
**Attachment 7 –
Revised Air Ventilation Assessment
(Expert Evaluation)**

Prepared by

Ramboll Hong Kong Limited

**SECTION 16 PLANNING APPLICATION FOR PROPOSED
AMENDMENTS TO AN APPROVED COMPREHENSIVE RESIDENTIAL
DEVELOPMENT SCHEME AND MINOR RELAXATION OF GFA AND
BUILDING HEIGHT RESTRICTIONS AT VARIOUS LOTS IN D.D.385
AND ADJOINING GOVERNMENT LAND, TAI LAM CHUNG, TUEN
MUN**

AIR VENTILATION ASSESSMENT - EXPERT EVALUATION

Date **September 2025**

Prepared by **Echo Cao**
Environmental Consultant

Signed 

Approved by **Tony Cheng**
Senior Manager

Signed 

Project Reference **SHKMTLCEI01**

Document No. **R9567_V1.3.docx**

No part of this document may be reproduced or transmitted, in any form or by any means electronic, mechanical, photographic, recording or otherwise, or stored in a retrieval system of any nature without the written permission of Ramboll Hong Kong Ltd, application for which shall be made to Ramboll Hong Kong Ltd, 21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong.

Disclaimer: This report is made on behalf of Ramboll Hong Kong Ltd. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any third party relying on it accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

Q:\Projects\SHKMTLCEI01\04 Deliverables\04 AVA-EE Report\R9567_V1.3.docx

CHAPTERS

	Page
1. INTRODUCTION	3
1.1 Project Background	3
1.2 Objectives	3
1.3 Application Site and its Environs	3
1.4 Application Site	3
1.5 Baseline Scheme	3
1.6 Proposed Scheme	4
2. SITE WIND AVAILABILITY	5
2.1 Regional Atmospheric Modelling System (RAMS)	5
2.2 Hong Kong Observatory (HKO) Weather Data	5
2.3 Topography and Building Morphology	6
2.4 Summary of Existing Site Wind Availability	7
2.5 Previous Expert Evaluation near the Study Area	7
3. EVALUATION OF AIR VENTILATION PERFORMANCE	9
3.1 Areas Frequently Accessed by Public	9
3.2 Assessment Methodology	9
3.3 Wind Flow from NNE Direction	9
3.4 Wind Flow from E Direction	10
3.5 Wind Flow from ESE Direction	11
3.6 Wind Flow from SE Direction	11
3.7 Wind Flow from SSE Direction	12
3.8 Wind Flow from S Direction	12
3.9 Good Design Features	13
4. CONCLUSION	14

TABLES

Table 2.1	Summary of RAMS Data and Wind Direction	5
Table 2.2	Monthly Prevailing Wind Direction (Tuen Mun Station)	6
Table 2.3	Building Height of the Surrounding Developments	7
Table 2.4	Summary of the Prevailing Wind Directions from Different Data Sources	7

FIGURES

Figure 1	Location of the Application Site and its Environs
Figure 2	Good Design Features Provided in the Baseline Scheme
Figure 3	Good Design Features Provided in the Proposed Scheme
Figure 4	Windrose Diagram (at 200m) extracted from RAMS
Figure 5	Windrose Diagram (1988-2023) of Tuen Mun Wind Station (a: annual; b: monthly)
Figure 6	Potential Wind Flow under Existing Condition
Figure 7	Illustration of Wind Flow from NNE Direction
Figure 8	Illustration of Wind Flow from E Direction
Figure 9	Illustration of Wind Flow from ESE Direction
Figure 10	Illustration of Wind Flow from SE Direction
Figure 11	Illustration of Wind Flow from SSE Direction
Figure 12	Illustration of Wind Flow from S Direction

APPENDICES

Appendix 1	Master Layout Plan of the Baseline Scheme
Appendix 2	Master Layout Plan of the Proposed Scheme

1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Application Site is located at various lots in D.D. 385 and adjoining government land, Tuen Mun. It falls in the "Comprehensive Development Area" ("CDA") zone, as outlined in the approved So Kwun Wat Outline Zoning Plan (OZP) No. S/TM-SKW/15.
- 1.1.2 The Application Site is the subject of a previous S16 Application No. A/TM-SKW/32 approved in March 2002.
- 1.1.3 The Application Site comprises of four different portions, including (i) Private Residential Portion i.e. Development Site; (ii) Formation Sites for Village Housing; (iii) Reserved Site for Public Facilities; and (iv) Provision / Modification of Village Road, Pedestrian Access to Wong Uk Tsuen and Pedestrian Route to Burial Ground. This study will focus exclusively on the proposed Development Site. The formation sites for village housing remains the same as the approved planning application.
- 1.1.4 Under the current planning application, the applicant proposes a minor relaxation of the building height and GFA restrictions in order to increase housing supply within the Development Site.
- 1.1.5 To support this planning application, Ramboll Hong Kong Limited has been commissioned by the Applicant to conduct the Air Ventilation Assessment (AVA) - Expert Evaluation. Architectural drawings and technical information of the developments are provided by the Project Architect.

1.2 Objectives

- 1.2.1 This AVA – Expert Evaluation is prepared to assess the potential air ventilation impact due to the proposed development upon the sensitive use of the surrounding areas.
- 1.2.2 This AVA – Expert Evaluation is prepared with reference to the Housing, Planning and Lands Bureau and Environment, Transport and Works Bureau Technical Circular No. 1/06.

1.3 Application Site and its Environs

- 1.3.1 **Figure 1** shows the location of the Application Site and the surrounding environs.
- 1.3.2 The Applicant Site is situated in Tai Lam Chung Valley. To the immediate north of it is Tai Lam Chung Tsuen, while Hong Kong Customs College is located to the west. Additionally, two recognised villages, Wu Uk Tsuen and Wong Uk Tsuen, are situated to the southwest and east of the Application Site, respectively.

1.4 Application Site

- 1.4.1 The Application Site features medium to high-rise residential buildings and houses. Three formation sites for village housing, are situated at the northern, southwestern, and southeastern of the Application Site. **Figure 1** shows the location of the Application Site.
- 1.4.2 The tentative completion year of the Application Site is 2030.

1.5 Baseline Scheme

- 1.5.1 The Baseline Scheme adopts previous approved Planning Application No. A/TM-SKW/32.

- 1.5.2 The Baseline Scheme includes 13 residential blocks of 14 to 16 storeys over 2 level podiums with maximum building height at 70mPD. Blocks 1-3 and 5-7 are arranged in a row without any building separation from west to east in the east wing of the site. Blocks 8 and 9 are positioned across the EVA. Blocks 10-13, 15 are also aligned in a row without any building separation from north to south in the South Wing.
- 1.5.3 There is a ~25m-width building separation between Block 9 & 10 located above the podium level of the clubhouse. Additionally, the East Wing Extension portion of the site includes amenities such as a tennis court and putting greens. Additionally, there is a separation of ~15m between Block 5 and Block 8, a podium setback of ~15m from Block 9 to the application site boundary, along with a ~15m tower setback from Block 15 to the southeastern site boundary. **Figure 2** illustrates the good design feature in the Baseline Scheme.
- 1.5.4 Under the approved planning application, the Applicant is required to provide in the northern, southeastern and southwestern portion for formation sites for village housing.
- 1.5.5 **Appendix 1** shows the MLP and section of the Baseline Scheme.

1.6 Proposed Scheme

- 1.6.1 Compared to the Baseline Scheme, the formation sites for village housing remain unchanged. The changes are therefore confined to the master layout of the private residential portion of the Development Site with an increase of building height, and GFA.
- 1.6.2 The Development Site features a mix of low to high-rise buildings. There are six high-rise building blocks, with a maximum building height at 84mPD, and one mid-rise building block, designated as T7, standing at 29.65mPD. Additionally, 17 low-rise houses are situated in the East Wing Extension portion of the site.
- 1.6.3 The following good design features have been adopted in the Proposed Scheme (as shown in **Figure 3**)
- ~15m building separation between T5 & T6, aligned in N-S direction.
 - ~15m building separation between T1 & T2 , aligned in NW-SE direction above the podium level.
 - ~25m building separation between T2 & T3, aligned in E-W direction.
 - ~15m building separation between T5 & T1.
 - ~15m podium setback from T1 to the application site boundary.
 - ~5m tower setback from T4 to the southeastern site boundary.

2. SITE WIND AVAILABILITY

2.1 Regional Atmospheric Modelling System (RAMS)

- 2.1.1 According to the Planning Department's website, a meso-scale Regional Atmospheric Modelling System (RAMS) was used to produce a simulated 10-year wind climate at the horizontal resolution of 0.5 km x 0.5 km covering the whole territory of Hong Kong. The simulated wind data represents the annual, winter and summer wind conditions at various levels, i.e. 200 m, 300 m, and 500 m above terrain.
- 2.1.2 The RAMS data of the grid (X: 049, Y:052) has been extracted from the Site Wind Availability Data of Planning Department's website.
- 2.1.3 The available wind rose data at different heights (200m, 300m, and 500m) indicates that the 200m wind data best represents the wind conditions at the Application Site, considering the topographical effects in the area. Therefore, the 200m wind roses is selected to study the prevailing wind conditions and their influence on the Application Site, considering the impact on the surrounding topography. **Figure 4** shows the relevant wind rose diagram representing the frequency and wind speed distribution of the district concerned for both annual and summer conditions.
- 2.1.4 **Table 2.2** summarized the simulated wind availability data including probability of occurrence.

Table 2.1 Summary of RAMS Data and Wind Direction

Wind Direction	Probability for Annual Condition (%)	Probability for Summer Condition (%)
N	3.3	1.3
NNE	14.9	1.6
NE	5.8	1.7
ENE	4.0	1.8
E	17.0	8.8
ESE	16.5	10.2
SE	9.4	13.6
SSE	9.4	18.6
S	6.2	13.1
SSW	3.7	9.7
SW	2.2	6.0
WSW	1.7	4.1
W	2.1	4.6
WNW	1.4	2.7
NW	1.2	1.4
NNW	1.2	0.9

2.2 Hong Kong Observatory (HKO) Weather Data

- 2.2.1 The nearest wind station of HKO is located at Tuen Mun. The anemometer is positioned 69m above mean sea level in Tuen Mun Government Offices.
- 2.2.2 The Tuen Mun Wind Station is located in an urban environment within a large valley, flanked by mountains to the west and east. To the south, Castle Peak Bay is approximately 500 meters away, making the station particularly exposed to winds from the southeast to southwest sectors. The annual wind rose (1988-2023) and the monthly wind roses are presented in **Figure 5a** and **Figure 5b** respectively. **Table 2.2** summarized the dominant prevailing wind directions of the monthly wind rose.

Table 2.2 Monthly Prevailing Wind Direction (Tuen Mun Station)

Month	Prevailing Wind Direction	Month	Prevailing Wind Direction
Jan	NNE	Jul	SSE
Feb	NNE	Aug	SSE
Mar	SSE	Sep	NNE
Apr	SSE	Oct	NNE
May	SSE	Nov	NNE
Jun	SSE	Dec	NNE

2.2.3 The annual prevailing wind is from NNE and SSE direction, where summer prevailing wind is mainly SSE direction.

2.2.4 The Tuen Mun Wind Station is located ~5.6km to the northwest of the Application Site. It is considered a reliable reference to represent the site wind availability at the Application Site.

2.3 Topography and Building Morphology

Topography

2.3.1 The Application Site is located in the Tuen Mun district of Hong Kong. The general topography of the area around is characterized by undulating hills and slopes. There are hills to the east and from the east to southwest of the south wing of the Application Site, with varying degrees of steepness. Tai Lam Country Park, situated to the east of the Application Site, has a maximum elevation of approximately 300 mPD and gradually rises from the site.

2.3.2 The Application Site is also close to water bodies, including Tai Lam Chung Nullah to the west and Tai Lam Kok to the south.

Building Morphology

2.3.3 As shown in **Figure 1**, the building morphology in the immediate vicinity of the Application Site is characterized by a relative lower building height compared to the more urbanized areas of Tuen Mun.

2.3.4 To the north of the Application Site lies Tai Lam Chung Tsuen, with an approximate elevation of about 12mPD.

2.3.5 Various GIC facilities, including Tai Lam Chung Fire Station and the Wai Lan Rehabilitation Centre, situated at an elevation of around 12 mPD, are located immediate northwest of the Application Site. To the south of this GIC zone is the Hong Kong Customs College, which has an average building height of approximately 20 mPD.

2.3.6 Further west, across Tai Lam Chung Nullah, is Luen On San Tsuen, located at an elevation of about 20 mPD. West of this area, the Siu Lam Psychiatric Centre is perched on the hillside, with an elevation of approximately 78 mPD.

2.3.7 Additionally, two villages, Wu Uk Tsuen and Wong Uk Tsuen, are located immediately to the southwest and east of the south wing of the Application Site. These areas primarily consist village houses, with an elevation of around 12 mPD.

2.3.8 **Table 2.3** highlighted the building height of the surrounding developments.

Table 2.3 Building Height of the Surrounding Developments

Name of Development	Building Height	Location relative to the Application Site
Tai Lam Chung Tsuen	~12mPD	North
Various GIC facilities	~8mPD	West
Hong Kong Customs College	~20mPD	West
Luen On San Tsuen	~9mPD	West
Luen On San Tsuen	~20mPD	Further West across Tai Lam Chung Nullah
Siu Lam Psychiatric	~78mPD	Further West
Godown	~10mPD	Further West
Wu Uk Tsuen	~12mPD	West
Wong Uk Tsuen	~12mPD	East

2.4 Summary of Existing Site Wind Availability

2.4.1 **Table 2.4** shows the summary of the prevailing wind directions extracted from different wind data sources.

Table 2.4 Summary of the Prevailing Wind Directions from Different Data Sources

	RAMS (200m)	Tuen Mun Wind Station
Annual Condition	NNE, E, ESE	NNE, SSE
Summer Condition	SE, SSE, S	SSE

2.4.2 Based on the summary of data from RMAS and HKO, the annual prevailing winds are mainly from the eastern sectors. The NNE, E, ESE and SSE winds are the most dominant annual winds. On the other hand, the major summer prevailing winds come from SE, SSE, S and SSE.

2.4.3 Under the annual NNE wind, existing foothills of Tai Lam Country Park may partially block the incoming wind from reaching the Application Site, despite the hillside's height being below 100mPD.

2.4.4 Under E, ESE and SE winds, the mountains of Tai Lam Country Park may obstruct a large portion of the incoming wind. This is due to the mountain's elevation, which reaches approximately 250 mPD, exceeding the building heights of both the Baseline Scheme and the Proposed Scheme.

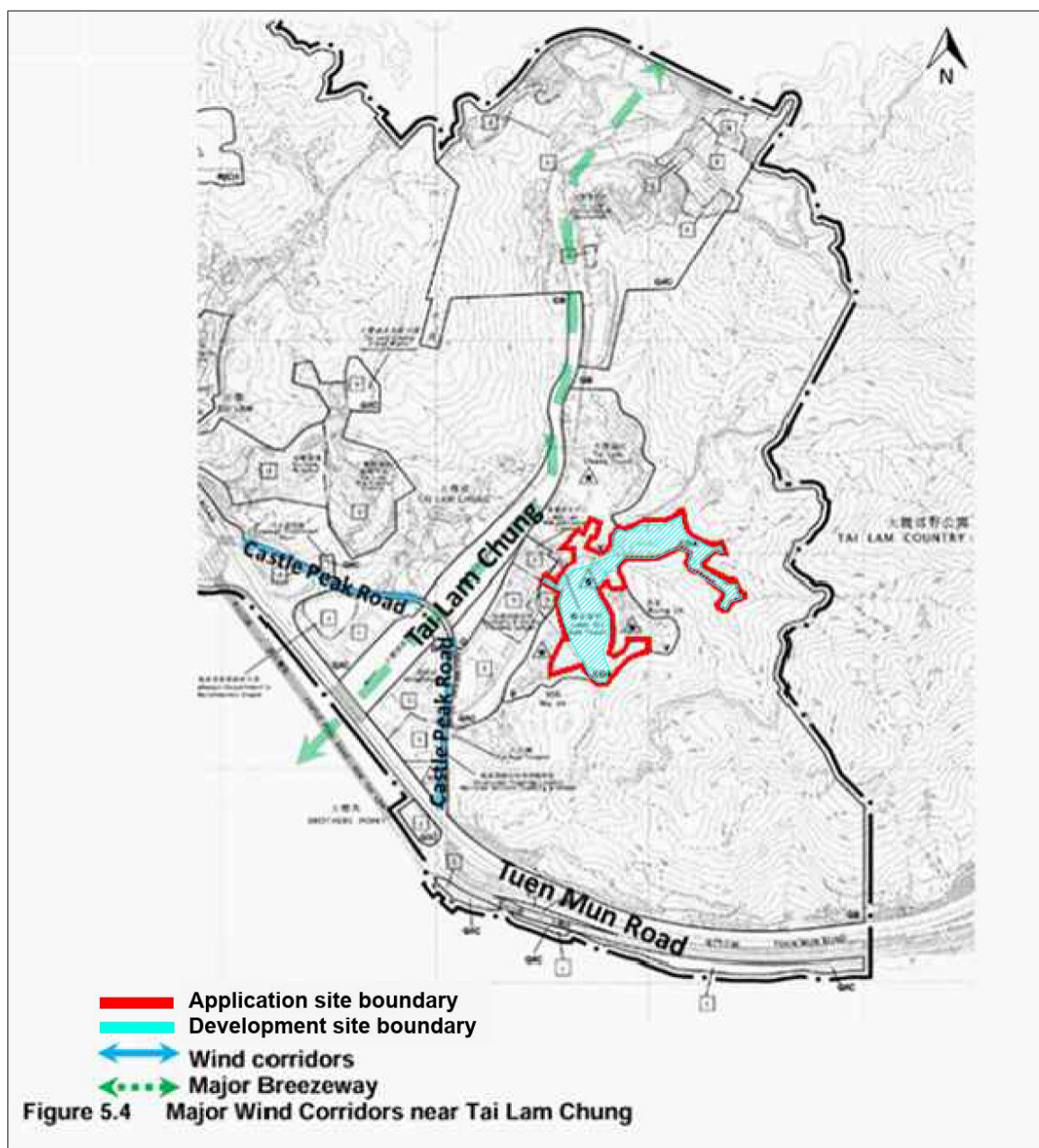
2.4.5 While under the summer prevailing winds SSE and S winds, it is expected that the blockage effect caused by Tai Lam Chung Country Park will be relatively reduced. This is because the hillside in the upwind area reaches an elevation of about 150mPD, which may allow more wind to pass through, when comparing to E, ESE and SE winds.

2.4.6 **Figure 6** shows the annual and summer prevailing wind directions under the existing condition.

2.5 Previous Expert Evaluation near the Study Area

2.5.1 In February 2015, a "Term Consultancy for Expert Evaluation and Advisory Services on Air Ventilation assessment – An Instructed Project for So Kwun Wat" (SKW EE) was prepared under the Planning Department's term consultancy study in which the air ventilation performance of the Tai Lam Chung area including the Application Site has been discussed.

- 2.5.2 In the SKW EE, the identified annual prevailing wind comes from the northeast quadrant and south east quadrant while the summer wind comes from the east and southerly. Major breezeways/wind corridors at different locations of the study area have been identified in the SKW EE. For the area in Tai Lam Chung, the Tai Lam Chung Nullah is defined as the major breezeway which allows the annual N/NE and summer S/SW wind to ventilate the area on the two sides of the nullah.
- 2.5.3 Castle Peak Road – Tai Lam section also serves as a local wind corridor enhancing wind permeability in the area near Siu Lam Psychiatric under annual E wind direction. In the summer condition, it also facilitates wind flow from S/SE and sea breeze to Tai Lam Chung Road and ventilates the inland area.
- 2.5.4 Below is the diagram extracted from the SKW EE showing the breezeway and wind corridors at Tai Lam Chung area. In the diagram, there is no breezeway nor wind corridors close to or across the Application Site.



3. EVALUATION OF AIR VENTILATION PERFORMANCE

3.1 Areas Frequently Accessed by Public

3.1.1 Important surrounding areas that the public would often access have been identified as the following:

- Roads surrounding the Application Site (Luen Tai Street, Luen Hong Lane, Tai Lam Chung Road, Castle Peak Road-Tai Lam);
- Nearby residential developments (Tai Lam Chung Tsuen, Wong Uk Tsuen, Wu Uk Tsuen, Luen On San Tsuen); and
- GIC developments (Tai Lam Chung Fire Station, Wai Lan Rehabilitation Centre, Hong Kong Customs College); and
- Open Spaces (Tai Lam Chung Tsuen Children's Playground, Tai Lam Chung Road Children's Playground).

3.1.2 Location of those listed areas frequently accessed by public is also shown in **Figure 1**.

3.2 Assessment Methodology

3.2.1 Section 2 describes the wind availability at the Application Site and the prevailing wind flows during annual and summer conditions. It is noted that the annual prevailing wind directions for the district are from NNE, E, ESE and SSE. The summer prevailing wind directions would be from SE, SSE and S.

3.2.2 The ventilation performance of the proposed development at Application Site on the nearby areas frequently accessed by public will be evaluated by comparing with the existing land condition with respect to the identified dominant wind directions, i.e. NNE, E, ESE, SE, SSE and S.

3.2.3 According to the SKW EE, the major breezeway and air path of the Tai Lam Chung Area is the Tai Lam Chung Nullah and Castle Peak Road. The Application Site is located away from these two identified regional wind paths, ~90m from the Tai Lam Chung Nullah and ~210m from Castle Peak Road. Without encroaching to these two regional air paths, the wind flow along them would not be affected due to the proposed increase of the building height, and so it is expected that the overall wind performance of the Tai Lam Chung area would not be significantly affected.

3.2.4 The wind performance of the local area surrounding the Application Site may be affected due to the proposed increase of building height / GFA restrictions, and so the following sections address this potential impact for the prevailing annual and summer wind directions.

3.3 Wind Flow from NNE Direction

3.3.1 **Figure 7** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the NNE wind direction.

3.3.2 It is expected that the NNE wind mainly flows along Tai Lam Chung Nullah as well as Tai Lam Chung Road to the south. Additionally, some of the upcoming NNE wind may penetrate Tai Lam Chung Tsuen and reach the GIC developments to its southwest. Similarly, this wind could also skim over the formation sites for village housing located in the northern portion of the Application Site, making its way through the building setback to the downwind areas, such as Wu Uk Tsuen and a section of Luen Tai Street.

3.3.3 The existing foothills of Tai Lam Chung Country Park will block portion of the upcoming NNE wind. However, since the foothills are generally lower than 100mPD, it is expected that some wind will still reach the Application Site.

- 3.3.4 The Proposed Scheme includes an additional 15m building separation between T5 & T6, which allows more NNE wind to penetrate through, potentially benefiting Wong Uk Tsuen; while the Baseline Scheme would block the NNE wind flowing to the Wong Uk Tsuen.
- 3.3.5 Compared to the Baseline Scheme, the additional mid-rise building block T7 and the low-rise houses will not impact air ventilation, as there are no sensitive receivers in their downwind area.
- 3.3.6 While there may be some reduction in wind performance for Wu Uk Tsuen to the immediate southeastern of T2 in the Proposed Scheme due to the increase in building height of the Proposed Scheme by approximately 14m, however, the Proposed Scheme is not expected to induce any significant impact on the surroundings with the additional building separation between T5 & T6.

3.4 Wind Flow from E Direction

- 3.4.1 **Figure 8** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the E wind direction.
- 3.4.2 Mountains of Tai Lam Chung Country Park, with the maximum height of approximately 250mPD, is located to the east of the Application Site. These mountains exceed the maximum building heights of both the Baseline Scheme and the Proposed Scheme, which is expected to limit the downhill air movement or valley winds reaching the site and surrounding downstream areas, such as the GIC developments, Hong Kong Customs College, Luen On San Tsuen and village houses along Luen Tai Street.
- 3.4.3 Some downhill E wind to the north and south of the Application Site may reach the village houses to the south of Tai Lam Chung Tsuen and Wu Uk Tsuen directly. The building separation between Block 5 and Block 8 is ~15m under the Baseline Scheme, while the building separation between T1 & T5 remains ~15m under the Proposed Scheme. These separations would facilitate the passage of E wind through the Site, allowing them to reach downstream areas such as Luen On San Tsuen, Luen Tai Street, GIC developments, Hong Kong Customs College and Tai Lam Chung Road Children's Playground. Given that the separation is maintained, it is anticipated that the Proposed Scheme will not have any significant impact compared to the Baseline Scheme.
- 3.4.4 Wong Uk Tsuen, located immediately east of the Application Site, is exposed to downhill winds without obstruction from the site. Although the Proposed Scheme includes low-rise houses in the eastern portion, the building separation and the two-storey height houses will not impede the incoming E wind from reaching Wong Uk Tsuen as those proposed houses are not sitting at the upwind direction.
- 3.4.5 In the Baseline Scheme, the 25m width building separation above the clubhouse between Blocks 9 & 10 facilitates part of the E wind which skims over Wong Uk Tsuen to pass through and reach Luen On San Tsuen, but the continuous building blocks would block the wind flow to Luen Tai Street and Wu Uk Tsuen. Compared to the Baseline Scheme, the extra 25m building separation between T2 & T3 in the Proposed Scheme will enable E wind to flow through and reach Wu Uk Tsuen. However, it is anticipated that the local wind environment at Luen On San Tsuen may be reduced as building separation is slightly reduced from 25m to 15m. On the other hand, the setback from the southernmost tower in the Baseline Scheme is ~15m whereas in the Proposed Scheme, it has been reduced to ~5m due to increased building separation between T2 and T3. This adjustment brings the buildings closer to the site boundary but still permits some easterly winds to flow towards Wu Uk Tsuen in the downwind area.

- 3.4.6 While there may be some reduction in wind performance for Wu Uk Tsuen, Luen On San Tsuen and Tai Lam Chung Tsuen Children's Playground due to the increase in building height of the Proposed Scheme by approximately 14m, however, the Proposed Scheme is not expected to induce any significant impact on the surroundings with the additional 25m building separation between T2 & T3.

3.5 Wind Flow from ESE Direction

- 3.5.1 **Figure 9** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the ESE wind direction.
- 3.5.2 Similar to E wind, the 250 mPD mountains of Tai Lam Chung Country Park are located in the upwind area of the Application Site. It is believed that only limited downhill or valley wind can reach the Application Site and surrounding downstream areas, such as Wu Uk Tsuen, Luen On San Tsuen, village houses along Luen Tai Street, Hong Kong Customs College and the GIC developments.
- 3.5.3 Some downhill ESE winds to the north and south of the Application Site may directly reach Tai Lam Chung Tsuen and Wu Uk Tsuen.
- 3.5.4 In the Baseline Scheme, there is a building separation with ~15m in width between Block 5 and 8 facilitating the ESE wind flow pass through the site. This building separation is kept in the Proposed Scheme. Given that the separation is maintained, it is anticipated that the Proposed Scheme will not have any significant impact compared to the Baseline Scheme.
- 3.5.5 The larger building separation of 25m between Block 9 and Block 10 in the Baseline Scheme may allow some more wind to pass through, benefiting Luen On San Tsuen and GIC developments at the downwind area, compared to the 15m building separation between T1 & T2 in the Proposed Scheme. However, the additional 25m building separation between T2 & T3 in the Proposed Scheme will also enable ESE wind to flow through and reach the village houses along Luen Tai Street. On the other hand, the setback from the southernmost tower in the Baseline Scheme is ~15m whereas in the Proposed Scheme, it has been reduced to ~5m due to increased building separation between T2 and T3. This adjustment brings the buildings closer to the site boundary but still permits some easterly winds to flow towards Wu Uk Tsuen in the downwind area.
- 3.5.6 While there may be some reduction in wind performance for the localized downwind area due to the increase in building height of the Proposed Scheme by approximately 14m, however, the Proposed Scheme is not expected to induce any significant impact on the surroundings with the additional building separation of 25m between T2 & T3.

3.6 Wind Flow from SE Direction

- 3.6.1 **Figure 10** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the SE wind directions respectively.
- 3.6.2 Similar to E wind, the 250 mPD mountains of Tai Lam Chung Country Park are located in the upwind area of the Application Site. It is believed that only limited downhill or valley wind can reach the Application Site and surrounding downstream areas, such as Wu Uk Tsuen, Luen On San Tsuen, Hong Kong Customs College, village houses along Luen Tai Street, the GIC developments and village houses to the south of Tai Lam Chung Tsuen.
- 3.6.3 Some downhill SE winds to the north and south of the Application Site may directly reach the village houses to the south of Tai Lam Chung Tsuen and Wu Uk Tsuen.

- 3.6.4 In the Baseline Scheme, the SE wind can pass through the site through the two building separations, i.e. those between Block 5 & 8 and Block 9 & 10 with ~15m and ~25m in width, respectively and reach the downwind area. With the above-mentioned two building separations being kept in the Proposed Scheme, although the second one is reduced to ~15m, there is one additional effective building separations provided in the Proposed Scheme, which is 25m wide between T2 & T3, totally 3 effective building separations provided for allowing the SE winds passing through the site.
- 3.6.5 While there may be some reduction in wind performance for the localized downwind area due to the increase in building height of the Proposed Scheme by approximately 14m. However, with more permeable design in terms of building separation, the Proposed Scheme is not expected to induce any significant impact on the surroundings even there is an increase of the building height within the Development Site.

3.7 Wind Flow from SSE Direction.

- 3.7.1 **Figure 11** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the SSE wind direction.
- 3.7.2 Given the Site's location, summer prevailing SSE wind originates from the mountains in Tai Lam Chung Country Park, where the peaks reach elevations of 150 to 200mPD. These heights far exceed the maximum building heights of both the Baseline Scheme and Proposed Scheme. The wind reaching the downwind areas including the site and surrounding sensitive uses such as Luen On San Tsuen, Wu Uk Tsuen and GIC Developments is expected not to be rich.
- 3.7.3 It is expected the downhill wind would flow through the building separations in the Baseline Scheme and reach the downwind areas such as Luen On San Tsuen and GIC Developments. The mentioned building separations have been kept although the separation between T1 & T2 in the Proposed Scheme is slightly reduced in the Proposed Scheme with one additional building separation between T2 & T3. The separation at the northern portion of the site between T5 & T6 align with the SSE wind directions, and the SSE wind can pass through it and reach the downwind Tai Lam Chung Tsuen which is an additional wind path.
- 3.7.4 In the Proposed Scheme, low-rise T7 and 17 houses are introduced in place of the original vacant area in the Baseline Scheme in the eastern portion of the Application Site. However, under the SSE wind, there are no sensitive receivers at the downwind area of portion of the Application Site. As a result, the additional buildings would not adversely affect the wind performance.
- 3.7.5 Although there is an increase of the maximum building height of 14m in the Proposed Scheme, it is not expected to adversely impact the downwind areas with keeping the originally provided wind path as well as providing additional wind path in the Proposed Scheme.

3.8 Wind Flow from S Direction.

- 3.8.1 **Figure 12** illustrates the wind flow of the Baseline Scheme and Proposed Scheme under the S wind direction.
- 3.8.2 It is anticipated some incoming S wind from seaside, i.e. Tai Lam Kok may reach Hong Kong Customs College or flow along the wind corridor, i.e. Castle Peak Road – Tai Lam to reach the inland area.
- 3.8.3 Similar to SSE wind, the mountains in Tai Lam Chung Country Park have peaks that reach elevations of 150 to 200mPD. These heights significantly exceed the maximum building heights of both the Baseline Scheme and Proposed Scheme. The wind reaching

the downwind areas including the site and surrounding sensitive uses is expected not to be rich.

- 3.8.4 In both schemes, the upcoming S wind is expected to pass through the building separation between the formation sites for village housing and the residential towers at the southwestern portion of the Application Site, as well as the area between the east wing and south wing, to the north. Additionally, some valley wind or downhill wind will flow over the eastern portion of the Application Site. Since there are no sensitive receivers in the downwind area of this eastern portion, the addition of low-rise block and houses in the Proposed Scheme is not anticipated to cause any adverse impacts.
- 3.8.5 Compared to the Baseline Scheme, although the maximum building height of the Proposed Scheme is increased by approximately 14m, the number of building separation in the Proposed Scheme is increased which can allow more windy passing through the site, particularly the 15m building separation between T5 and T6. This separation will enable S wind to pass through and flow downhill, thereby improving conditions in the village houses to the south of Tai Lam Chung Tsuen.

3.9 Good Design Features

- 3.9.1 Section 3.3 to 3.8 discussed the ventilation impact between the Baseline Scheme and Proposed Scheme. It is considered that Proposed Development will not induce any significant impact to the surrounding sensitive areas compared to the Baseline Scheme. Although the maximum building height is increased by approximately 14m, two additional building separations have been included with a total of 3 building separation to enhance air ventilation:
- ~15m building separation between T5 & T6, aligned in N-S direction.
 - ~15m building separation between T1 & T2, aligned in NW-SE direction above the podium level.
 - ~25m building separation between T2 & T3, aligned in E-W direction.
 - ~15m building separation between T5 & T1.
 - ~15m podium setback from T1 to the application site boundary.
 - ~5m tower setback from T4 to the southeastern site boundary.

4. CONCLUSION

- 4.1.1 A qualitative assessment on the air ventilation performance of the Proposed Development has been carried out.
- 4.1.2 The Applicant proposes to increase the building height and GFA of the Development Site, while the formation sites for village housing will remain unchanged for comparison with the Baseline Scheme.
- 4.1.3 According to the Planning Department region study for So Kwun Wat area, the major breezeway and wind corridor for Tai Lam Chung area are the Tai Lam Chung Nullah and Castle Peak Road respectively. The Application site is located away from them, so the proposed increase in building height would not reduce the wind flow along them.
- 4.1.4 The annual wind of the study area is mainly from NNE, E, ESE and SSE wind directions. The summer wind is mainly from the SE, SSE and S wind directions.
- 4.1.5 After evaluating the potential air ventilation impacts of the Application Site, the layout of the Proposed Scheme incorporates effective design measures to enhance its air ventilation performance. Although the increased building height in the Proposed Scheme may lead to some blockage effect, the increase is only 14m, likely resulting in only localized effects. Considering the additional building separations, existing topography, the placement of current built areas, and the implementation of mitigation measures, it is concluded that the Proposed Scheme is acceptable in terms of air ventilation.

Figures

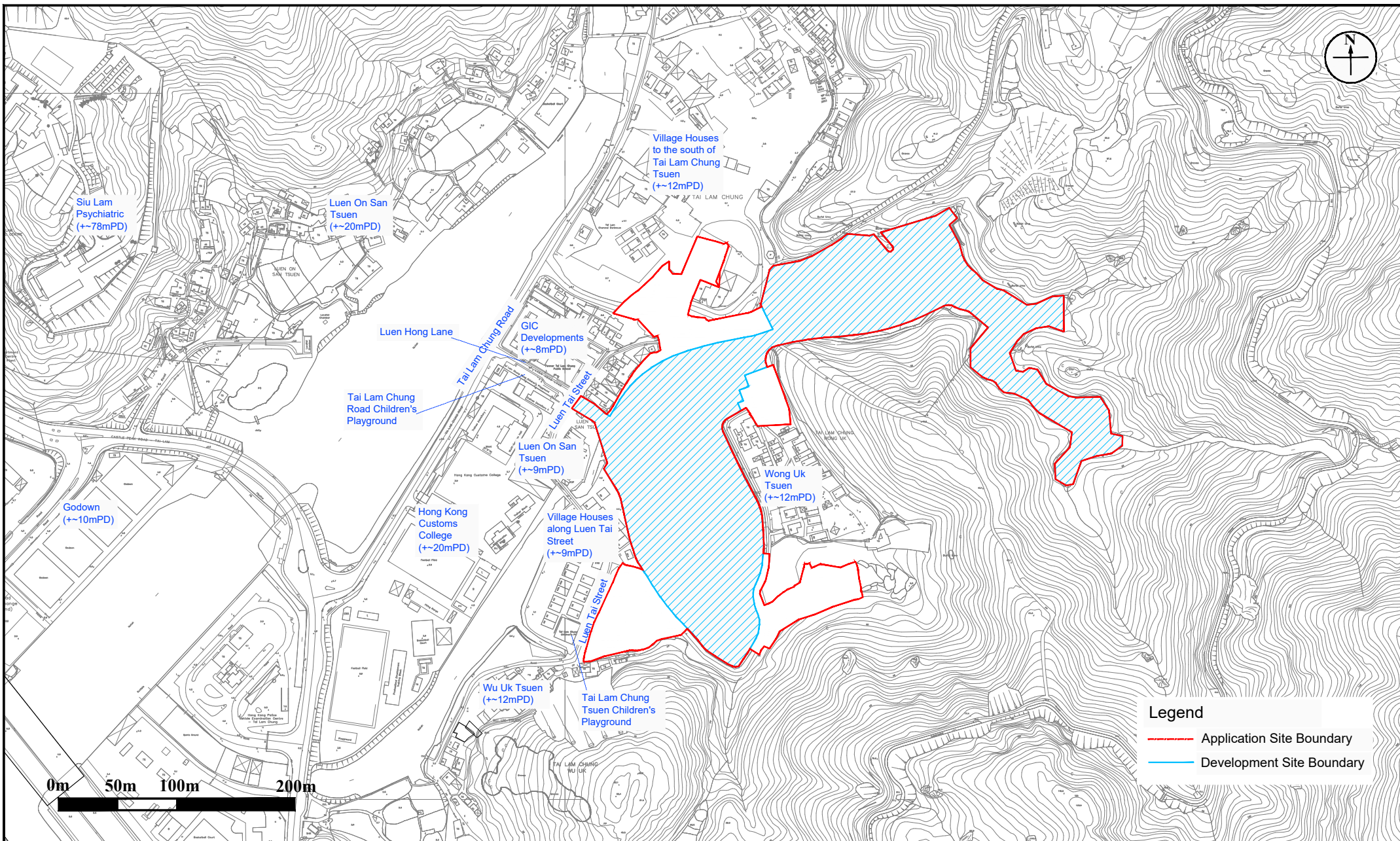


Figure: 1

Title: Location of the Application Site and its Environs

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun

RAMBOLL

Drawn by: EC

Checked by: TC

Rev.: 1.3

Date: Jul-25

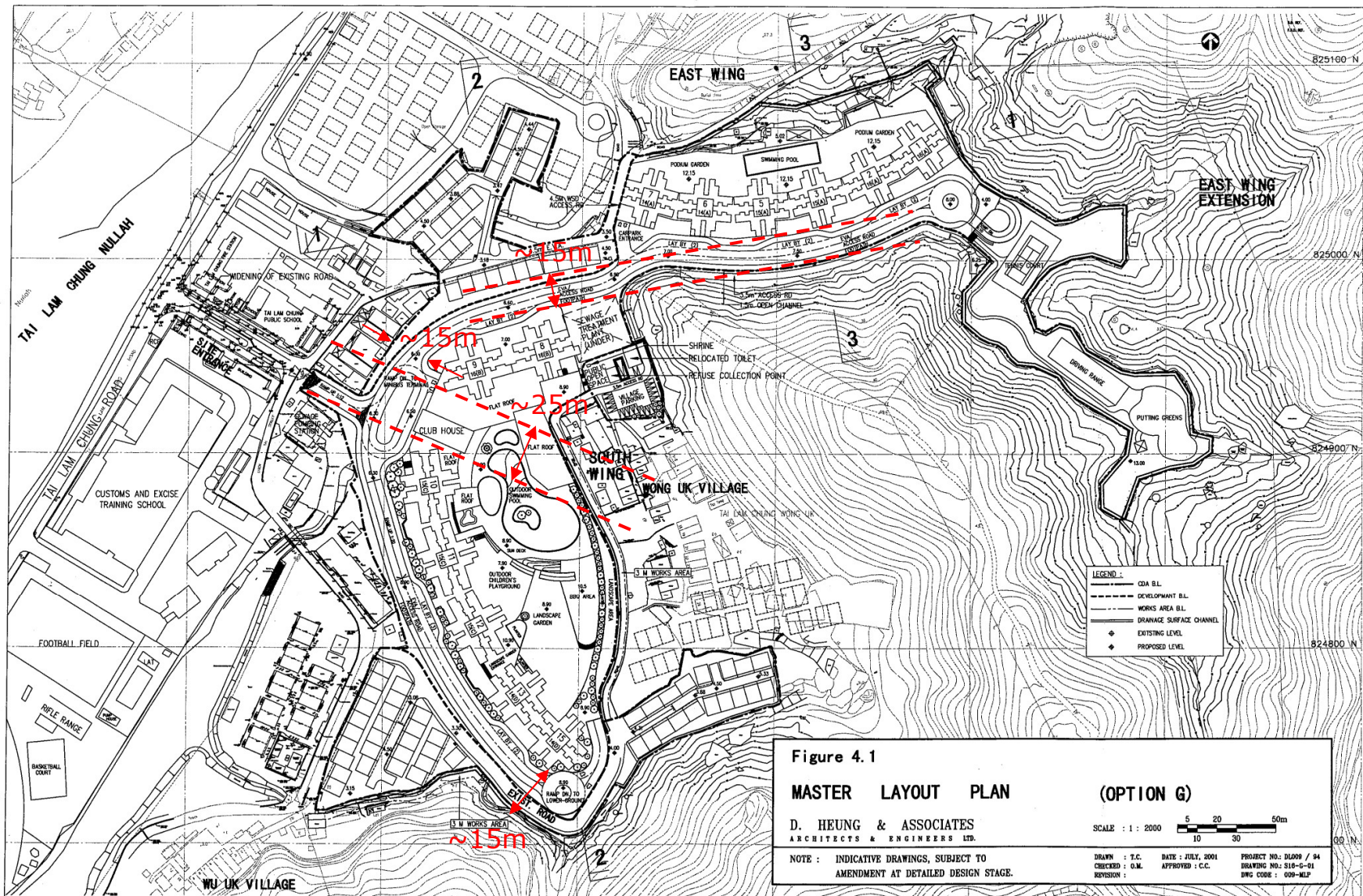


Figure: 2

Title: Good Design Features Provided in the Baseline Scheme

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun

RAMBOLL

Drawn by: EC

Checked by: TC

Rev.: 1.2

Date: Mar 2025



Note:

- All spot levels marked on the building structures refer to the main roof levels
- All levels, blockings and building structures are subject to detailed design
- No. of storeys marked on plan refers to total no. of storeys above ground, excluding transfer plate

Legend

- Application Site Boundary
- Development Site Boundary
- Drainage Reserve
- Reserved Site for Public Facilities
- Formation Site for Village Housing
- Formation of the Future Public Roads
- Covered Walkway
- Residential
- Private Garden
- Landscape Area (Covered or Uncovered)
- Podium
- EVA / Driveway
- Management Facility



Figure: 3

RAMBOLL

Title: Good Design Features Provided in the Proposed Scheme

Drawn by: EC

Checked by: TC

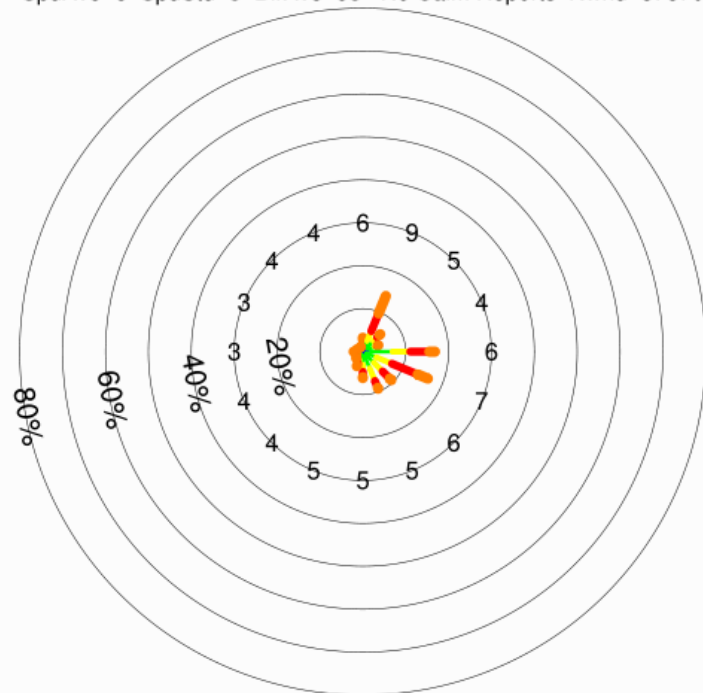
Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun

Rev.: 1.2

Date: Apr 2025

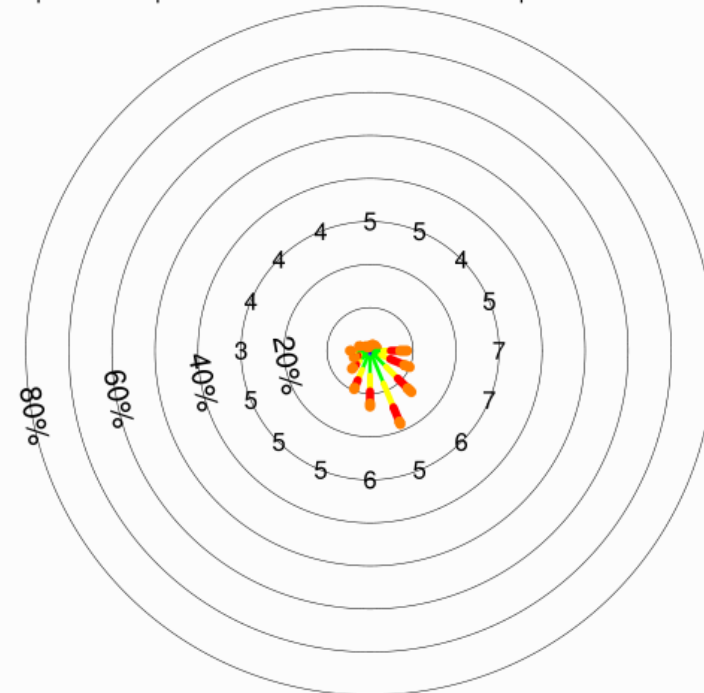
SpdAve=6 SpdStd=3 DirAve=93 No Calm Reports Nwnd=87670

SpdAve=6 SpdStd=3 DirAve=153 No Calm Reports Nwnd=22078



Wind Speed(m/s)

- 10-15
- 7-10
- 5-7
- 2-5
- 0-2



Wind Speed(m/s)

- 10-15
- 7-10
- 5-7
- 2-5
- 0-2

Annual Condition (200m)

Summer Condition (200m)

Figure: 4

RAMBOLL

Title: Windrose Diagram at 200m (grid: 049, 052) extracted from RAMS

Drawn by: EC

Checked by: TC

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun

Rev.: 1.0

Date: Sep 2024

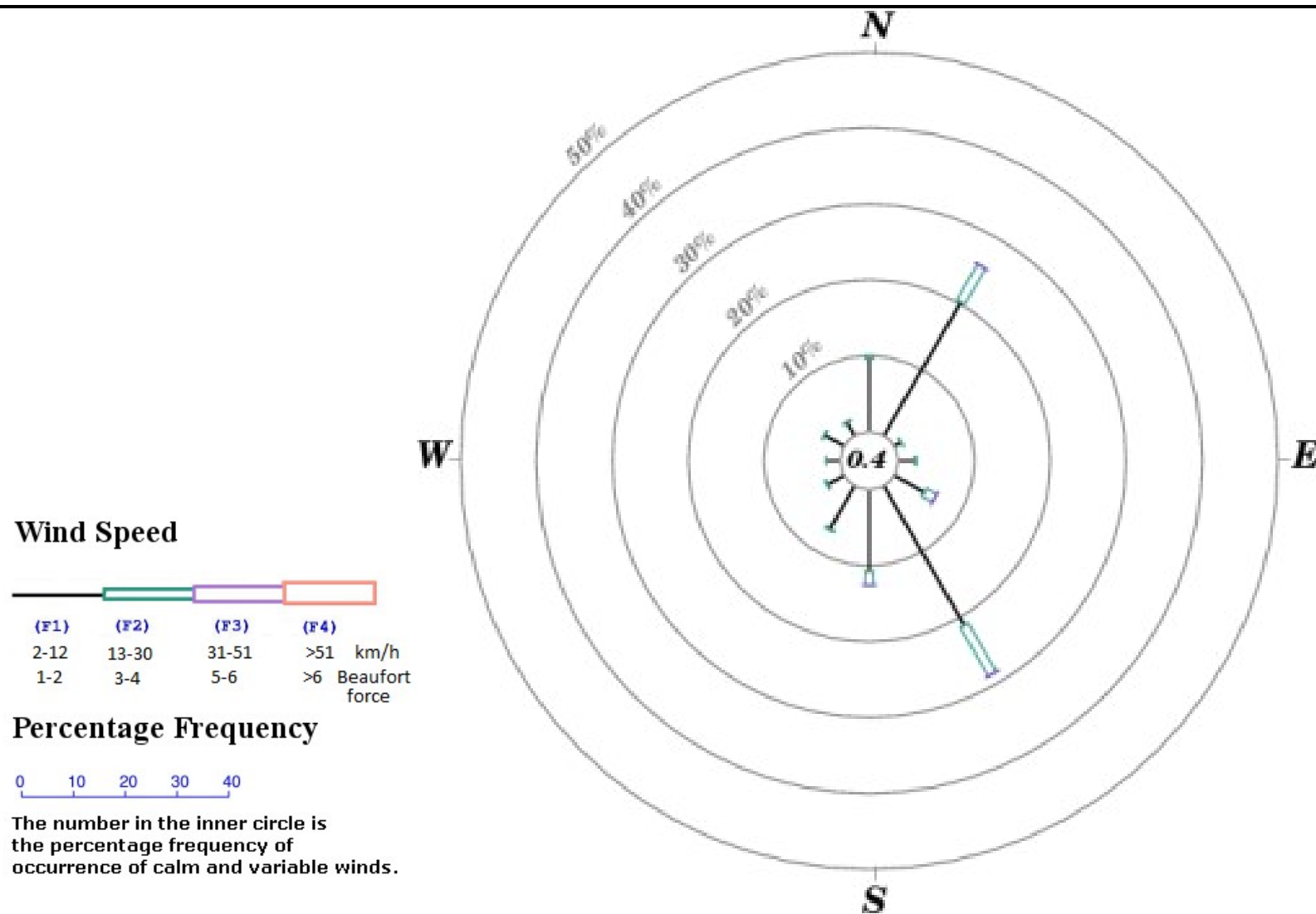


Figure: 5a

RAMBOLL

Title: Windrose Diagram (1988-2023) of Tuen Mun Wind Station (Annual)

Drawn by: EC

Checked by: TC

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun

Rev.: 1.0

Date: Sep 2024

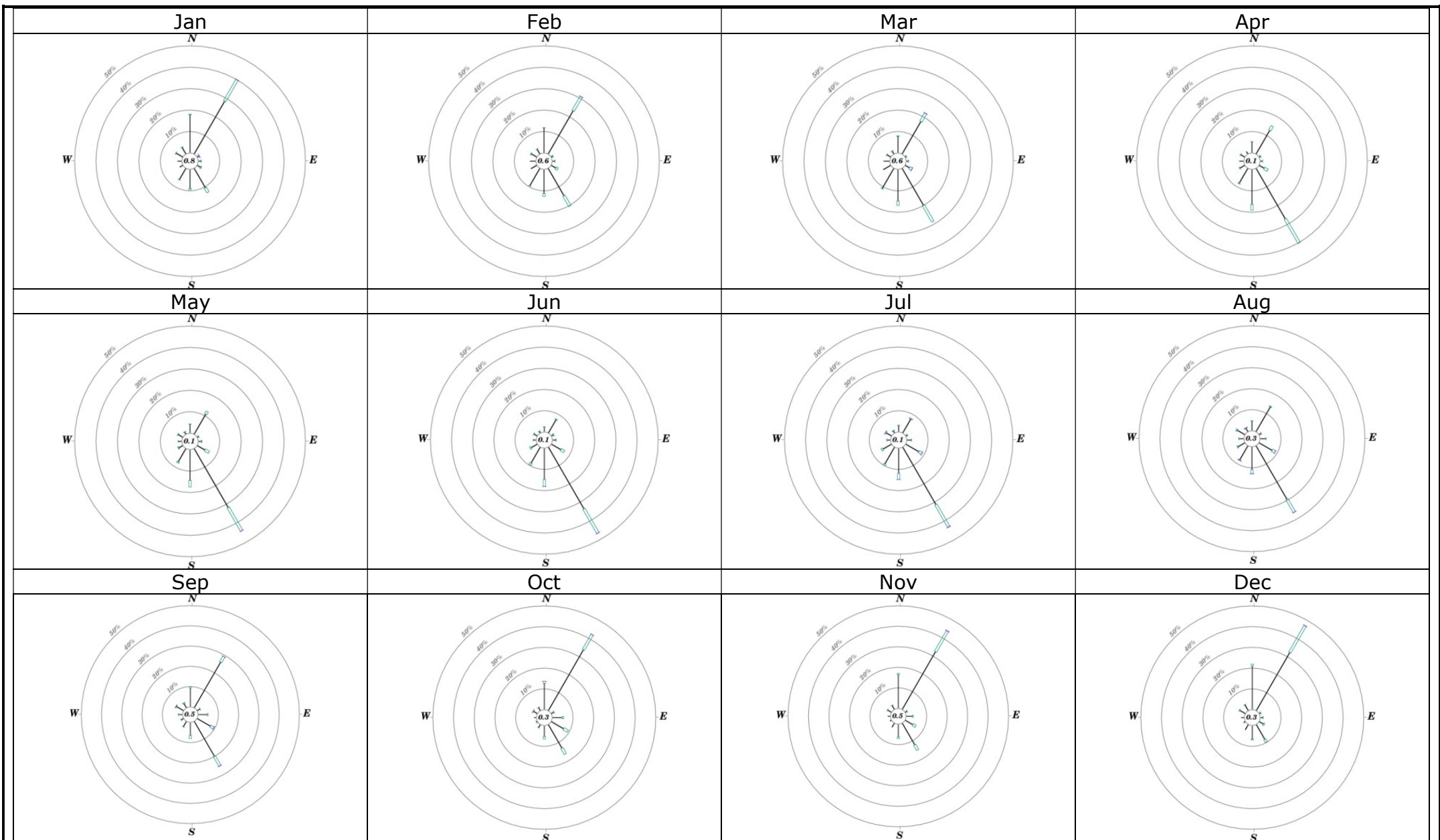


Figure: 5b			
Title: Windrose Diagram (1988-2023) of Tuen Mun Wind Station (Monthly)		Drawn by: EC	
		Checked by: TC	
Project		Rev.: 1.0	
Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun		Date: Sep 2024	

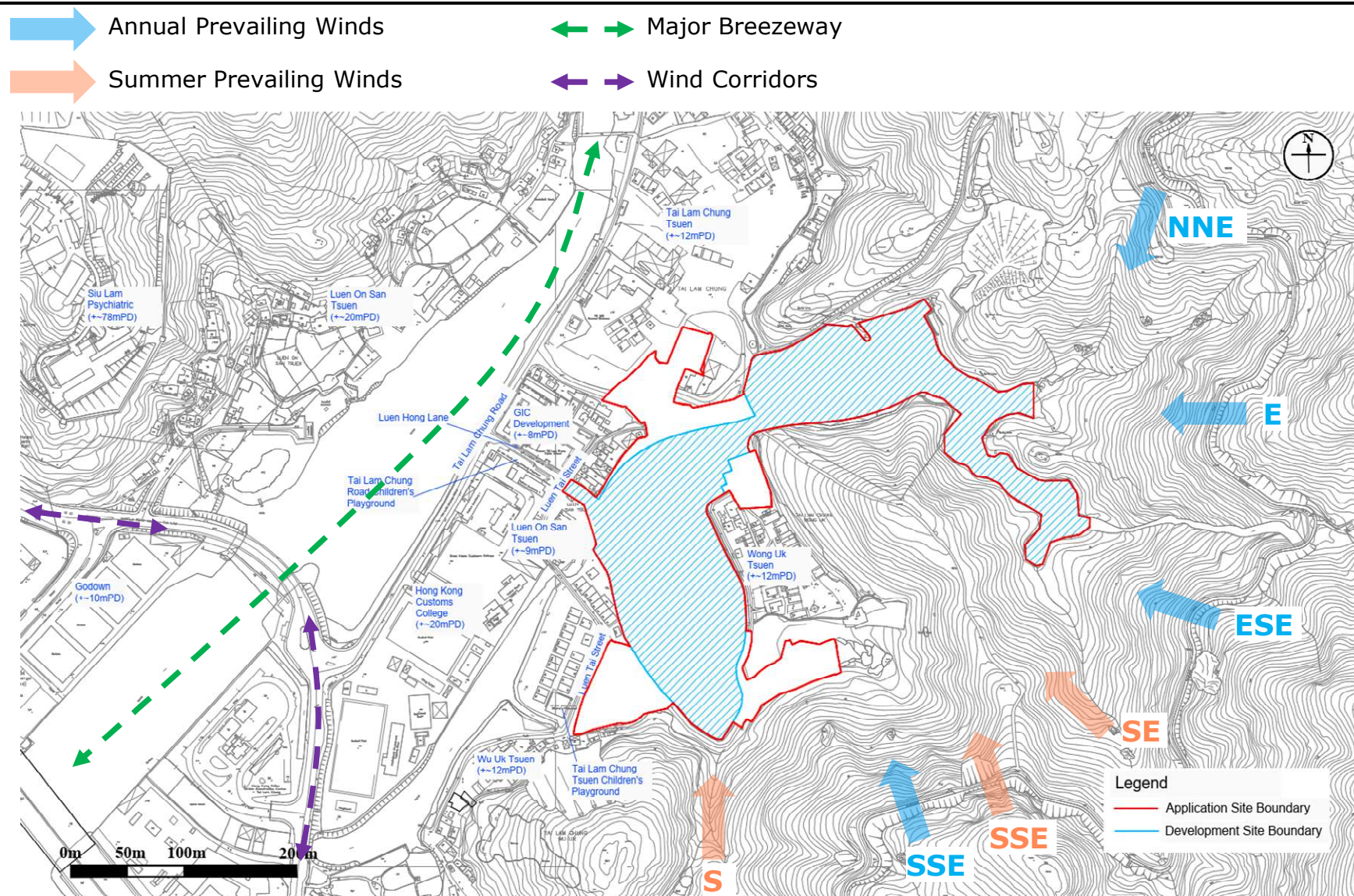


Figure: 6

RAMBOLL

Title: Potential Wind Flow under Existing Condition

Drawn by: EC

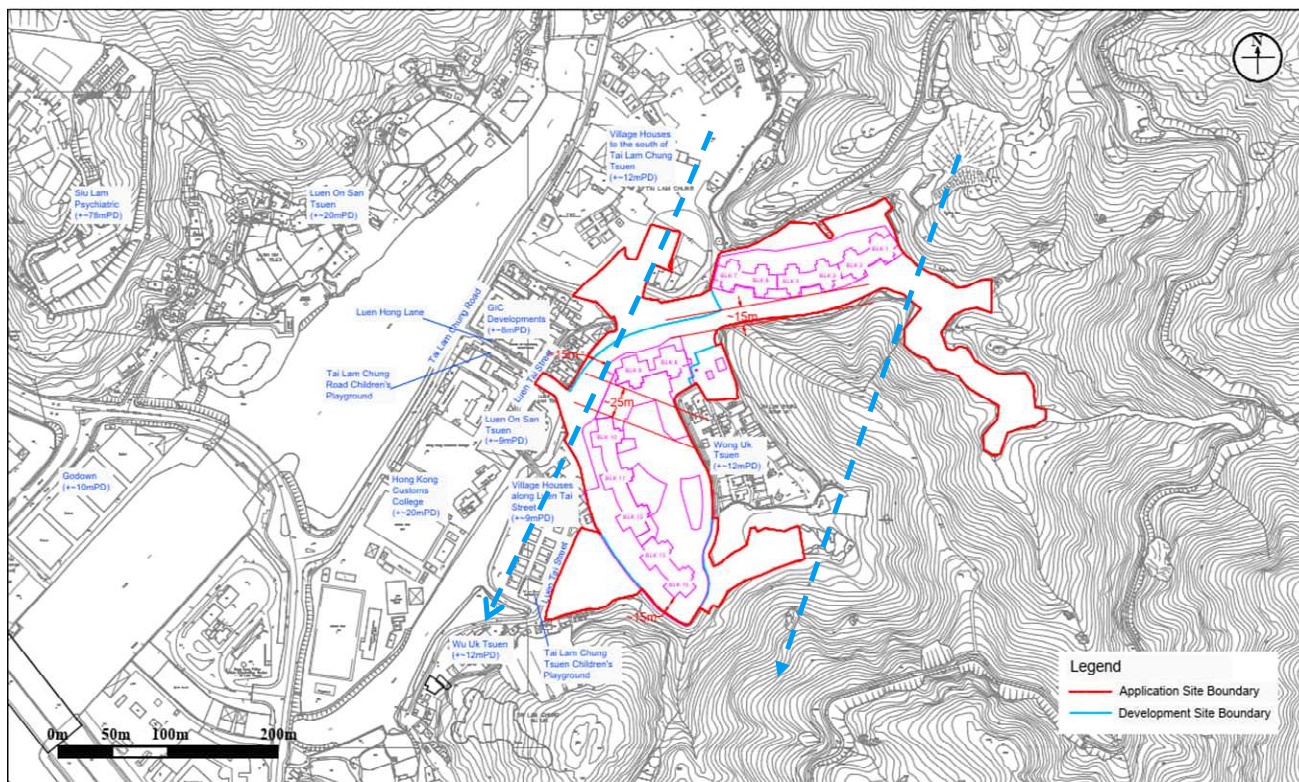
Checked by: TC

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land, Tai Lam Chung, Tuen Mun

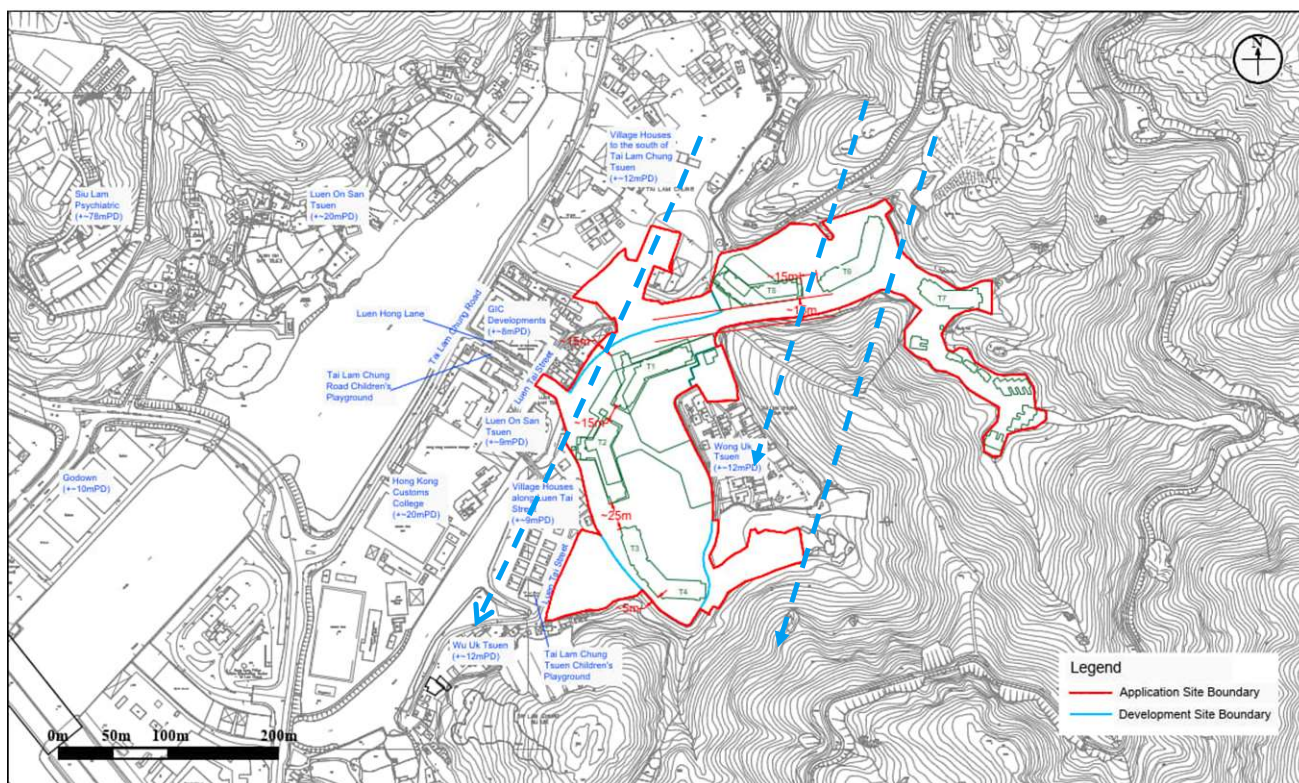
Rev.: 1.1

Date: Feb 2025

Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 7

RAMBOLL

Title: **Illustration of Wind Flow from NNE Wind Direction**

Drawn by: EC

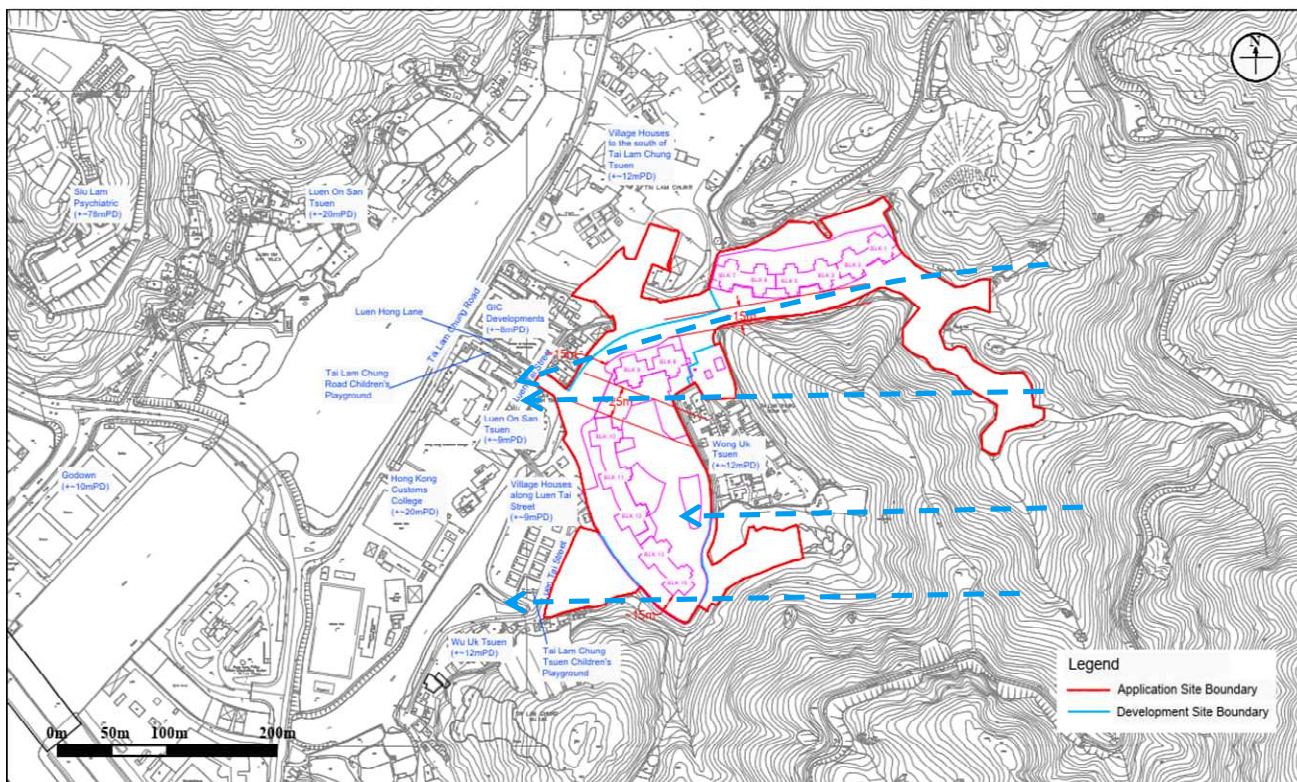
Checked by: TC

Project: **Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun**

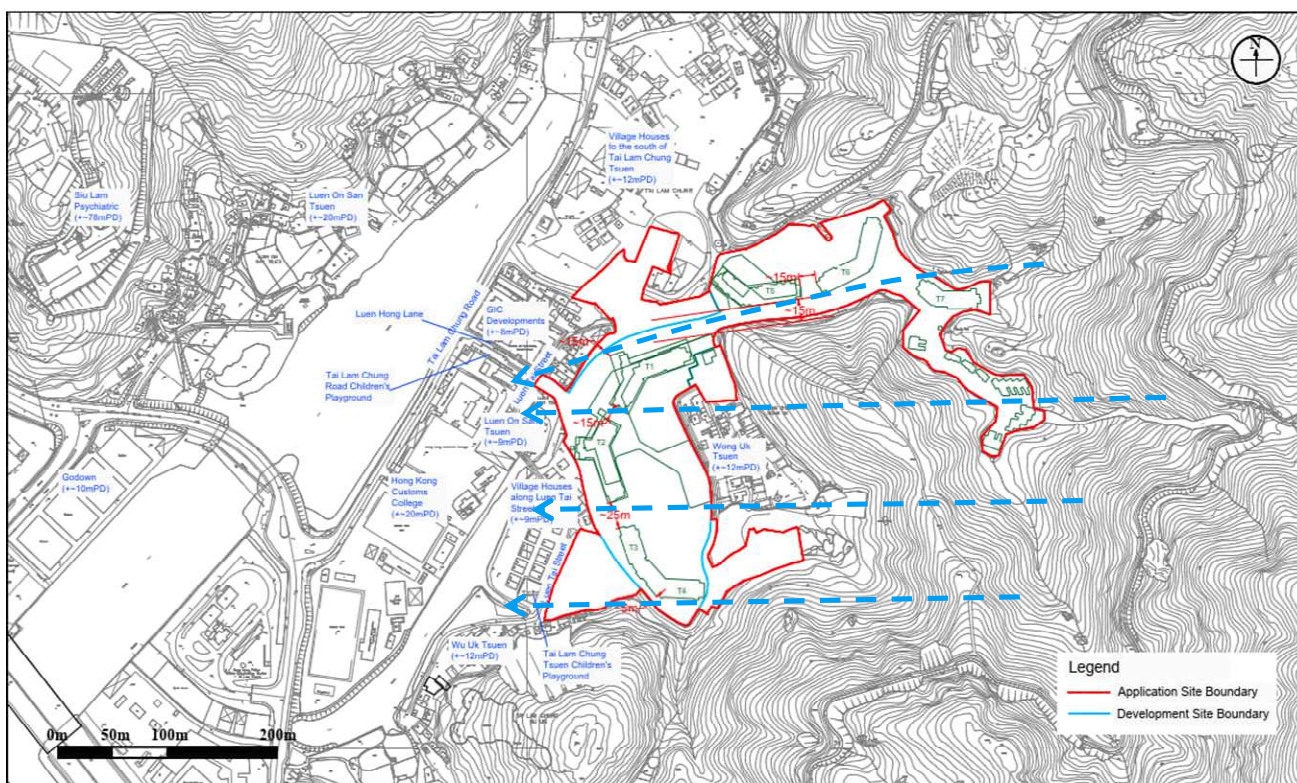
Rev.: 1.3

Date: Jul 2025

— — — — — Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 8

RAMBOLL

Title: **Illustration of Wind Flow from E Wind Direction**

Drawn by: EC

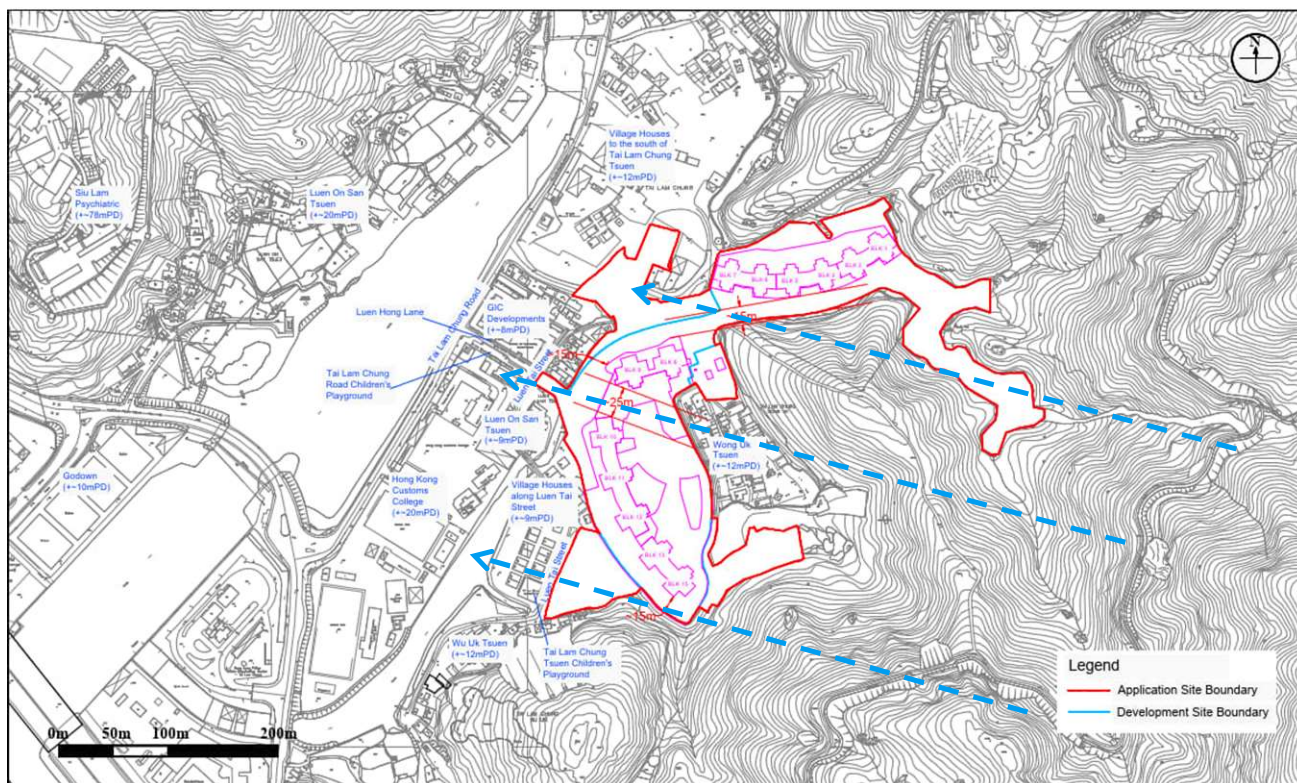
Checked by: TC

Project: **Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun**

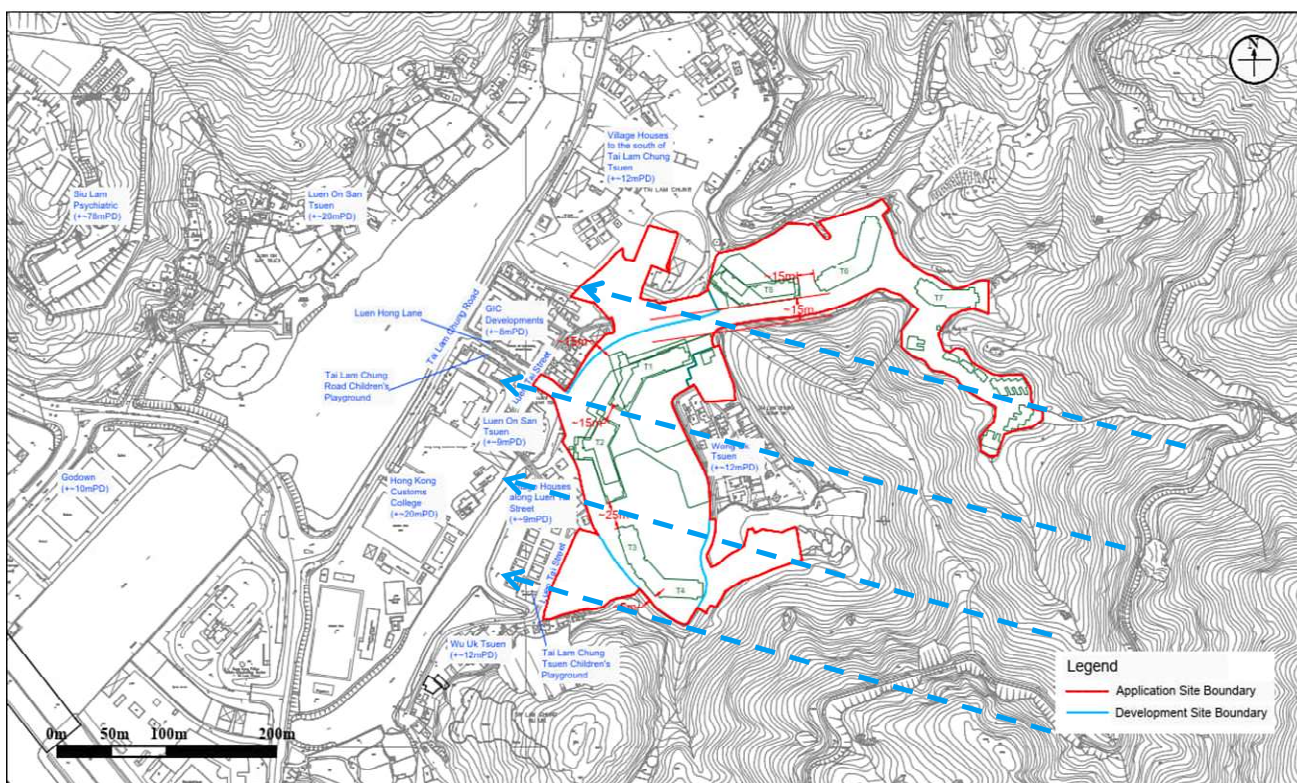
Rev.: 1.3

Date: Jul 2025

— — — — — Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 9

RAMBOLL

Title: **Illustration of Wind Flow from ESE Wind Direction**

Drawn by: EC

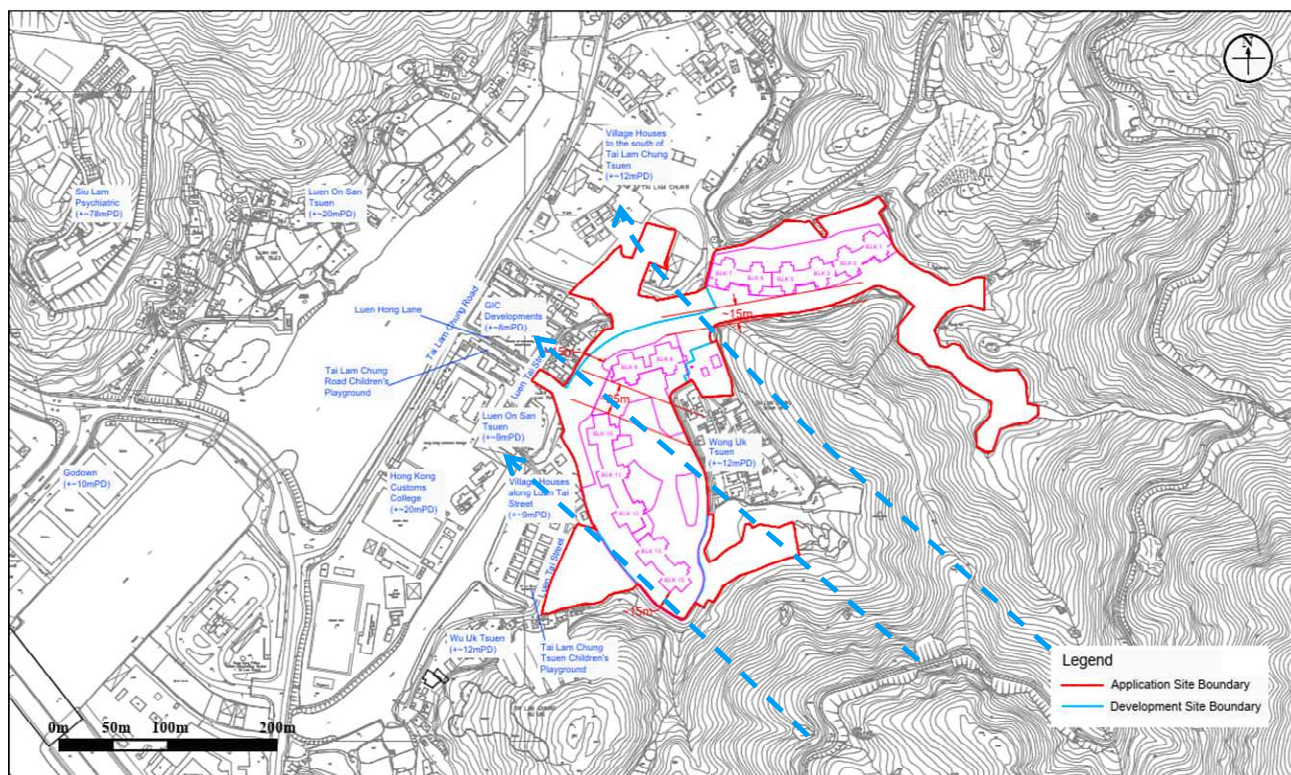
Checked by: TC

Project: **Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun**

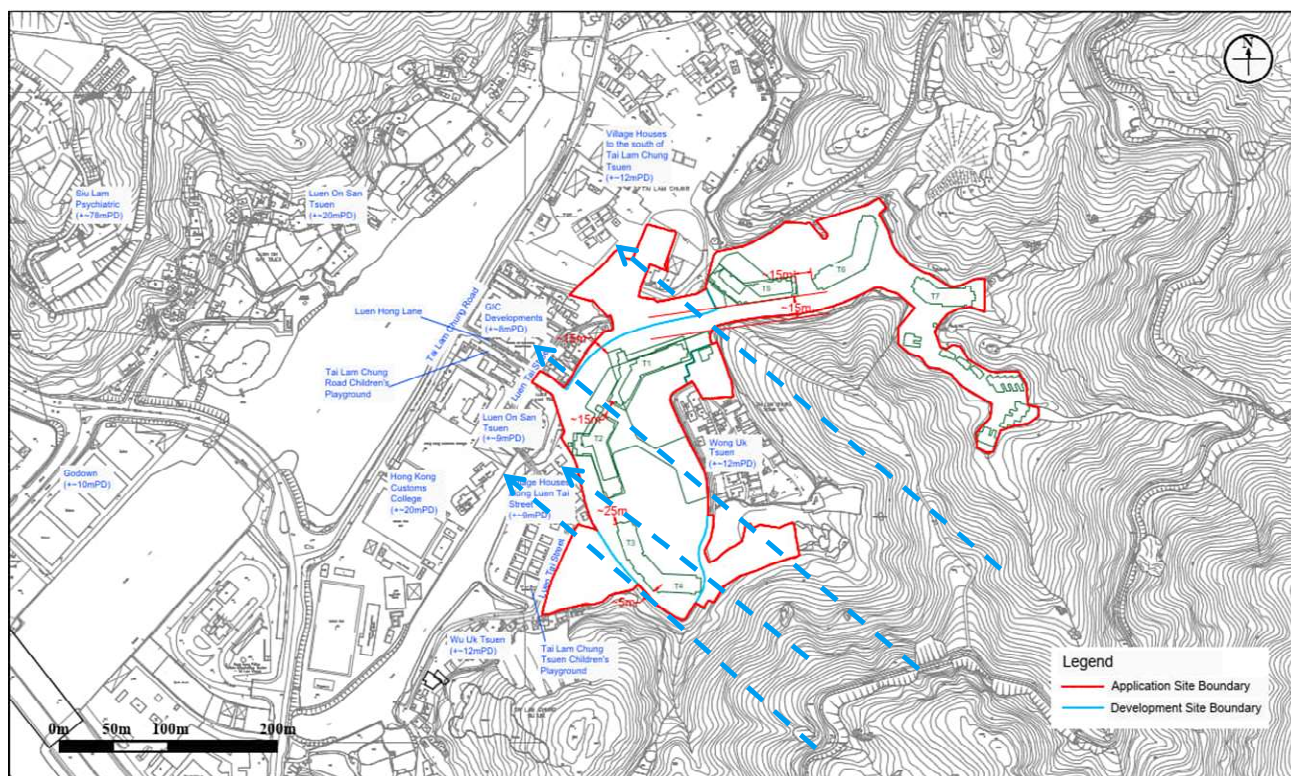
Rev.: 1.3

Date: July 2025

— — — — — Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 10

RAMBOLL

Title: **Illustration of Wind Flow from SE Wind Direction**

Drawn by: EC

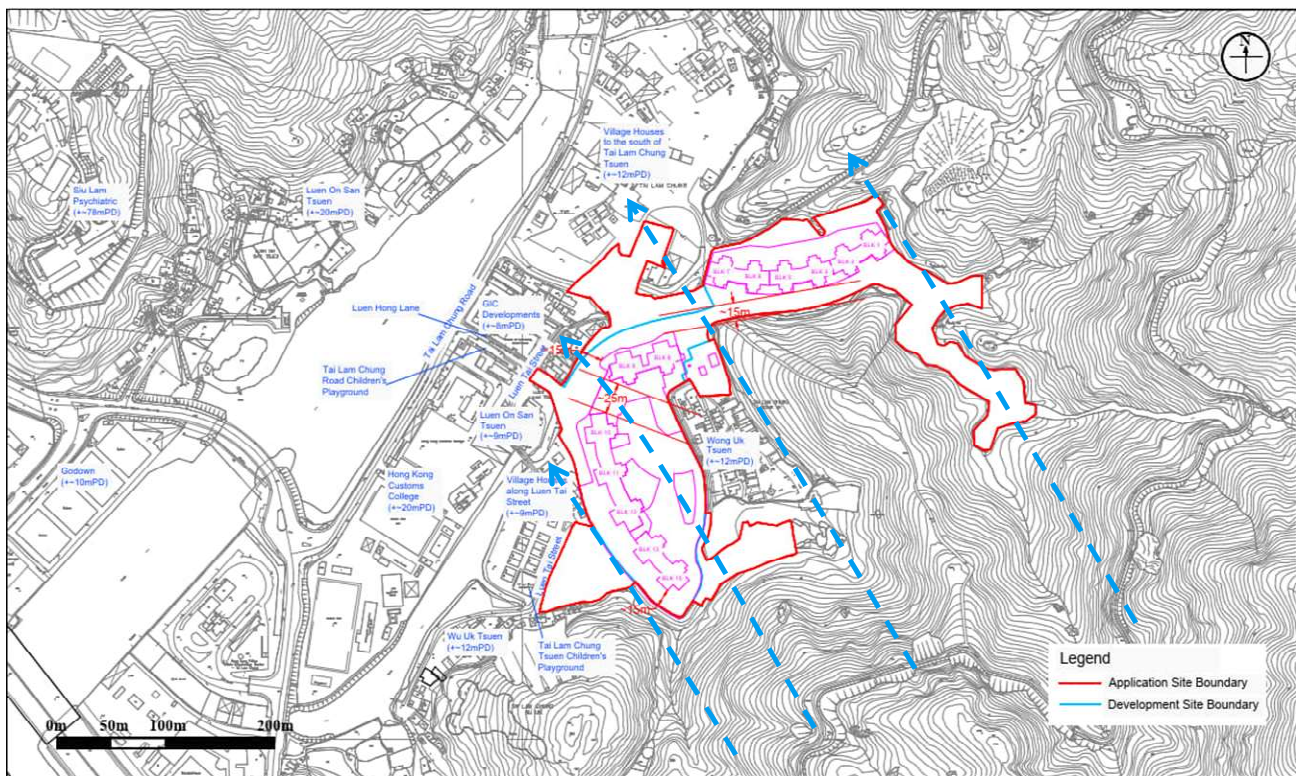
Checked by: TC

Project: **Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun**

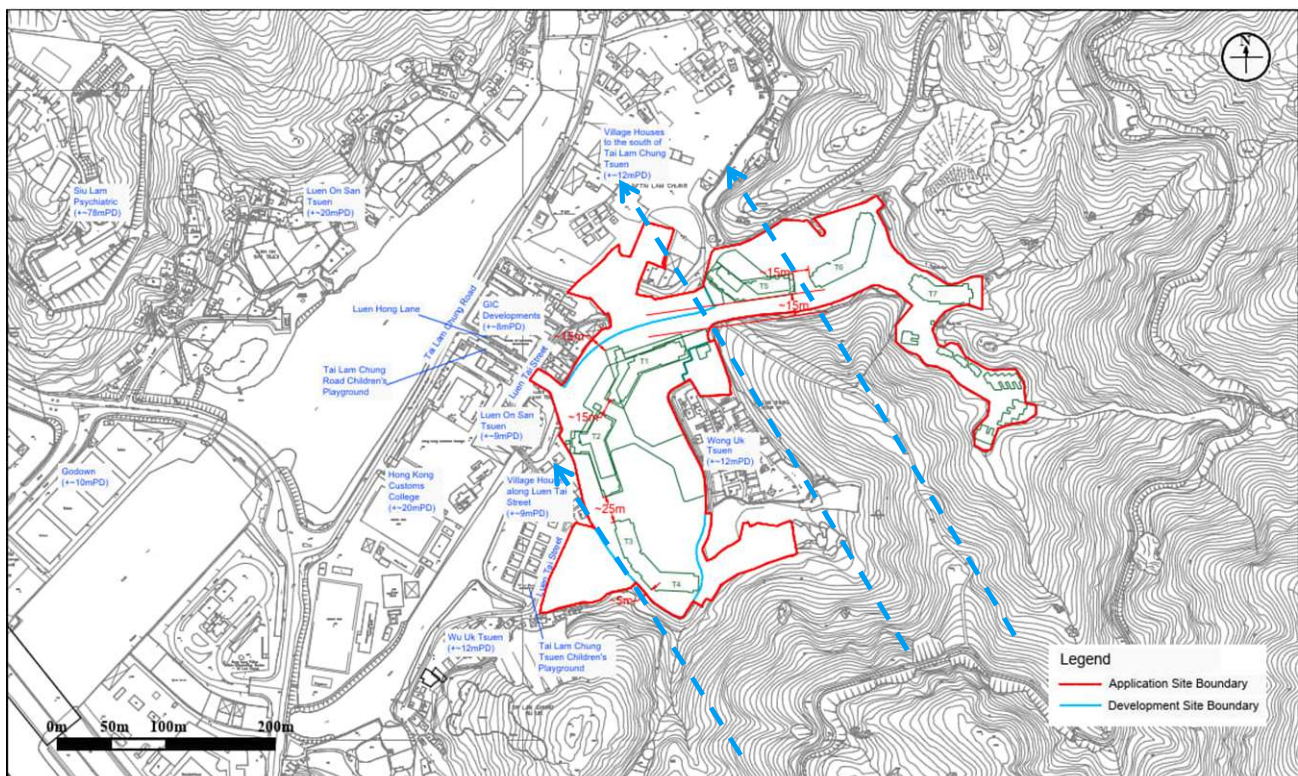
Rev.: 1.2

Date: Mar 2025

Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 11

RAMBOLL

Title: **Illustration of Wind Flow from SSE Wind Direction**

Drawn by: EC

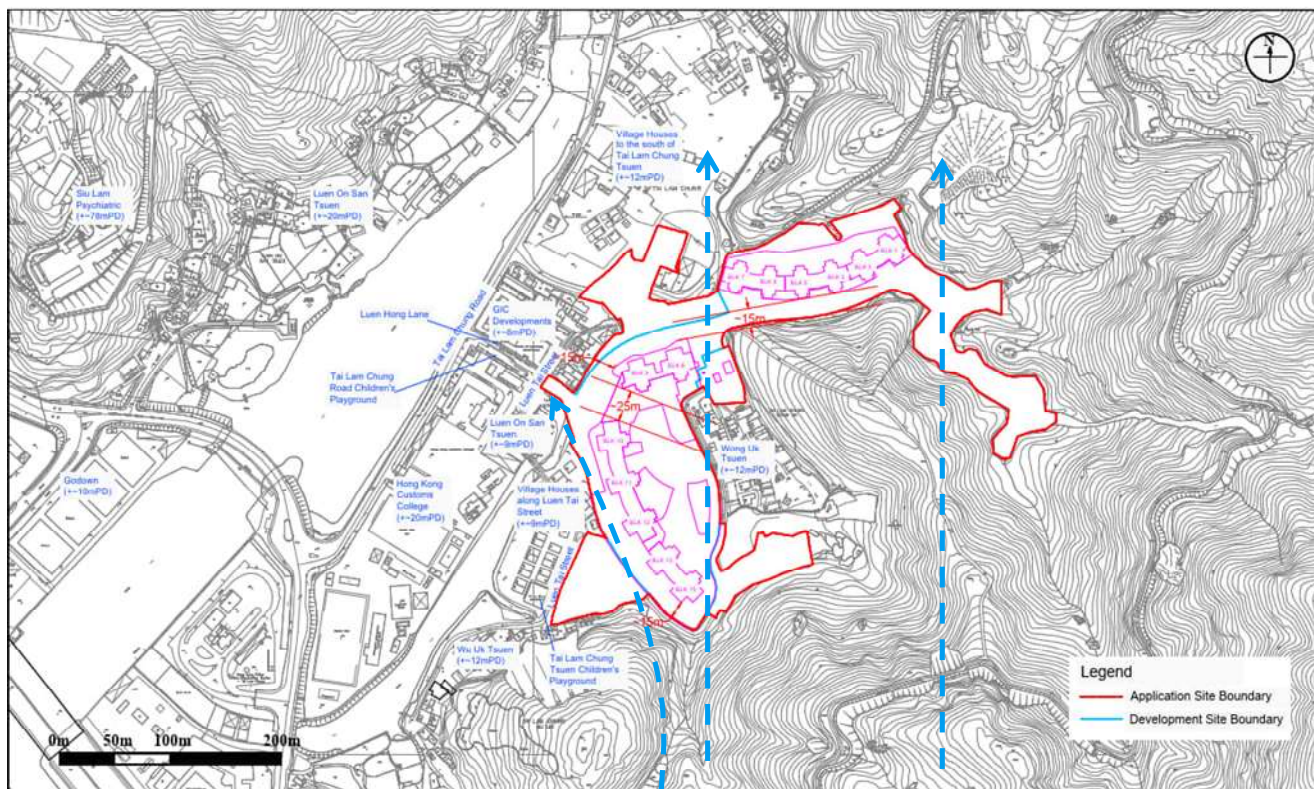
Checked by: TC

Project: **Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun**

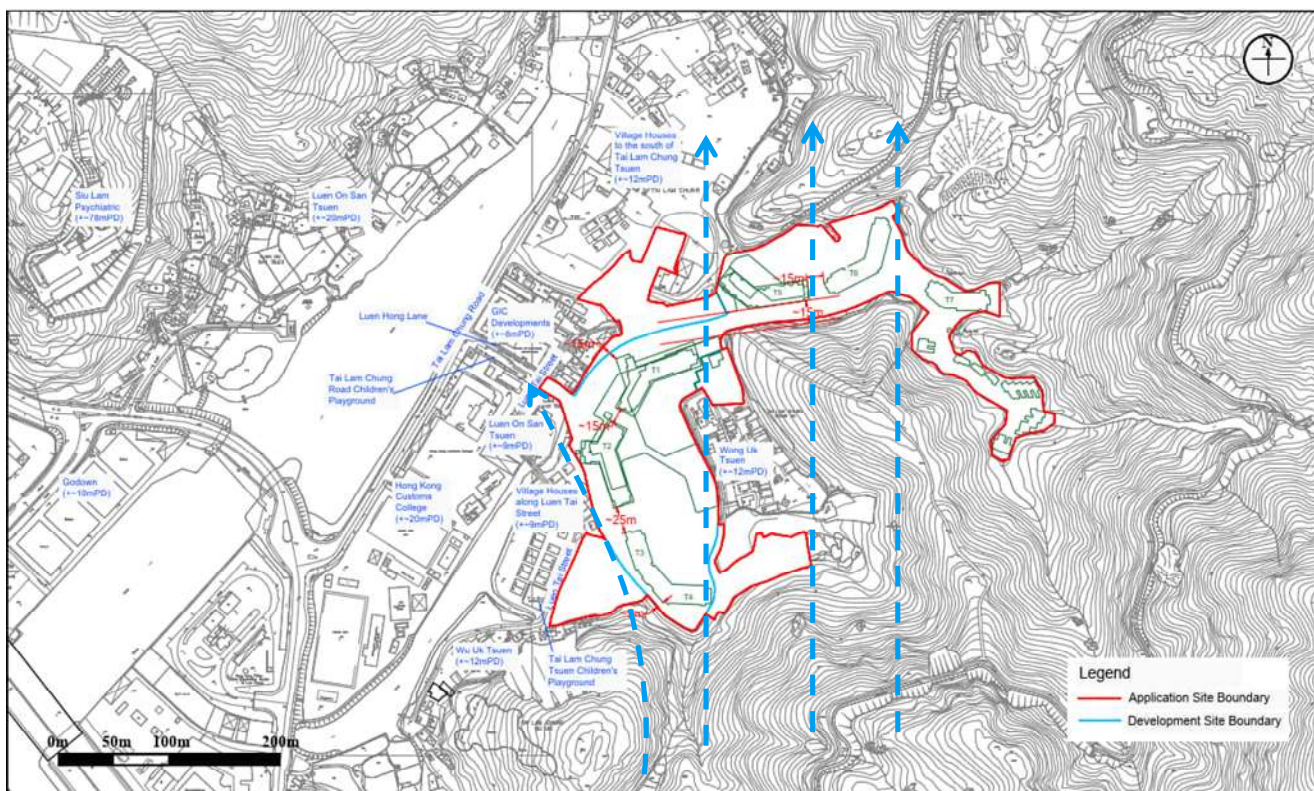
Rev.: 1.2

Date: Mar 2025

— — ➔ Expected Wind Flow



Baseline Scheme



Proposed Scheme

Figure: 12

Title: Illustration of Wind Flow from S Wind Direction

Project: Section 16 Planning Application for Proposed Amendments to an Approved Comprehensive Residential Development Scheme and Minor Relaxation of Gross Floor Area and Building Height Restrictions at Various Lots in D.D. 385 and Adjoining Government Land (Lot to known as TMTL No. 417), Tai Lam Chung, Tuen Mun

RAMBOLL

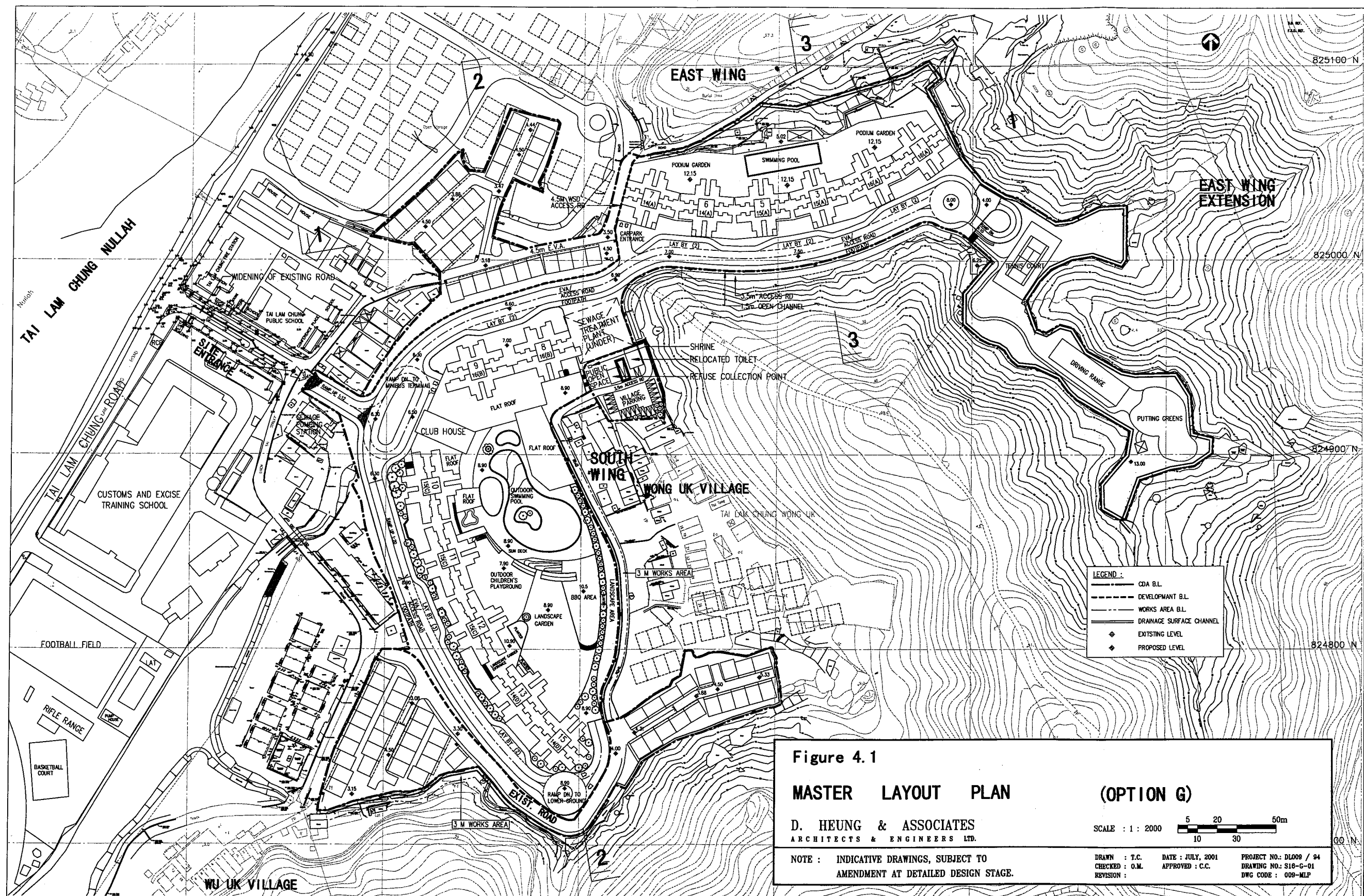
Drawn by: EC

Checked by: TC

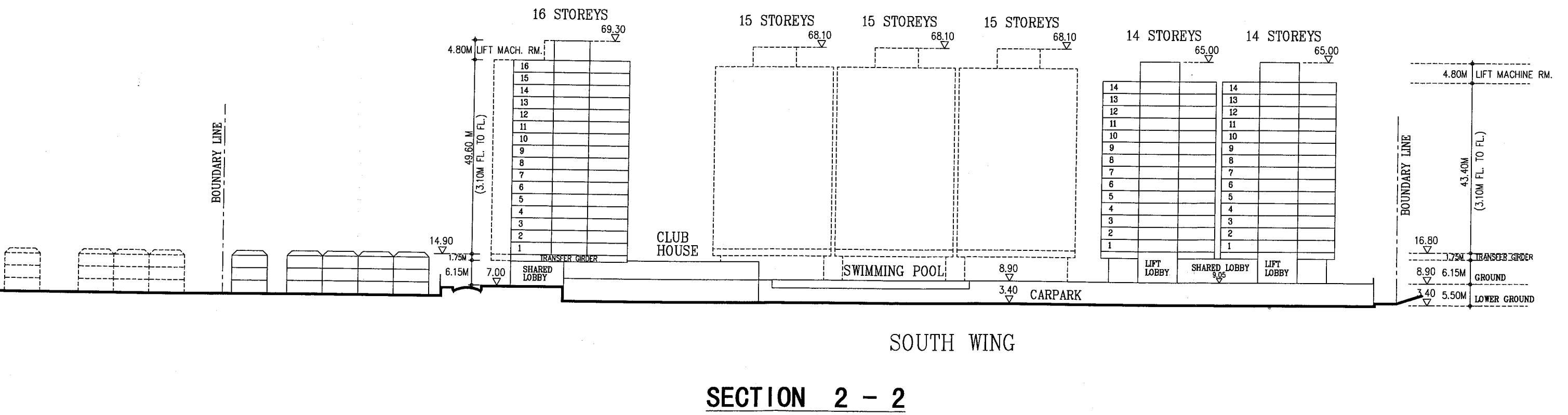
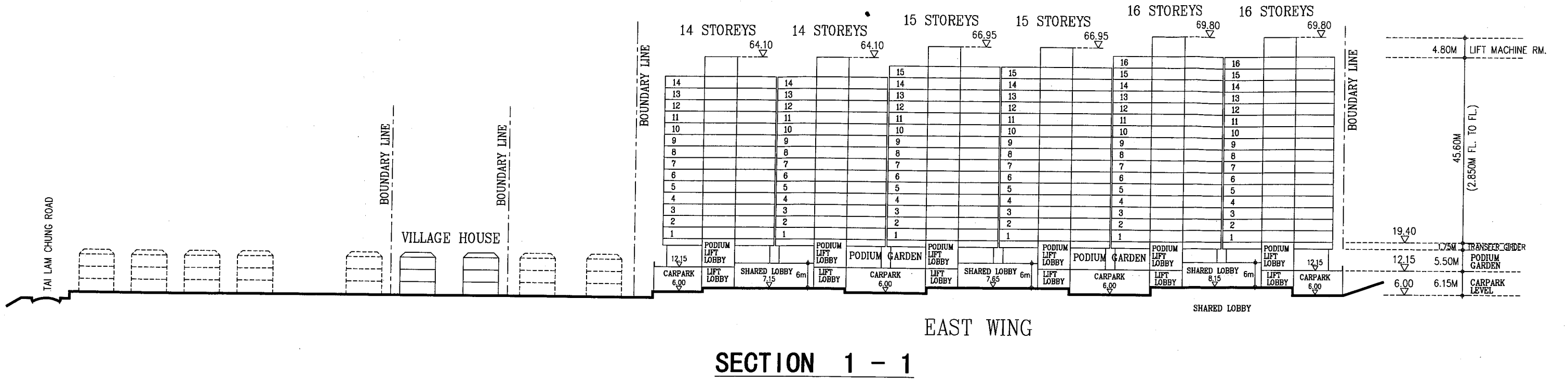
Rev.: 1.3

Date: Jul 2025

Appendix 1 Master Layout Plan of the Baseline Scheme



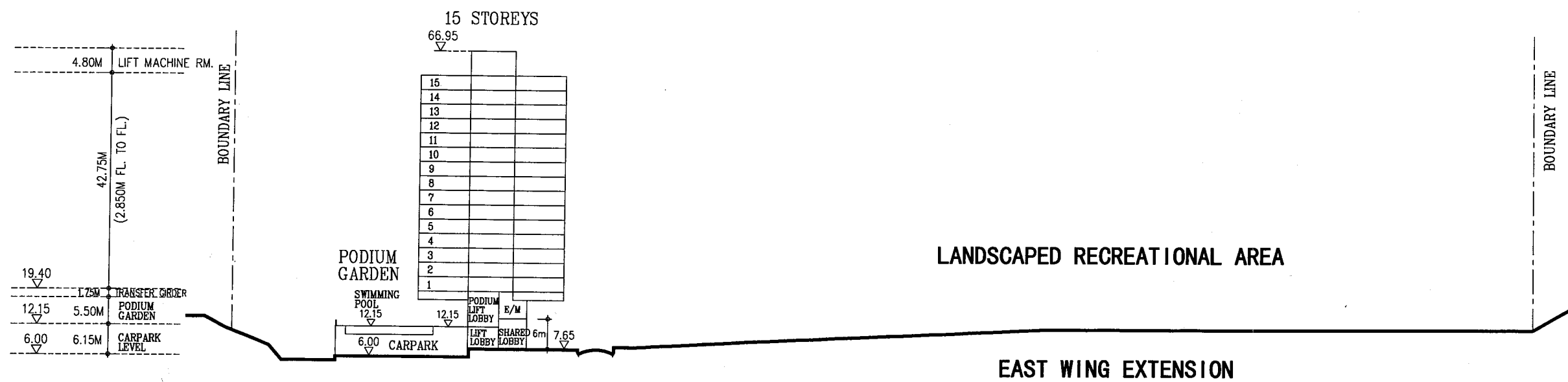
D. HEUNG & ASSOCIATES ARCHITECTS & ENGINEERS LTD. 1/F, 88-90, WING LOK STREET, 3-4 WING LOK BLDG, HONG KONG TEL: (852) 2571 1111 FAX: (852) 2571 1113		PROJECT PROPOSED RESIDENTIAL DEVELOPMENT AT TAI LAM CHUNG CDA N.T.	REVISION			DESIGN C.E.	
			NO.	DATE	REVISION	NO.	DATE
TITLE MASTER LAYOUT PLAN						APPROVED C.E.	
						SCALE DATE 27 MARCH 2001	
			PROJECT NO. CLO08 / 94				
			DRAWING NO. CP-0-02				
			DWG CODE 009-MLP				



(OPTION G)

Figure 4.2 Section Plan (1-1 and 2-2)

Scale : 1 : 1000



SECTION 3 - 3

(OPTION G)

Figure 4.3 Section Plan (3-3)

Scale : 1 : 1000

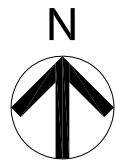
Proposed Residential Development Tai Lam Chung, N. T.

Drawn : T.C. Date : JULY, 2001
 Checked : O.M. Revision :
 Approved : C.C. Rev. Date :

Job No. : DL009 / 94
 Drawing No. : S16 - G - 03
 Drawing Code : 009-SEC

香港燦建築師有限公司
 D. HEUNG & ASSOCIATES ARCHITECTS & ENGINEERS LTD.

Appendix 2 Master Layout Plan of the Proposed Scheme

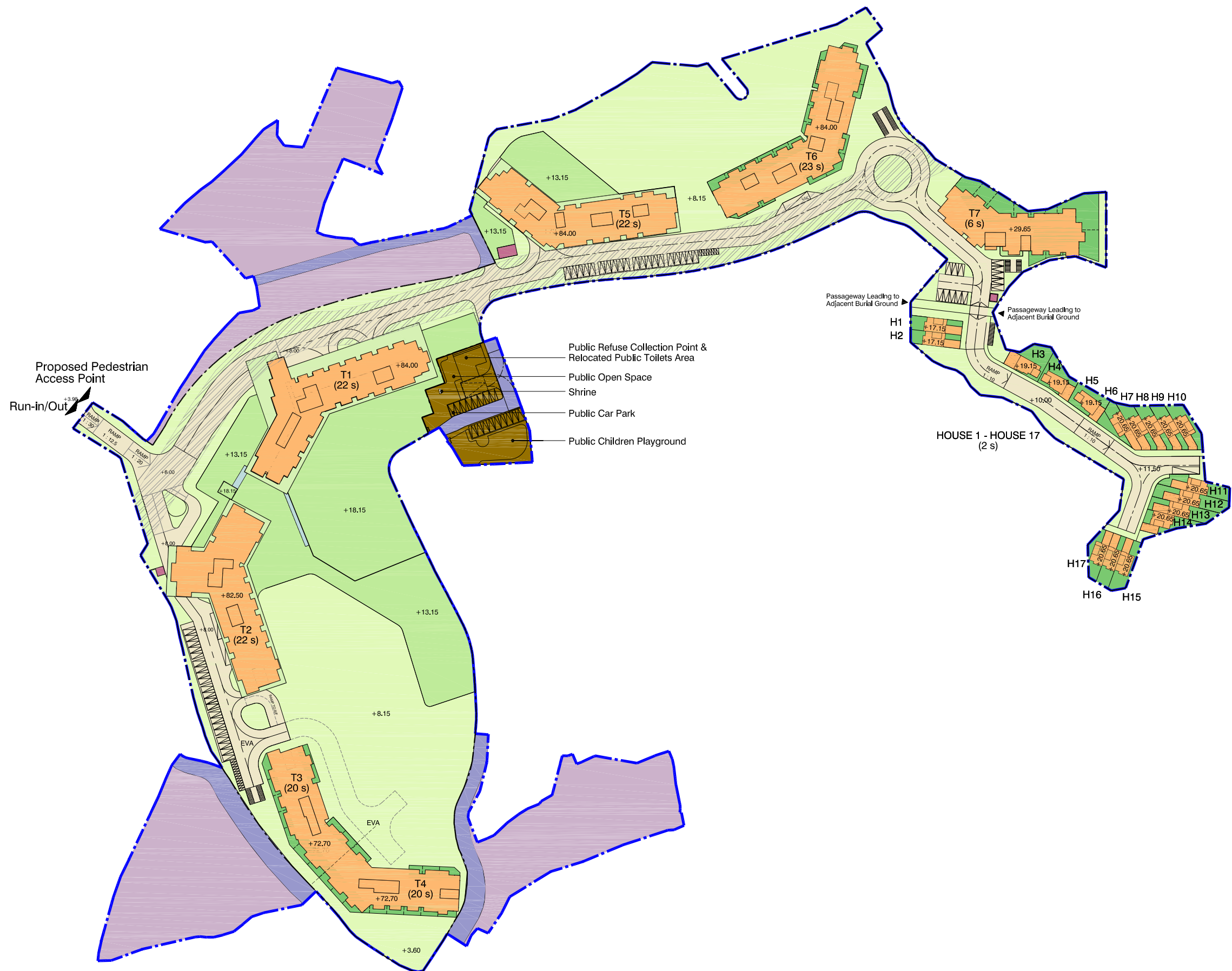


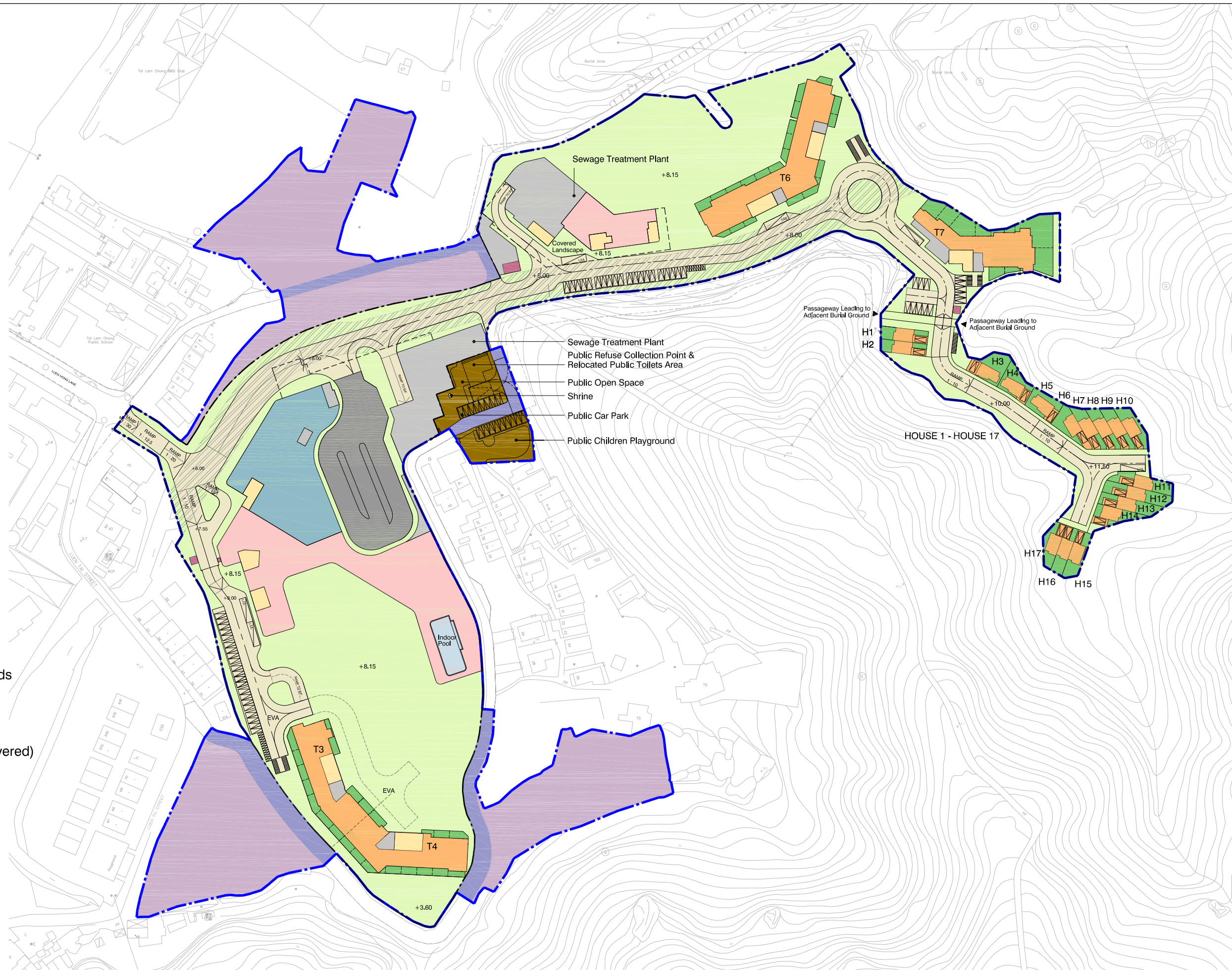
Note:

- All spot levels marked on the building structures refer to the main roof levels
- All levels, blockings and building structures are subject to detailed design
- No. of storeys marked on plan refers to total no. of storeys above ground, excluding transfer plate

Legend

- Application Site Boundary
- Development Site Boundary
- Drainage Reserve
- Reserved Site for Public Facilities
- Formation Site for Village Housing
- Formation of the Future Public Roads
- Covered Walkway
- Residential
- Private Garden
- Landscape Area (Covered or Uncovered)
- Podium
- EVA / Driveway
- Management Facility

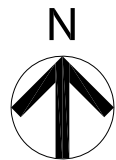




- Retail / Commercial use includes 'Shop and Services', 'Eating Place', 'School' (nursery / kindergarten / language, computer, commercial or tutorial schools / technical institutes / other types of schools providing interests and hobby related courses for subjects such as arts, ballet and etc.), 'Place of Entertainment' and 'Place of Recreation, Sports or Culture'.

- All levels, blockings and building structures are subject to detailed design
- No. of storeys marked on plan refers to total no. of storeys above ground, excluding transfer plate

	Application Site Boundary
	Development Site Boundary
	Drainage Reserve
	Reserved Site for Public Facilities
	Formation Site for Village Housing
	Formation of the Future Public Roads
	Residential
	Private Garden
	Landscape Area (Covered or Uncovered)
	Clubhouse
	Retail / Commercial
	Covered Transport Lay-by
	EVA / Driveway
	E&M
	Management Facility
	Residential Lobby / Carpark Lobby

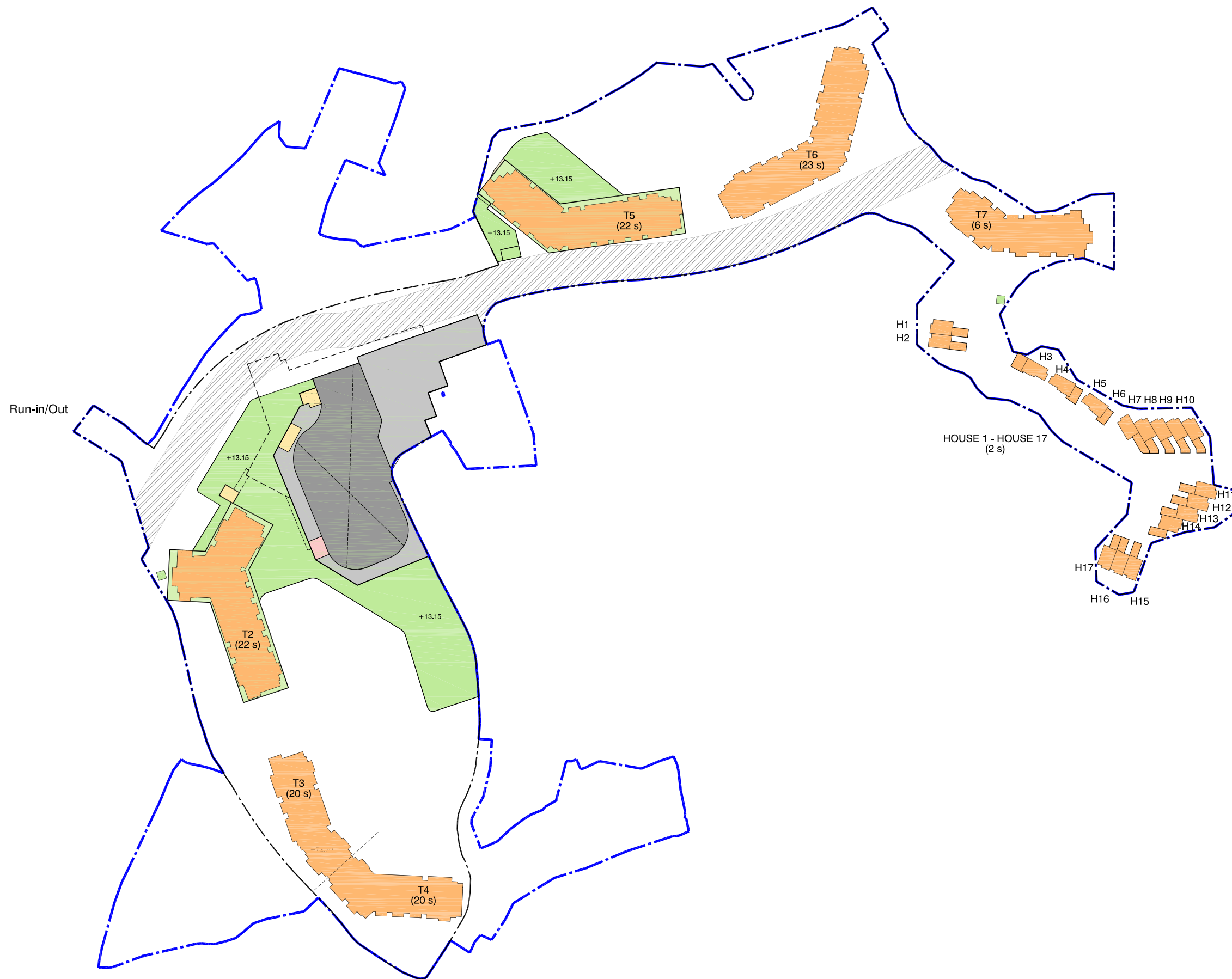


Note:
- All levels, blockings and building structures are subject to detailed design
- No. of storeys marked on plan refers to total no. of storeys above ground

Legend

- Application Site Boundary
- Development Site Boundary
- Drainage Reserve
- Reserved Site for Public Facilities
- Formation Site for Village Housing
- Footpath Widening/
Formation of the Future Public Road
- Residential
- Private Garden
- Landscape Area (Covered or Uncovered)
- Clubhouse
- Covered Transport Lay-by
- EVA / Driveway
- E&M
- Podium
- Management Facility
- Residential Lobby / Carpark Lobby

Run-in/Out



Title

Indicative First Floor Plan

Rev.

SK02

Scale

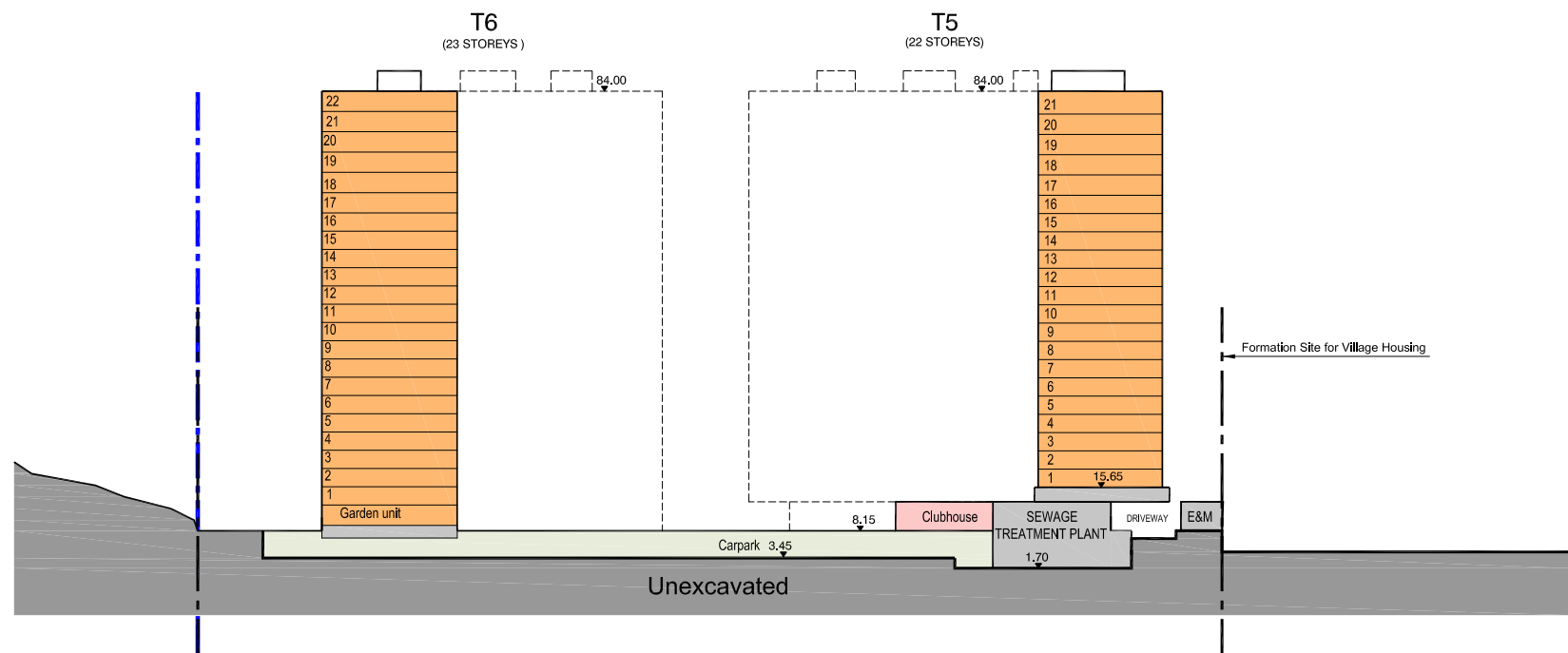
N/A

Date

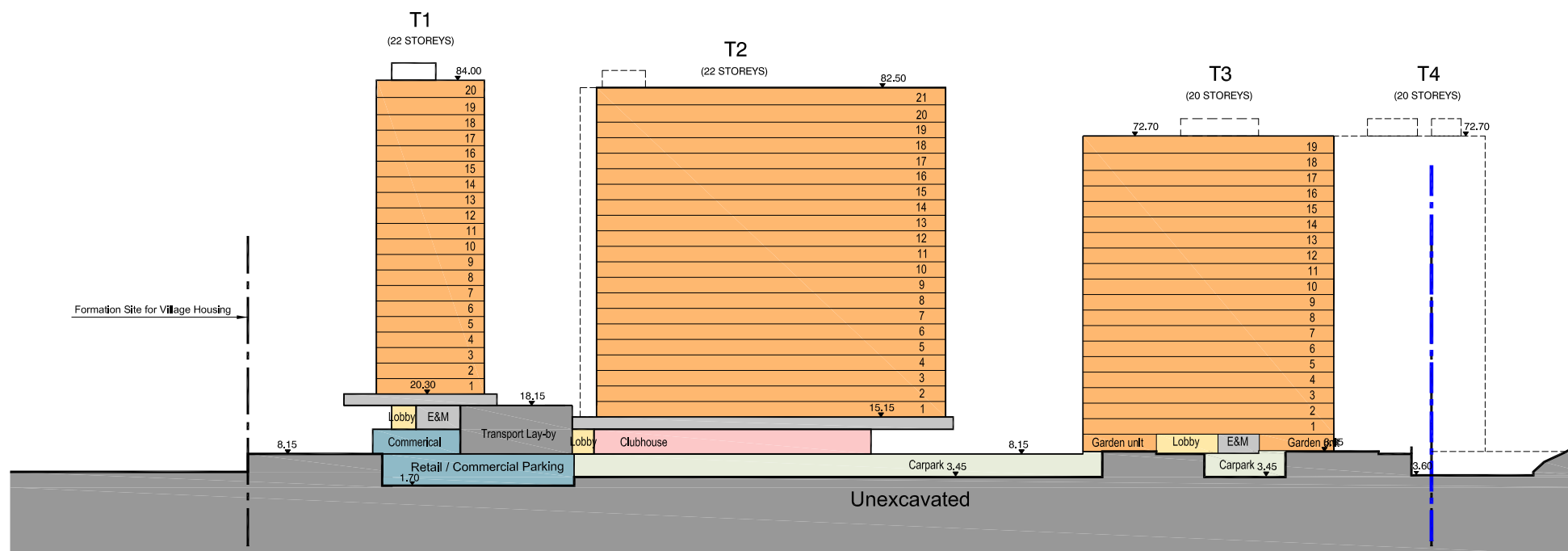
AUG 2025

Figure

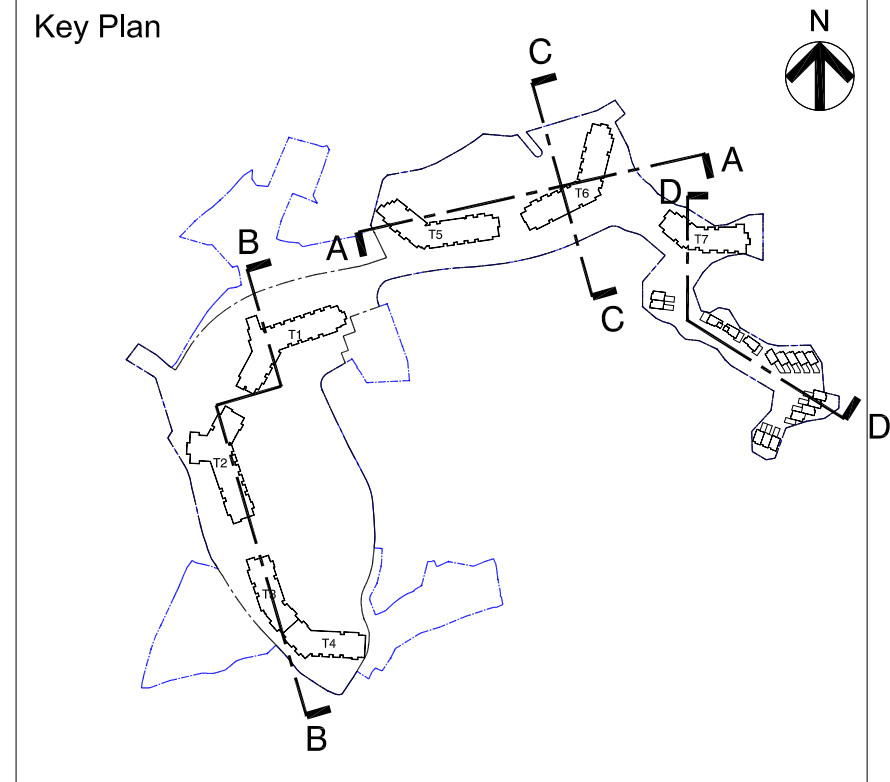
04



Section A-A



Section B-B



Note:

- All levels, blockings and building structures are subject to detailed design
- No. of storeys marked on plan refers to total no. of storeys above ground, excluding transfer plate.

Legend

- Application Site Boundary
- Development Site Boundary
- Residential
- Clubhouse
- Retail / Commercial
- Covered Transport Lay-by
- E&M / Transfer Plate
- Carpark
- Residential Lobby / Carpark Lobby

Title

Indicative Section A-A and B-B

Rev.

SK02

Scale

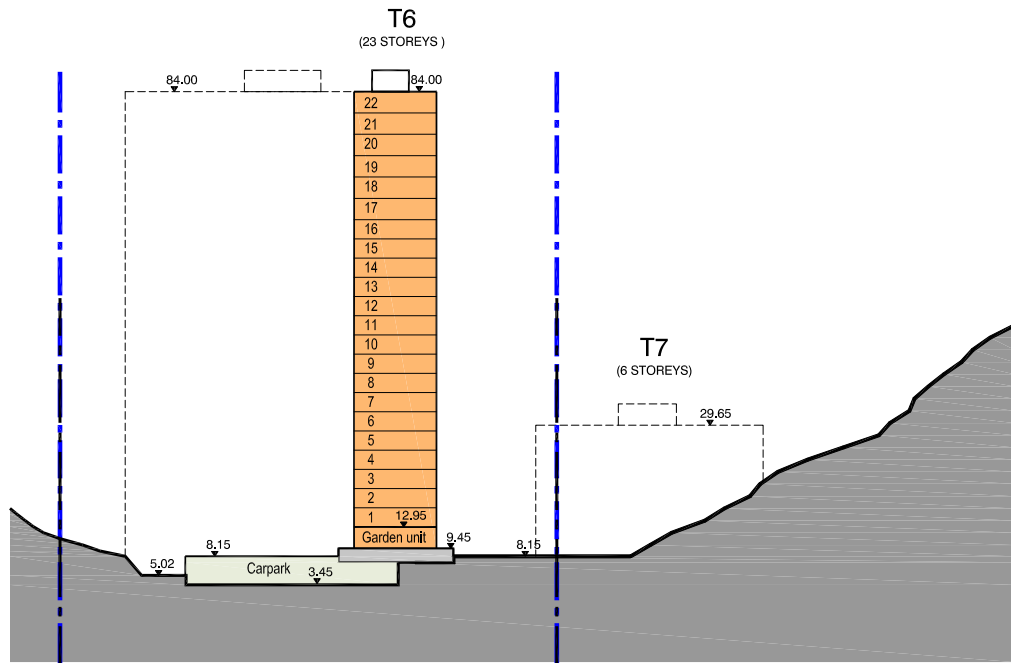
N/A

Date

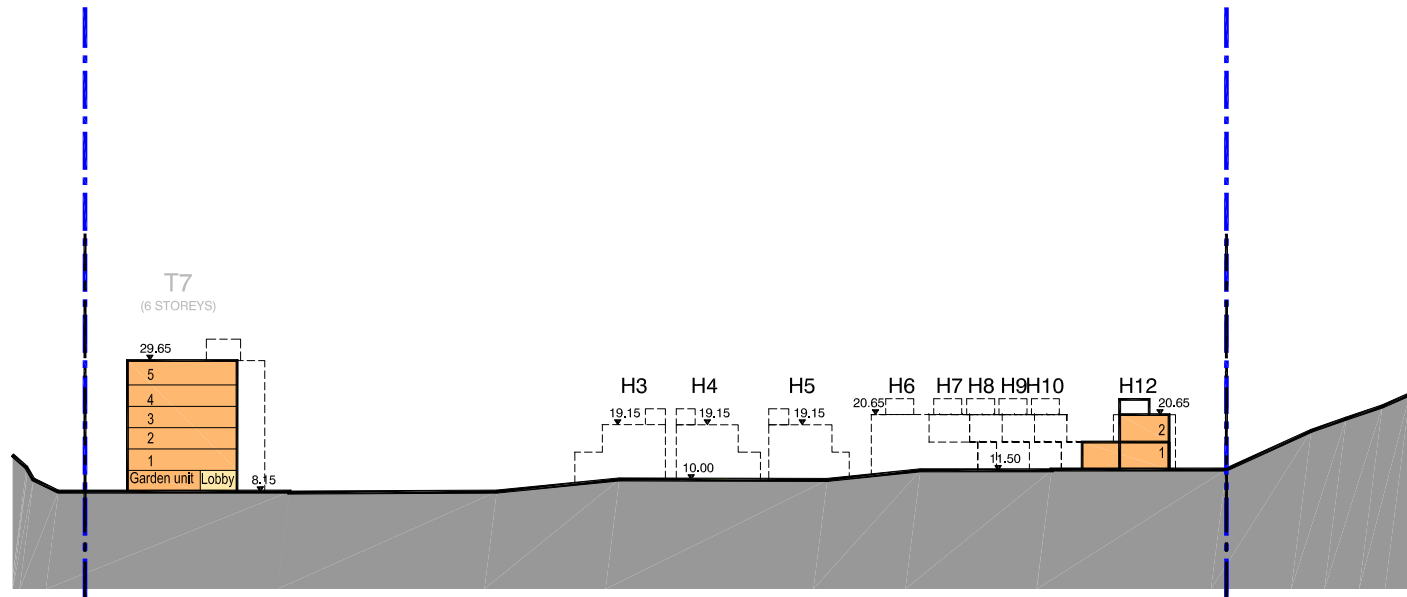
AUG 2025

Figure

05

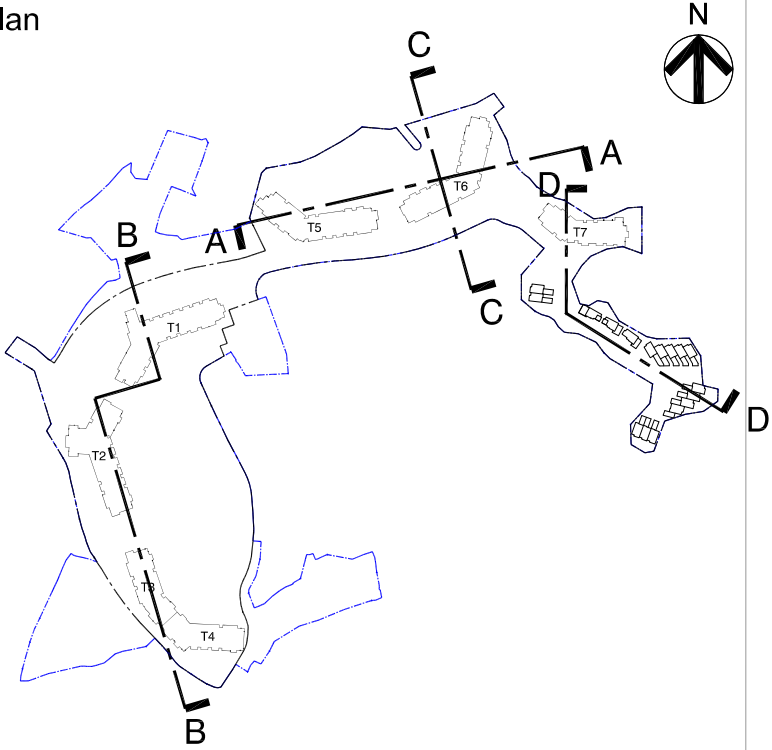


Section C-C



Section D-D

Key Plan



Note:
 - All levels, blockings and building structures are subject to detailed design
 - No. of storeys marked on plan refers to total no. of storeys above ground

Legend

- Application Site Boundary
- Development Site Boundary
- Residential
- E&M / Transfer Plate
- Carpark
- Residential Lobby / Carpark Lobby