

Prepared for

Henderson Land Development Company Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED MINOR RELAXATION OF PLOT RATIO RESTRICTION FOR PERMITTED FLAT AND PROPOSED SHOP AND SERVICES USES AT LOTS 4614 AND 4615 RP IN D.D. 116, LOTS 1753 S.B SS.3(PART), 1753 S.B RP (PART), 1756 S.A (PART), 1756 RP(PART), 1757, 1758 RP AND 1760 RP IN D.D. 120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG, NEW TERRIRORIES

QUALITATIVE AIR IMPACT ASSESSMENT

Date **17 October 2023**

Prepared by **Kyle Kam**
Assistant Environmental Consultant

Signed



Approved by

Tony Cheng
Senior Manager



Signed

Project Reference

HENYLSHEI00

Document No.

R9175_v1.0.docx

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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

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Appendix 1.1	Master Layout Plans and Sections of the Proposed Development
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1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. Below is the extract of the notes of the Yuen Long OZP for the use.

- 8 -

S/YL/26

RESIDENTIAL (GROUP B)

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

- 1.1.2 Under the Column 1, flat and residential institution "i.e. residential use" is always permitted to be constructed at the Subject Site. The plot ratio of the residential use under the OZP is 3.5 and with a maximum building height of 25 storeys (excluding basement car park). As such, existing residential development "Sereno Verde" is located immediate east of the Subject Site.

- 1.1.3 **Figure 1.1** shows the location of the Subject Site and the surrounding developments.
- 1.1.4 During the land exchange application, as per the Transport Department's request, a strip of land along the Tai Shu Ha Road East has to be reserved as non-building area of the proposed development. This strip of land is reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent.
- 1.1.5 Under this current planning application, the Applicant proposed to have 20% plot ratio relaxation, i.e. to have an additional 4 storeys increase from 20 storeys to 24 storeys.
- 1.1.6 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the Applicant to conduct this qualitative air quality impact assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by project proponent.

1.2 Subject Site and its Environs

- 1.2.1 The Subject Site is located at the junction of Tai Tong Road and Tai Shu Ha Road East. The site is currently zoned as "Residential Group B (R(B))".
- 1.2.2 The Subject Site is bounded by road carriageways, Tai Tong Road to the north and Tai Shu Ha Road East to the southwest of the Subject Site. Tai Shu Ha Road West is located further southwest of the Subject Site; while Yuen Long Highway is located further south of the Subject Site. An existing residential development "Sereno Verde" is located to the northeast of the Subject Site.
- 1.2.3 **Figure 1.1** shows the location of the Subject Site and the surrounding environs.

1.3 The Proposed Development

- 1.3.1 The Proposed Development will mainly comprise of 1 residential tower with 25 storeys (the maximum building height is 101 mPD). As shown in the section, club house and E/M use are located at ground floor and 1st floor. Residential storeys start from 2/F to 24/F.
- 1.3.2 Master layout plans and sections of the Proposed Development are shown in **Appendix 1.1**.

2. AIR QUALITY IMPACT ASSESSMENT

2.1 Introduction

2.1.1 This air quality impact assessment is prepared to evaluate potential air quality impact on the Proposed Development as well as potential impact to the surroundings, if any.

2.2 Construction Phase Air Quality Impact

Fugitive Dust Emission

2.2.1 The major concern of air quality impact during the construction phase will be the potential fugitive dust emission. The major dust emission sources during the construction phase of the Subject Site are expected to arise from construction activities during site formation stage such as:

- Excavation resulting in exposed ground vulnerable to air erosion;
- Earth moving, loading and unloading of excavated material;
- Wind effect on material stockpiling; and
- Vehicle movements on haul roads and over the construction site.

2.2.2 There will be potential impacts from the criteria pollutants (e.g. nitrogen oxides (NO_x), sulphur dioxide (SO₂), and carbon monoxide (CO)) from exhaust emission. Emission from diesel trucks for the haulage of materials and construction plants will contain high percentage of smoke particulate and unburned hydrocarbons in comparison with petrol driven vehicles. Ultra-low sulphur diesel (ULSD) with sulphur content not exceeding 0.005% by weight will be used as fuel to minimize SO₂ emission. Impact on the existing air quality is considered limited. In all circumstances, the contractor will be required to observe all relevant regulations and maintain all equipment in good condition to avoid any excessive emission. Under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (including mobile generator, air compressor, excavator, crawler crane, bulldozer and etc.) with a proper label are allowed to be used in the construction site.

2.2.3 In addition, availability of electricity supply during construction of the project will be explored and such requirement will be specified in future contract. If available, contractor should maximise use of electricity and with least reliance of diesel fuelled equipment (e.g. for electricity powered stationary equipment such as pump instead of using generator).

Representative Air Sensitive Receivers (ASRs)

2.2.4 The Subject Site is located in rural area. There are a number of village and residential developments in the vicinity, which are considered as ASRs. These representative ASRs are shown in **Table 2.1** and tabulated below. **Figure 2.1** shows the location of these existing ASRs.

Table 2.1 Summary of Representative Air Sensitive Receivers

ASR	Description	Type	Approximate Horizontal Distance to the Proposed Development
ASR01	Sereno Verde Block 7	R(B)	~32m to the northeast
ASR02	Sereno Verde Block 6	R(B)	~88m to the northeast

ASR03	Sereno Verde Block 5	R(B)	~92m to the northeast
ASR04	Sereno Verde Block 3	R(B)	~130m to the southeast
ASR05	Village near the Tai Shu Ha Road West	V	~39m to the Southwest

Mitigation Measures for Fugitive Dust Emission

- 2.2.5 Fugitive dust emission arising from construction activities can be effectively suppressed by incorporating proper mitigation measures into work procedures through contractual clauses, good site management, and close monitoring by the resident engineers. The contractor shall be required to follow the requirements of the Air Pollution Control (Construction Dust) Regulations. With the adoption of good practices, it is expected that emission of construction dust can be kept at an acceptable level. The recommended dust mitigation measures are described below. In addition, EPD's recommended pollution control clause for construction contracts will be incorporated and required in future tender document to ensure that all relevant environmental protection and pollution control ordinances are observed and complied.

General Site Management

- 2.2.6 Appropriate working methods should be devised and arranged to minimise dust emissions and to ensure any installed control system and/or measures are operated and/or implemented in accordance with their design merits. No free falling of construction debris should be allowed, which should be let down by hoist or enclosed tunnel to the ground.
- 2.2.7 Frequent mist/water spraying should be applied on dusty areas. The frequency of spraying will depend upon local conditions such as rainfall, temperature, wind speed and humidity. The amount of water spraying should be just enough to dampen the material without over-watering which could result in surface water runoff.
- 2.2.8 Hoarding of not less than 2.4m high from ground level along site boundary, which is next to a road or other public area should be provided.

Vehicles and Unpaved Site Roads

- 2.2.9 Dust emission from unpaved roads comes predominantly from travelling of vehicles. Areas within the site where there are regular vehicle movements should have an approved hard surface. Speed controls at an upper limit of 10km/hr should be imposed and their movements should be confined to designed roadways within the site. All dusty vehicle loads should have side and tail boards covered by tarpaulin extending at least 300mm over the edges of the side and tail boards. Wheel-wash troughs and hoses should be provided at exit points of the site.

Material Stockpiling and Handling

- 2.2.10 The amount of stockpiling should be minimised where possible. Construction material or debris should be covered and stored inside enclosed areas. Other control measures such as enclosed or semi-enclosed windboard should be used, where applicable, to minimise dust emission. Regular watering is needed at areas such as storage piles, where there could be potential dust emission. Placing dusty material storage piles near ASRs should be prevented.
- 2.2.11 Moreover, as the Subject Site is close to the nearby ASRs (i.e. Sereno Verde Block 3, 5, 6 and 7 and village near Tai Shu Ha Road West). The following control measures are suggested to minimise the potential construction impact to the nearby ASRs:

- Plan site layout so that machineries, dust causing activities and stockpiling are away from receptors as far as possible;
- Higher site hoarding (not less than 2.4m) should be implemented where there are receptors at close proximity to the construction site and dusty activities;
- Haul road shall be away from the project boundary as much as possible.

2.3 Operational Phase Air Quality Impact

Industrial Emission Impact

- 2.3.1 The Subject Site is surrounded by residential developments (to the Northeast and Southeast of the Subject site), Open Space (to the Southwest and Northwest of the Subject Site), and Village Type Development (to the West of the Subject Site).
- 2.3.2 According to the observation in desktop review and the site visit carried out in October 2023, there is no emission source such as chimney stack or any other emission like fluff, odour, smoke identified within 200m from the Subject Site.
- 2.3.3 No adverse air quality impact due to industrial emission and any other emission from fixed sources is expected.

Vehicular Emission Impact

- 2.3.4 The Subject Site is surrounded by Tai Shu Ha Road East to the west, and Tai Tong Road to the North.
- 2.3.5 Table 3.1 in Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG) has been referenced (shown below as **Table 2.2**) for provision of buffer separation from identified air pollution sources in the vicinity.

Table 2.2 HKPSG's Recommended Minimum Buffer Distance from Roads

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	<i>Type of Road</i>		
	Trunk Road and Primary Distributor	>20m	Active and passive recreation uses
		3 - 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
Under Flyovers	<5m	Passive recreational uses	

- 2.3.6 It is clarified that there is no road widening road of Tai Shu Ha Road East. As mentioned in **Section 1.1.4**, there is a trip of non-building area along the existing road kerb of the Tai Shu Ha Road East. This non-building area is reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent.

2.3.7 **Figure 2.2** shows the buffer distance between the Proposed Development and surrounding road. Based on the setback, the proposed development has a separation to the existing Tai Shu Ha Road East around 6.5m which comply with the relevant buffer distance 5m of local road requirement stipulated in Table 3.1 of Chapter 9 – Environment. Therefore, it is considered that the future occupant would not be subject to adverse air quality impact. The endorsement of the road type of the adjacent road from Transport Department is attached in **Appendix 2.1**.

2.4 Conclusion

2.4.1 Potential air quality impacts arising during construction phase of the Proposed Development have been assessed. With the implementation of effective environmental mitigation measures, the potential impacts are anticipated to be insignificant. In conclusion, it is envisaged that construction phase environmental impacts arising from the Proposed Development would be insignificant.

2.4.2 As confirmed by site survey in Oct 2023, there is no industrial emission identified within 200m from the Proposed Development, which meets the buffer distance requirement under the HKPSG. In addition, the relevant HKPSG vehicular buffer distance to the Proposed Development is fulfilled.

2.4.3 Therefore, no adverse air quality impact during both construction and operational phases for the Proposed Development are anticipated.

3. CONCLUSION

- 3.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. The current planning application is to apply for the minor plot ratio relaxation, i.e. an increase of the residential floors. According to the project proponent, there will be an increase of four residential floors on top of the proposed development.
- 3.1.2 During the land exchange application, as per the Transport Department's request, a strip of land along the Tai Shu Ha Road East has to be reserved as non-building area of the proposed development. This strip of land is reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent.
- 3.1.3 Two potential air quality impacts, construction phase and operation phase, have been reviewed in this qualitative noise impact review.
- 3.1.4 With adequate construction phase mitigation measures, the potential construction dust impact from the Proposed Development to the adjacent Air Sensitive Receivers would be minimized.
- 3.1.5 As confirmed by site survey in Oct 2023, there is no industrial emission identified within 200m from the Proposed Development, which meets the buffer distance requirement under the HKPSG. In addition, the relevant HKPSG vehicular buffer distance to the Proposed Development is fulfilled.
- 3.1.6 Therefore, no adverse air quality impact during both construction and operational phases for the Proposed Development are anticipated.

Figures

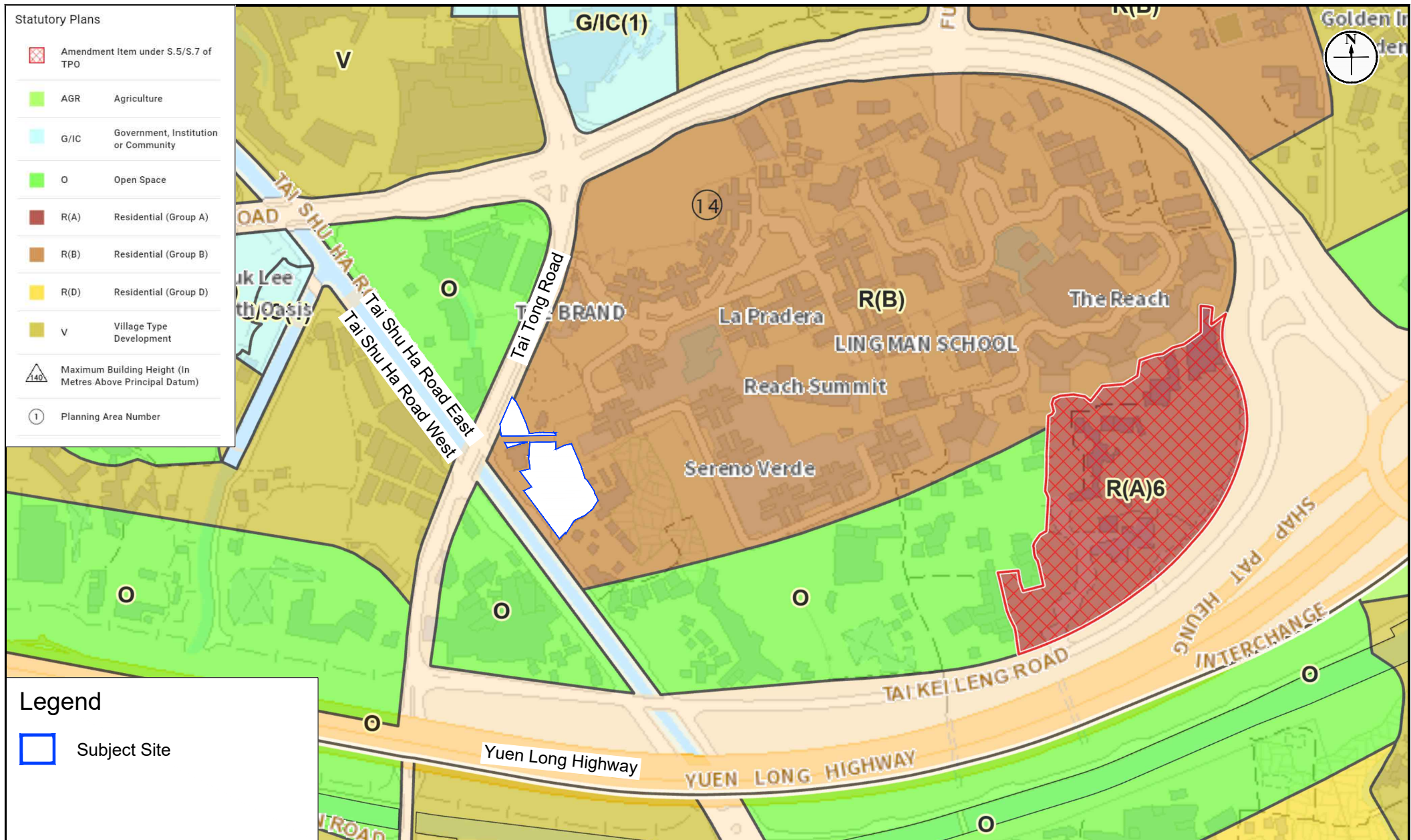


Figure: 1.1

Title: Location of the Subject Site and its Environs

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

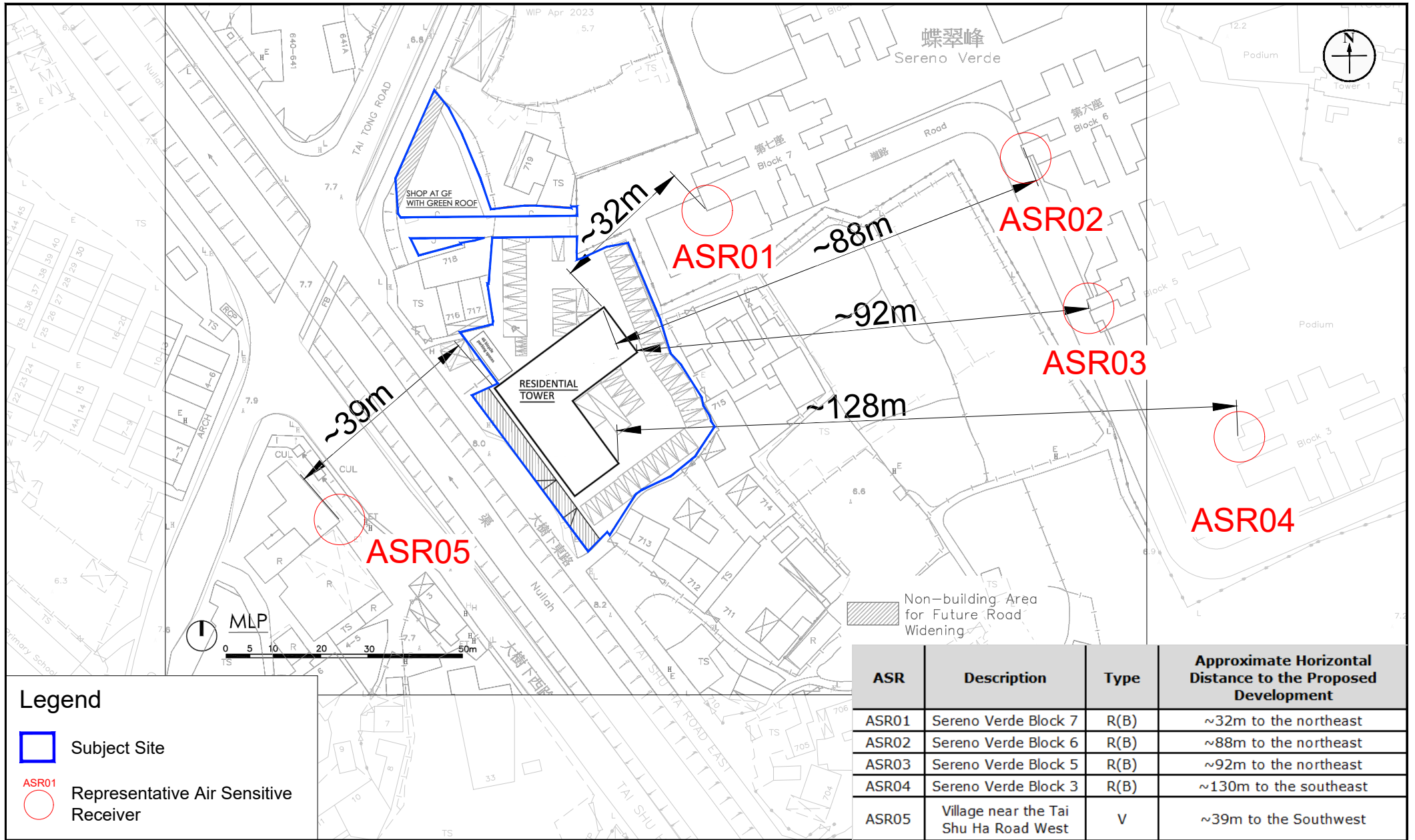
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Checked by: TC

Rev.: 1.0

Date: Oct 2023



ASR	Description	Type	Approximate Horizontal Distance to the Proposed Development
ASR01	Sereno Verde Block 7	R(B)	~32m to the northeast
ASR02	Sereno Verde Block 6	R(B)	~88m to the northeast
ASR03	Sereno Verde Block 5	R(B)	~92m to the northeast
ASR04	Sereno Verde Block 3	R(B)	~130m to the southeast
ASR05	Village near the Tai Shu Ha Road West	V	~39m to the Southwest

Legend

Subject Site

ASR01 Representative Air Sensitive Receiver

Figure: 2.1

Title: Location of Representative Air Sensitive Receivers during Construction Phase

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part),1753 S.B RP (Part), 1756 S.A(Part),1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

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Drawn by: CL

Checked by: TC

Rev.: 1.0

Date: Oct 2023

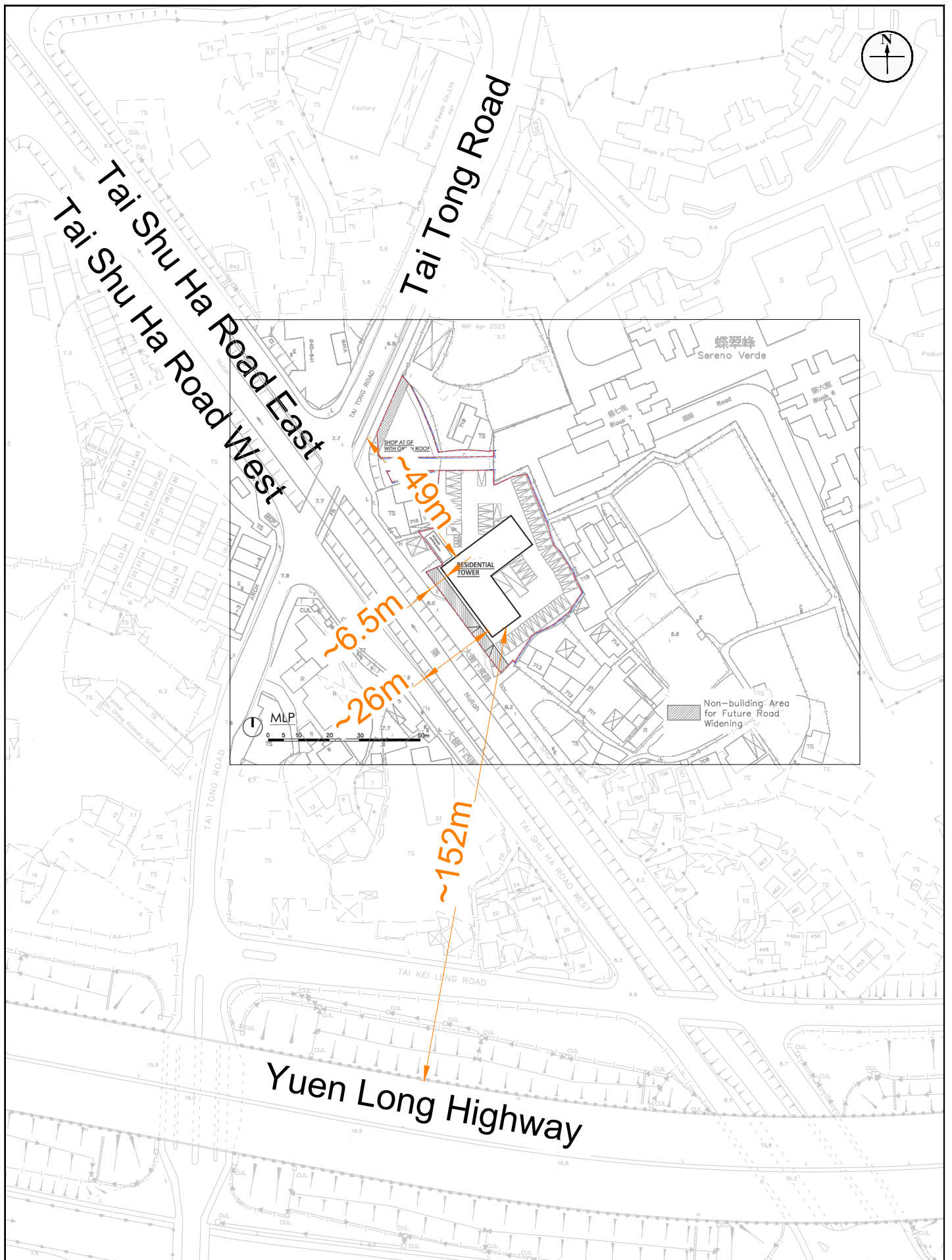


Figure: 2.2

Title: Distance Between the Proposed Development and Surrounding Roads

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories



Drawn by: KK

Checked by: TC

Rev.: 1.0

Date: Sep 2023

Appendix 1.1

Master Layout Plans and Sections of the Proposed Development

蝶翠峰

Sereno Verde

第六座
Block 6

第七座
Block 7

道路
Road

SHOP AT GF
WITH GREEN ROOF

RESIDENTIAL
TOWER

40 people
parking space

Non-building Area
for Future Road
Widening

TAI TONG ROAD

大樹下東路
Nullah

大樹下西路

640-641

641A

6.8

7.7

7.7

7.9

CUL

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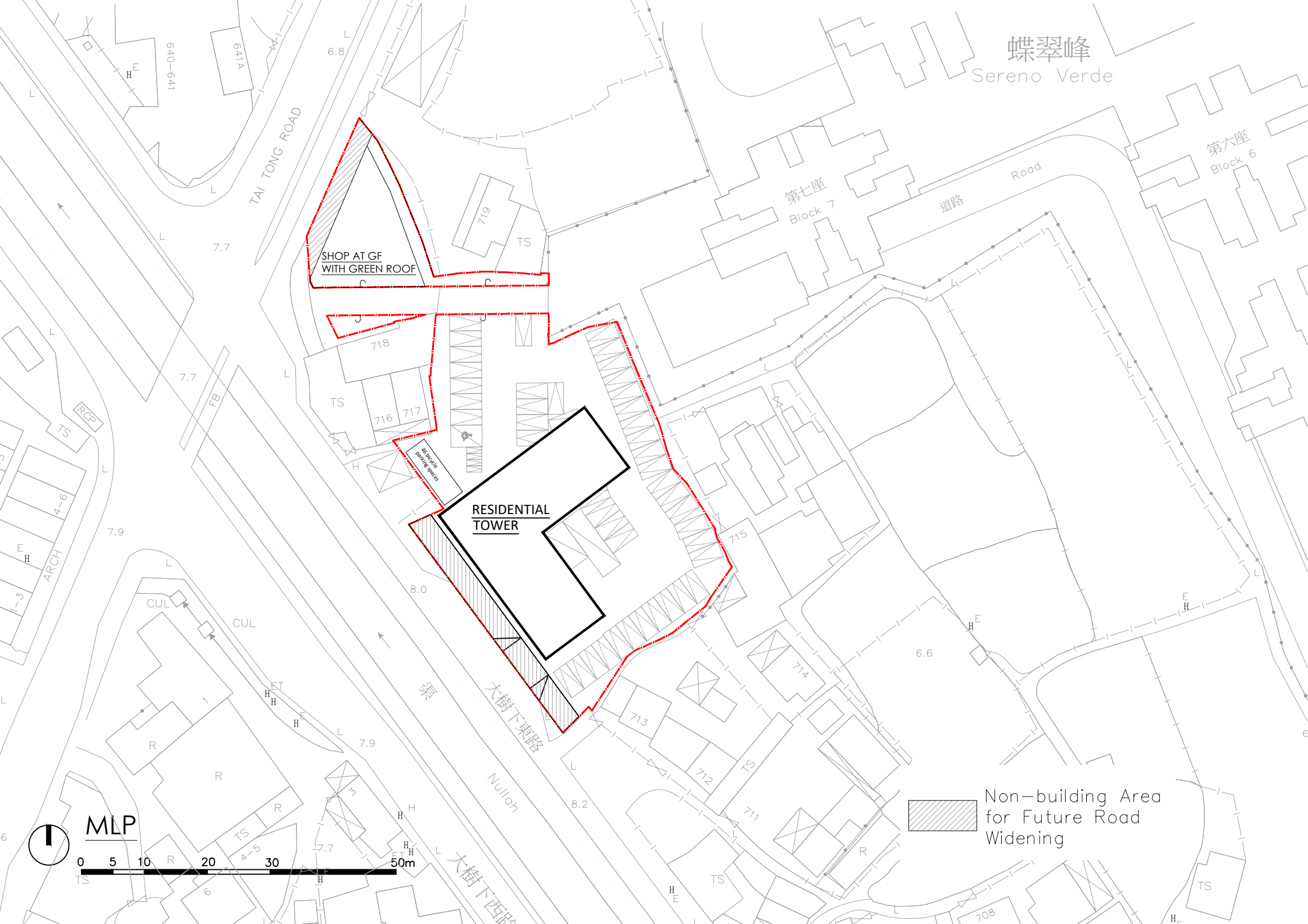
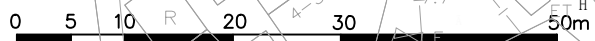
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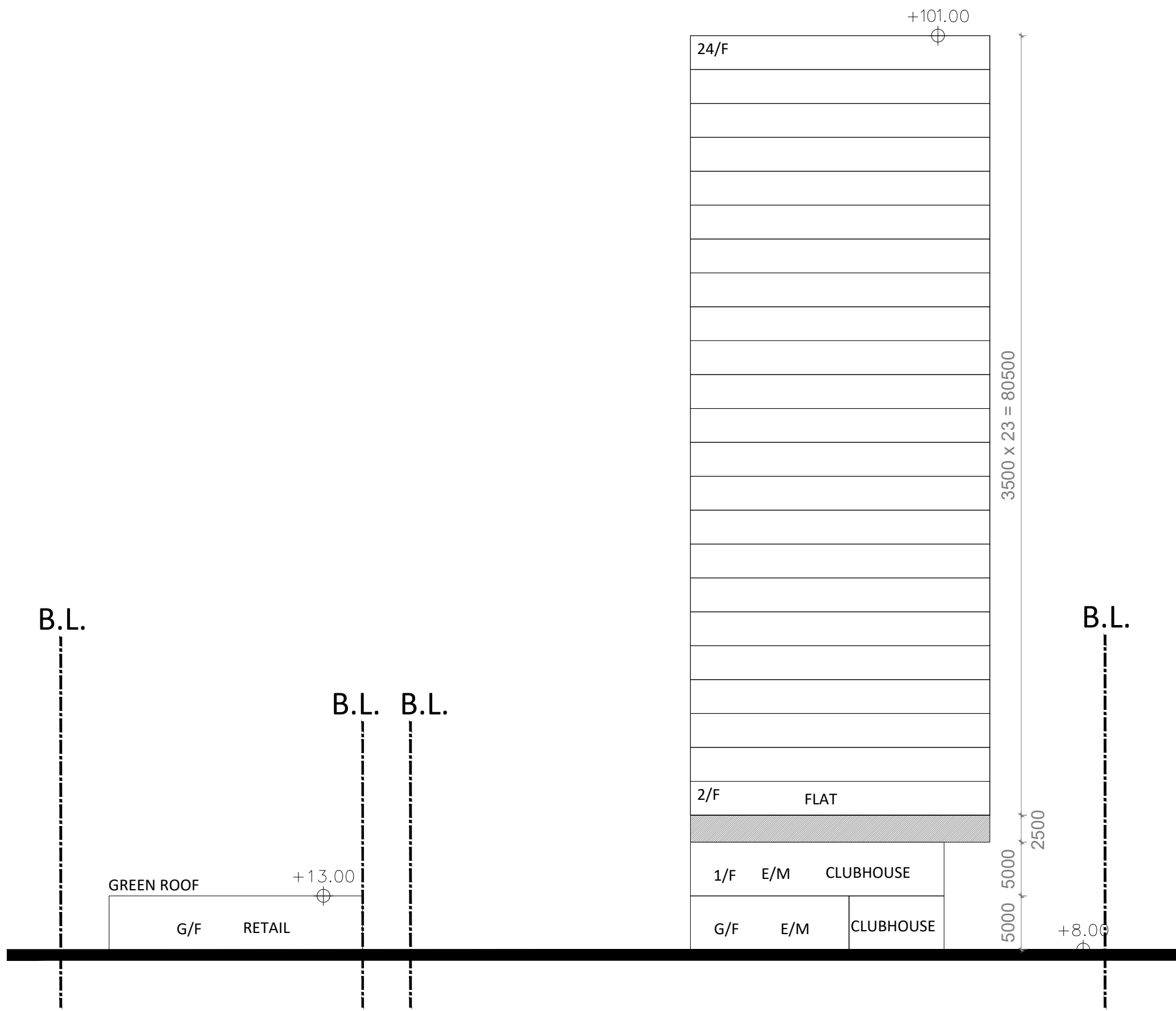
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SECTION A-A

Appendix 2.1

Transport Department's (TD) endorsement on Road Type of Adjacent Road of Subject Site



Our Ref: J7231/2

22 August 2023

Transport Department, NT Regional Office
Traffic Engineering (NTW) Division
Yuen Long 1 Section
7/F, Mongkok Government Offices,
30 Luen Wan Street, Mongkok, Kowloon.

Attn: Mr. IP Chi Wai, Louis (Engr /Yuen Long South)

(BY POST & Email: chiwaiip@td.gov.hk)

Dear Mr. IP,

Proposed Flat and Shop and Services Uses with Minor Relaxation of Plot Ratio Restriction at Lots 4614 and 4615RP in DD116, and Lots 1753sBRP (part), 1753sBss3 (part), 1756sA (part), 1756RP (part), 1757, 1758RP, 1760RP in DD120, and adjoining Government land, Tai Kei Leng, Yuen Long (TPB Application Nos. A/YL/303)

Road Type for Environmental Assessment

The Environmental Protection Department ("EPD") requested Transport Department to endorse the road type for Tai Shu Ha Road East adopted in the Environmental Assessment for the captioned.

We have checked the Annual Traffic Census ("ATC") published by Transport Department and unable to find the road type for Tai Shu Ha Road East. With reference to the Transport Planning and Design Manual, we are of the view that Tai Shu Ha Road East should be classified as feeder road because this road connect villages or more remote settlements to a Rural Road which is known as Tai Tong Road.

We would greatly appreciate it if your department could confirm agreement to the road type of Tai Shu Ha Road East adopted, i.e., feeder road.

Should you have any queries, please do not hesitate to contact our Mr. Willy LAI or the undersigned.

Thank you for your attention.

Yours sincerely,

CHIN Kim Meng

Director

cc: Client & Design Team (by e-mails)
KIM/LKW

By Fax and by Post
2528 6343



運輸署
Transport Department

本署檔案 Our Ref. : (NNSZ2) in TD NR157/161/YLDD-120
來函檔號 Your Ref. : J7231/2
電話 Tel. : 2399 2565
圖文傳真 Fax : 2381 3799
電郵 Email : chiwaiip@td.gov.hk

28 August 2023

CKM Asia Limited
21st Floor, Methodist House,
36 Hennessy Road,
Wanchai, Hong Kong
(Attn: Mr. CHIN Kim Meng)

Dear Mr. CHIN,

**Proposed Flat and Shop and Services Uses with Minor Relaxation of Plot Ratio
Restriction at Lots 4614 and 4615RP DD116, and Lots 1753sBRP (part), 1753sBss3(part),
1756sA (part), 1756RP(part), 1757, 1758RP, 1760RP in DD120, and adjoining Government land,
Tai Kei Leng, Yuen Long (TPB Application Nos. A/YL/303)**

Road Type for Environmental Assessment

We refer to your letter dated 22 August 2023 regarding the captioned. We have no comment on your proposed road type, i.e. the road section of Tai Shu Ha Road East abutting the Application Site as Feeder Road.

Yours faithfully,

(Louis IP)

for Commissioner for Transport

新界分區辦事處
NT Regional Office
九龍聯運街三十號旺角政府合署七樓
7th Floor, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO)
網址 Web Site: <http://www.td.gov.hk>

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Date **17 October 2023**

Prepared by **Kyle Kam**
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Approved by **Tony Cheng**
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FIGURES

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Figure 2.1	Distance between Proposed Development and Surrounding Roads
Figure 3.1	300 Assessment Area

APPENDICES

Appendix 1.1	Master Layout Plans and Sections of the Proposed Development
Appendix 2.1	Noise Levels Distribution in Environmental Database Central Portal (CED)

1. INTRODUCTION

1.1 Project Background

1.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. Below is the extract of the notes of the Yuen Long OZP for the use.

- 8 -

S/YL/26

RESIDENTIAL (GROUP B)

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

1.1.2 Under the Column 1, flat and residential institution “i.e. residential use” is always permitted to be constructed at the Subject Site. The plot ratio of the residential use under the OZP is 3.5 and with a maximum building height of 25 storeys (excluding basement car park). As such, existing residential development “Sereno Verde” is located immediate east of the Subject Site.

- 1.1.3 **Figure 1.1** shows the location of the Subject Site and the surrounding developments.
- 1.1.4 During the land exchange application, as per the Transport Department's request, a strip of land along the Tai Shu Ha Road East has to be reserved as non-building area of the proposed development. This strip of land is reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent.
- 1.1.5 Under this current planning application, the Applicant proposed to have 20% plot ratio relaxation, i.e. to have an additional 4 storeys increase from 20 storeys to 24 storeys.
- 1.1.6 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the Applicant to conduct this qualitative noise impact assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by project proponent.

1.2 Subject Site and its Environs

- 1.2.1 The Subject Site is located at the junction of Tai Tong Road and Tai Shu Ha Road East. The site is currently zoned as "Residential Group B (R(B))".
- 1.2.2 The Subject Site is bounded by road carriageways, Tai Tong Road to the north and Tai Shu Ha Road East to the southwest of the Subject Site. Tai Shu Ha Road West is located further southwest of the Subject Site; while Yuen Long Highway is located further south of the Subject Site. An existing residential development "Sereno Verde" is located to the northeast of the Subject Site.
- 1.2.3 **Figure 1.1** shows the location of the Subject Site and the surrounding environs.

1.3 The Proposed Development

- 1.3.1 The Proposed Development will mainly comprise of 1 residential tower with 25 storeys (the maximum building height is 101 mPD). As shown in the section, club house and E/M use are located at ground floor and 1st floor. Residential storeys start from 2/F to 24/F.
- 1.3.2 Master layout plans and sections of the Proposed Development are shown in **Appendix 1.1**.

1.4 Purpose of the Qualitative NIA

- 1.4.1 Potential traffic noise impact and industrial noise impact of the top 4 storeys of the proposed residential building are addressed in this qualitative NIA.

2. QUALITATIVE ROAD TRAFFIC NOISE REVIEW

2.1 Introduction

2.1.1 A qualitative approach is adopted as it is a minor relaxation of the plot ratio for 55 flats. It is the applicant's intention to ensure that no sensitive receivers are disadvantaged due to this minor relaxation. Mitigation measures would be incorporated as per the Environmental Data Central Portal (CED) profile for reducing 71-75 dB(A) and more detailed setting will be submitted during GBP process under the lease condition.

2.2 Assessment Criteria

2.2.1 Noise standards are recommended in Chapter 9 "Environment" of the HKPSG for planning against possible noise impact from road traffic, railway and aircrafts. According to the standards and guidelines, the maximum allowed road traffic noise level, measured in terms of $L_{10(1-hr.)}$, at typical facades of dormitories is 70 dB(A).

2.3 Noise Levels Distribution in Environmental Database Central Portal (CED)

2.3.1 Referenced to the Noise Levels Distribution in CED, as shown in **Appendix 2.1**. The noise levels of most of the residential building range from 61 to 70 dB(A), which complies with the 70 dB(A) noise criterion as listed in HKPSG for dormitory; while the south-western façade may be subject to the noise level with 71 to 75 dB(A).

2.4 Road Characteristics and Contribution

2.4.1 The proposed development is mainly subject to the traffic noise from Tai Tong Road, Tai Shu Ha Road East, Tai Shu Ha Road West and Yuen Long Highway in various degrees. **Figure 2.1** shows the location of these roads and the relevant distance from them to the proposed development.

2.4.2 The analysis of the potential traffic noise impact is described in the **Table 2-1**.

Table 2-1 Review of Road Traffic Noise Impact of the Roads for the Additional Top 4 Residential Floors

Roads	Description	Noise Contribution
Tai Tong Road	<ul style="list-style-type: none"> Long distance between Tai Tong Road and the Proposed Development 	Partly significant
Tai Shu Ha Road East and Tai Shu Ha Road West	<ul style="list-style-type: none"> Tai Shu Ha Road East and Tai Shu Ha Road West are one lane only. 	Partly significant
Yuen Long Highway	<ul style="list-style-type: none"> Vertical noise barrier is provided along Yuen Long Highway to mitigate the potential traffic noise upon the R(B) zone where the Subject Site is located. 	Partly significant

2.5 Road Traffic Noise Review and Proposed Mitigation

- 2.5.1 As shown in CED, the maximum noise level of the Subject Site could reach 75 dB(A) (**Appendix 2.1**) for the façade facing towards Tai Shu Ha Road East. The façade facing towards North, Northeast and East are facing towards existing residential developments (Sereno Verde) and it is expected that this façade direction is unlikely to be subject to the traffic noise exceedance. For the façade facing towards the Yuen Long Highway where 4m high noise barrier is located, the units located within the shadow zone of the said Yuen Long Highway noise barrier would be expected to comply with the traffic noise standard as this roadside noise barrier is designated for the R(B) where the Subject Site is located.
- 2.5.2 For the additional 4 residential floors at top level, and the residential building with a larger buffer distance from roads at grade; the predicted traffic noise level at these units would be lower than that at lower level, and they may comply with the traffic noise standard. A quantitative noise impact assessment can be carried out in the detailed design stage when the final layout (GBP central process) of the proposed development is available, and the relevant noise mitigation measures, if required, will be developed and implemented at the proposed development, so that the future occupant would not be subject to unacceptable traffic noise impact.
- 2.5.3 According to the EPD's Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact, a maximum noise reduction of more than 5 dB(A) and can be up to 10 dB(A), subject to the design, can be provided by Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type). It is expected acoustic window and enhanced acoustic balcony would have sufficient acoustic attenuation to mitigate the noise exceedance, if required. As abovementioned, the predicted noise level at the proposed development may be around 75 dB(A) or below, the provision of the above innovative noise mitigation measures would have sufficient reduction to mitigate the potential traffic noise exceedance, if any.
- 2.5.4 It is predicted that the noise levels of the proposed NSRs would comply with the 70 dB(A) noise criterion as listed in HKPSG for dormitory. Thus, no insurmountable traffic noise impact is anticipated.

3. QUALITATIVE INDUSTRIAL NOISE REVIEW

3.1 Introduction

3.1.1 In this review, potential noise impacts arising from nearby industrial activities on the Proposed Development has been reviewed by general acoustic principle and Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM). Practicable environmental mitigation measures would be recommended, where necessary.

3.2 Assessment Criteria

- 3.2.1 In accordance with the "Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites" (IND-TM), the Area Sensitive Rating (ASR) depends on the type of area and the degree of impact that Influencing Factor (IF) on the NSRs. The industrial area, major road with the boundary of Hong Kong International Airport shall be considered to be an IF.
- 3.2.2 The NSRs at the Subject Site after its completion is located in residential group B zone. Yuen Long Highway with AADT of 113, 690 vehicle is located south of the Subject Site. Therefore, an area sensitive rating of "B" is adopted in this project. Below is the tabulated acceptable noise level (ANL).

Table 3-1 Acceptable Noise Levels

Time Period	ANL (ASR of "B"), $L_{eq(30min)}$ dB(A)
Day (0700 to 1900 hours)	65
Evening (1900 to 2300 hours)	
Night (2300 to 0700 hours)	55

3.3 Fixed Noise Sources

3.3.1 According to the desktop study and site survey conducted in Sep 2023, there are some enclosed workshops located in the area. Residential premises in terms of village houses and middle-rise residential developments are also surrounding these enclosed workshops. Location of 300m assessment area is shown in **Figure 3.1**.

3.4 Industrial Noise Review

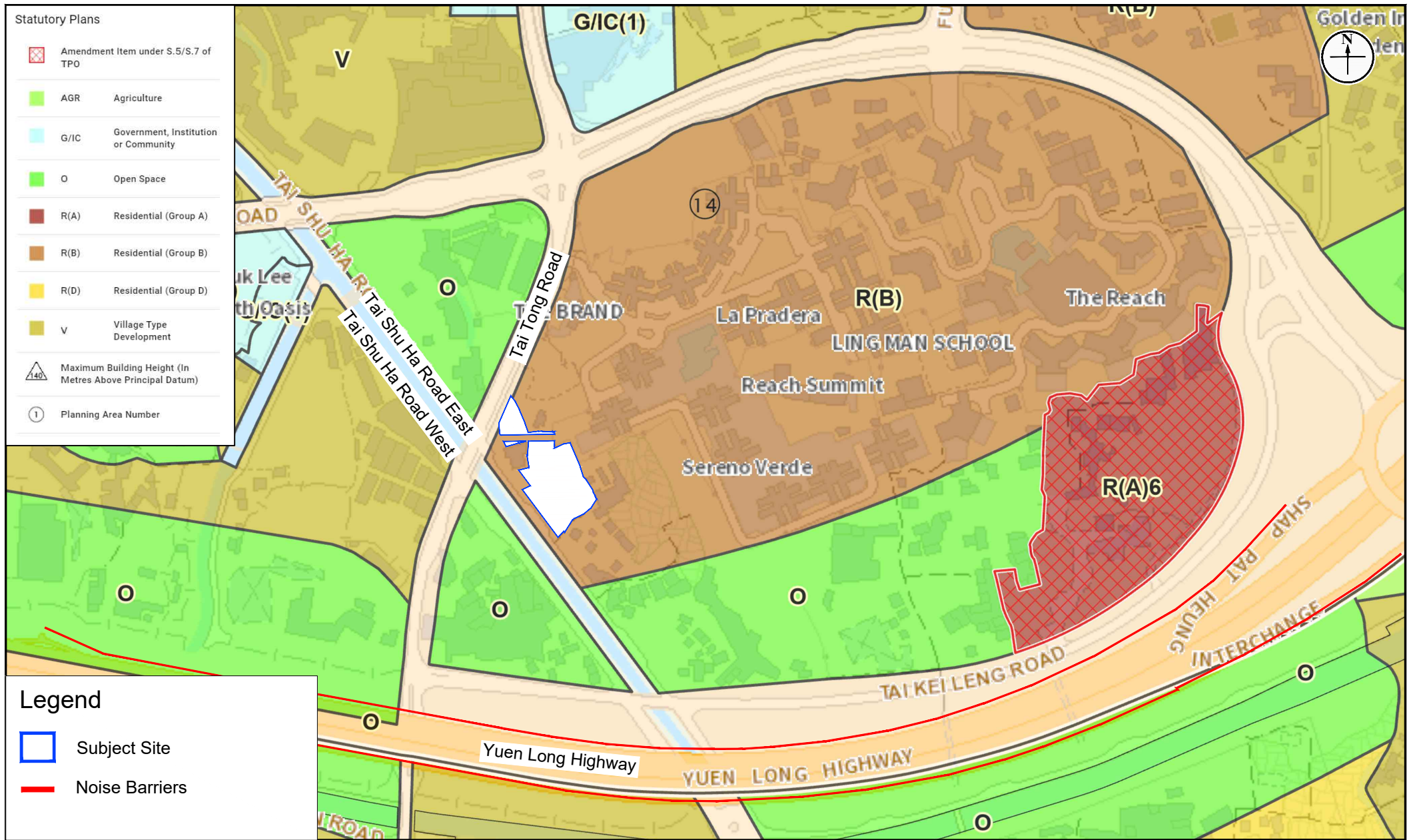
3.4.1 The Subject Site is located at Residential Group B where flat and residential institutions are always permitted under the Yuen Long OZP. This planning application is to apply for additional four residential floors at the proposed development. These additional residential floors are to be located at the top level of the proposed development, i.e. having larger buffer distance to those enclosed workshops.

- 3.4.2 Since the workshops in the vicinity are enclosed, i.e. the industrial activities are carried out at indoor, any noisy activities carried out due to the industrial activities would be shielded by the building structure and so it is expected that these noise impacts from them to the surrounding existing residential premises would be minimized. Furthermore, for the additional four residential floors which at top level, the expected noise environment due to the surrounding enclosed workshops would be further reduced as the buffer distance is increased. It is expected that the occupants at these additional residential floors would not be subject to unacceptable industrial noise impact.

4. CONCLUSION

- 4.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. The current planning application is applied for the minor plot ratio relaxation, i.e. an increase of the residential floors. According to the project proponent, there will be an increase of four residential floors on top of the proposed development.
- 4.1.2 During the land exchange application, as per the Transport Department's request, a strip of land along the Tai Shu Ha Road East has to be reserved as non-building area of the proposed development. This strip of land is reserved with a view not to jeopardizing the potential road widening works in the future, if there is a need. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent.
- 4.1.3 Two potential noise impacts, traffic noise and industrial noise, have been reviewed in this qualitative noise impact review.
- 4.1.4 For traffic noise, as shown in CED, the potential traffic noise level at the Subject Site could reach 75 dB(A) at the façade facing Tai Shu Ha Road East. The façade facing towards North, Northeast and East are facing towards existing residential developments and it is expected that this façade direction is unlikely to be subject to the traffic noise exceedance. For the façade facing towards the Yuen Long Highway where 4m tall noise barrier is located, the units located within the shadow zone of the said Yuen Long Highway noise barrier would be expected to be complied with the traffic noise standard as this road-side noise barrier is designated for the R(B) where the Subject Site is located. For the additional four residential floor at top, the expected traffic noise level would be reduced with the increase of the buffer distance. A detailed noise impact assessment will be carried at later stage, and noise mitigation measures could be provided to mitigate the potential exceedance, if any. According to the EPD's Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact, a maximum noise reduction of more than 5 dB(A) and can be up to 10 dB(A), subject to the design, can be provided by Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type). Therefore, it is expected that the future occupant would not be subject to unacceptable traffic noise impact.
- 4.1.5 For Industrial Noise, according to the desktop study and site survey conducted in Sep 2023, there are some enclosed industrial workshops in the surroundings. Since the noisy industrial activities, if any, are carried out at indoor, the building structure would shield the noisy activities and the surrounding residential premises including the proposed development would not be significantly affected. For the proposed additional 4 residential floors at top level, with a longer buffer distance, it is expected that noise environment at these noise sensitive uses would be further reduced. It is considered that the occupants of these additional four residential floors at top level would not be subject to unacceptable noise impact.

Figures



Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

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Checked by:	TC
Rev.:	1.0
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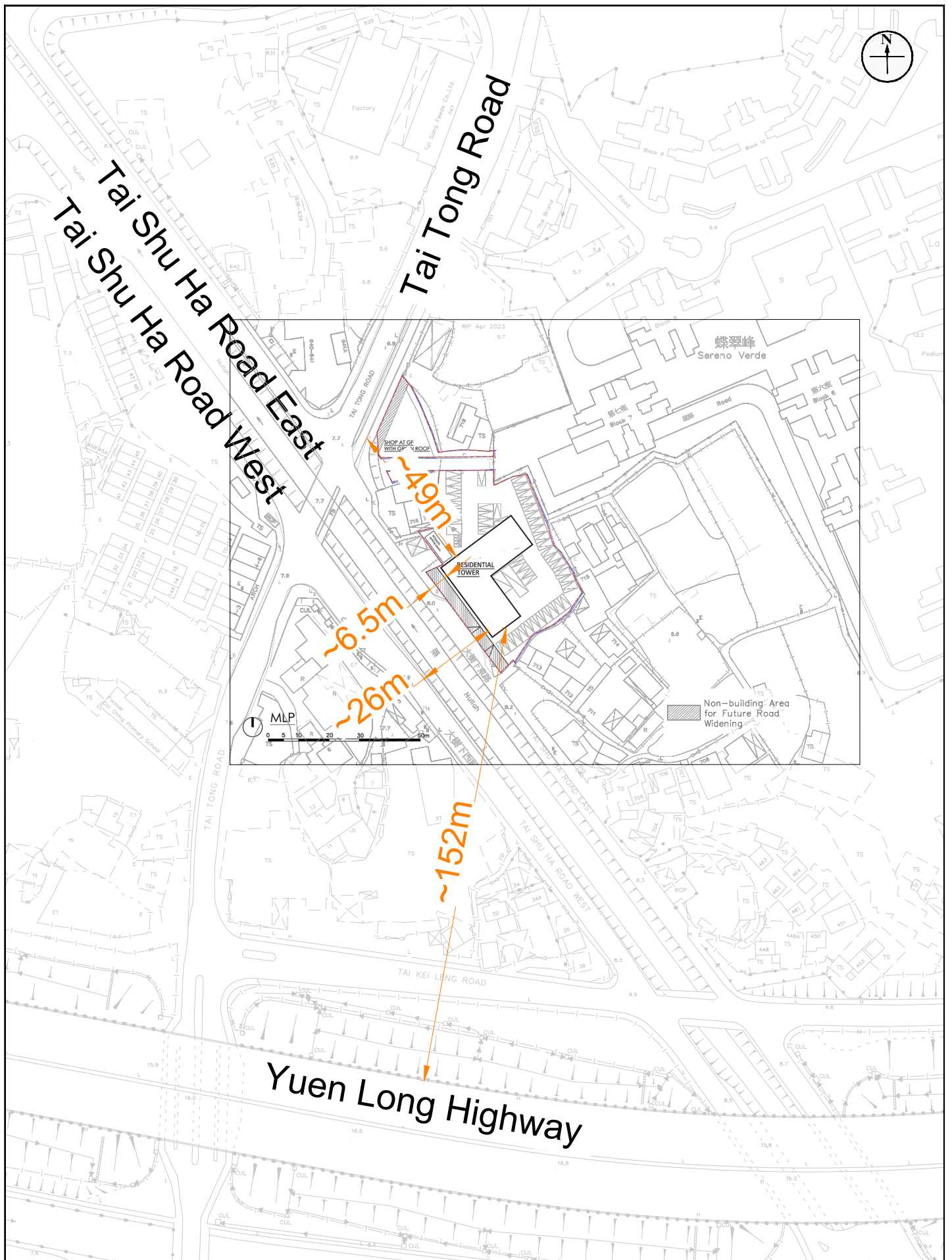


Figure: 2.1

Title: Distance Between the Proposed Development and Surrounding Roads

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

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Checked by: TC

Rev.: 1.0

Date: Sep 2023



Legend

 **Subject Site**

 **Residential Buildings**

Figure: 3

Title: 300m Assessment Area

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

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Drawn by: KK

Checked by: TC

Rev.: 1.0

Date: Oct 2023

Appendix 1.1

Master Layout Plans and Sections of the Proposed Development

蝶翠峰

Sereno Verde

第六座
Block 6

第七座
Block 7

道路
Road

SHOP AT GF
WITH GREEN ROOF

RESIDENTIAL
TOWER

40 people
parking space

Non-building Area
for Future Road
Widening

TAI TONG ROAD

大樹下東路
Nullah

大樹下西路

640-641

641A

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7.7

7.7

7.9

CUL

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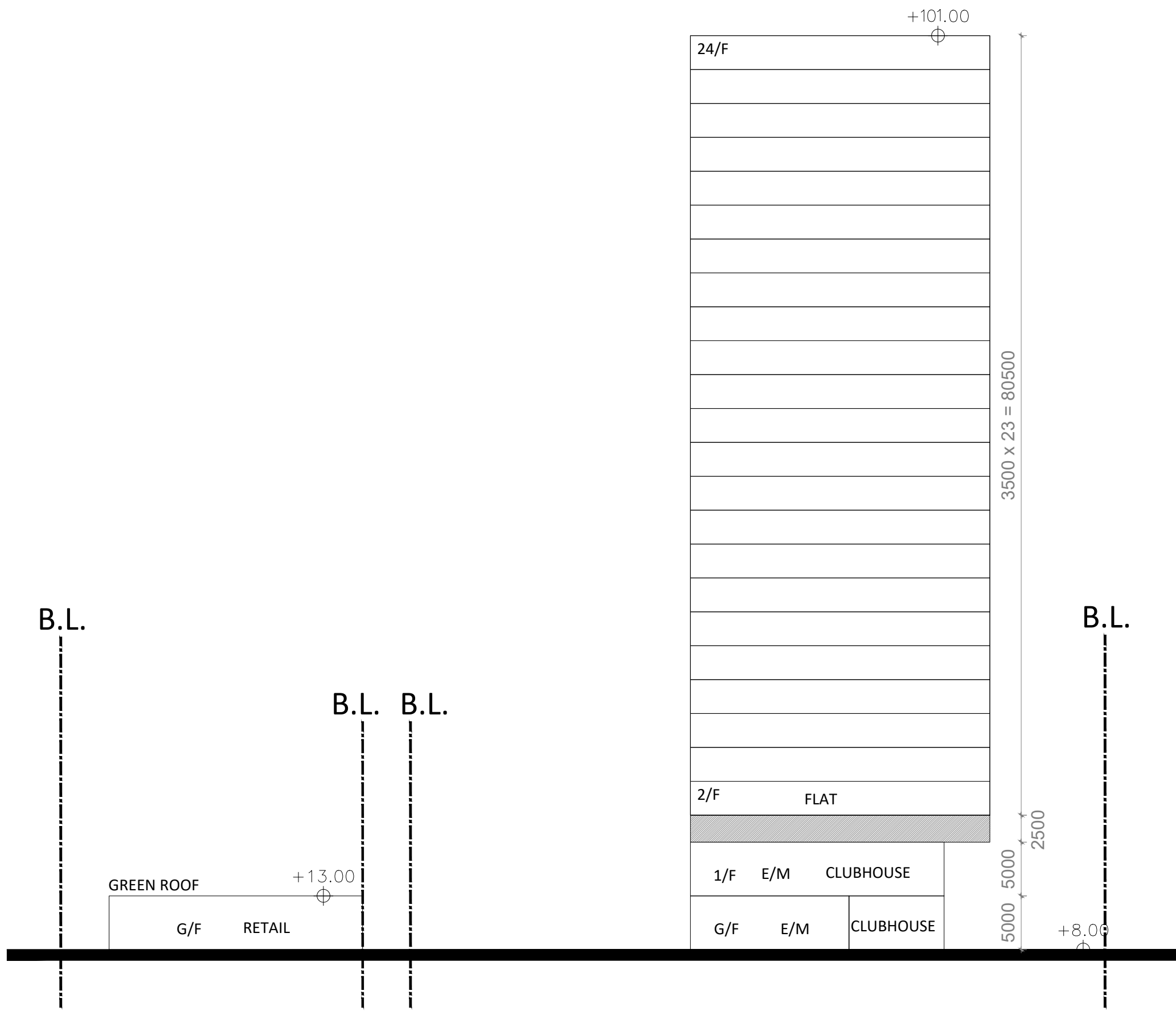
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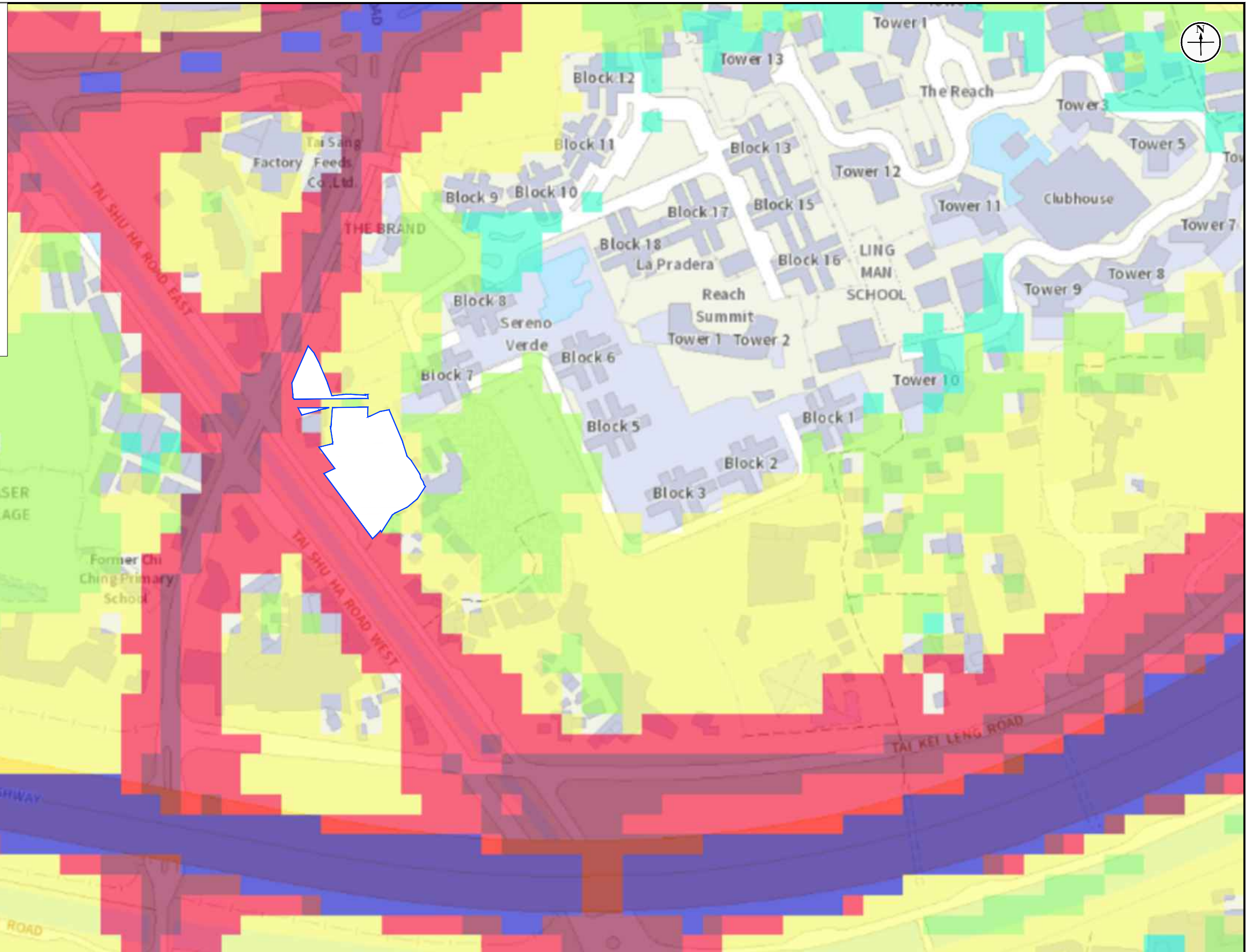
SECTION A-A

Appendix 2.1

Noise Levels Distribution in Environmental Database Central Portal (CED)

Noise Level dB(A)

- Above 81
- 76 ~ 80
- 71 ~ 75
- 66 ~ 70
- 61 ~ 65
- 56 ~ 60
- Below 55



Legend

- Subject Site

Appendix: 2.1

Title: Noise Level Distribution in Environmental Database Central Portal (CED)

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

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