development sites. They have preliminary confirmed that the current available supply capacity from near primary substation can meet the demand generated from the Sites. The constraint of laying cable will be laying across the nullah and Yuen Long Highway.

Gas Supply

- 10.4.2 As advised by HKCGC, to cater the increased gas demand arising from the Development, a series of works are proposed to be implemented.
- 10.4.3 For SPH Site, it is proposed to extend the medium pressure gas main along Fung Yau Street North (from Yuen Long Town) and installation of a governor kiosk within the site area.
- 10.4.4 For TKL Site, it is proposed to extend the medium pressure gas main from Castle Peak Road Hung Shui Kiu and install a governor kiosk within the site area.
- 10.4.5 The exact alignment and the town gas supply arrangement will be further liaised and determined with HKCG in later stage.
- 10.4.6 It is noted that the provision of utilities from some utility undertakers, such as telecommunication service providers, could not be confirmed at this stage of the Study. Further liaison and coordination with relevant Government departments and utility undertakers should be carried out during the later detailed design stage to ensure that sufficient utility services would be provided before the population intakes of the developments.

10.5 Summary

10.5.1 From utilities viewpoints, no insurmountable issue is anticipated for the proposed development.



Leng, Yuen Long - Feasibility Study

11 PRELIMINARY SUSTAINABILITY ASSESSMENT (SA)

11.1 General

- 11.1.1 The objectives of the Preliminary SA are listed as follows:
 - a) Use the Computer-Aided Sustainability Evaluation Tool (CASET) as evaluation framework to evaluate and assess the Infrastructure;
 - b) Devise and modify the set of guiding principles, indicators and evaluation criteria to assess/update the sustainability implications;
 - c) Conduct assessment on cost effectiveness and possible environmental impacts during construction and operational stages;
 - d) Conduct assessment on the social implications to the local community as well as to Hong Kong at large;
 - e) Evaluate and analyse the sustainability implications; and
 - f) Identify the key sustainability issues.
- 11.1.2 A summary of various aspects of the review are presented in the section below.

11.2 Approaches for Sustainability Assessment

- 11.2.1 An application namely "CASET Version 5.0" developed by Planning Department is adopted as an evaluation framework to assess the sustainability implications of the Project in a structured manner.
- 11.2.2 A set of guiding principles extracted from the CASET is listed as follows:
 - Economy
 - Health and Hygiene
 - Natural Resources
 - Society and Social Infrastructure
 - Biodiversity
 - Leisure and Cultural Vibrancy
 - Environmental Quality; and
 - Mobility
- 11.2.3 A list of characterization includes:
 - Art / Culture / Recreation / Entertainment
 - Conservation, Environment and Agriculture
 - Demographics
 - Economics
 - Education
 - Energy
 - Health and Living Conditions
 - Housing
 - Industry
 - Land and Infrastructure
 - Transport



Waste and Waste Water

11.3 Scenario

11.3.1 Considerations are compared between the "with the proposal" and "without the proposal" scenarios. For instance, the "without" scenario represents the baseline condition of the indicator prior to the implementation of the project while the "with" scenario includes the implementation of the Development and the associated site formation and infrastructure works under this Project.

11.4 Results of the Sustainability Assessment

11.4.1 The CASET parameters have been assessed qualitatively and quantitatively where possible. The results are summarized in **Table 11.1** below:

Table 11.1 - Results of Parameter Assessment Under "Without Development" and "With Development" Scenario

Economic / Environmental Parameters	Qualitative Changes ("without Development")	Variation ("without Development")	Qualitative Changes ("with Development")	Variation ("with Development")
Carbon Dioxide Emitted Per Year	Remain	Remain unchanged	Increase	Very small deterioration
Construction Waste	Remain	Remain unchanged	Increase	Very small deterioration
Cost-benefit	Remain	Remain unchanged	Increase	Very small improvement
Criteria Air Pollutants	Remain	Remain unchanged	Increase	Very small deterioration
Eco-value Habitats	Remain	Remain unchanged	Remain	Remain unchanged
Education Expenditure	Remain	Remain unchanged	Increase	Small deterioration
Energy Consumption	Remain	Remain unchanged	Increase	Very small deterioration
Excessive Noise	Remain	Remain unchanged	Increase	Small deterioration
Fixed Capital	Remain	Remain unchanged	Increase	Small improvement
Freight Costs	Remain	Remain unchanged	Remain	Remain unchanged
Freshwater Supplied and Consumed	Remain	Remain unchanged	Increase	Small improvement
Income Differential	Remain	Remain unchanged	Decrease	Small improvement
Job Creation/ Loss (Other Occupations)	Remain	Remain unchanged	Increase	Very small improvement



Economic / Environmental Parameters	Qualitative Changes ("without Development")	Variation ("without Development")	Qualitative Changes ("with Development")	Variation ("with Development")
Landfill Capacity	Remain	Remain unchanged	Decrease	Very small deterioration
Local Freshwater	Remain	Remain unchanged	Remain	Remain unchanged
Municipal Solid Waste	Remain	Remain unchanged	Increase	Very small deterioration
Open Space Shortfall	Remain	Remain unchanged	Decrease	Small improvement
Protected and Managed Habitats	Remain	Remain unchanged	Remain	Remain unchanged
River Water Quality	Remain	Remain unchanged	Remain	Remain unchanged
Significant Landscape Features (Area)	Remain	Remain unchanged	Decrease	Small deterioration
Significant Landscape Features (Point)	Remain	Remain unchanged	Decrease	Very small deterioration
Toxic Air Pollutants	Remain	Remain unchanged	Increase	Very small deterioration
Travel Speed	Remain	Remain unchanged	Remain	Remain unchanged

11.4.2 The sustainability assessment at this stage indicates that with the implementation of the Project, the main benefits would be improvement in housing and living conditions, economy, leisure and society and social infrastructure. These benefits come in the form of improved health and well-being of residents, positive economic return, and enhancement to social involvement. Also, the associated transport infrastructure would improve connectivity between the Development and the periphery regions to the rest of Hong Kong. On the other hand, negative impacts come mainly in the form of environmental degradation, with deterioration in natural resources.

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Binnies

12 PRELIMINARY LAND REQUIREMENT STUDY (LRS)

12.1 General

12.1.1 This chapter aims to summarize the key land requirement issues due to the proposed developments.

12.2 Land Resumption

12.2.1 The number of affected licenses and total area of affected licenses within the Sites and associated infrastructure works are shown in **Tables 12.1** and **12.2** below. The affected license types include Government Land Allocation (GLA), Modification of Tenancy (MOT), Letter of Approval (LOA) and Short Term Tenancy (STT).

Table 12.1 - Existing Licenses to be Affected

License Type Site	GLA	мот	LOA	STT	Total
SPH	4	16	4	2	26
TKL	-	3	1	-	4

Table 12.2- Total Area of Licenses to be affected

Lot True	Approx. Area of Licenses Affected (m²)			
Lot Type	SPH	TKL		
МОТ	632.7	296.3		
LOA	577.7	10.5		
GLA	626.5	-		
STT	446.9	-		
Total	2,283.8	306.8		

12.3 Affected Burial Grounds/Graves/Urns

12.3.1 Permitted Burial Ground No. 32 is located at the southeast of SPH Site. Existing graves and urns are also identified around the Permitted Burial Ground No. 32. The permitted burial ground and graves and urns are at some distance away from the SPH Site so it does not have significant effect on the Sites.

12.4 Affected Land Lots

- 12.4.1 For SPH Site, there are total 119 of private lots will be affected by the proposed site formation and associated infrastructure works, with a total area of about 3.5 ha.
- 12.4.2 For TKL Site, there are total 46 of private lots will be affected by the proposed site formation and associated infrastructure works, with a total area of about 1.8 ha.



12.5 Affected Orchards and Lands for Agricultural Activities

12.5.1 Based on the observation during site visits, agricultural activities such as fruit trees within the inaccessible areas were identified within the land resumption boundary of the Sites.

12.6 Summary

12.6.1 A preliminary land requirement is estimated based on the preliminary design and will be subject to review during the detailed design stage. It will be revised and updated, if necessary, in accordance with the latest development of the Project.



13 PRELIMINARY ENVIRONMENTAL REVIEW (PER)

13.1 General

- 13.1.1 The purpose of this PER is to:
 - a) Identify the important environmental factors of the Development and Infrastructure Works;
 - b) Identify elements of the Development and Infrastructure Works which are DP(s) under EIAO (Caps. 499);
 - c) Identify existing and planned sensitive receivers (including those within Development) and sensitive parts of natural environment which may subject to impact by Development and Infrastructure Works;
 - d) Assess the possible impacts of the Development and infrastructure Works on the environment and vice versa;
 - e) Identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of Development and Infrastructure Works which are necessary to mitigate these impacts and reduce them to established levels;
 - f) Identify alternatives/options/alignments of the Development and Infrastructure Works to minimize the potential environmental impacts including but not limited to ecological, landscape and visual impacts; and
 - g) Assess the environmental impacts arising from the Development and Infrastructure Works and to recommend mitigation measures to keep the potential impacts within the acceptable levels of the current standards/regulations.

13.2 Air Quality

Air Sensitive Receiver (ASR)

- 13.2.1 The first layer of ASRs (i.e. nearest to the Project boundary) are selected as representative ASRs. The 500m assessment areas as well as the representative existing ASRs during construction phase are identified.
- 13.2.2 Based on the notional layout, air sensitive uses such as residential buildings, welfare facilities and school will be provided within the Development Sites, which are considered as planned ASRs during the operation phase of the Project.

Air Quality Impacts during Construction Phase

- 13.2.3 Potential sources of air quality impacts would be dust emissions generated during construction activities related to the movement of vehicles along unpaved roads, material handling and wind erosion of exposed area during site formation.
- 13.2.4 Some existing ASRs are located close to the Sites and will potentially be affected by the site formation work and infrastructure works of the Project. The size of the TKL Site is small and the site is generally flat, the volume of material to be handled is expected to be small. Significant dust emission is not expected from the construction works at TKL Site. Given the size of the SPH Site, site formation work will be conducted in phases. Since part of the Project Site for housing development will require site investigation and potential land decontamination work after land resumption, site formation work of the Project Site will be constructed by phases

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subject to the planning of the land contamination investigation and decontamination work to be carried out. Hence, it is expected that the size of workfront areas at one time will be limited. The sub-phase work arrangement will be implemented such that the active workfront at one time will be minimised and thus to minimise potential dust emissions during the site formation works. With the minimisation of workfront area, phasing of construction works and implementation of dust control measures recommended in **Sections 13.2.15 and 13.2.16**, potential dust impacts would be controlled and the dust impact onto the ASRs is expected to be acceptable. In particular, the air quality impacts during construction phase will be reviewed in subsequent IDC stage to ensure that no adverse air quality impact would be imposed on the nearby ASRs and a dust monitoring and audit programme will be recommended to be implemented during the construction stage.

- 13.2.5 Other types of infrastructure works proposed for the Project include road / junction improvement and pipe laying works. These types of work are relatively small in scale and the volume of material to be handled is expected to be limited. Dust emission from the infrastructure works is expected to be low.
- 13.2.6 Dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation, together with proper site management/practice and good housekeeping are required to mitigate the potential dust impacts on the nearby ASRs. Requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Fuel Restriction Regulations will also be followed to control the type of fuel used and potential emissions from non-road mobile machinery during construction phase. "Recommended Pollution Control Clauses for Construction Contracts" available on EPD website also contains the recommended control measures to be implemented during construction. Appropriate dust suppression measures proposed in **Sections 13.2.15 and 13.2.16** are to be followed as far as practicable to control dust emission. In consideration of the above, no unacceptable dust impact on nearby ASRs is anticipated.

Air Quality Impacts during Operation Phase

During operation phase, road traffic emissions (e.g. NO₂, RSP and FSP) from existing open roads (e.g. Yuen Long Highway) and new access road, industrial emissions (e.g. SO₂, NO₂, RSP and FSP) from the active chimney within the assessment area are of concern to the Development.

Vehicular Emissions

The planned ASRs will potentially be affected by vehicular traffic emissions (e.g. NO₂, RSP and FSP) from existing open roads, in particular Yuen Long Highway, which is classified as an Expressway in the Annual Traffic Census 2020 published by Transport Department. Shap Pat Heung Road is a Primary Distributor while Tai Kei Leng Road and Long Ho Road are Local Distributors. The design of the Development has incorporated appropriate setback distance from the road network. It is recommended that no air sensitive uses, including fresh air intake of ventilation system or openable windows of the buildings, and active recreational uses should be located within the buffer zones. With the implementation of this design measure at the Welfare Building at SPH Site, sufficient separation between the planned ASRs and



the nearby roads can be provided and no adverse air quality impact on the planned ASRs of the Development is anticipated from vehicular emissions. The existing structures located within the buffer zones from the proposed access road to the SPH site will be resumed by this Project and they are not considered as existing ASRs.

As junctions I5, I10 and I21 only involve modification of road markings and/or road 13.2.9 divider without physical change to the road kerbs, change in air quality impact is not anticipated. The ASRs closest to the junctions with modified road kerb of junctions 114 and 120 have been chosen for analysis. Shap Pat Heung Interchange and Shap Pat Heung Road are Primary Distributors while Tai Shu Ha Road East and Tai Kei Leng Road are Local Distributors. The required minimum buffer distances between the ASRs near 114 and the modified Shap Pat Heung Road and Shap Pat Heung Interchange can comply with HKPSG's requirements. Given that the distance between the ASRs near J14 is more than 70m, adverse air quality impact on ASRs near Junction 114 due to the junction improvement works at 114 is not anticipated. For junction 120, the section with road kerb modification is proposed along southbound Tai Shu Ha Road East where the road kerb is shifted away from the ASRs, and road kerb setback along westbound Tai Kei Leng Road under the Yuen Long Highway viaduct where there are no ASRs located. The shift of road kerb towards A51, A52 and A53 near J20 is proposed under YLS road improvement works and is not covered under this Project. The road modification works along eastbound Tai Kei Leng Road near these ASRs include the addition of pedestrian crossing facilities and modification of traffic lane without shifting of road kerb. Adverse air quality impact from the junction improvement at J20 is not expected.

Public Transport Interchange

13.2.10 A mechanical ventilation system will be provided (if required subject to future detailed design) for the bus-terminus at SPH Site to ensure that the air quality inside the bus-terminus would comply with the requirement of the EPD. Should a mechanical ventilation system be provided in future, the exhaust louver of the ventilation fan would be located facing away from the any nearby ASRs within the Site, e.g. facing Yuen Long Highway. The ventilation system will be designed based on the considerations as specified in EPD's ProPECC PN1/98. Therefore, adverse air quality impact due to the bus-terminus is not anticipated.

Car Park

13.2.11 The design and operation of the car park at the SPH and TKL Sites shall follow EPD's ProPECC PN2/96 on Control of Air Pollution in Car Parks and comply the air quality guidelines set out in the PN.

Chimney Emissions

- 13.2.12 Site visits were carried out in September and December 2020 to identify industrial emission sources within the 500m assessment area. As mentioned, one chimney and a number of chimneys, which are located approximately 465m northwest and 320m west from TKL Site respectively, were identified during the site visits.
- 13.2.13 These chimneys are abandoned. Hence, no adverse air quality impact on the planned ASRs of the Development is anticipated from chimney emissions.



Odour Sources

13.2.14 Odour from the nullah nearby the SPH Site was not detected during site surveys and no other odour emission sources have been identified within the assessment areas of the Development Sites.

Mitigation Measures

Construction Phase

- 13.2.15 Under the Air Pollution Control (Construction Dust) Regulation, the Contractor is required to ensure that dust control measures stipulated in the Regulation are implemented to control dust emissions. Dust control measures shall be incorporated into the Works Contract Specification where practicable as an integral part of good construction practice, including:
 - Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;
 - Use of frequent watering for particularly dusty construction areas and areas close to ASRs;
 - Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;
 - Open stockpiles (if any) shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;
 - Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;
 - Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;
 - Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;
 - Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;
 - Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;
 - Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high-level alarm which is interlocked with the material filling line and no overfilling is allowed;
 - Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and
 - Electric power supply shall be provided for on-site machinery during the



construction stage as far as possible to minimise any gaseous emissions.

- 13.2.16 Some ASRs are in close proximity to the site boundary (<5m) and the following mitigation measures are recommended to minimise the construction dust impact to these ASRs:
 - Erect hoarding of sufficient height along the section of the site boundary close to these ASRs;
 - Carefully plan the construction works so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from these ASRs as far as possible; and
 - Erect solid screens or barriers around dusty activities.

Operation Phase

13.2.17 Provided that any air sensitive uses, including fresh air intake of ventilation system or openable windows of the buildings, active recreational uses at the Development Sites are designed to satisfy HKPSG's recommended minimum buffer distance from existing road network and future access road within the Sites, as well as the ventilation system of the bus-terminus and carpark to be designed in compliance with the requirement stipulated in EPD's ProPECC PN1/98 and ProPECC PN2/96 with exhaust facing away from ASRs, adverse air quality impact on the Development is not anticipated during the operation phase of the Project.

13.3 Noise

Noise Sensitive Receiver

13.3.1 The assessment area for noise impact assessment is defined as the area within 300m from the Project boundary. The representative NSRs as shown in **Tables 13.1** and **13.2** are identified with reference to the latest information provided on the survey maps, topographic maps, aerial photos, land status plans and are verified by various site surveys. Planned NSRs are identified based on the notional layout adopted in the assessment. The location of the NSRs are showing in **Figure Nos. 406041/S&T/FR/1302** to **1310**.

Table 13.1 Representative Existing NSRs during Construction Phase

NSR	Descriptions	Nature of Use	No. of Storeys	Approx. Horizontal distance to the nearest boundary of the worksites (m)
N01	106D Hang Mei Tsuen	Residential	3	17
N02	111-112 Hang Mei Tsuen	Residential	1	7
N03	34-35 Tong Fong Tsuen	Residential	3	<5
N04	1 Tong Fong Tsuen	Residential	3	5
N05	179 Hang Mei Tsuen	Residential	3	<5
N06	408 Tong Fong Tsuen	Residential	3	15
N07	Green Orchid Tower 1	Residential	5	36
N08	Park Royale Tower 10	Residential	10	<5
N09	Park Royale Tower 7	Residential	10	<5
N10	Park Royale Tower 2	Residential	10	<5

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NSR	Descriptions	Nature of Use	No. of Storeys	Approx. Horizontal distance to the nearest boundary of the worksites (m)
N11	Scenic Gardens Block 1	Residential	37	8
N12	Po Leung Kik Law's Foundation School	Educational	7	9
N13	Yuen Long Public Secondary School	Educational	7	15
N14	Scenic Gardens Block 7	Residential	14	10
N15	Parkside Villa Block 6	Residential	10	5
N16	Villa Art Deco Block 1	Residential	11	<5
N17	Villa Art Deco Block 2	Residential	11	<5
N18	Gertrude Simon Lutheran College	Educational	7	15
N19	Greenery Place Towe 1	Residential	11	5
N20	Emerald Green Block 1	Residential	24	5
N21	Village House at Ma Tin Tsuen	Residential	1	16
N22	Atrium House	Residential	21	14
N23	455 Ma Tin Tsuen	Residential	3	23
N24	197B Ma Tin Tsuen	Residential	3	9
N25	La Grove Block 2	Residential	17	6
N26	50 Ma Tin Pok	Residential	3	12
N27	46 Ma Tin Pok	Residential	4	19
N28	Village House at Ma Tin Pok	Residential	2	12
N29	Village House at Ma Tin Pok	Residential	3	17
N30	627 Tai Kei Leng	Residential	1	52
N31	Park Reach	Residential	7	10
N32	166 Tai Kei Leng	Residential	3	14
N33	214 Tai Kei Leng	Residential	2	11
N34	225 Tai Kei Leng	Residential	3	15
N35	290A Tai Kei Leng	Residential	2	14
N36	290L Tai Kei Leng	Residential	3	22
N37	110 Tai Kei Leng	Residential	3	24
N38	The Reach Tower 6	Residential	24	8
N39	The Reach Tower 7	Residential	24	7
N40	311 Tai Kei Leng	Residential	3	<5
N41	348 Tai Kei Leng	Residential	3	<5
N42	677 Tai Kei Leng	Residential		33
N43	448 Sheung Ching San Tsuen	Residential	2	11
N44	704 Sheung Ching San Tsuen	Residential	2	14
N45	35 Shung Ching San Tsuen	Residential	2	14
N46	60 Sheung Ching San Tsuen	Residential	3	40
N47	689 Sheung Ching San Tsuen	Residential	1	30
N48	Temporary Structure at Sheung Ching San Tsuen	Residential	1	33
N49	Temporary Structure at Sheung Ching San Tsuen	Residential	1	36
N50	Temporary Structure at Kong Tau Tsuen	Residential	1	49
N51	58A Kong Tau Tsuen	Residential	3	62
N52	59 Kong Tau Tsuen	Residential	3	57
N53	61 Kong Tau Tsuen	Residential	3	37
N54	Village House at Sheung Yau Tin Tsuen	Residential	1	9
N55	267 Sheung Yau Tin Tsuen	Residential	1	15
N56	Village House at Sheung Yau Tin Tsuen	Residential	1	<5



NSR	Descriptions	Nature of Use	No. of Storeys	Approx. Horizontal distance to the nearest boundary of the worksites (m)
N57	Temporary Structure at Sheung Yau Tin Tsuen	Residential	1	23
N58	Village House at Sheung Yau Tin Tsuen	Residential	1	<5
N59	77 Chuk San Tsuen	Residential	1	25
N60	30A Chuk San Tsuen	Residential	3	40
N61	Temporary Structure at Sheung Yau Tin Tsuen	Residential	2	39
N62	Temporary Structure at Sheung Yau Tin Tsuen	Residential	1	34
N63	Village House at Ha Yau Tin Tsuen	Residential	2	5
N64	Village House at Ha Yau Tin Tsuen	Residential	1	26
N65	Hoover Garden Block 20	Residential	3	12
N66	Yoho Town Block 6	Residential	34	24
N67	Yoho Town Block 7	Residential	32	20
N68	S.K.H Bishop Baker Secondary School	Educational	7	<5
N69	C.C.C. Kei Yuen College	Educational	7	5
N70	Lin Fat Building	Residential	10	<5
N71	Ho Shun Yee Building Block 1	Residential	19	16
N72	Yoho Town Block 9	Residential	35	<5
N73	Yoho Town Block 1	Residential	37	24
N74	Yoho Midtown Block 9	Residential	38	8
N75	Kwong Ming Ying Loi School	Educational	7	26
N76	Yoho Midtown Block 6	Residential	40	23
N77	Pearl House, On Lok Road	Residential	4	33
N78	Wai Fat Building, Fung Cheung Road	Residential	19	58
N79	Cheong Wai Building, Fung Yau Street North	Residential	19	37
N80	Yik Fat Building	Residential	19	90
N81	80-84 Tai Kei Leng	Residential	3	13
N82	Residence 88 Tower 1	Residential	24	8
N83	112 Sham Chung Tsuen	Residential	3	40
N84	Temporary Structure at Sham Chung Tsuen	Residential	2	25
N85	Kong Tau San Tsuen	Residential	2	<5

Table 13.2 Representative NSRs for Road Traffic Noise Impact Assessment

Tuble 13:2 Representative Notes for Rough France Notes impact reseasing the						
NSR	Descriptions	Nature of Use	No. of Storeys			
Tai Kei Leng Site						
TN01-01 to TN01-05	Planned NSRs of Block 1 (TKL Site)	Residential	41(1)			
TN02-01 to TN02-06	Planned NSRs of Block 2 (TKL Site)	Residential	45(1)			
TN03-01 to TN03-06	Planned NSRs of Block 3 (TKL Site)	Residential	41(1)			
WF01-01 to WF01-06	Planned NSRs of Welfare Facility in Podium (TKL Site)	Institutional	1			
Shap Pat Heung Site						
SN01-01 to SN01-07	Planned NSRs of Block 1 (SPH Site)	Residential	36(1)			
SN02-01 to SN02-03	Planned NSRs of Block 2 (SPH Site)	Residential	38(1)			
SN03-01 to SN03-05	Planned NSRs of Block 3 (SPH Site)	Residential	41(1)			
SN04-01 to SN04-07	Planned NSRs of Block 4 (SPH Site)	Residential	49(1)			
WF02-01 to WF02-06	Welfare Building at SPH Site	Institutional	1			
WF03-01 to WF03-07	Welfare Facility in Podium	Institutional	2			
PS01 to PS04	School at SPH Site	Educational	7			



NSR	Descriptions	Nature of Use	No. of Storeys
E07	120 Kong Tau San Tsuen	Residential	2
E08	Village House at Sheung Yau Tin Tsuen	Residential	1
E09	267 Sheung Yau Tin Tsuen	Residential	2
E10	Village House at Sheung Yau Tin Tsuen	Residential	1
E11	Village House at Sheung Yau Tin Tsuen	Residential	1
Junction J14			
E01	110 Sheung Yau Tin Tsuen	Residential	4
E02	The Reach Tower 6	Residential	24
E03	The Reach Tower 7	Residential	24
E04	61 Kong Tau Tsuen	Residential	3
E05	59 Kong Tau Tsuen	Residential	3
E06	58A Kong Tau Tsuen	Residential	3

Notes:

Construction Noise Impact

- 13.3.2 Key construction activities of the proposed site formation and infrastructure works have been identified for noise assessment. The major construction works would include the following activities:
 - Site clearance;
 - Excavation works;
 - Filling works;
 - Formation of internal access road;
 - Infrastructure works such as sewerage works, water supply works, drainage works, and utilities construction; and
 - Road/junction improvement works.
- 13.3.3 These construction activities will involve the use of Powered Mechanical Equipment (PME) including air compressor, excavators, lorries, concrete lorry mixers, pokers, rollers, etc. However, blasting works will not be involved in the construction sites/activities.
- 13.3.4 The use of PMEs for the construction works would likely cause potential noise impact on the existing NSRs located in the vicinity of the Sites. As the size of the Development Sites is not of large scale and the two Sites are more than 300m apart, the active works area at one time is considered to be small. The infrastructure works outside the Sites will mainly be typical utility installation/upgrading works of small scale and road construction/widening works, which will be conducted in sequence. Considering that active work site and the scale of work at one time would not be significant, with the implementation of appropriate mitigation measures (e.g. use of quiet plant, noise barrier/enclosure for PMEs, limiting number of PMEs, etc.) and good site practices,

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⁽¹⁾ It refers to residential floors on 5/F - 40/F at Block 1, 5/F - 42/F at Block 2, 5/F - 45/F at Block 3, and 1/F - 49/F at Block 4 for Shap Pat Heung Site; 5/F - 45/F at Block 1, 5/F - 49/F at Block 2, and 4/F - 44/F at Block 3 for Tai Kei Leng Site.

the potential construction noise impact are considered manageable. As such, no adverse construction noise impact is anticipated.

- 13.3.5 Good site practices listed below should be followed during construction:
 - Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period;
 - Mobile plant, if any, should be sited as far from NSRs as possible;
 - Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs;
 - Use of site hoarding as a noise barrier to screen noise at low level NSRs;
 - Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum; and
 - Any material stockpiles and other structures should be effectively utilized, wherever practicable, to screen the noise from on-site construction activities.
- 13.3.6 At locations where the existing NSRs are close to the Project works, quieter construction methods should be adopted as far as practicable.
- 13.3.7 Since the detailed information on construction activities of the Project is not yet confirmed and finalised at this feasibility study stage, a quantitative construction noise impact assessment will be carried out in the investigation, design and construction stage by the Project Proponent to assess construction noise impact and define the mitigation measures required for implementation.
 - Operation Noise Impact Traffic Noise Impact Assessment
- 13.3.8 The road traffic noise impact imposed on the representative existing NSRs and planned NSRs would be generated by the roads within 300m from the Development boundary, including the new access road, and the junction improvement locations at J14 and J20 where changes to the road kerb are proposed. All existing and planned public roads within 300m assessment area are considered for the road traffic noise assessment. The road networks are classified as the following categories for the purpose of the road traffic noise assessment:
 - Existing Road the existing open roads and planned open roads (committed by other project proponent) within the 300m assessment area; and
 - Project Road –the proposed access road at SPH Site.
- 13.3.9 Results revealed that generally, worse road traffic noise impact would occur in AM peak hour. According to the results shown, the "Overall" road traffic noise levels at all existing NSRs near the access road in SPH Site would comply with noise criteria with a predicted maximum noise level of 70dB(A).
- 13.3.10 For the planned residential and welfare NSRs at the TKL Site, the assessment results indicate that there would be exceedances at all planned NSRs due to noise from the surrounding existing road network, with a predicted maximum noise level of 78dB(A) at Block 1 and Block 3 and 75dB(A) at Block 2 and the Welfare Facilities. Mitigation measures would be required at the Development Site to alleviate the adverse noise



impact to the affected areas.

- 13.3.11 For the planned residential and school NSRs at the SPH Site, the assessment results indicate that there would be exceedances at most of the planned NSRs facing Yuen Long Highway due to noise from existing road. The predicted maximum noise level is 77dB(A) at Block 1 and 78dB(A) at the school. The noise exceedance at the NSRs is caused by noise from existing roads and the contribution of noise from Project Road (ie the access road) to the overall noise level is less than 1.0dB(A). For these NSRs mainly affected by existing roads, mitigation measures at the residential blocks and school will be required.
- 13.3.12 As advised by HD, the maximum building height are further increased by 25m for SPH Site and 15m for TKL Site. Based on the predicted traffic noise levels for the planned NSRs at the Sites, the worst affected heights are at the mid-floors and the traffic noise levels are predicted to drop for higher floors. Hence, it is anticipated that the traffic noise levels at the additional residential floors higher up would be similar or less than those predicted at the top floors. For the façades predicted with noise exceedance which requires mitigation measures, it is likely that similar mitigation measures at the additional residential floors will be required.
- 13.3.13 For the planned welfare NSRs at the SPH Site, the assessment results indicate that there would be exceedances at most of the NSRs facing Yuen Long Highway and the access road, with a predicted maximum noise level of 78dB(A). The noise exceedance at the NSRs is caused by noise from existing and proposed access road. Mitigation measures are required for the affected Welfare Facilities.
- 13.3.14 The assessment results for NSRs in vicinity of the junction improvement are summarized for AM and PM peak hours, respectively. The results reveal that there would be minor increase in traffic noise level. Since the road traffic noise level with the junction improvement is not greater than that without the junction improvement by 1.0dB(A) or more, the change in road traffic noise impact is not considered significant. Mitigation measures are not considered necessary.

Mitigation Measures

- 13.3.15 In view of the noise exceedance of the traffic noise criteria of up to 7.7dB(A) and 6.4dB(A) at the residential blocks at TKL Site and SPH Site, respectively, the use of acoustic windows or acoustic balconies with up to 7.7dB(A) noise attenuation is recommended for the affected residential NSRs to mitigate the traffic noise impact due to the existing roads to comply with the noise criteria stipulated in the HKPSG. According to EPD's website on Innovative Noise Mitigation Designs and Measures, acoustic windows (baffle-type) applied in the Public Residential Development at San Po Kong are capable of achieving a noise reduction of 4 to 8dB(A). The use of acoustic balconies is also able to provide further noise reduction. Therefore, the use of acoustic windows or balconies are considered feasible to alleviate the predicted road traffic noise impact. There is flexibility in selection of noise mitigation measures to meet the noise criteria depending on the degree of traffic noise exceedances. For instance, acoustic windows or architectural fins may be adopted for facades with lower noise exceedances.
- 13.3.16 For planned welfare uses at the Sites, although the type of proposed uses cannot be

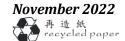


determined at this stage, based on the predicted noise levels, it is recommended that noise sensitive uses at the Welfare Facilities at TKL Site should avoid locating at facades facing Yuen Long Highway and Shap Pat Heung Road. For the Welfare Facilities above the bus-terminus at SPH Site, noise sensitive uses should avoid locating along the facades facing Yuen Long Highway and the access road, while the welfare facility in podium of SPH Site should also avoid locating along facades facing Yuen Long Highway. Should noise sensitive uses be unavoidably located at these facades, noise mitigation measures (e.g. fixed glazing windows with mechanical air ventilation, subject to further studies in detailed design stage) is proposed for these noise sensitive uses.

- 13.3.17 Although the predicted noise levels at the proposed school at SPH Site reveals the access road alone would cause exceedance of noise criterion of 65dB(A) at NSR PS04, the overall predicted noise level is still dominated by noise from the existing roads. The provision of window insulation with mechanical ventilation would be required to mitigate the adverse noise impact from the existing roads, which would also protect the NSRs from noise from the access road. As such, the recommendation of at-source mitigation measure along the access road is not considered. The location of the proposed mitigation measures is shown in **Figure No. 406041/S&T/FR/1301**.
- 13.3.18 The provision of mitigation measures (e.g. fixed glazing windows with mechanical air ventilation) for welfare uses and acoustic windows/balconies for the housing development shall be implemented by the HKHA, while the provision of window insulation with mechanical air ventilation for the proposed school following the Class Assessment Document shall be implemented by the Architectural Services Department (ArchSD) or the future project proponent of the school. The provision of such mitigation measures has been acknowledged by ArchSD.
- 13.3.19 With the implementation of the proposed mitigation measures, the traffic noise levels at all NSRs would comply with the noise standards of 70dB(A) for residential premises and 65/70dB(A) for education and welfare premises.

Operation Noise Impact - Fixed Noise Source Impact Assessment

- 13.3.20 No existing fixed noise sources have been identified within 300m from the SPH Site. The planned NSRs within the TKL Site will be affected by fixed noise impact from the industrial activities conducted in its vicinity. During the site visits, two vehicle repair workshops were identified. As access to the vehicle repair workshops were denied, on-site noise measurement was not feasible at these workshops. Thus, reference is made to the industrial noise survey undertaken in support of the approved planning application (Application No. A/YL-KTN/501), where SWLs of standard activities being carried out at a vehicle repair workshop of similar size and nature were obtained by on-site noise measurements. Since that vehicle workshop where noise measurements were undertaken is of similar nature to the workshops identified under this Study, the referenced SWLs are considered representative. The operation hours of the workshops have been established based on confirmation from the operators and observation made during the site visits.
- 13.3.21 A bus-terminus is planned within the SPH Site. The proposed bus-terminus at the SPH Site will be fully enclosed with ample ventilation facing away from the NSRs (e.g.



towards Yuen Long Highway) and with ingress and egress facing away from the residential towers. Potential noise nuisances arising from the bus-terminus to the planned NSRs at SPH Site (P02_FN01 to P07_FN01) and the existing NSR at Sheung Yau Tin Tsuen (E08_FN01) are therefore not anticipated. Common and practicable acoustic installations such as silencer could be installed, if required, to reduce noise emission from the ventilation louvres. With careful siting of the ventilation exhaust location and installation of acoustic treatment as necessary, adverse fixed noise impact from the bus-terminus is not expected. Hence, further quantitative assessment for noise impact from the bus-terminus is not conducted in this PER.

13.4 Water Quality

Assessment Area and Water Sensitive Receivers

- 13.4.1 The assessment area is defined as the area within 500m from the Project boundary. According to the desktop review and site surveys, a number of water sensitive receivers (WSRs) have been identified within the assessment area. The nullah along Long Ho Road and the watercourses adjacent to SPH Site were identified to be the key WSRs. Within the SPH Site, there is a channelised watercourse cutting through the western portion of the site. The extent of the assessment area for water quality impact assessment and the locations of the WSRs are listed as follows:
 - W1: Nullah near Ping Ha Road;
 - W2: Nullah and watercourses at Kiu Tau Wai and Hung Uk Tsuen;
 - W3: Watercourses at Hang Tau Tsuen;
 - W4: Nullah adjacent to Chun Hing San Estate and Shui Pin Wai Estate and watercourses along Long Tin Road;
 - W5: Nullah along Kung Um Road, Kiu Hing Road and Tai Shu Ha Road East;
 - W6: Nullah near Park Signature and Lam Hau Tsuen;
 - W7: Nullah and watercourses at Ma Tin Pok and Fraser Village;
 - W8: Nullah and watercourse at Tin Liu Tsuen:
 - W9: Nullah adjacent to Shung Ching San Tsuen and Tai Kei Leng;
 - W10: Watercourses at Kong Tau Tsuen;
 - W11: Watercourses at Kong Tau Tsuen and Sheung Yau Tin Tsuen;
 - W12: Watercourses at Shek Tong Tsuen;
 - W13: Yuen Long Bypass Floodway;
 - W14: Nullah along Yau Tin East Road and Yau Tin West Road and adjacent to Yuen Long Kau Hui; and
 - W15: Watercourses at Tsoi Uk Tsuen.



Identification and Evaluation of Impact

Construction Water Quality

Leng, Yuen Long - Feasibility Study

- General Construction Activities;
- Construction Site Runoff;
- Construction Works and near Waterbodies;
- Alteration of Watercourse:
- Accidental Spillage;
- Sewage Effluent from Construction Workforce; and
- Site Runoff or Contaminated Ground Water from Contaminated Area.

Operation Water Quality

- Sewage Discharge;
- Surface Run-off;

Mitigation Measures during Construction Phase

General Construction Activities and Site Runoff

13.4.2 The site practices outlined in ProPECC PN 1/94 Construction Site Drainage provides good practice guidelines for dealing with various types of discharge from a construction site and should be adopted as far as practicable to minimise the potential water quality impacts from various construction activities and construction site run off.

Construction Works at and near Waterbodies

13.4.3 To minimise the potential water quality impacts from construction works located near any waterbodies, the practices outlined in the ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should be adopted where applicable.

Alteration of Watercourse

13.4.4 The site practices outlined in the ProPECC PN 1/94 "Construction Site Drainage" and ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should be adopted for the proposed demolition of watercourses where applicable.

Accidental Spillage

13.4.5 Measures recommended in ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should be adopted where applicable.

Sewage from Construction Workforce

13.4.6 Provided that sewage is not discharged directly into stormwater drain or inland waters and temporary sanitary facilities are used and properly maintained, no adverse water quality impact is anticipated provided good site practice and the

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recommendation under this section will be implemented properly by the contractor. Site Runoff and Contaminated Groundwater from Contaminated Areas

13.4.7 No direct discharge of contaminated groundwater is anticipated from the excavation of contaminated areas. The contaminated groundwater shall be properly treated to compliance level of RBRG standard and TM-DSS before recharged into the ground by soak away method.

Mitigation Measures during Operation Phase

- 13.4.8 All sewage effluent from the Development would be discharged into the public sewer and no discharge to the nearby watercourses would be allowed.
- 13.4.9 Sufficient drainage system and pollution control facilities, such as gullies, silt traps and oil interceptors, shall be provided as appropriate to handle the potentially pollution from urban runoff. These pollution control facilities should be cleaned and maintained regularly to ensure their effectiveness. Additional inspection and cleansing should be carried out before forecasted heavy rainfalls.

Operational Water Quality

- 13.4.10 The sewage generated from the Development will be discharged to the nearby public sewerage network. A SIA has been conducted under this Project to estimate the sewage flow generated from the Development and assess the impacts on the existing sewerage and formulate sewage disposal. As all sewage will be properly collected by public sewerage network leading to the San Wai Sewage Treatment Works for treatment before discharge, no adverse water quality impact is expected.
- 13.4.11 Surface run-off to be generated from the Development is known as non-point source pollution. A small amount of oil, grease and grit may be deposited on the surfaces of the proposed access roads and carpark area within the Development. These pollutants would be washed into the nearby drainage system or watercourses during rainfall events. Surface runoff generated from other paved areas within the Development would also contain debris, refuse, dust, etc., which would affect the quality of the nearby receiving water environment, if uncontrolled.
- 13.4.12 To mitigate the water pollution due to the contaminated surface runoff, facilities such as oil interceptors and silt traps should be installed in the drainage system for the proposed access roads, bus-terminus and carpark area to contain the contaminants possibly found in the surface runoff before discharge to the drainage system offsite. Moreover, good management measures such as regular cleaning and sweeping of road surface/ carpark area are suggested. The road surface, bus-terminus and carpark area cleaning should be carried out prior to the occurrence of rainstorm wherever practicable. Manholes, as well as stormwater gullies, ditches provided at the proposed public housing development should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before heavy rainfall forecasted. No unacceptable water quality impact is therefore envisaged.



13.5 Waste Management

<u>Identification and Evaluation of Potential Impacts – Construction Phase</u>

- 13.5.1 The construction activities to be carried out for the Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:
 - Site clearance waste;
 - Construction and demolition (C&D) materials;
 - General refuse; and
 - Chemical wastes.
- 13.5.2 The C&D material generated from the site formation should be sorted on-site into inert C&D material (that is, public fill) and non-inert C&D material. In order to minimise the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material as far as practicable. Non-inert C&D material such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. Subject to further design of the Project, should offsite inert material disposal be required, direct reuse of inert C&D materials in other local concurrent projects should be explored with disposal at the public fill reception facilities as the last resort.
- 13.5.3 With the implementation of mitigation measures and proper waste management practices for handling, transportations and disposal of identified waste arising from the Project, no residual impacts are expected during the construction and operation phase of the Project.

13.6 Ecology

Assessment Area and Ecological Survey Methodology

13.6.1 The proposed development areas for the Sites are located in a close proximity to Yuen Long Town and Yuen Long Highway. The proposed ecological assessment area for the Preliminary Environmental Review (PER) covers 500m area from the Proposed Development Areas and 100m of the Infrastructure Works Area.

Habitat and Flora

- 13.6.2 No floral species of conservation importance were recorded in the Proposed Development Boundary and 500m Assessment Area from available literature.
- 13.6.3 The Proposed Development Boundary in SPH Site is composed of largely developed area and small areas of channelised watercourse and village area. Only one habitat type, i.e. 'developed area' was identified in TKL Site. A total of 10 different habitats were identified within the 500m Assessment Area.
- 13.6.4 The areas of each habitat within the Proposed Development Boundary and Assessment Area is presented in **Table 13.3** below.



Table 13.3 Area of habitats identified within the Proposed Development Boundary and Assessment Area

		Area (h	ıa)	
Habitat	Proposed Development Boundary of SPH Site (ha)	Proposed Development Boundary of TKL Site (ha)	Infrastructure Works Area outside the Sites (ha)	Assessment Area (ha)
Channelised Watercourse	0.08;		0.06;	8.26;
Chamiensed Water course	0.09km	-	0.08km	5.87km
Watercourse	_	_	_	0.20;
Watercourse			_	0.69km
Agricultural Land			-	6.93
Grassland	-	-	-	7.83
Grassland/Shrubland	•	-	-	33.16
Woodland	-	-	-	6.38
Plantation	-	-	0.70	19.11
Developed Area	3.56	1.76	7.72	136.29
Village Area	0.07	-	0.03	52.53
Wasteland	-	-	-	1.97
Total	3.71	1.76	8.51	272.66

Mammals

13.6.5 An individual of rat Rattus sp. was recorded at the channelised watercourse. No species of conservation importance was recorded.

Avifauna

- 13.6.6 A total of 44 bird species were recorded in the Assessment Area during the surveys including eight species of conservation importance, namely Chinese Pond Heron Ardeola bacchus, Eastern Cattle Egret Bubulcus coromandus, Grey Heron Ardea cinerea, Great Egret Ardea alba, Little Egret Egretta garzetta, Black Kite Milvus migrans, Black-winged Stilt Himantopus himantopus and Collared Crow Corvus torquatus. These eight species were mainly considered as Local Concern, Regional Concern or Potential Regional Concern (Fellowes et al., 2002). Collared Crow was observed inflight over the Proposed Development Boundary in SPH Site. Collared Crow is considered of Local Concern (Fellowes et al., 2002) and Vulnerable (IUCN, 2021). The recorded bird species in the Proposed Development Boundary are generally resident and widely distributed in Hong Kong.
- No flightpaths were found in the Sites from the flightline surveys during the breeding 13.6.7 season of the ardeids in April and May 2021.

<u>Herptofauna</u>

- A total of six amphibian species were recorded in the Assessment Area during the 13.6.8 surveys. No Species of conservation importance were recorded.
- 13.6.9 A total of seven reptile species were recorded in the Assessment Area during the survey among which a species of Four-clawed Gecko Gehyra mutilata was recorded in the developed area in the Assessment Area. It is considered of Vulnerable in the Red List of China's Vertebrates (Jiang et al. 2016).

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Butterfly

A total of 27 butterfly species were recorded in the Assessment Area during the 13.6.10 surveys. Most of the species recorded are Very Common and widely distributed in Hong Kong. One species, Small Cabbage White *Pieris rapae* was recorded in the village are in the Assessment Area. It is considered of Rare by AFCD (2021).

Odonate

13.6.11 A total of eleven odonate species were recorded in the Assessment Area during the surveys. All recorded species are Abundant in Hong Kong (AFCD, 2021).

Aquatic fauna

A total of three freshwater fish species were recorded from the Assessment Areas 13.6.12 during the surveys. No species of conservation importance was recorded.

Mitigation Strategy

- 13.6.13 In the design process, avoidance measures shall be adopted as far as practicable to avoid or minimise ecological impacts. The potential measures include retention of natural watercourse and woodlands in Conservation Area, prevention of development adjacent to the egretry and careful design of development layout to minimize the work footprints. Avoidance measures will be fully investigated and developed at the detailed design stage of the Project.
- The alignment of the infrastructure works will largely follow and lie within the 13.6.14 existing roads. The impacts would be limited to temporary disturbance during the construction phase. Therefore, the impacts of habitat loss and disturbance would be minimised.
- As for the potential ecological disturbance during the construction phase, it is 13.6.15 recommended to implement all proposed mitigation measure for air, noise, water, waste aspects proposed in the approved EIA Report for Yuen Long South Potential Development Area (YLS PDA) (EIA-254/2017) and the present PER study to minimise the surface runoff from the construction site.

13.7 **Cultural Heritage**

Construction Stage

- 13.7.1 As a precautionary measure, AMO should be informed immediately in case of discovery of antiquities or supposed antiquities in the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO.
- 13.7.2 As no proposed or declared monument, proposed to be graded historic buildings, Government Historic Sites or New Items proposed for grading by AAB is identified partly or wholly within the assessment area; thus, it is anticipated that no cultural resources will be affected by the proposed development.

Operation Stage

13.7.3 As no SAI is identified partly or wholly within the assessment area, therefore, no impact is expected during the operation phase. Thus, no mitigation measure is

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required.

- 13.7.4 The water mains are provided underground and junction improvement works will not affect the identified built heritage resources in the operation phase, thus, no impact is expected in the operation phase. Thus, no mitigation measure is required.
- 13.7.5 With the implementation of the mitigation measures proposed, no residual impact is anticipated during construction and operation phases of the Project.

13.8 Summary

13.8.1 Assessments in the aspects of air quality, noise, water quality, waste management, sewerage and sewage treatment implication, ecology and cultural heritage were conducted under the study. It is anticipated that there would be no insurmountable issue from the environmental point of view.



14 PRELIMINARY LANDSCAPE AND VISUAL IMPACT (LVIA)

14.1 General

- 14.1.1 The purpose of the LVIA is to:
 - a) Brief description of the Project and any of the associated construction works/ activities which may cause potential landscape and visual impacts, both temporarily and permanently;
 - b) Description of the relevant legislation, standards and guidelines for assessment with due consideration;
 - c) Description of the assessment methodology;
 - d) Review of planning and development control framework;
 - e) Identification of the landscape character areas (LCAs), Landscape Resources (LRs), visual elements (including visual resources/ attractors and visual eyesores/ detractors) and key viewing points within the assessment areas;
 - f) Assessment and thorough review of the potential impacts (before mitigation), temporarily and/or permanently, and the residual impacts (after mitigation) in both construction and operation stages;
 - g) Evaluation and recommendation of mitigation and enhancement measures with a practicable and realistic implementation programme; and
 - h) Conclusion/overall evaluation of preliminary LVIA.

14.2 Landscape Impact Assessment

Methodologies

- 14.2.1 Landscape Impact Assessment has been carried out under this Assignment with the steps below.
 - a) Review of Planning Development Control Framework;
 - b) Identification and Examination of Baseline Landscape Resources and Landscape Character Areas;
 - c) Tree and Vegetation Survey;
 - d) Assessment of Sensitivity of LRs/LCAs;
 - e) Identification of Sources and Magnitude of Potential Landscape Impacts;
 - f) Recommendation of Landscape Mitigation Measures; and
 - g) Significance of Landscape Impacts.

Landscape Resources within the Assessment Area

- 14.2.2 LRs within the 500m Assessment Area have been identified. A list of LRs and their sensitivity rating provided in brackets are summarised as follows.
 - LR1 Village Settlement (Medium)
 - LR2 Heritage Building (High)



- LR3 Brownfield Operation (Low)
- LR4 Major Vehicular Road (Low)
- LR5 Urban Development (Medium)
- LR6 Roadside Vegetation (Medium)
- LR7 Channelised Watercourse (Low)
- LR8 Natural Watercourse (Medium)
- LR9a-c Park/ Playground/ Garden (Low to Medium)

Landscape Character Areas

- 14.2.3 LCAs within the Assessment Area have been identified. Below is a brief summary of the list of LCAs and their assessment shown in brackets:
 - LCA1 Yuen Long Miscellaneous Rural Fringe Landscape (Medium)
 - LCA2 Upland and Hillside Landscape (High)
 - LCA3 Yuen Long Miscellaneous Urban Fringe Landscape (Medium)
 - LCA4 Urban Peripheral Village Landscape (Medium)
 - LCA5 Park Urban Landscape (Medium)

Nature and Magnitude of Landscape Impact without Mitigation

- 14.2.4 During the construction phase of the Project landscape impacts can be resulted from the following sources:
 - Site clearance works including removal of structures and facilities, and existing vegetation/trees;
 - Site formation including slope cutting and earth filling works, as well as geotechnical works, earth retaining structures;
 - Traffic improvement works (including construction of new access roads, footpaths and upgrading existing roads etc.);
 - Drainage and sewerage infrastructures;
 - Construction traffic (Temporary construction access);
 - Presence of construction machinery and equipment; temporary parking areas, construction storage, stockpiling area, site offices and facilitates of works area(s);
 - Night lighting and welding;
 - Temporary works hoardings, barriers and enclosures;
 - Construction dust and waste materials;
 - Environmental mitigation measures including landscaping works; and
 - Temporary Traffic Arrangement.

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- 14.2.5 During the operation phase of the Project landscape impacts can be resulted from the following sources:
 - Any on-going changes in the quality or quantity of LRs resulting from the Project; and
 - Loss of landscape resources previously present at the Project site.
- 14.2.6 The anticipated magnitude of change of landscape quality without mitigation is described in **Table 14.1** below.

Table 14.1 Magnitude of Change of Landscape Quality without Mitigation

Table		de of Change of	Scale of Devel opme	Compatibility with Extent of LR or LCA within Surrounding		Duration of			Magnitude of Change			
ID	Landscape Resources / Landscape Character	Source of Impact			ootprint	Landscaj		Impact (Medium/		Reversibility of Change (Reversible/ Irreversible)	(Large/ Intermediate/ Small/ Negligible)	
	Areas		Mediu m/ Small)	Con.*	Op. *	Con.*	Op.*	Con.*	Op.*		Con.*	Ор.*
Landsc	andscape Resources											
1.04	Village	Site formation works	Small	0.41ha (TKL) 0.44ha (SPH)	0.41ha (TKL) 0.44ha (SPH)	Low	Low	Medium	Long	Irreversible	Small	Small
LR1	Settlement	Traffic improvement works	Small	0.05ha outside Sites	0.05ha outside Sites	Medium	High	Short	Long	Irreversible	Small	Small
LR2	Heritage Buildings	None	-	-	-	-	-	-	-	-	Negligible	Negligible
		Site formation works	Mediu m	1.35ha (TKL) 3.19ha (SPH)	1.35ha (TKL) 3.19ha (SPH)	Medium	Medium	Medium	Long	Irreversible	Intermediate	Intermediate
LR3	Brownfield	Traffic improvement works	Small	0.06 ha	0.06 ha	Medium	High	Short	Long	Irreversible	Small	Small
	Operation	Drainage improvement/ mainlaying works	Small	~160m outside Sites	~160m outside Sites	Medium	High	Short	-	Reversible	Small	Negligible

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ID	Landscape Resources / Landscape Character	Source of Impact	Scale of Devel opme nt (Large	Extent of LR o Project F		Surroi Landsca	oility with unding pe (High/ n/ Low)	Duratio Impact (Medium/	Long/	Reversibility of Change (Reversible/ Irreversible)	Magnitude (Large/ Interm Negli _i	ediate/Small/											
	Areas		Mediu m/ Small)	Con.*	Ор.*	Con.*	Ор.*	Con.*	Op.*		Con.*	Op.*											
	Major	Traffic improvement works	Small	0.77ha outside Sites	0.77ha outside Sites	Medium	High	Short	Long	Irreversible	Small	Small											
LR4	Vehicular Road	Drainage improvement/ mainlaying works	Mediu m	~5.6km outside Sites	~5.6km outside Sites	Medium	High	Short	-	Reversible	Intermediate	Negligible											
LR5	Urban Development	Drainage improvement/ mainlaying works	Small	~500mm outside Sites	~500mm outside Sites	Medium	High	Short	-	Reversible	Small	Negligible											
	Dondaida	Traffic improvement works	Small	0.35ha outside Sites	0.35ha outside Sites	Medium	Medium	Short	Long	Irreversible	Small	Small											
LR6	Roadside Vegetation								Vegetation	Vegetation	Roadside		Drainage improvement/ mainlaying works	Small	~750m outside Sites	~750m outside Sites	Medium	High	Short	-	Reversible	Small	Negligible
		Site Formation	Small	0.08ha (SPH)	0.08ha (SPH)	-	-	-	-	-	Small	Small											
LR7	Channelised	Traffic improvement works	Small	0.01ha outside Sites	0.01ha outside Sites	Medium	Medium	Short	Long	Irreversible	Small	Small											
LIC/	Watercourse	Drainage improvement/ mainlaying works	Small	<20m outside Sites	<20m outside Sites	Medium	High	Short	-	Reversible	Small	Negligible											



ID	Landscape Resources / Landscape Character	Source of Impact	Scale of Devel opme nt (Large		or LCA within Footprint	Compatibility with Surrounding Landscape (High/ Medium/ Low)		Duration of Impact (Long/ Medium/ Short)		Reversibility of Change (Reversible/ Irreversible)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
	Areas		Mediu m/ Small)	Con.*	Ор.*	Con.*	Ор.*	Con.*	Op.*		Con.*	Ор.*
LR8	Natural Watercourse	None	-	-	-	-	-	-	-	-	Negligible	Negligible
LR9	Park/ Playground/ Garden	None	-	-	-	-	-	-	-	-	Negligible	Negligible
Landsc	ape Character Ai											
LCA1	Yuen Long Miscellaneous	Site formation works and other infrastructure works beyond the Development boundary	Mediu m	1.76ha (TKL) 3.71ha (SPH)	1.76ha (TKL) 3.71ha (SPH)	Medium	Medium	Medium	Long	Irreversible	Intermediate	Intermediate
	Rural Fringe Landscape	Traffic improvement works	Small	1.09ha outside Sites	1.09ha outside Sites	Medium	High	Short	Long	Irreversible	Small	Negligible
		Drainage improvement/ mainlaying works	Mediu m	~5.6km outside Sites	~5.6km outside Sites	Medium	High	Short	-	Reversible	Small	Negligible
LCA2	Upland Hillside Landscape	None	-	-	-	-	-	-	-	-	Negligible	Negligible



ID	Landscape Resources / Landscape Character	Source of Impact	Scale of Devel opme nt (Large	of evel ome nt arge /		Compatibility with Surrounding Landscape (High/ Medium/ Low)		Duration of Impact (Long/ Medium/ Short)		Reversibility of Change (Reversible/ Irreversible)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
	Areas		Mediu m/ Small)	Con.*	Op.*	Con.*	Op.*	Con.*	Ор.*	irreversible	Con.*	Op.*
	Yuen Long Miscellaneous	Traffic improvement works	Small	0.15ha outside Sites	0.15ha outside Sites	Medium	High	Short	Long	Irreversible	Small	Negligible
LCA3	Urban Fringe Landscape	Drainage improvement/ mainlaying works	Small	~600m outside Sites	~600m outside Sites	Medium	High	Short	-	Reversible	Small	Negligible
LCA4	Urban Peripheral Village Landscape	Drainage improvement/ mainlaying works	Small	~800m outside Sites	~800m outside Sites	Medium	High	Short	-	Reversible	Small	Negligible
LCA5	Park Urban Landscape	None	-	-	-	-	-	-	-	-	Negligible	Negligible

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Notes:

*Con.=Construction Phase; Op=Operation Phase



Significance of Landscape Impacts without Mitigation

14.2.7 The degree of significance of landscape impacts before implementation of mitigation measures has been derived from the combination of the anticipated magnitude of change and sensitivity/tolerance of sensitive receivers to change listed in **Table 14.2**.

Table 14.2 Significance of Residual Landscape Impacts

ID	Landscape Resources and Landscape Character Areas	Resources and (High/ Source of Landscape Low) Resources Gensitivity (High/ Source of Impact Low)		Magnitude of Intermedi	Change (Large/ ate/ Small/ igible)	Impact Significance without Mitigation (Substantial/ Moderate/ Slight/ Insubstantial) Con. Op.			
Landa	gana Dagaungan			Con.	Op.	Con.	Op.		
Lanus			Site formation works	Small	Small	Slight to Moderate	Slight to Moderate		
LR1	Village Settlement	Medium	Traffic improvement works	Small	Small	Slight to Moderate	Slight		
LR2	Heritage Buildings	High	None	Negligible	Negligible	Insubstantial	Insubstantial		
			Site formation works	Intermediate	Intermediate	Slight to Moderate	Slight (Beneficial)		
LR3	Brownfield Operation	Low	Traffic improvement works	Small	Small	Slight	Slight		
	operation		Drainage improvement / mainlaying works	Small	Negligible	Slight	Insubstantial		
	Major		Traffic improvement works	Small	Small	Slight	Slight		
LR4	Vehicular Road	Low	Drainage improvement / mainlaying works	Intermediate	Negligible	Slight to Moderate	Insubstantial		
LR5	Urban Development	Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial		
	D. L.I.		Traffic improvement works	Small	Small	Slight to Moderate	Slight to Moderate		
LR6	Roadside Vegetation	ion Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial		
	Channelised Watercourse		Site formation works	Small	Small	Slight	Slight		
LR7		Low	Traffic improvement works	Small	Small	Slight	Slight		

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ID	Landscape Resources and Landscape Character Areas	Sensitivity (High/ Medium/ Low)	Source of Impact	Intermedi	Change (Large/ ate/ Small/ igible)	Impact Significance without Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		
				Con.	Op.	Con.	Op.	
			Drainage improvement / mainlaying works	Small	Negligible	Slight	Insubstantial	
LR8	Natural Watercourse	Low	None	Negligible	Negligible	Insubstantial	Insubstantial	
LR9	Park/ Playground/ Garden	Medium	None	Negligible	Negligible	Insubstantial	Insubstantial	
Lands	cape Character	Areas						
			Site formation works	Intermediate	Intermediate	Moderate	Moderate	
LCA1	Yuen Long Miscellaneou s Rural	laneou	Traffic improvement works	Small	Negligible	Slight to Moderate	Insubstantial	
	Fringe Landscape		Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	
LCA2	Upland Hillside Landscape	High	None	Negligible	Negligible	Insubstantial	Insubstantial	
LCA3	Yuen Long Miscellaneou		Traffic improvement works	Small	Negligible	Slight to Moderate	Insubstantial	
LUA3	s Urban Fringe Landscape	Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	
LCA4	Urban Peripheral Village Landscape	Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	
LCA5	Park Urban Landscape	Medium	None	Negligible Negligible		Insubstantial	Insubstantial	

Notes: Landscape impacts presented in **Table 10-2** are adverse impacts unless otherwise specified.

Recommended Landscape Mitigation Measures in Construction and Operation Phases

14.2.8 The project design has sought to minimise any potential landscape impact as much as possible and the alignment has been carefully considered and adjusted in order to reduce the impacts on landscape before adopting other mitigation measures with reference to EIAO GN No. 8/2010. Unavoidably, some adverse landscape impact would still be anticipated. The following approaches of landscape mitigation are proposed to alleviate the potential adverse landscape impacts. The proposed measures to mitigate impacts arising from construction phases and operation phases are labelled with "CM" and "OM" respectively in **Table 14.3**. The Landscape & Visual

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Mitigation Plan (**Figure Nos. 406041/S&T/FR/1401** to **1403**) illustrates the locations of the proposed mitigation measures to be implemented.



Table 14.3 Proposed Mitigation Measures and Management Responsibilities

ID	Mitigation Measures	Location/ Extent	Description	Funding Agency	Implementation Agency	Maintenance Agency
Mitigatio	on Measures for Constructi	on Phase Impacts				
CM1	Careful Site Planning and Management	All works area(s)	Careful planning of construction site layout to avoid encroachment upon sensitive receivers such as Lam Tsuen Country Park, historic buildings, TPIs and retained vegetation; and minimize disturbance impacts to sensitive landscape and visual receivers.	CEDD	CEDD (via Contractor)	(via Contractor)
CM2	Slope Greening	Slope works area(s) within Development Site	To maximize greening opportunities on all newly created slope features/ areas subject to slope improvement works through hydroseeding and or shrub/ tree planting	CEDD	CEDD (via Contractor)	HyD
CM3	Tree Preservation and Inspection of Tree Works	All (retained) existing trees within or immediately adjacent to proposed works area(s)	To implement proper tree protection measures, conduct regular tree monitoring and inspection of tree works	CEDD	CEDD (via Contractor)	LCSD/Allocatee Department(s)
CM4a	Compensatory Tree Planting	Tree planting locations	To plant at least 195 nos. of compensatory trees including 158 nos. compensatory trees within the Infrastructure Works Area outside Sites, and 37 nos. compensatory trees within Roadside Verge Greening Zone (RVGZ) along the proposed new road between the proposed school site and housing site in SPH site	CEDD	CEDD (via Contractor) -for compensatory trees (at least 158 nos.) outside Sites -for compensatory trees (at least 37 nos.) within RVGZ along new	LCSD/HyD /Allocatee Department(s)

ID	Mitigation Measures	Location/ Extent	Description	Funding Agency	Implementation Agency	Maintenance Agency
					roads	
CM4b	Newly Planted Trees by	Tree planting location	At least 54 and 115 new trees in the	HD	HD	HD
	HD within HD's Site		proposed TKL and SPH housing sites.		(via Contractor)	
CM5	Minimisation of Light	All works area(s)	To control night time lighting during	CEDD/ HD	CEDD/ HD	CEDD/ HD
	Impact		construction phase		(via Contractor)	(via Contractor)
CM6	Erection of Decorative	All works area(s)	To erect decorative site hoarding to	CEDD/ HD	CEDD/ HD	CEDD/ HD
	Site Hoarding		surround the construction site(s) to mimimise visual disturbance		(via Contractor)	(via Contractor)
CM7	Reinstatement of	All temporarily	To reinstate disturbed grounds/	CEDD	CEDD	LCSD/HyD
	Temporarily Disturbed	disturbed area(s)	landscaped area(s) through		(via Contractor)	
	Areas	wherever applicable	revegetation and/or re-provision of			
	The state of the s		pavements/ concrete surfaces			
	n Measures for Operation			1	1	
OM1	Landscape Planting	Proposed housing	To provide aesthetic plantings including	CEDD/ HD	HD/ Allocatee	HD/ Allocatee
		site(s)/ GIC site(s) of	screen planting and local open space		Departments	Department(s)
		the Development	plantings in order to provide sufficient		(via Contractor)	
			site coverage of greenery (target to			
			provide 20% site area of TKL Housing			
			Site and 30% site area of SPH Housing			
			Site) in the Development in accordance			
			with PNAP APP-152 and HKPSG. At least			
			242 no. of trees (54 trees in TKL Site and			
			115 trees in SPH Site) will be planted in			
			the proposed housing site(s).			
OM2	Rooftop Greening	Proposed housing	OM2 will be implemented where	CEDD/ HD	HD/ Allocatee	HD/ Allocatee
		site(s)/ GIC site(s) of	applicable to provide rooftop planting in		Departments	Department(s)
		the Development	the Development		(via Contractor)	
OM3	Vertical Greening	Proposed housing	OM3 will be implemented where	CEDD/ HD	HD/ Allocatee	HD/ Allocatee
		site(s)/ GIC site(s) of	applicable to provide vertical planting in		Departments	Department(s)e
		the Development	the Development		(via Contractor)	
OM4	Aesthetically Pleasing	Proposed housing	To provide responsive designs to	HD/ Allocatee	,	HD/ Allocatee
	Building Design	site(s)/ GIC site(s) of	enhance permeability and appearance of	Department(s)	Department(s)	Department(s)
	the Development		the proposed buildings/structures to	(via Contractor)	(via Contractor)	



ID	Mitigation Measures	Location/ Extent	Description	Funding	Implementation	Maintenance
					Agency	Agency
			minimize visual obstruction to key			
			public viewing points			
OM5	Provision of Local Open	Proposed housing	To provide sufficient spacing between	HD	HD	HD
	Space and Recreational	site(s)	high-rise buildings and visual relief in	(via Contractor)	(via Contractor)	
	Facilities in		accordance with PNAP APP-152 and			
	Development		HKPSG. Local open space is at least 1m ²			
			per person.			

Residual Landscape Impact with Mitigation

14.2.9 With full implementation of the proposed mitigation measures residual landscape impacts on all affected Landscape Resources and Landscape Character Areas are considered to be **Acceptable** (i.e. **Insubstantial** to **Slightly** Adverse). The predicted residual landscape impacts are provided in **Table 14.4**.



Table 14.4 Significance of Residual Landscape Impacts

ID	Landscape Resources and Landscape Character Areas	Sensitivi ty (High/ Medium / Low)	Source of Impact	(Large/ Int	e of Change ermediate/ egligible)	Impact Signifi Mitigation (Moderate Insubst	e/ Slight/	Recommende d Mitigation Measures	Measures Insubstantial)					
				Con.	Op.	Con.	Op.		Con.	Op. Day 1	Op. Year 10			
Lands	scape Resource	s												
LR1	Village Settlement	Medium	Site formation works	Small	Small	Slight to moderate	Slight to moderate	CM1, CM2, CM3, CM4a, CM4b, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5	Slight	Slight	Slight			
						Traffic improvement works	Small	Small	Slight to moderate	Slight	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Insubstantial	Insubstantial	Insubstanti al
LR2	Heritage Buildings	High	None	Negligible	Negligible	Insubstantial	Insubstantial	Not required	Insubstantial	Insubstantial	Insubstanti al			
LR3	Brownfield Operation	Low	Site formation works	Intermediate	Intermediate	Slight to Moderate	Slight (Beneficial)	CM1, CM2, CM3, CM4a, CM4b, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5	Slight	Slight	Slight (Beneficial)			

ID	Landscape Resources and Landscape Character Areas	Sensitivi ty (High/ Medium / Low)	Source of Impact	Magnitude (Large/ Int Small/ No	ermediate/	Mitigation (Moderate	cance without Substantial/ e/ Slight/ tantial)	Recommende d Mitigation Measures		nificance with I ntial/ Moderate/ Insubstantial)	
				Con.	Op.	Con.	Op.		Con.	Op. Day 1	Op. Year 10
			Traffic improvement works	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Insubstantial	Insubstantial	Insubstanti al
			Drainage improvement / mainlaying works	Small	Negligible	Slight	Insubstantial	CM1, CM3, CM5, CM7	Insubstantial	Insubstantial	Insubstanti al
LR4	Major Vehicular	Low	Traffic improvement works	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Insubstantial	Insubstantial	Insubstanti al
LK4	Road	LOW	Drainage improvement / mainlaying works	Intermediate	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al
LR5	Urban Developmen t	Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al
LR6	Roadside Vegetation	Medium	Traffic improvement works	Small	Small	Slight to Moderate	Slight to Moderate	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Slight	Insubstantial	Insubstanti al



ID	Landscape Resources and Landscape Character Areas	(High/	Source of Impact			Mitigation (Moderate	Impact Significance without Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		Impact Significance with Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		
				Con.	Op.	Con.	Op.		Con.	Op. Day 1	Op. Year 10
			Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al
	Channelised Watercourse	OTAZ	Site Formation Works	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4a, CM4b, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5	Insubstantial	Insubstantial	Insubstanti al
LR7			Traffic improvement works	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Insubstantial	Insubstantial	Insubstanti al
			Drainage improvement / mainlaying works	Small	Negligible	Slight	Insubstantial	CM1, CM3, CM5, CM7	Insubstantial	Insubstantial	Insubstanti al
LR8	Watercourse	Low	None	Negligible	Negligible	Insubstantial	Insubstantial	Not required	Insubstantial	Insubstantial	Insubstanti al
LR9	Park/ Playground/ Garden	Medium	None	Negligible	Negligible	Insubstantial	Insubstantial	Not required	Insubstantial	Insubstantial	Insubstanti al
Lands	cape Characte	r Areas									



ID	Landscape Resources and Landscape Character Areas Sensitivi ty (High/ Medium / Low)		Source of Impact	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)		Impact Significance without Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		Recommende d Mitigation Measures	Impact Significance with Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		
				Con.	Op.	Con.	Op.		Con.	Op. Day 1	Op. Year 10
	Yuen Long Miscellaneou s Rural Medi Fringe Landscape	Medium	Site formation works	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4a, CM4b, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5	Slight	Slight	Slight
LCA 1			Traffic improvement works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Slight	Insubstantial	Insubstanti al
			Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al
LCA 2	Upland Hillside Landscape	High	None	Negligible	Negligible	Insubstantial	Insubstantial	Not required	Insubstantial	Insubstantial	Insubstanti al
LCA	Yuen Long Miscellaneou s Urban Fringe Landscape	Medium	Traffic improvement works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM2, CM3, CM4a, CM4b, CM5, CM7, OM1	Slight	Insubstantial	Insubstanti al
3			Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al



ID	Landscape Resources and Landscape Character Areas	Sensitivi ty (High/ Medium / Low)	Source of Impact	(Large/Int	Impact Significance Intermediate/ / Negligible) Impact Significance Mitigation (Sub Moderate/ Sl Insubstanti		Substantial/ e/ Slight/	Recommende d Mitigation Measures	Impact Significance with Mitigation (Substantial/ Moderate/ Slight/ Insubstantial)		
				Con.	Op.	Con.	Op.		Con.	Op. Day 1	Op. Year 10
LCA 4	Urban Peripheral Village Landscape	Medium	Drainage improvement / mainlaying works	Small	Negligible	Slight to Moderate	Insubstantial	CM1, CM3, CM5, CM7	Slight	Insubstantial	Insubstanti al
LCA 5	Park Urban Landscape	Medium	None	Negligible	Negligible	Insubstantial	Insubstantial	Not required	Insubstantial	Insubstantial	Insubstanti al

Notes: Landscape impacts presented in **Table 14.4** are adverse impacts unless otherwise specified.



14.3 **Visual Impact Assessment**

Methodologies

- 14.3.1 Visual Impact Assessment has been carried out under this Assignment with the steps
 - Definition of Assessment Area; a)
 - b) Visual Elements;
 - Selection of Viewing Points and Evaluation of Visual Sensitivity;
 - d) Appraisal of Visual Change; and
 - **Evaluation of Overall Visual Impact:**

Assessment Area

14.3.2 The Assessment Area for VIA primarily covers an area of visual influence within which the Developments and Infrastructure Works are pronouncedly visible from key public sensitive viewers. Conventionally, the Assessment Area for VIA encompasses a radius three times of the height of the proposed development(s) from the Project site(s).

Identification of Viewpoints

- 14.3.3 The Preliminary VIA primarily assesses visual impacts arising from the Developments and Infrastructure Works and recommends measures to mimimize and/or mitigate impacts on public views, particularly those easily accessible and popular to the public or tourists. Key public viewing points (kinetic or static) at human eye level that would be potentially most affected by the Developments and Infrastructure Works were identified. Each of their visual sensitivity was described and evaluated. Examples of key public viewing points 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.
- 14.3.4 The locations and heights of key public viewing points selected and the visual impact assessment area are identified. The viewing point locations and approximate viewing height(s) are shown in Figure Nos. 406041/S&T/FR/1404 to 1405. photomontage for all VPs is presented in Figure Nos. 406041/S&T/FR/1406 to **1420**. The visibility of the proposed Development from these VPs, and their respective visual quality and visual sensitivity are assessed and described as follows:

VP1 - Visitors of Greening Works at Tai Tong Road

14.3.5 Visual sensitivity of VP1 is considered to be Low as the Development is unlikely to be visible to VP1. The proposed housing developments of TKL Site will almost be completely blocked by these existing residential developments. The overall change in visual composition at VP1 in the presence of the Development is considered to be

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Negligible. The Development at TKL will be almost screened off by the existing medium-rise residential buildings and the sky view would only be very slightly blocked by the Development at TKL. It is not considered to introduce any perceptible visual changes to the existing view at VP1, the overall visual effect on viewers at VP1 is considered to be **Negligible**. Also, it is currently dominated by brownfield operations and some minor village settlements, which are not considered to be visually attractive. It is considered to result in very minor blockage to the sky view. The overall effect on visual resources available to viewers at VP1 as a result of the Development is considered to be **Negligible**.

VP2 - Vehicular Travelers at Shap Pat Heung Interchange (Viewing TKL Site)

The visual sensitivity of VP2 is considered to be Low due to existing visual blockage 14.3.6 and highly transient nature of the views. The Development would appear like a "wall structure" in front of the existing medium rise developments, but the view of the Development is highly transient and become prominent only at limited angles when the transient viewers (in vehicles) come close to the Development. The proposed high-rise Development (TKL Site) will fill up some of the visual void spaces between the roadside plantation and the medium-rise residential buildings of The Reach. The introduction of the Development will moderately extend the area of the cluster of existing residential buildings. The extended building clusters are not incompatible with the current visual context. The Development is considered to result in an **Intermediate** change in visual composition at VP2. As the viewers at VP2 are expected to be very concentrated on the traffic conditions, the Development will mostly appear as a lateral glanced view and be very occasionally seen by the vehicular travellers. The proposed development at TKL Site will partially block the open sky view and obstruct the visual openness, resulting in an Intermediate level of visual obstruction. The overall effect of the Development on public viewers at VP2 is considered to be Moderate. The views at VP2 are highly transient and constrained when viewing from vehicles. The effect on visual resources available to VP2 is considered to be Moderate.

VP3 - Further Visitors of Open Space on Tai Shu Ha Road West

Visual sensitivity of VP3 is considered Medium. The existing view at VP3 is quite open 14.3.7 with the mountain backdrop. The existing development context with low-to-medium rise neighbourhood would be changed and the contrast in height and bulk is observed. The Development (TKL) is located behind the existing low-to-medium rise developments and will extend the existing cluster of medium-rise residential buildings (Sereno Verde) at the back, filling up some of the visual void spaces of the sky view at the middle when viewing from VP3. The overall change in visual composition is **Intermediate** but not incompatible with the existing visual context. The proposed Development (TKL Site) would also block the distant view of natural ridgeline which has already been significantly blocked by existing developments. The visual openness of this viewing point will only be **slightly to moderately** affected. The visitors' view towards the Development are likely to be further screened off by screen plantings of the future open space. Overall effect on public viewers from the Development is considered **Slight to Moderate**. It will extend the existing building cluster and block a small portion of the natural ridgeline. The effect on visual



resources available to VP3 is considered to be **Slight to Moderate**.

VP4 - Pedestrians on Long Ho Road (Viewing Shap Pat Heung Interchange)

14.3.8 The visual sensitivity of VP4 is considered to be Low. VP4 is at a lower level on Long Ho Road. The views towards the Development (TKL Site) will be largely screened by the slope plantation. The overall change in visual composition at VP4 is considered to be **Small**. As VP4 is at a lower level and the Development (TKL Site) including associated road improvement/ slope works located behind the slope are almost invisible to the viewers. Visual obstruction as a result of the Development at VP4 is considered to be **Negligible**. Pedestrians at VP4 seldom stop by as there is lack of resting facilities so the duration of view is short given its transient nature. Effect on public viewers at VP4 as a result of the Development is expected to be **Negligible**. The Development does not affect any visually important resources available to viewers at VP4. The overall effect of the Development on visual resources at VP4 is considered to be **Negligible**.

VP5 - Visitors of Tai Kei Ling Sitting-Out Area

14.3.9 The visual sensitivity of VP5 is considered to be Low as use levels of this sitting-out area appeared to be low from observation, and the visibility of the Development from VP5 is highly limited by the existing visual blockage and viewing distances. Much of the lower parts of the proposed building towers will be screened off by the existing village settlements. The upper parts of the towers visible to viewers at VP5 over a distant will apparently intrude into the visual void of the open sky view and appear to be visually incompatible with the surrounding low-rise developments. The overall change in visual composition perceived by the viewers at VP5 is **Intermediate**. The blockage is very distant and only involves changes in the background view. The overall visual permeability is preserved. Only the upper parts of the nearest towers are visible to the viewers at VP5. The effect on public viewers at VP5 is considered to be **Slight**. The upper storeys of the Development will unavoidably blocking a minor portion of the sky view. The effect on visual resources arising from the Development is considered to be **Slight**.

VP6 - Visitors of Kong Tau Tsuen Gazebo

Visual sensitivity of VP6 is considered to be Medium given the visual openness. The 14.3.10 existing view from VP6 comprises views of skyline and a distant view of ridgeline of Ho Hok Shan as a backdrop bounded by existing developments and roadside vegetation on both side of Long Ho Road. The rural setting of the area would be drastically changed with the Development, which is considered visually out of context due to its massive scale and outlook when viewing from VP6. The Development (SPH Site) will inevitably fill up the middle part of the open sky view, and the ridgeline will be significantly blocked. The overall change to visual composition by the Development is considered to be **Large**. The blockage will only affect the distant view. The Development is considered to result in an Intermediate level of visual The overall effect on public viewers as a result of the obstruction at VP6. Development is considered to be **moderately adverse**. The existing skyline view will be intruded by the Development and the distant ridgeline will be significantly blocked



when viewing from VP6. The overall effect on visual resources at VP6 is considered to be **moderately adverse**.

VP7 - Vehicular Travelers at Shap Pat Heung Interchange (Viewing SPH Site)

Visual sensitivity of VP7 is considered to be Low given the highly transient nature of 14.3.11 the views. VP7 represents the passengers/drivers travelling and looking towards the proposed Shap Pat Heung housing development at Shap Pat Heung Interchange. The view towards the Development (SPH Site) is highly constrained from vehicles, and largely screened with existing roadside vegetation along Pok Oi Interchange and Shap Pat Heung Interchange. The Development is considered to result in a **Small** change in visual composition at VP7. It will not obstruct any important views at VP7 A small portion of the sky view will be blocked by the Development. Visual obstruction by the Development is considered to be **Small**. As the viewers at VP7 are expected to be very concentrated on the traffic conditions, the proposed Development will mostly appear as a lateral glanced view and be very occasionally seen by the vehicular travellers. The overall effect of the Development on public viewers at VP7 is considered to be **Negligible.** The Development is considered to block a small portion of sky view when viewing from VP7. The overall effect on visual resources on VP7 is considered to be Slight.

VP8 - Pedestrians on Long Ho Road (Bridge)

Visual sensitivity of VP8 is considered to be Medium. The view comprises an open skyline view bounded by roadside vegetation and brownfield operations on both sides of Long Ho Road. The quality of view is typical in rural landscapes. The highrise Development will inevitably fill up the visual void spaces in the middle of the skyline view and not compatible with the existing low-rise rural character of the area. The change to visual composition is considered to be **Small** to medium-range viewers at VP8. The blockage is distant and only involves changes in the background view. Visual permeability is largely preserved. The overall visual obstruction by the Development is considered to be **slight**. As there is lack of resting facilities nearby, the view at VP8 towards the Development (SPH Site) is generally short in duration and occasional. The overall effect on public viewers at VP8 is considered to be **slight**. The existing skyline view will be partially intruded by the proposed residential towers (SPH Site) in the middle. The overall effect on visual resources at VP8 is considered to be **Slightly adverse**.

VP9 - Visitors of Ho Hok Shan

14.3.13 Visual sensitivity of VP9 is considered to be Medium as VP9 is not a popular hiking hotspot. The Development at TKL Site will be perceived as an extension of the building clusters along the fringe of Yuen Long New Town. However, the Development at SPH Site on the south of Yuen Long Highway will appear as a high-rise element in the low-rise rural context of Shap Pat Heung. The introduction of the Development in particular that in SPH Site is considered incompatible with the existing rural landscape. The implemented mitigation measures (OM1 Landscape Planting, OM2 Rooftop Greening and OM3 Vertical Greening) during the operation phase are unlikely to be noticed by viewers at VP9 located over 1km from the Development. Overall change in visual composition at VP9 is considered to be



Intermediate. The Development will not result in significant visual obstruction to any important views. The overall visual obstruction at VP9 is considered to be **Negligible**. The Development will form a small component of the distant view in one direction. The overall visual effect on the public viewers at VP9 due to the Development is considered to be **Slight**. No important visual resources available to viewers at VP9 will be significantly affected. The effect on visual resources to viewers at VP9 is considered to be **Negligible**.

VP10 - Pedestrians on Long Ho Road (Viewing SPH Site)

Visual sensitivity of VP10 is considered to be Medium. From VP10 which represents 14.3.14 short-range views of travellers on Long Ho Road towards SPH Site, the Development would be visually prominent and permanently obstruct the hilly landscape and open sky. The Development is considered to be visually incompatible with the surrounding low-rise rural landscape for short-range viewers. With the implementation of landscape plantings (OM1) along the periphery of Site, the bulky base of the Development will be slightly softened and the plantings will blend in with the existing roadside vegetation at Year 10 of operation phase. Views from VP10 are highly transient and the effect on visual composition is dynamic and vary with the viewing distance. The overall change in visual composition for viewers on Long Ho Road is considered to be **Intermediate** along most part of the road. The viewers may experience a Large change in visual composition when they come close enough to the Development. The extent of blockage will vary when viewers of transient nature travel along the road. The overall visual obstruction by the Development is considered to be **Intermediate**. Pedestrians seldom stop by as there is lack of resting facilities. The viewing time towards the Development is short. The overall effect on public viewers at VP10 is considered to be Moderate. The overall effect on visual resources as a result of the Development is considered to be **Moderate**.

VP11 - Pedestrians in Yuen Long Station

14.3.15 Visual sensitivity of VP11 is considered to be Low. The Development will be completely invisible to the pedestrians/ travellers in Yuen Long Station. Changes to visual composition by the Development at VP11 is considered to be **Negligible**.

VP12 - Users of Pok Oi Hospital

14.3.16 Visual sensitivity of VP12 is considered to be Low. The upper storeys of the Development at both Sites will be visible to the users/visitors of Pok Oi Hospital at the hospital entrance. The Development (upper storeys of buildings) will slightly intrude into the open sky view but only affect the distant view at VP12. Overall change in visual composition at VP12 is considered to be **Small**. The Development will only affect the distant view and will not block any significant visual resources except slight intrusion into the sky view in the middle. Visual obstruction from the Development is considered to be **Small**. The users/ travellers of Pok Oi Hospital seldom stay at the hospital entrance. The effects on public viewers in the presence of the Development is considered to be **Negligible**. Overall effects on visual resources at VP12 is considered to be **Slight**.



VP13 - Future Visitors of Open Space along Kung Um Road

14.3.17 Visual sensitivity at VP13 is considered to be **Low**. The Development will be completely invisible to the future visitors of this open space. Changes to visual composition arising from the Development at VP13 is considered to be **Negligible**.

VP14 - Visitors of Tung Tau Industrial Area Playground

14.3.18 Visual sensitivity of viewers at VP14 is considered to be Low. The Development will be invisible to the playground visitors. Changes to visual composition by the Development at VP14 is considered to be **Negligible**.

VP15 - Visitors at Yuen Long Park

Given the long viewing distance and the limited portions of the Development visible 14.3.19 to the viewers, visual sensitivity of viewers at VP15 is considered to be Low. The visitors of Yuen Long Park would be able to glimpse the Development at SPH Site across a long distance (~1,500m) through the existing trees/landscape planting of the Park. The Development of TKL will be significantly blocked by existing buildings and landscape areas of the Park. Overall change in visual composition to viewers at VP15 is considered to be **Small** given only a minor portion of the Development can be glimpsed across a long distance. The sky view will not be affected by the Development. Overall visual obstruction from the Development is considered to be **Slight**. The Park visitors are unlikely to notice the visual changes given only a glimpse view of the distant Development is visible to the park visitors from very limited locations in the Park. The effects on public viewers of the Development from VP15 is considered to be **Negligible**. The Development at SPH will block the remaining ridgeline as well as minor portion of open sky view which forms a minor portion of the existing view at VP15. Effects on visual resources at VP15 from the Development is considered to be Slight.

Recommended Mitigation Measures and Summary of Visual Impact

- 14.3.20 Most of the proposed mitigation measures for operation phase impacts presented in Section 14.2.8 and Table 14-3 aim to enhance the aesthetic value of the Development through provision of landscape planting/ screening at ground level, podium landscapes and/ or vertical greening at lower level of the buildings. These measures are usually effective in mitigating visual impacts on ground level viewers located close to the Site.
- 14.3.21 After taking into account the sensitivity of key public viewers/ viewing points, visual resources and visual amenities to be affected, the magnitude, extent and duration of impact and resultant improvement or degradation in the visual quality and character of the surrounding area, and the planning intention and known planned developments of the area, the visual acceptability of the proposed development is evaluated as follows. Most of the public viewers within the visual envelope will experience only **Negligible, Slightly Adverse or Slightly to Moderately Adverse** visual impacts from the Development. Only those viewers coming close enough to SPH and TKL Sites (e.g. VP2, VP6 and VP10) will experience **Moderately** or **Moderately to Substantially Adverse** visual impacts. The overall resultant visual impacts from the Development is considered to be **Acceptable** with mitigation.



Due to the increase of the proposed building heights for both sites, VP2 (Vehicular 14.3.22 Travelers at Shap Pat Heung Interchange), VP6 (Visitors of Kong Tau Tsuen Gazebo) and VP9 (Visitors of Ho Hok Shan) are the main concern due to the relatively high visibility of the project elements at these VPs. The changes to other VPs due to the increase in building heights are relatively minor. Based on the appraisal of visual changes, the assessment and evaluation for both VP are still valid. The changes in visual composition due to increase in building heights when viewing from VP2 and VP6 remain "Intermediate" and "Large" respectively. For VP9, the increase in building heights will not affect the distant ridgelines when viewing from VP9. The level of change in visual composition at VP9 due to the developments remains "Intermediate" and there is no significant blockage of important visual resources due to the increase in building heights as viewed from VP9. As such, the impact rating for VP2, VP6 and VP9 and all other VPs remain unchanged due to the proposed increase in building heights. The visual changes to VP3 (Future Visitors of Open Space on Tai Shui Ha Road West) due to the potential increase in building heights are considered to be relatively minor. The increased heights will only result in a minor addition to the proposed buildings at the distant background when viewing from VP3. The views of VP3 will be largely screened off by plantings at the future open space and restricted to road level. Photomontages with the increase of the building heights at SPH and TKL Sites are illustrated in Figure Nos. 406041/S&T/FR/1406 to 1420. Thus, overall resultant visual impacts from the Development is considered to be **Acceptable** with mitigation.

Table 14.5 Significance of Residual Visual Impacts

Viewing Point	Visual Sensitivity	Assessment of Visual Impacts (Based on Initial Building Design)
VP1 Visitors of Greening Works at Tai Tong Road	Low	Insubstantial/Negligible
VP2 Vehicular Travelers at Shap Pat Heung Interchange (Viewing TKL Site)	Low	Moderately Adverse
VP3 Future Visitors on Tai Shu Ha Road West	Medium	Slightly to Moderately Adverse
VP4 Pedestrians on Long Ho Road (Viewing Shap Pat Heung Interchange)	Low	Insubstantial/Negligible
VP5 Visitors of Tai Kei Ling Sitting-Out Area	Low	Slightly Adverse
VP6 Visitors of Kong Tau Tsuen Gazebo	Medium	Moderately Adverse
VP7 Vehicular Travelers at Shap Pat Heung Interchange (Viewing SPH Site)	Low	Slightly Adverse
VP8 Pedestrians on Long Ho Road (Bridge)	Medium	Slightly Adverse



Viewing Point	Visual Sensitivity	Assessment of Visual Impacts (Based on Initial Building Design)			
VP9 Visitors of Ho Hok Shan	Medium	Slightly to Moderately Adverse			
VP10 Pedestrians on Long Ho Road (Viewing SPH Site)	Medium	Moderately to Substantially (Significantly) Adverse			
VP11 Pedestrians in Yuen Long Station	Low	Insubstantial/ Negligible			
VP12 Users of Pok Oi Hospital	Low	Slightly Adverse			
VP13 Future Visitors of Open Space along Kung Um Road	Low	Insubstantial/ Negligible			
VP14 Visitors of Tung Tau Industrial Area Playground	Low	Insubstantial/ Negligible			
VP15 Visitors at Yuen Long Park	Low	Slightly Adverse			
	Overall	 Negligible, Slightly to Moderately Adverse to most public viewers in the assessment area Slightly to Moderately Adverse to VP3 (Future Visitors of Open Space on Tai Shu Ha Road West) and VP9 (Visitors at hill top of Ho Hok Shan) Moderately Adverse to VP2 (Vehicular Travelers at Shap Pat Heung Interchange viewing TKL Site) and VP6 (short-range viewer from Kong Tau Tsuen Gazebo) Moderately to Substantially (Significantly) Adverse only to VP10 (short-range viewers/ pedestrians on Long Ho Road when coming close to the Development (SPH) 			

14.4 Tree Survey

14.4.1 A tree survey was conducted during January 2021 – May 2022 at the Sites and the areas to be potentially affected by proposed traffic improvement works. The



- proposed sewerage/drainage improvement works will take place along existing roads and are not expected to affect existing trees. No tree survey was conducted in the drainage/sewerage improvement works area.
- 14.4.2 As the Sites were still possessed by private owners with some active brownfield operations, site accessibility was highly restricted. Most of the private land lots were fenced by tall hoardings/ boundary wall. Trees and vegetation were surveyed as tree groups by walking along accessible routes and by using drones. The areas within the Sites were broadly classified into three categories according to the accessibility of the tree group locations and TPIs:

<u>Categories within Site(s):</u>

- The tree group is located in an inaccessible area. Broad tree assessment was conducted from a distance.
- The tree group is completely or partially fenced. Limited assessment was conducted at the tree group periphery.
- The tree group is located in a more exposed private area and visible for survey.

Categories in Infrastructure Works Area:

- Tree group is located in a visible area.
- Tree group is partially fenced. Limited assessment was conducted from a distance.
- Tree group is located in an inaccessible area. Broad tree assessment was conducted from a distance.

Categories for Tree of Particular Interest (TPI):

- Tree is located in an inaccessible area. Broad tree assessment was conducted from a distance.
- Tree is located in a visible public area.
- Tree is located in a more exposed private area and visible for survey.
- 14.4.3 At least **55** trees and **61** trees were identified within Tai Kei Leng Site and Shap Pat Heung Site respectively. The dominant tree species within the development boundary of Tai Kei Leng are *Dimocarpus longan*, and *Leucaena leucocephala*. Most of them were in poor to average conditions. The dominant tree species within the development boundary of Shap Pat Heung are *Dimocarpus longan*, *Macaranga tanarius* var. *tomentosa* and *Acacia auriculiformis*. Most trees are in poor to average conditions. Trees located near the hillslopes are of better conditions where fewer human disturbance is incurred. Trees located near the entrance of Shap Pat Heung/highway with more disturbances are of poorer conditions. At least **251** trees were identified in the infrastructural works area subject to traffic improvement works outside Sites. *Acacia sp.* are the most common trees identified in this area.
- 14.4.4 A total of **10** large trees were identified as TPIs in the tree survey, of which only one tree (**TPI-10** *Ficus elastica*) with poor structural condition of DBH greater than 1m was surveyed as Tree of Particular Interest within the Development Boundary of SPH Site. All the remaining 9 TPIs are outside the Project footprint and will not be affected

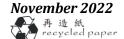
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by the Project.

- 14.4.5 No Old and Valuable Tree (OVT) was identified during the survey.
- 14.4.6 No endangered planted species were surveyed as stipulated in the Protection of Endangered Species of Animals and Plants Ordinance (Schedule 1, Cap.586 of the Law of Hong Kong), nor protected species listed in Forestry Regulations (subsidiary legislation of the Forest and Countryside Ordinance, Cap. 96) were recorded.
- 14.4.7 Approximately **248** trees (out of the surveyed **251** trees) identified in the infrastructural works area subject to traffic improvement works are proposed for removal. All the trees proposed to be removed belong to common species. Most trees are in poor to average conditions. The total **364** trees to be felled will be fully compensated (not less than 1:1 in terms of tree numbers). It is proposed to plant at least **195** compensatory trees in the infrastructure works area outside Sites to provide adequate tree compensation, and approximately **54** nos. and **115** nos. of new trees within TKL and SPH Housing Site (subject to review of master layout in IDC stage) to provide sufficient greenery. Except for TPI-10, no other TPIs or OVTs or plant species of conservation interest will be affected by the Project.
- 14.4.8 The new tree planting plans are presented in **Figure Nos. 406041/S&T/FR/1421** to **1422** and the tree compensatory plan are presented in **Figure No. 406041/S&T/FR/1423**.

Table 14.6 Summary of Impact to Existing Trees

Location	Location No. of Identified Trees		No. of Trees to be Retained		No. of Trees to be Removed	
Tree Groups within Development Boundary	116	/	0	15 Tree Groups (SPH-TG01 to SPH- TG15, including TPI-10) 7 Tree Groups	61	0
				(TKL-TG01 to TKL- TG07)	55	
Tree Groups within or closed to Infrastructure Works Area	251	Trees closed to road widening works but supposed will not be affected (3 Trees	3	Trees will be affected by site formation works (Trees within Tree Group ITG- 1 to ITG-	248	0



		within Tree Group ITG- 9)		11, excluding 3 trees within Tree Group ITG- 9)		
		Total No. of Trees to be Retained: 3		Total No. of Trees to be Removed: 36	4	Total No. of Trees to be Transplanted: 0
Trees outside both Development Boundary and Infrastructure Works Area	9	Tree of Particular Interest (TPI-1 to TPI-9)	9	/	0	0

14.5 Conclusion

- 14.5.1 Landscape resources to be lost due to proposed site formation works of the Development include LR1 Village Settlement (~0.85ha), LR3 Brownfield Operation (~4.54ha) and LR7 Channelized Watercourse (~0.08ha). The Development Sites (TKL & SPH Sites) are entirely within LCA1 Yuen Long Miscellaneous Rural Fringe Landscape (~5.47ha). The proposed Development at TKL (three towers ranging from 46 to 51 storeys) located mostly within "Open Space" of Yuen Long OZP will result in high-rise development outside the 'core' area of Yuen Long New Town. The Development at SPH Site (four towers ranging from 41 to 51 storeys) located within "Open Space" of Tai Tong OZP is considered visually incompatible with the surrounding low-rise rural landscape. The overall Development would inevitably intensify the development intensity at the fringe of Yuen Long Town.
- 14.5.2 Traffic improvement works will mainly take place along existing roads (LR4 Major Vehicular Road) and will have minor encroachment onto adjacent LRs, resulting in small changes of landscape quality to LR1 Village Settlement, LR3 Brownfield Operation, LR4 Major Vehicular Road, LR6 Roadside Vegetation and LR7 Channelized Watercourse, LCA1 Yuen Long Miscellaneous Rural Fringe Landscape and LCA3 Yuen Long Miscellaneous Urban Fringe Landscape to be encroached upon by the works.
- 14.5.3 The proposed drainage improvement/ mainlaying works will mainly affects existing roads and minimally encroach onto other adjacent LRs. However, the resulting impacts from mainlyaing works are considered reversible as the affected areas will be reinstated upon completion of the works.

Tai Kei Leng Site

14.5.4 At least **55** trees were surveyed within TKL Site. All these trees will be affected by the proposed site formation works and proposed for removal due to their low suitability for transplantation based on this initial tree survey.

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Shap Pat Heung Site

- 14.5.5 At least **61** trees were surveyed within SPH Site respectively, including one Tree of Particular Interest (TPI-10 *Ficus elastica* in poor health/ structural condition) within SPH Site. All these trees will be affected by the proposed site formation works and proposed for removal due to their low suitability for transplantation based on this initial tree survey.
- 14.5.6 With full implementation of the proposed mitigation measures (including compensatory plantings of a ratio of at least 1:1 in terms of tree numbers, provision of sufficient green site coverage and sufficient local open space (1m² per person) and other measures listed in **Table 14.3**) residual landscape impacts on all affected Landscape Resources and Landscape Character Areas are considered to be Acceptable (i.e. **Insubstantial** to **Slightly Adverse**), except for LR3 Brownfield Operation which is expected to experience potentially **Slightly Beneficial** impacts from the Development.
- 14.5.7 The two proposed developments would alter the existing visual context and character of their localities. The proposed development at TKL will result in a high-rise development outside the 'core' area of Yuen Long New Town. The proposed development at SPH is considered visually incompatible with the surrounding low-rise rural landscape.
- 14.5.8 The resultant overall visual impact of the Development is generally **Negligible**, **Slightly Adverse or Slightly to Moderately Adverse** to most of the key public viewers in the Assessment Area, except for those coming close to SPH and TKL Sites who may experience **Moderately or Moderately to Substantially Adverse** visual impacts. The most visually affected viewers are confined to Long Ho Road and are mostly highly transient passers-by. The overall visual impacts will be mitigated through the provision of landscape planting, vertical greening, rooftop greening, aesthetically pleasing building design and provision of local open space and recreational facilities. The preliminary landscape design will be presented in the Outline Landscape Plan to be formulated at a later stage of the Study. The overall residual visual impacts of the Project are considered **Acceptable** with mitigation measures.
- 14.5.9 Due to the increase in GFA concession for buildings adopting modular integrated construction promulgated under Joint Practice Note No. 8 issued in July 2022, the maximum building height for SPH site and TKL site will be increased by 25mPD and 15mPD respectively.



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15 PRELIMINARY LAND CONTAMINATION AND REMEDIATION STUDY (LCRS)

15.1 General

- 15.1.1 The purpose of the LCRS is to:
 - (a) Evaluate and assess the potential land contamination impacts due to previous land uses and the existing operations; and
 - (b) Determine the extent of the Site Investigation works required for the potentially land-contaminated areas.

15.2 Site Appraisal Findings

- 15.2.1 A site appraisal, in the form of desktop review and site inspection, was carried out to identify the potential land contamination issues for the Assignment.
- 15.2.2 A Contamination Assessment Plan (CAP) which comprises the findings of the site appraisal and the sampling and testing proposal was prepared.
- 15.2.3 Nine (9) potentially contaminated areas have been identified as Proposed SI Areas as shown in **Figure No. 406041/S&T/FR/1501**. A total of eighty-three (83) sampling locations in regular grid pattern are proposed to be adopted within the Proposed SI Areas and the associated potential Chemical of Concerns (COCs), including metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum carbon ranges (PCRs) and polyaromatic hydrocarbons (PAHs) (based on the relevant past and current land use) are considered as the testing parameters for all soil and groundwater samples at the Proposed SI Areas. However, since the Proposed SI Areas are within private premises, it is recommended that SI should be conducted upon successful land resumption. Once land resumption has been completed, further site re-appraisal shall be conducted for the whole Assessment Area to assess any changes in land usage which may give rise to potential land contamination issues and to ascertain the contaminative sources, hotspots of contamination, the associated COCs within the Assessment Area. The sampling and testing plan should be updated based on the future site re-appraisal and submitted in the supplementary CAP for EPD's endorsement. Therefore, the proposed sampling strategies are tentative only and subject to further review in the future site reappraisal after land resumption.
- 15.2.4 A Contamination Assessment Report (CAR) will be prepared to present the findings of the future SI and laboratory analytical results. The analytical results will be compared against the Risk-Based Remediation Goals (RBRGs) standards.
- 15.2.5 If soil or groundwater contamination is detected, the CAR will be supported by a RAP and will be submitted to EPD for approval. The Remediation Action Plan (RAP) will examine the proposed remedial options and relevant issues of soil treatment versus disposal, the proposed future land uses of potential risks based upon the soil, contamination type and concentrations and any further SI required during the execution of the remediation work.
- 15.2.6 Upon completion of remediation works (if necessary), a Remediation Report (RR) will be prepared and submitted to EPD to demonstrate that the decontamination works

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15.3 Site Investigation and Sampling Plan

- 15.3.1 In the CAP, nine (9) potentially contaminated areas and seven (7) non-contaminated areas have been identified within TKL Site and SPH Site. Sixteen (16) areas within the TKL Site and SPH Site are unidentifiable from site observations, as those areas are inaccessible, and there are no clear signage outside the structures. No information on the use of the structures is provided on maps and the uses are not identifiable from recent aerial photos since those areas are roofed. Therefore, the land use, thus land contamination condition of those areas is undeterminable at this stage of the Project. Further inspection is recommended to identify the conditions of those areas at later stage of the Project. Areas proposed for infrastructure works are considered noncontaminated.
- 15.3.2 Further site re-appraisal should be conducted for the whole Assessment Area to assess any changes in land usage which may give rise to potential land contamination issues and to ascertain the contaminative sources and hotspots of contamination within the Assessment Area. After site re-appraisal, a supplementary CAP will be prepared and agreed with EPD before site investigation. The necessary site investigation to assess the land and groundwater contamination will be conducted.

15.4 Remediation

- 15.4.1 The actual remediation methods should be confirmed after completion of the site reappraisal and EPD's agreement on the CAR and RAP at the later stage of the development within the Assessment Area. The RAP will provide details of the remedial actions for any identified contaminated soil and groundwater.
- 15.4.2 Based on the past and current land uses of the Proposed SI Areas, the associated potential COCs for the Proposed SI Areas (metals, PCRs, SVOCs & VOCs and PAHs) have been identified. Soil within the Proposed SI Areas for the LCRS may be contaminated with the potential COCs due to previous and current industrial activities. For soil, there are several technologies commercially available to treat these contaminants. Technologies that are commonly used in Hong Kong include biopiling and cement solidification/stabilization. These ex-situ remediation methods effective in treating the target proven be COCs solidification/stabilization on metals and biopiling on hydrocarbons). Given the size of the Site, there would be enough available space for handling and treating of the contaminated soil and the two methods are considered to be appropriate.
- 15.4.3 Contaminants in groundwater exceeding the RBRGs were not commonly found in Hong Kong. Some examples of remediation techniques of contaminated groundwater (e.g. air sparging, recovery trenches / wells, in-ground containment/capping and permeable reactive barriers) are shown in the PG from EPD.



16 IMPLEMENTATION PROGRAMME

Leng, Yuen Long - Feasibility Study

16.1 General

16.1.1 This summarize the key milestones of the implementation programme for the proposed development.

16.2 Implementation Programme

16.2.1 The preliminary programme and phasing is summarized in **Tables 16.1** and **16.2** below.

Table 16.1 - Milestone Dates of the Key Activities for SPH Site

Key Activities	Milestone Dates		
Commencement of IDC Consultancy Study	July 2022		
Submission of Final CAF	Q4 2022		
Gazettal of plan and scheme for public consultation under Cap. 370	Q2 2023		
Completion of the Gazettal of OZP Amendment/Rezoning which includes CE- in-C's Approval	Q4 2023		
Submission of ExCo Paper regarding Cap. 370 to CE-in-C for approval	Q2/Q3 2024		
FC Approval	Q3 2024		
Completion of Land Resumption and Clearance	Q2 2025		
Commencement of Site Formation and Infrastructure Works	Q2 2025		
Completion Date of Infrastructure Works	Q1 2031		
Site Handover from CEDD to HD	Q2 2026		
Completion Year	2031		

Table 16.2 - Milestone Dates of the Key Activities for TKL Site

Key Activities	Milestone Dates
Commencement of IDC Consultancy Study	July 2022
Submission of Final CAF	Q4 2022
Gazettal of plan and scheme for public consultation under Cap. 370	Q2 2023
Completion of the Gazettal of OZP Amendment/Rezoning which includes CE- in-C's Approval	Q4 2023
Submission of ExCo Paper regarding Cap. 370 to CE-in-C for approval	Q2/Q3 2024
FC Approval	Q3 2024
Completion of Land Resumption and Clearance	Q2 2025
Commencement of Site Formation and Infrastructure Works	Q2 2025



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Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study Final Report (Shap Pat Heung and Tai Kei Leng) 406041/S&T/040/Issue 3

Completion Date of Infrastructure Works	Q1 2031
Site Handover from CEDD to HD	Q2 2026
Completion Year	2031

17 CONCLUSION AND RECOMMENDATION

17.1 General

17.1.1 The Government plans to adopt different strategies to increase land supply for development. To meet the objective of the 2019 Policy Address, Planning Department (PlanD) has accorded priority to the study of 160 hectares brownfield sites and the Sites are among these potential sites. This Final Report summarised the findings and other salient issues of relevant technical assessments for the Development in terms of infrastructures, utilities, geotechnical, site formation, environmental, landscape, visual and operation and maintenance requirements. According to the assessments and as summarized below, there are no insurmountable constraints for the Development at the recommended development parameters with mitigation measures. The detailed design of the Development and mitigation measures are subject to further study and review in IDC stage.

17.2 Air Ventilation

- 17.2.1 On basis of the notional layout plan, an expert evaluation of wind performance on the Project is carried out.
- 17.2.2 A qualitative assessment of the wind performance of the Developments has been carried out. Annual prevailing wind directions were found to be NNE, E and S while summer prevailing wind directions were found to be SSW, S and SSE. The site layout of the Sites has carefully considered designs to aid air ventilation while balancing the need to provide adequate domestic and non-domestic GFA and ancillary facilities to achieve the target development need. It is considered that the potential impact to the wind environment of the surroundings would be alleviated and overall no significant adverse air ventilation impact is anticipated from the proposed development with the incorporation of mitigation measures mentioned in this report.

17.3 Traffic and Transportation

- 17.3.1 To support the Project, upgrading of existing facilities are recommended. Junction improvement proposals as shown in **Table 17.1** are formulated and listed below. With the proposed junction improvement schemes, the assessment revealed that all key junctions will be operating within capacity in design year 2036.
- 17.3.2 For SPH site, there is only a sub-standard single track access road connecting SPH to Long Ho Road via a bridge. Therefore, it is proposed to widen the section of this single track access road within SPH to standard 7.3m single-2 lanes carriageway to improve the accessibility of SPH. The existing track road next to Tai Kei Leng Road is the existing footpath leading to the concerned houses next to the Reach. Therefore, only the footpath will be reprovided for the existing track road.
- 17.3.3 A bus-terminus with sawtooth bus bay design is proposed at SPH to provide a minimum of 3 bus bays and 6 stacking spaces for 3 terminal routes subject to actual bus service route planning at the later stage. In addition, 1 urban taxi stand and 1 NT taxi stand will also be provided at the new access road at SPH.
- 17.3.4 For TKL, 4 double-width bays will be provided at Tai Kei Leng Road eastbound and

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- total 50m layby will be provided at Tai Kei Leng Road westbound (with a general layby and 2 bus bays).
- 17.3.5 With the implementation of proposed junction improvement works and enhancement on public transport services, it is anticipated that the proposed developments would not induce insurmountable traffic impact onto the adjacent road network. The proposed development is acceptable in traffic point of view.

17.4 Geotechnical and Site Formation

- 17.4.1 A review of the existing GI records available was conducted. The findings indicate that SPH site is covered by approximate 1.00m to 3.00m thick of fill layer and 7.00m to 10.10m of alluvium layer. Thickness of completely decomposed to highly decomposed tuff (CD/HDT) ranged from 3.50m to 21.35m and bedrock lies at a depth of 35m below ground level. According to existing geological information, the southern portion of SPH Site is cut by NW SE-trending fault. It also indicates that TKL site is covered by 0.40m to 7.40m thick of fill layer. Alluvium with thickness up to 25.25m or karst deposit with thickness up to 8m were found in the existing GI records. Underlying the alluvium or karst deposit is completely to highly decomposed rock (metasiltstone or quartz porphyry). Bedrock (Metasiltstone, quartz porphyry or marble) lies at -9.44 to beyond -123.78mPD. The ground profile shall be verified by site specific ground investigation in later stage of project.
- 17.4.2 A total of 3 unregistered slopes and 3 registered features (Feature nos. 6NW-B/F6, 6NW-B/FR12 and 6NW-B/FR20) are identified in proximity to the Shap Pat Heung Site and 4 registered slopes (Feature nos. 6NW-D/F129, 6NW-D/F14, 6NW-B/FR 247 and 6NW-D/F12) are identified in proximity to the Tai Kei Leng Site; these features will affect the proposed site formation works.
- 17.4.3 After the reviewing of existing information, geological, geotechnical and hydrogeological information are found being insufficient. Therefore, site-specific ground investigation, which comprises sinking of vertical/inclined drillholes are recommended.
- 17.4.4 Due to the limited GI information, the geological model is considered as preliminary, further assessment would be carried out after the completion of the site-specific ground investigation works to ascertain physical soil properties and facilitate design of the proposed works.
- 17.4.5 A detailed ground model supported by a thoughtful ground investigation could assist the designer selecting a suitable foundation system to overcome such constraints. Geological constraints could be identified by further GI in later stage.
- 17.4.6 Preliminary screening to determine the need for NTHS with reference to GEO Report No. 138 (Second Edition, 2016) has been conducted. According to the findings, the catchment overlooking Shap Pat Heung Site unsatisfied the "Alert Criteria" and therefore further NTHS is not required.
- 17.4.7 Subject to the gentle topographic nature of the SPH site, the proposed site formation level will be formed at the level between +11.00mPD at the south vicinity of the site to +7.50mPD at the north vicinity of the site.

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17.4.8 Subject to the gentle topographic nature of the TKL site, the proposed site formation level will be formed at the level between +7.00mPD at the southwest vicinity of the site to +6.00mPD at the northeast vicinity of the site.

17.5 Drainage, Sewerage, Water Supply and Utilities

17.5.1 The technical assessments have identified the needs for new provision of infrastructure and upgrading of existing utilities as shown in **Table 17.1**. Preliminary arrangements have been proposed to support the proposed developments and mitigate impacts arising from the proposed developments. With these infrastructure provisions in place, adverse impacts with respect to drainage, sewerage, water supply and utilities are not envisaged.

17.6 Environmental, Landscape and Visual, Land Contamination and Sustainability

17.6.1 The technical assessments have examined the environmental impacts and planning considerations. Preliminary mitigation measures are proposed to mitigate or minimize adverse impacts as much as practicable. With the recommended measures in place, it is envisaged that there would be no insurmountable issue from the environmental and planning aspects. Further liaison with relevant authorities at the detailed design stage is required to confirm proper implementation of these mitigation measures.

17.7 Land Requirement

17.7.1 Based on the proposed extent of land required for the implementation of the proposed developments, the Study has identified the extent of existing land use and numbers of facilities or properties that may be affected by the proposed developments. Further liaison with LandsD will need to be carried out at later detailed design stage.

Table 17.1 Proposed Infrastructure Works

Traffic	 Junction improvement at Castle Peak Road Yuen Long / Yuen Long On Lok Road / Long Lok Road (J5) 		
	 Junction improvement at Ma Tong Road / Fung Cheung Road / Fung Ki Road (J10) 		
	 Junction improvement at Shap Pat Heung Interchange (J14) and Shap Pat Heung Road / Tai Kei Leng Road (J15) 		
	 Junction improvement at Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West (J20) 		
	 Junction improvement at Tai Shu Ha Road East / Tai Shu Ha Road West / Long Ho Road (J21) 		
	Bus-terminus at SPH Site		
Drainage	 Proposed 750mm Drainage Pipe at TKL Site 		

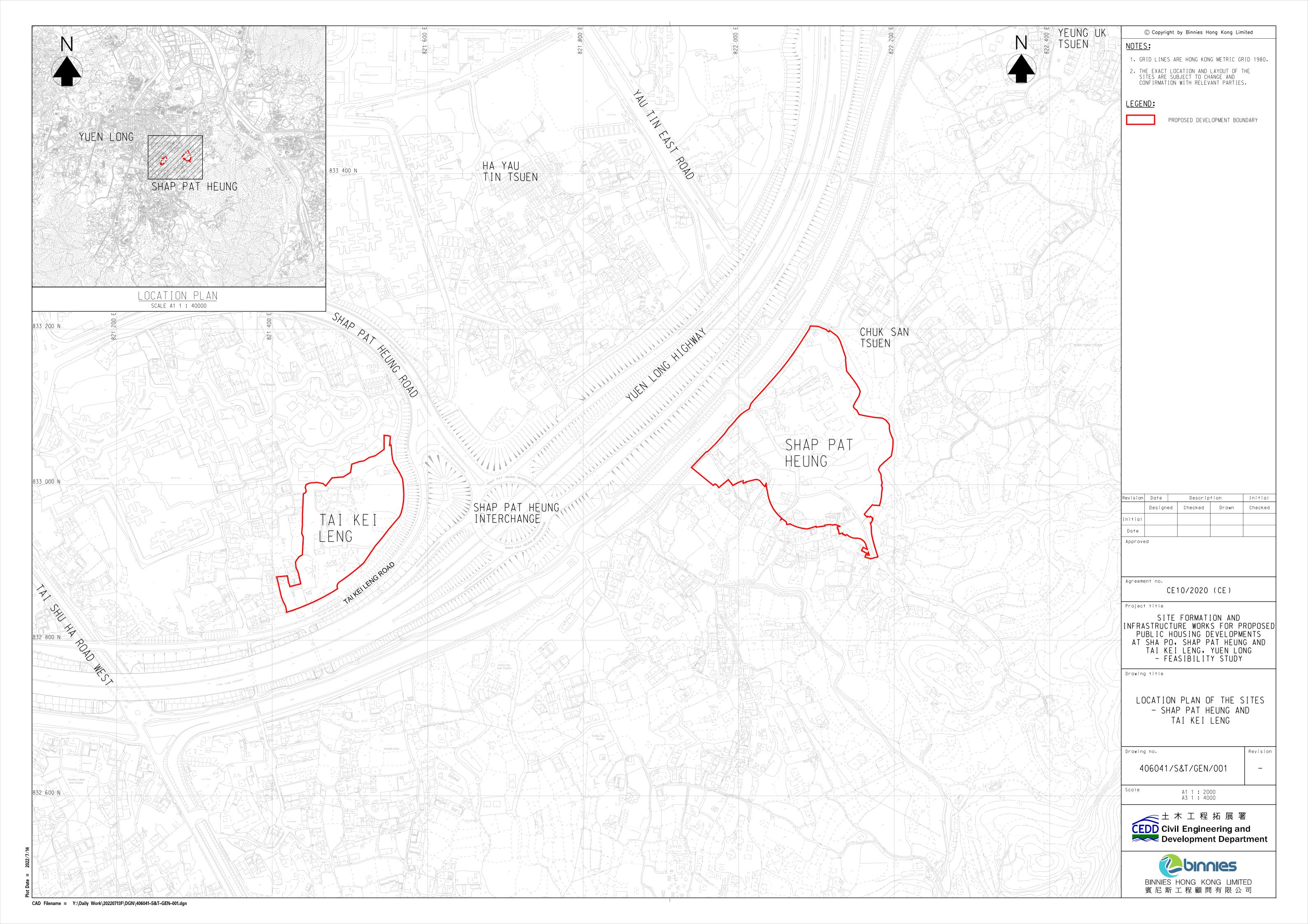


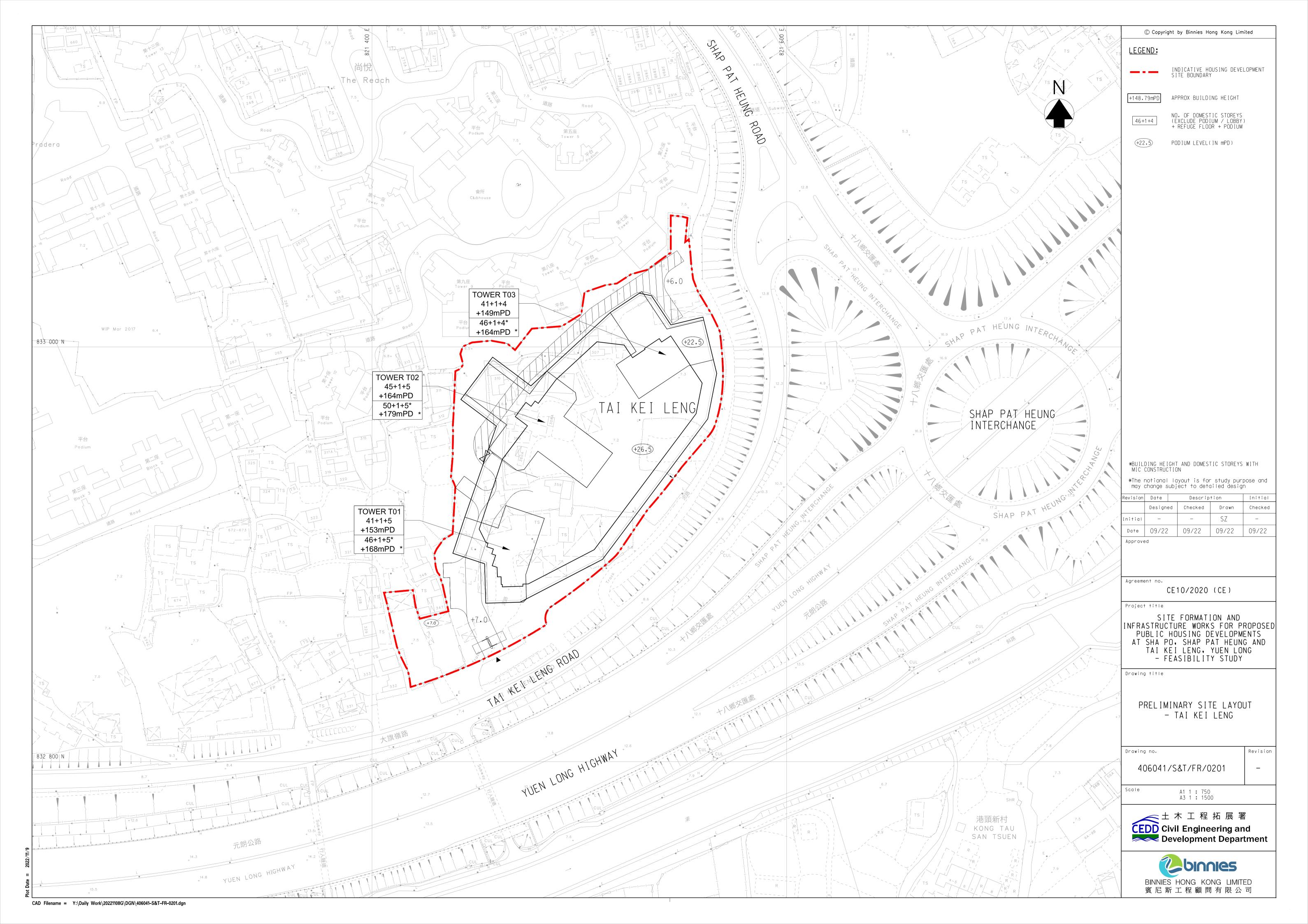
	 Proposed Twin 1800mm Drainage Pipes at SPH Site near the school site Proposed 900mm Drainage Pipes near
	 Proposed 900mm Drainage Pipes near housing site of SPH Site
Sewerage	 Proposed 400mm, 450mm and 560mm Gravity Sewers along Long Ho Road, Tai Kei Leng Road and along Yuen Long Bypass Floodway
Water Supply	 150mm to 300mm fresh water mains upgrade to 300mm to 450mm along Yuen Ching Road, Yuen Lung Street, Fung Yau Street South, Yau Tin West Road and Long Ho Road
	 Proposed 150mm fresh water mains at TKL Site
	300mm to 400mm salt water mains upgrade to 700mm along Shap Pat Heung Road
	 Proposed 150mm salt water mains for TKL Site and SPH Site

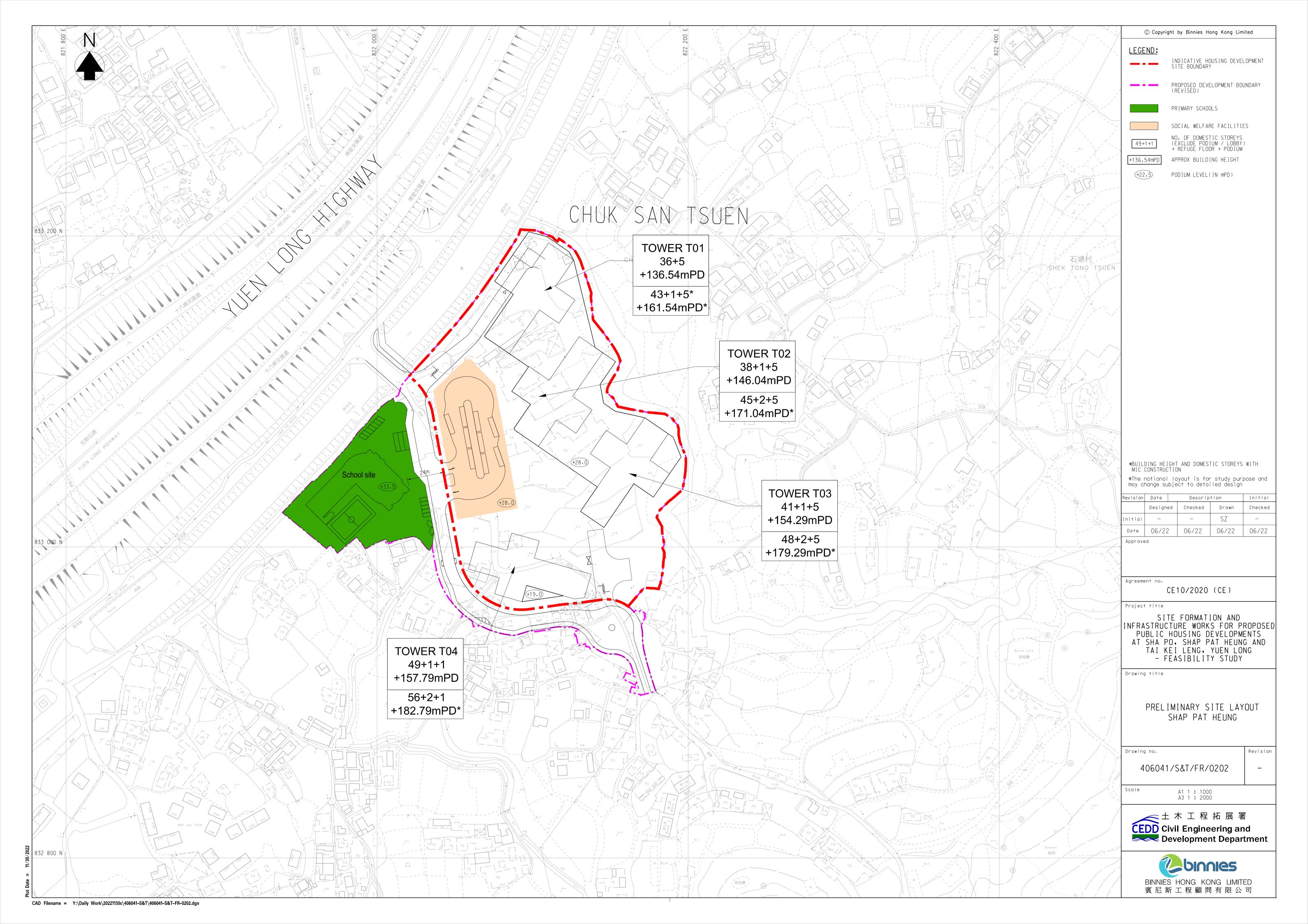
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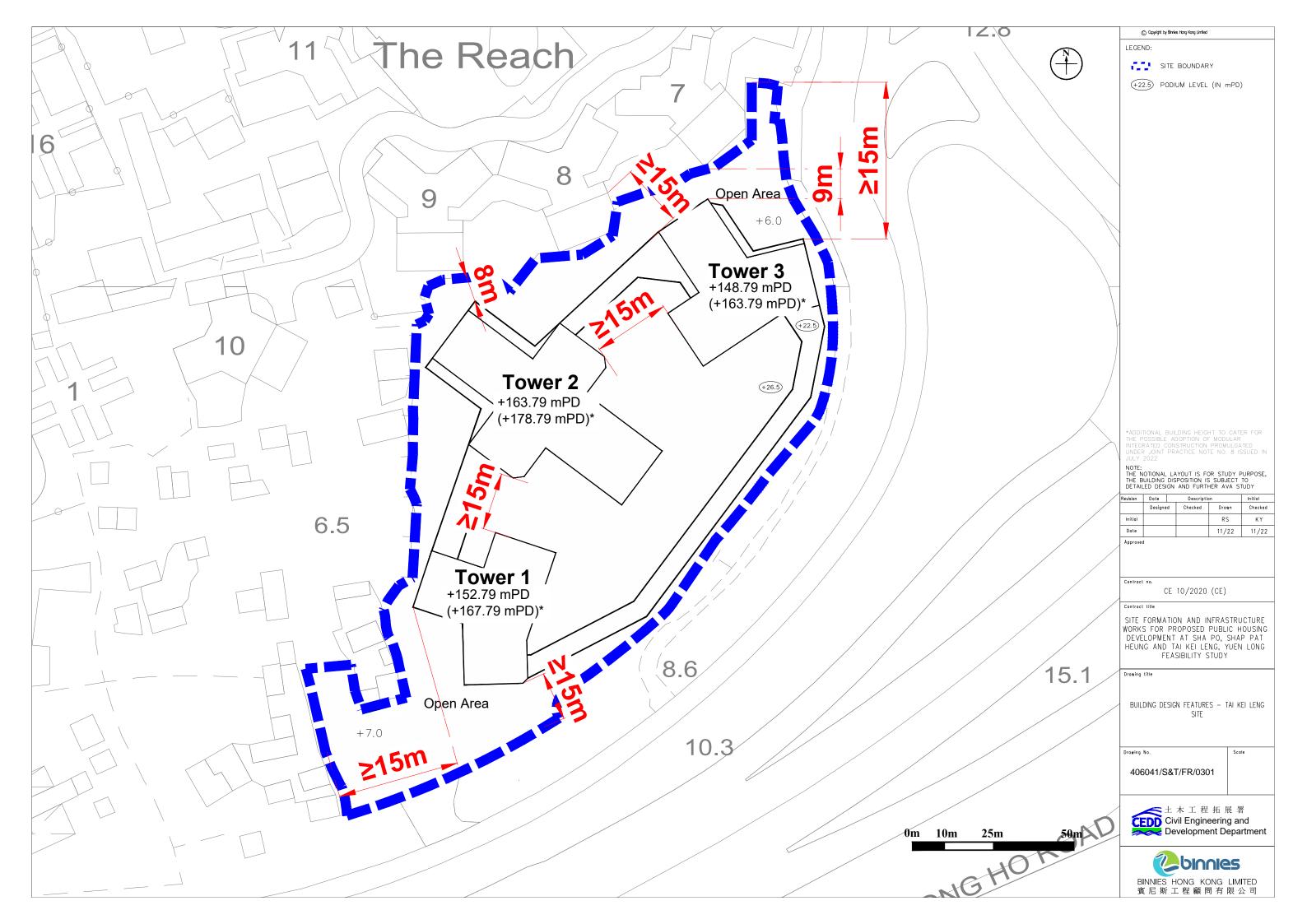
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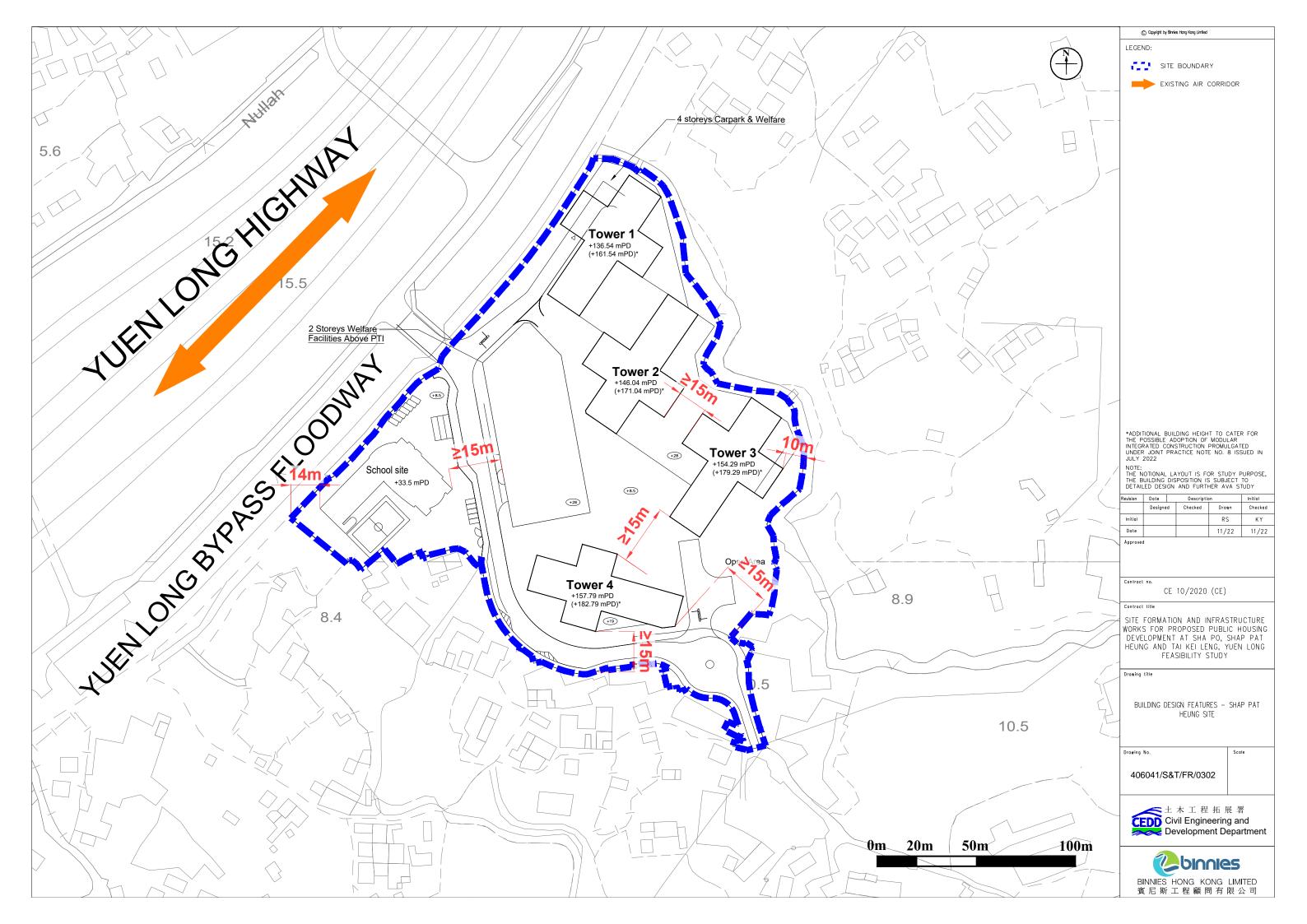
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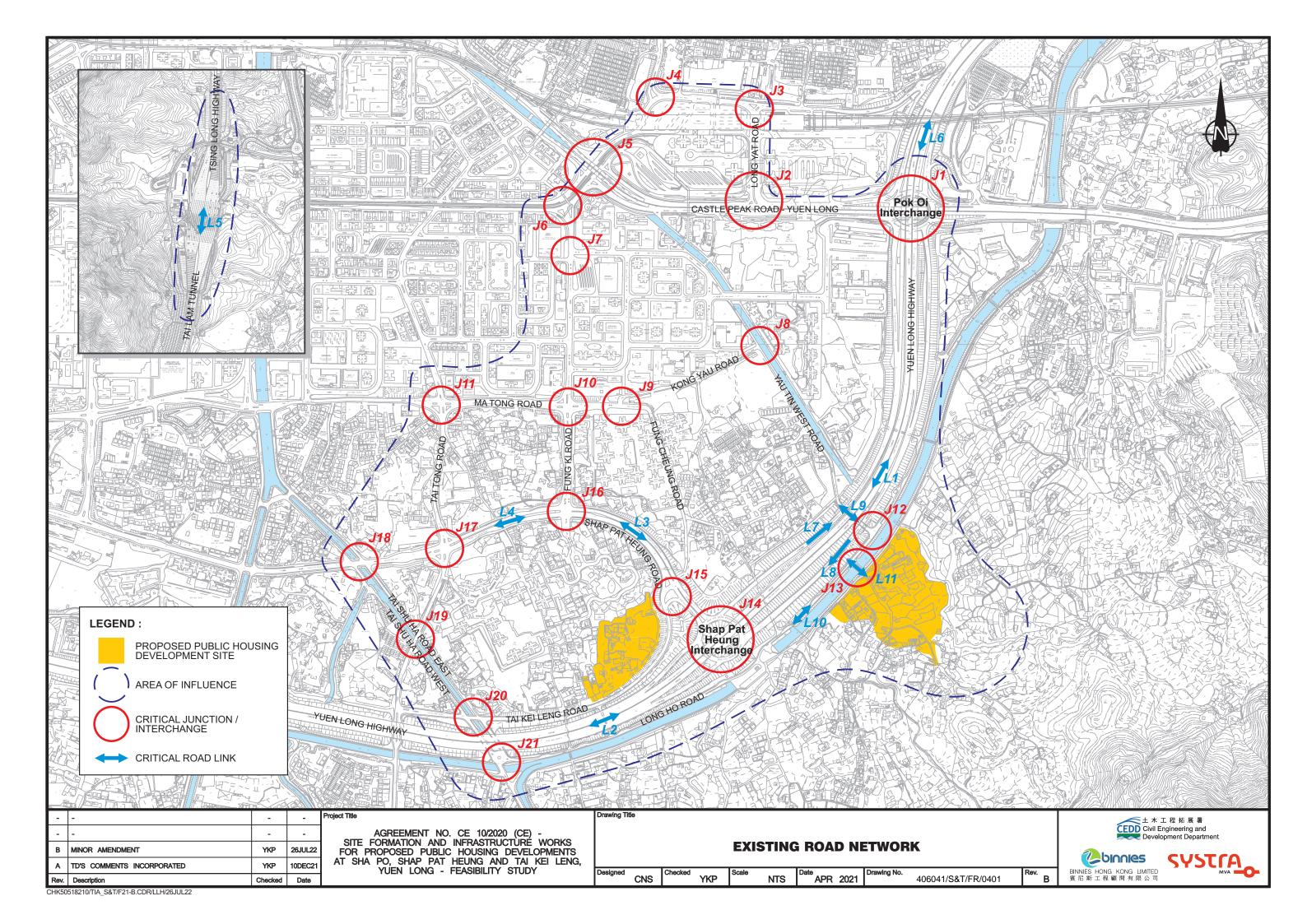


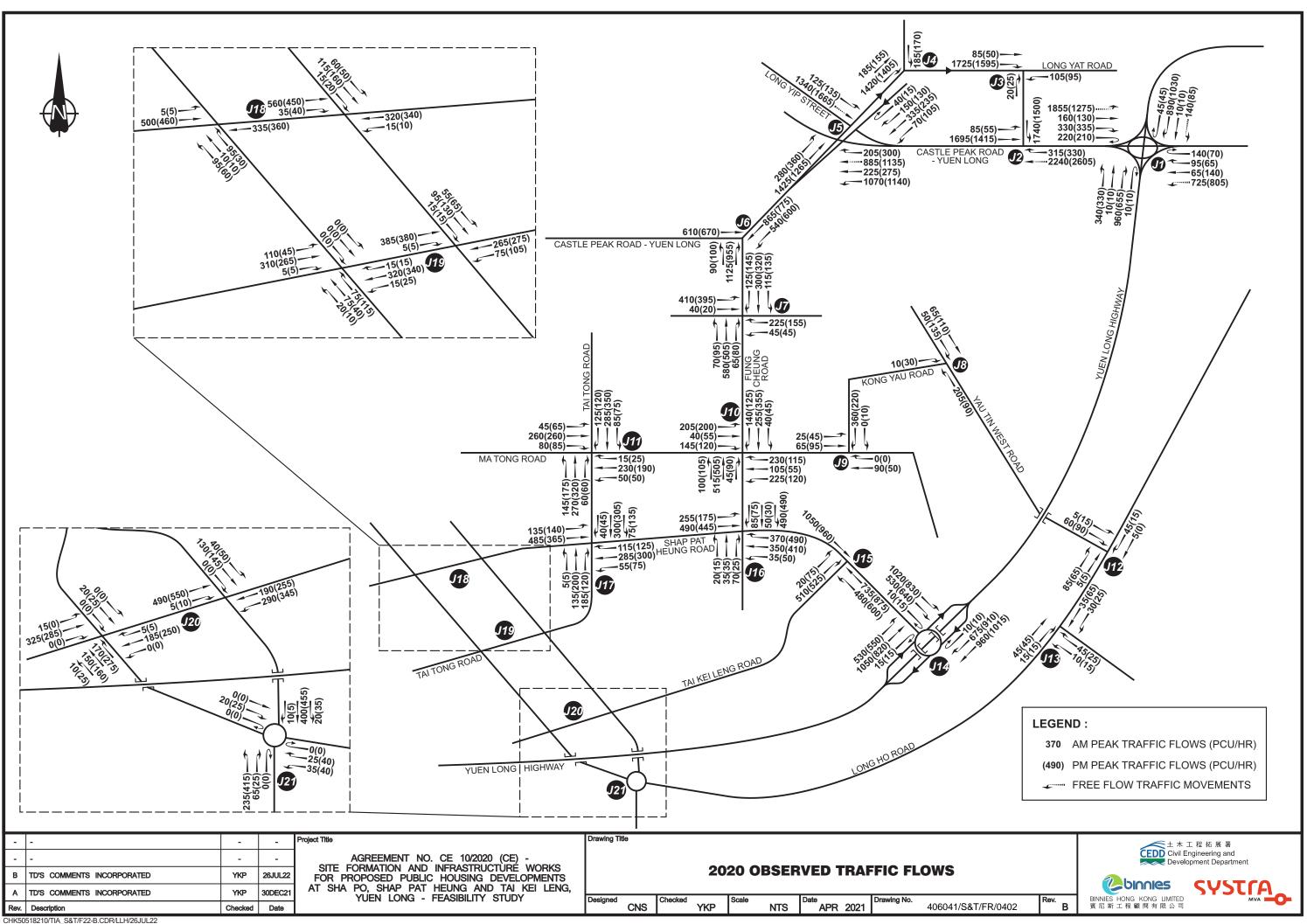


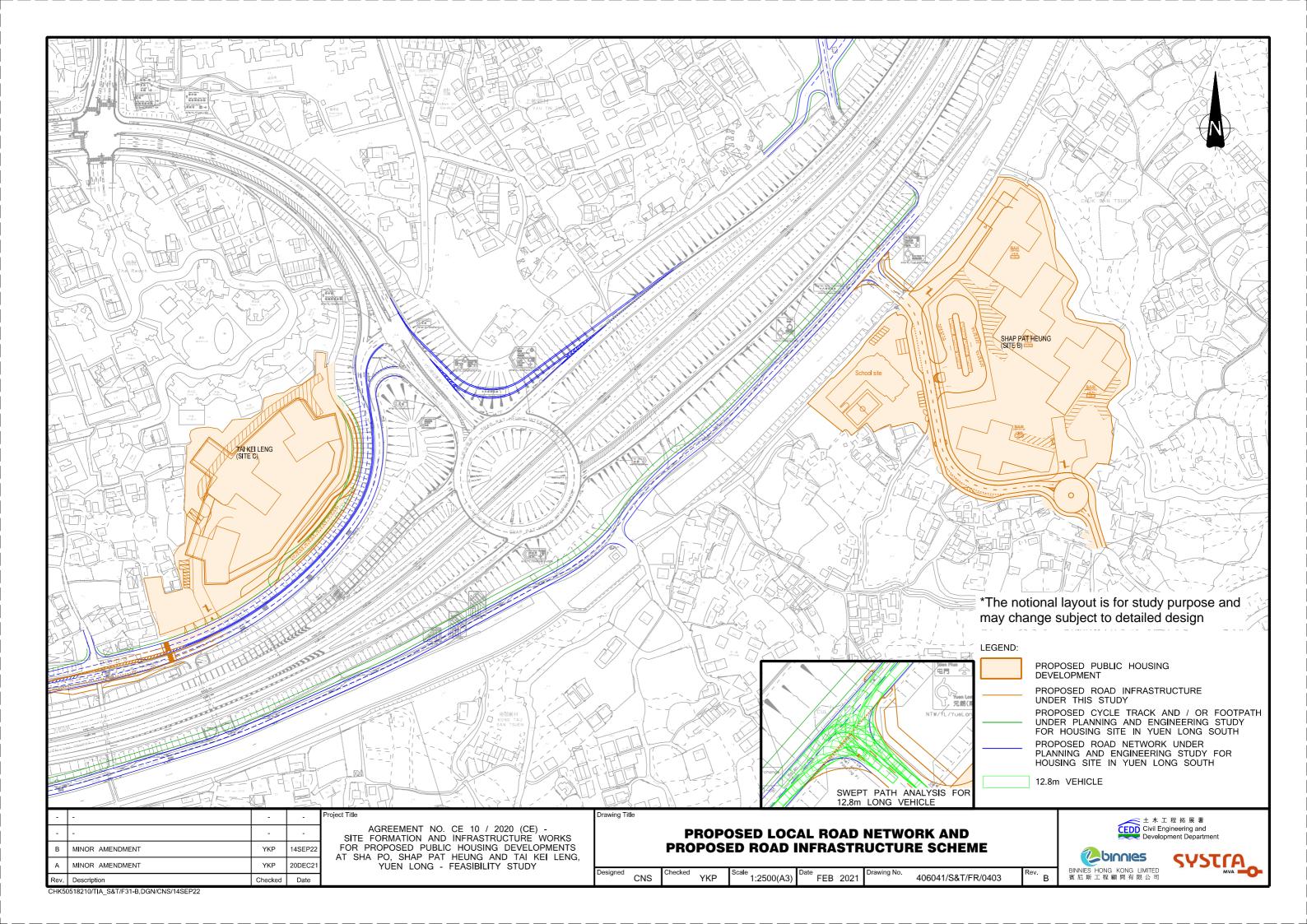


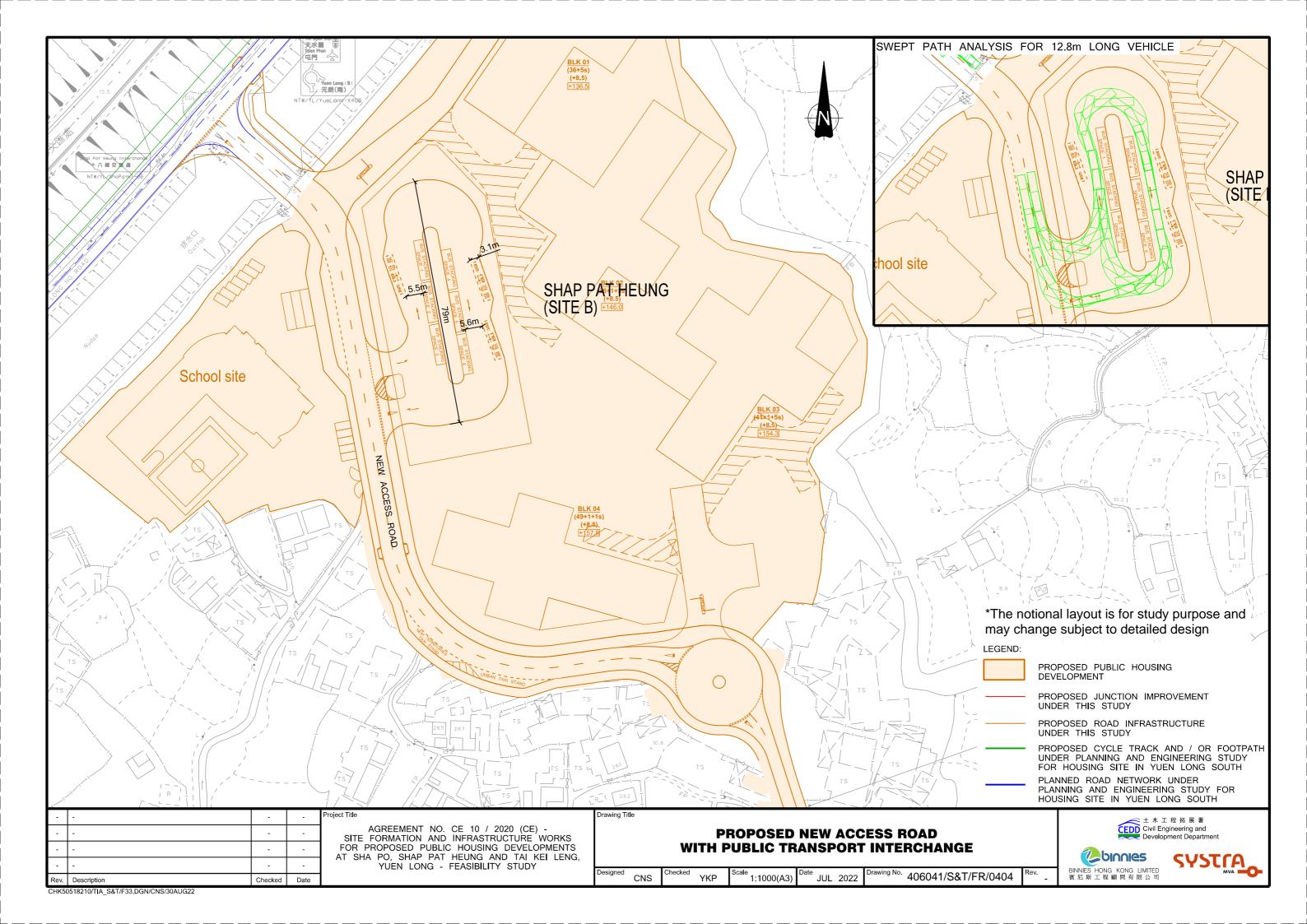


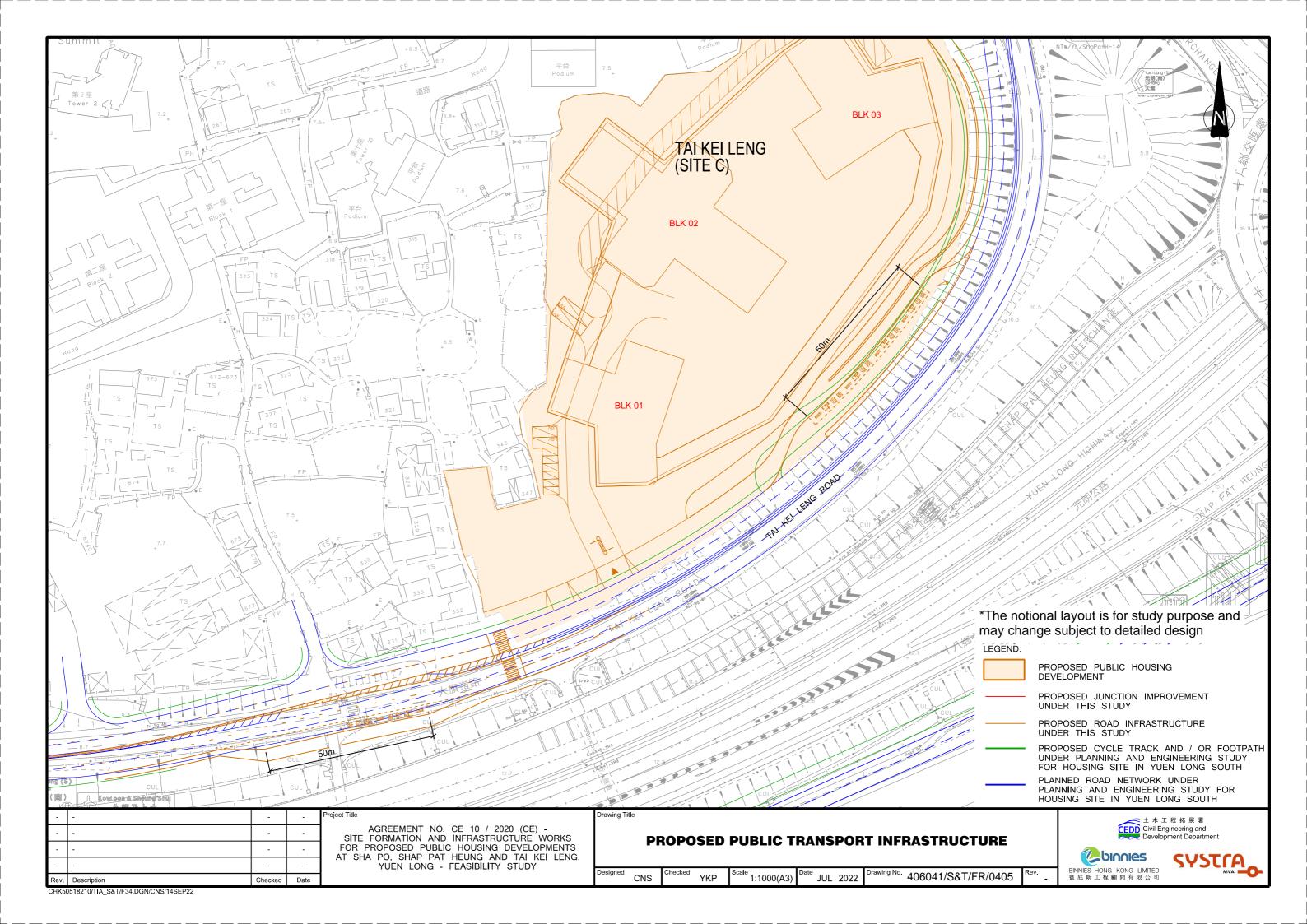


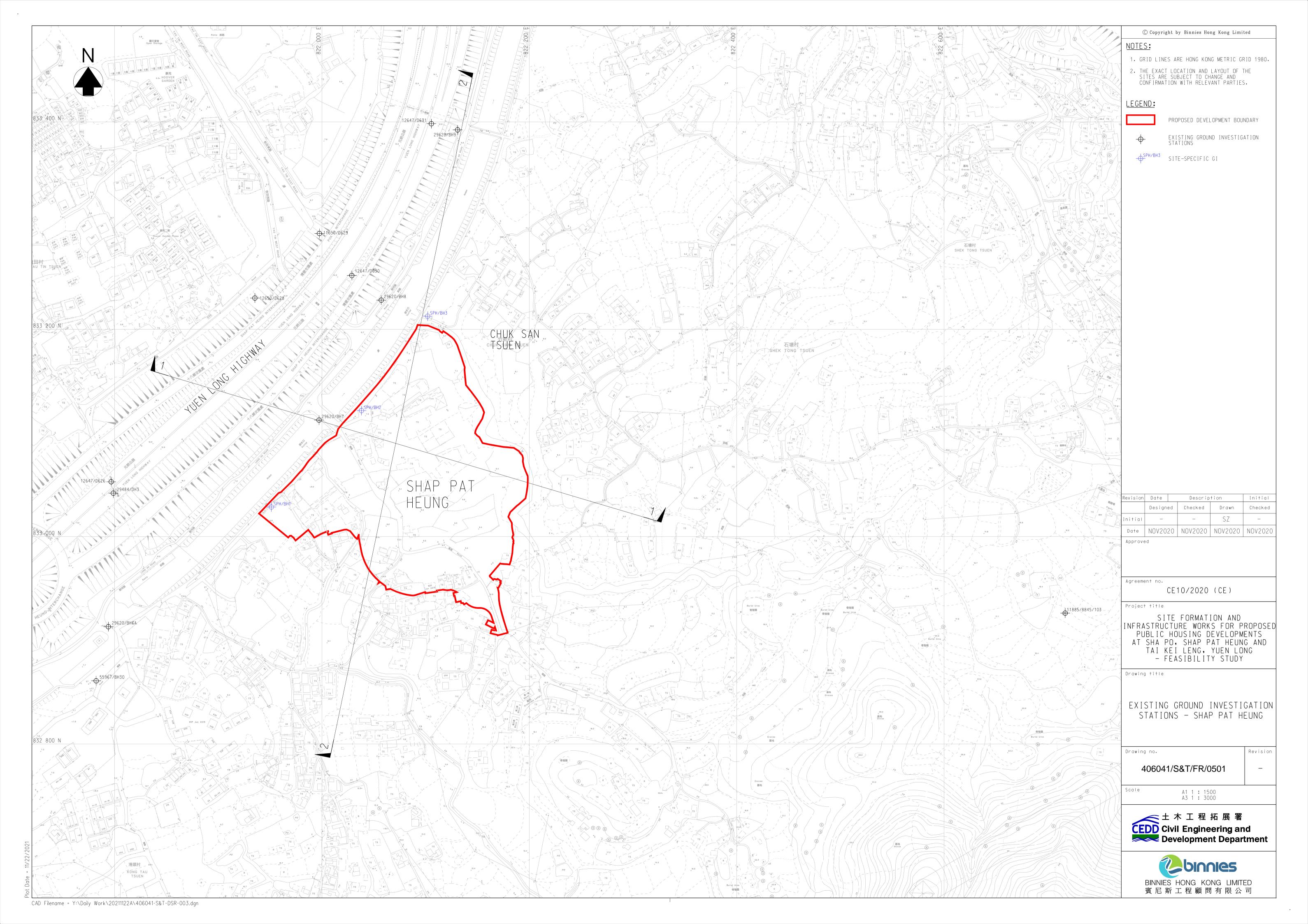


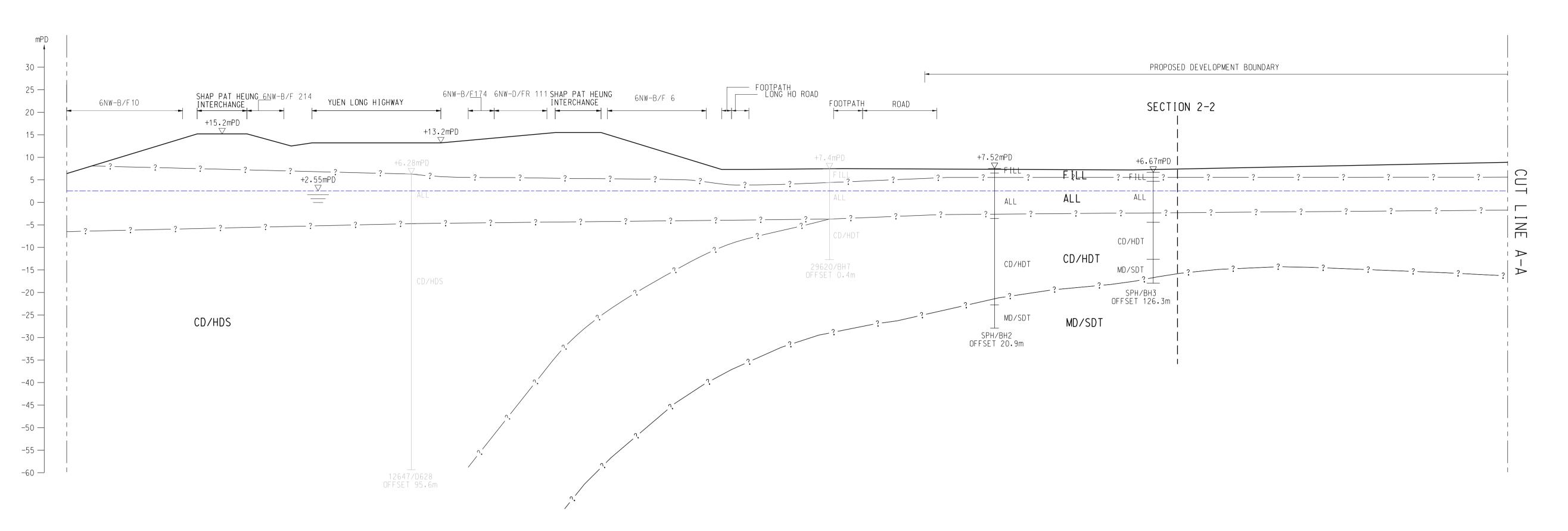




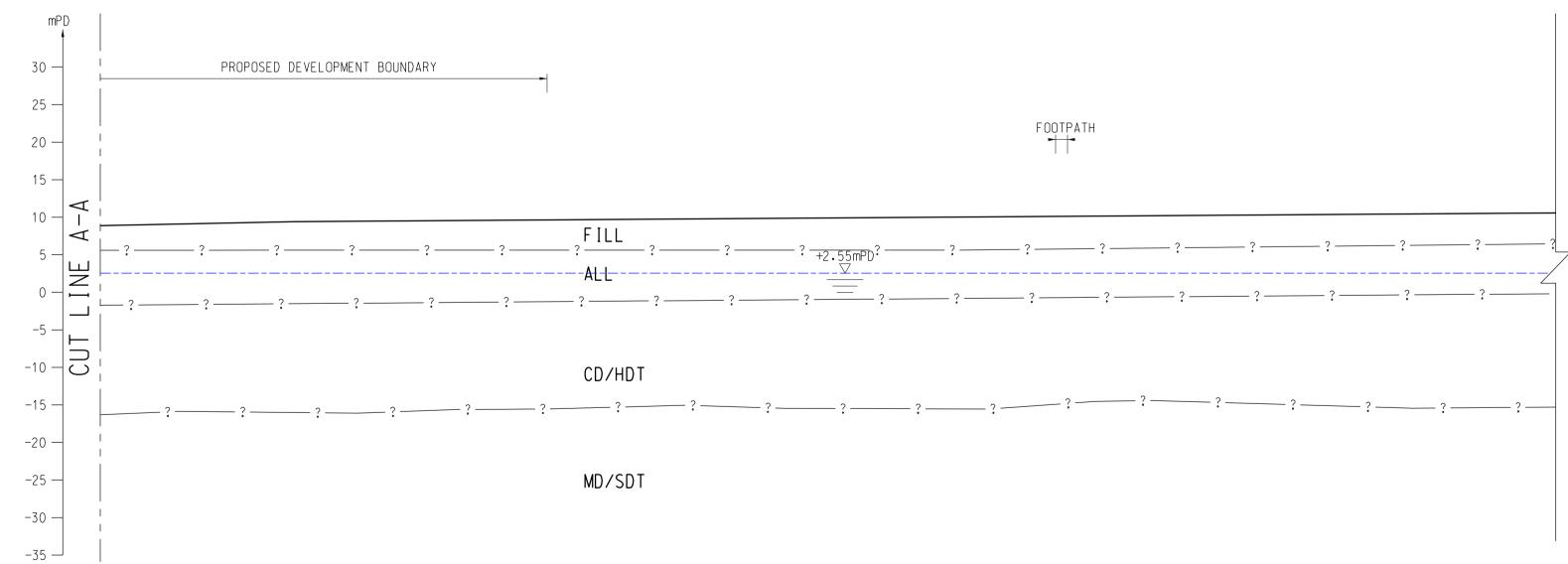








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RS	RESIDUAL SOIL
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K D	KARST DEPOSIT
QP	QUARTZ PORPHYRY
ALL	ALLUVIUM
COLL	COLLUVIUM
CD/HDT	COMPLETELY/HIGHLY DECOMPOSED TUFF
MD/SDT	
CD/HDS	COMPLETELY/HIGHLY DECOMPOSED SILTSTO
CD/HDMS	COMPLETELY/HIGHLY DECOMPOSED
	METASILTSTONE
CD/HDM	COMPLETELY/HIHGLY DECOMPOSED MARBLE
MD/SDM	MODERATELY/SLIGHTLY DECOMPOSED MABLE
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Revision Do	ate Description Initial

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Revision	Date	Description			Initial
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Date	NOV202	20	NOV2020	NOV2020	N0V2020

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Agreement no. CE10/2020 (CE)

Project title SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED

PUBLIC HOUSING DEVELOPMENTS AT SHA PO. SHAP PAT HEUNG AND TAI KEI LENG, YUEN LONG - FEASIBILITY STUDY

Drawing title

Drawing no.

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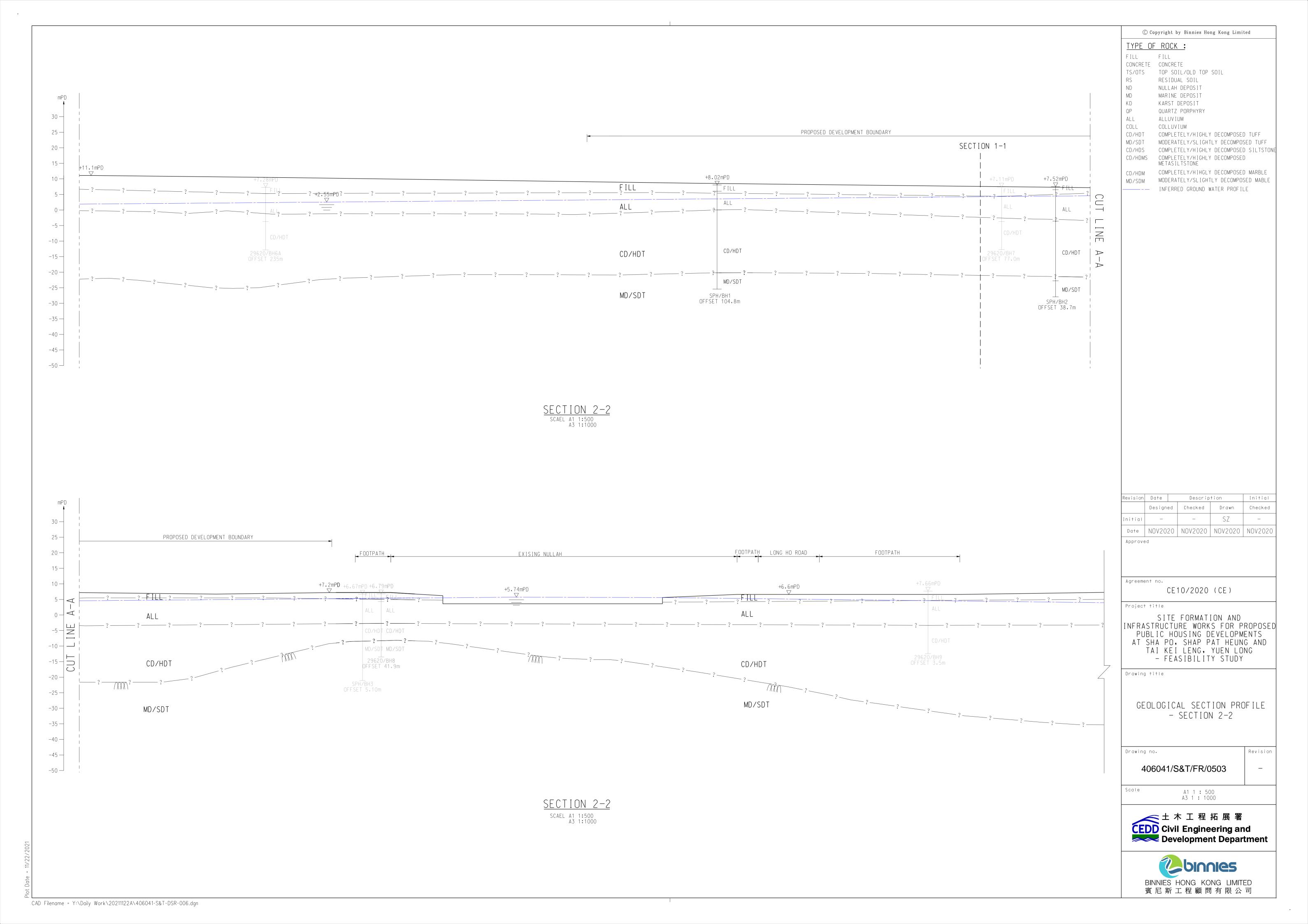
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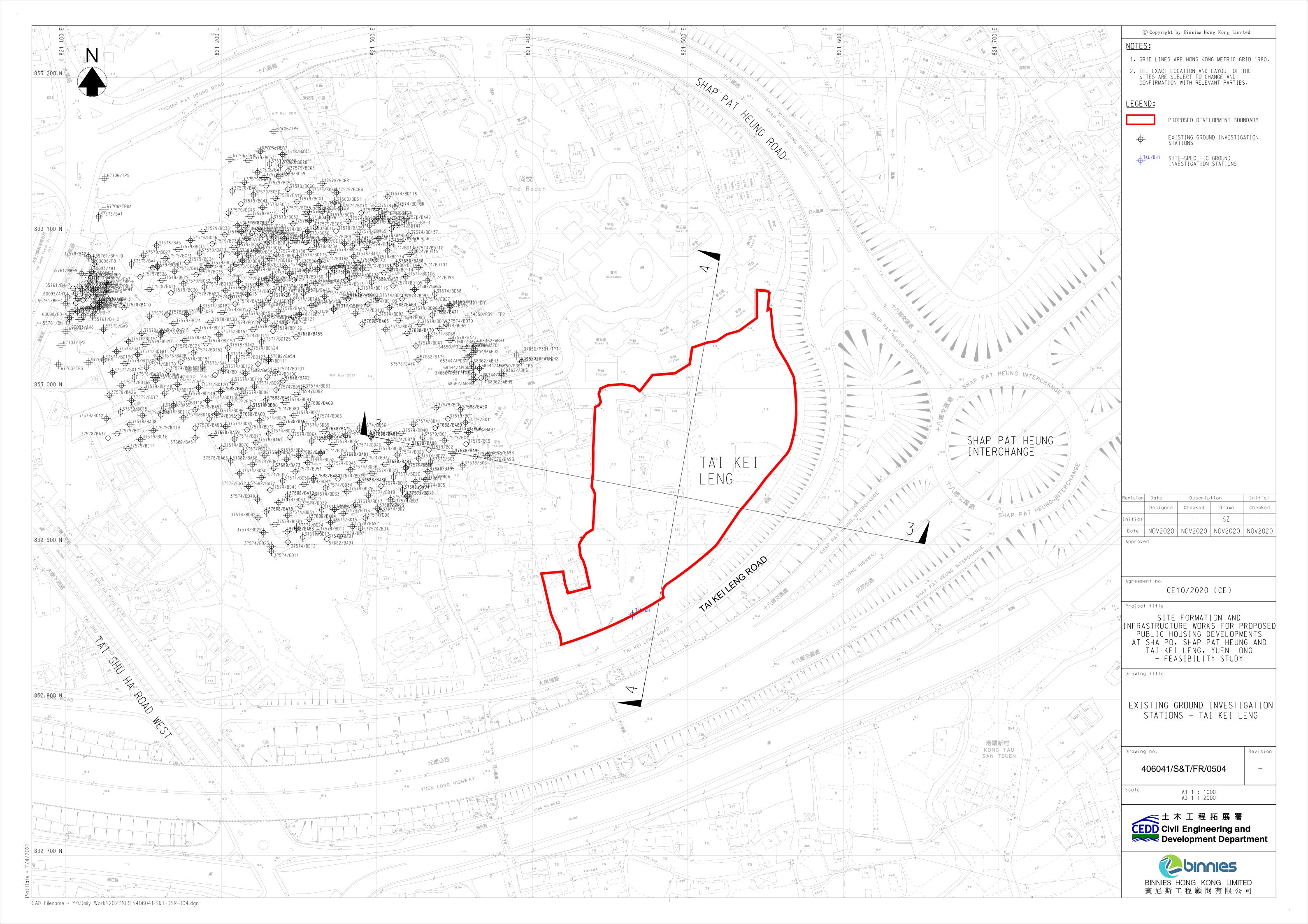
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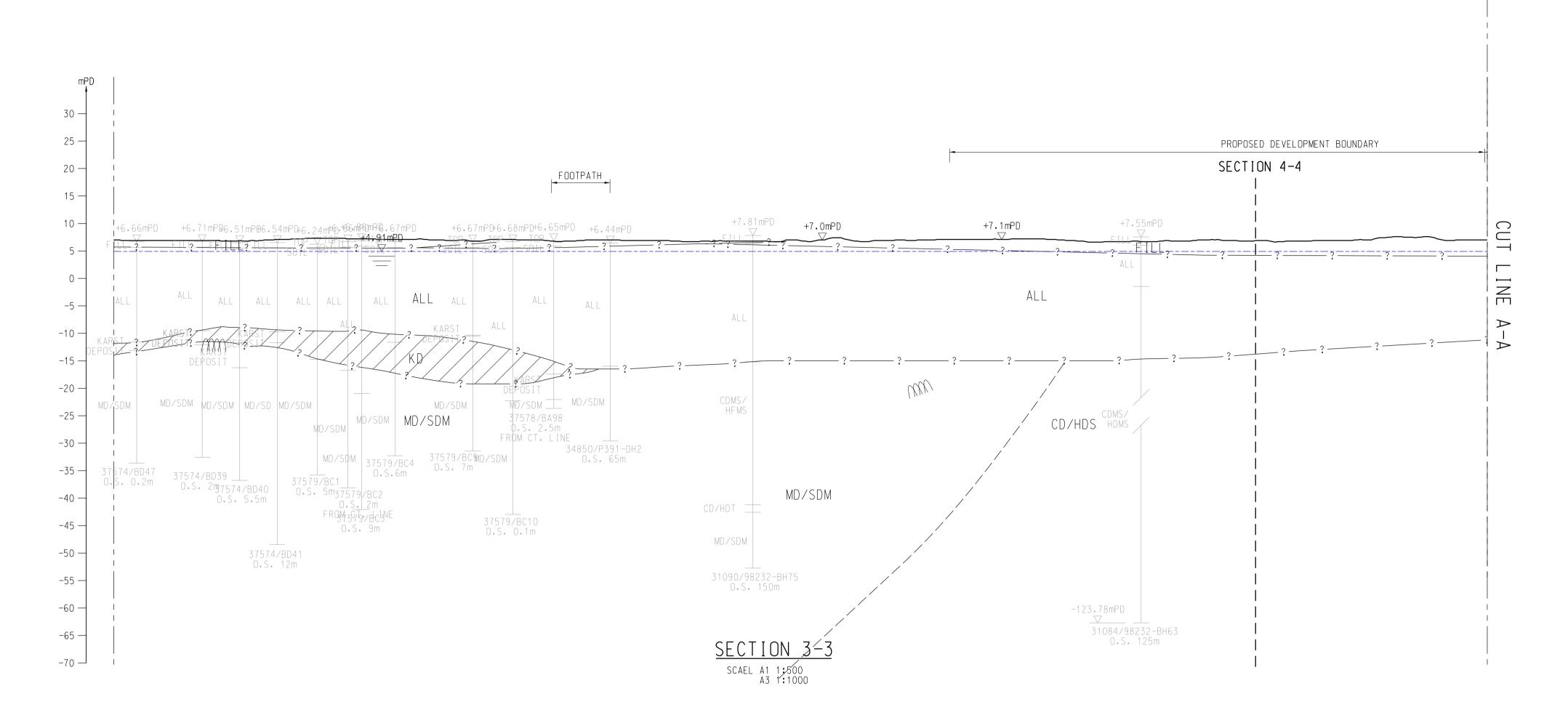
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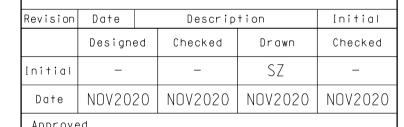
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CEDD Civil Engineering and Development Department











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MD/SDS MODERATELY/SLIGHTLY DECOMPOSED

CD/HDMS COMPLETELY/HIGHLY DECOMPOSED

---- INFERRED GROUND WATER PROFILE

METASILTSTONE

CD/HDS COMPLETELY/HIGHLY DECOMPOSED SILTSTONE

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ALLUVIUM

COLLUVIUM

SILTSTONE

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COLL

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Agreement no.

CE10/2020 (CE)

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SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED PUBLIC HOUSING DEVELOPMENTS AT SHA PO, SHAP PAT HEUNG AND TAI KEI LENG, YUEN LONG - FEASIBILITY STUDY

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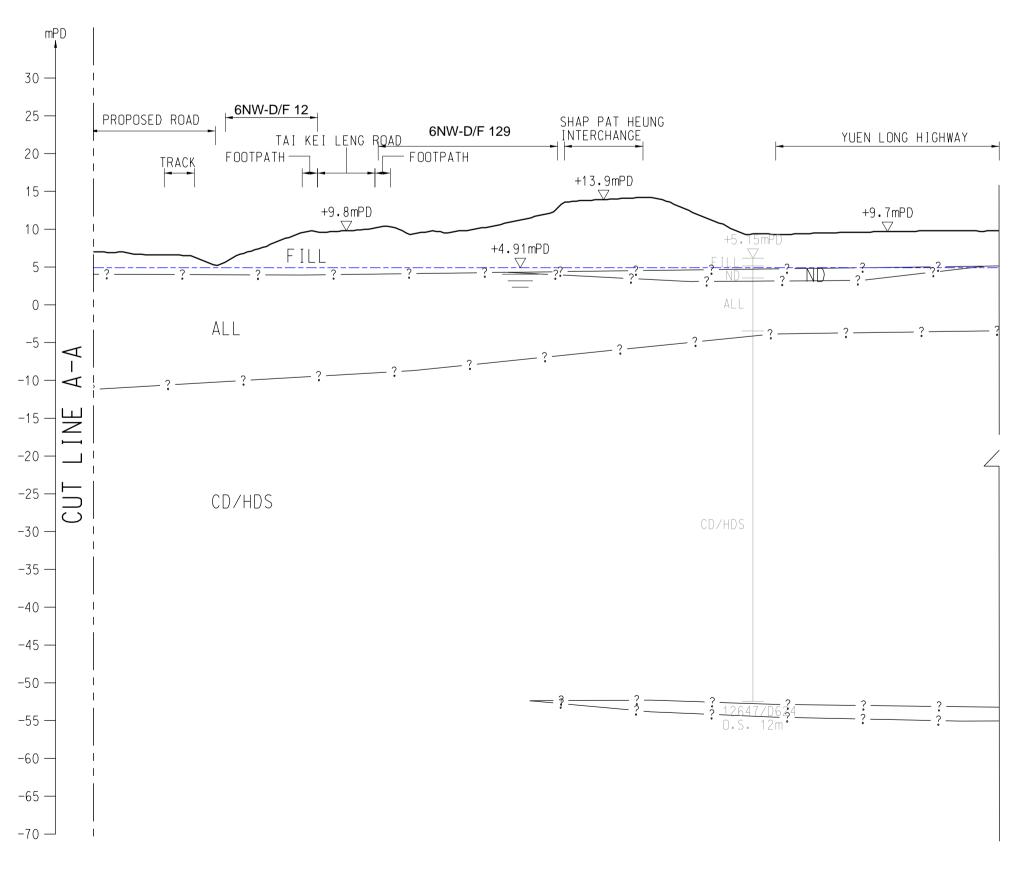
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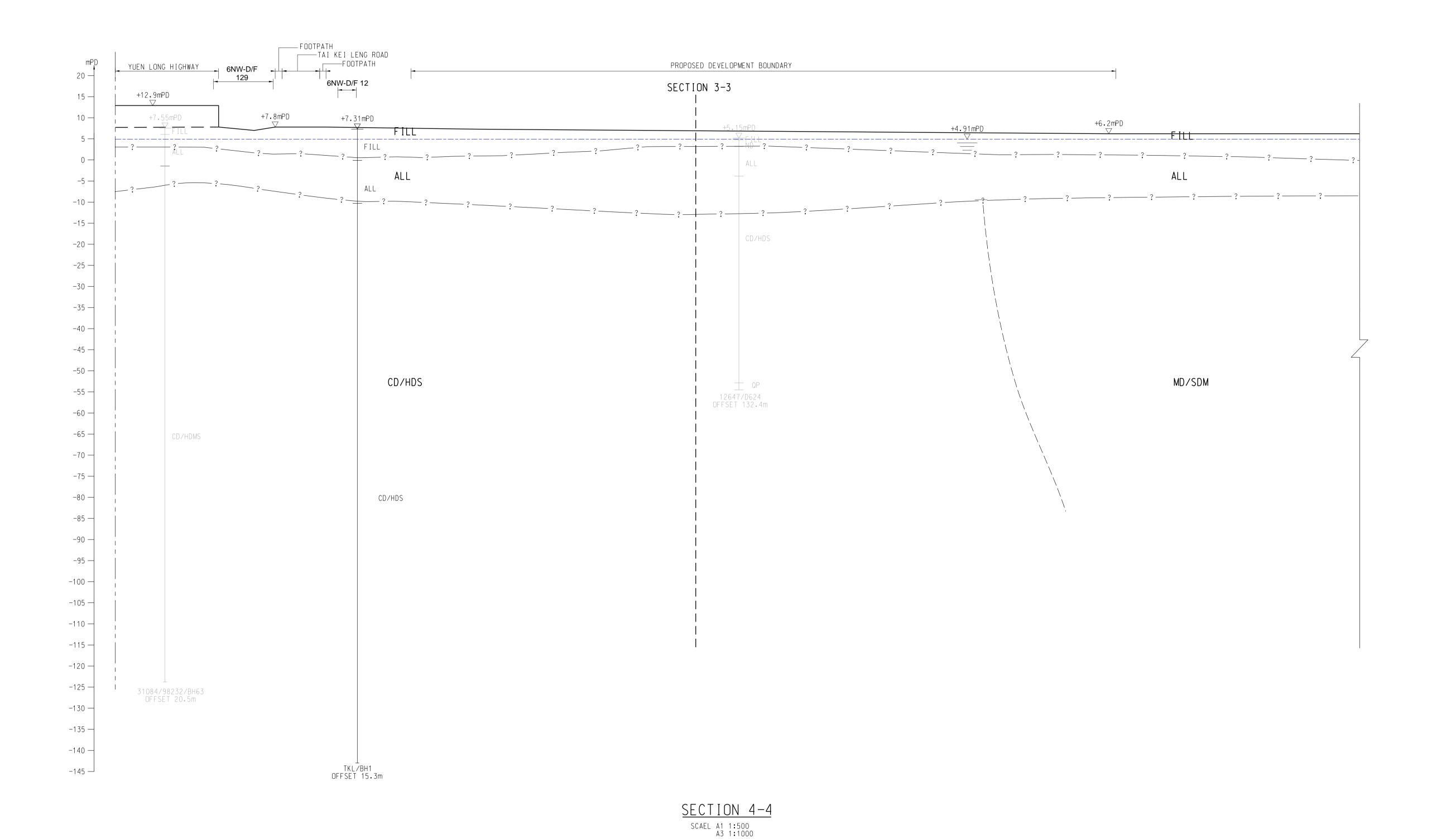
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METASILTSTONE CD/HDM COMPLETELY/HIHGLY DECOMPOSED MARBLE MD/SDM MODERATELY/SLIGHTLY DECOMPOSED MABLE

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AT SHA PO. SHAP PAT HEUNG AND TAI KEI LENG, YUEN LONG - FEASIBILITY STUDY

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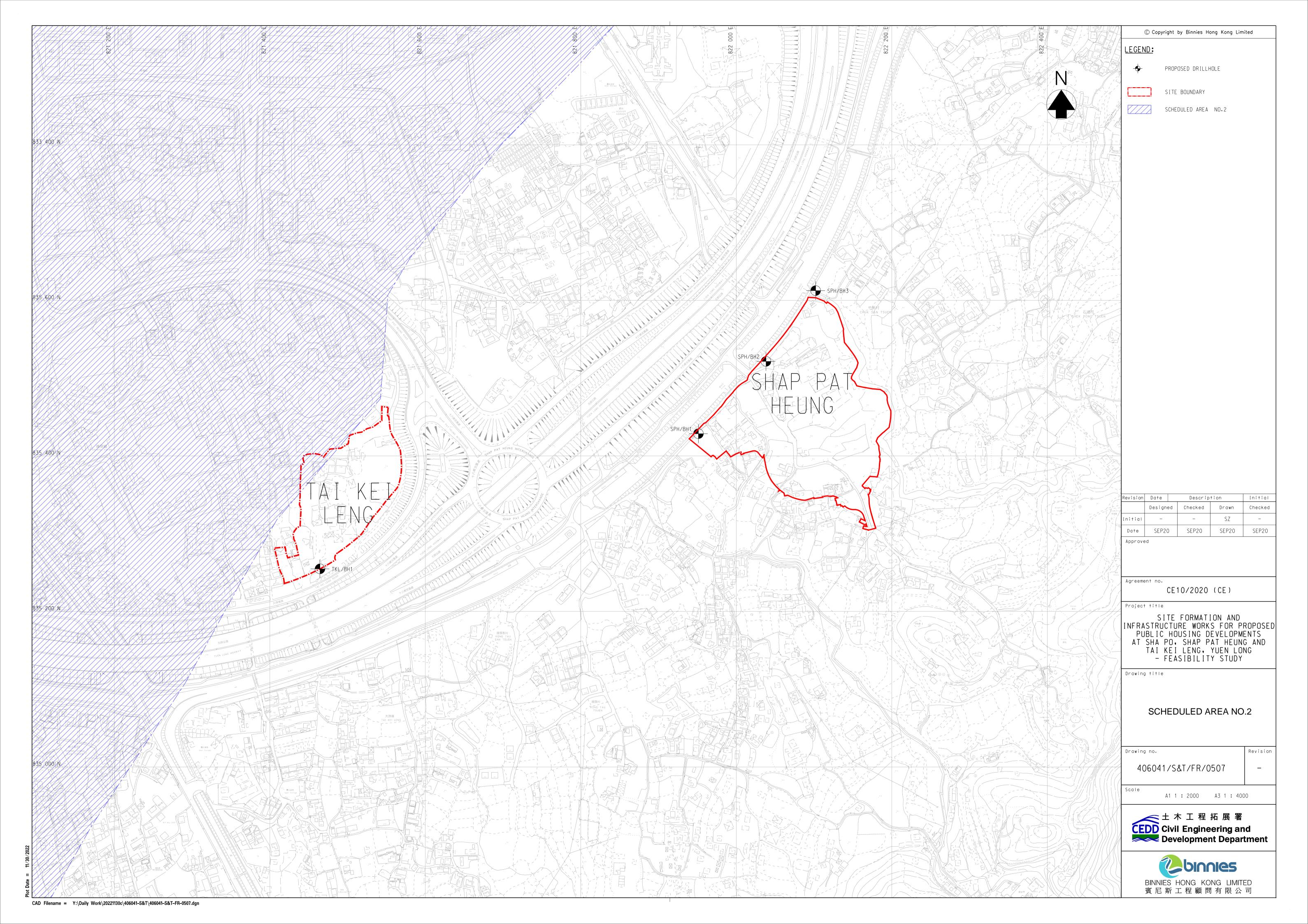
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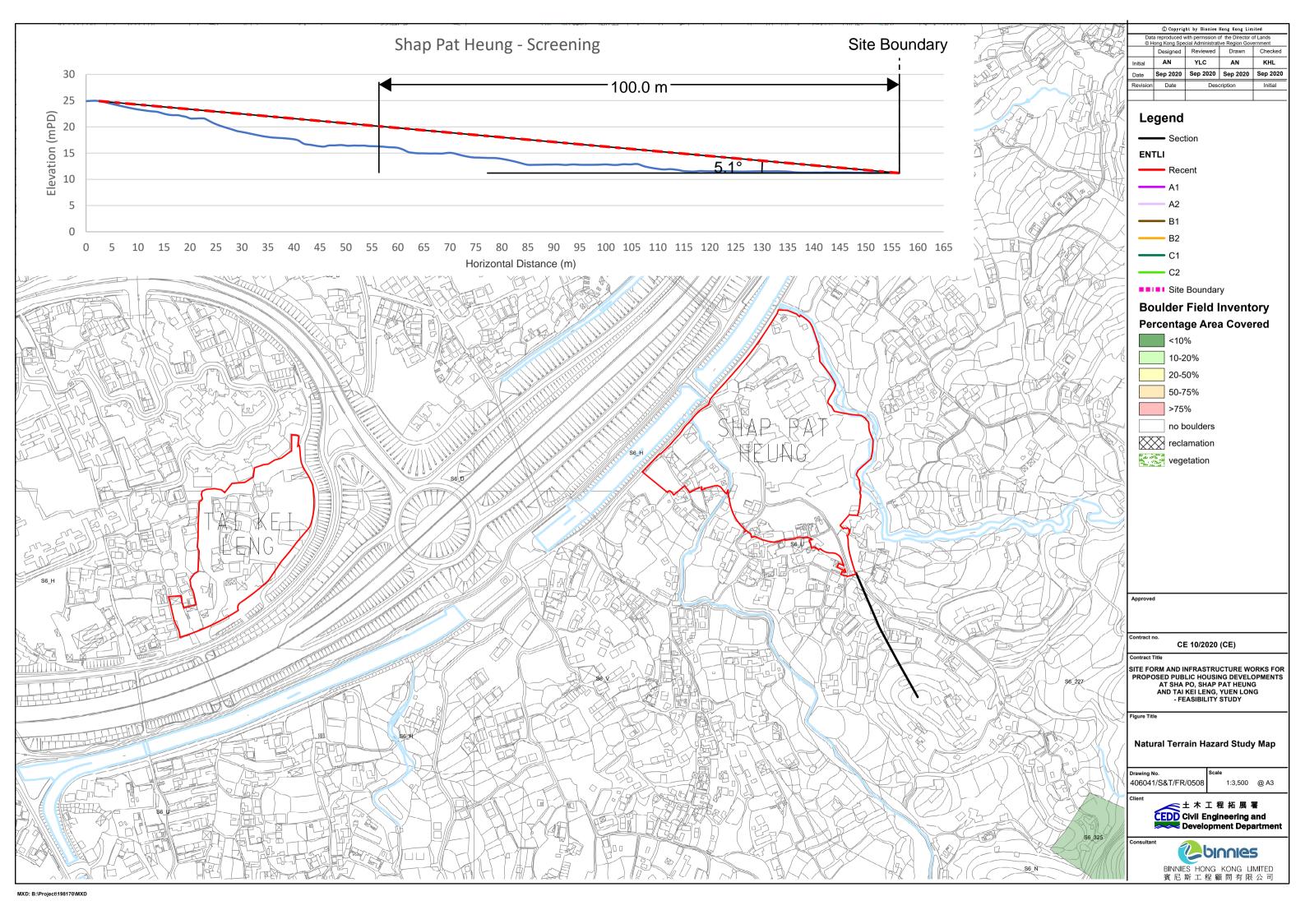
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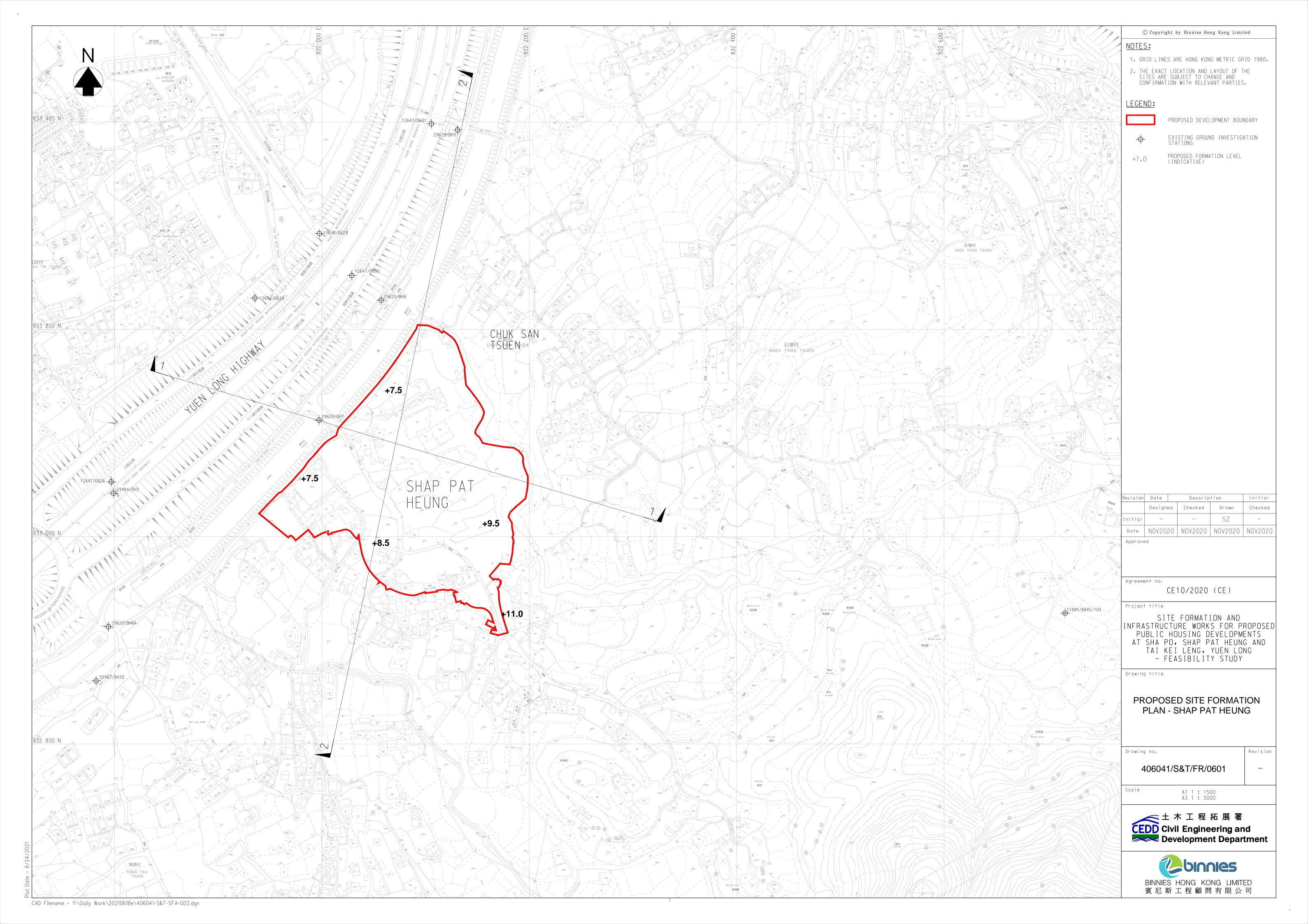
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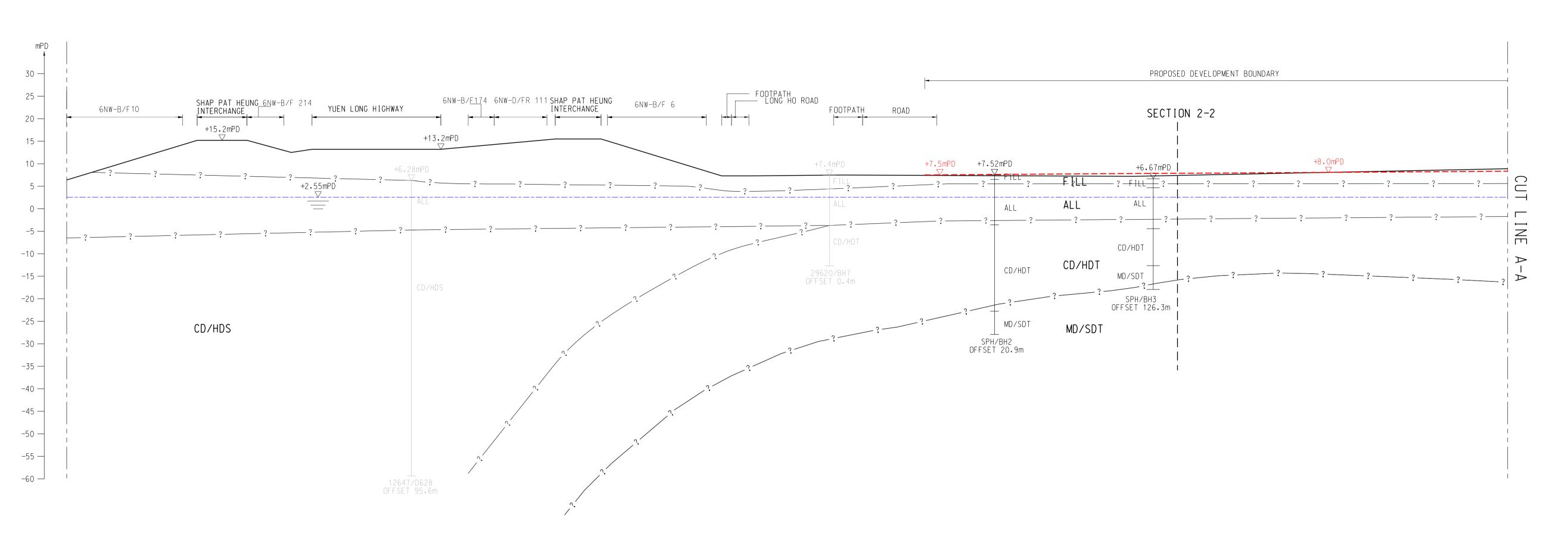


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Date	NOV202	20	NOV2020	NOV2020	NOV2020

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Project title

SITE FORMATION AND
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PUBLIC HOUSING DEVELOPMENTS
AT SHA PO, SHAP PAT HEUNG AND
TAI KEI LENG, YUEN LONG
- FEASIBILITY STUDY

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PROPOSED SITE FORMATION PLAN
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Revision

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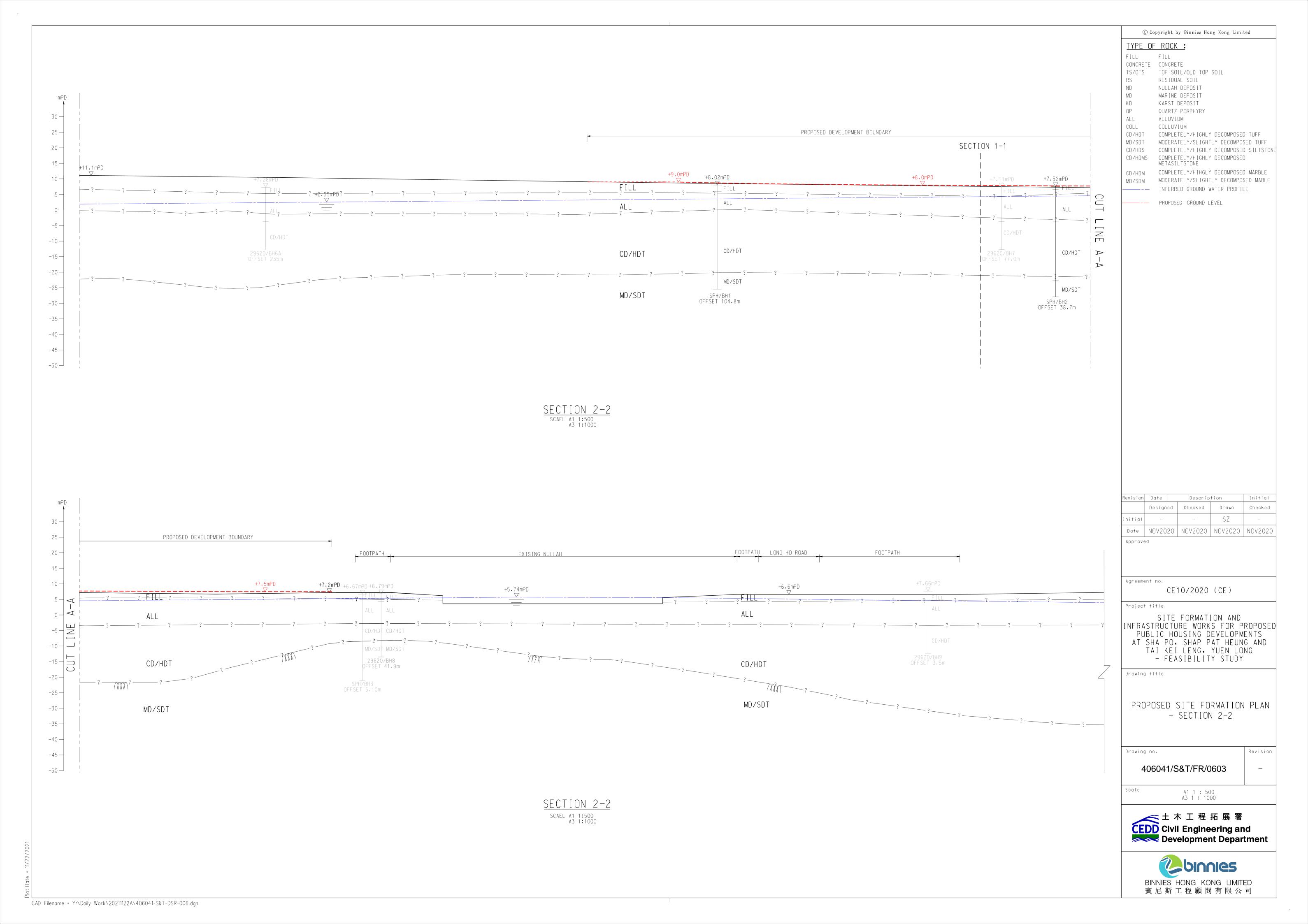
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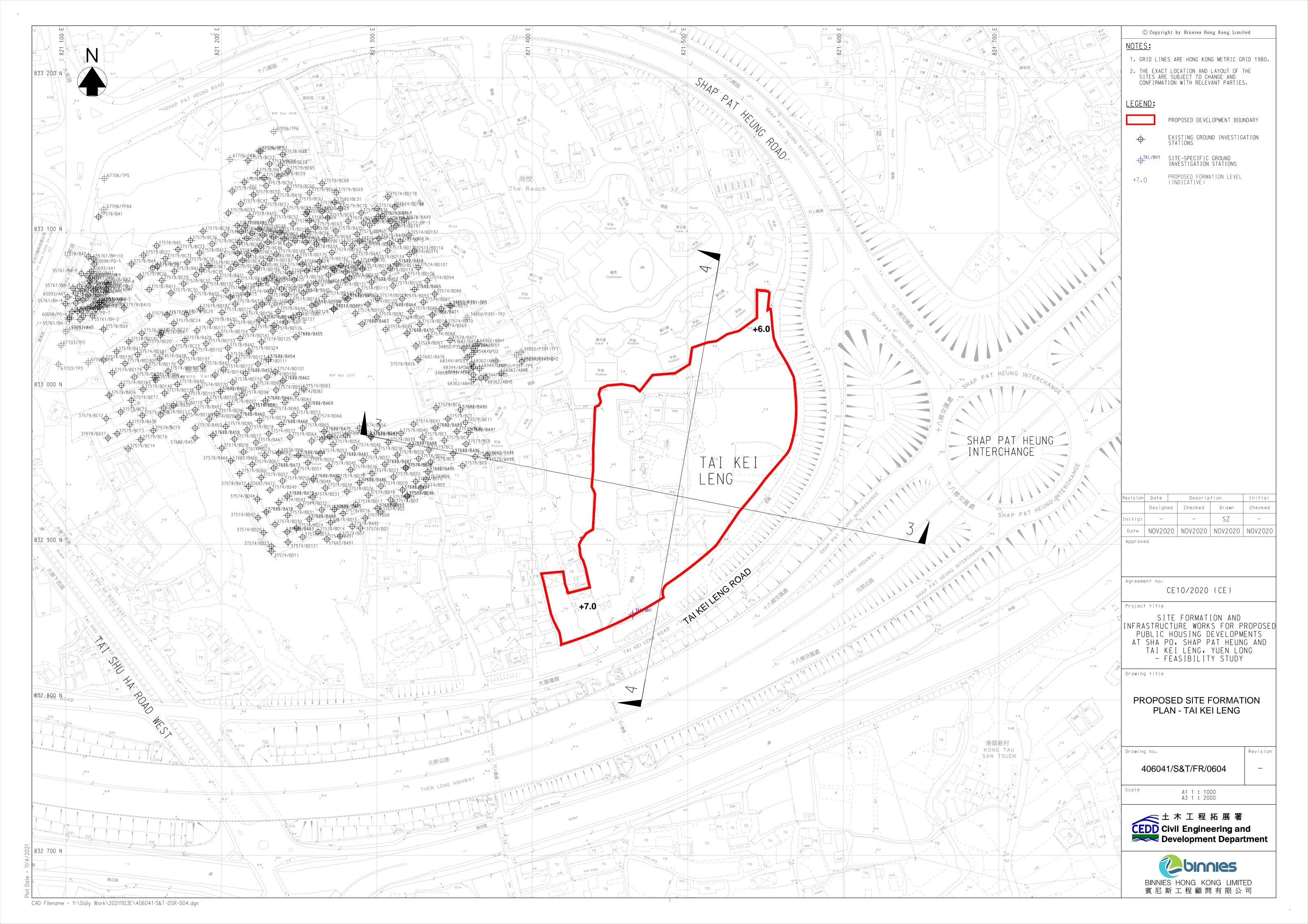
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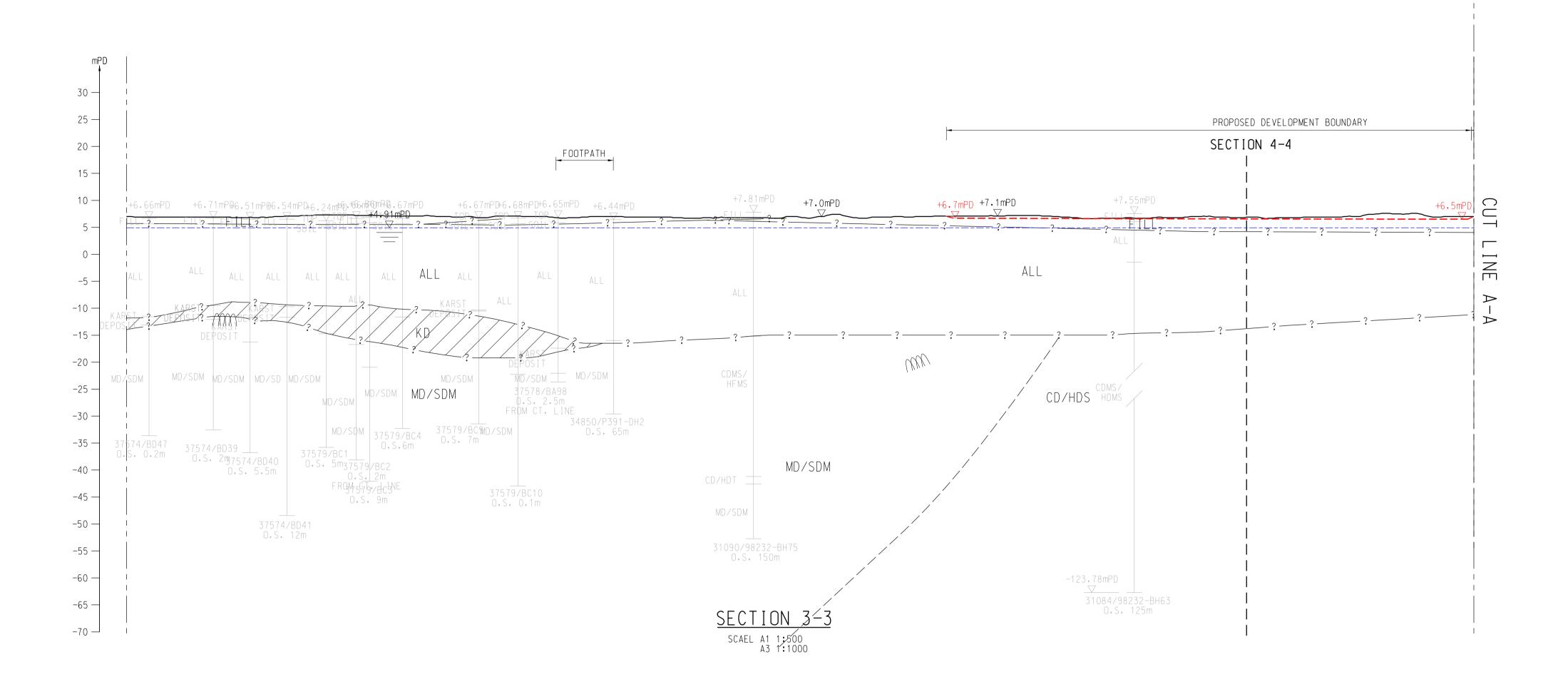


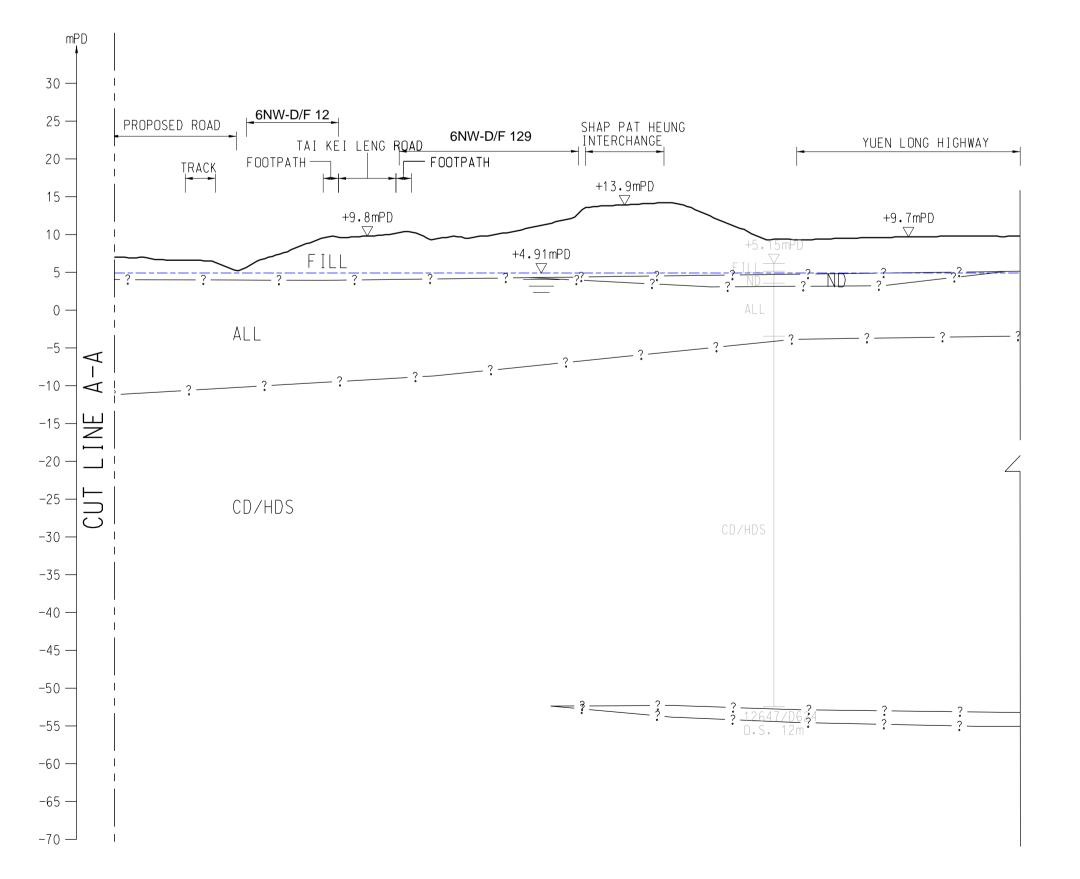
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TYPE OF ROCK :

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Drawing title

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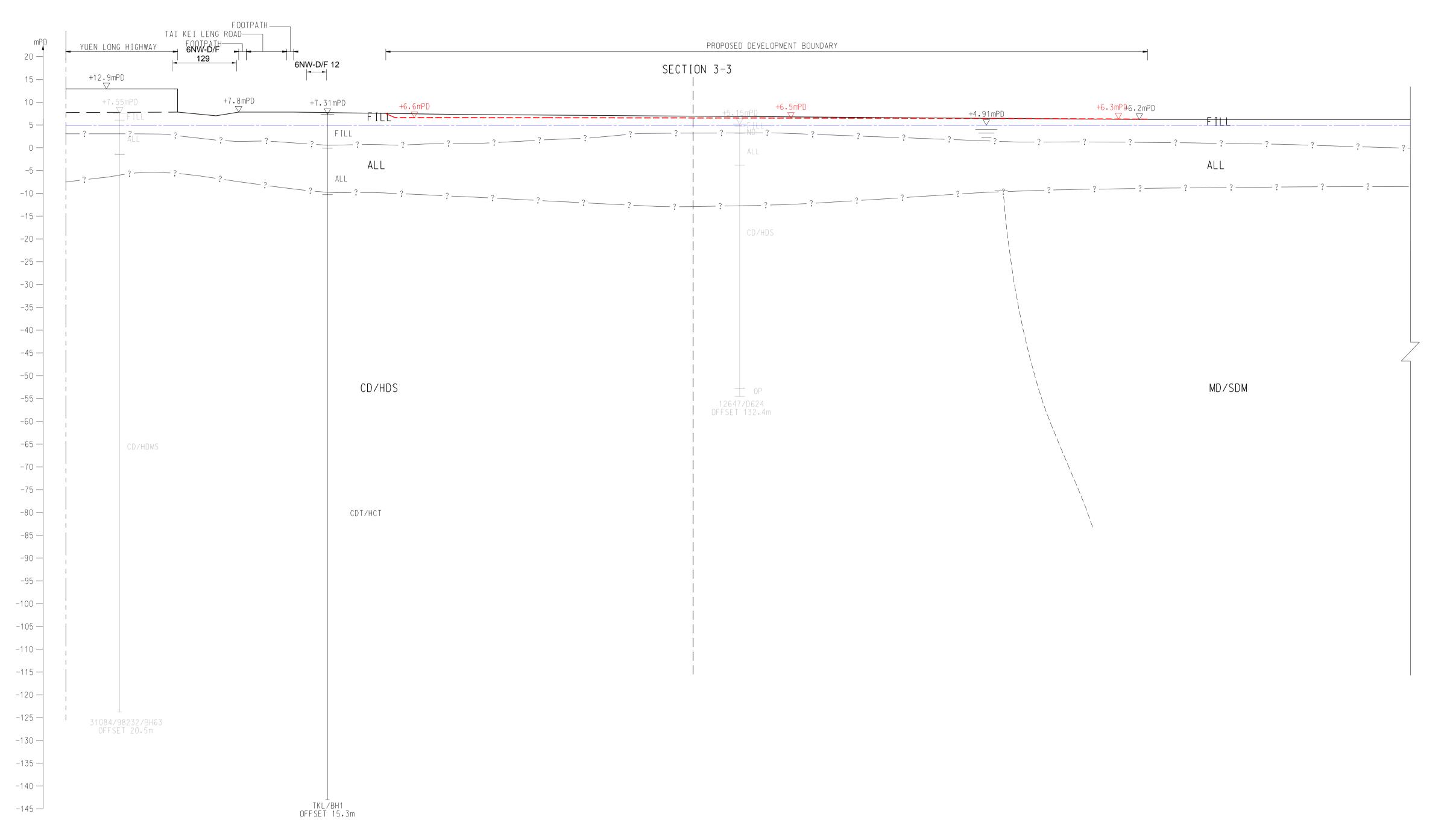
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Revision

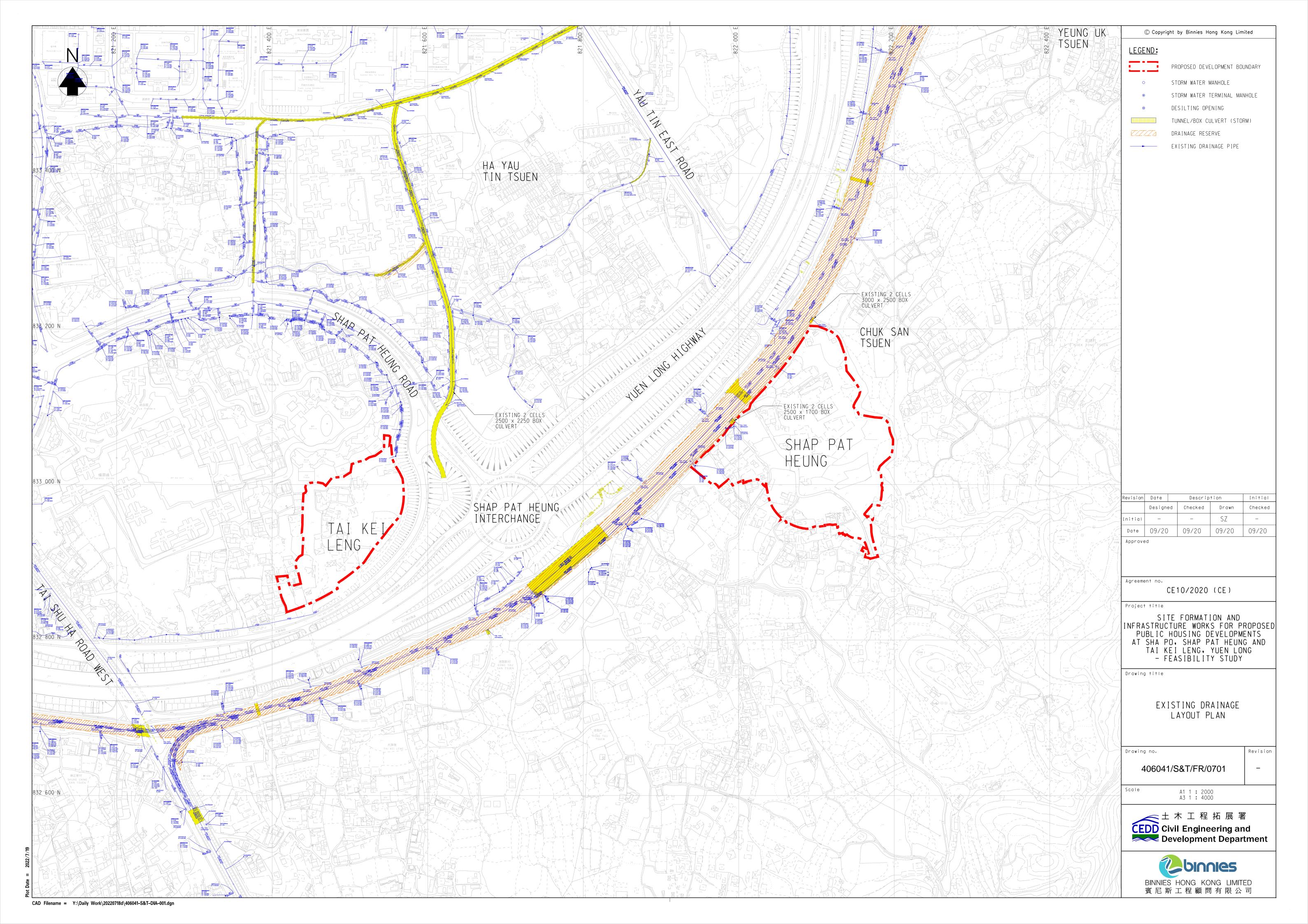
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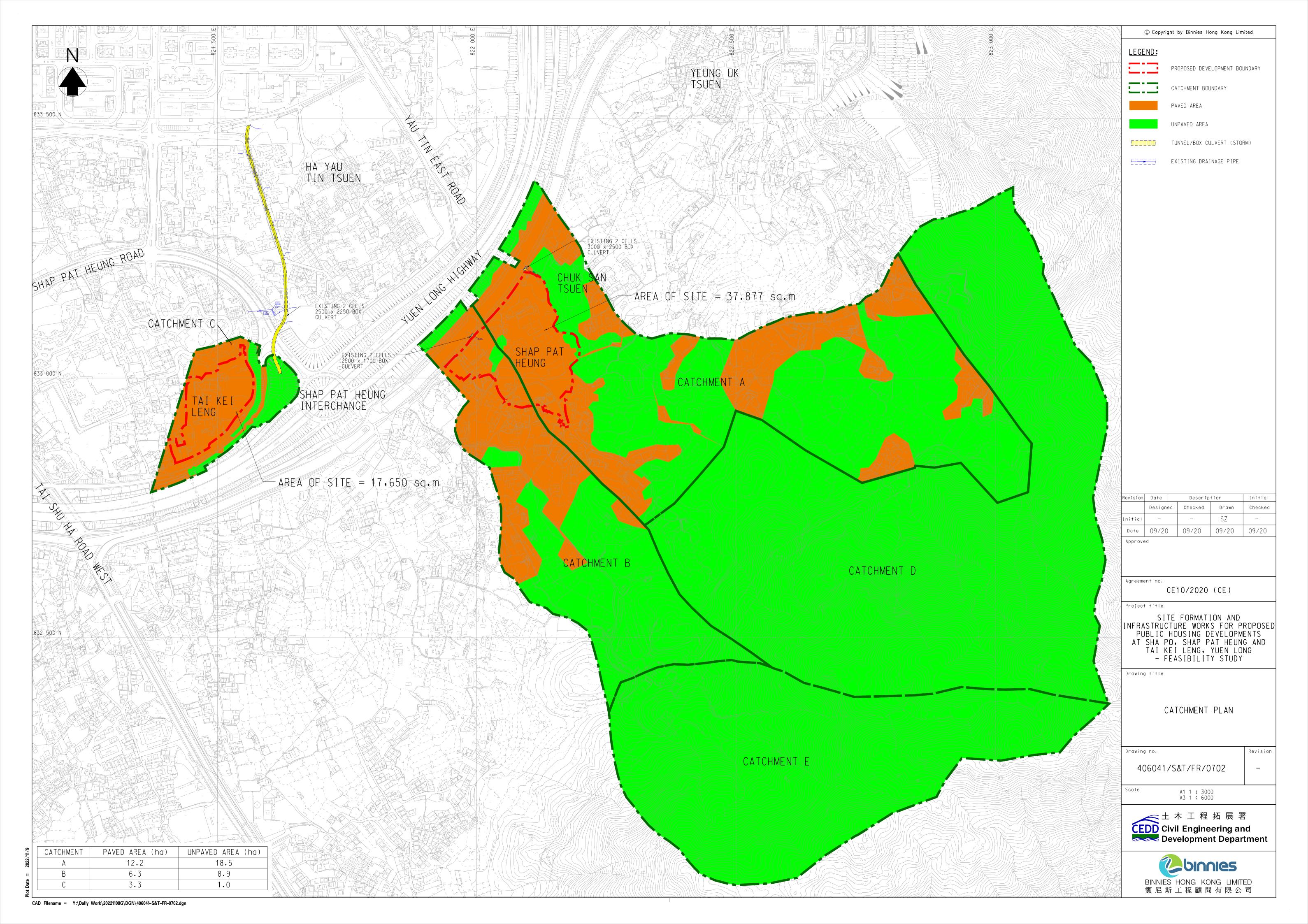
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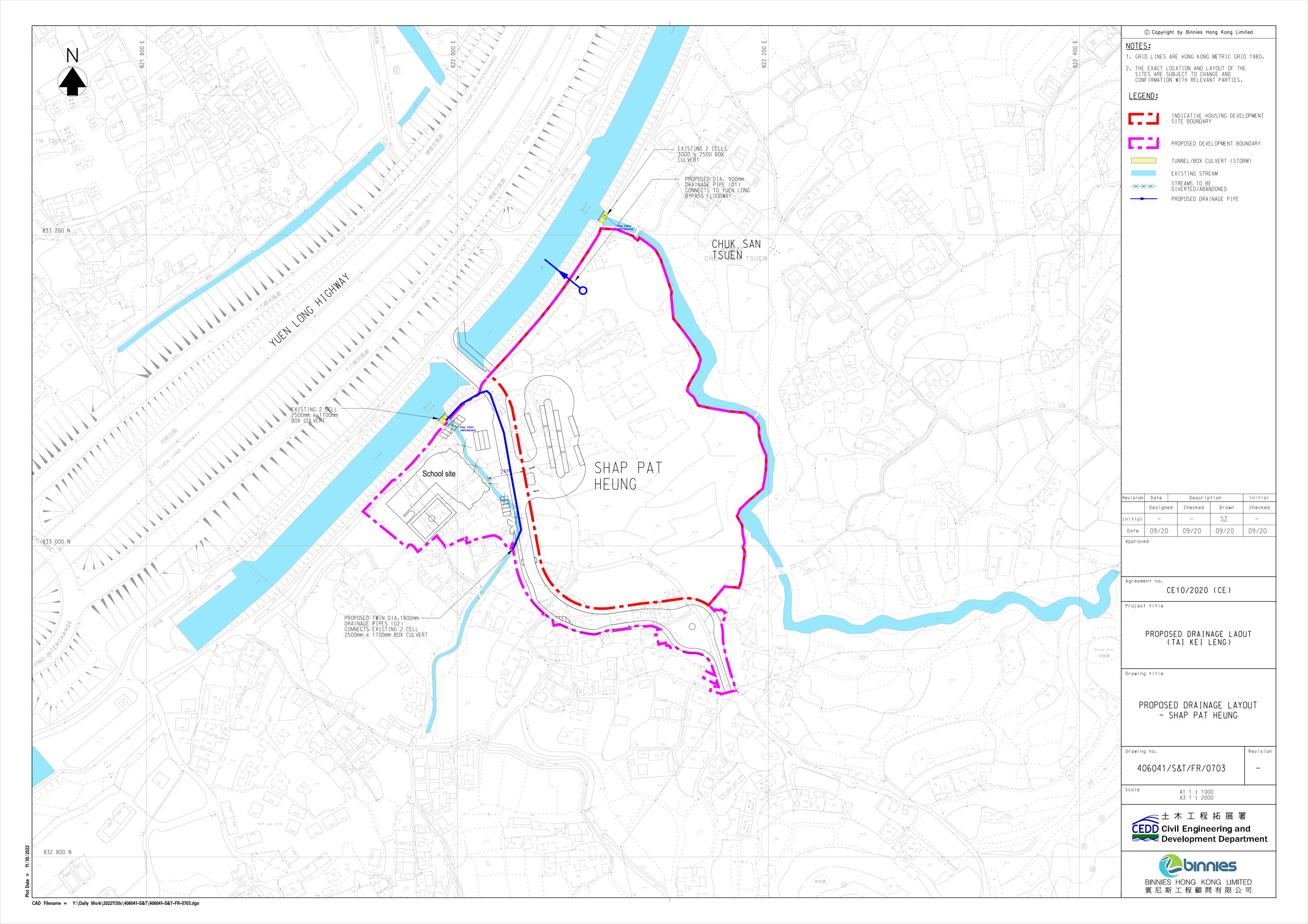
土木工程拓展署
Civil Engineering and
Development Department

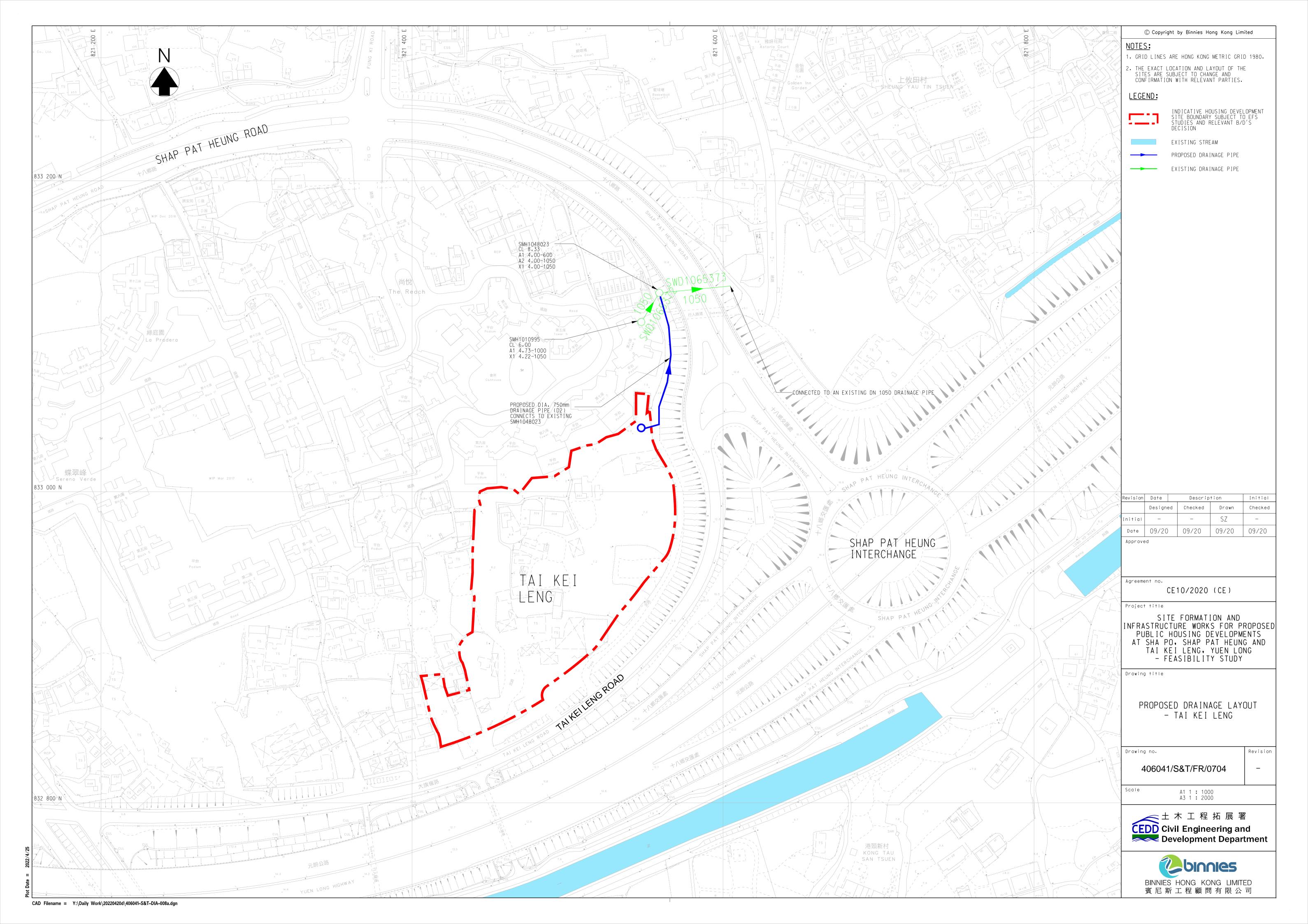


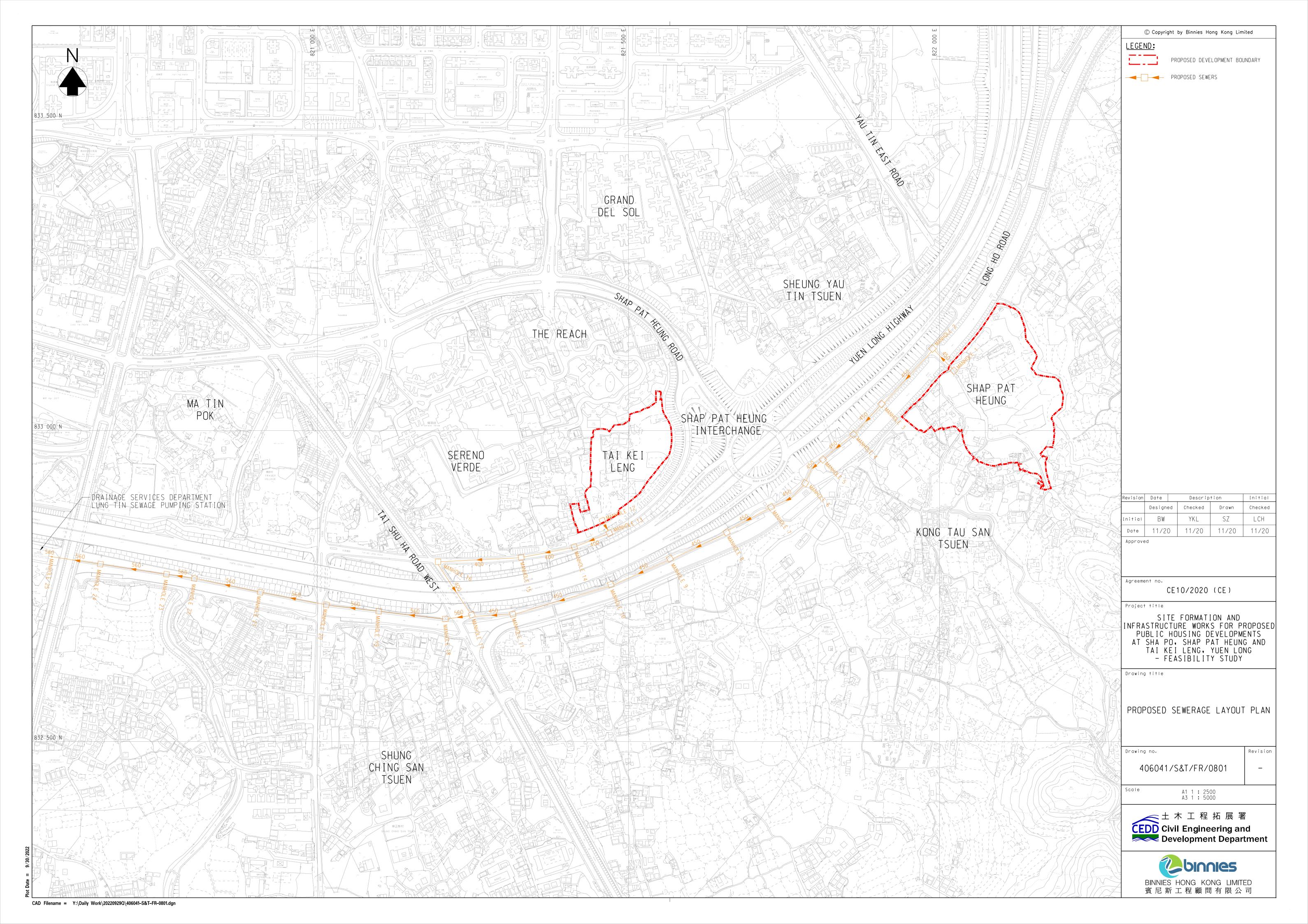
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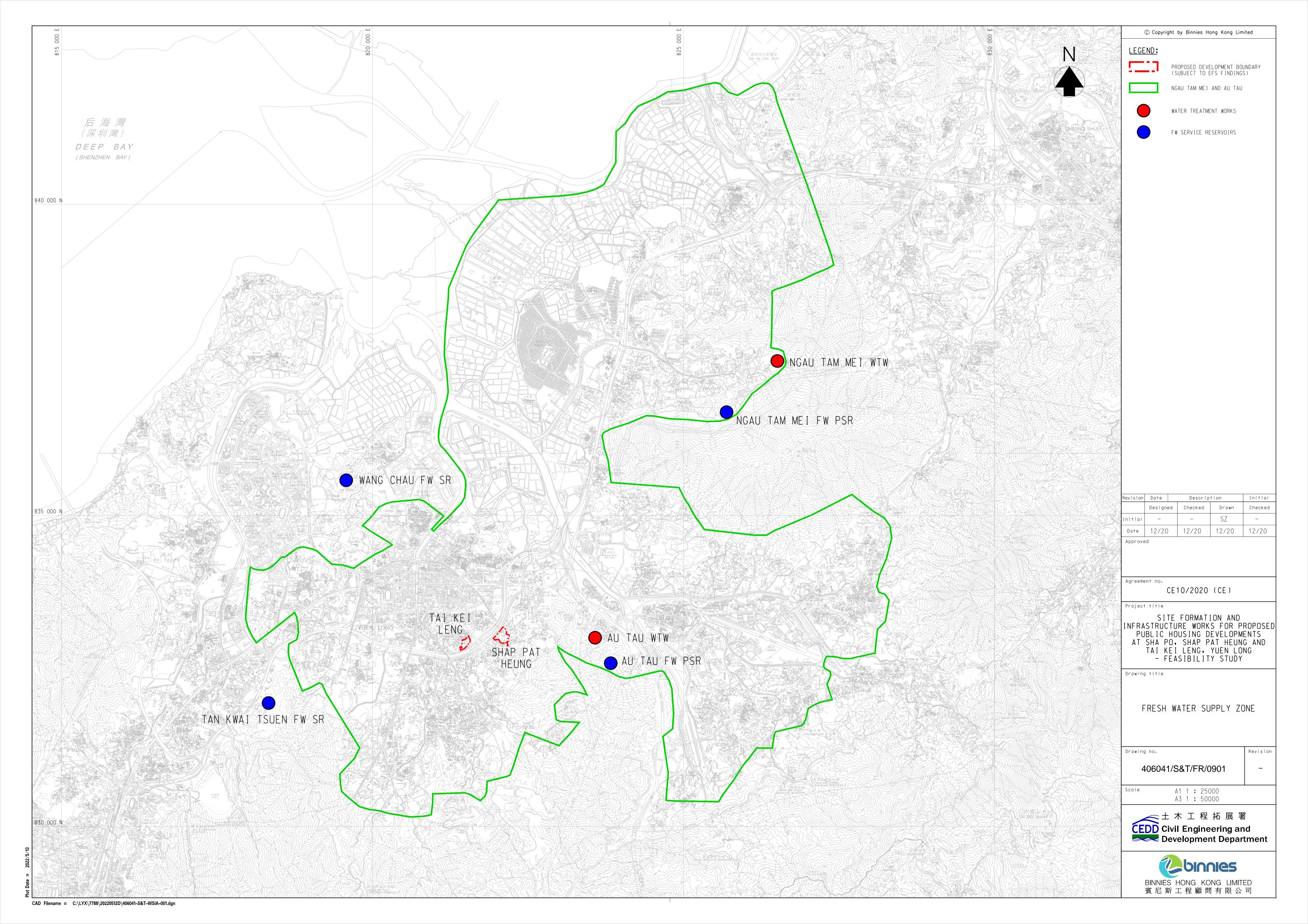


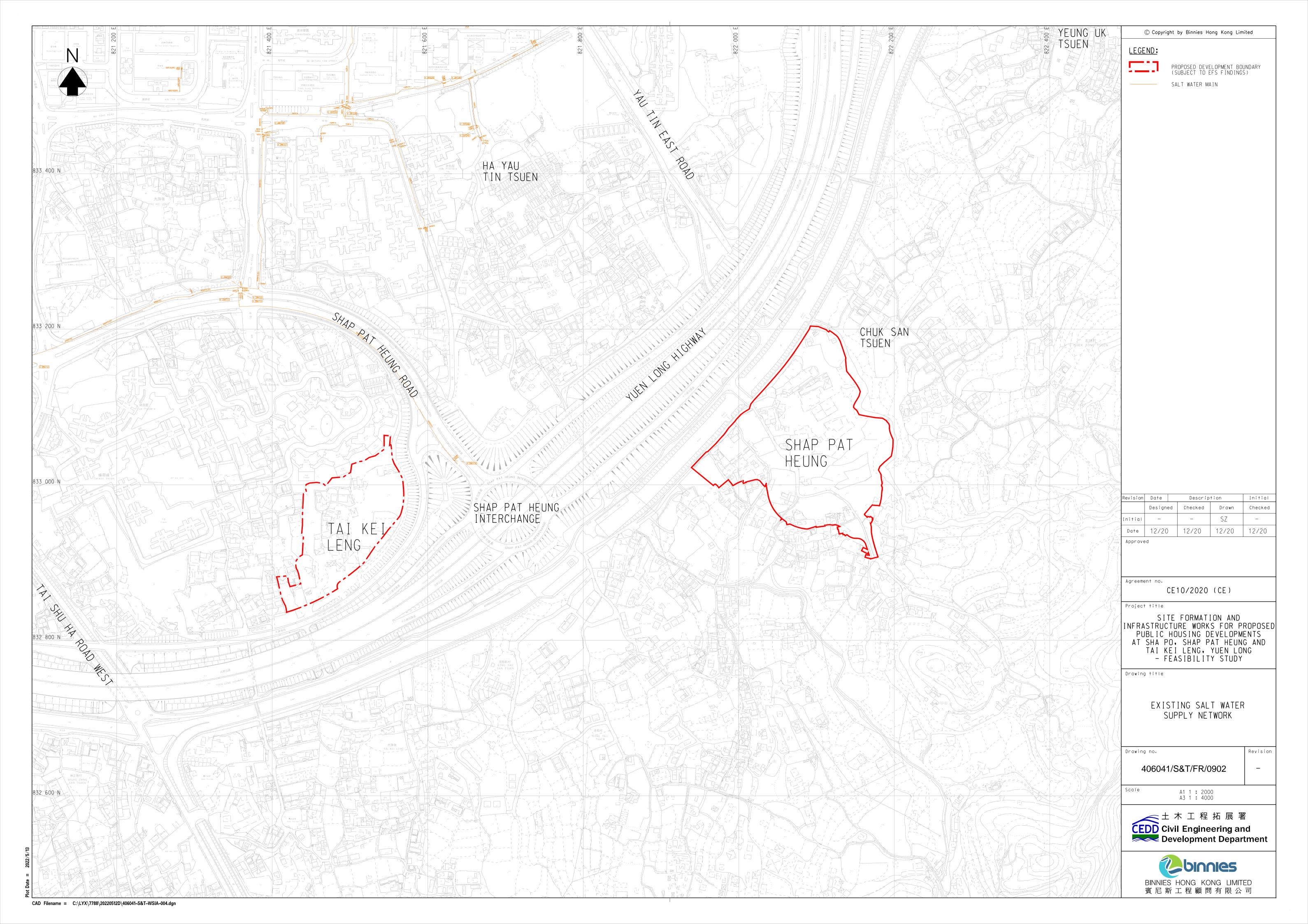


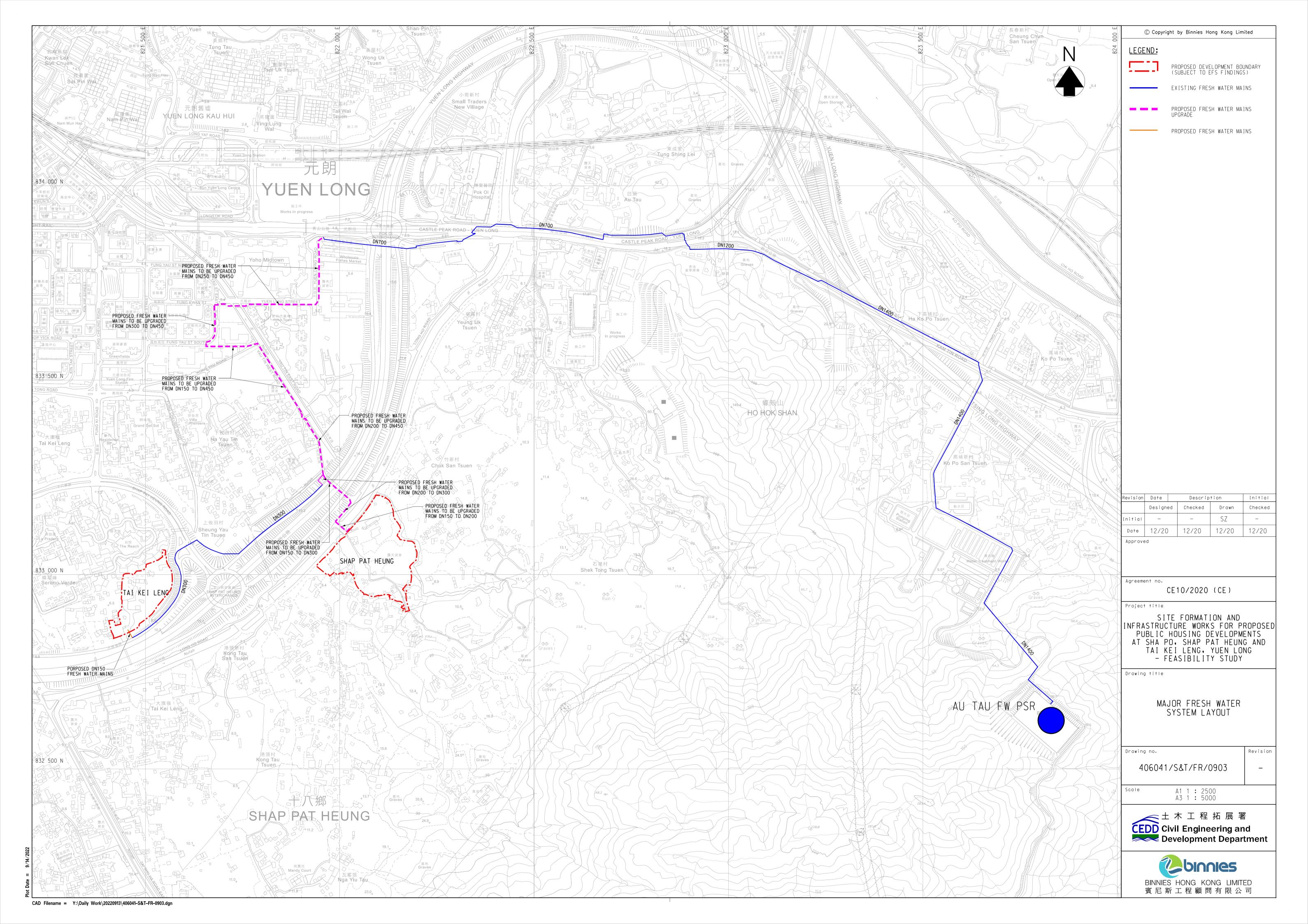


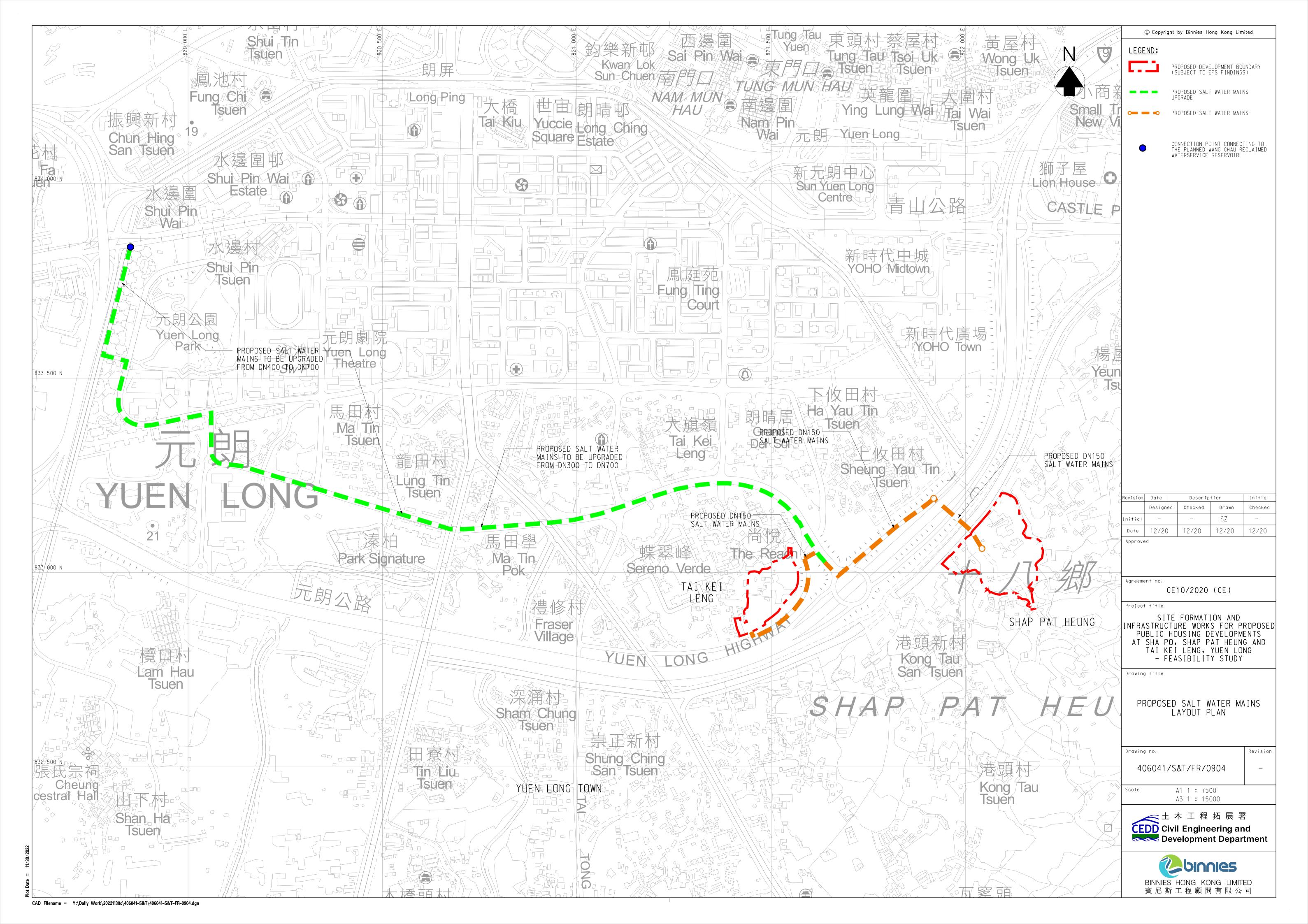


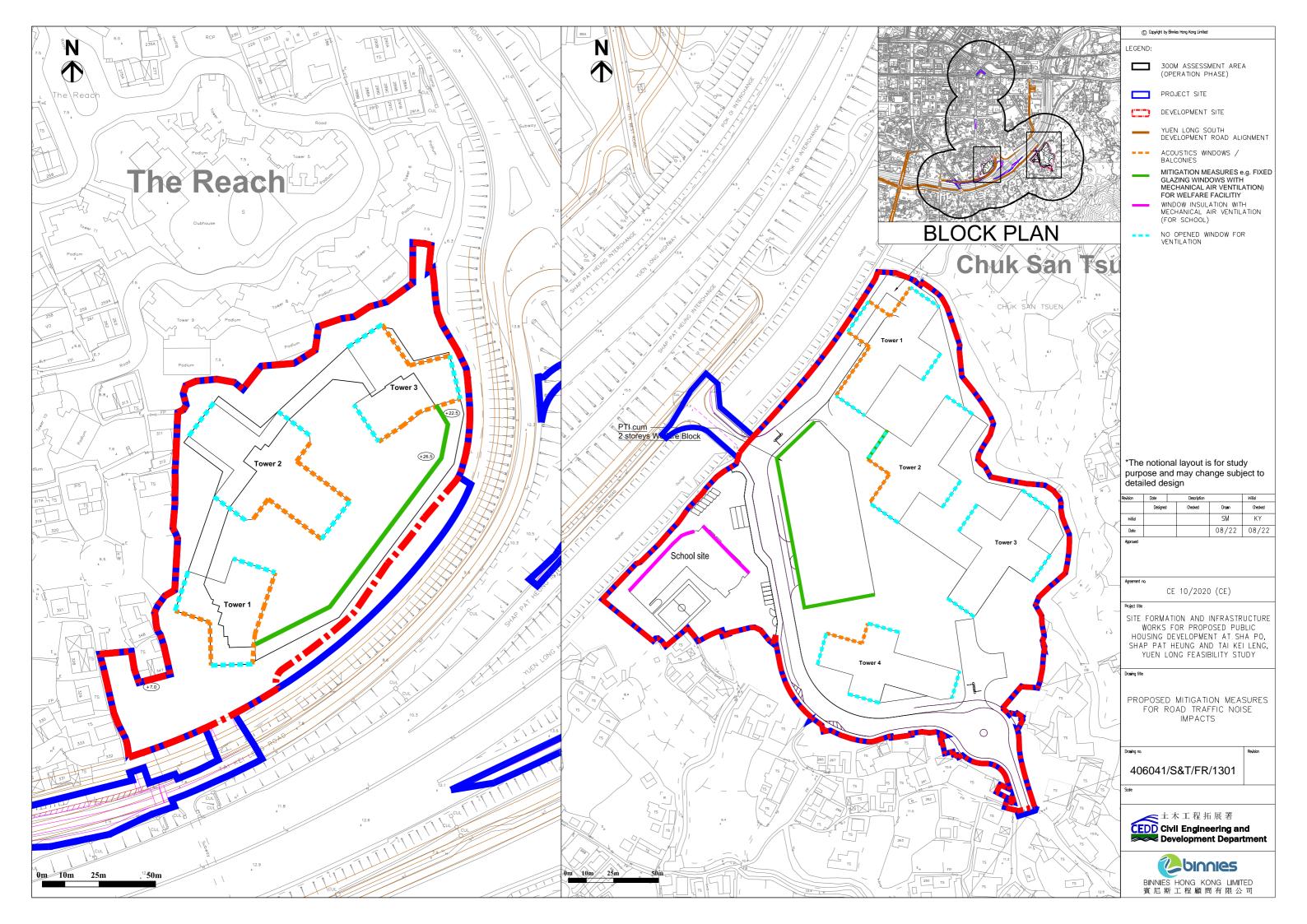


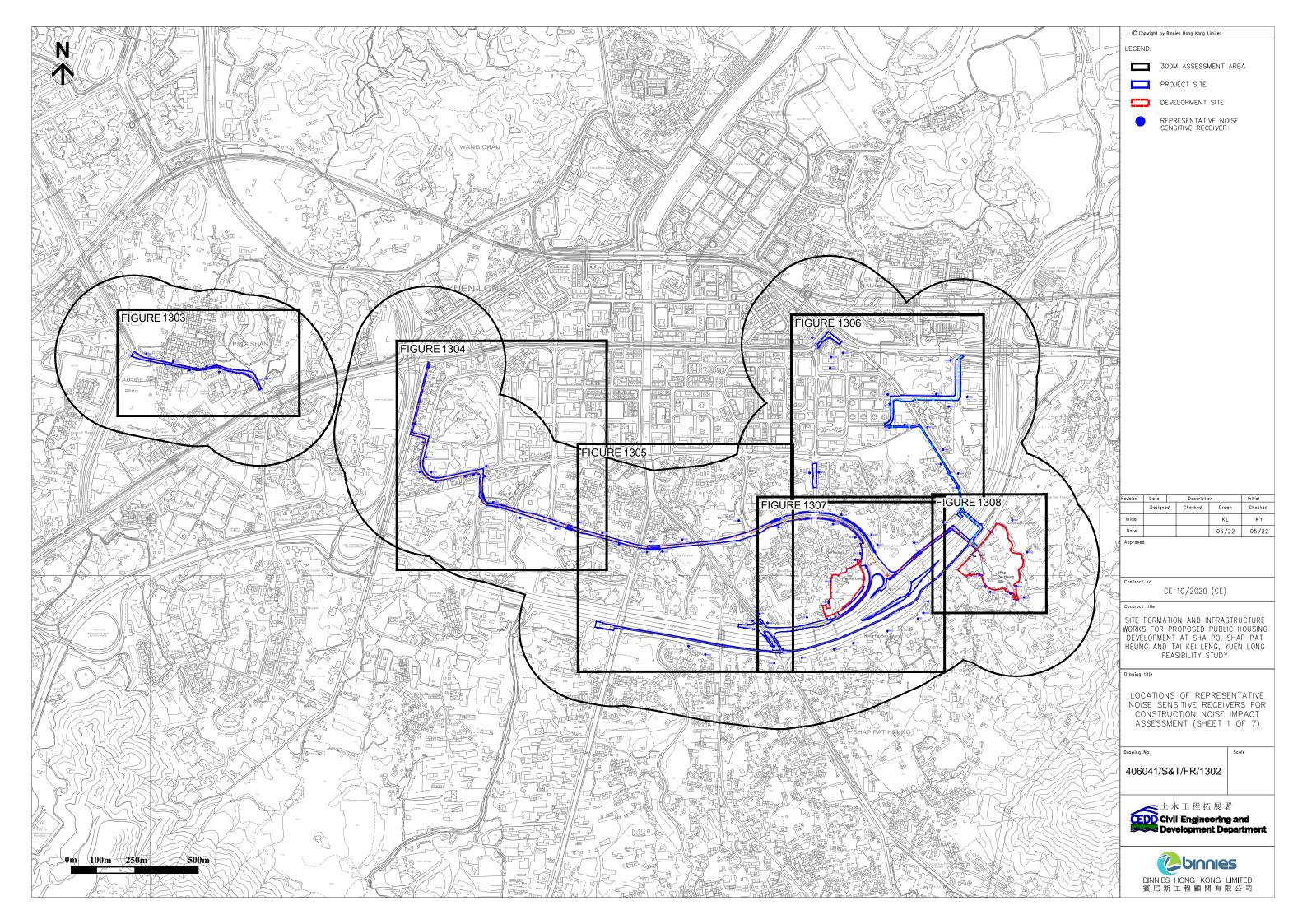


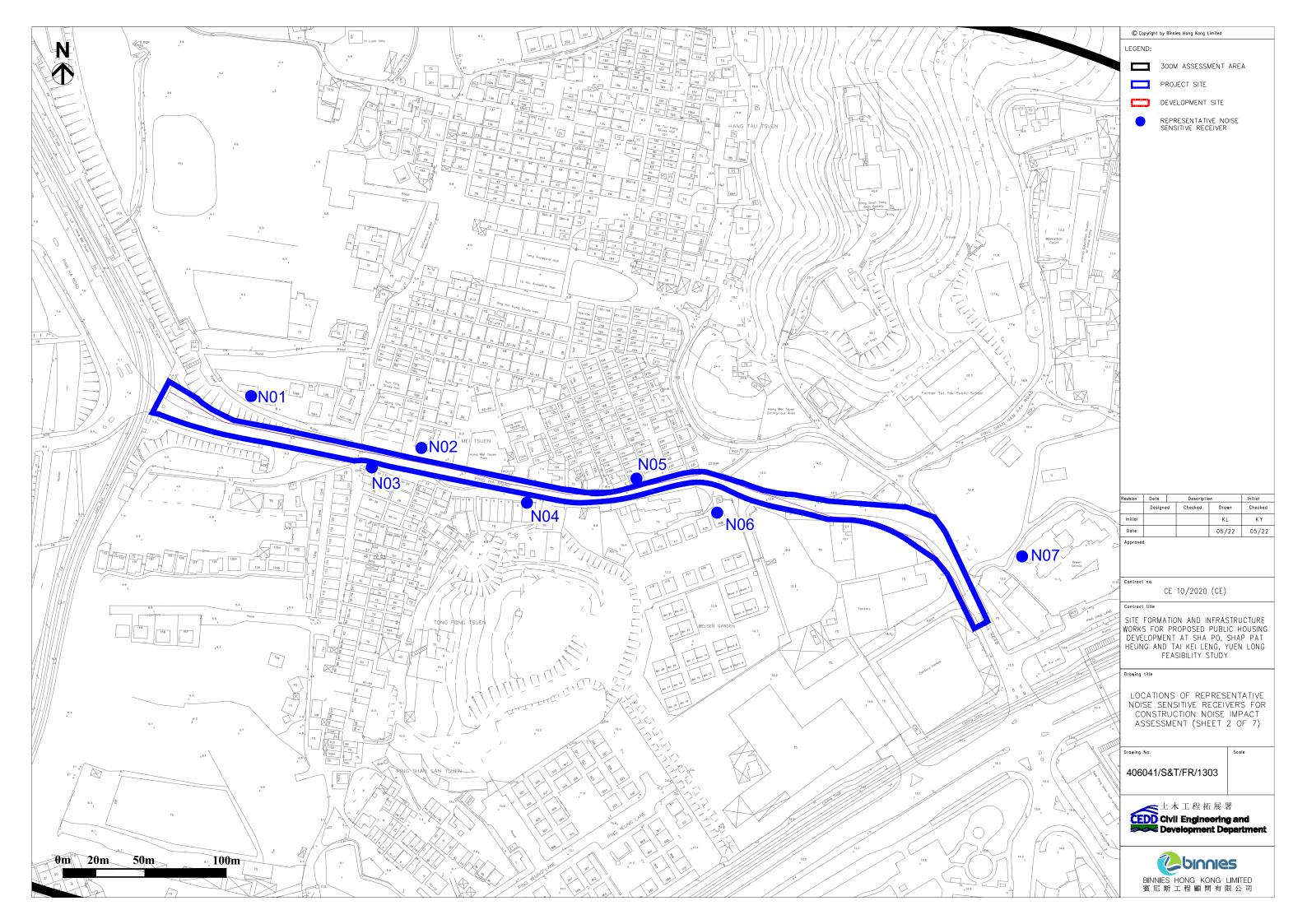


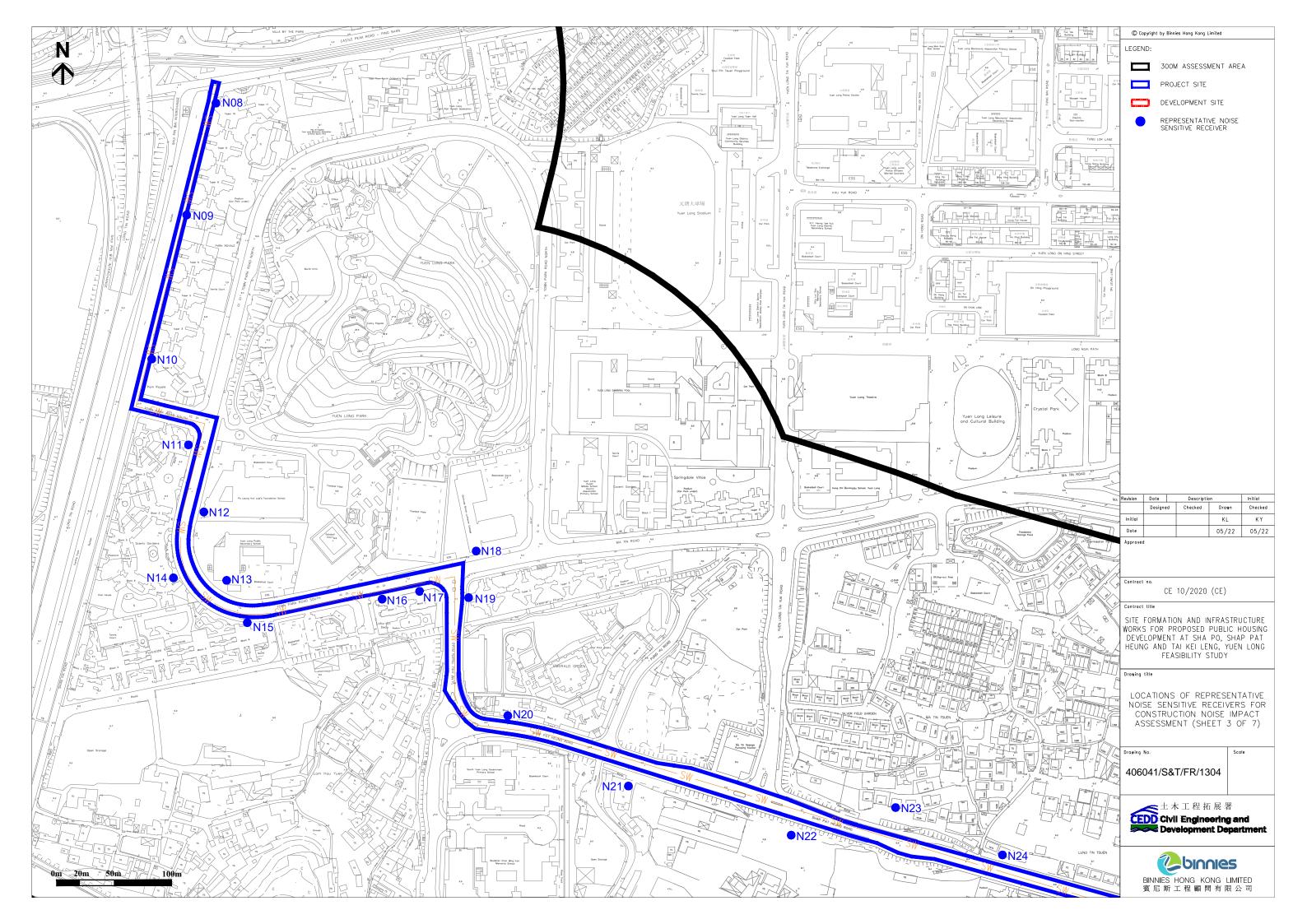


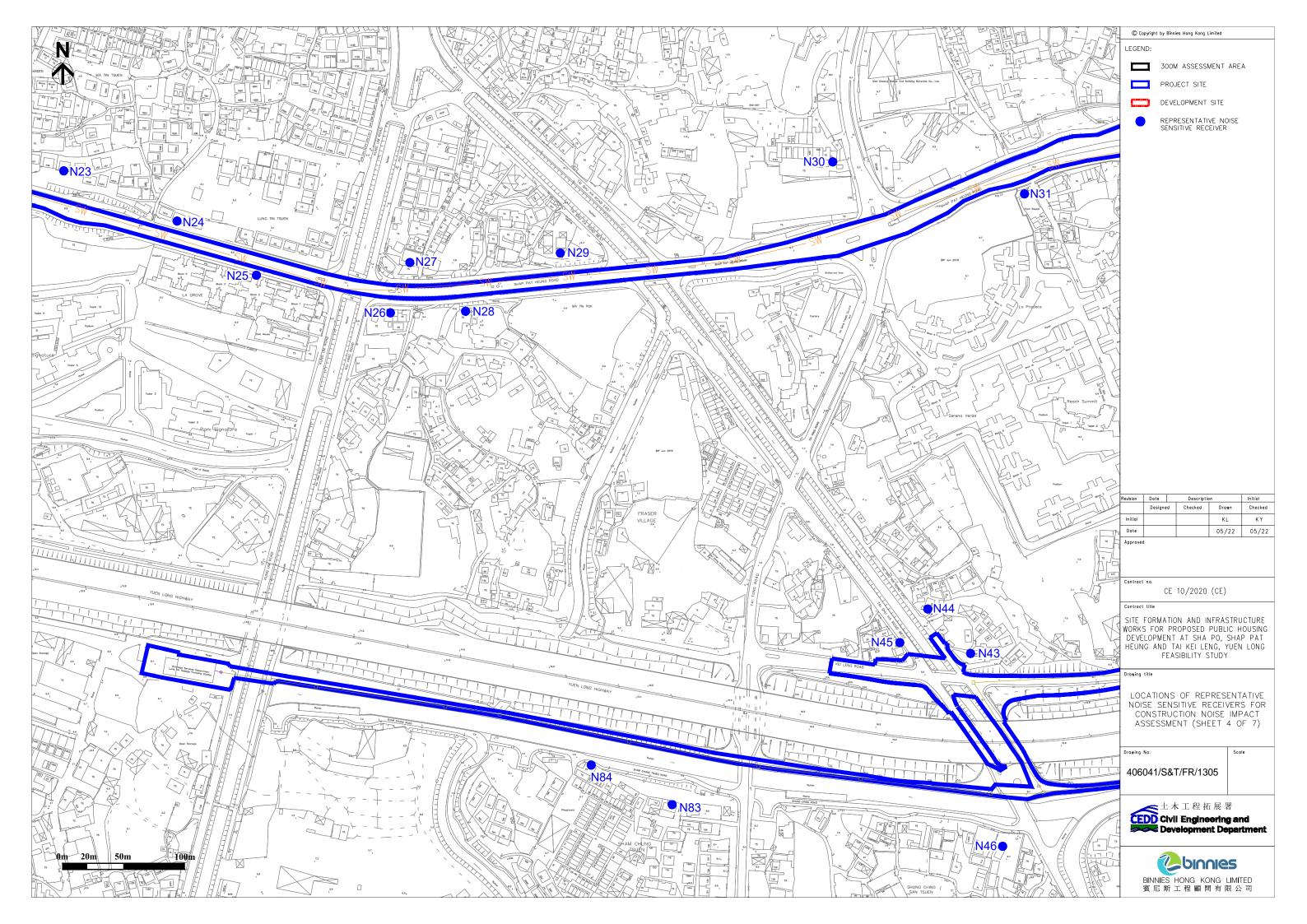


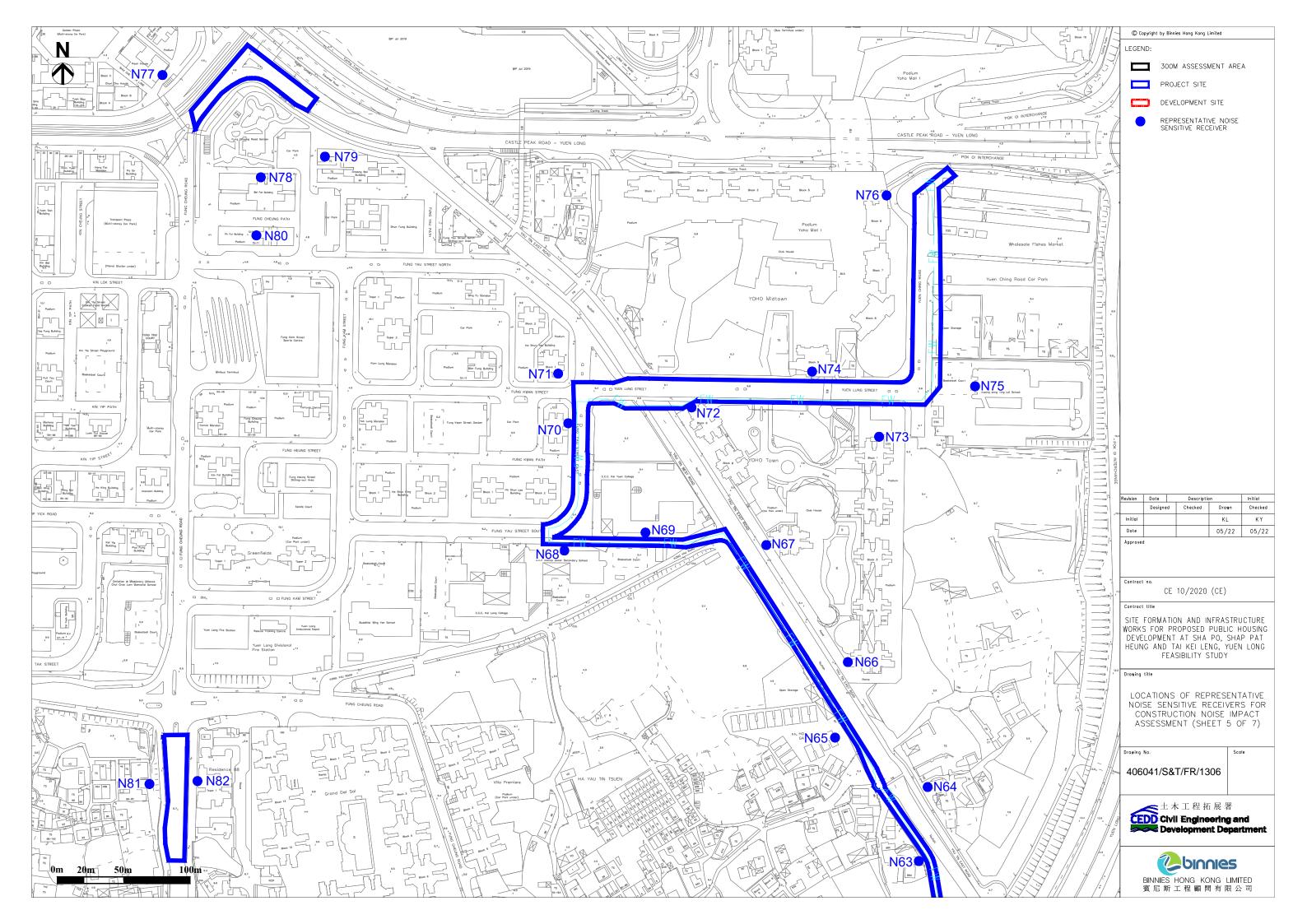


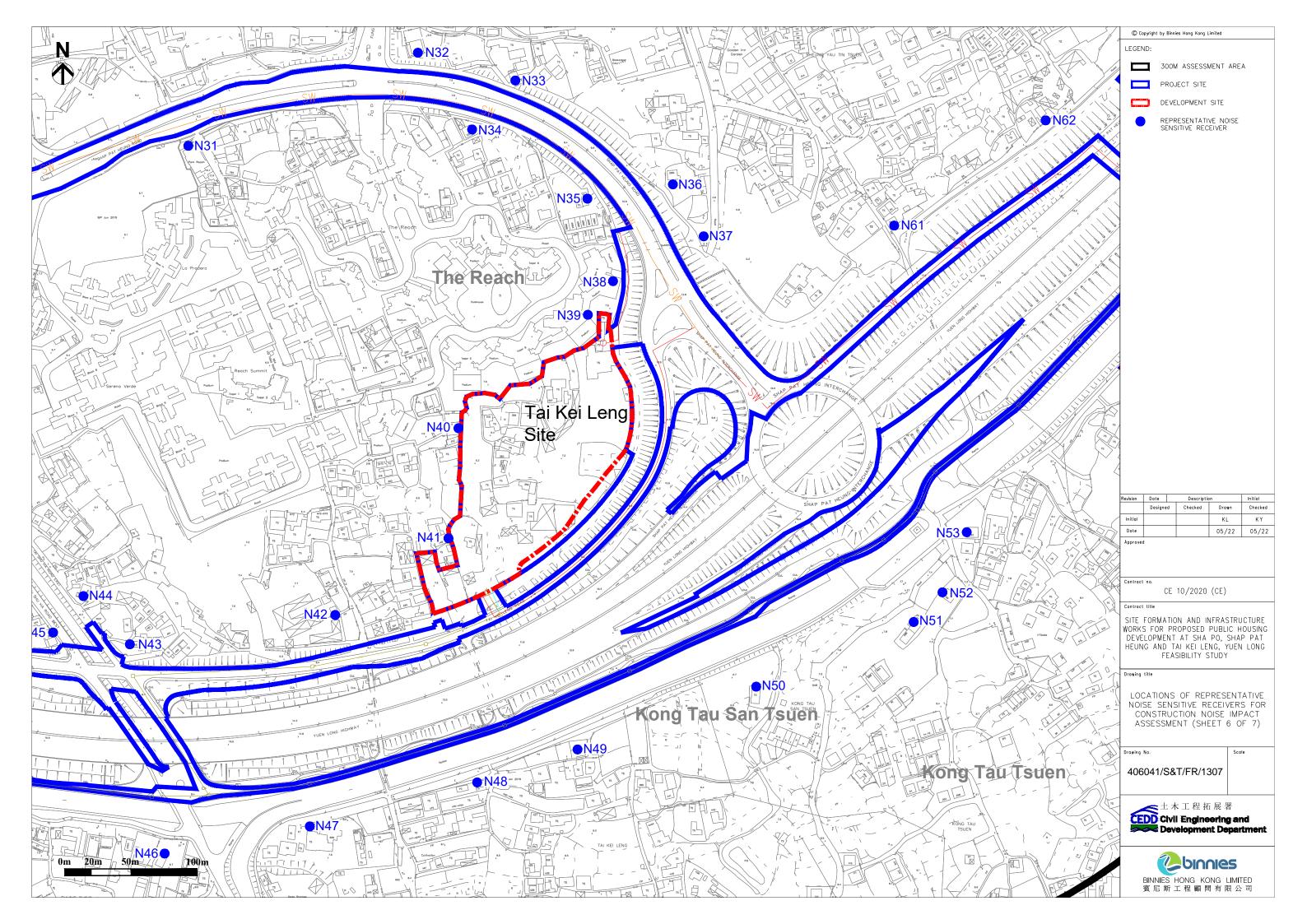


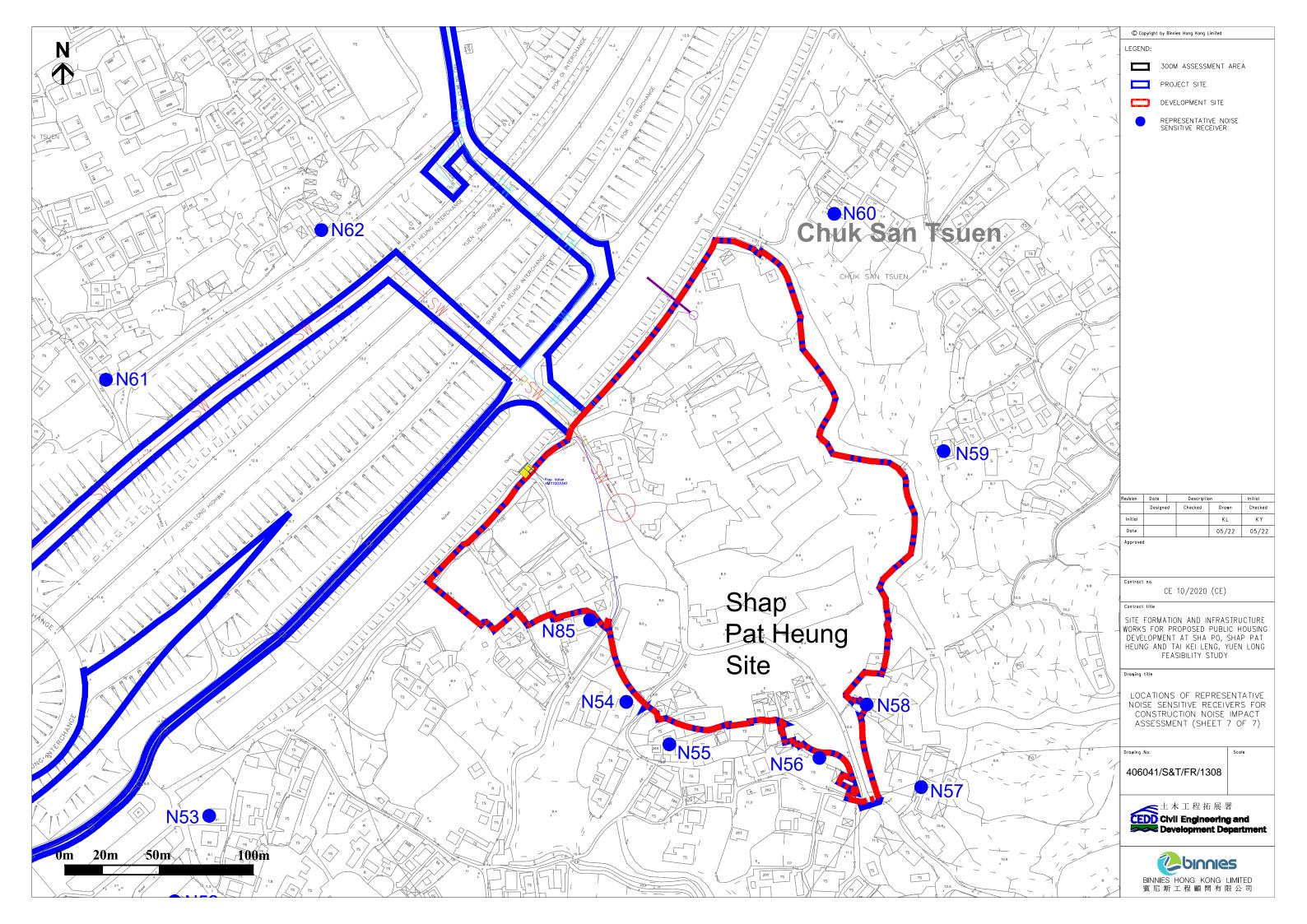


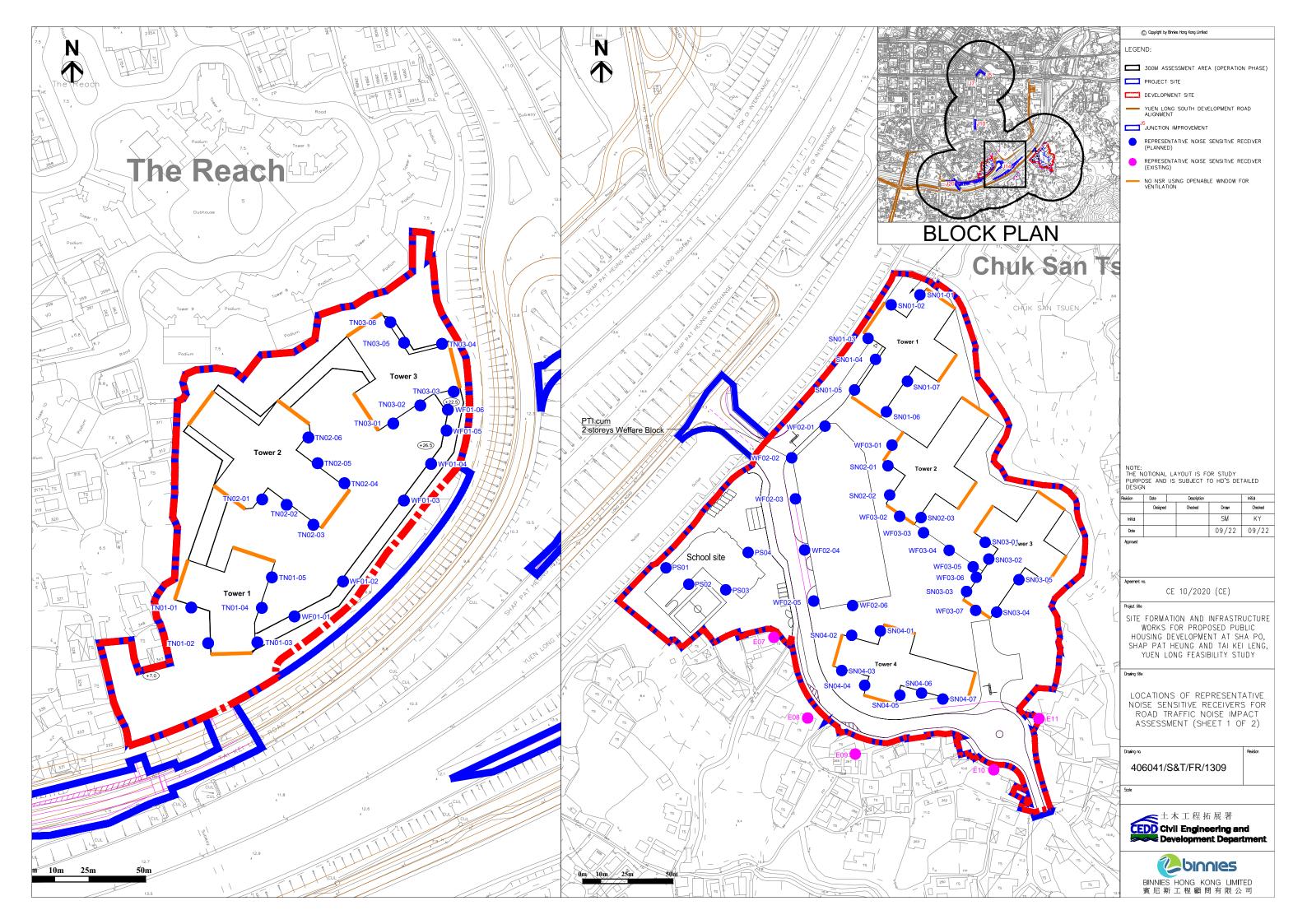


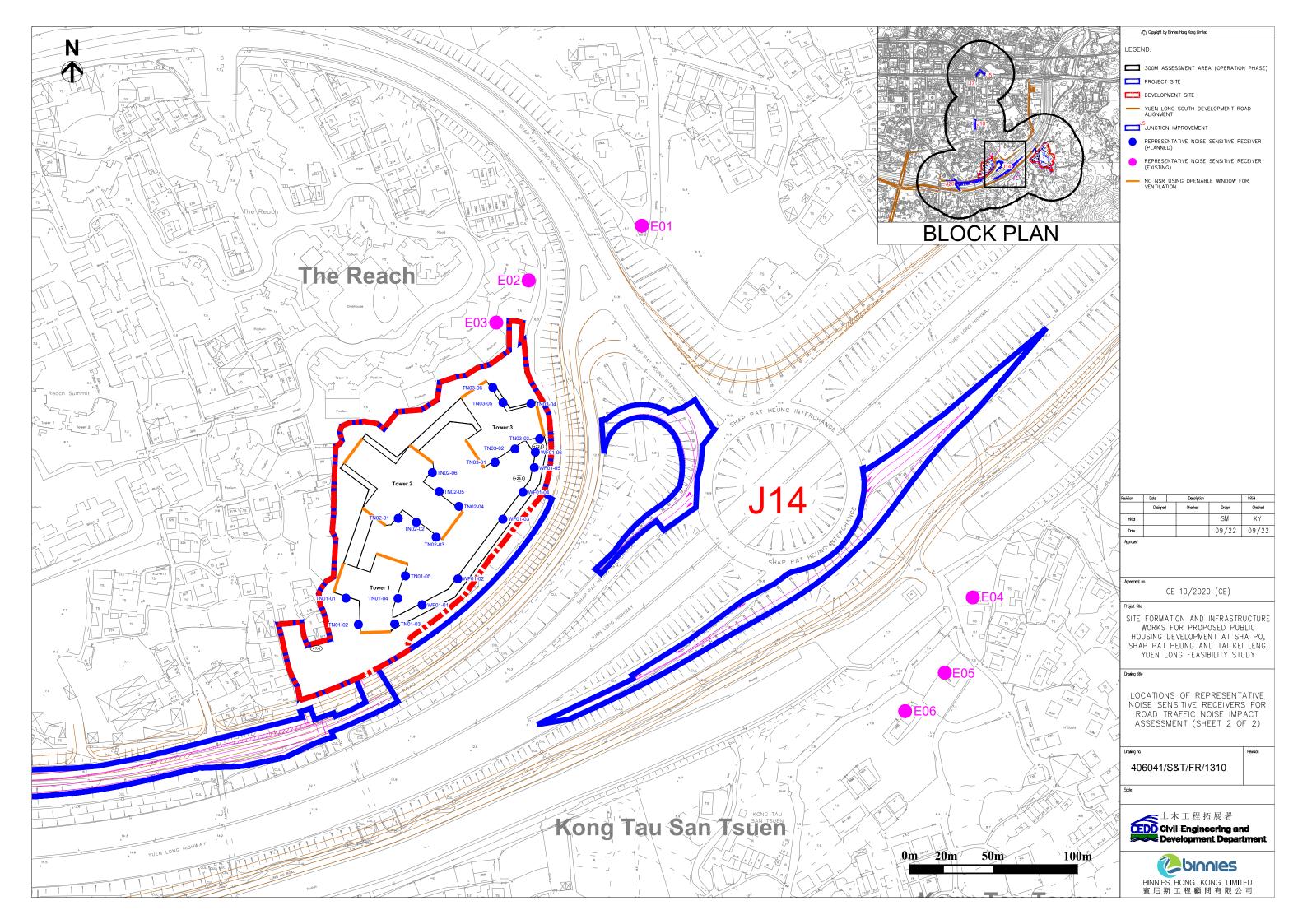


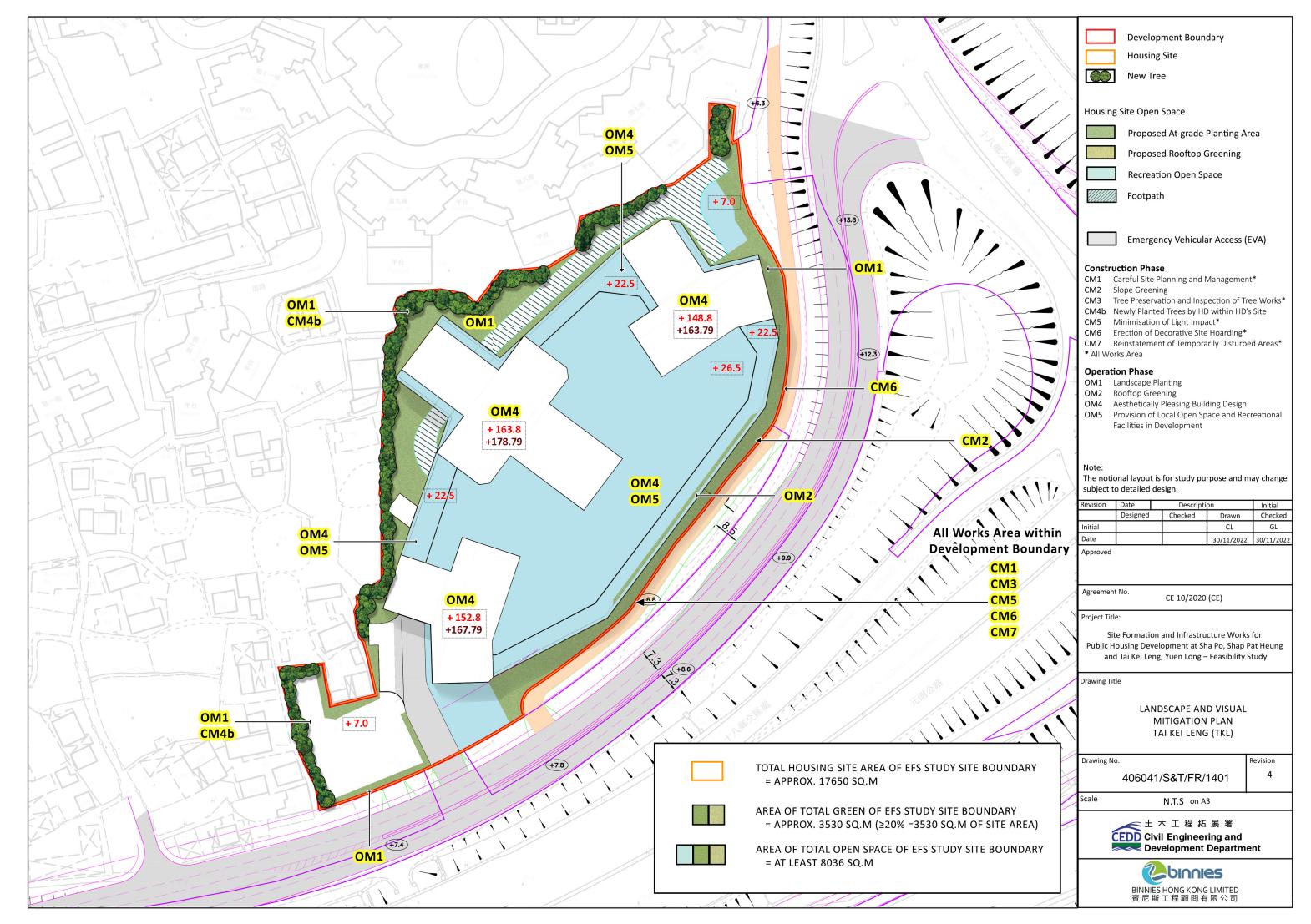


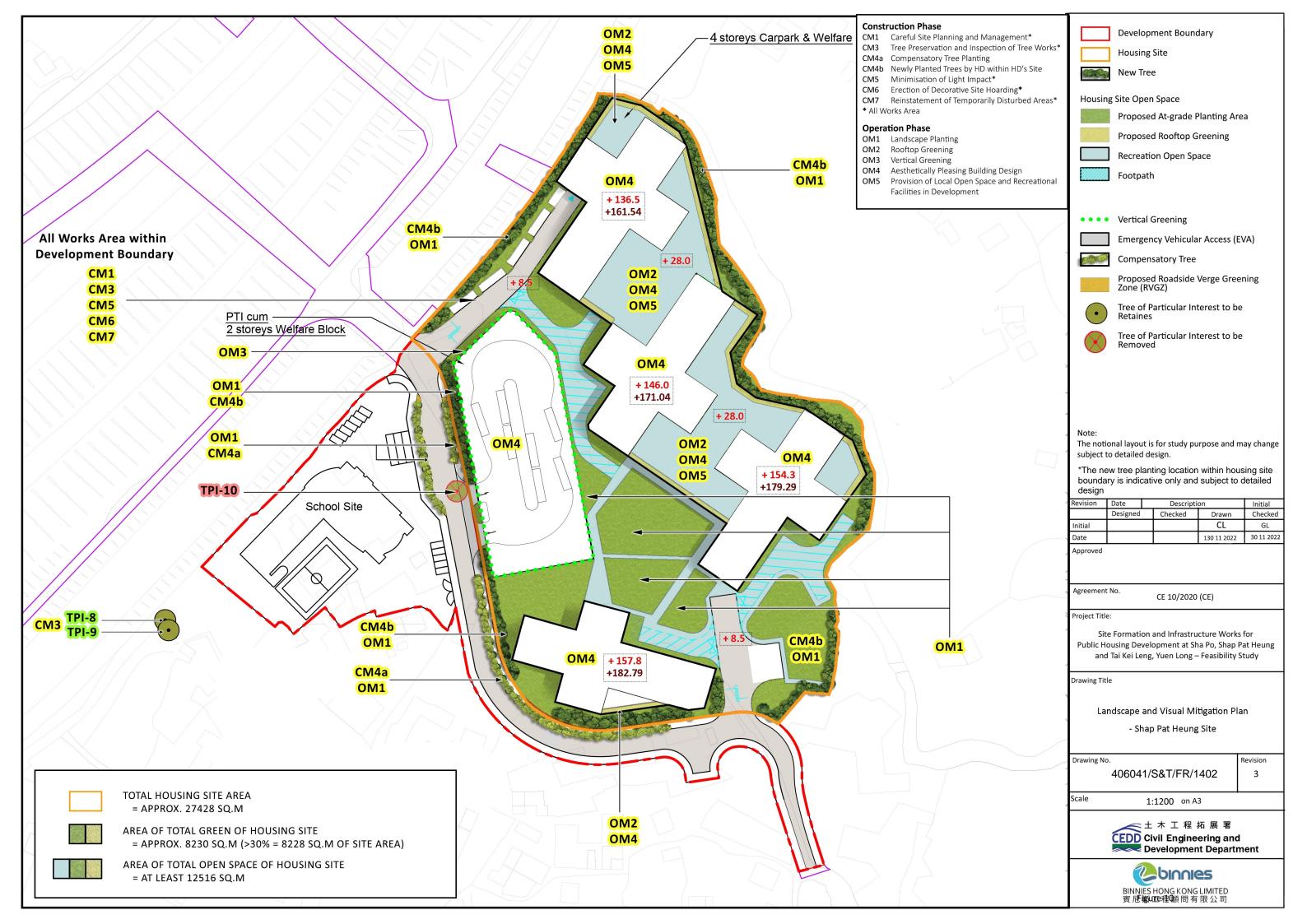


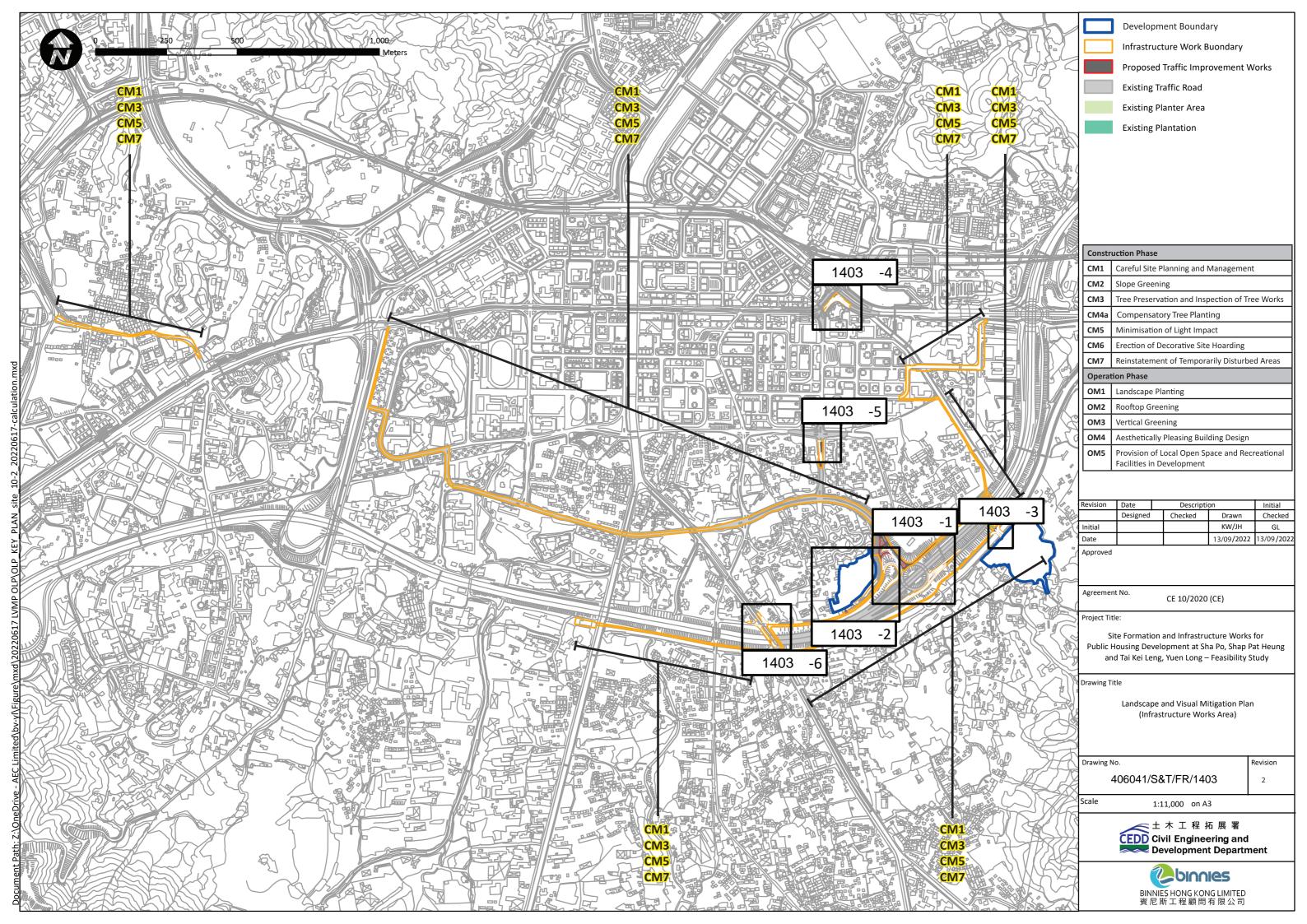


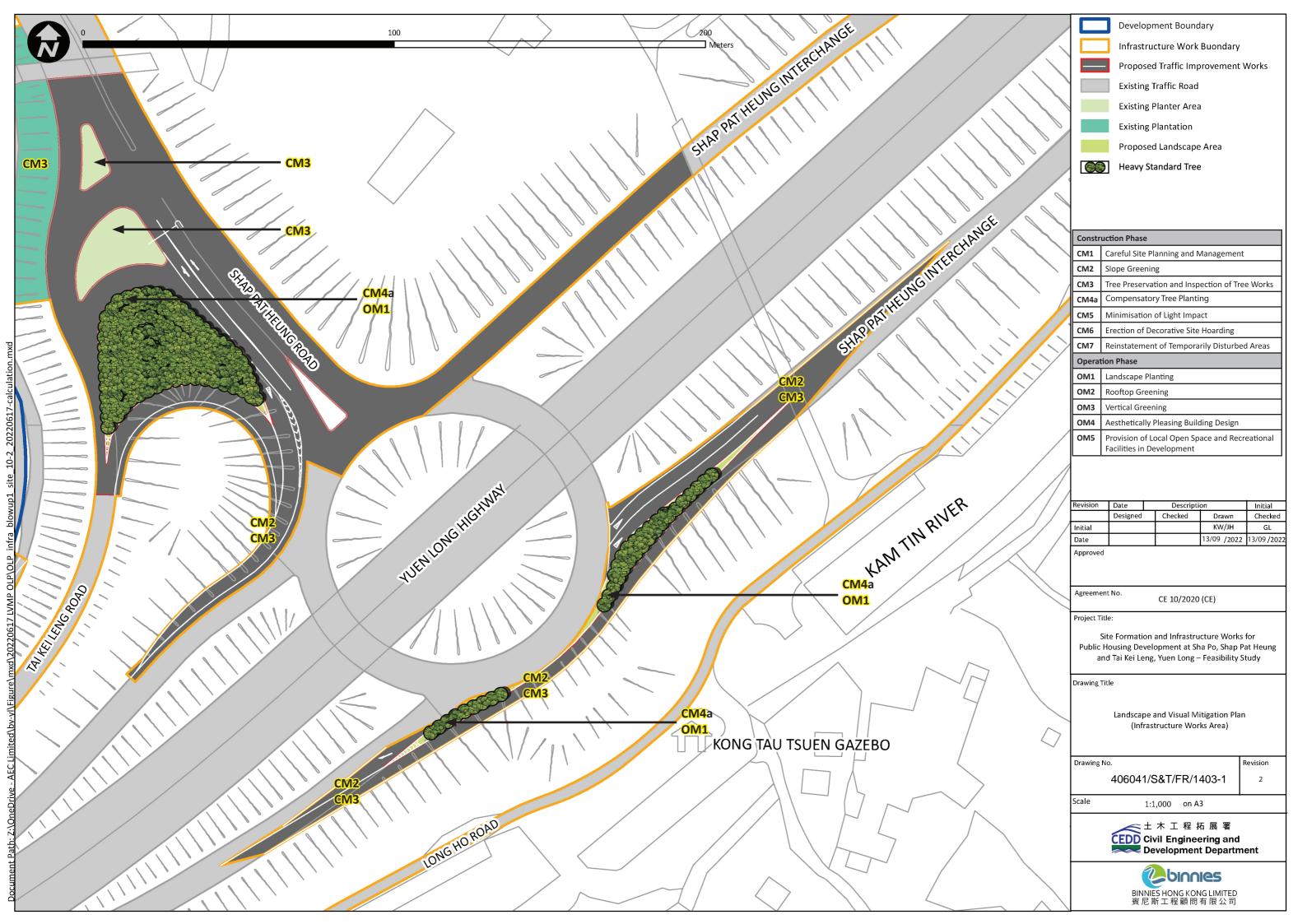


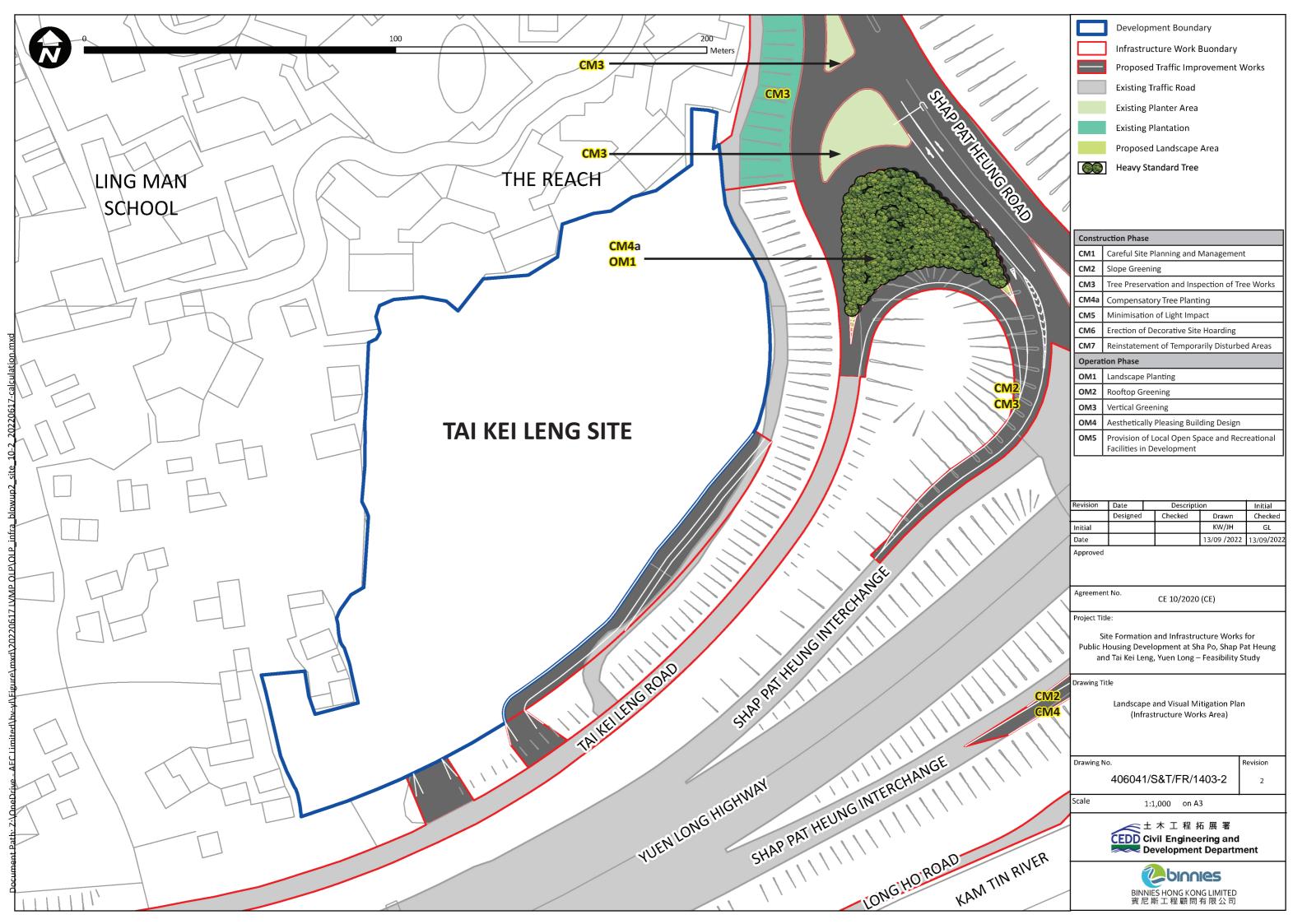


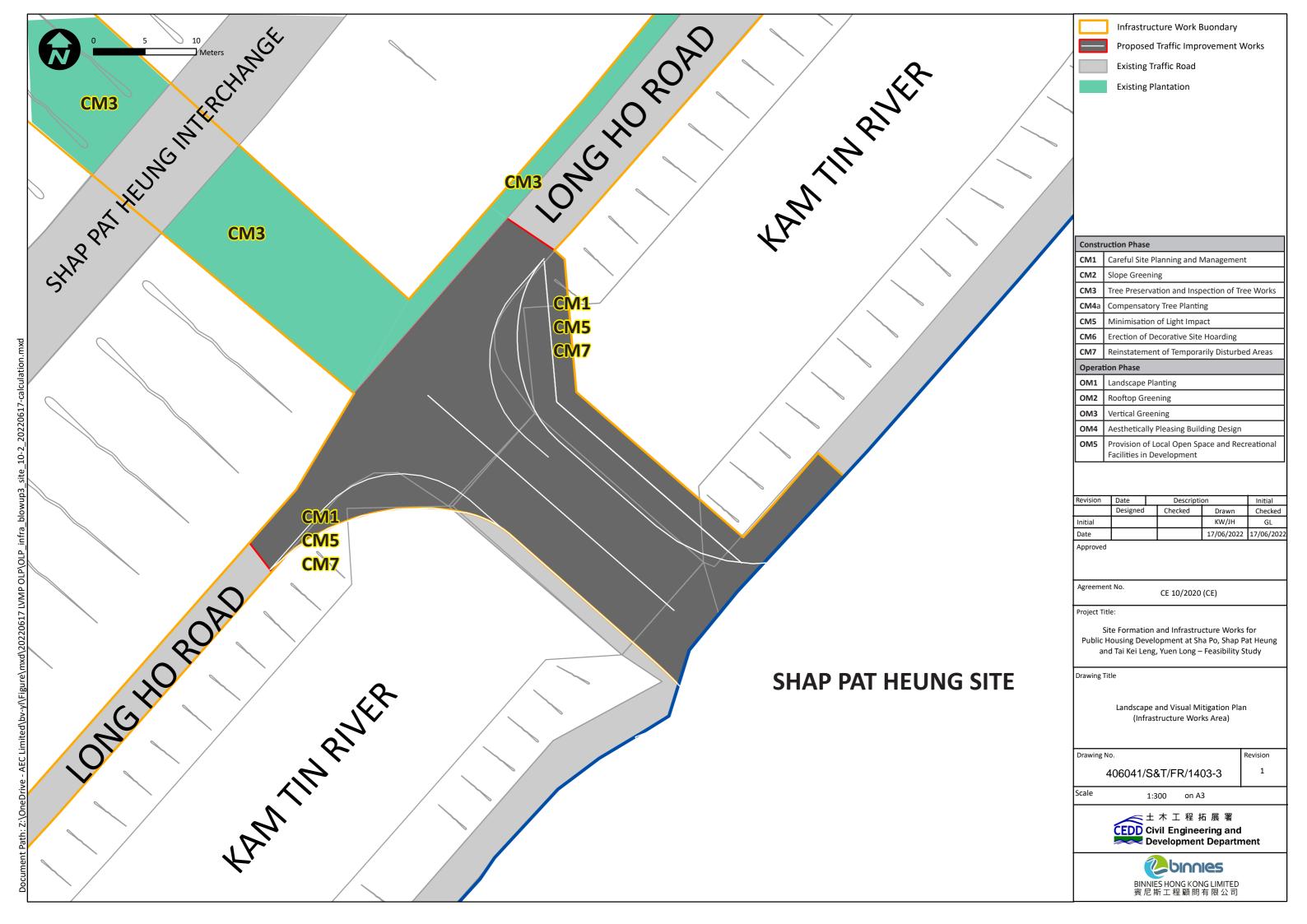


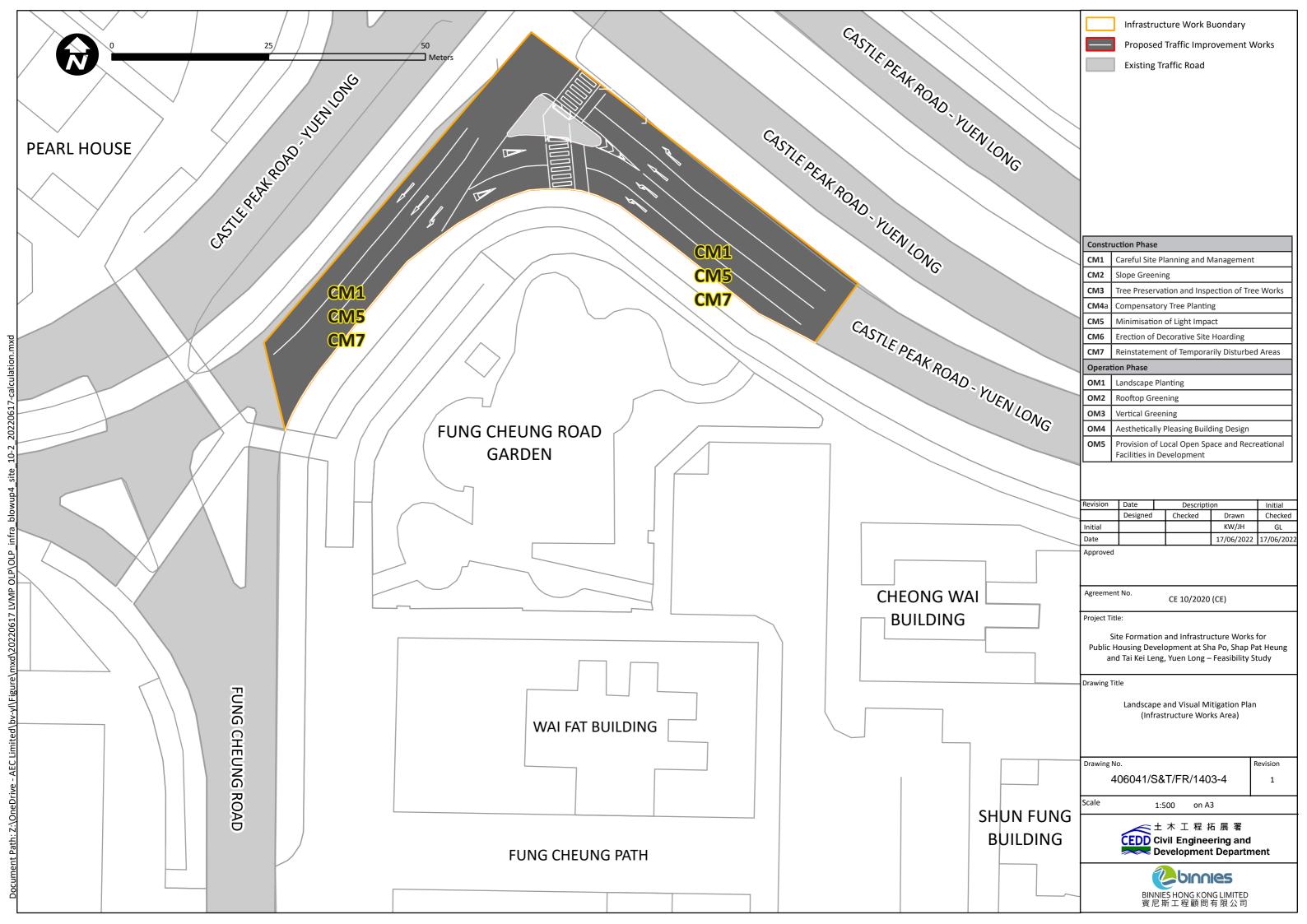


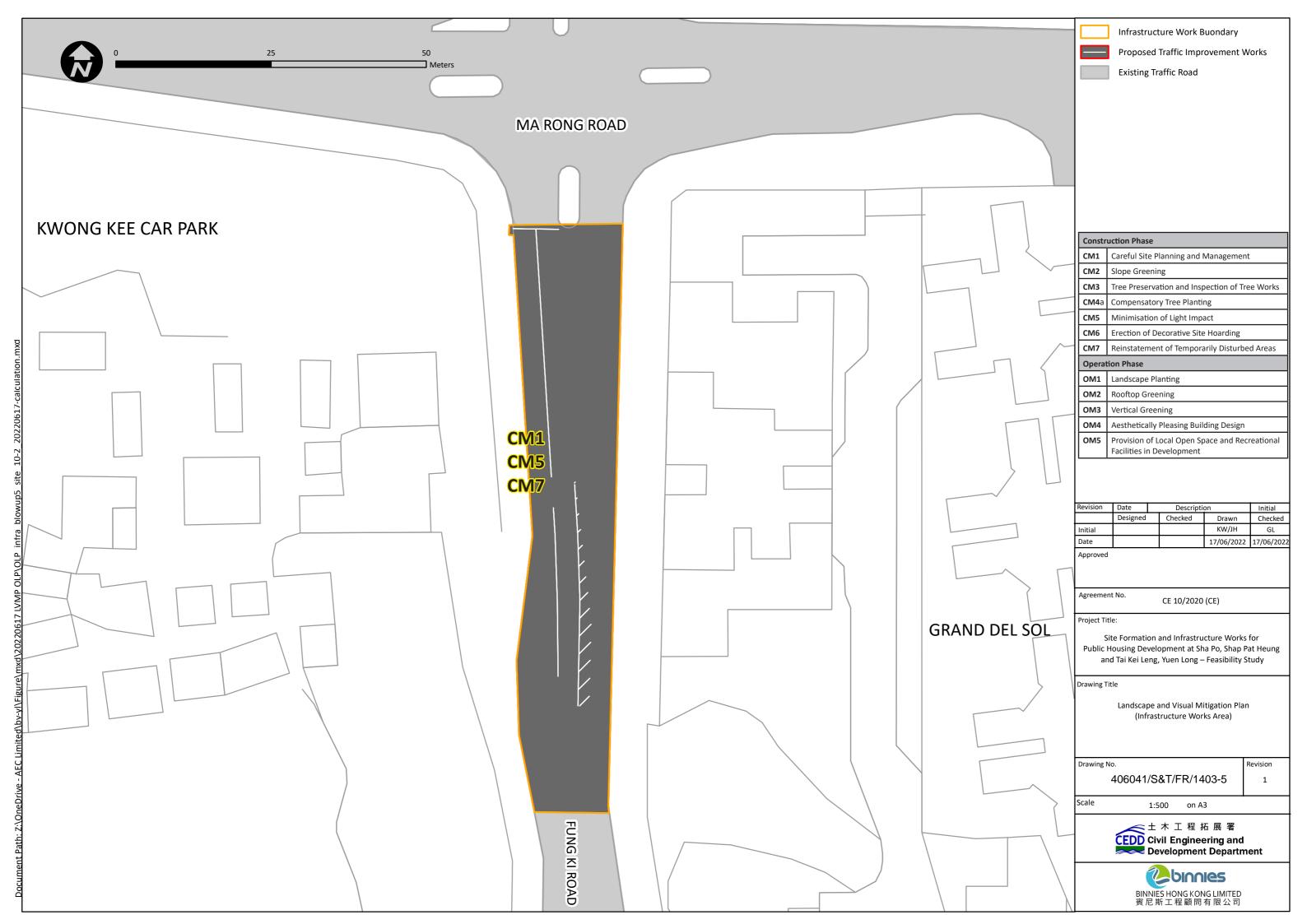


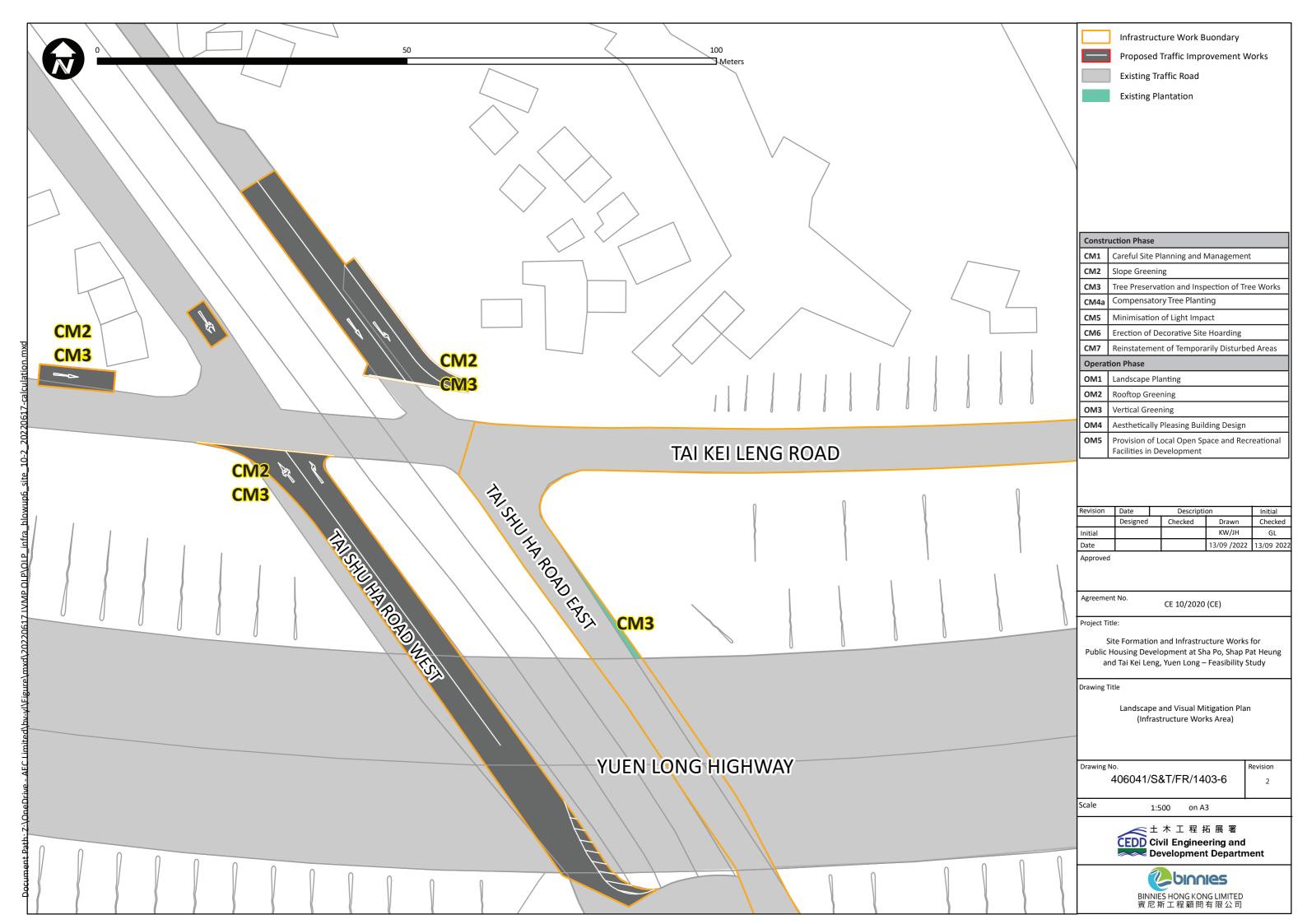


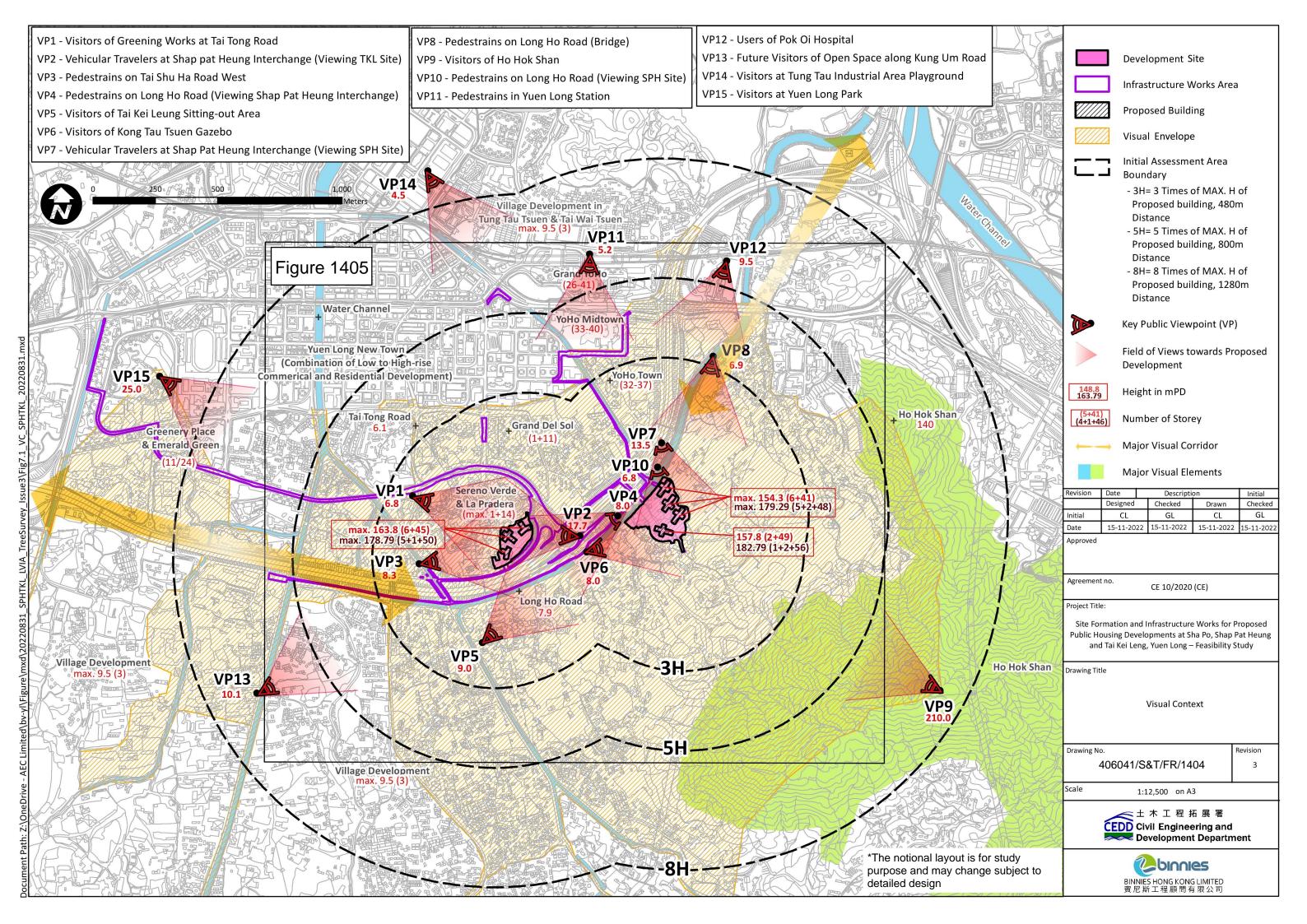


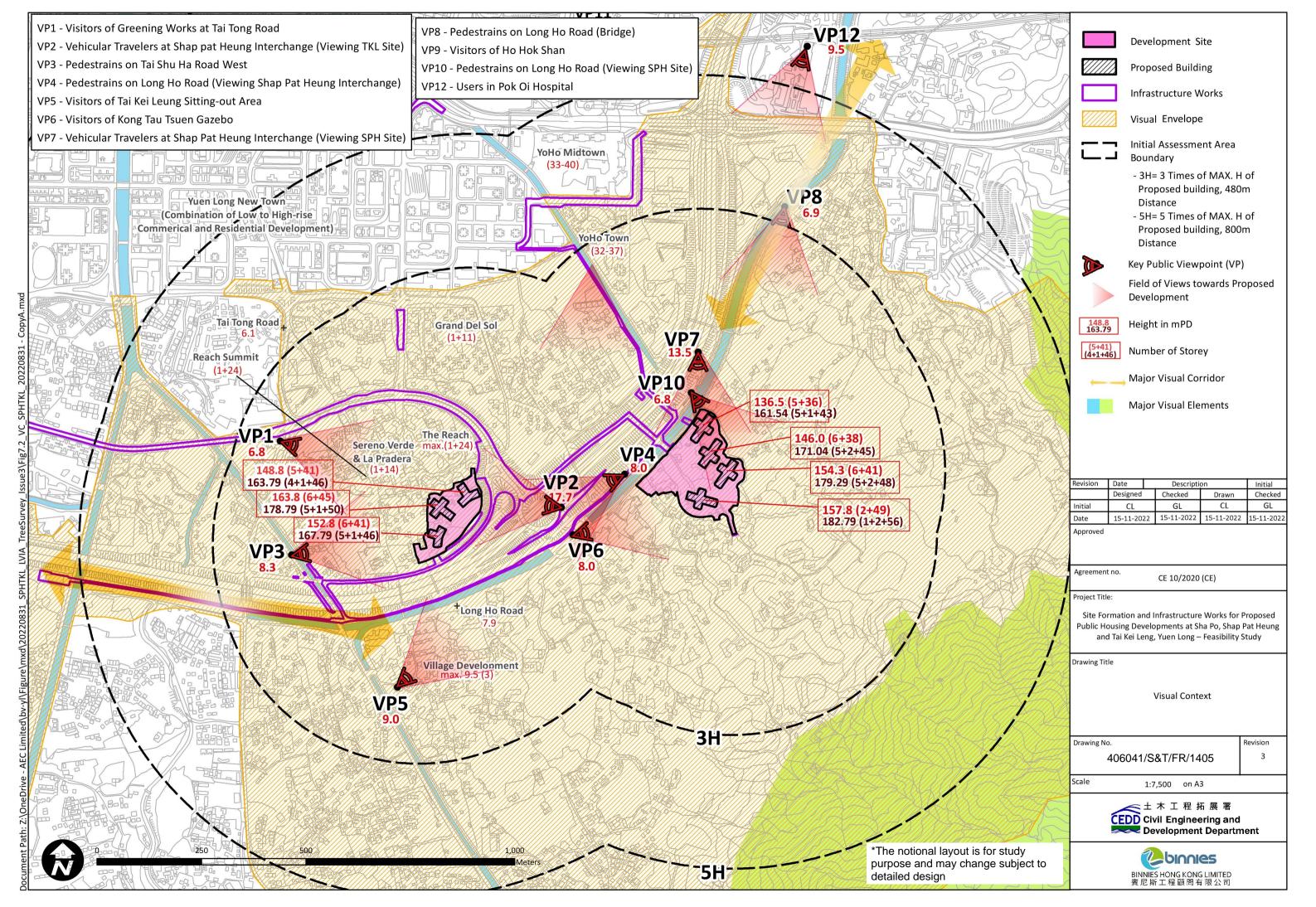












VP1

Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

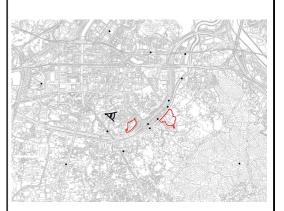
> Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Building Height in Initial scheme (Invisible)

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Checked
Initial	CL	GL	CL	GL
Date	02-11-2022	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1406

Revision 5

Scale

土木工程拓展署
Civil Engineering and
Development Department



Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)

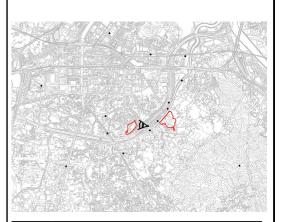
OM4



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



EXISTING CONDITION



Mitigation Measures for Operation Phase Impact OM4 Aesthetically Pleasing Building Design

Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

evision	Date		Descripti	on	Initial	
	Designed	Cl	necked	Drawn	Checked	
nitial	CL		GL	CL	GL	
ate	02-11-2022	02	-11-2022	02-11-2022	02-11-2022	

Agreement no.

CE 10/2020 (CE)

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1407

Revision

★ 木 工 程 拓 展 署 CEDD Civil Engineering and Development Department



VP3

Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1)

+161.5-182.8 mPD (BH with 25m increase)

(max. 56+2+1)

Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5)

+163.8-178.8 mPD (BH with 15m increase)

OM4

(max. 50+1+5)

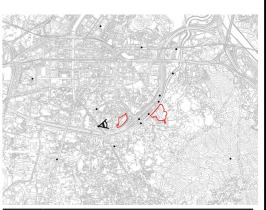
OM5



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM4	Aesthetically Pleasing Building Design
OM5	Provision of Local Open Space and Recreational Facilities in Development

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date		Descriptio			Initial
	Designed	Cł	ecked	Drawr	ì	Checked
Initial	CL		GL	CL		GL
Date	02-11-2022	02	-11-2022	02-11-20)22	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1408

Revision 5

Scale

土木工程拓展署
Civil Engineering and
Development Department



Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)

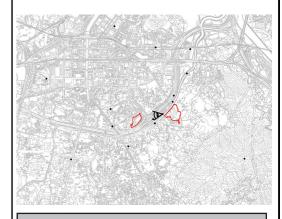
OM4







YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



Mitigation Measures for Operation Phase Impact

M4 Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date		Descripti	on	Initial
	Designed		Checked	Drawn	Checked
nitial	CL		GL	CL	GL
Date	02-11-2022	2	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1409

Revision 5

cale





+161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

OM4

Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5)

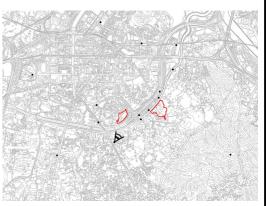
+163.8-178.8 mPD (BH with 15m increase)

(max. 50+1+5)

OM4



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM4	Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

evision	Date		Description		Initial
	Designed		Checked	Drawn	Checked
nitial	CL		GL	CL	GL
ate	02-11-202	2	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Ti

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1410

Revision 5

Scale







EXISTING CONDITION

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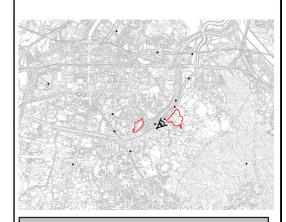
OM4



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



Mitigation Measures for Operation Phase Impact

OM4 Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date		Descripti	on	Initial
	Designed		Checked	Drawn	Checked
Initial	CL		GL	CL	GL
Date	02-11-2022		02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1411

Revision 5

Scale

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



Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

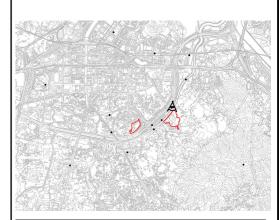
OM4



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM4	Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date		Descripti	on	Initial	
	Designed		Checked	Drawn	Checked	
nitial	CL		GL	CL	GL	
Date	02-11-202	2	02-11-2022	02-11-2022	02-11-2022	

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No.

406041/S&T/FR/1412

Revision 5

Scale





+161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

OM4

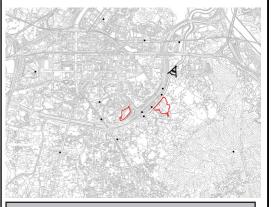
Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase)

(max. 50+1+5)

OM4



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



Mitigation Measures for Operation Phase Impact

Aesthetically Pleasing Building Design

Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

evision	Date	Descripti	on	Initial	
	Designed	Checked	Drawn	Checked	
nitial	CL	GL	CL	GL	
ate	02-11-2022	2 02-11-2022	02-11-2022	02-11-2022	

Agreement no.

CE 10/2020 (CE)

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1413 Revision 5

Scale

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EXISTING CONDITION

+161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

OM4

(max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5) OM1 OM5

Tai Kei Leng Site

+148.8-163.8 mPD (Initial scheme)

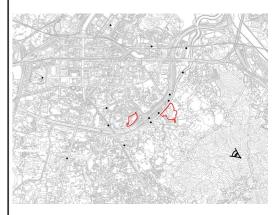
OM5

The Reach (max. 1+24)

(33-40)

YOHO Mid Town (33-40)

YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM1	Landscape Planting
OM2	Rooftop Greening
ОМ3	Vertical Greening
OM4	Aesthetically Pleasing Building Design
OM5	Provision of Local Open Space and Recreational Facilities in Development

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date	Description		Initial
	Designed	Checked	Drawn	Checked
Initial	CL	GL	CL	GL
Date	02-11-2022	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Ti

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1414

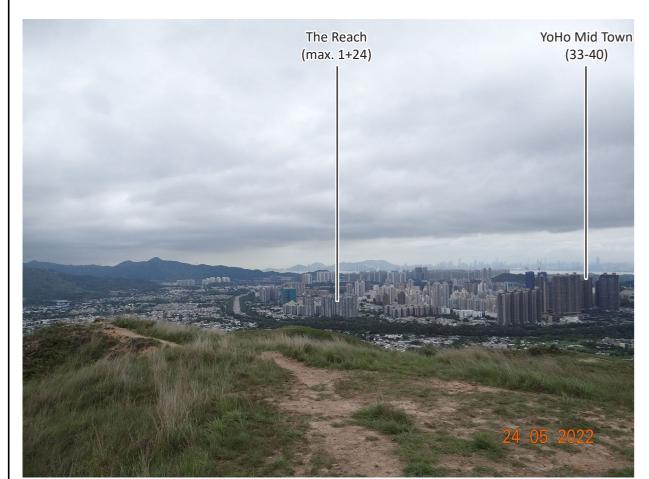
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Revision

Scale







EXISTING CONDITION



EXISTING CONDITION

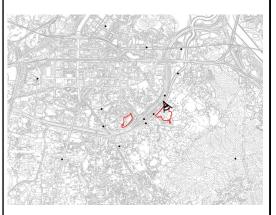
Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase)

(max. 56+2+1)



OM2

YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM1	Landscape Planting
OM2	Rooftop Greening
OM4	Aesthetically Pleasing Building Design
OM5	Provision of Local Open Space and Recreational Facilities in Development

Revision	Date	Description			Initial	
	Designed		Checked	Drawn	Checked	
nitial	CL		GL	CL	GL	
Date	02-11-202	2	02-11-2022	02-11-2022	02-11-2022	

Approve

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1415

Revision 5

Scale



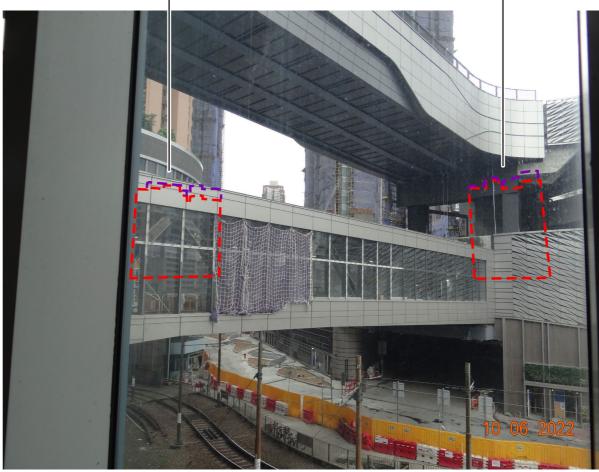


Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1)

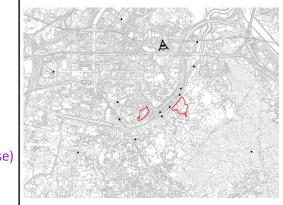
+161.5-182.8 mPD (BH with 25m increase) (max. 56+2+1)

Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5)

+163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Building Height in Initial scheme (Invisible)

Revision	Date	Descripti	Initial	
	Designed	Checked	Drawn	Checked
Initial	CI	GL	CI	GL
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Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1416

Revision 5

Scale







EXISTING CONDITION

Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase)

(max. 56+2+1)

Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)

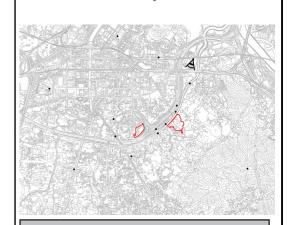
OM4 -



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



Mitigation Measures for Operation Phase Impact

OM4 Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Revision	Date	Descripti	Initial	
	Designed	Checked	Drawn	Checked
Initial	CL	GL	CL	GL
Date	02-11-2022	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1417

Revision 5

Scale





Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase)

(max. 50+1+5)

OM4

Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase)

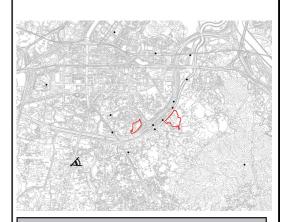
(max. 56+2+1)



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



Mitigation Measures for Operation Phase Impact

M4 Aesthetically Pleasing Building Design

- Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)
- Building Height in Initial scheme (Invisible)

evision	Date	Description	Initial		
	Designed	Checked	Drawn	Checked	
nitial	CL	GL	CL	GL	
ate	02-11-2022	2 02-11-2022	02-11-2022	02-11-2022	

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Drawing No. 406041/S&T/FR/1418

Revision 5

Scale





Tai Kei Leng Site +148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)

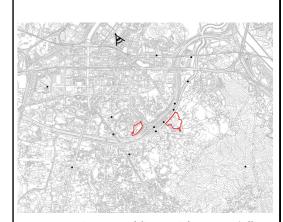
Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase) _ (max. 56+2+1)



EXISTING CONDITION



YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

Building Height in Initial scheme (Invisible)

Revision	Date	Descripti	Initial	
	Designed	Checked	Drawn	Checked
Initial	CL	GL	CL	GL
Date	02-11-2022	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

Revision

Drawing No.

406041/S&T/FR/1419

Scale





EXISTING CONDITION

Shap Pat Heung Site +136.5-157.8 mPD (Initial scheme) (max. 49+1+1) +161.5-182.8 mPD (BH with 25m increase)

61.5-182.8 mPD (BH with 25m increase (max. 56+2+1)

OM4 -

+148.8-163.8 mPD (Initial scheme) (max. 45+1+5) +163.8-178.8 mPD (BH with 15m increase) (max. 50+1+5)

Tai Kei Leng Site

(max. 1+24)

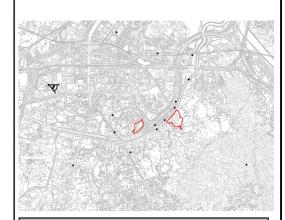
The Reach



The Reach

(max. 1+24)

YEAR 10 OPERATION PHASE WITH LANDSCAPE AND VISUAL MITIGATION MEASURES



	Mitigation Measures for Operation Phase Impact
OM4	Aesthetically Pleasing Building Design

 Maximum Building Height potentially increased by 15m in Tai Kei Leng site /25m in Shap Pat Heung site (indicative)

 Building Height in Initial scheme (Invisible)

Revision	Date	Descripti	Initial	
	Designed	Checked	Drawn	Checked
Initial	CL	GL	CL	GL
Date	02-11-2022	02-11-2022	02-11-2022	02-11-2022

Approved

Agreement no.

CE 10/2020 (CE)

Project Title:

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng, Yuen Long – Feasibility Study

Drawing Title

Photomontages

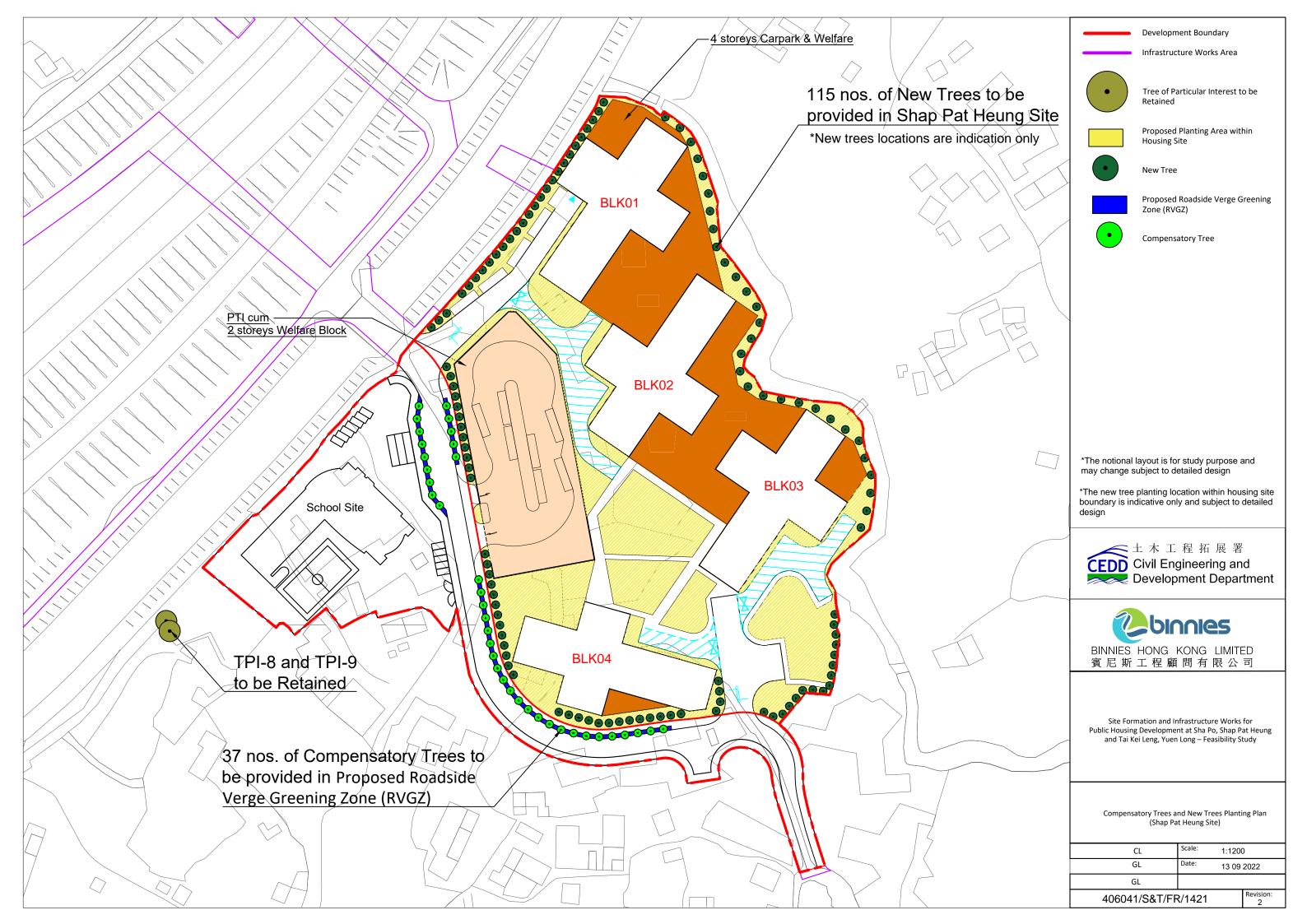
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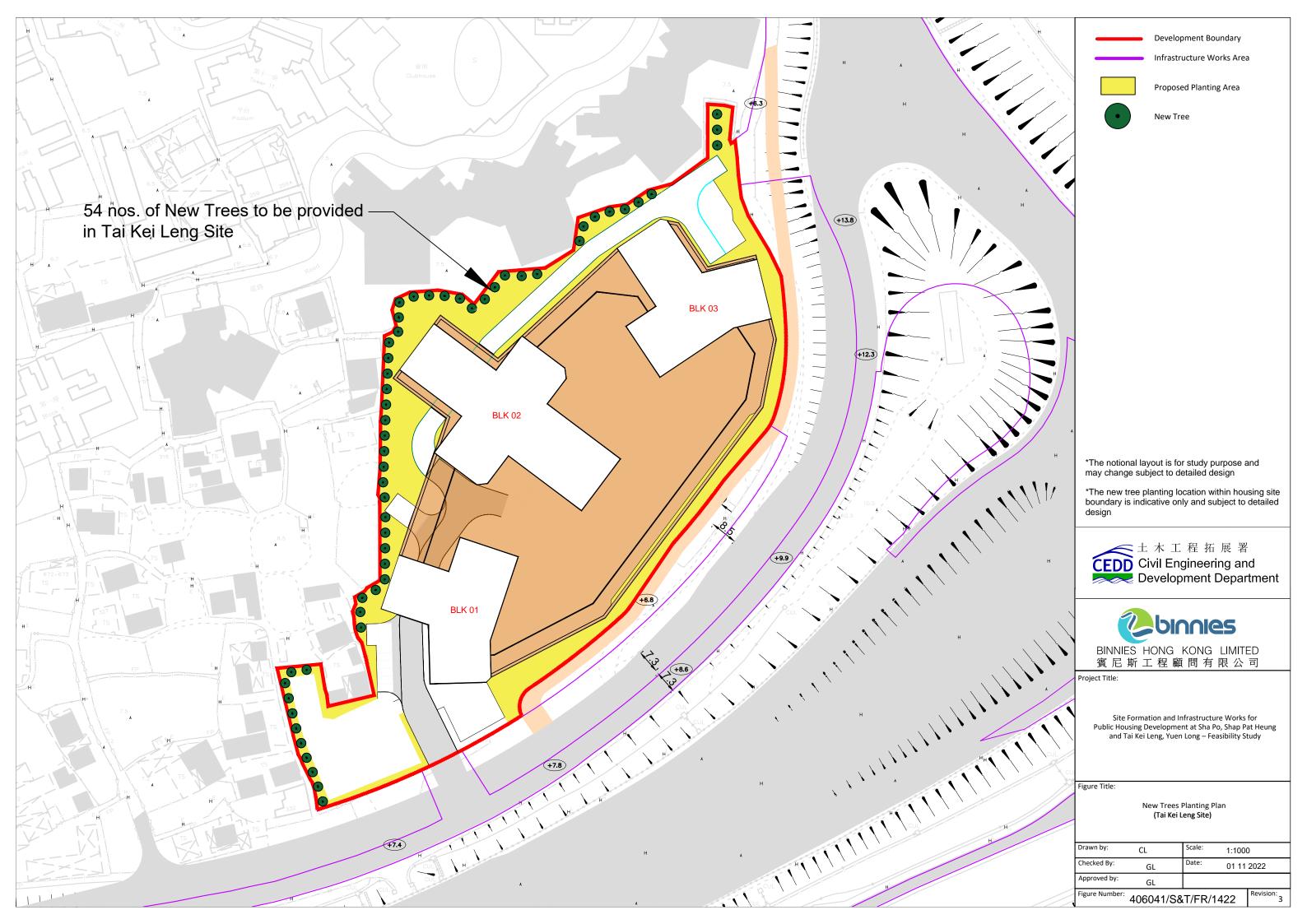
Revision 5

Scale

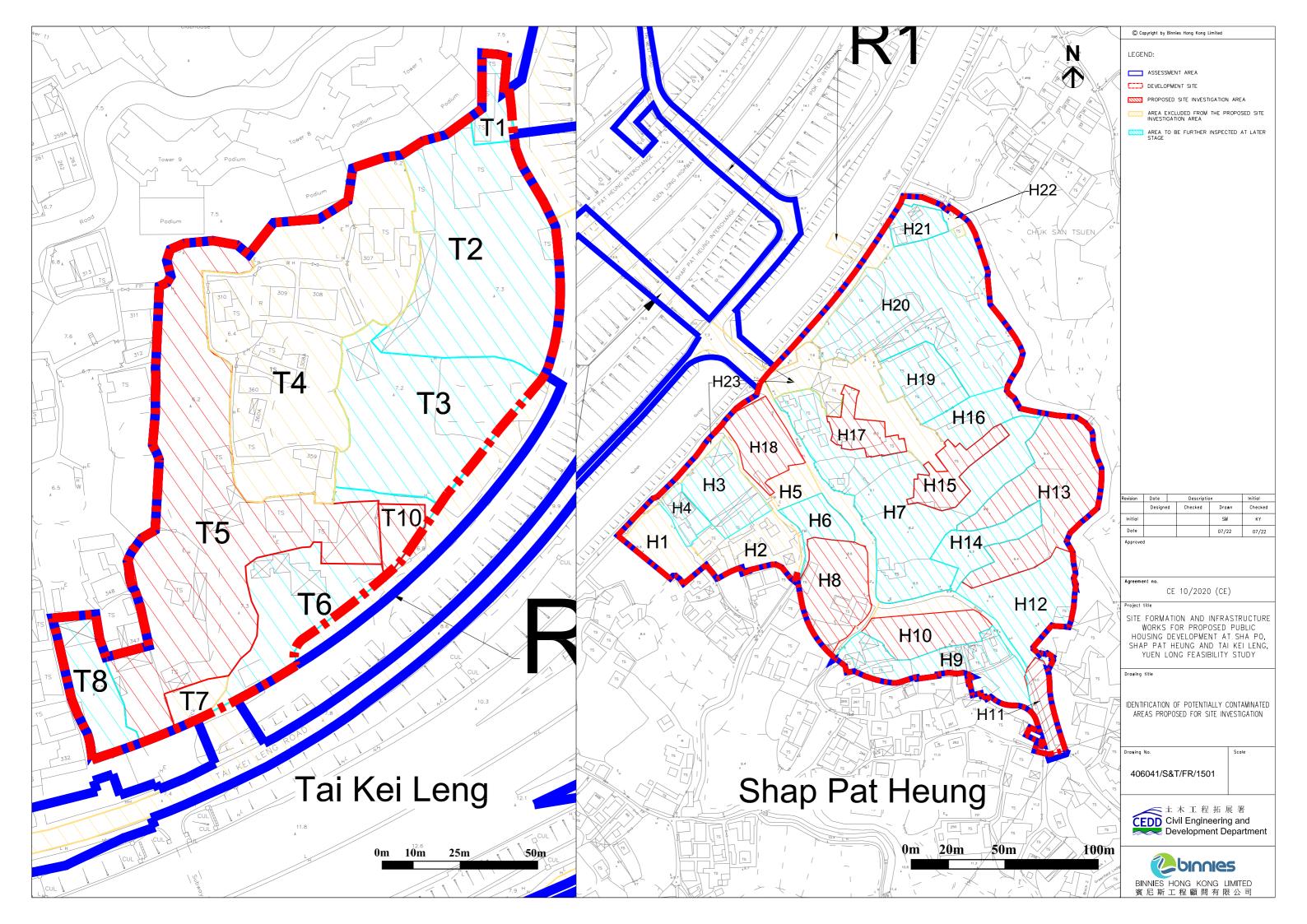






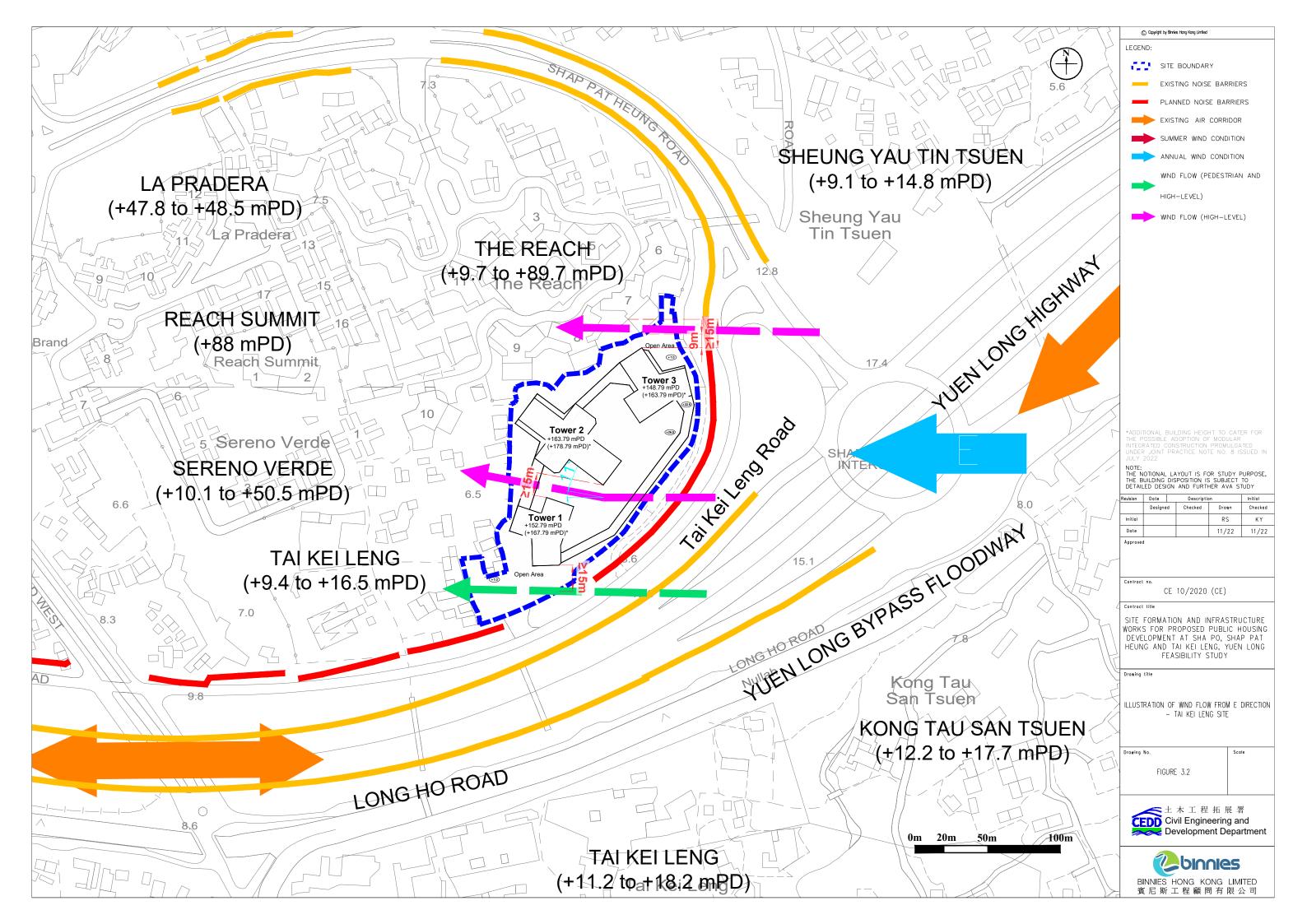


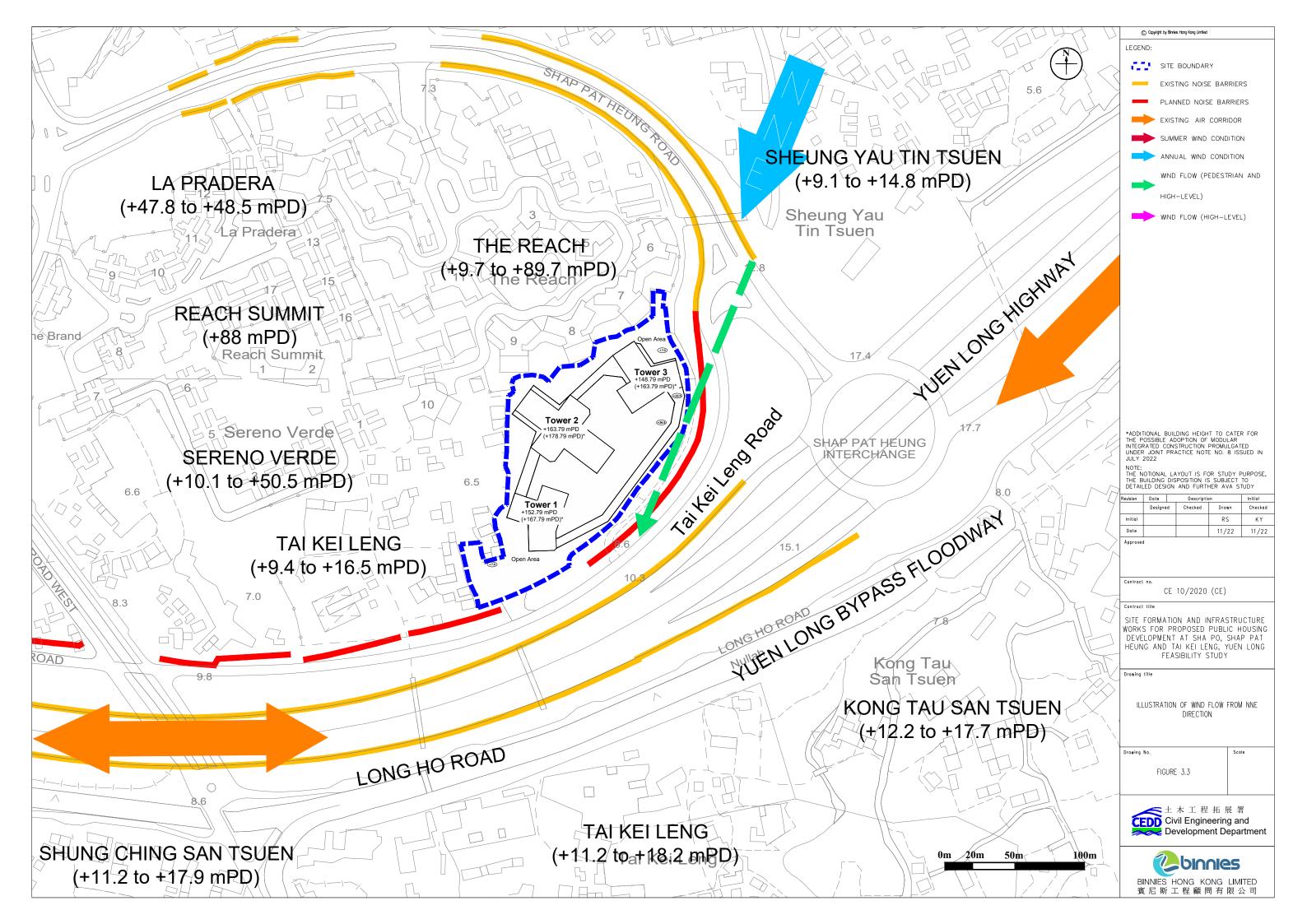


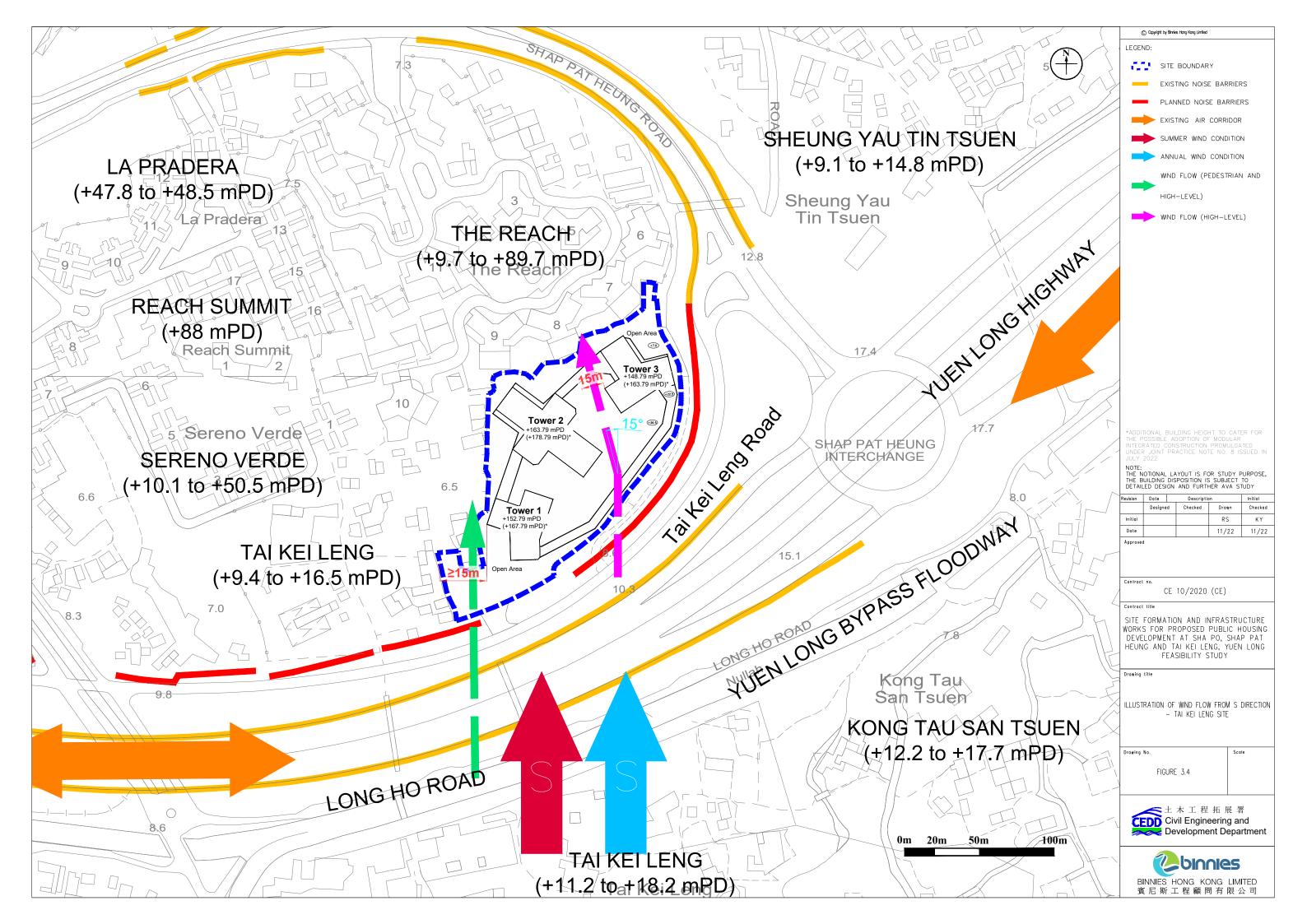


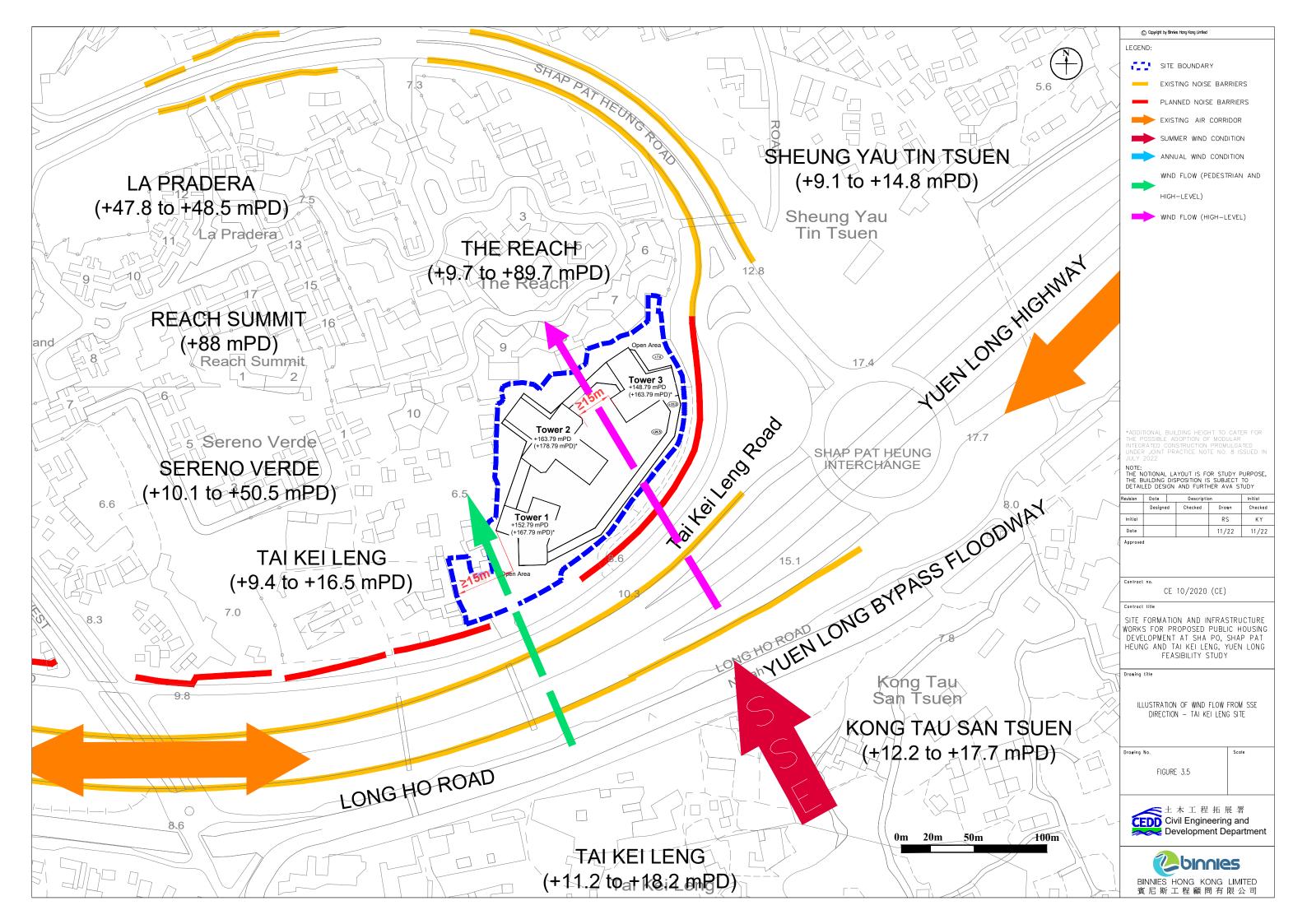
APPENDIX A SUMMARY OF PREVAILING WINDS

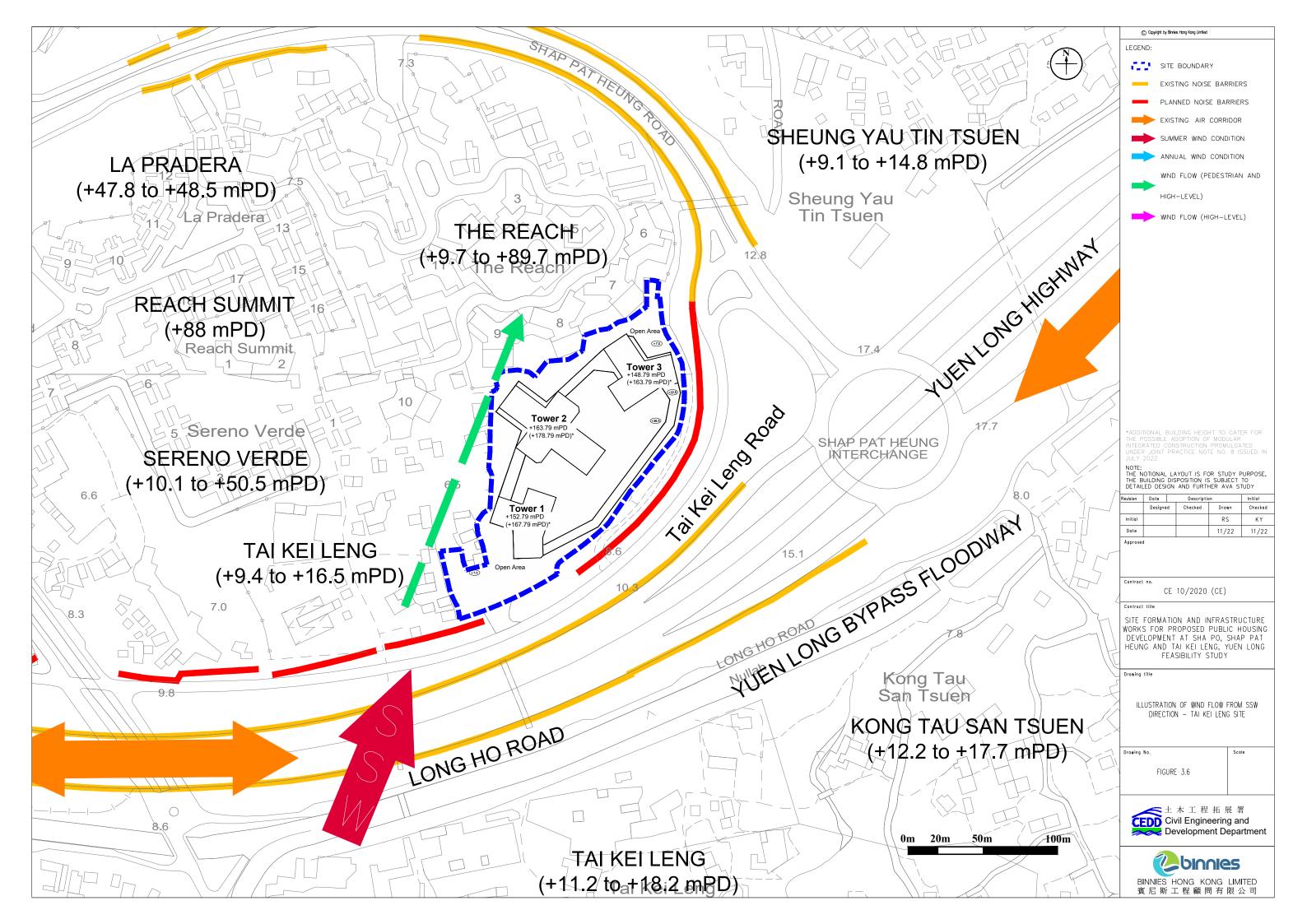


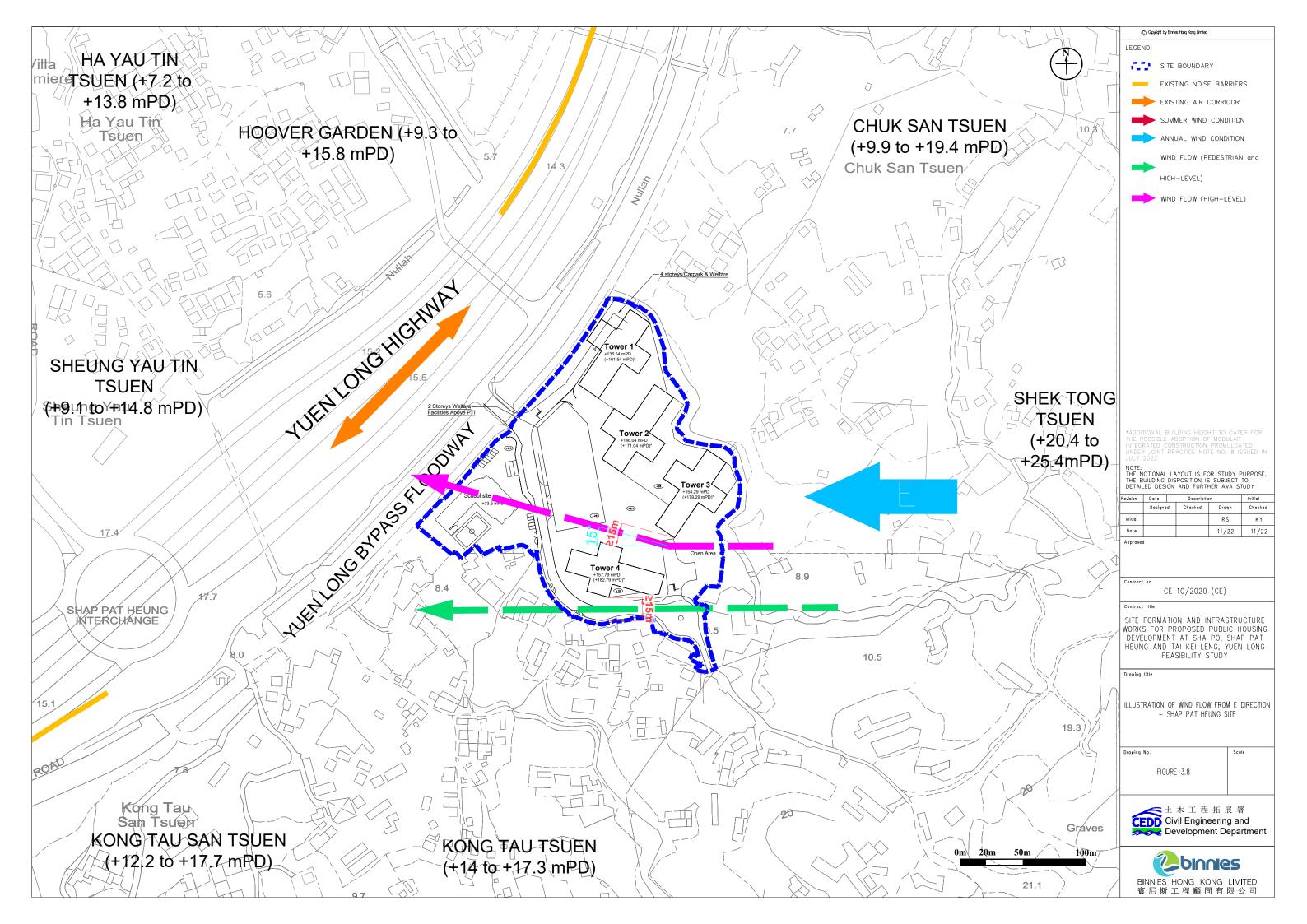


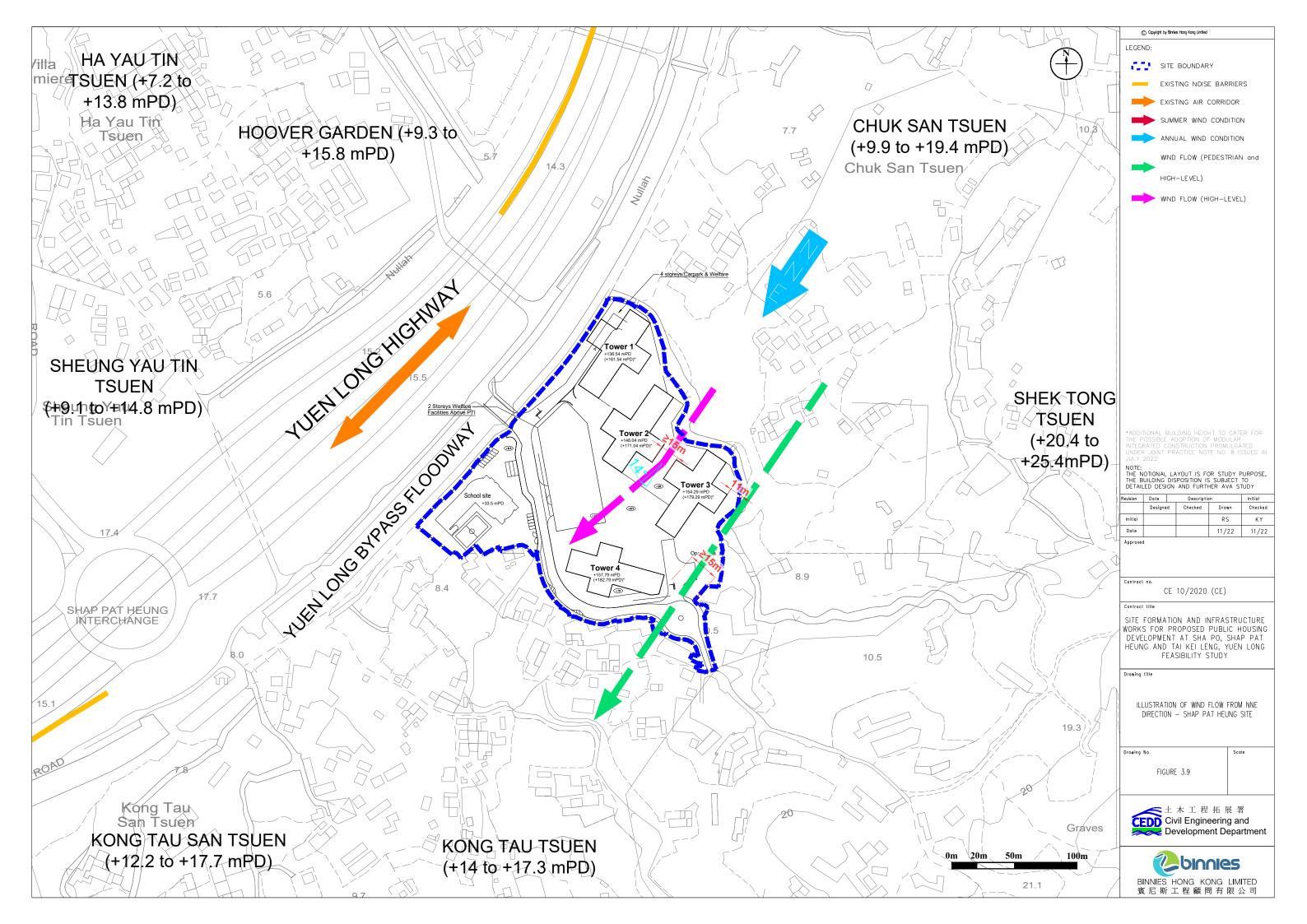


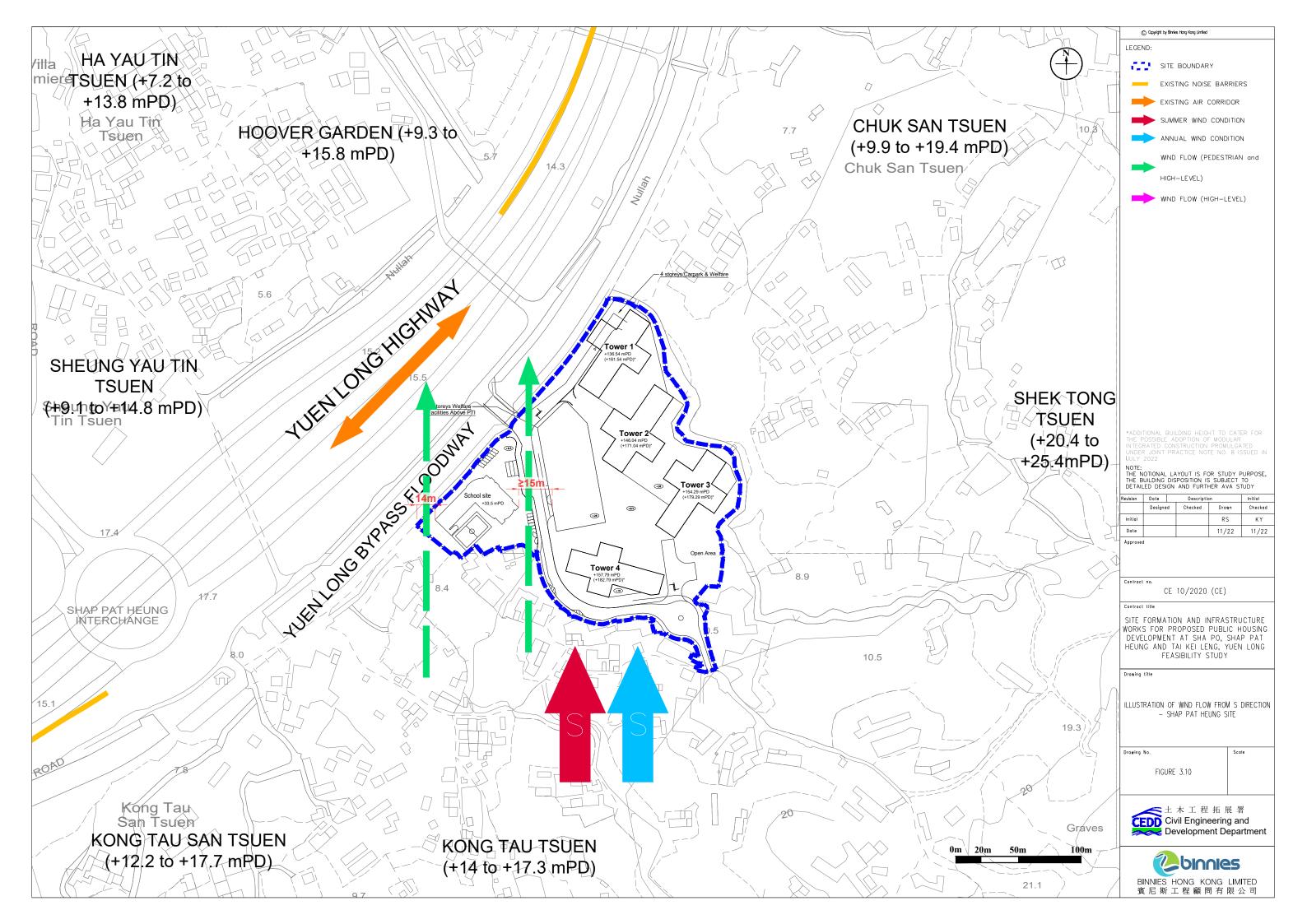


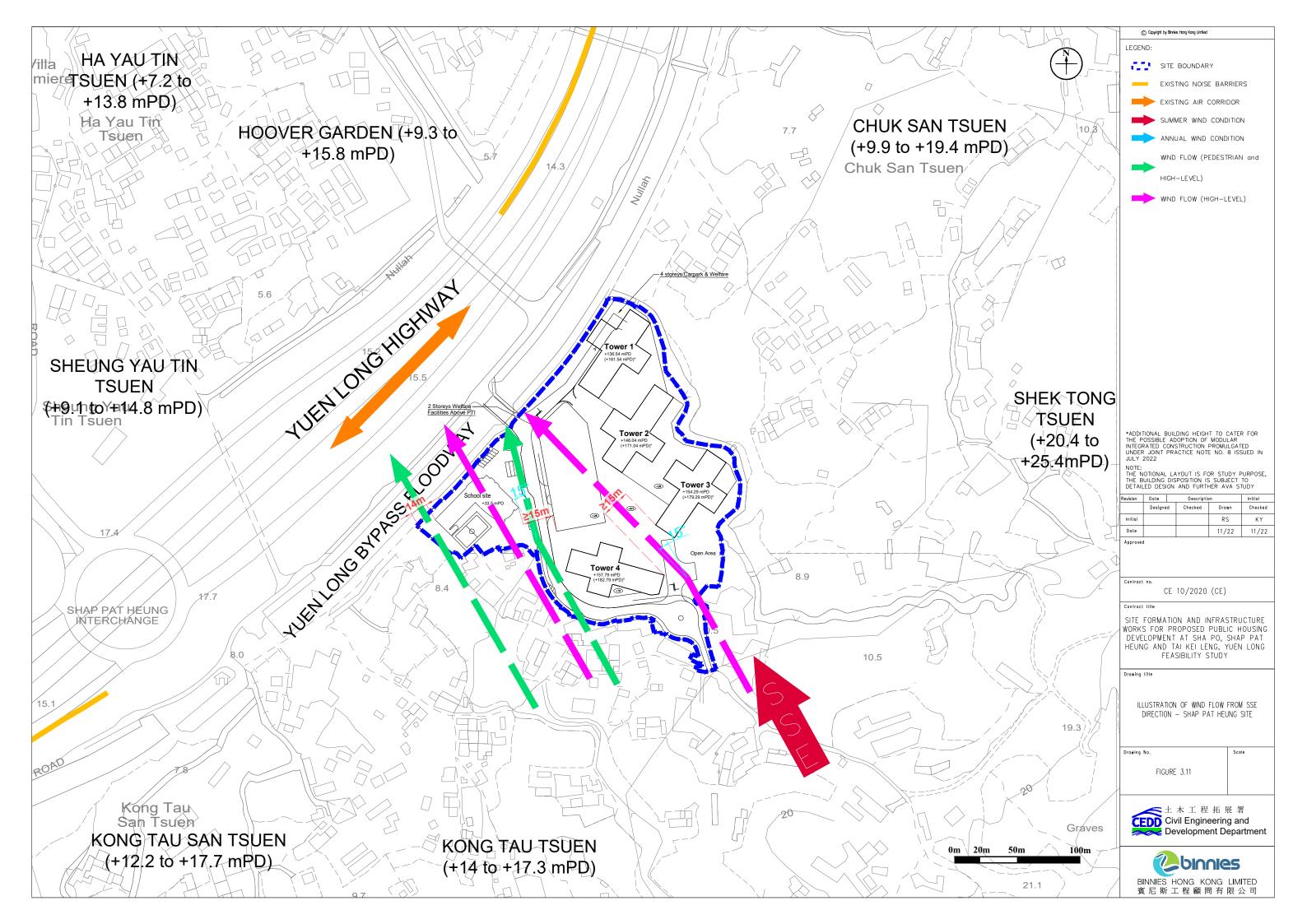


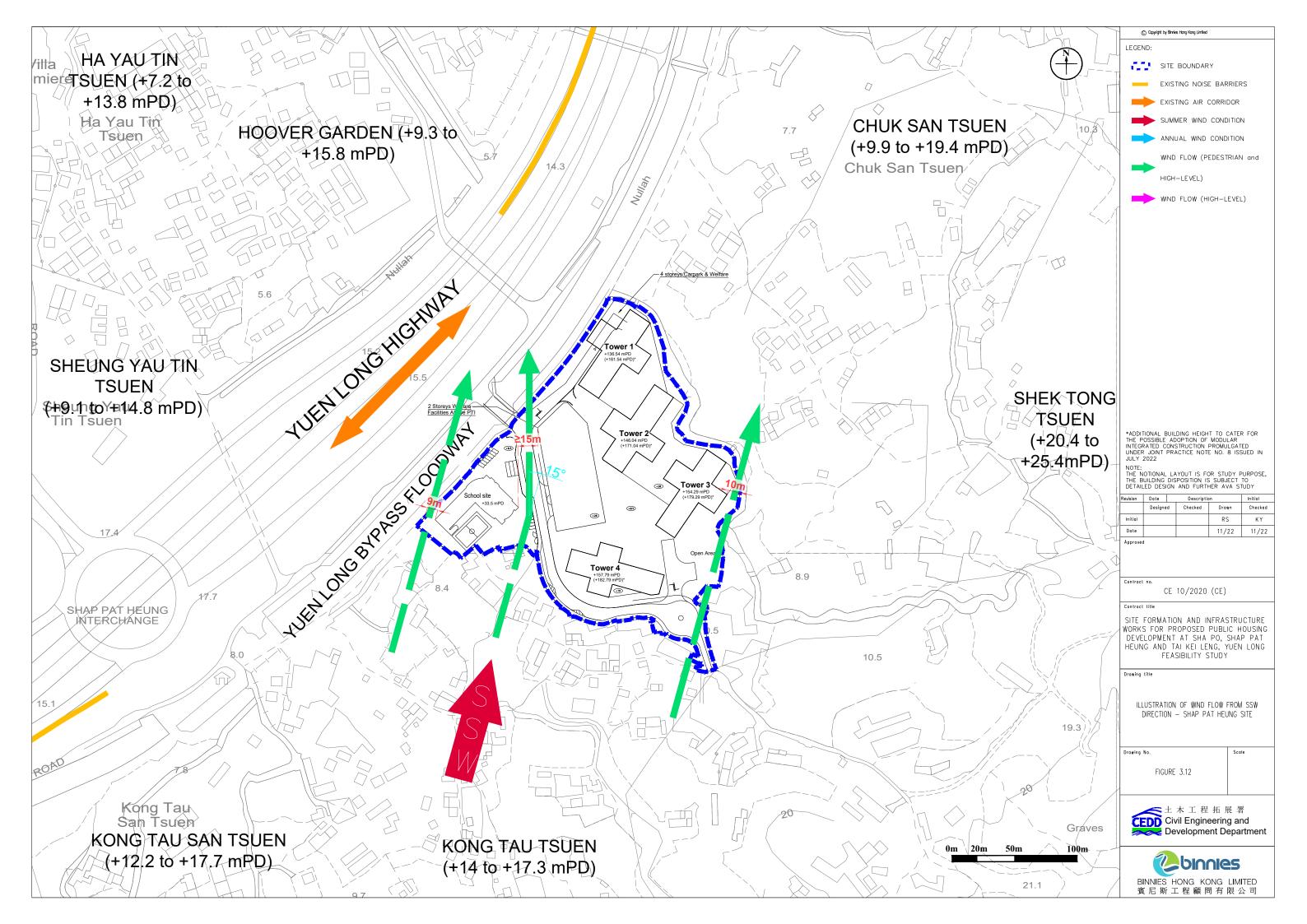






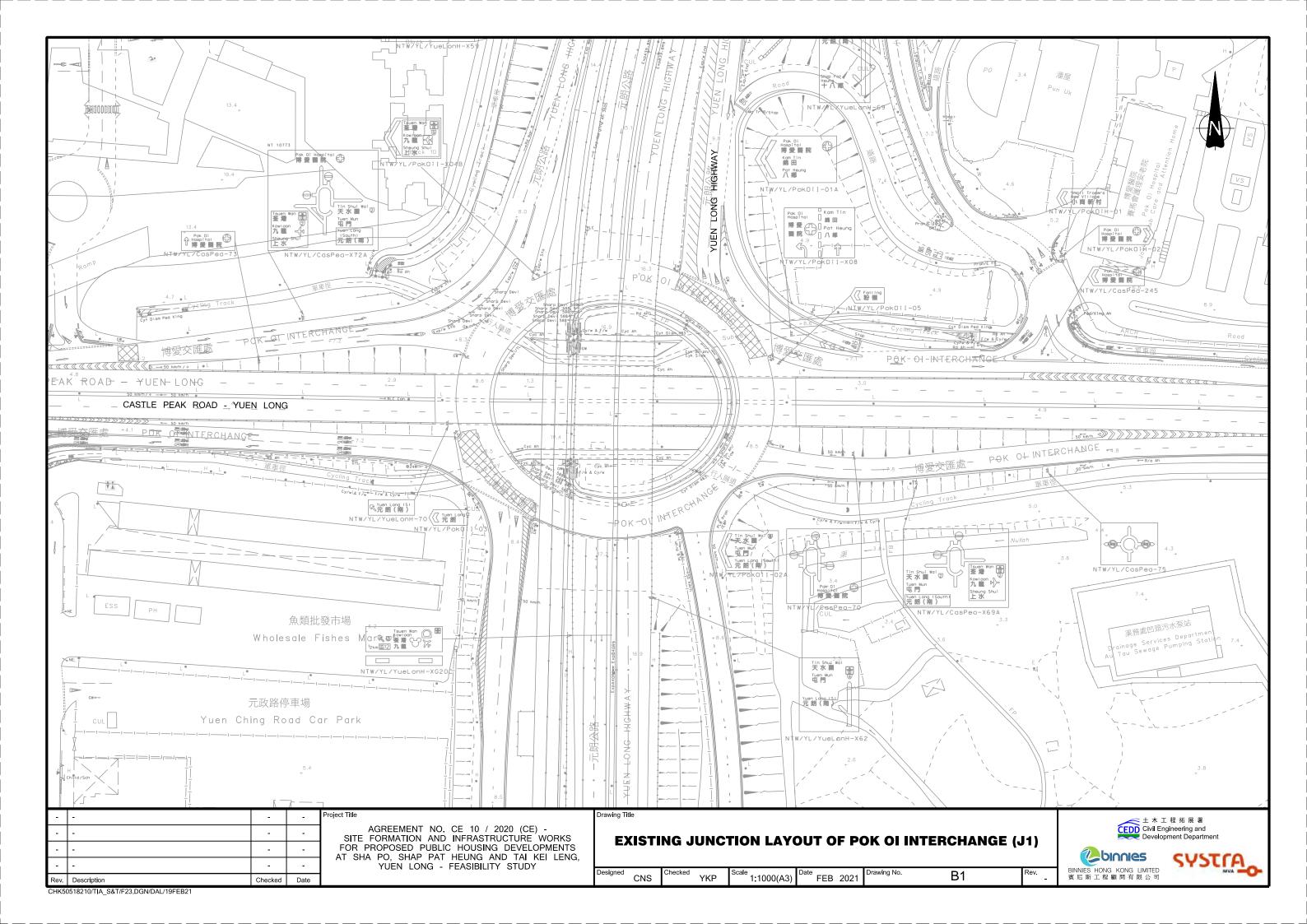


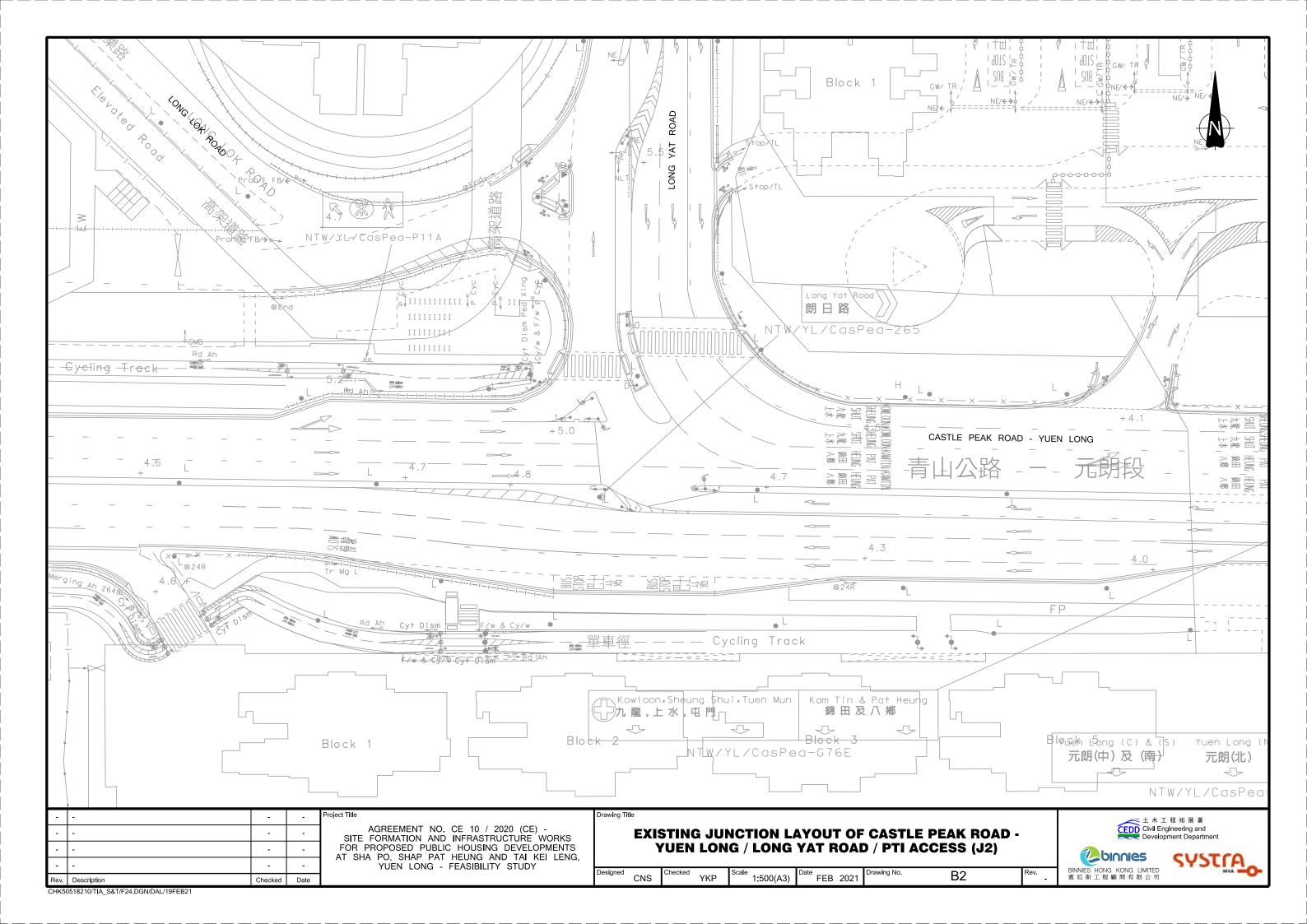


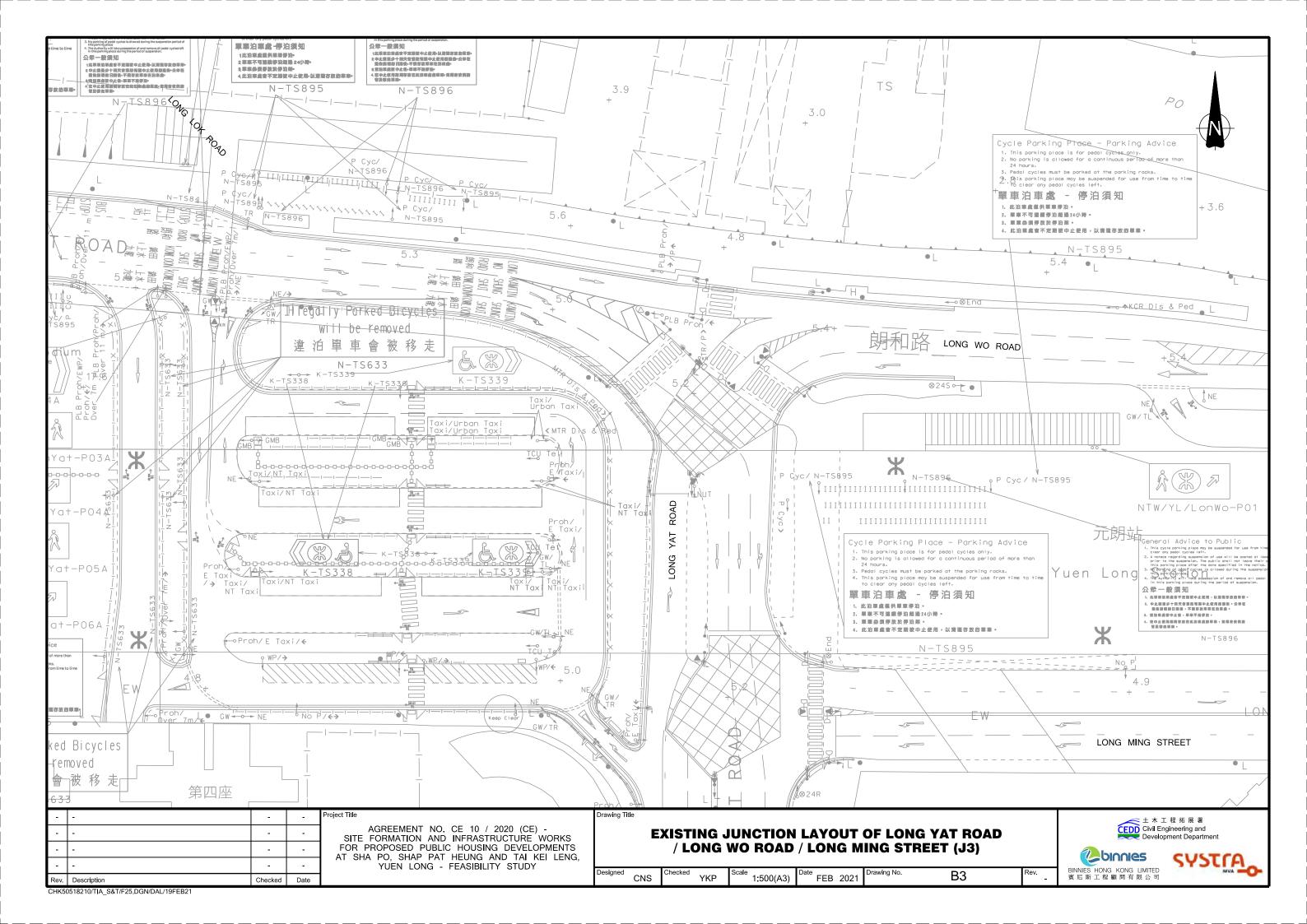


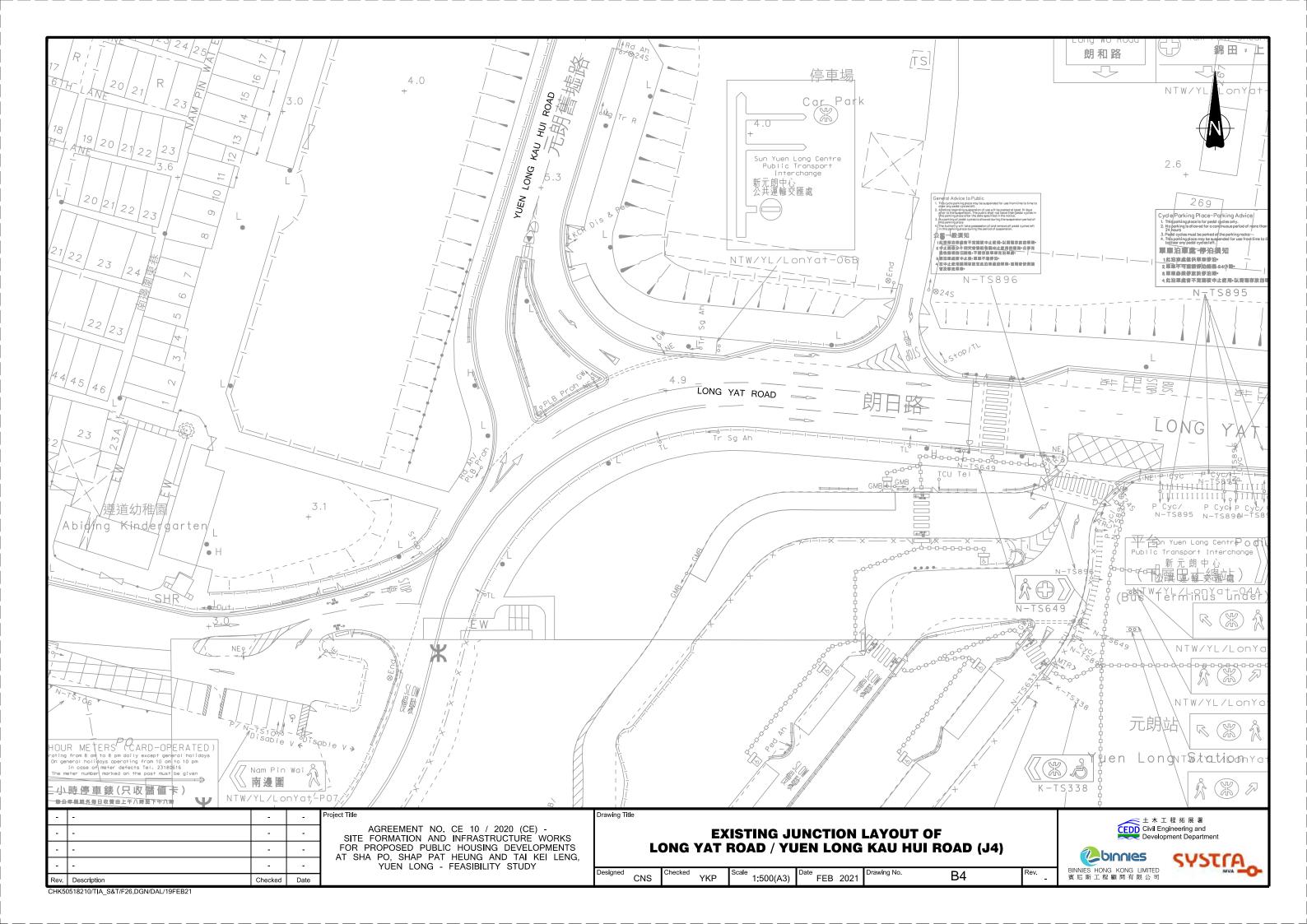
APPENDIX B EXISTING AND PROPOSED JUNCTION LAYOUTS

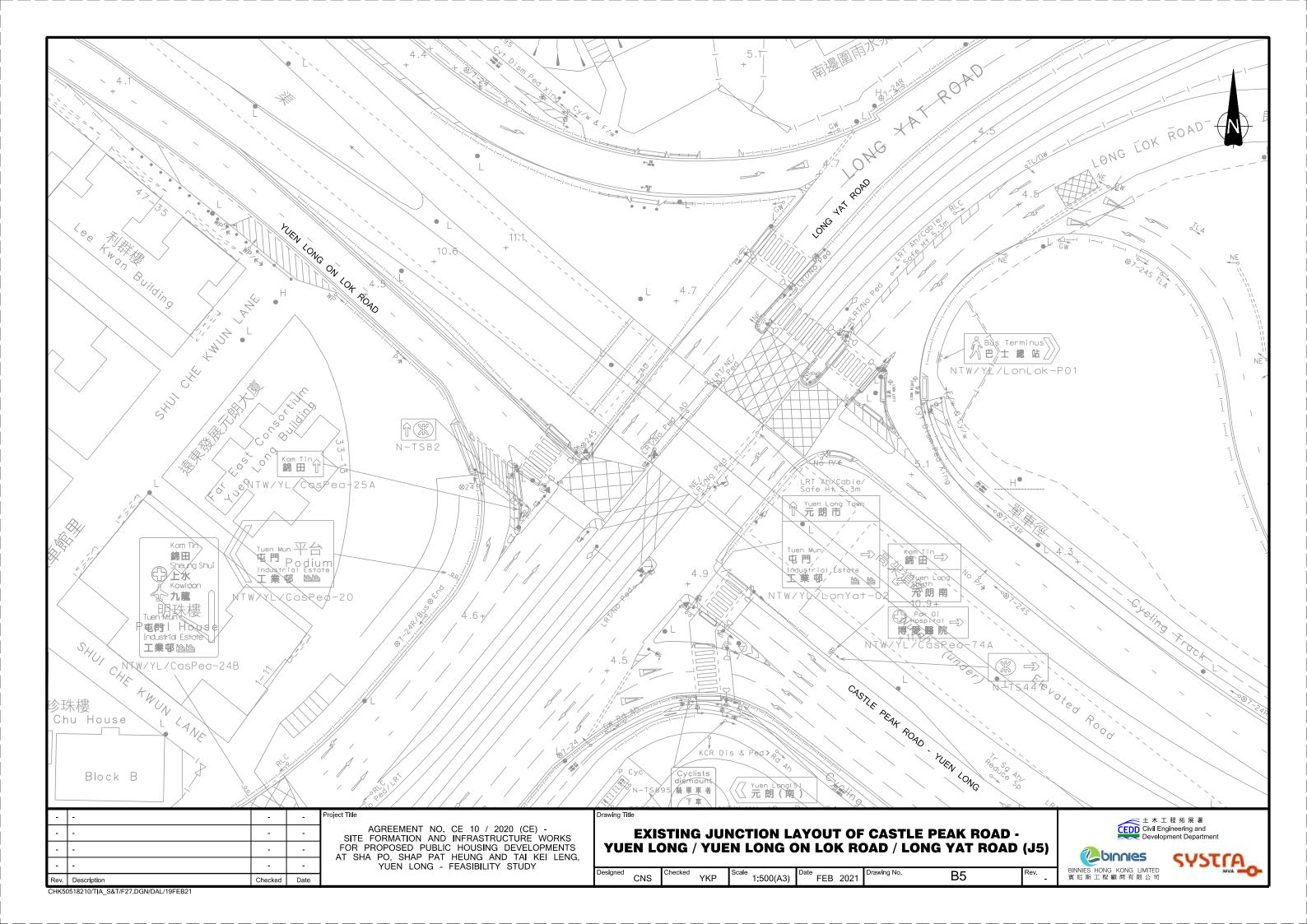


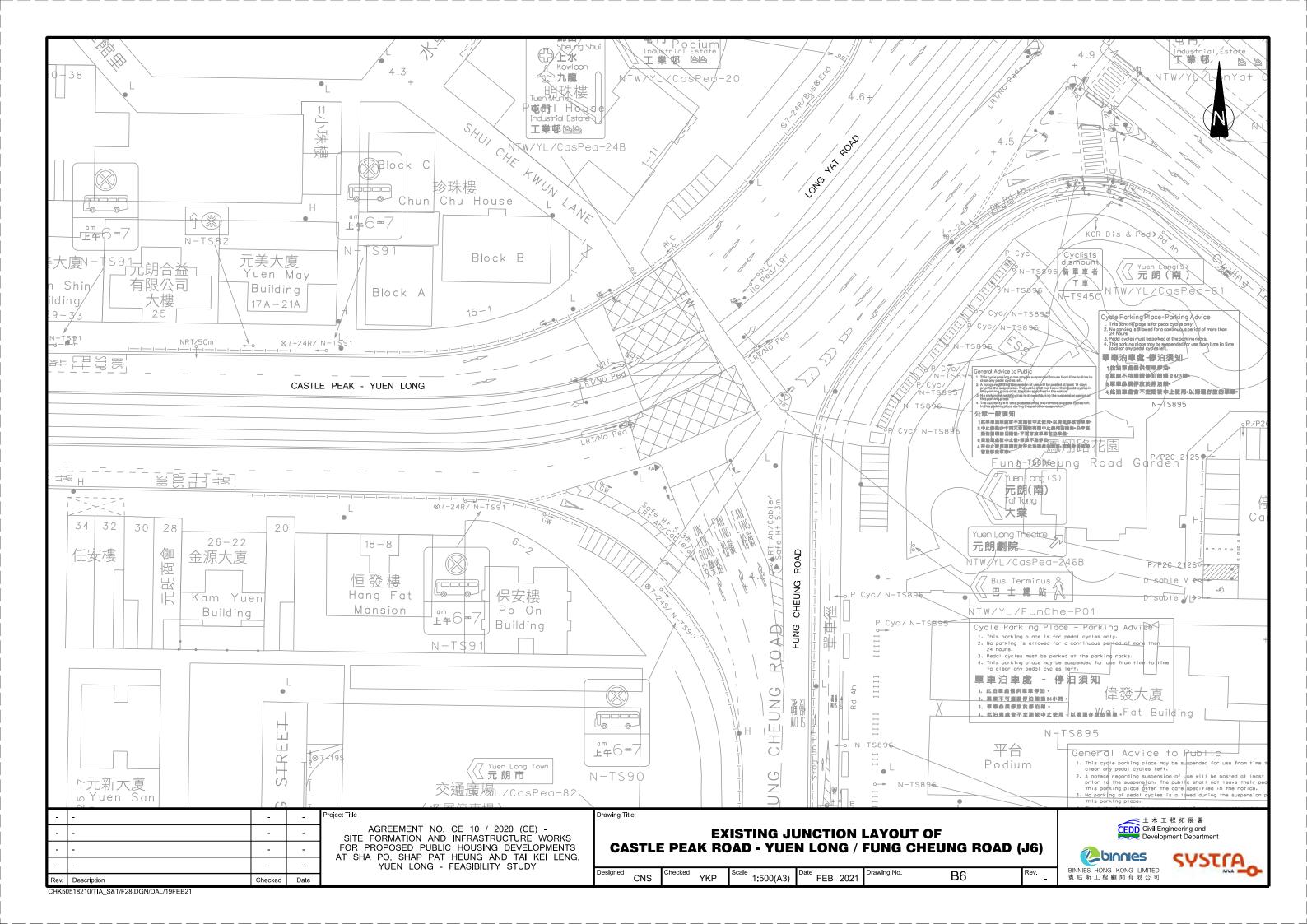


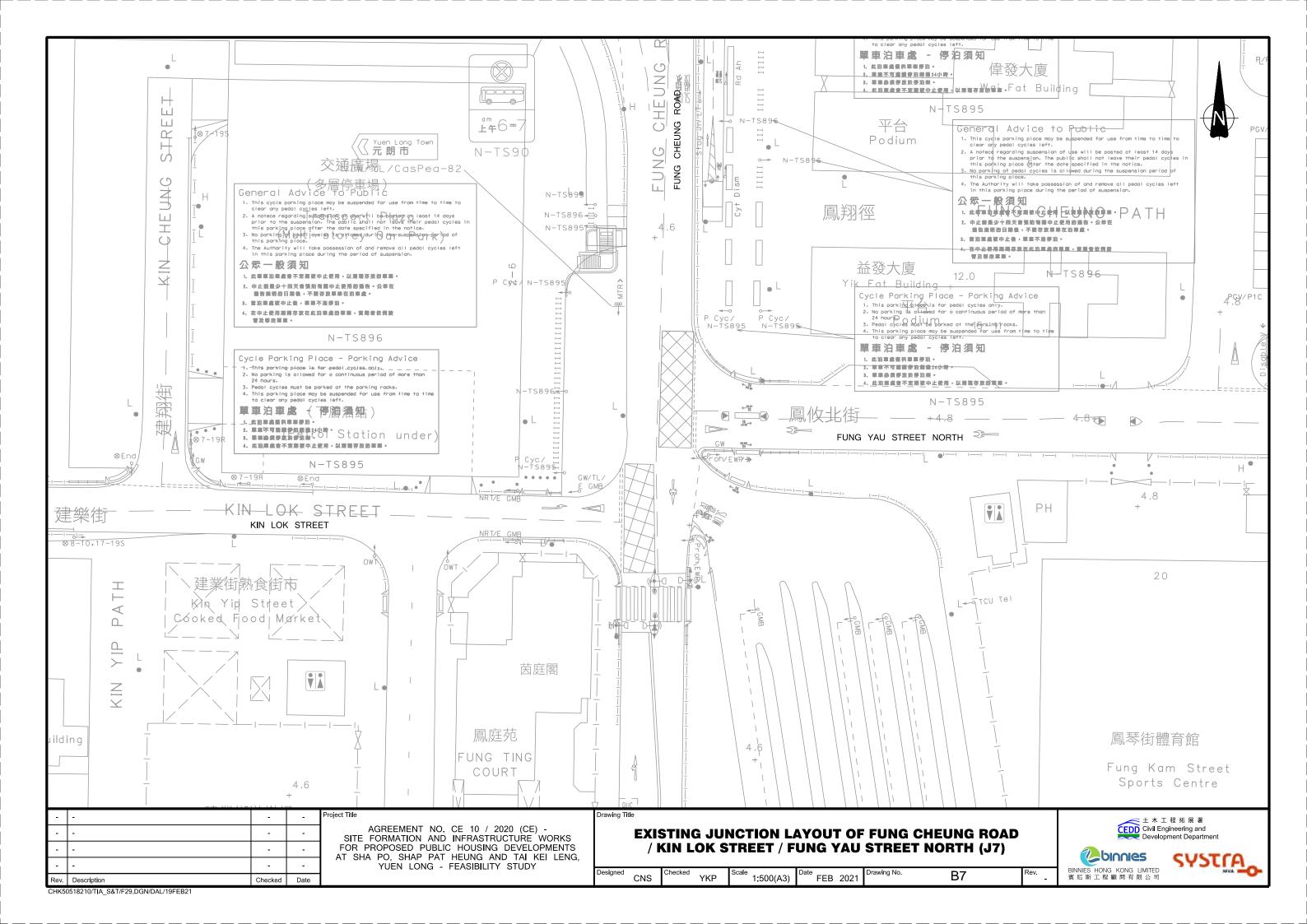


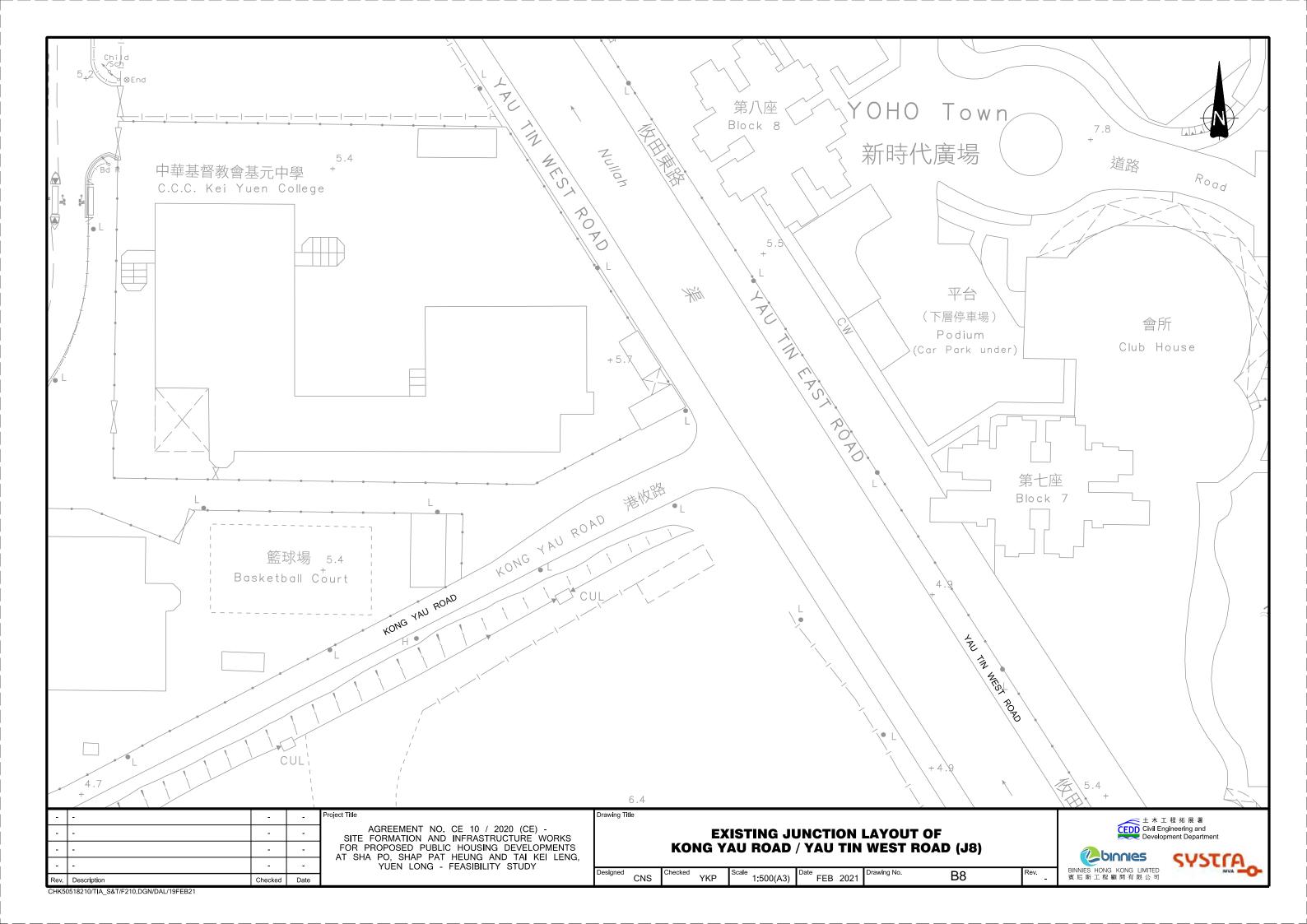


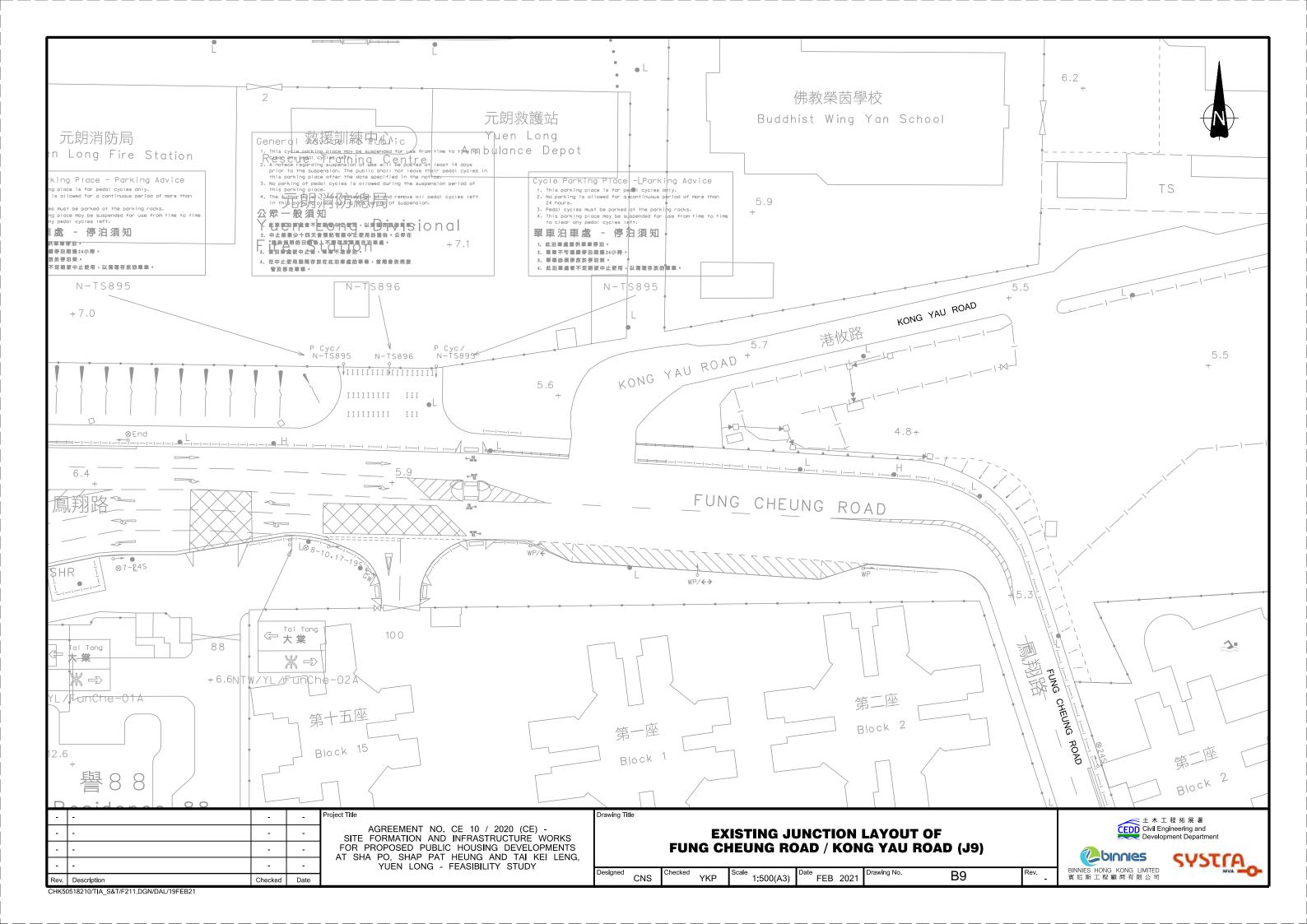


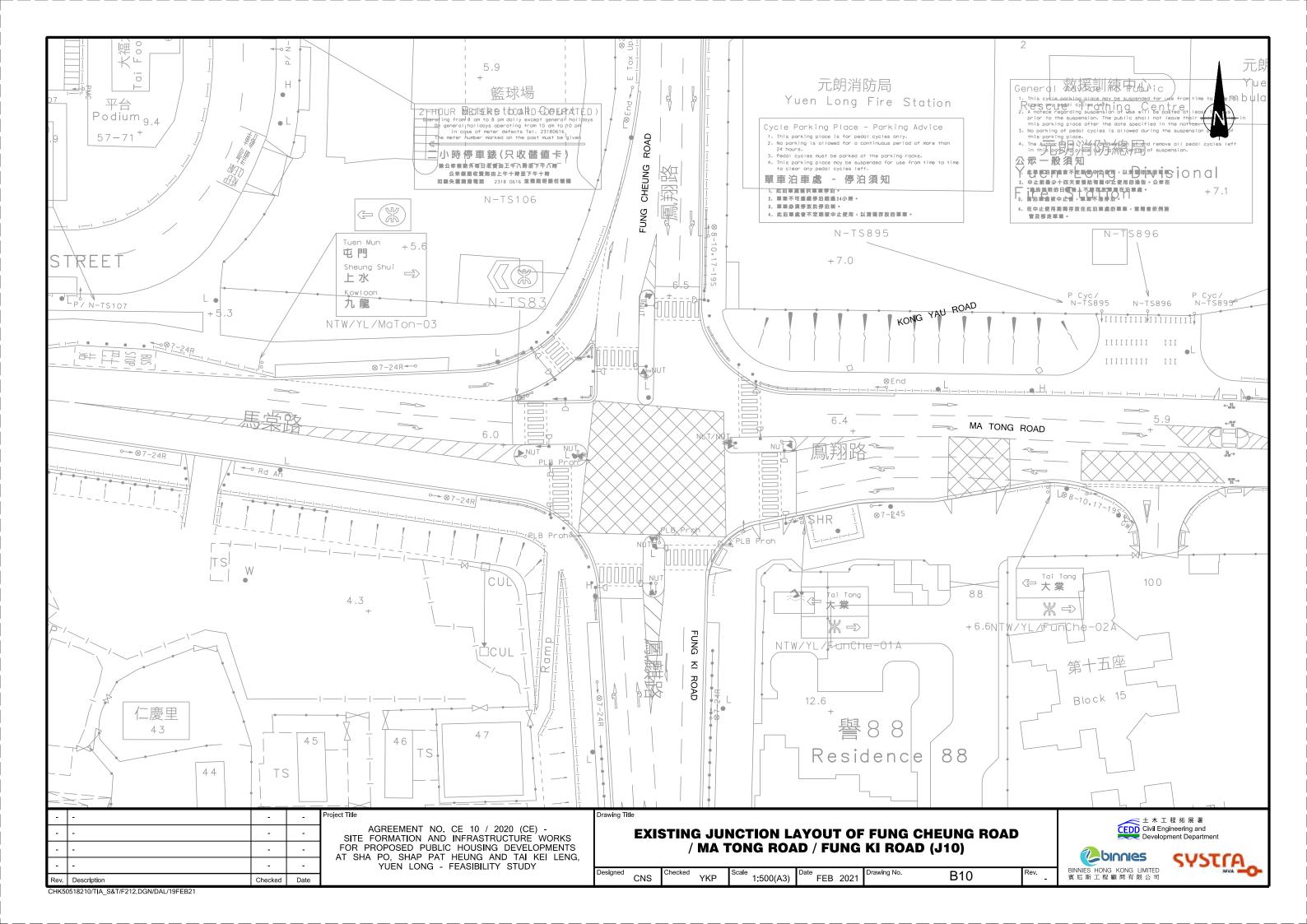


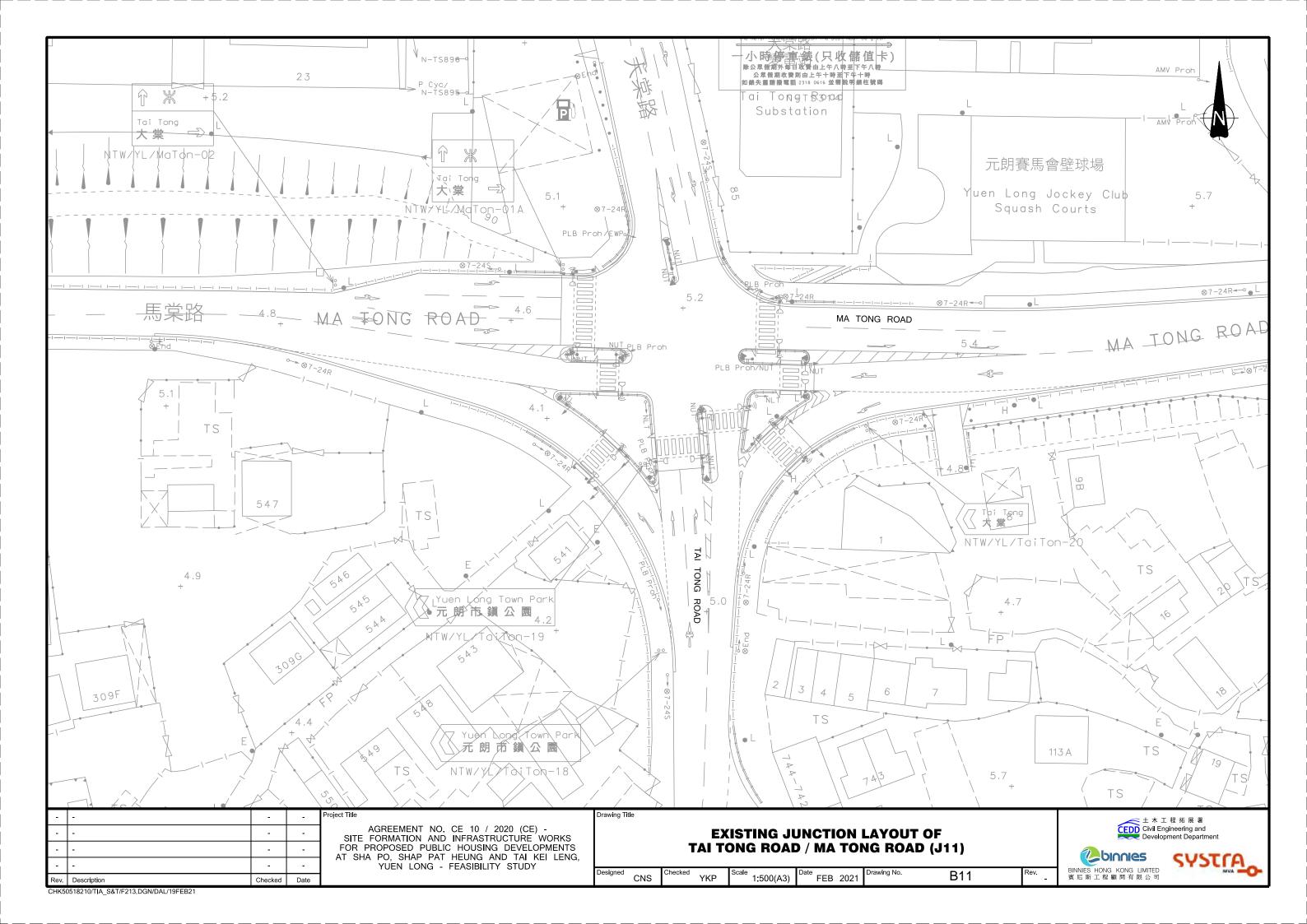


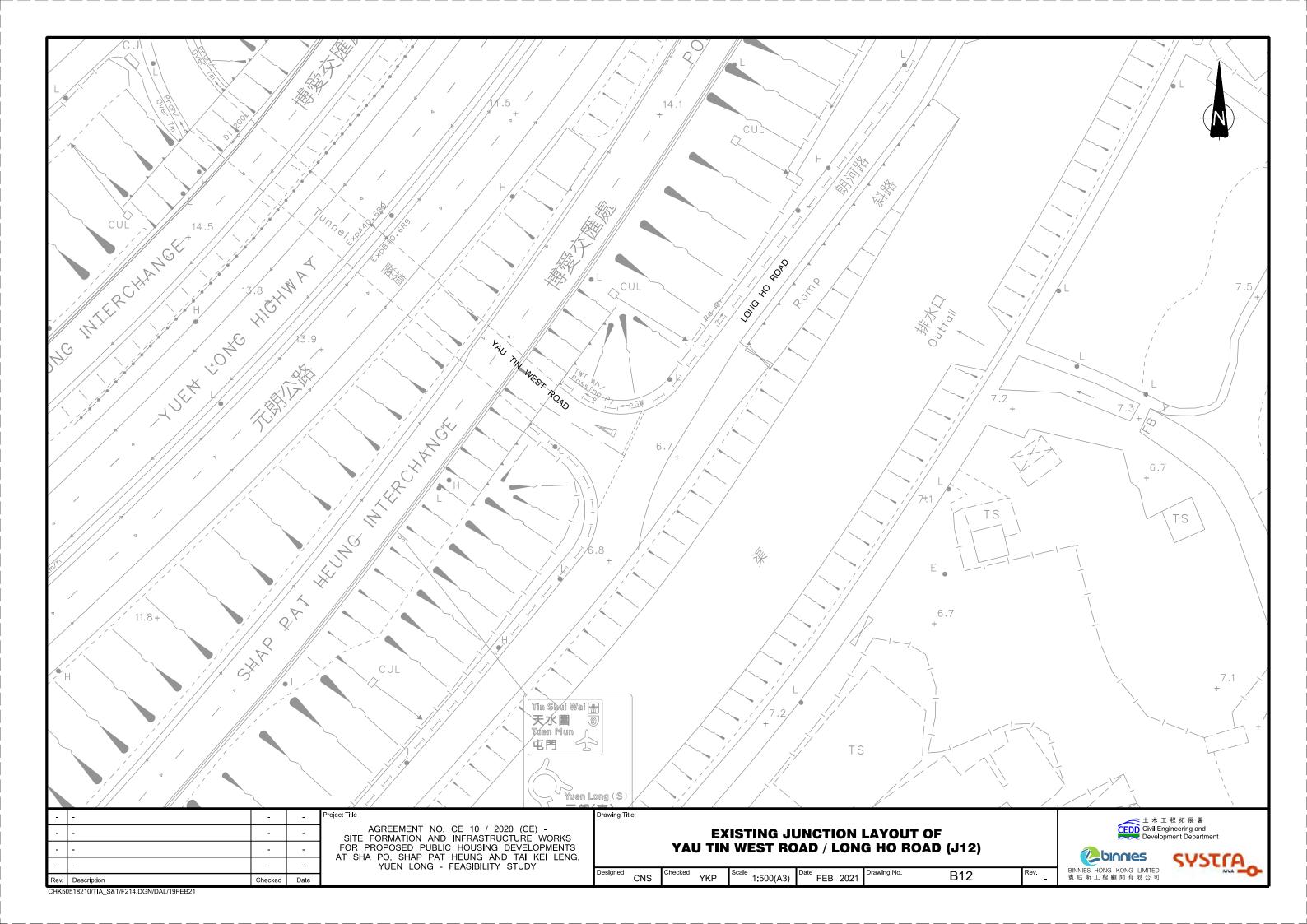


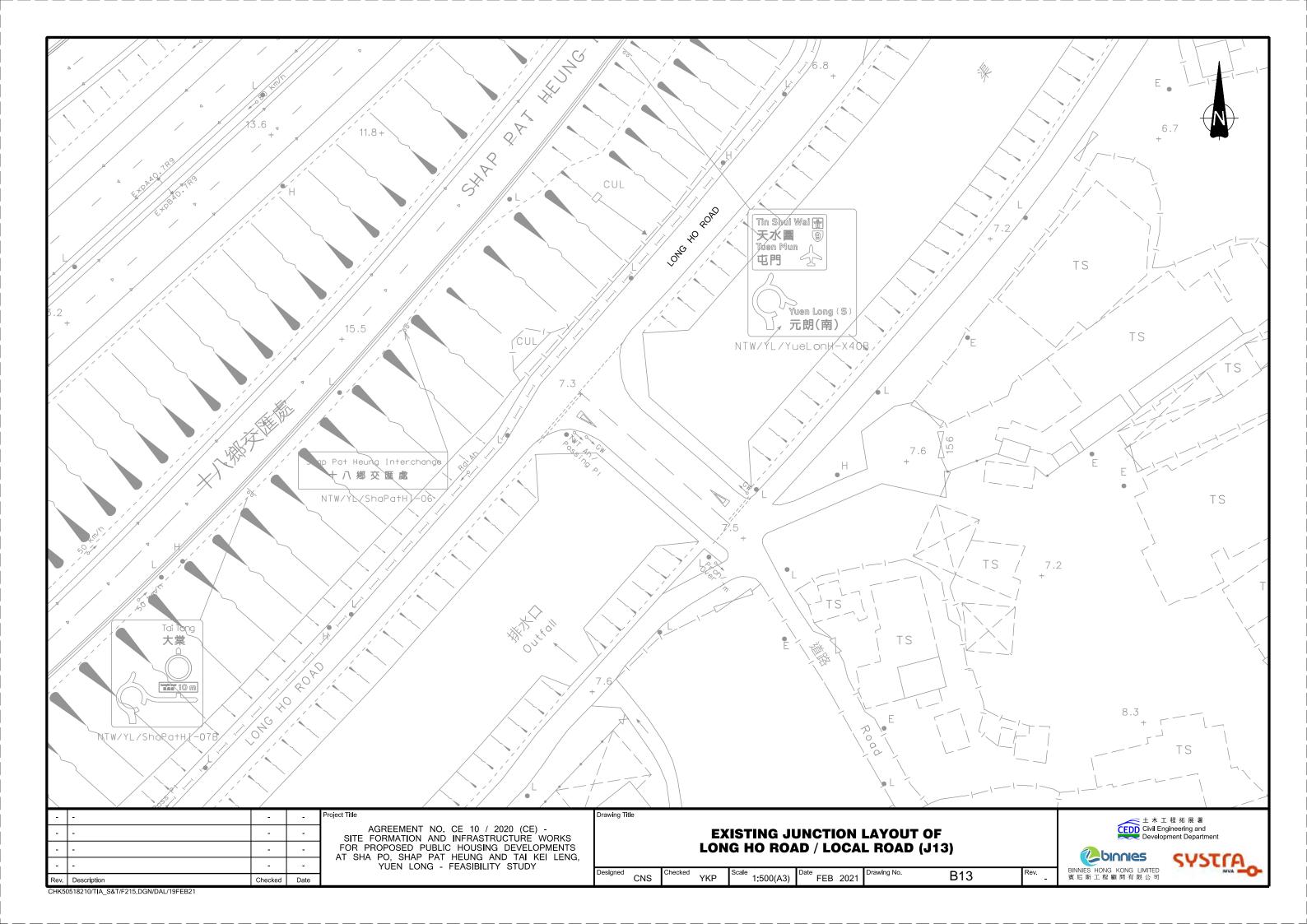


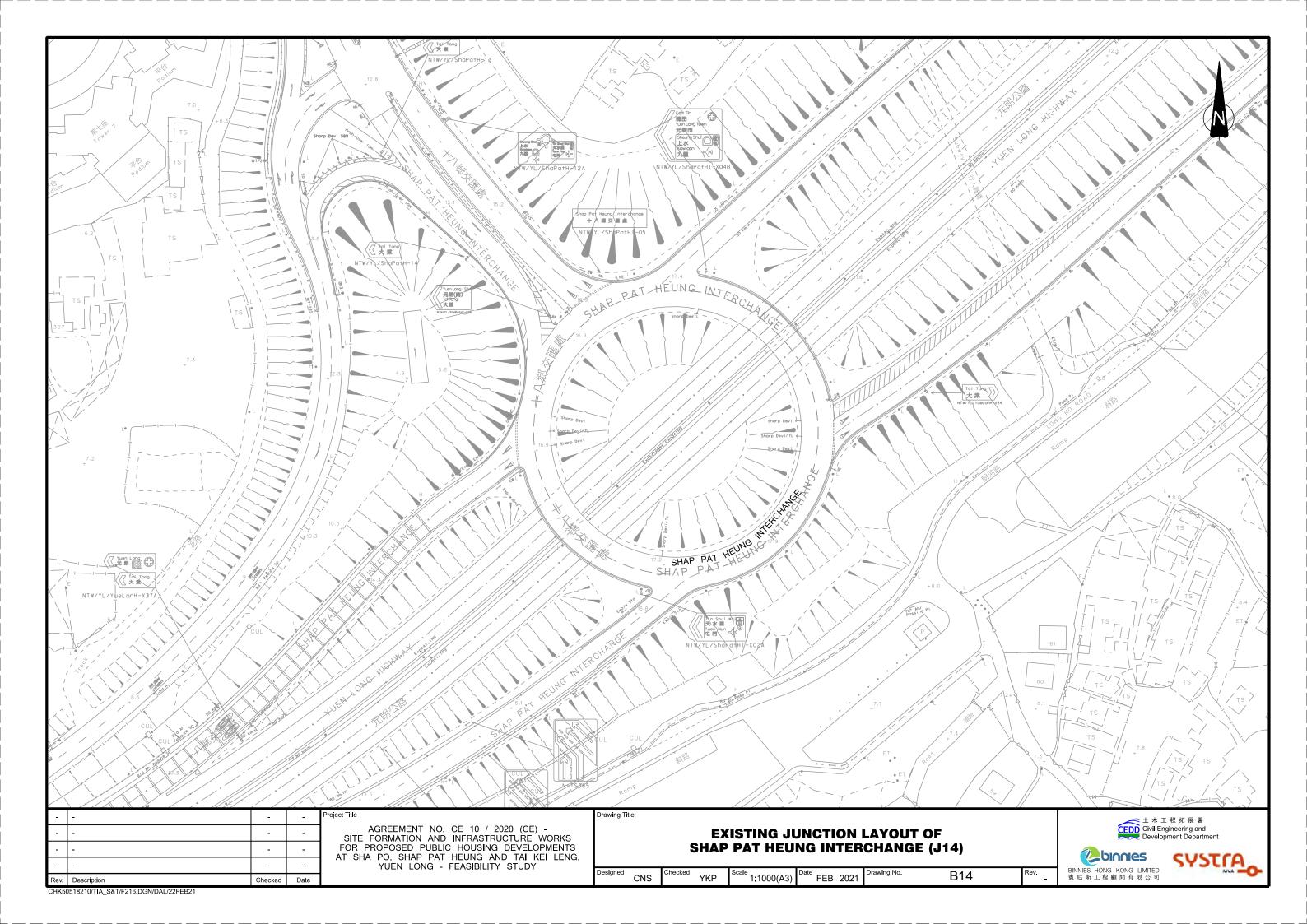


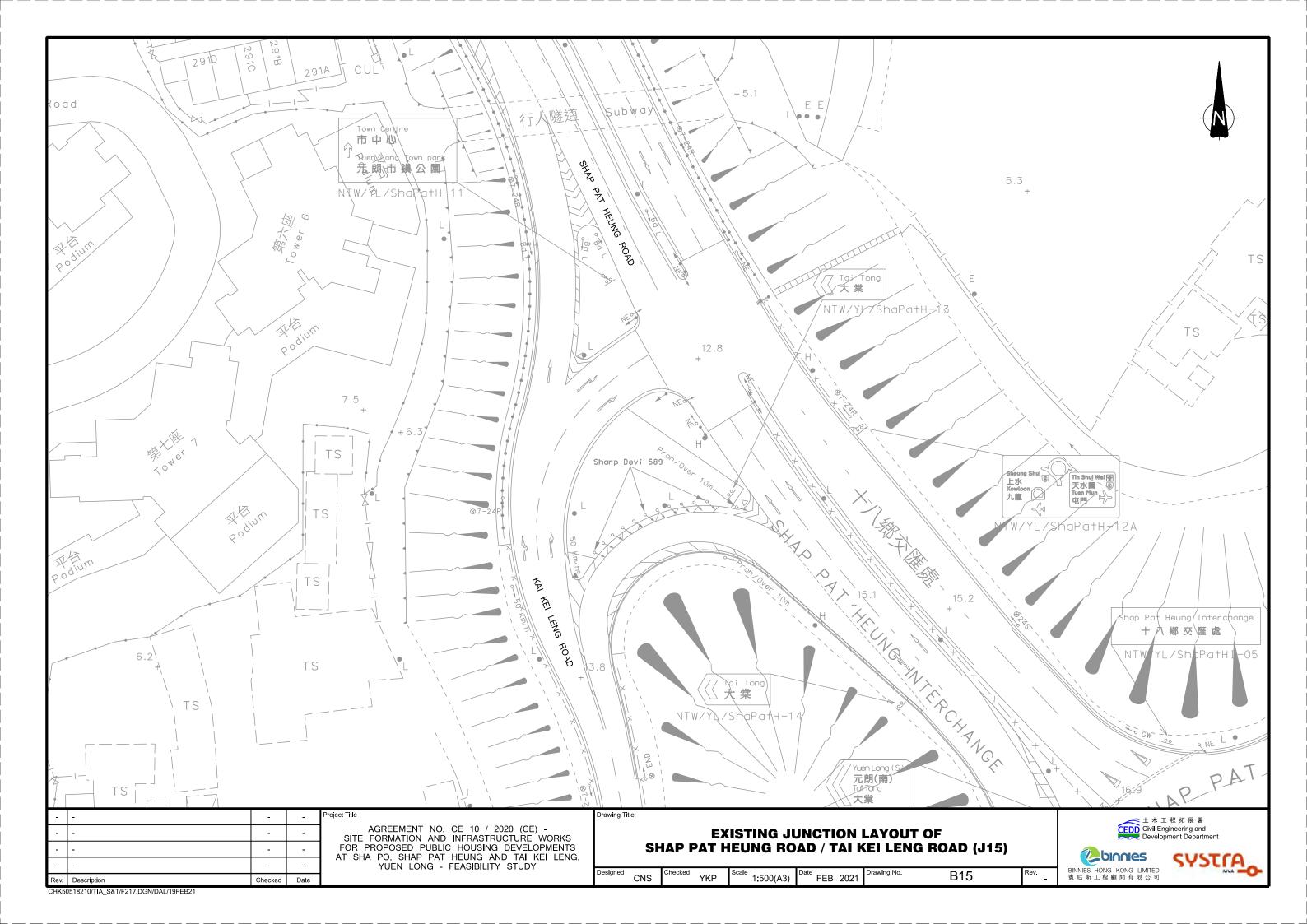


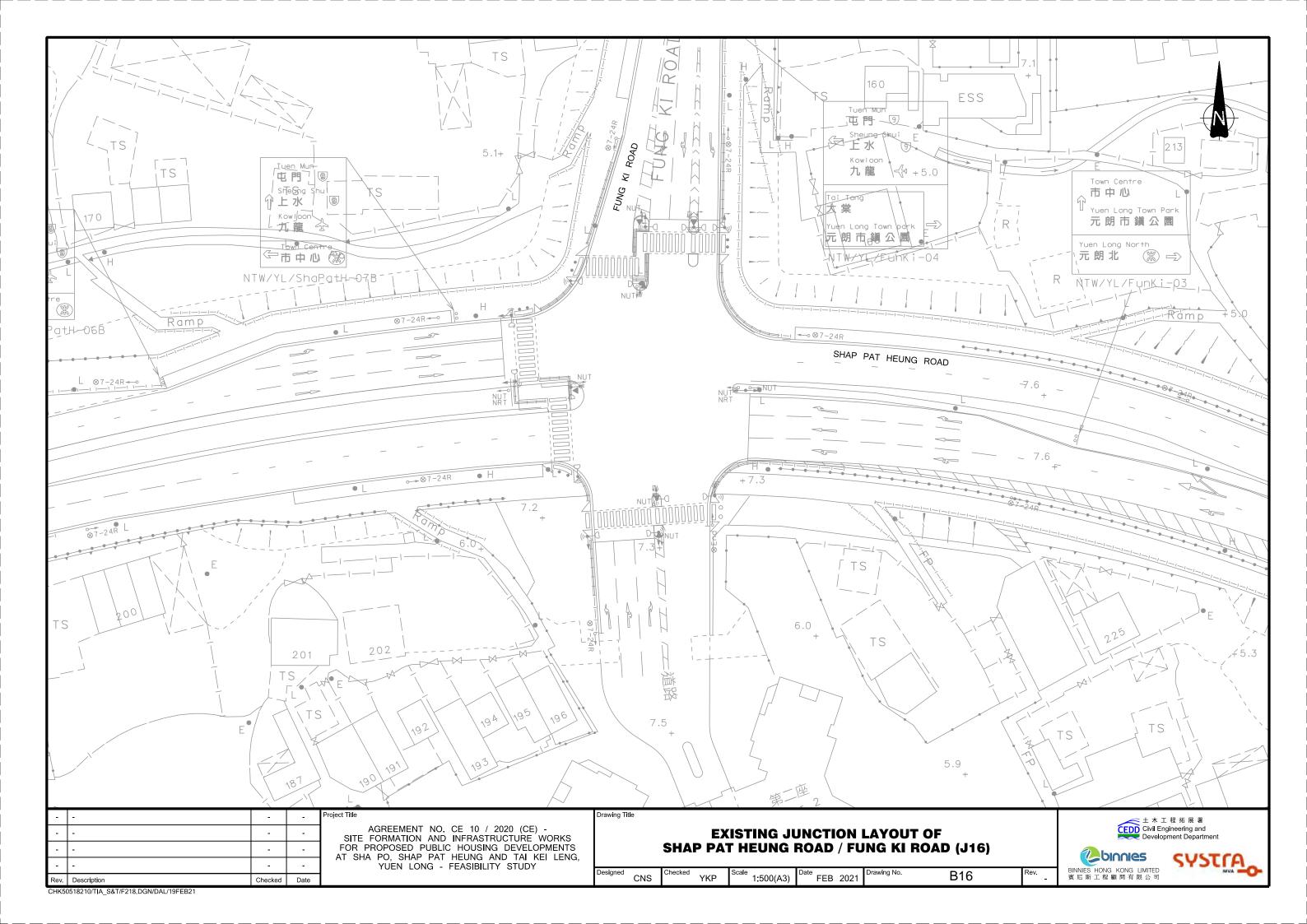


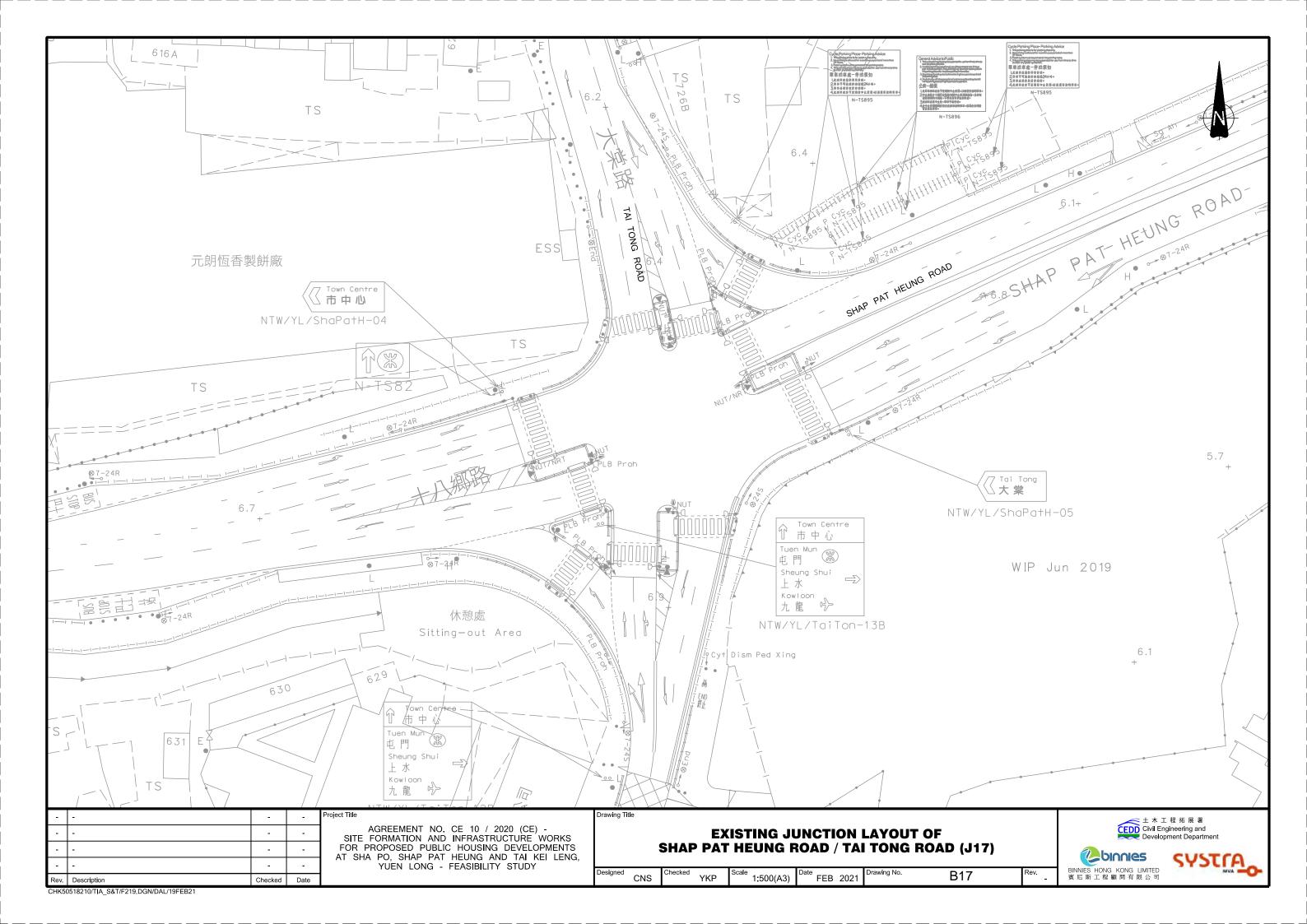


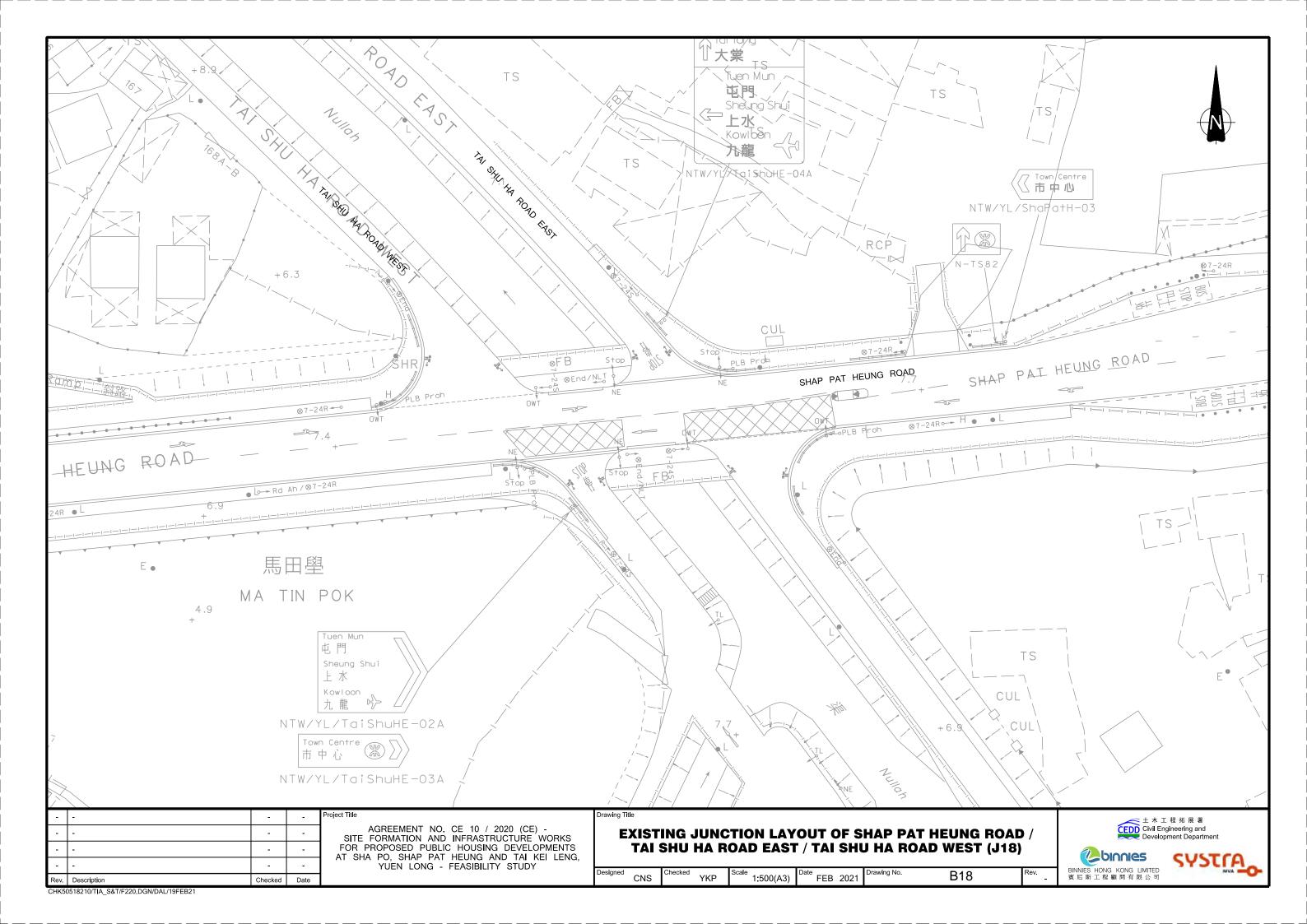


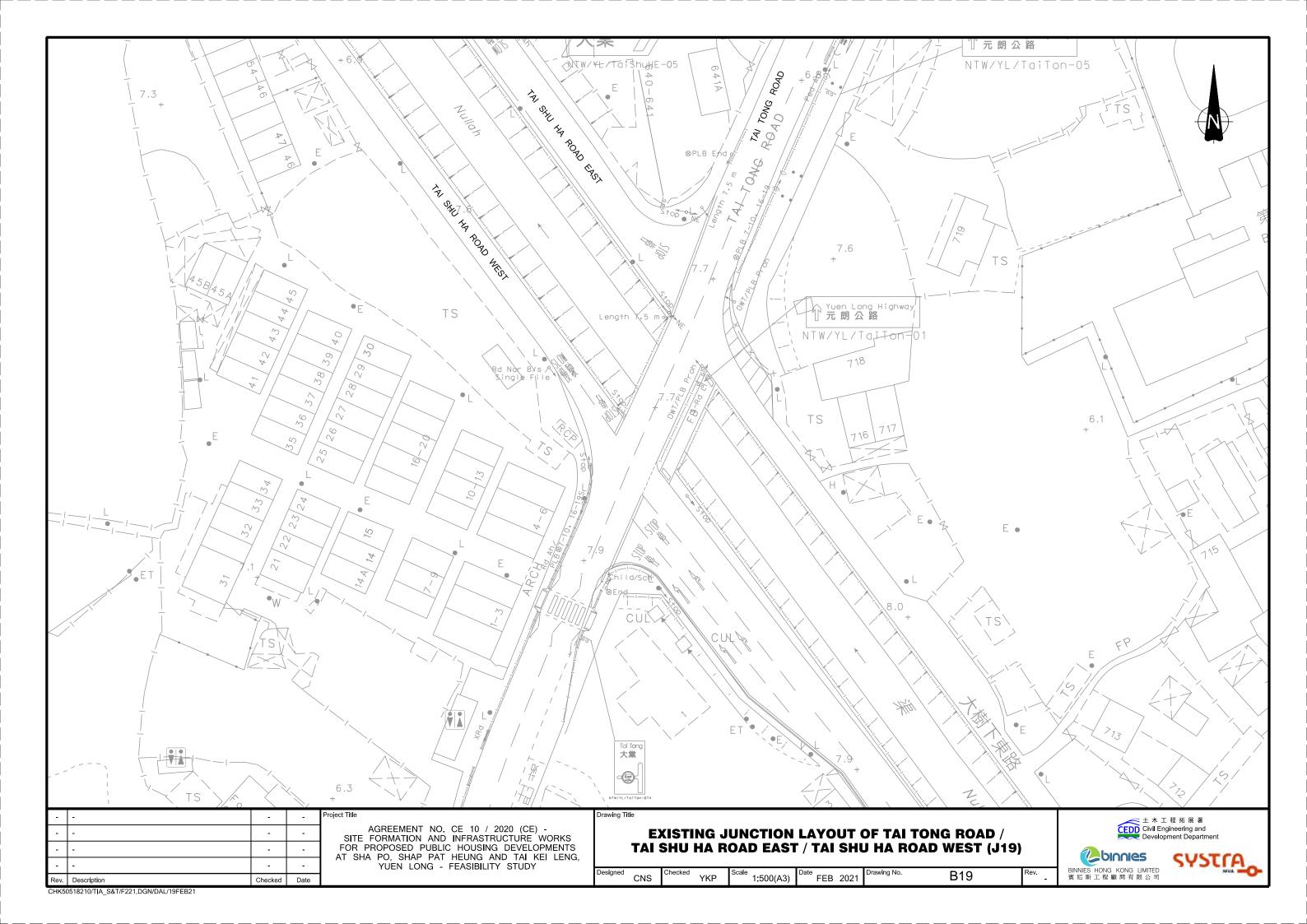


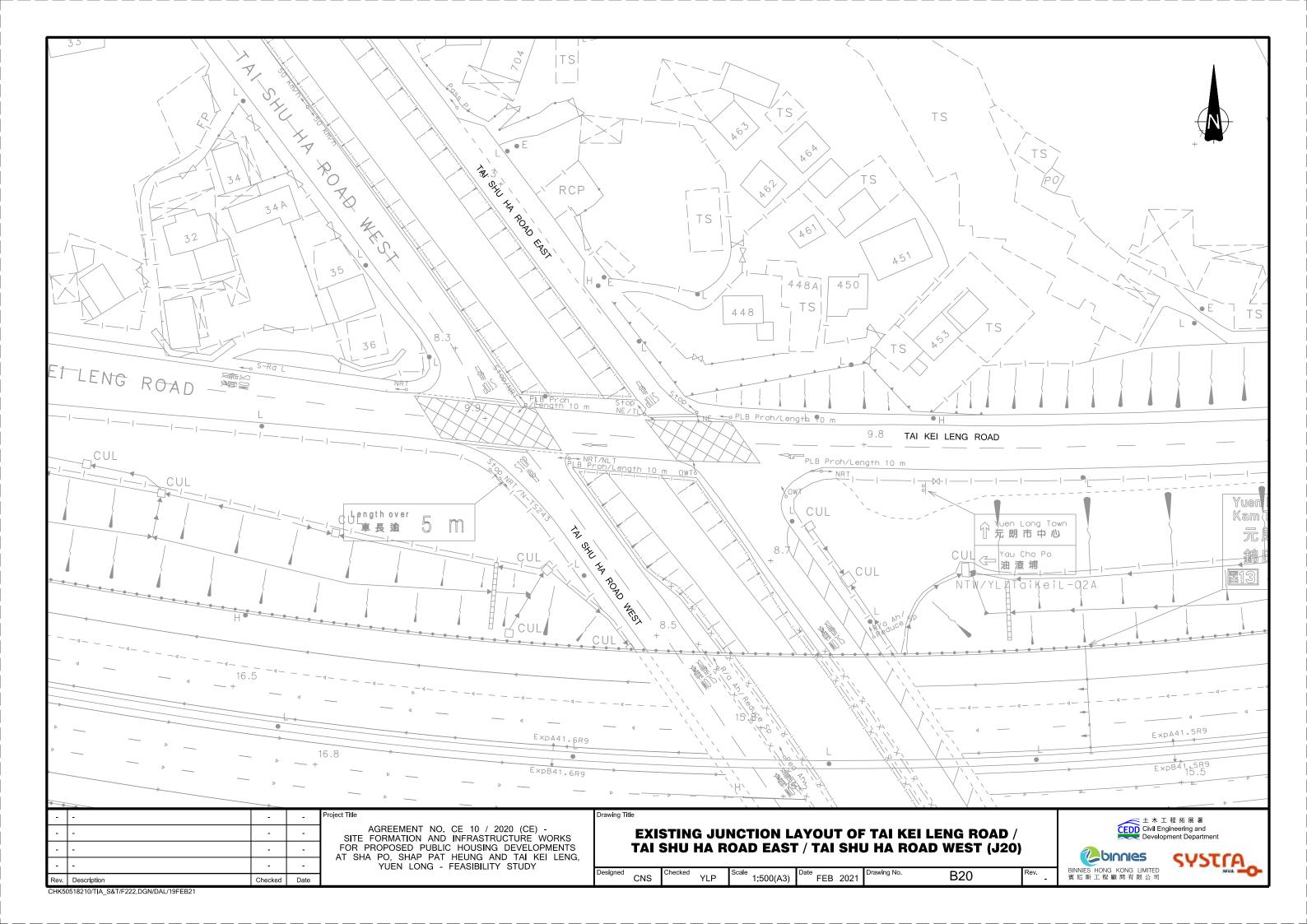


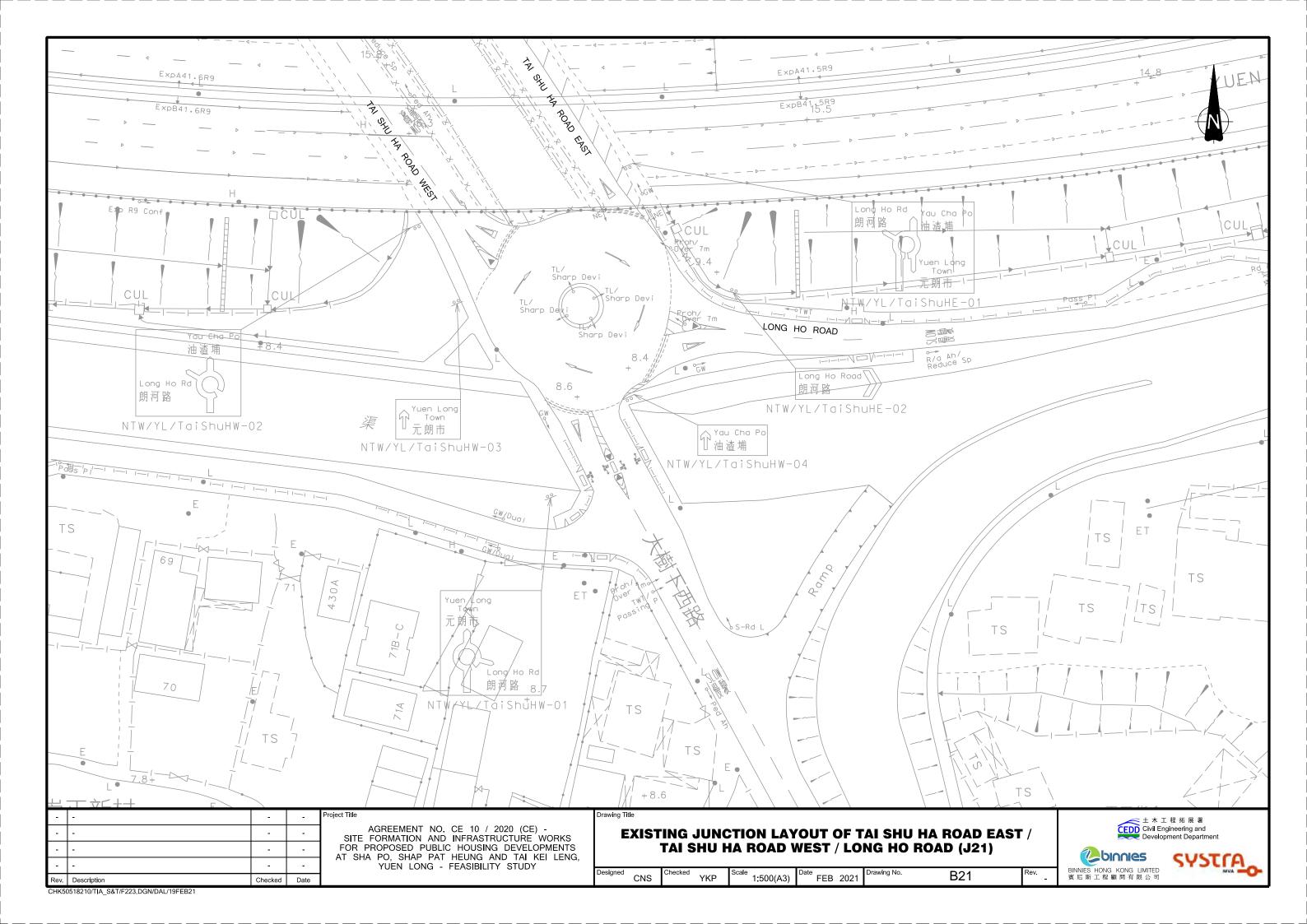


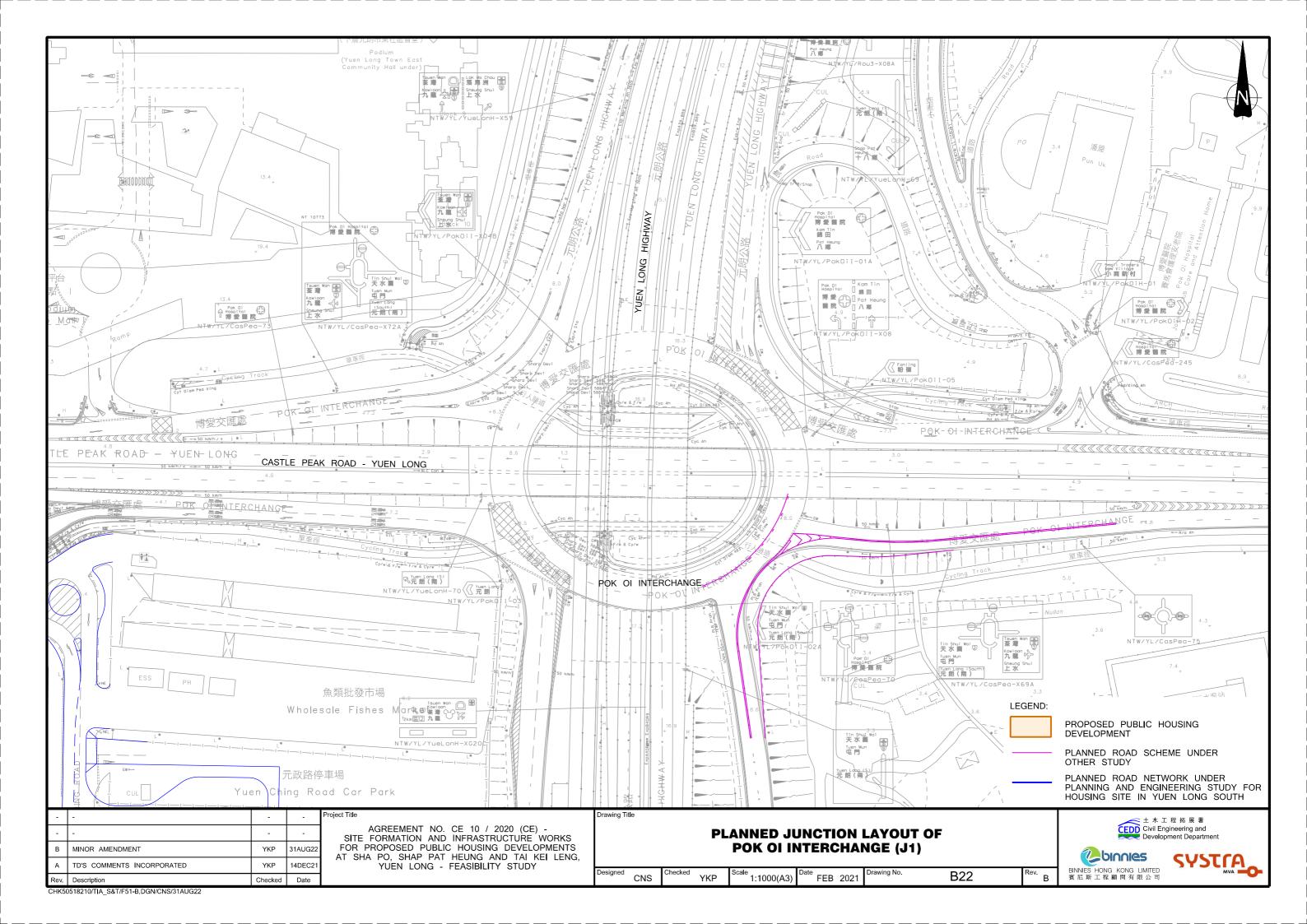


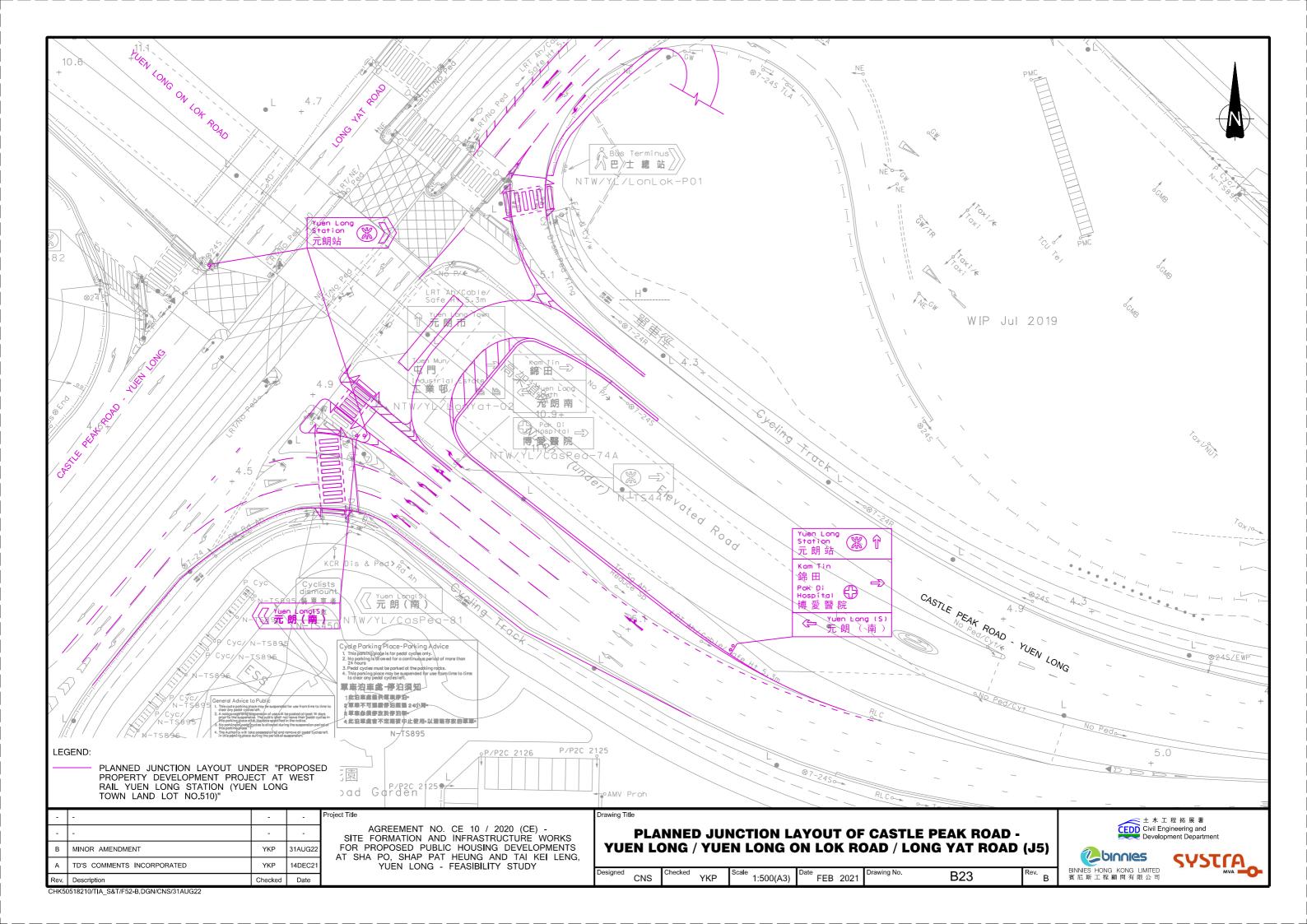


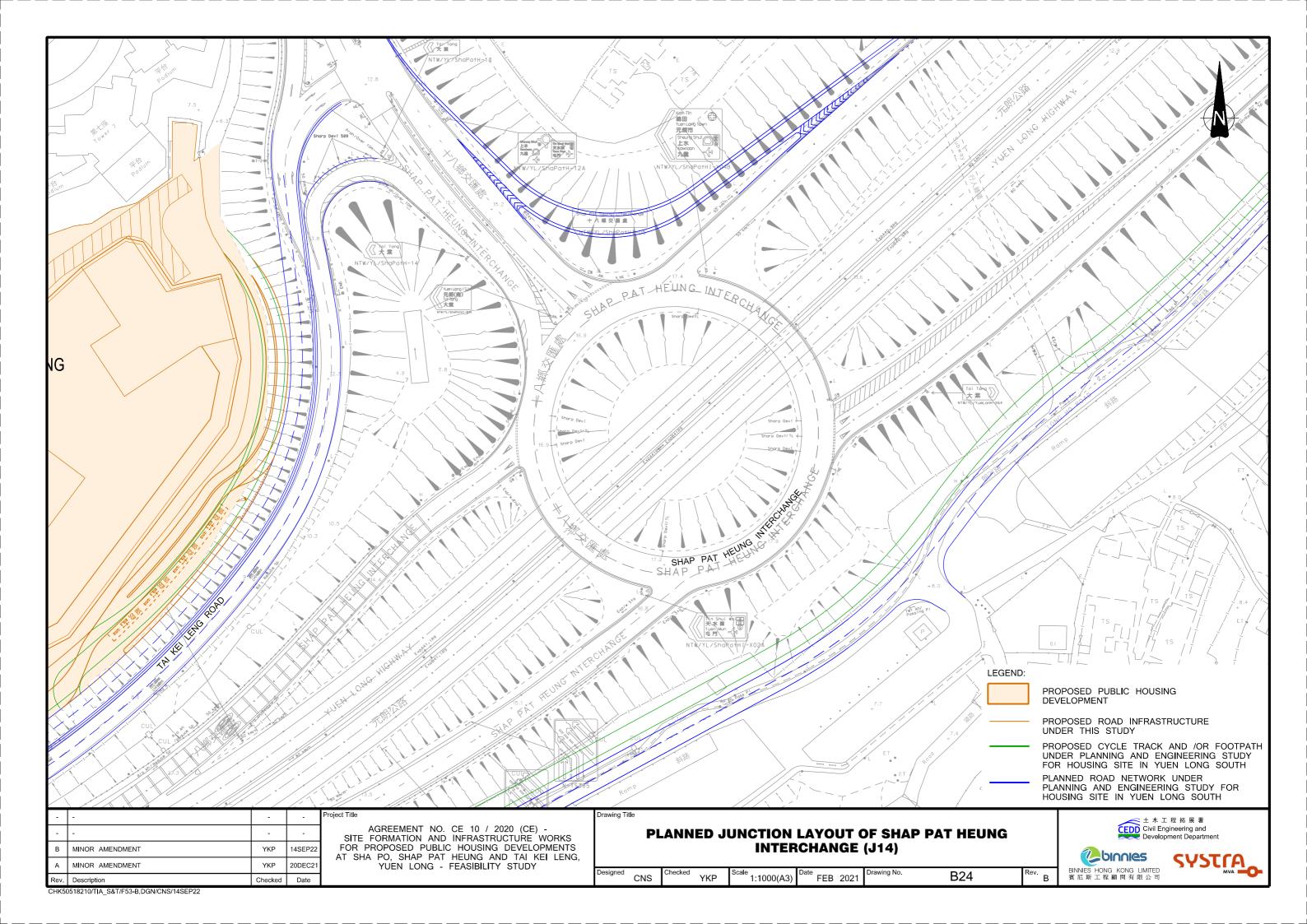


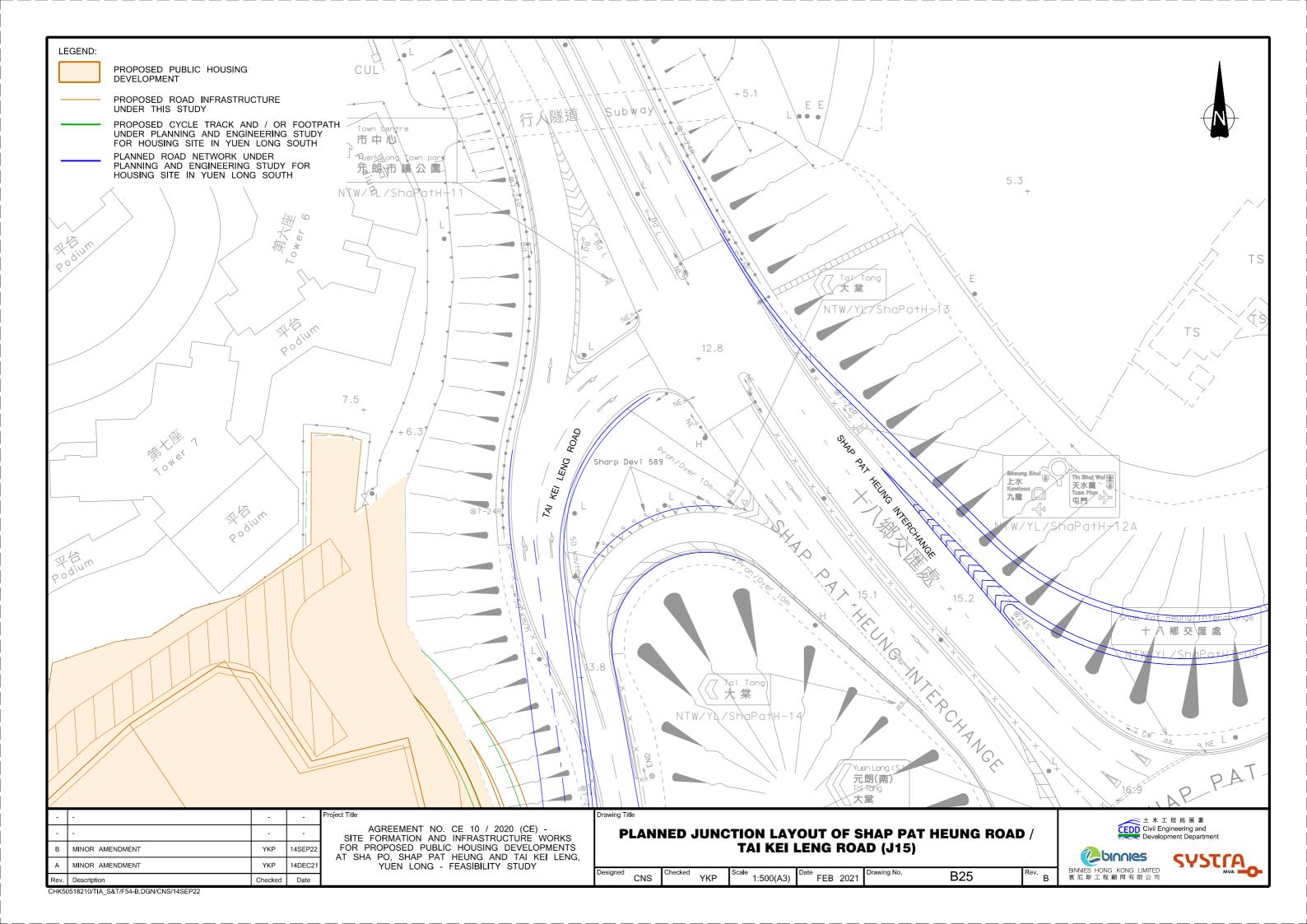


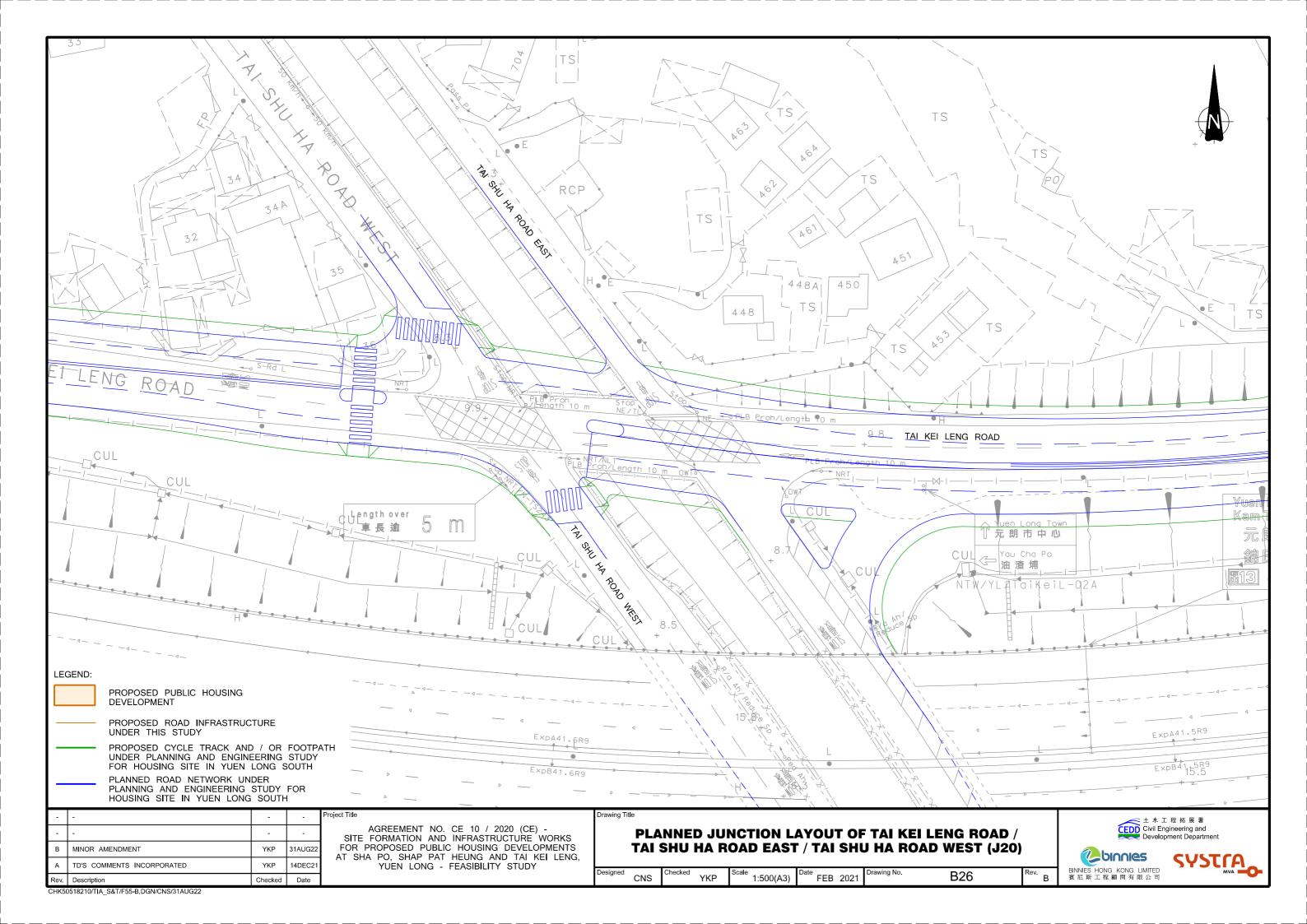


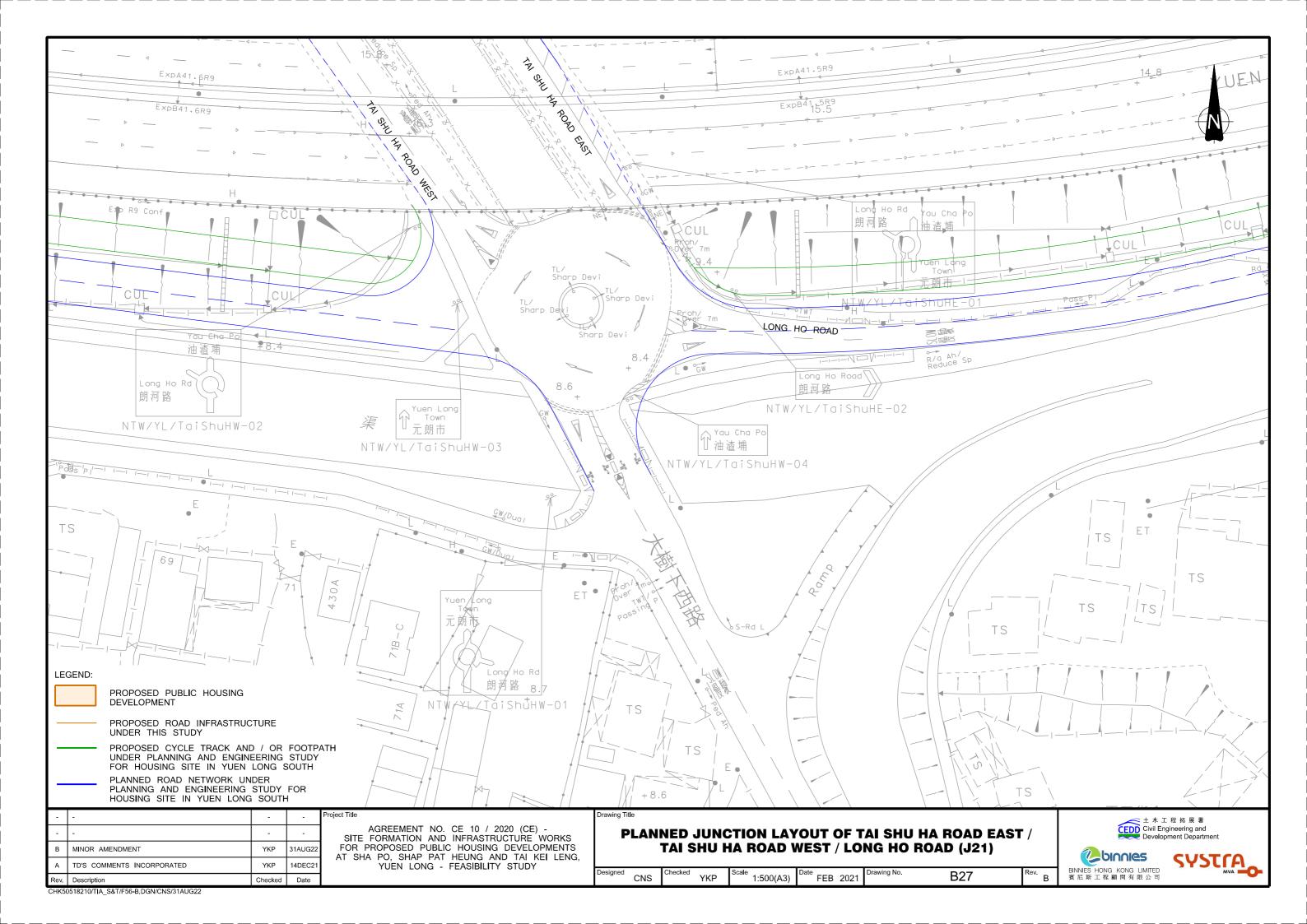


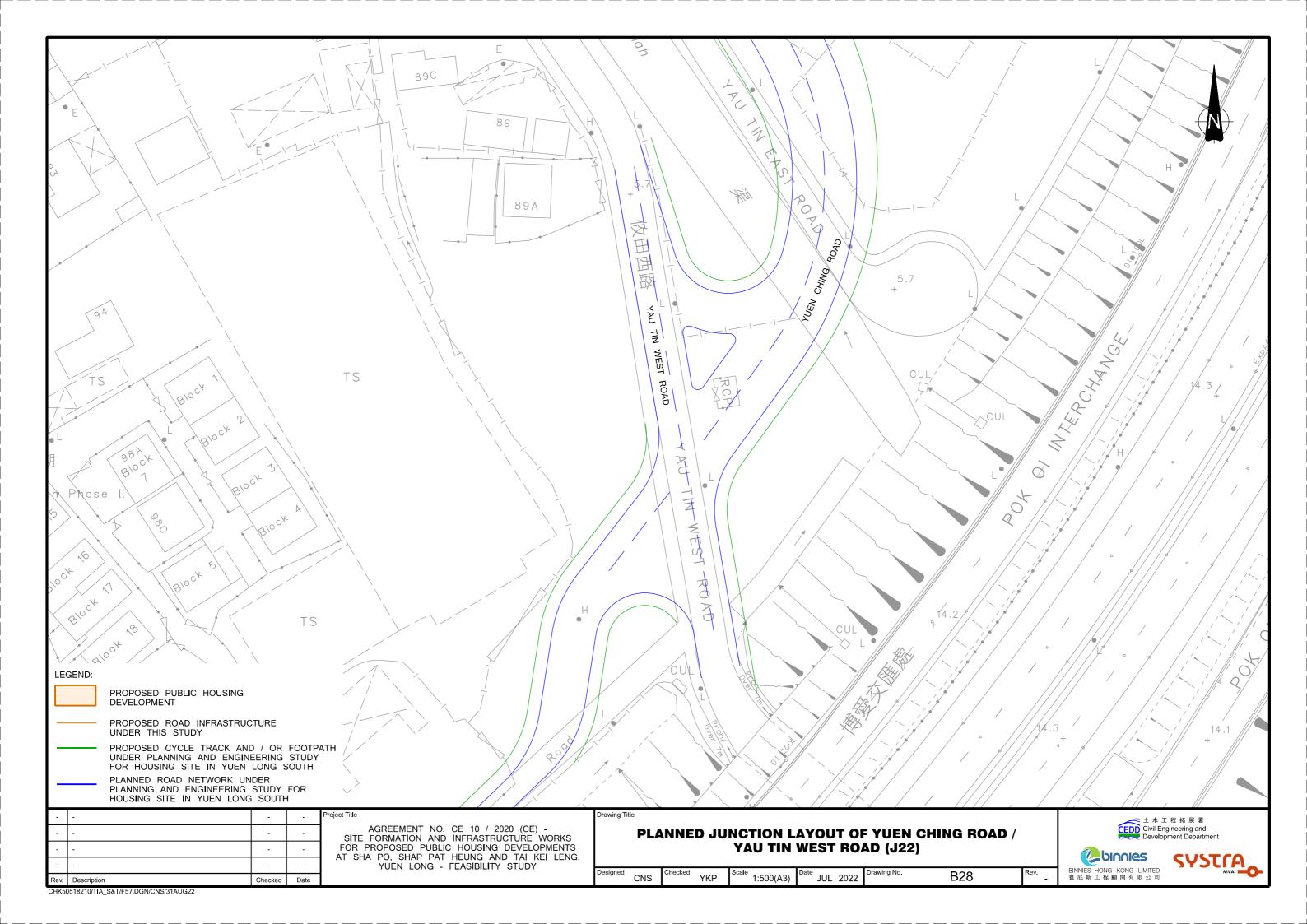


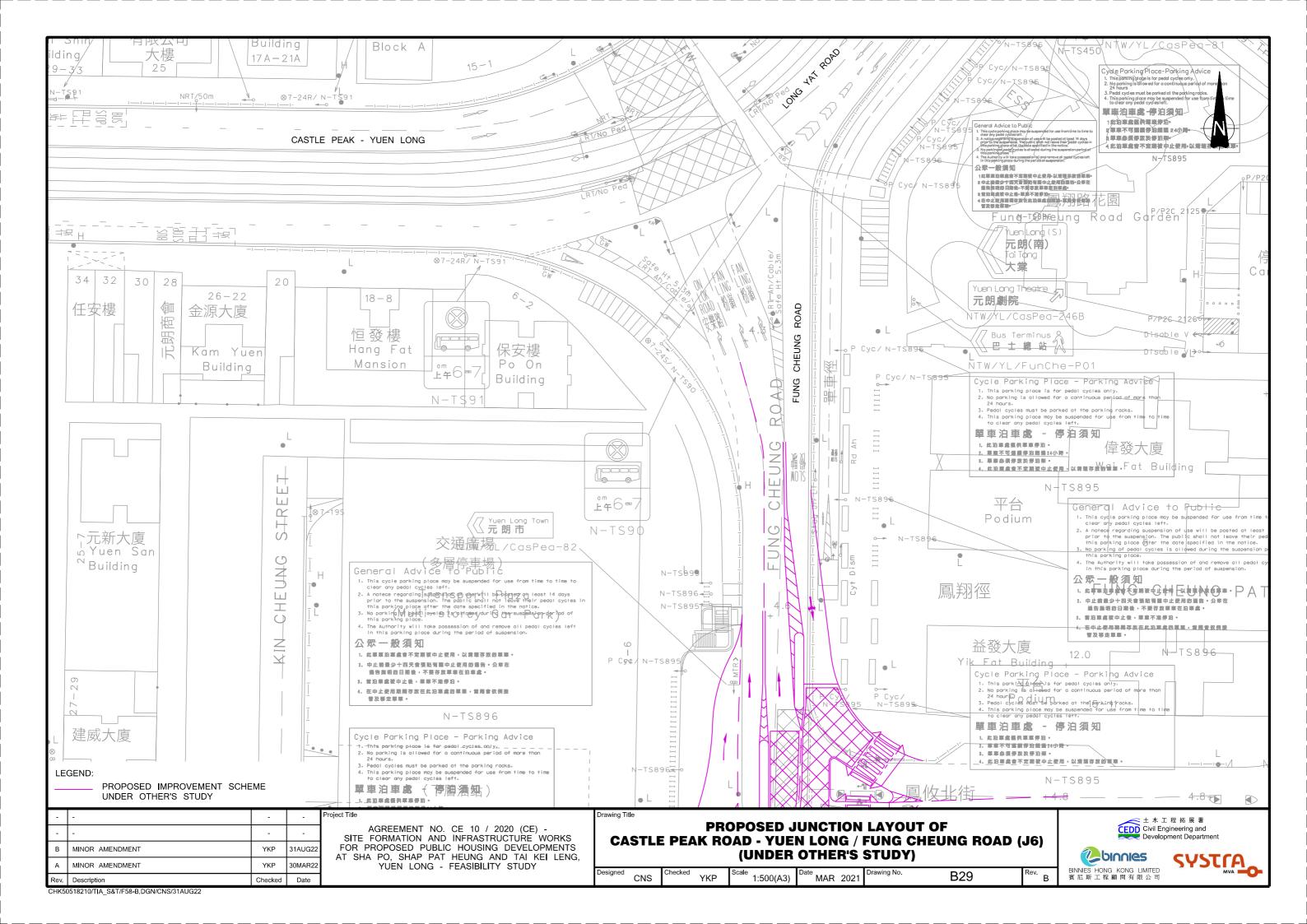


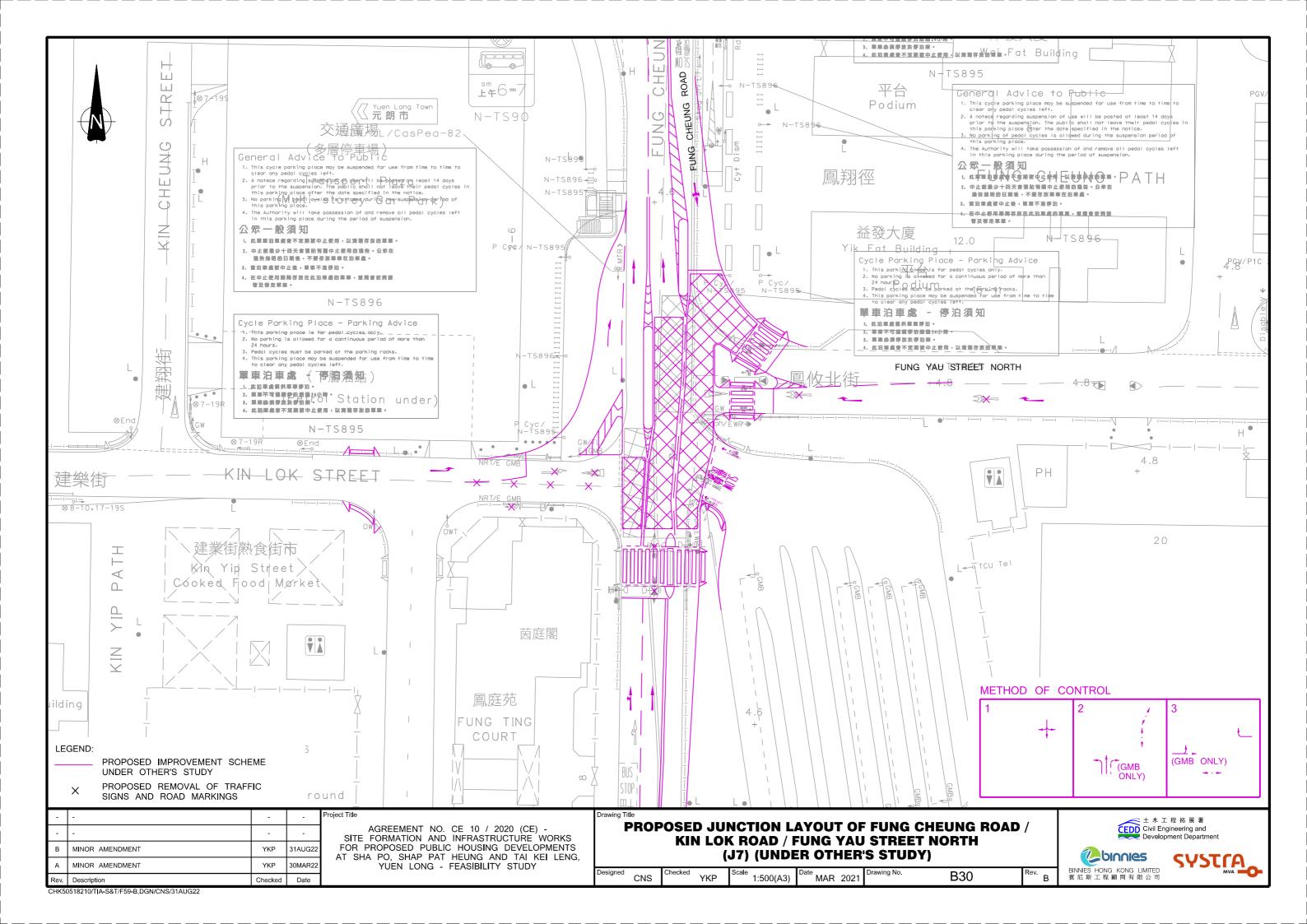


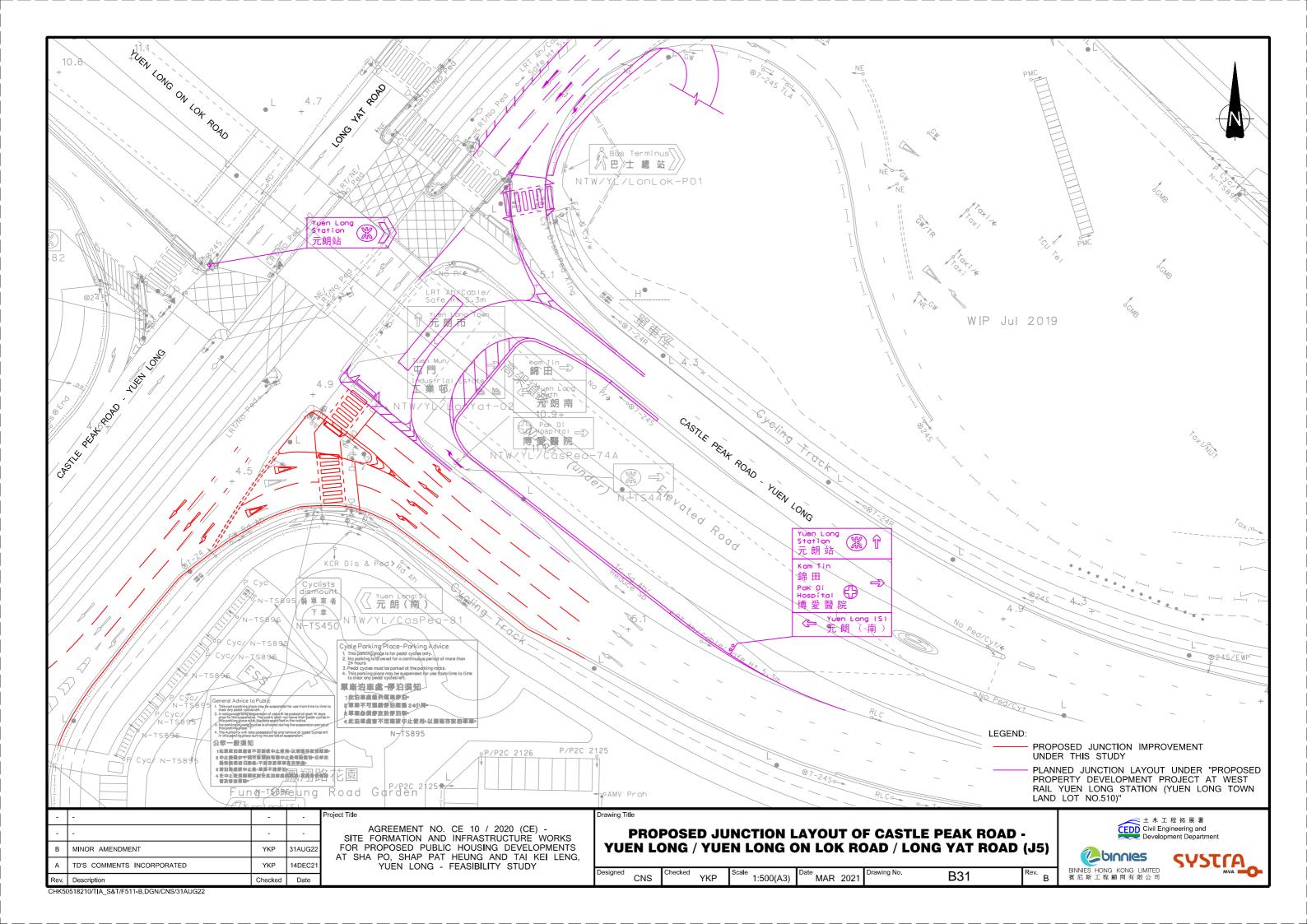


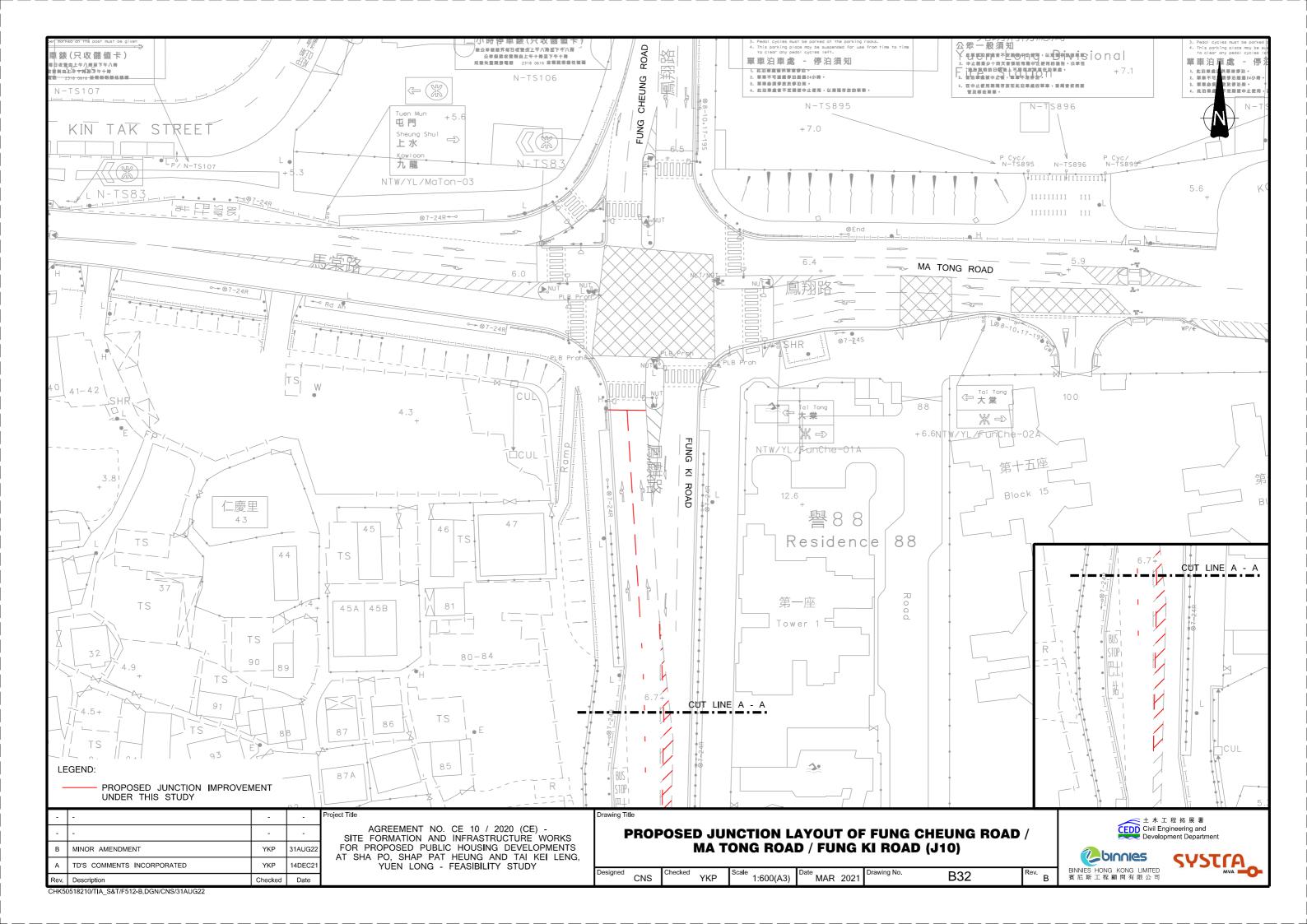


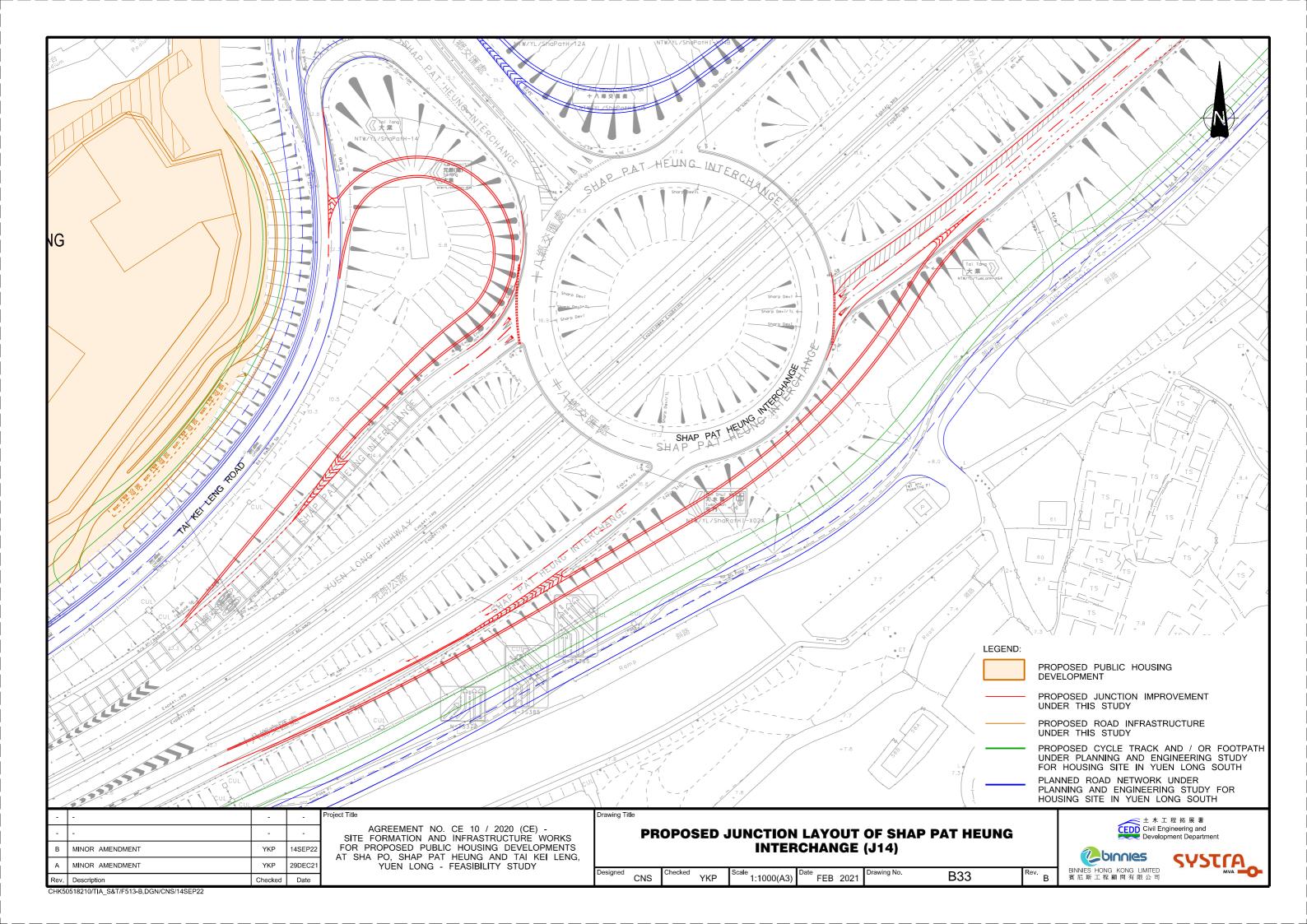


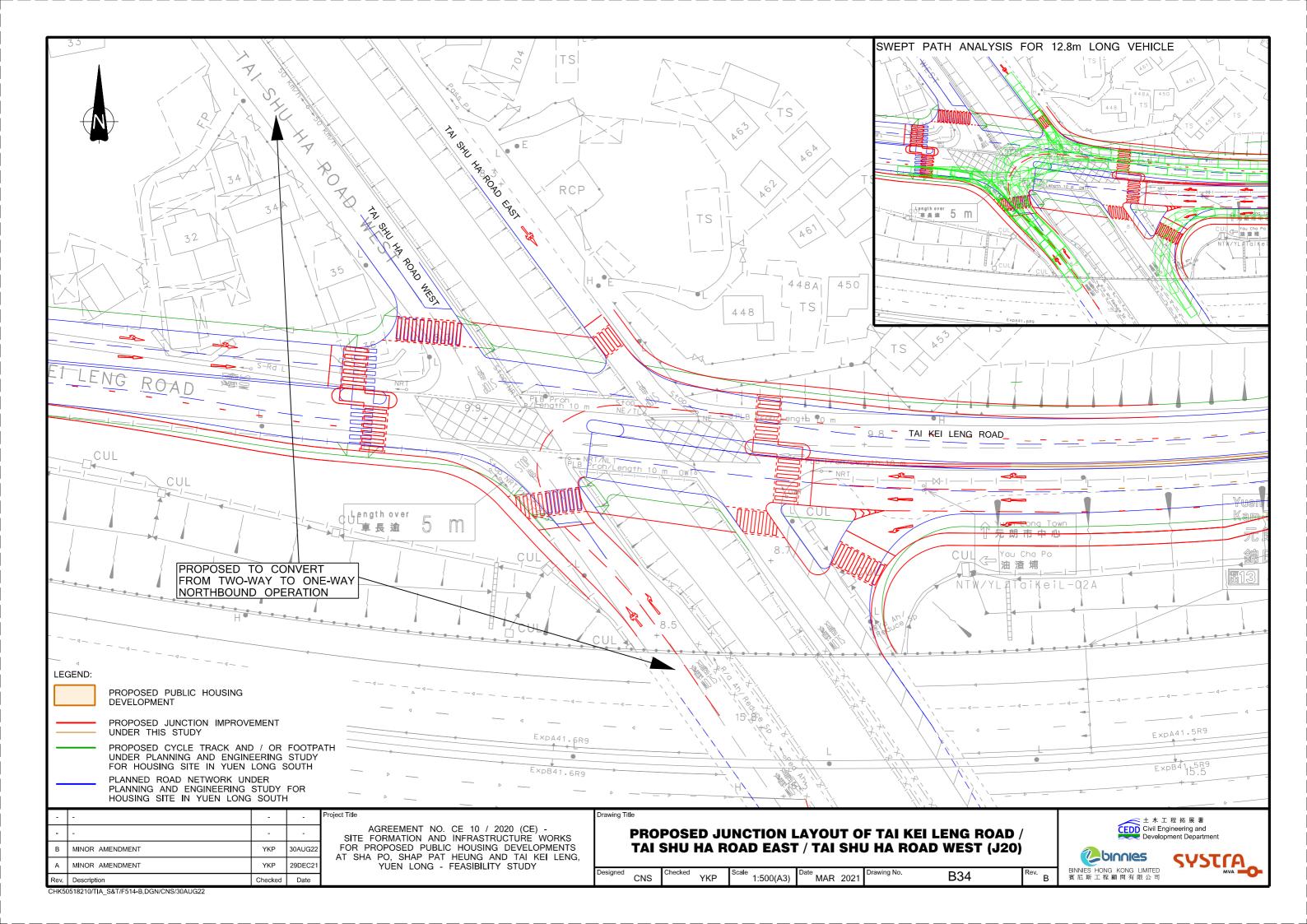


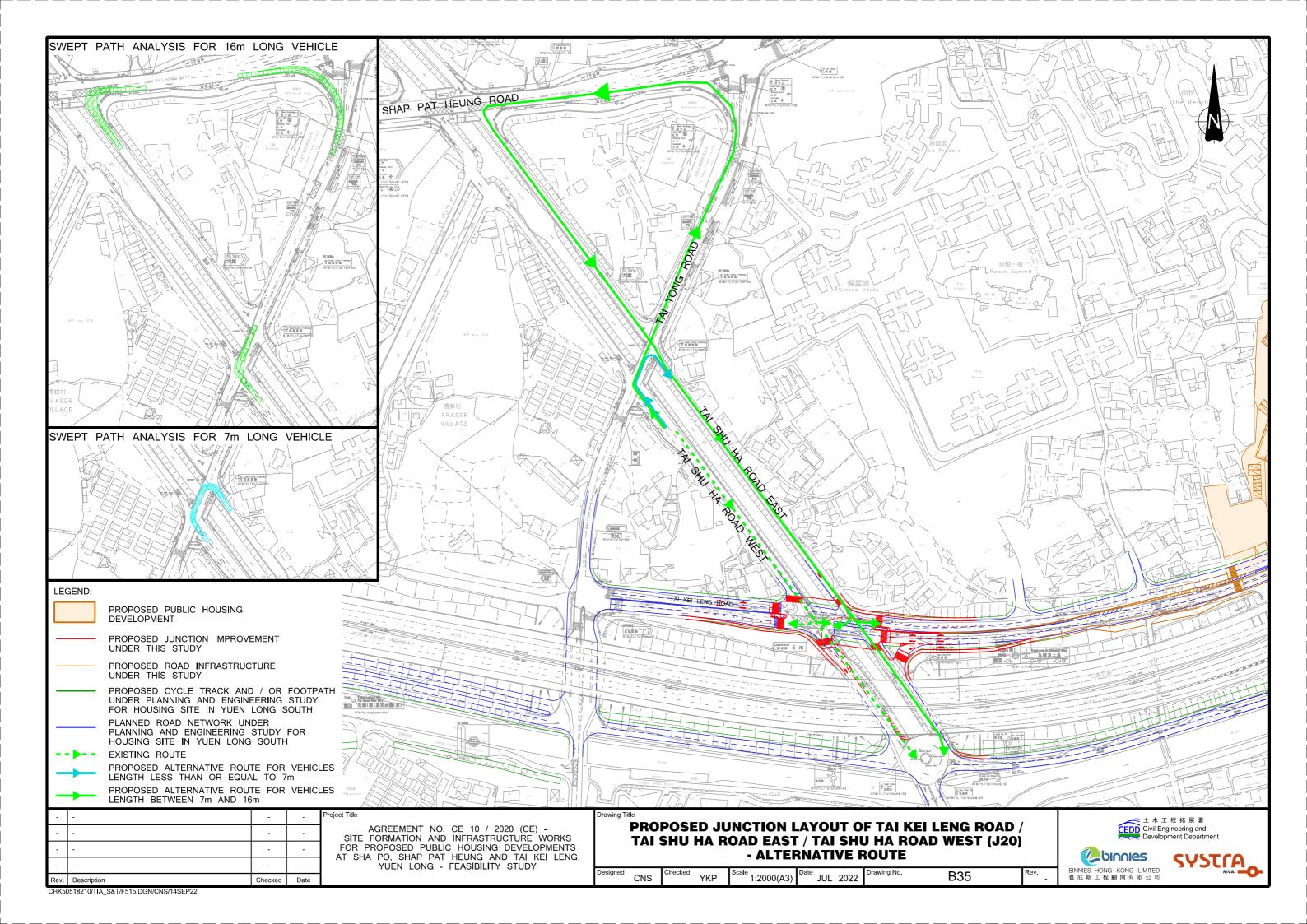


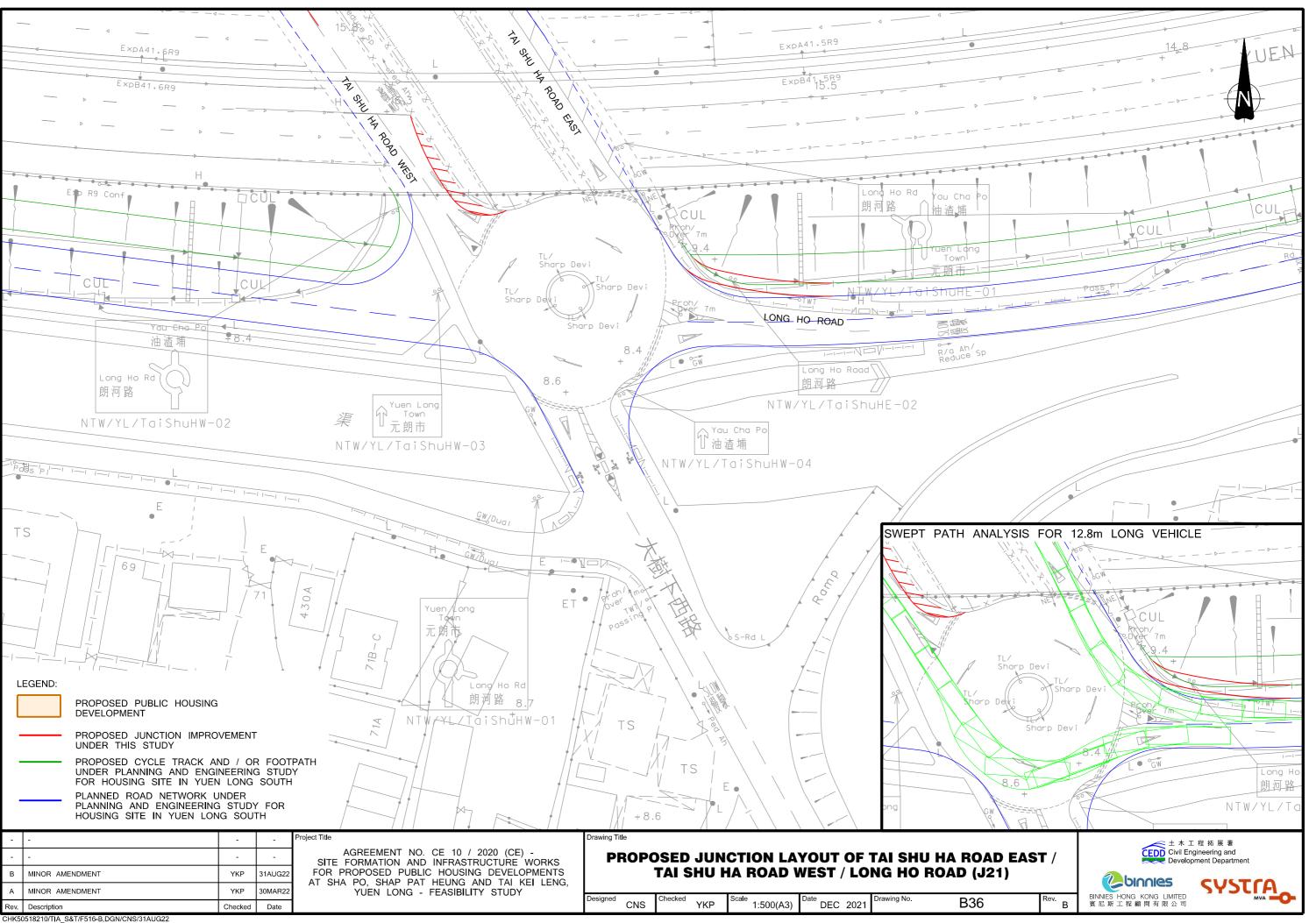












Provision of Open Space and Major GIC Facilities within the Yuen Long New Town

Type of Facilities			Prov	ision	(against planned provision)
	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	
District Open Space	10 ha per 100,000 persons#	18.43 ha	7.39 ha	25.84 ha	7.41 ha
Local Open Space	10 ha per 100,000 persons#	18.43 ha	22.53 ha	29.4 ha	10.97 ha
Sports Centre	1 per 50,000 to 65,000 persons [#] (assessed on a district basis)	2	4	5	3
Sports Ground/ Sport Complex	1 per 200,000 to 250,000 persons [#] (assessed on a district basis)	0	1	1	1
Swimming Pool Complex – standard	1 complex per 287,000 persons [#] (assessed on a district basis)	0	1	1	1
District Police Station	1 per 200,000 to 500,000 persons (assessed on a regional basis)	0	1	1	1
Divisional Police Station	1 per 100,000 to 200,000 persons (assessed on a regional basis)	0	1	1	1
Magistracy (with 8 courtrooms)	1 per 660,000 persons (assessed on a regional basis)	0	0	0	0
Community Hall	No set standard	N.A.	3	3	N.A

Type of Facilities			Prov	rision	
	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)
Library	1 district library per 200,000 persons (assessed on a district basis)	0	1	1	1
Kindergarten/Nursery	34 classrooms for 1,000 children aged 3 to 6	91 classrooms	165 classrooms	171 classrooms	80 classrooms
Primary School	1 whole-day classroom for 25.5 persons aged 6-11 (assessed by EDB on a district/school network basis)	275 classrooms	390 classrooms	390 classrooms	115 classrooms
Secondary School	1 whole-day classroom for 40 persons aged 12-17 (assessed by EDB on a territory-wide basis)	226 classrooms	411 classrooms	411 classrooms	185 classrooms
Hospital	5.5 beds per 1,000 persons (assessed by Hospital Authority (HA) on a regional/ cluster basis)	1,045 beds	0 beds	0 beds	-1,045 beds (will be catered in the 1 st and 2 nd Ten-year Hospital Development Plans based on HA's assessment on a regional/ cluster basis^)
Clinic/Health Centre	1 per 100,000 persons (assessed on a district basis)	1	2	2	1

			Prov	vision	
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)
Child Care Centre	100 aided places per 25,000 persons [#] (assessed by SWD on a local basis)	737 places	145 places	145 places	-592 places (a long-term target on a wider spatial context by SWD [~])
Integrated Children and Youth Services Centre	1 for 12,000 persons aged 6-24 [#] (assessed by SWD on a local basis)	2	2	3	1
Integrated Family Services Centre	1 for 100,000 to 150,000 persons [#] (assessed by SWD on a service boundary basis)	1	3	4	3
District Elderly Community Centres	One in each new development area with a population of around 170,000 or above#	N.A.	2	2	N.A
Neighbourhood Elderly Centres	One in a cluster of new and redeveloped housing areas with a population of 15,000 to 20,000 persons, including both public and private housing# (assessed by SWD)	N.A.	2	2	N.A
Community Care Services (CCS) Facilities	17.2 subsidised places per 1,000 elderly persons aged 65 or above# (assessed by SWD on a district basis)	871 places	278 places	518 places	-353 places (a long-term target assessed on a wider spatial context by SWD~)

			Prov	rision	Surplus/ Shortfall (against planned provision)
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	
Residential Care Homes for the Elderly	21.3 subsidised beds per 1,000 elderly persons aged 65 or above [#] (assessed by SWD on a cluster basis)	1,079 beds	591 beds	711 beds	-368 beds (a long-term target assessed on a wider spatial context by SWD~)
Pre-school Rehabilitation Services	23 subvented service places per 1,000 children aged 0-6 [#] (assessed by SWD on a district basis)	136 places	213 places	273 places	137 places
Day Rehabilitation Services	23 subvented service places per 10,000 persons aged 15 or above [#] (assessed by SWD on a district basis)	360 places	290 places	290 places	-70 places (a long-term target assessed on a wider spatial context by SWD~)
Residential Care Services	36 subvented service places per 10,000 persons aged 15 or above [#] (assessed by SWD on a cluster basis)	563 places	263 places	263 places	-300 places (a long-term target assessed on a wider spatial context by SWD~)
Community Rehabilitation Day Centre	1 centre per 420,000 persons# (assessed by SWD on a district basis)	0	0	0	0
District Support Centre for Persons with Disabilities	1 centre per 280,000 persons# (assessed by SWD on a district basis)	0	1	1	1

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Prov Existing Provision	Planned Provision (including	Surplus/ Shortfall (against planned provision)
	(IIII 50)	population		Existing Provision)	provision
Integrated Community Centre for Mental Wellness	1 standard scale centre per 310,000 persons#	0	0	0	0
	(assessed by SWD on a district basis)				

Notes:

The planned resident population in Yuen Long New Town is about 184,280. If including transients, the overall planned population is about 190,170. All population figures have been adjusted to the nearest hundred.

Remarks:

- [#] 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 (NTWC) provides services for residents in Tuen Mun and Yuen Long districts. There are a number of hospital redevelopment projects planned in the First and Second Ten-year Hospital Development Plans (HDPs), which will provide additional beds for serving the population in NTWC. The projected service demand will be catered for in the First and Second Ten-year HDPs.
- The deficit in provision is based on OZP planned population while the Social Welfare Department (SWD) adopts a wider spatial context/cluster in the assessment of provision for such facility. In applying the population-based planning standards, the distribution of welfare facilities, supply in different districts, service demand as a result of the population growth and demographic changes as well as the provision of different welfare facilities have to be considered. As the HKPSG requirements for these facilities are a long-term goal, the actual provision will be subject to consideration of the SWD in the planning and development process as appropriate. The Government has been adopting a multi-pronged approach with long-, medium- and short-term strategies to identify suitable sites or premises for the provision of more welfare services which are in acute demand.

December 2022

Provision of Major Community Facilities and Open Space in Yuen Long District Council Area

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)		Prov	vision	Surplus/ Shortfall (against planned provision)
		HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	
District Open Space	10 ha per 100,000 persons#	120.84 ha	30.18 ha	140.52 ha	19.68 ha
Local Open Space	10 ha per 100,000 persons#	120.84 ha	112.1 ha	195.10 ha	74.26 ha
Sports Centre	1 per 50,000 to 65,000 persons [#] (assessed on a district basis)	18	8	16	-2
Sports Ground/ Sport Complex	1 per 200,000 to 250,000 persons# (assessed on a district basis)	4	2	3	-1
Swimming Pool Complex – standard	1 complex per 287,000 persons [#] (assessed on a district basis)	4	1	2	-2
District Police Station	1 per 200,000 to 500,000 persons (assessed on a regional basis)	2	1	2	0
Divisional Police Station	1 per 100,000 to 200,000 persons (assessed on a regional basis)	6	4	6	0
Magistracy (with 8 courtrooms)	1 per 660,000 persons (assessed on a regional basis)	1	0	1	0
Community Hall	No set standard	N.A.	9	14	N.A

			Prov	vision	
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)
Library	1 district library per 200,000 persons (assessed on a district basis)	6	3	3	-3
Kindergarten/Nursery	34 classrooms for 1,000 children aged 3 to under 6	781 classrooms	489 classrooms	813 classrooms	32 classrooms
Primary School	1 whole-day classroom for 25.5 persons aged 6-11 (assessed by EDB on a district/school network basis)	1,989 classrooms	1,290 classrooms	2,172 classrooms	183 classrooms
Secondary School	1 whole-day classroom for 40 persons aged 12-17 (assessed by EDB on a territory-wide basis)	1,391 classrooms	1,157 classrooms	1,517 classrooms	126 classrooms
Hospital	5.5 beds per 1,000 persons (assessed by Hospital Authority (HA) on a regional/ cluster basis)	6,782 beds	1,070 beds	3,670 beds	-3,112 beds (will be catered in the 1 st and 2 nd Ten-year Hospital Development Plans based on HA's assessment on a regional/cluster basis)
Clinic/Health Centre	1 per 100,000 persons (assessed on a district basis)	12	5	11	-1

			Prov	vision	
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)
Child Care Centre	100 aided places per 25,000 persons [#] (assessed by SWD on a local basis)	4,833 places	487 places	1,675 places	-3,158 places (a long-term target on a wider spatial context by SWD [*])
Integrated Children and Youth Services Centre	1 for 12,000 persons aged 6-24 [#] (assessed by SWD on a local basis)	16	11	17	1
Integrated Family Services Centre	1 for 100,000 to 150,000 persons [#] (assessed by SWD on a service boundary basis)	8	6	10	2
District Elderly Community Centres	One in each new development area with a population of around 170,000 or above# (assessed by SWD)	N.A.	2	3	N.A.
Neighbourhood Elderly Centres	One in a cluster of new and redeveloped housing areas with a population of 15,000 to 20,000 persons, including both public and private housing# (assessed by SWD)	N.A.	8	16	N.A.
Community Care Services (CCS) Facilities	17.2 subsidised places per 1,000 elderly persons aged 65 or above# (assessed by SWD on a district basis)	4,920 places	719 places	1,719 places	-3,201 places (a long-term target assessed on a wider spatial context by SWD [*])

			Prov	vision	
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)
Residential Care Homes for the Elderly	21.3 subsidised beds per 1,000 elderly persons aged 65 or above [#] (assessed by SWD on a cluster basis)	6,093 beds	1,998 beds	4,082 beds	-2,011 beds (a long-term target assessed on a wider spatial context by SWD [*])
Pre-school Rehabilitation Services	23 subvented service places per 1,000 children aged 0-6# (assessed by SWD on a district basis)	1,187 places	280 places	640 places	-547 places (a long-term target assessed on a wider spatial context by SWD~)
Day Rehabilitation Services	23 subvented service places per 10,000 persons aged 15 or above [#] (assessed by SWD on a district basis)	2,334 places	868 places	1,598 places	-736 places (a long-term target assessed on a wider spatial context by SWD~)
Residential Care Services	36 subvented service places per 10,000 persons aged 15 or above [#] (assessed by SWD on a cluster basis)	3,654 places	818 places	3,128 places	-526 places (a long-term target assessed on a wider spatial context by SWD~)
Community Rehabilitation Day Centre	1 centre per 420,000 persons [#] (assessed by SWD on a district basis)	2	0	2	0
District Support Centre for Persons with Disabilities	1 centre per 280,000 persons [#] (assessed by SWD on a district basis)	4	2	3	-1 (a long-term target assessed on a wider spatial context by SWD~)

	H. W.	HKPSG	Prov	vision	- Completed	
Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	Requirement (based on planned population)	Existing Provision	Planned Provision (including Existing Provision)	Surplus/ Shortfall (against planned provision)	
Integrated Community Centre for Mental Wellness	1 standard scale centre per 310,000 persons# (assessed by SWD on a district basis)	3.6	1.7	1.7	-1.9 (a long-term target assessed on a wider spatial context by SWD~)	

Note:

The planned resident population is about 1,208,300. If including transients, the overall planned population is about 1,233,000. All population figures have been adjusted to the nearest hundred.

Remarks:

- * The requirements exclude planned population of transients.
- The deficit in provision is based on District Council 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 (NTWC) provides services for residents in Tuen Mun and Yuen Long districts. There are a number of hospital redevelopment projects planned in the First and Second Ten-year Hospital Development Plans (HDPs), which will provide additional beds for serving the population in NTWC. The projected service demand will be catered for in the First and Second Ten-year HDPs.
- The deficit in provision is based on District Council planned population while the Social Welfare Department (SWD) adopts a wider spatial context/cluster in the assessment of provision for such facility. In applying the population-based planning standards, the distribution of welfare facilities, supply in different districts, service demand as a result of the population growth and demographic changes as well as the provision of different welfare facilities have to be considered. As the HKPSG requirements for these facilities are a long-term goal, the actual provision will be subject to consideration of the SWD in the planning and development process as appropriate. The Government has been adopting a multi-pronged approach with long-, medium- and short-term strategies to identify suitable sites or premises for the provision of more welfare services which are in acute demand.

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