

Appendix 5

Noise Impact Assessment

**Proposed Minor Relaxation of Building Height Restriction for a
Permitted Residential Development in “Residential (Group) B”
and “Residential (Group C) 4” Zones at 1 & 1A Kotewall Road
and 64 Conduit Road, Mid-levels**

Noise Impact Assessment
(V1.0)

June 2026

Approved By 
(Project Manager: K.S. Lee)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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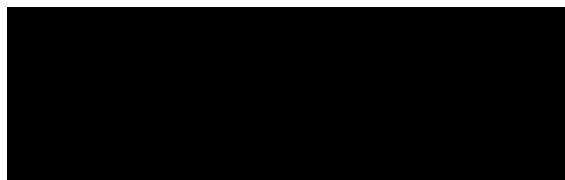


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1 INTRODUCTION

1.1 Background

- 1.1.1 The Project Proponents, Gainlong Limited and Honour Future Limited, has proposed a minor relaxation of the building height restriction for a permitted residential development in the “Residential (Group) B” and “Residential (Group C) 4” zones at 1 & 1A Kotewall Road and 64 Conduit Road, Mid-Levels.
- 1.1.2 Cinotech Consultants Limited has been commissioned by the Project Proponents to conduct a Noise Impact Assessment (NIA) to assess and envisage the potential noise impact generated from the Proposed Development and its surrounding. Effective mitigation measures and recommendations are proposed to mitigate the excessive noise level to achieve an acceptable compliance level under the proposed design.
- 1.1.3 This NIA has been prepared to support the application for planning permission to the Town Planning Board (TPB) under Section 16 of the Town Planning Ordinance (Cap. 131) for the proposed residential development involving relaxation of height restrictions.

2 THE PROPOSED DEVELOPMENT AND THE ENVIRONMENT

2.1 The Site

- 2.1.1 The Application Site (the "Site") is situated in a residential area in Mid-Levels on Hong Kong Island, where bounded by Kotewall Road in the north and Conduit Road in the South. The location the Site is illustrated in **Figure 2-1**.
- 2.1.2 The Site falls within an area zoned as “Residential (Group B)” (“R(B)”) and “Residential (Group C)4” (“R(C)4”) on the Approved Mid-Levels West Outline Zoning Plan No. S/H11/15, as shown in **Figure 2-2**.
- 2.1.3 The Site covers approximately 1,674.6 m² and its southern portion is occupied by existing residential development.

2.2 The Proposed Development

- 2.2.1 The Proposed Development comprises two residential towers, including the taller block (“Tower 1”) with 31 storeys and the lower block (“Tower 2”) with only 3 storeys. The notional block plan and notional layout of the Proposed Development are provided in **Figure 2-3** and **Appendix 2-1**, respectively. The major development parameters are summarised in **Table 2-1**.
- 2.2.2 The tentative population intake year of the Proposed Development is 2029.

Table 2-1 Development Parameters of the Proposed Development

Major Development Parameters	
Total Site Area	About 1,674.6m ²
Domestic Plot Ratio	5
Domestic GFA	8,373m ²
No. of Unit	46
Average Flat Size	About 182m ²
Maximum Building Height	Tower 1: Not more than +225.5mPD
	Tower 2: Not more than +144.56mPD
No. of Storeys	Tower 1: 31
	Tower 2: 3
Site Coverage	Not more than 33.3%
No. of Block	2
Private Open Space	Not less than 1m ² per person

2.3 Existing Environment in the Vicinity

Surrounding Environment

- 2.3.1 The Site is located in the residential area of Mid-Level, surrounded by various residential buildings. In addition to these, variety of G/IC developments and open space area are also identified within 300m from site boundary, while no industrial building and commercial building are identified within the 300m from site boundary.

3 LEGISLATION, STANDARDS & GUIDELINES

3.1 Construction Noise

3.1.1 Construction noise is governed by the Noise Control Ordinance (NCO) (Cap. 400) which prohibits the use of PME during the restricted hours (7 p.m. to 7 a.m. on Monday to Saturday and any time on a general holiday, including Sunday) without a valid Construction Noise Permit (CNP) issued by the Authority. The criteria and procedures for issuing the permit are specified in the “Technical Memorandum on Noise from Construction Works Other than Percussive Piling” - (GW-TM).

3.1.2 For construction works other than percussive piling, although GW-TM does not provide control over non-restricted hours (7:00 a.m. to 7:00 p.m., Monday to Saturday not being a public holiday including Sunday) daytime construction activities, the noise limits are set out in the “Practice Note for Professional Persons Environmental Consultative Committee” (ProPECC) “Minimizing Noise from Construction Activities” (PN1/24).

3.2 Road Traffic Noise

3.2.1 HKPSG provides guidance on acceptable road traffic noise levels at the openable windows of various types of noise sensitive buildings. The relevant criteria are shown in **Table 3-1**.

Table 3-1 HKPSG Road Traffic Noise Planning Criteria

Uses	Road Traffic Noise L ₁₀ , (1hr) dB(A)
Domestic Premises	70
Hotel and Hostels	70
Offices	70
Educational institutions	65
Hospital & Clinics	55
Places of public worship and courts of law	65

Note: The above criteria apply to noise sensitive uses which rely on opened window for ventilation.

3.2.2 The following Practise Notes provide guideline to facilitate the project planning and design against road traffic noise impact.

- “ProPECC PN3/23 Application of Sound Insulation in Residential Buildings to Reduce Noise Transmission Between Units” provides technical information on the design and application of sound insulation on partition walls and floors between residential units for better privacy protection and indoor sound environment.
- “ProPECC PN4/23 Practice Note for the Planning of Residential Developments against Road Traffic Noise” recommends mitigation measures against road traffic noise in planning stage and promulgates self-assessment procedures to facilitate the planning approval.
- “ProPECC PN5/23 Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact” provides guidance on technical information for innovative mitigation measures (Acoustic Window and Enhanced Acoustic Balcony) against road traffic noise.

3.3 Fixed Plant Noise

- 3.3.1 Fixed noise sources, such as the building services system and ventilation system, as well as the operation of the project, are controlled under the Noise Control Ordinance (NCO) and the “Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places, or Construction Sites” (IND-TM). According to the IND-TM, the Acceptable Noise Level (ANL) for a Noise Sensitive Receiver (NSR) is determined by the Area Sensitive Ratings (ASR); which classify a NSR based on the type of the area within, and the degree of the effect on the NSR of particular Influencing Factors (IFs). The different types of area containing the NSR are categorized into the rural area, low density residential area, urban area and other areas, with reference to Table 1 of the IND-TM. While the IFs, defined as industrial areas or area containing a number of factories or major road with an annual average daily traffic flow (AADT) in excess of 30,000, should be assessed for their influence on the NSR according to the degree of influence (“not affected”, “indirectly affected” and “directly affected”).
- 3.3.2 The HKPSG states that all planned fixed noise sources should be located and designed so that when assessed in accordance with the IND-TM, the level of the intruding noise at the façade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL shown in Table 2 of the IND-TM or the background noise level, whichever is lower. When the prevailing background noise levels would be adopted as the assessment criteria, the prevailing background noise levels, $L_{90}(1\text{-hour})$, at the relevant NSRs shall be measured during the typical operation hours of the fixed plant within daytime, evening and night times. The Acceptable Noise Levels (ANLs) for different Area Sensitivity Ratings (ASRs) are given in **Table 3-2**.

Table 3-2 Acceptable Noise Levels for Fixed Noise Impact (ANLs), dB(A), L_{eq} , (30mins)

Time Period	ASR A	ASR B	ASR C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

- 3.3.3 The Site is located in urban area in Mid-level and surrounded by various high-rise residential developments. No IFs is identified in the vicinity of the Site, therefore the Proposed Development should not be affected by IF. The Site should be classified as “ASR B”. Background noise measurement is conducted on 18 December 2023 ^[1] to determine the noise criteria. The monitoring location is illustrated in **Figure 3-1** and the monitoring results is summarised in **Table 3-3**.

¹ The measurements were extracted from the background noise monitoring report prepared for the BEAM Plus submission, which was conducted before the construction works commenced.

Table 3-3 Measured Background Noise Level

Period	Measured Background Noise Level, $L_{eq(30min)}$, (dB(A))
Daytime (0700-1900)	67
Evening Time (1900-2300)	65
Nighttime (2300-0700)	63

Note:

[1] The measurement is extracted from the background noise monitoring report for BEAM Plus submission.

3.3.4 Given the prevailing background noise level is expected to be higher than ANL-5 dB during daytime, evening time and nighttime. The criteria for the planned fixed noise sources of the Proposed Development are 60 dB(A) for daytime and evening time, and 50 dB(A) for nighttime.

4 IDENTIFICATION OF THE REPRESENTATIVE NOISE SENSITIVE RECEIVER

4.1 Construction Noise

4.1.1 The Proposed Development is located in an urban area surrounded by various types of developments, including residential developments and schools. All residential developments in the vicinity are considered noise-sensitive receivers (NSRs). The nearby row of residential developments has been selected as representative NSRs. The representative NSRs in the vicinity are illustrated in **Figure 4-1** and summarized in **Table 4-1**.

Table 4-1 Representative Noise Sensitive Receivers for Construction Noise

NSR ID	Description	Type	Building Height, mPD	Nearest Horizontal Distance to Site Boundary, m
NSR01	Serene Court	Domestic Premises	201	68
NSR02	Fairview Mansion	Domestic Premises	150	30
NSR03	Richmond Court	Domestic Premises	158	< 5
NSR04	Imperial Court	Domestic Premises	161	< 5
NSR05	Peace Court	Domestic Premises	157	< 5
NSR06	King's Garden	Domestic Premises	155	< 5
NSR07	Villa Veneto	Domestic Premises	222	< 5
NSR08	St. Stephen's Girls' College June Li Building	Educational Institution	98	106
NSR09	St. Stephen's Girls' College	Educational Institution	107	101

4.2 Fixed Plant Noise

4.2.1 Building service equipment for Podium of Tower 1 and Tower 2 are the potential fixed noise sources during operation phase. The surrounding and planned NSRs with direct line-of-sight to the podium of Towers 1 and 2 are considered as the representative NSRs against planned fixed noise sources. The representative NSRs are summarized in **Table 4-2** and illustrated in **Figure 4-2**.

Table 4-2 Representative Noise Sensitive Receivers for Fixed Plant Noise

NSR ID	Description	Type	Nearest Horizontal Distance, m	
			Podium of Tower 1	Podium of Tower 2
NSR01	Serene Court	Domestic Premises	71	107
NSR02	Fairview Mansion	Domestic Premises	37	82
NSR03	Richmond Court	Domestic Premises	3	40
NSR04	Imperial Court	Domestic Premises	36	3
NSR05	Peace Court	Domestic Premises	45	3
NSR06	King's Garden	Domestic Premises	38	7
NSR07	Villa Veneto	Domestic Premises	3	107

4.3 Traffic Noise

- 4.3.1 All living rooms and bedrooms of the residential flats were identified as NSRs of the Proposed Development according to the nature of use. The noise assessment points (NAPs) were assigned at 1.2m above the slab level and 1m away from the façade. All potential windows locations of all residential flats are covered.
- 4.3.2 Clubhouse are assumed to be equipped with mechanical ventilation system and will not rely on openable windows for ventilation purpose, and thus the noise standard is not applicable.
- 4.3.3 There is a total of 46 residential flats, where Tower 1 consists of 4 zones with 36 flats and Tower 2 consists of 1 typical zone with 10 flats. For assessment purpose, the traffic noise level at all 46 flats have been assessed. The assessment points are summarized in **Table 4-3** and their locations are illustrated in **Figures 4-3a to 4-3e**.

Table 4-3 Summary of Representative Noise Sensitive Receivers and Assessment Points for Traffic Noise Impact Assessment

Location	NSR ID ^[1,2]	Number of Flat	Total Number of Flat	Elevation of the Assessment Point
Tower 1 – Typical Flat	T1_Typ-F01-O01 to T1_Typ-F02-O12	2 flats per floor (Typical Flat: 2/F to 12/F)	20	131.7mPD for 2/F, +3.5m for each floor
Tower 1 – Simplex Flat	T1_Sim-F01-O01 to T1_Sim-F01-O14	1 flat per floor (Simplex Flat: 15/F to 30/F)	15	166.7mPD for 15/F, +3.5m for each floor
Tower 1 – Duplex Flat (Low floor)	T1_LDup-F01-O01 to T1_LDup-F01-O17	1 flat in 31/F to 32/F	1	219.2mPD for 31/F
Tower 1 – Duplex Flat (High floor)	T1_HDup-F01-O01 to T1_HDup-F01-O14			222.7mPD for 32/F
Tower 2	T2-F01-O01 to T2-F01-O05	5 flats per floor (1/F to 2/F)	10	138.7mPD for 1/F, +3.5m for each floor
Total			46	

Note:

- [1] NSR ID for Tower 1 is in the form of TT_XXX-FFF-ZZZ or TT_XXXX-FFF-ZZZ, where “TT” is tower identity = T1/T2, “XXX” or “XXXX” is the zone = Typical Flat/ Simplex Flat/ Duplex Flat (Low floor) / Duplex Flat (High floor), “FFF” is the number of flats; “ZZZ” is the number of openings.
- [2] NSR ID for Tower 2 is in the form of TT-FFF-ZZZ, where “TT” is tower identity = T2, “FFF” is the number of flats; “ZZZ” is the number of openings.

5 CONSTRUCTION NOISE IMPACT ASSESSMENT

5.1 Potential Noise Impact and Proposed Mitigations

- 5.1.1 The use of powered mechanical equipment (PME) will generate construction noise impact to the nearby NSRs. The major noise emitting activities will be the demolition, foundation and superstructure works of future development.
- 5.1.2 As the Site is situated in a well-developed urban area, the number of PME that it can accommodate is limited. However, as the nearby NSR, as summarized in **Table 4-1** is located in close proximity to the Site, the noise from construction activities could be an impact if the construction works are not planned and arranged properly.
- 5.1.3 ProPECC PN1/24 "Minimizing Noise from Construction Activities" provides construction noise requirements and recommendations on practices such as quieter construction methods and equipment to minimize construction noise.
- 5.1.4 To minimize noise generation, subject to detailed site works arrangement, the contractor shall consider the following mitigation measures, if necessary and applicable:
- Use non-percussive equipment such as hydraulic crusher, sawing, coring machines
 - Use non-percussive piling driving method such as hydraulic press-in method, vibration or jacking method for foundation work
 - Use Quality Powered Mechanical Equipment (QPME) recognized by the Environmental Protection Department (EPD). The QPME shall be registered with EPD, and valid label issued by EPD shall be affixed on the QPME all times.
 - Use Quieter Construction Methods² as far as practicable
 - Schedule work to minimize concurrent activity and duration of impact
 - Regular maintenance of equipment to prevent noise emission due to impairment
 - Adopt good site practice, such as throttle down or switch off equipment unused or intermittently used between works
 - Position mobile noisy equipment in locations away from nearby NSRs and point the noise sources to directions away from NSRs
 - Make good use of other structures for noise screening
 - Use of mobile noise barriers/enclosures along the path of noise propagation
- 5.1.5 Construction activities under the current design involves concrete removal works, site formation/excavation works and superstructure works. Subject to detailed site works arrangement, the contractor shall consider the following mitigation measures, if necessary and applicable:

Concrete Removal Works:

- Use of high-pressure water jetting instead of traditional jackhammers and drill hammers;
- Use of quieter type wire saws or diamond wire saws for cutting large areas and heavily reinforced concrete;

² Quieter Construction Methods:
https://www.epd.gov.hk/epd/misc/construction_noise/contents/index.php/en/home2/quieter-construction-methods.html.

- Use of quieter type blade saws utilizing diamond blades with higher speeds and smoother blades reduces excitation of vibration;
- Use of hydraulic crushers for concrete breaking instead of traditional excavator-mounted breakers;
- Use of handheld concrete crushers instead of traditional jackhammers;
- Use of hydraulic splitters instead of traditional jackhammers and breakers.

Site Formation / Excavation Works:

- Use of silent piling by press-in method instead of traditional massive augering and piling machines or drop hammer for sheet piling / channel planking installation work;
- Use of a sheet piling noise reducer such as a suitable shock absorber to reduce collisions between sheet pile / channel planking and holding parts;
- Use of pile driving impact cushions to reduce noise generated by piling impact;
- Pre-augering/pre-trench/boring pile holes to remove underground obstruction for avoiding hard driving / soften the ground;
- Use of crack inducers instead of traditional percussive breakers.

Superstructure Works:

- Use of prefabricated structure / sections to replace in-situ construction to reduce the amount of mechanical equipment used on site;
- Use of self-compacting concrete (without the aid of a vibrator e.g. poker for compaction) for in-situ concreting;
- Use of crack inducers instead of traditional percussive breakers.

5.1.6 With proper noise mitigation measures implemented during the construction phase, no adverse noise impact arising from the construction activities is expected.

6 OPERATION NOISE IMPACT ASSESSMENT

6.1 Existing Fixed Plant Noise Sources

- 6.1.1 As the Proposed Development is primarily surrounded by residential areas, major fixed plant noise sources are not anticipated nearby. The only potential fixed plant noise source identified is the exposed outdoor units or chillers on the roof of the Sai Ying Pun Community Complex, located approximately 250m to the north of the site boundary. Given the considerable separation distance, the fixed noise impact from these units is considered minor. Furthermore, no industrial developments were identified within 300m of the site boundary. Therefore, adverse fixed plant noise impact on the Proposed Development is not anticipated.

6.2 Planned Fixed Plant Noise Sources

Planned Fixed Plant Noise Sources and Design Consideration

- 6.2.1 Potential noise impacts may arise from the equipment of the Proposed Development during the operation phase. The major equipment with potential noise impacts will be the HVAC system.
- 6.2.2 Exposed equipment may directly impact nearby NSRs, while noise from indoor HVAC equipment can transmit through ventilation pipes and be emitted at duct exhausts. To mitigate noise from indoor HVAC equipment, ventilation pipes will be equipped with silencers to reduce in-duct noise levels. Acoustic louvres will also be used, when necessary, to ensure compliance with the maximum allowable sound power level.
- 6.2.3 Other equipment, such as water pumps, and lift motors, will be housed in enclosed rooms, so no adverse noise impacts from indoor equipment to the surroundings are anticipated.
- 6.2.4 As the Proposed Development is primarily for residential use, the number and scale of fixed noisy plant is limited. However, considering the close proximity to the nearby residential buildings, the maximum allowable SWL is recommended to facilitate the design consideration for compliance of fixed noise criteria.

Assessment Methodology

- 6.2.5 The predicted fixed noise level at the NSR could be quantified by the following standard formula:

$$\text{SPL} = \text{SWL} - \text{DC} - \text{BC} + \text{FC} + \text{TC}$$

where,

- SPL: Sound Pressure Levels at receiver, in dB(A).
- SWL: Sound Power Levels of Fixed Noise Sources, in dB(A).
- DC: Distance Correction, $\text{DC} = 20 \times \log_{10} (D) + 8$, D is the slant distance between the NSR and noise source in meters. However, for simplicity and conservatism, horizontal distance has been adopted instead of slant distance.
- FC: Façade Correction of 3dB(A).

- BC: Barrier Correction of 10dB(A) when line-of-sight to the façade with noise source is completely blocked;
Barrier Correction of 5dB(A) when no direct line-of-sight to noise source is identified.
- TC: Tonality Correction of 3dB(A) is assumed.

Maximum Allowable SWL at Application Site Boundary

6.2.6 The maximum allowable SWL at the potential fixed plant noise sources against the representative NSR has been calculated, as presented in **Appendix 6-1**. If the noise exhibits tonal, intermittent, or impulsive characteristics during operation, the maximum allowable SWLs of the fixed equipment should be adjusted according to the recommendations in Section 3.3 of the IND-TM. The maximum allowable SWL at the podium of Towers 1 and 2 are summarized in **Table 6-1**.

Table 6-1 Maximum Allowable Sound Power Level for the Building Service Equipment of the Proposed Development

Time Period	Maximum Allowable SPL at NSR, dB(A)	Maximum Allowable Sound Power Level at Source, dB(A) ^[1]
Podium of Tower 1		
Day and Evening Time (07:00-23:00)	60	75
Night Time (23:00 – 07:00)	50	65
Podium of Tower 2		
Day and Evening Time (07:00-23:00)	60	75
Night Time (23:00 – 07:00)	50	65

Note:

[1] The Maximum Allowable Sound Power Level at Source should be corrected by the tonality, intermittency, & impulsiveness correction of the selected equipment, according to Section 3.3 of the IND-TM.

6.2.7 Based on the maximum allowable SWLs, the cumulative noise levels at NSRs from the planned fixed noise sources has been calculated and the results show that cumulative noise levels shall comply with the criteria when the maximum allowable SWLs has been implemented properly. The results are present in **Table 6-2** and detailed in **Appendix 6-1**. No adverse fixed noise impacts to the NSRs are anticipated if the choice of equipment, installation locations, and mitigation measures are properly designed.

Table 6-2 Cumulative Noise level form the Planned the Building Service Equipment of the Proposed Development

NSR ID	Description	SPL at NSR, dB(A)			
		Day and Evening Time (07:00-23:00)		Night Time (23:00 – 07:00)	
		Cumulative	Criteria	Cumulative	Criteria
NSR01	Serene Court	33	60	23	50
NSR02	Fairview Mansion	38		28	
NSR03	Richmond Court	60		50	
NSR04	Imperial Court	60		50	
NSR05	Peace Court	60		50	
NSR06	King's Garden	53		43	
NSR07	Villa Veneto	60		50	

6.3 Traffic Noise Impact Assessment

Assessment Methodology

- 6.3.1 A computational noise model “CadnaA” developed by DataKustik was used to predict the traffic noise levels arising from the road network. Calculation of Road Traffic Noise (CRTN) 1988 has been adopted in the noise model. Road traffic noise levels are presented in terms of noise levels exceeded for 10% of the one-hour period for the hour having the peak traffic flow [L10 (1-hour) dB(A)].
- 6.3.2 The assessment was based on the projected peak hour flows for the worst year within 15 years after completion of the Proposed Development in Year 2029. Based on the traffic forecast provided by the traffic consultant, the peak hour flows in Year 2044 will generate the highest road traffic noise within 15 years from the completion of the Proposed Development. The major roads within 300m from the boundary of the Proposed Development have been included in the assessment and are shown in **Appendix 6-2**.
- 6.3.3 The peak hour traffic flow of individual roads in the assessment year (Year 2044) is listed in **Appendix 6-2**. The traffic noise levels for Year 2044 during both the AM Peak and PM Peak periods will be assessed to identify the highest noise level for each assessment point among the AM Peak and PM Peak. The mitigation measures based on the highest noise level will be further proposed, if necessary and applicable.
- 6.3.4 Base Scenarios which only considered the architectural design including building setback, podium to block the view for lower floor and location of the openable window have been assessed.

Impact Identification and Assessment

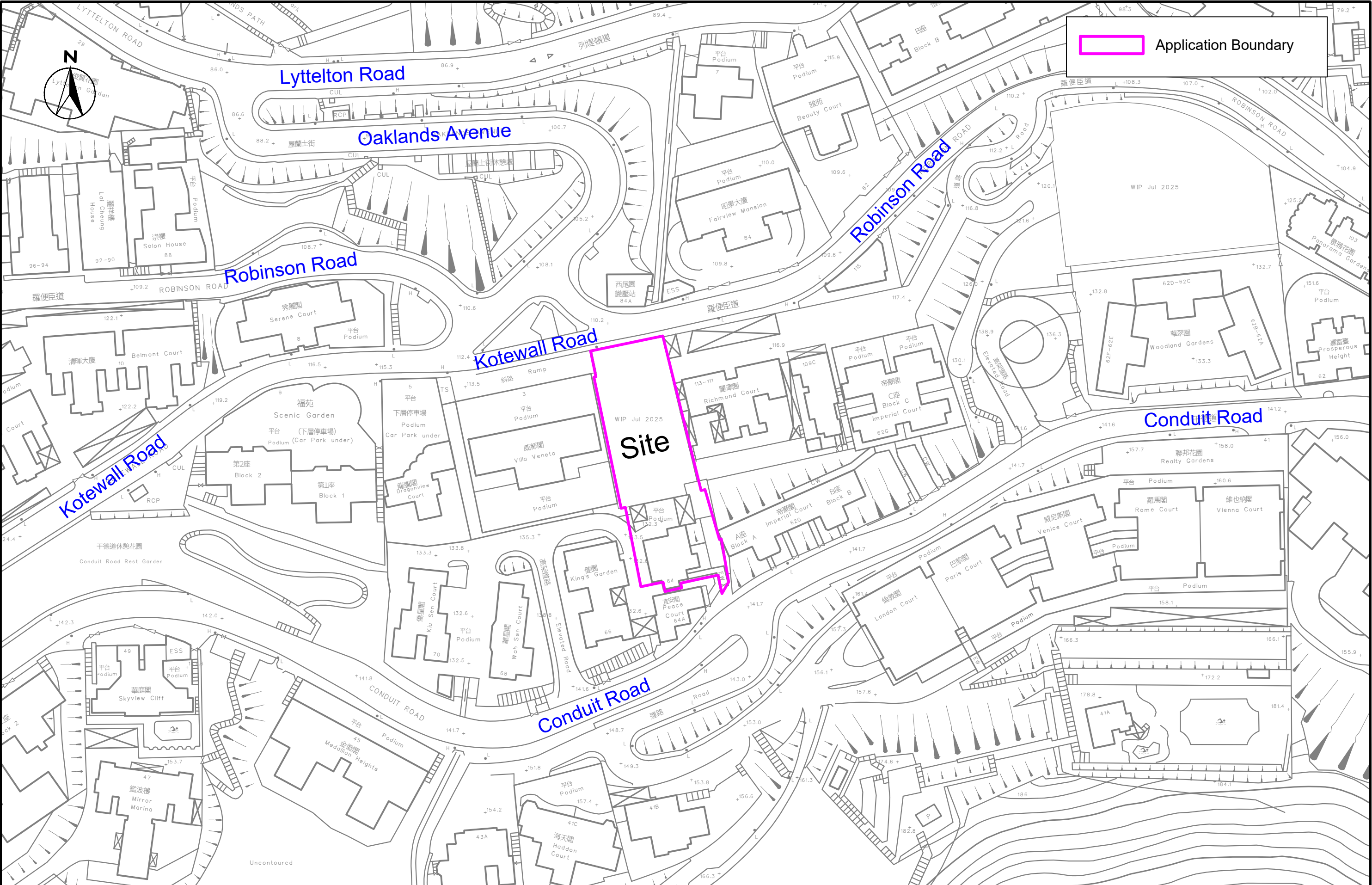
Base Scenario:

- 6.3.5 The traffic noise results under Base Scenario are presented in **Appendix 6-3**. The maximum predicted traffic noise level, ~70dB(A), is found at lower floor of Tower 1, which has direct line-of-sight to Kotewall Road and Robinson Road. All noise assessment points have complied with the noise criteria of 70dB(A) and no noise mitigation measure is required. Adverse traffic noise impact to the proposed development is not anticipated.

7 CONCLUSION

- 7.1.1 The potential noise impacts during construction and operation of the Proposed Development have been assessed.
- 7.1.2 The overall noise impact during the construction phase is considered insignificant. Depending on the detailed site work arrangements, mitigation measures will be implemented as necessary and applicable, in accordance with ProPECC PN 1/24, to minimize construction noise impacts on nearby NSRs.
- 7.1.3 As the Proposed Development is primarily surrounded by residential areas, major fixed plant noise sources are not anticipated nearby. Adverse noise impacts arising from the fixed plant noise sources in the surroundings to the Proposed Development are not anticipated.
- 7.1.4 The planned fixed noise sources of the Proposed Development should not cause any adverse noise impacts if the maximum allowable SWLs and measures are properly implemented. Therefore, no adverse planned fixed noise impacts are anticipated.
- 7.1.5 Traffic noise impact assessment has been conducted based on predicted peak traffic flow (15 years upon the commencement of Project, Year 2044). Under the Base Scenario, the maximum predicted traffic noise is 70dB(A) and compliance rate is 100%. Therefore, no adverse traffic noise impact is anticipated.

FIGURES



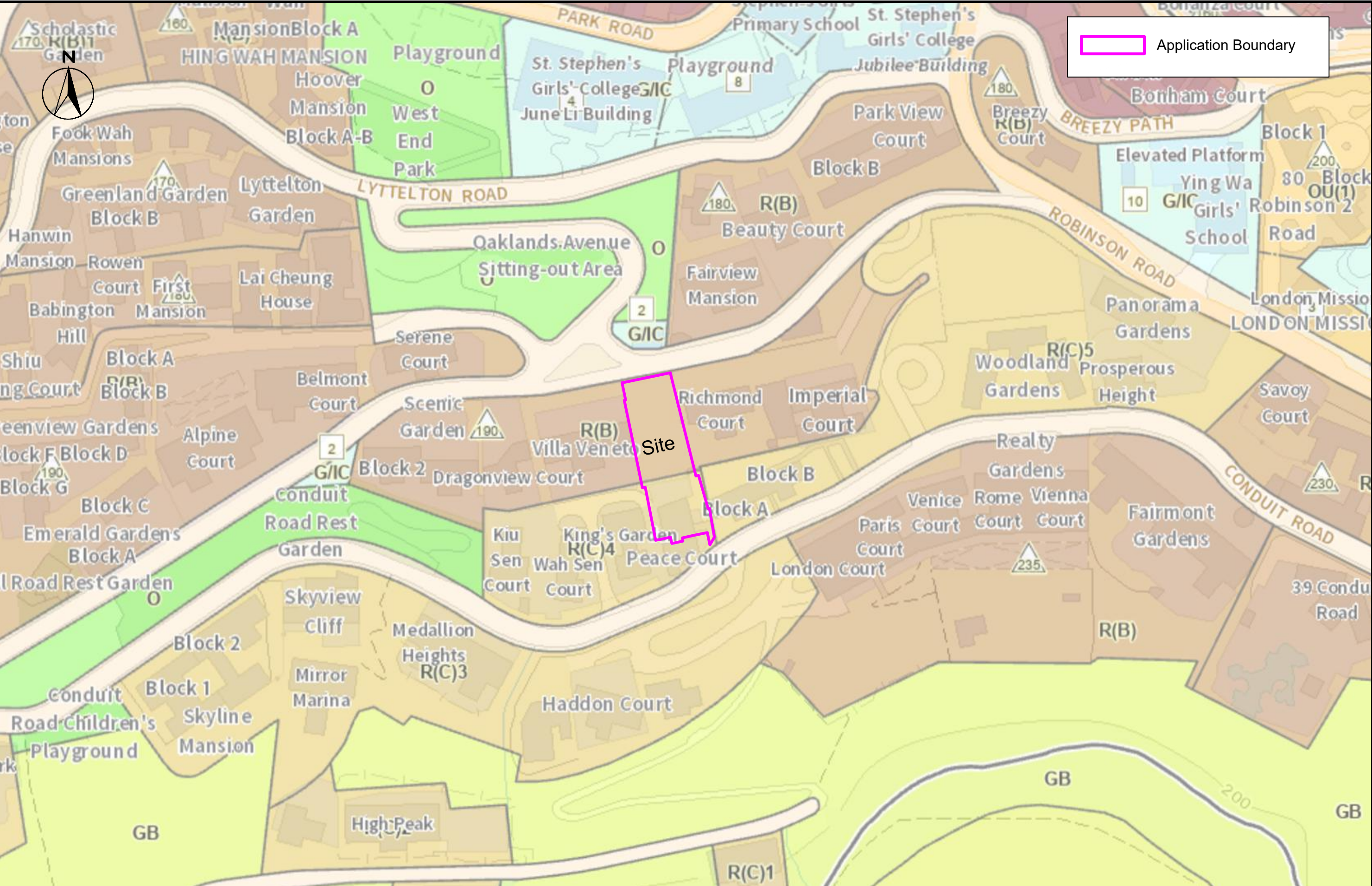
Application Boundary



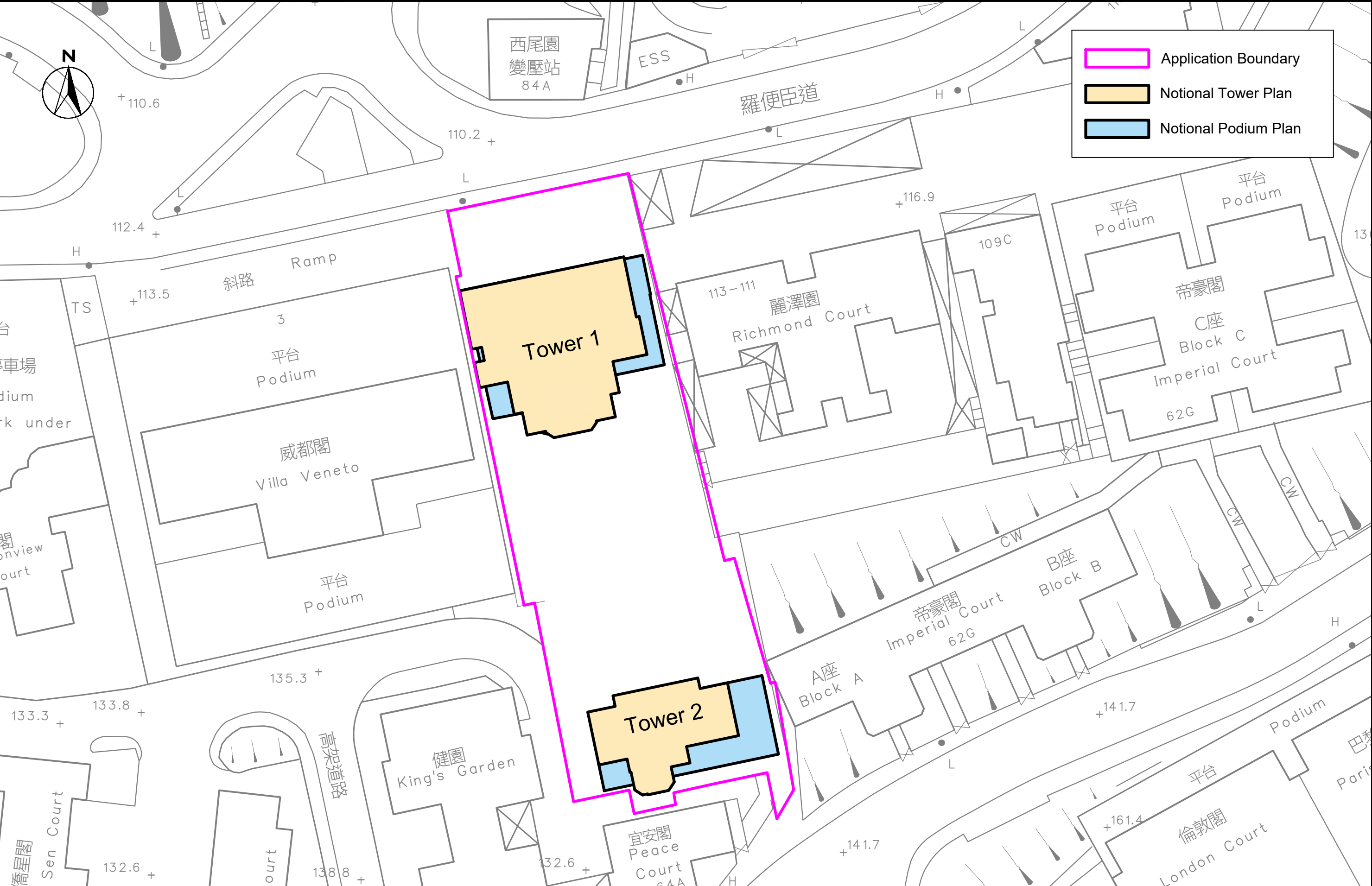
Proposed Minor Relaxation of Building Height Restriction for a Permitted Residential Development in “Residential (Group) B” and “Residential (Group C) 4” Zones at 1 & 1A Kotewall Road and 64 Conduit Road, Mid-levels

Site Location Plan

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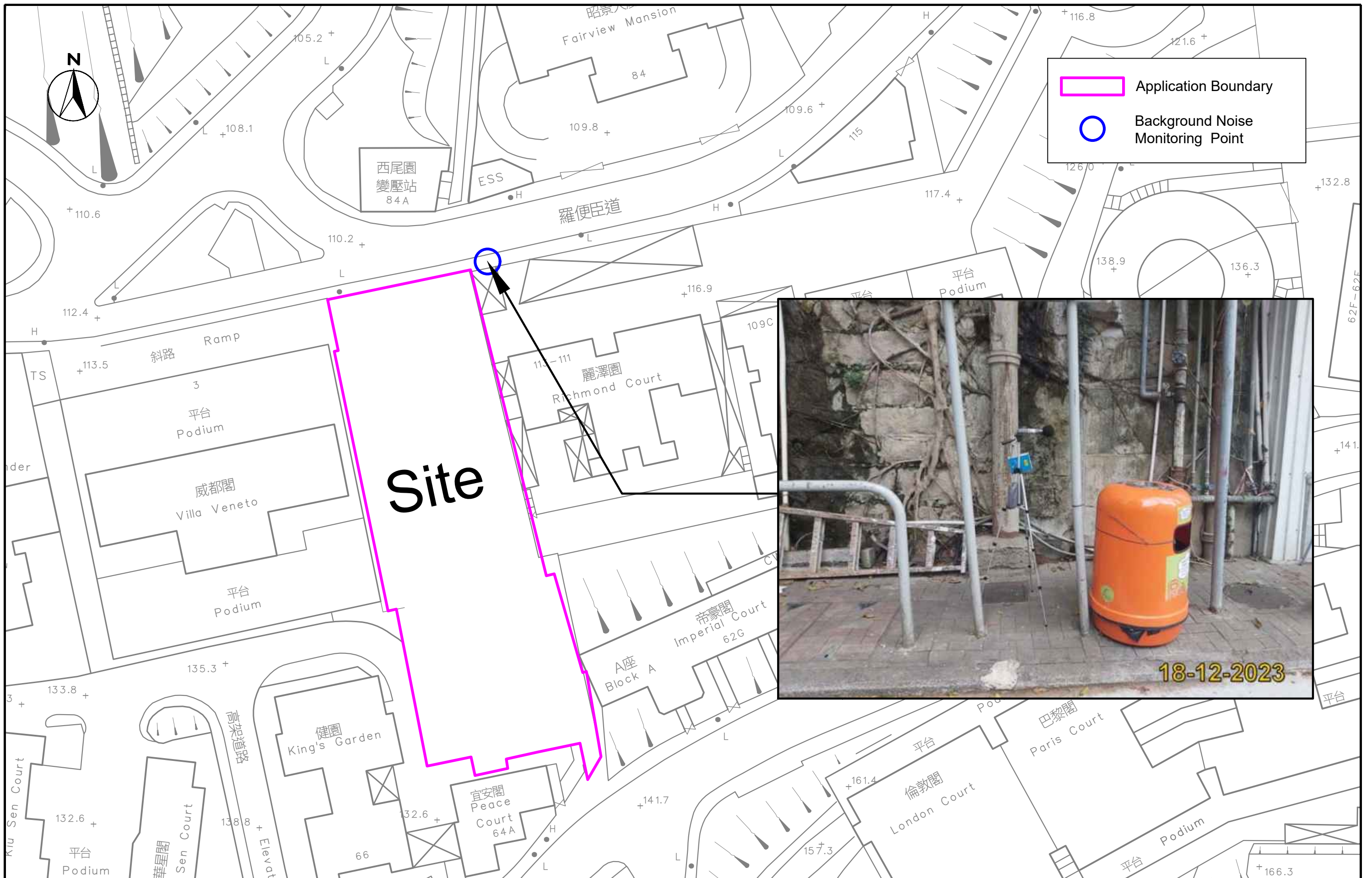
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JOB No.	IA26032	DRAWING No.	2-2	REV -

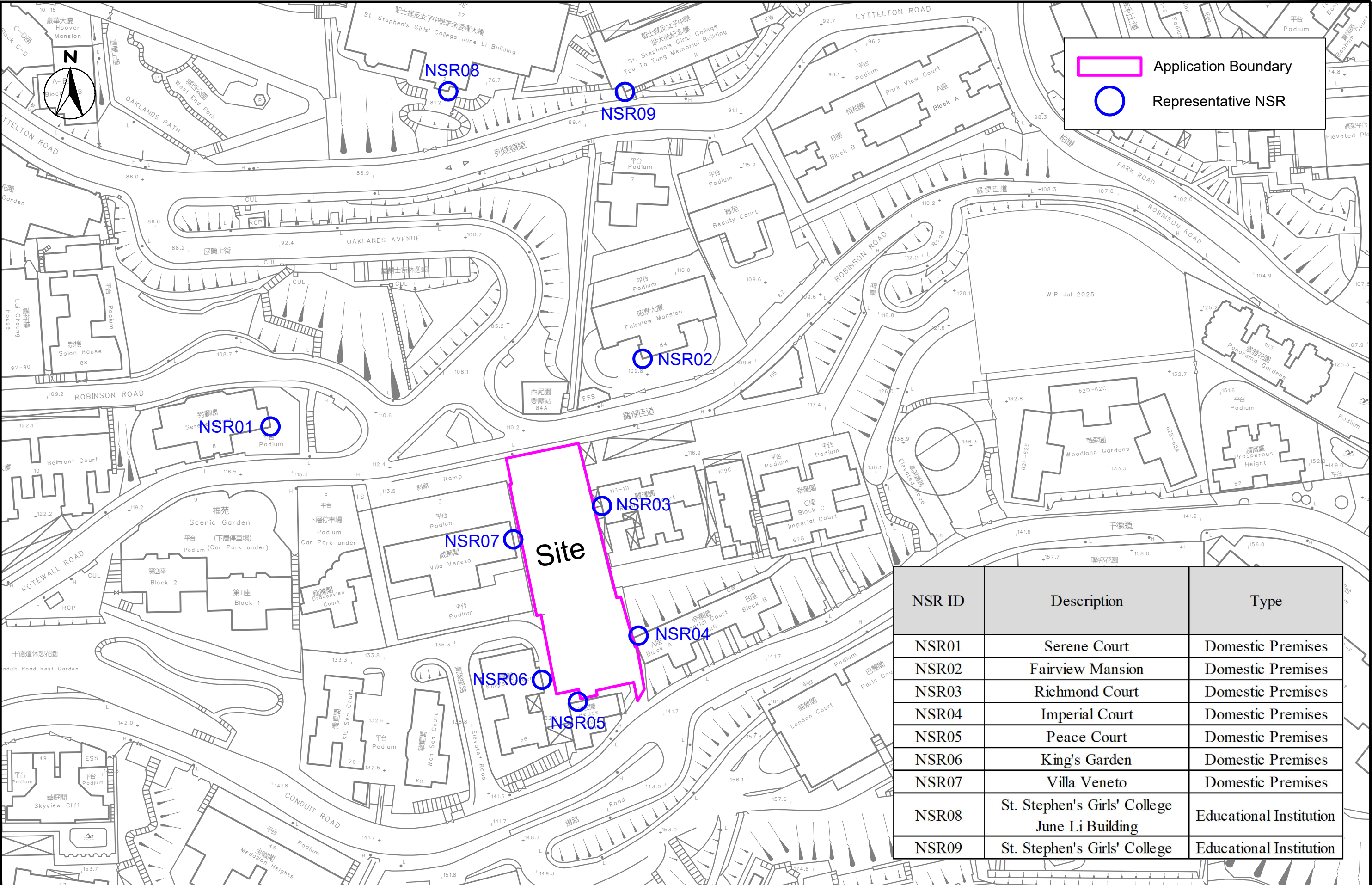


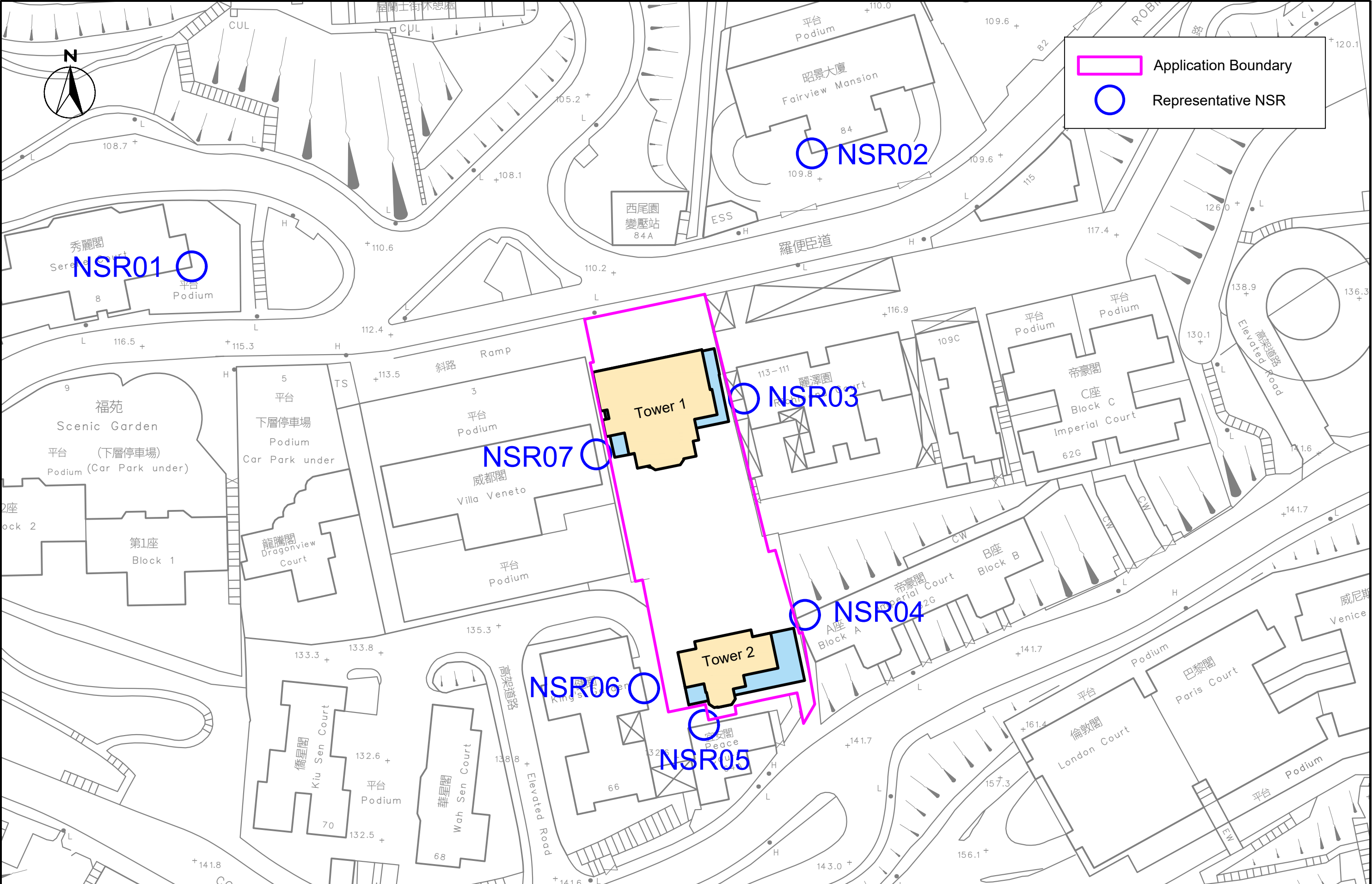
Application Boundary

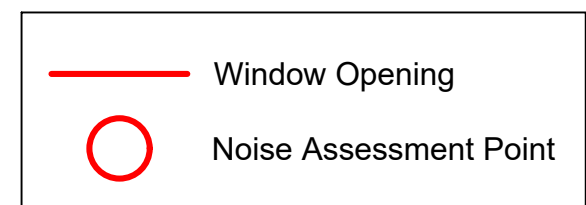
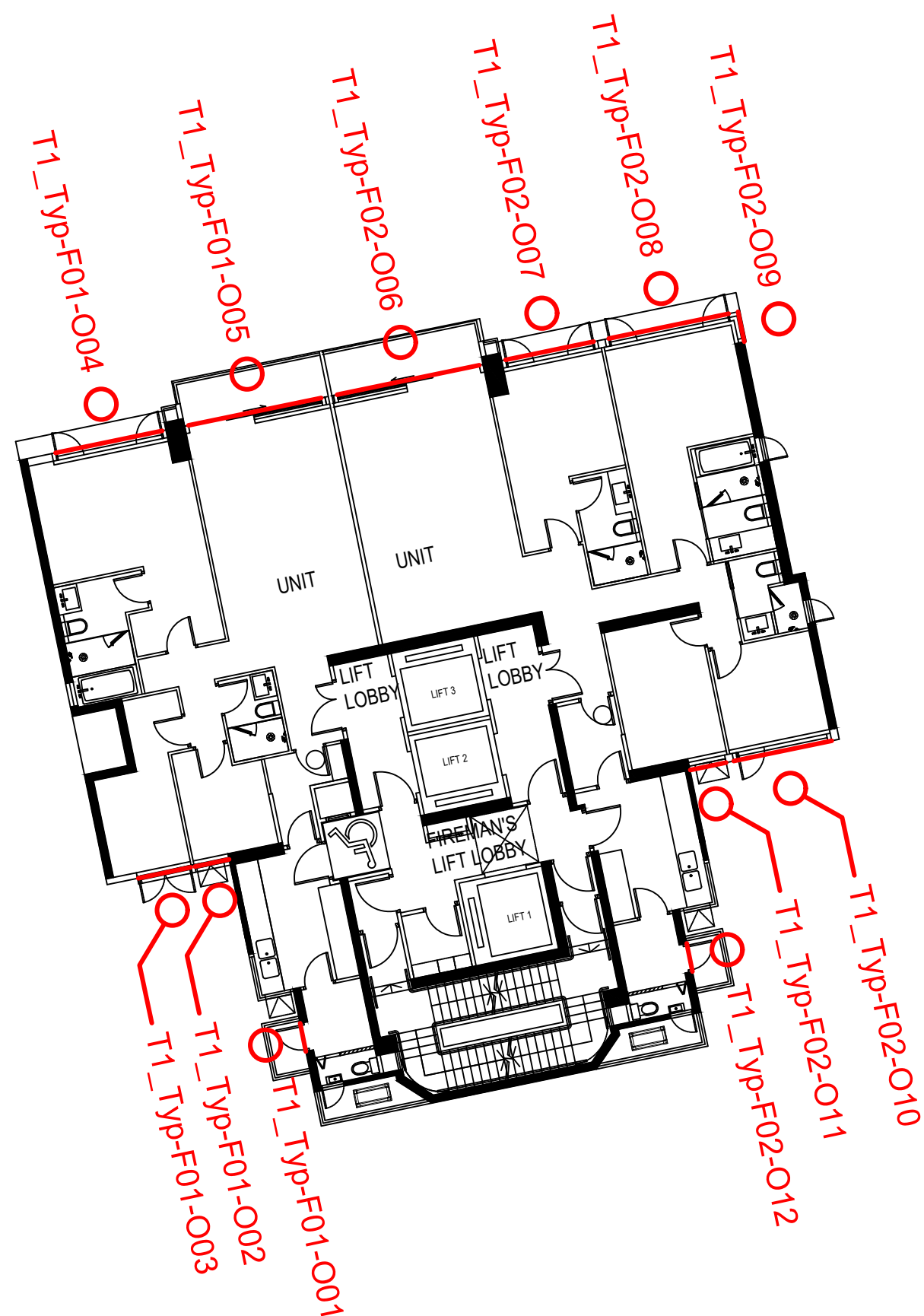
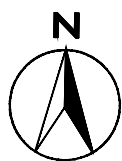
Notional Tower Plan

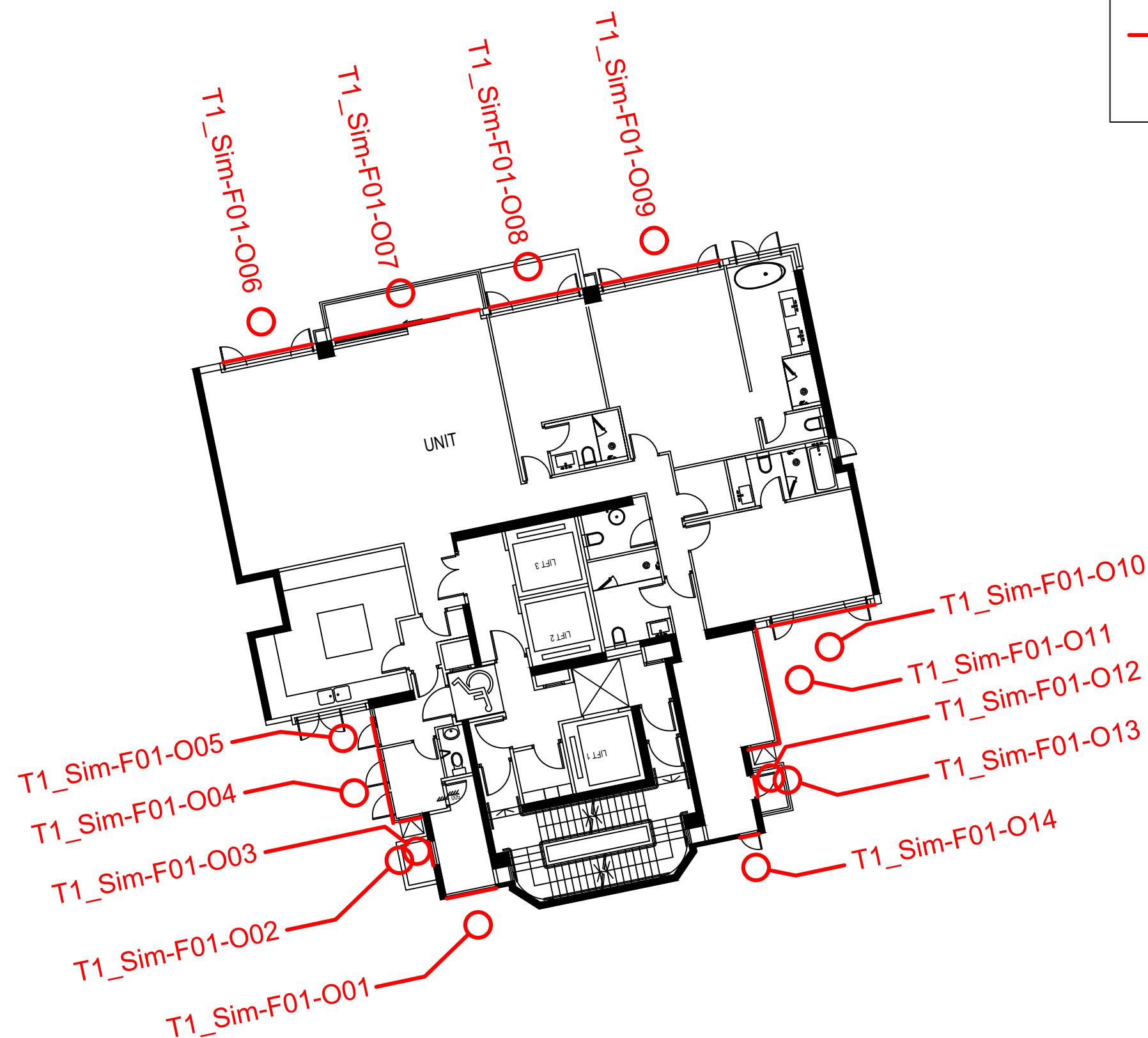
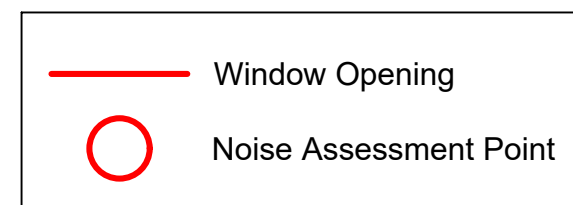
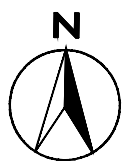
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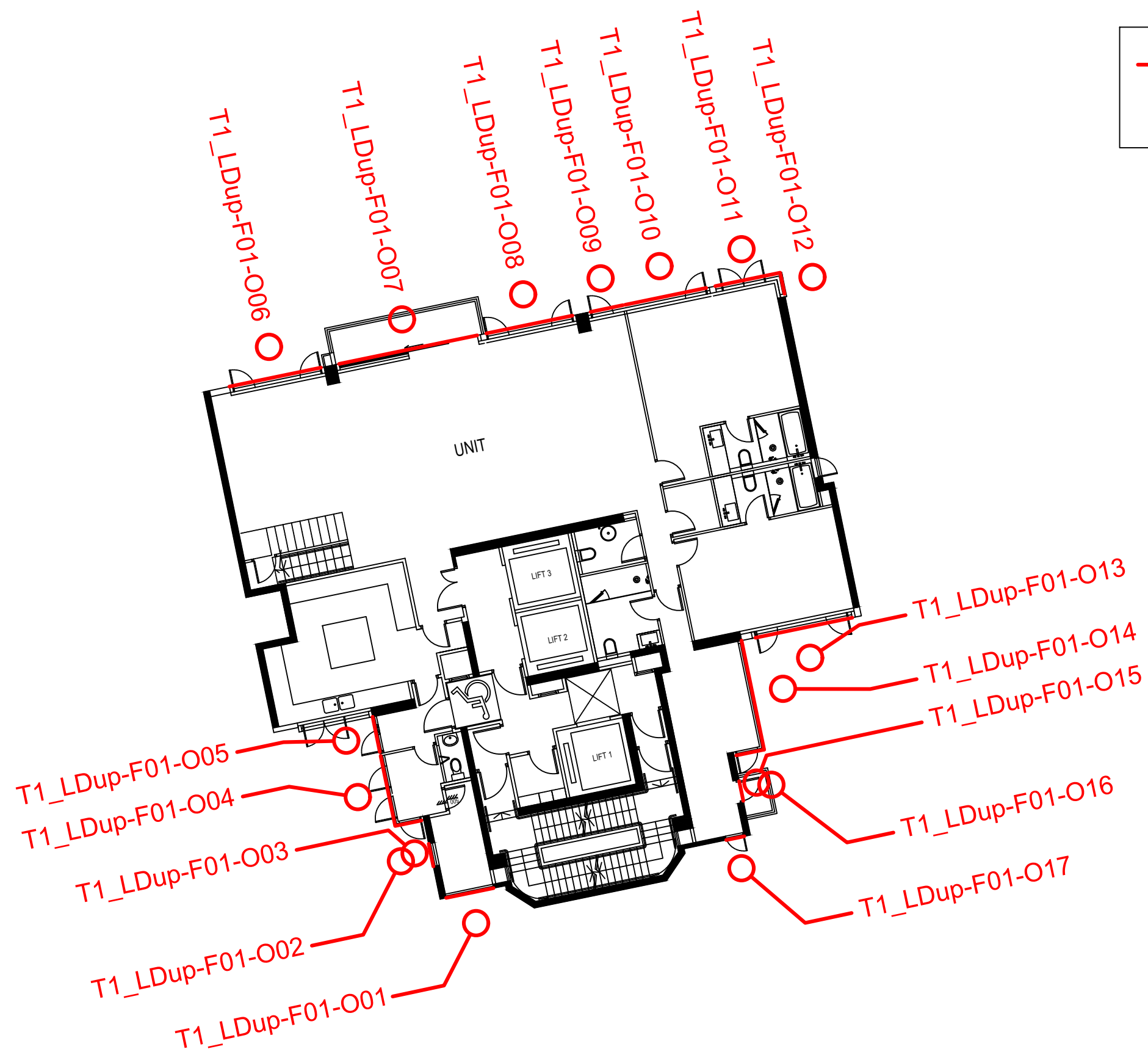
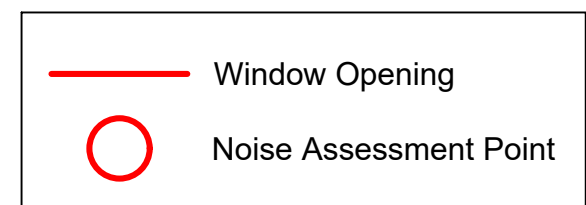
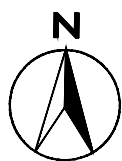


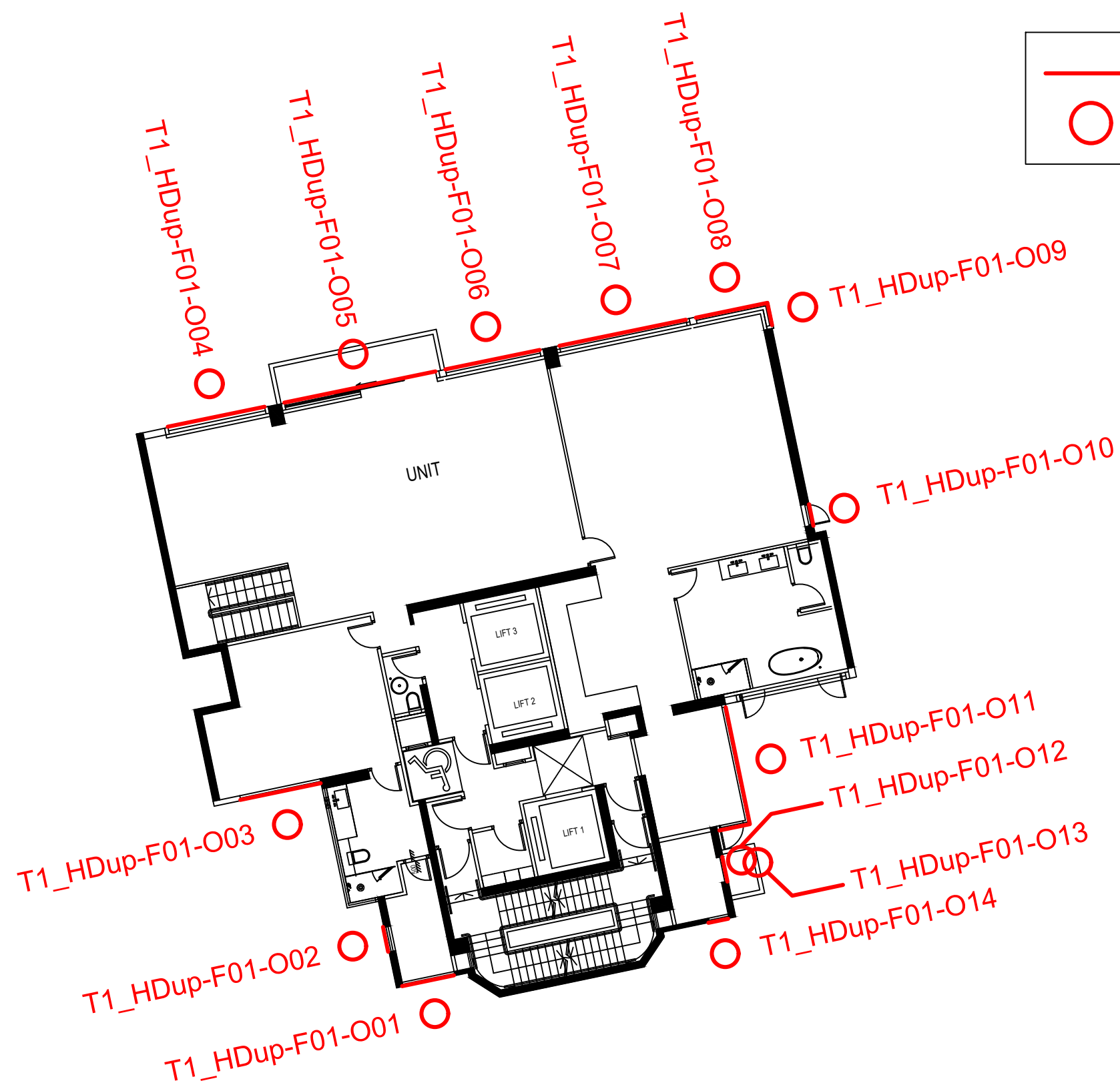
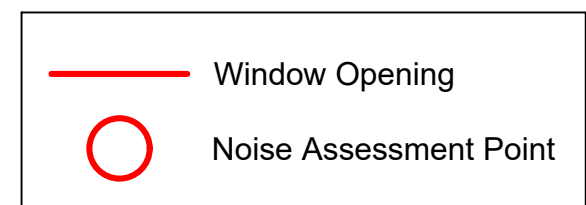
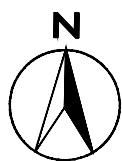


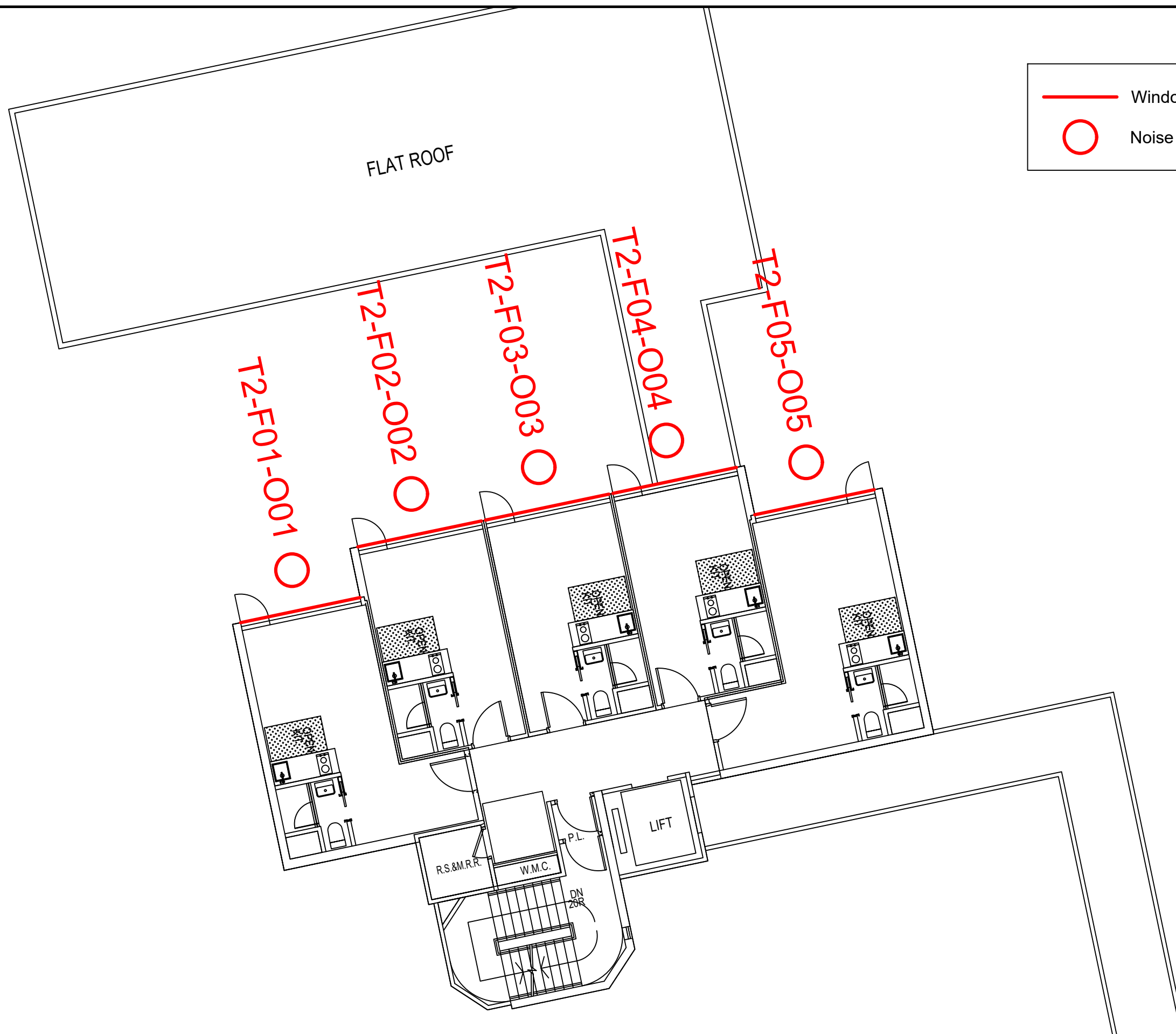
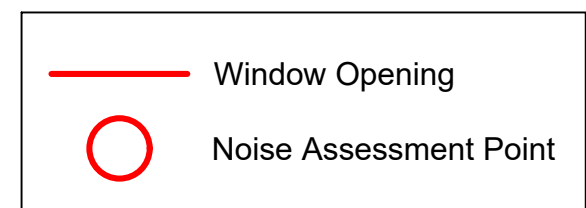
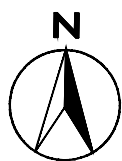








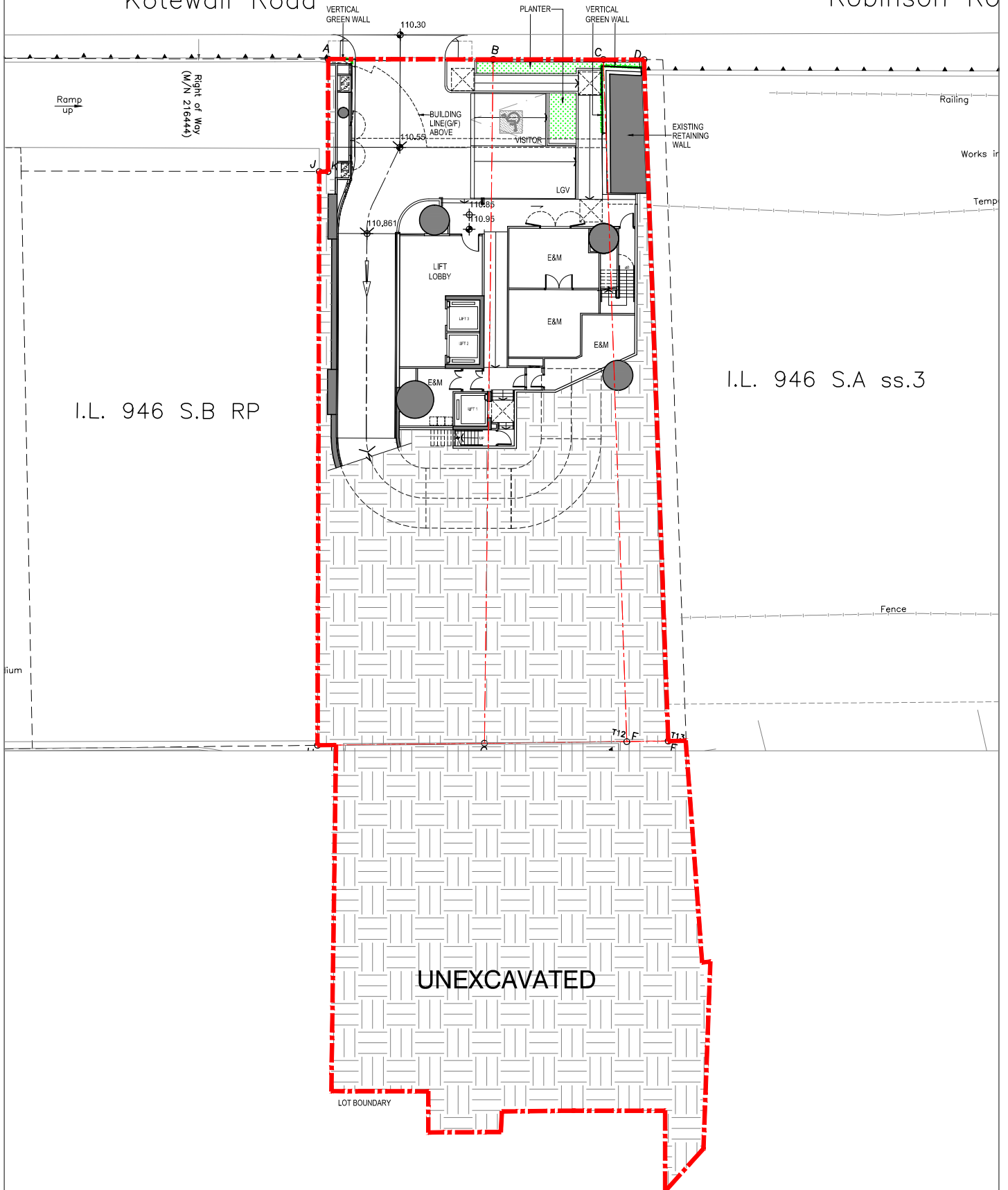




**APPENDIX 2-1
NOTIONAL PLAN OF THE PROPOSED
DEVELOPMENT**

Kotewall Road

Robinson Road



I.L. 946 S.B RP

I.L. 946 S.A ss.3

UNEXCAVATED

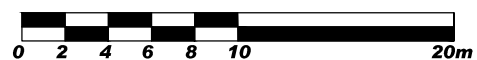
LOT BOUNDARY

SK-4

LG2 FLOOR PLAN

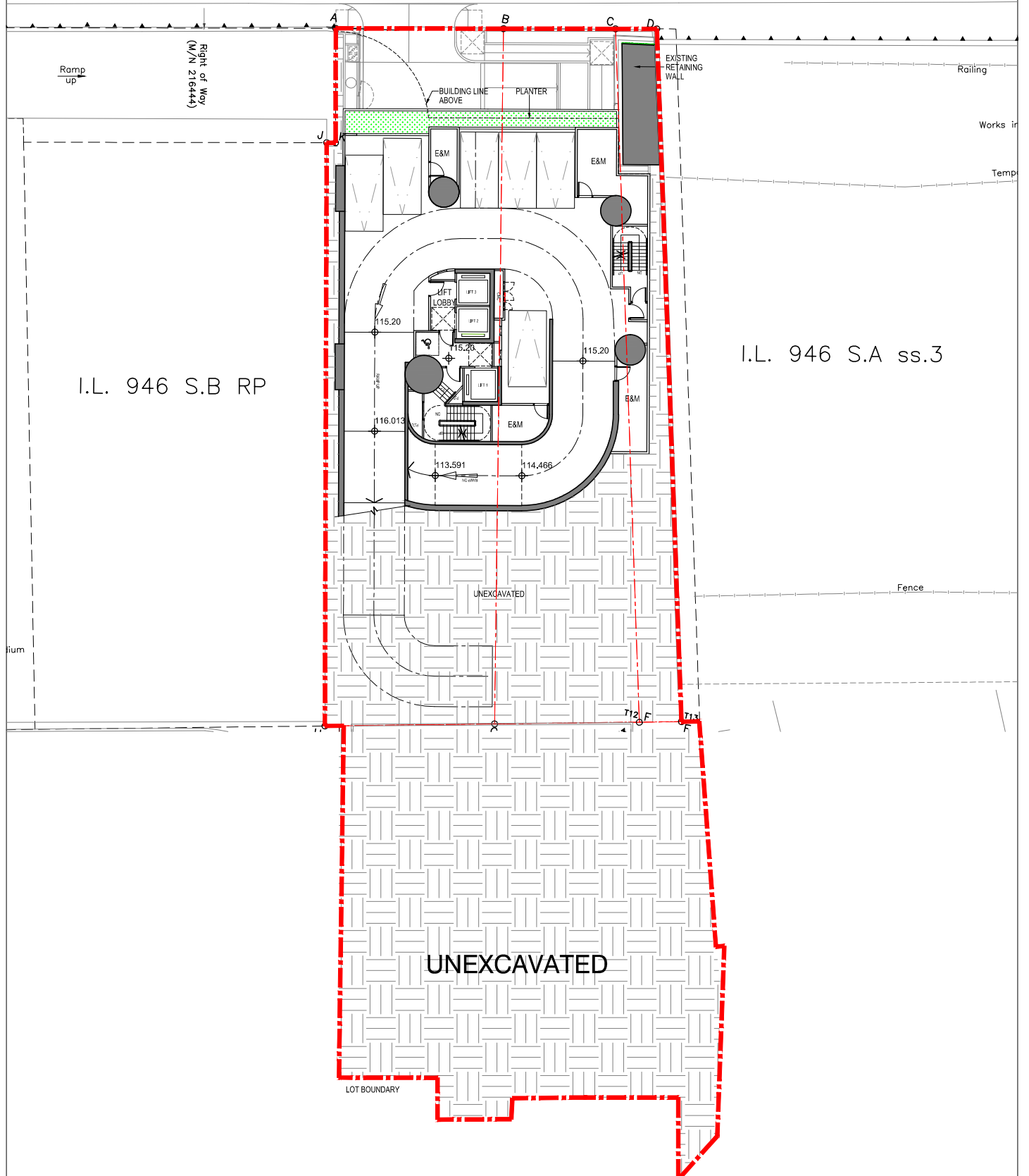
LEGEND

-  APPLICATION SITE
-  UNEXCAVATED AREA



Kotewall Road

Robinson Road



I.L. 946 S.B RP

I.L. 946 S.A ss.3

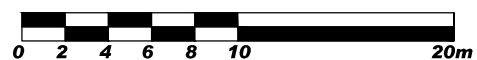
UNEXCAVATED

SK-4

LG1 FLOOR PLAN

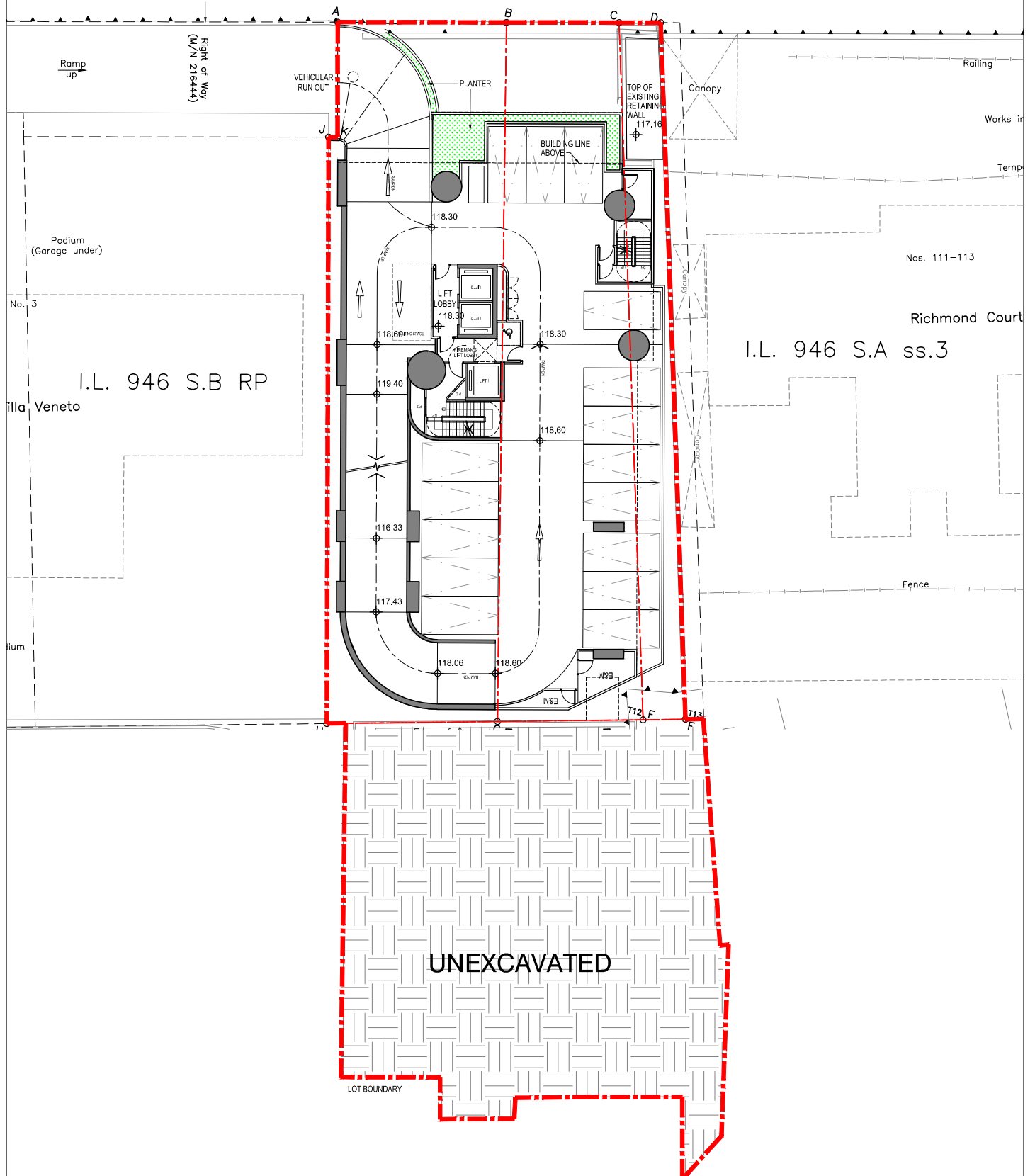
LEGEND

-  APPLICATION SITE
-  UNEXCAVATED AREA



Kotewall Road

Robinson Road



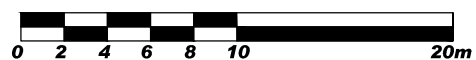
UNEXCAVATED

SK-4

GROUND FLOOR PLAN

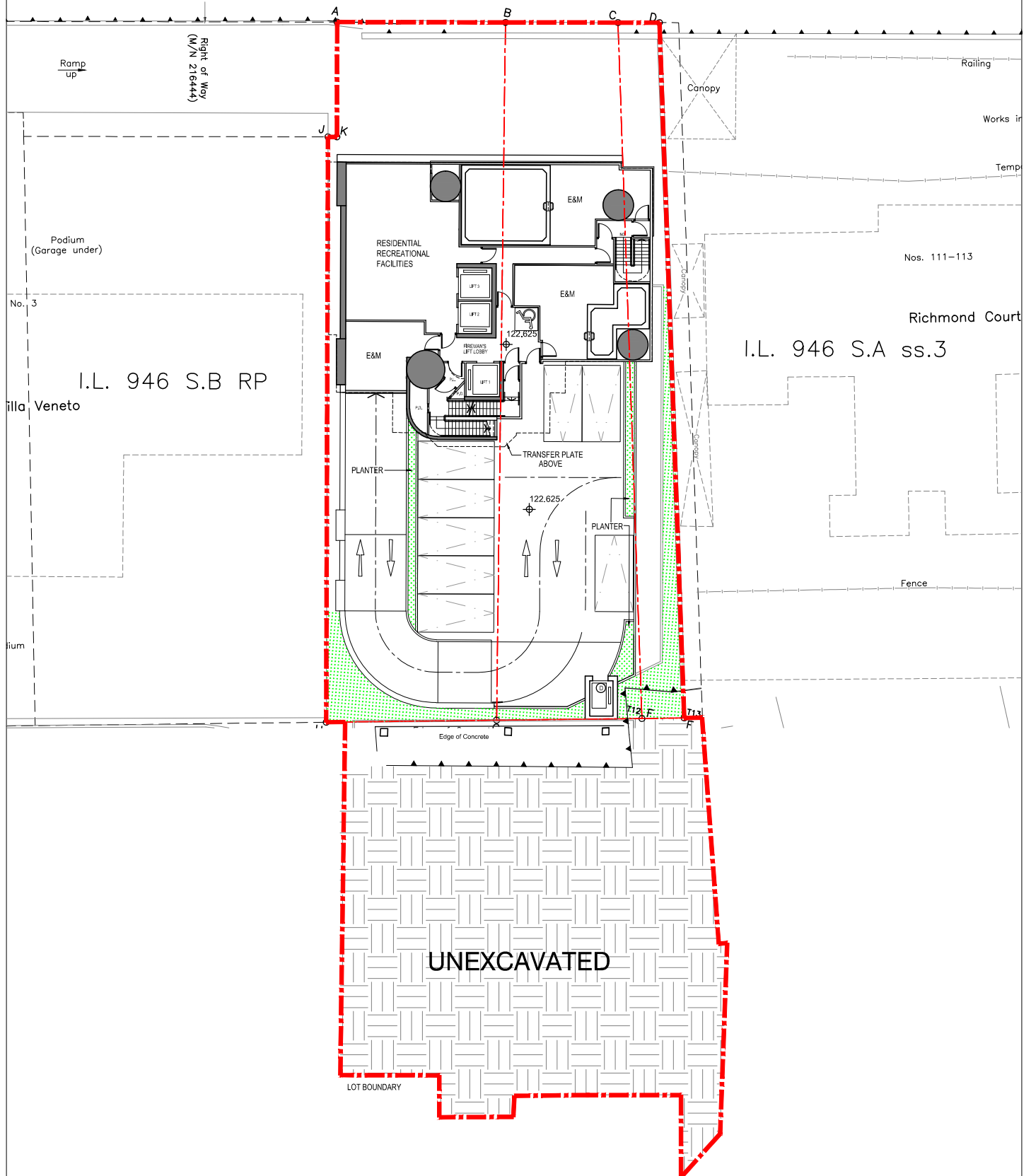
LEGEND

-  APPLICATION SITE
-  UNEXCAVATED AREA



Kotewall Road

Robinson Road

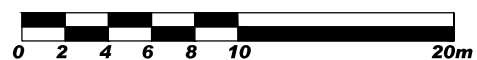


SK-4

1ST FLOOR PLAN

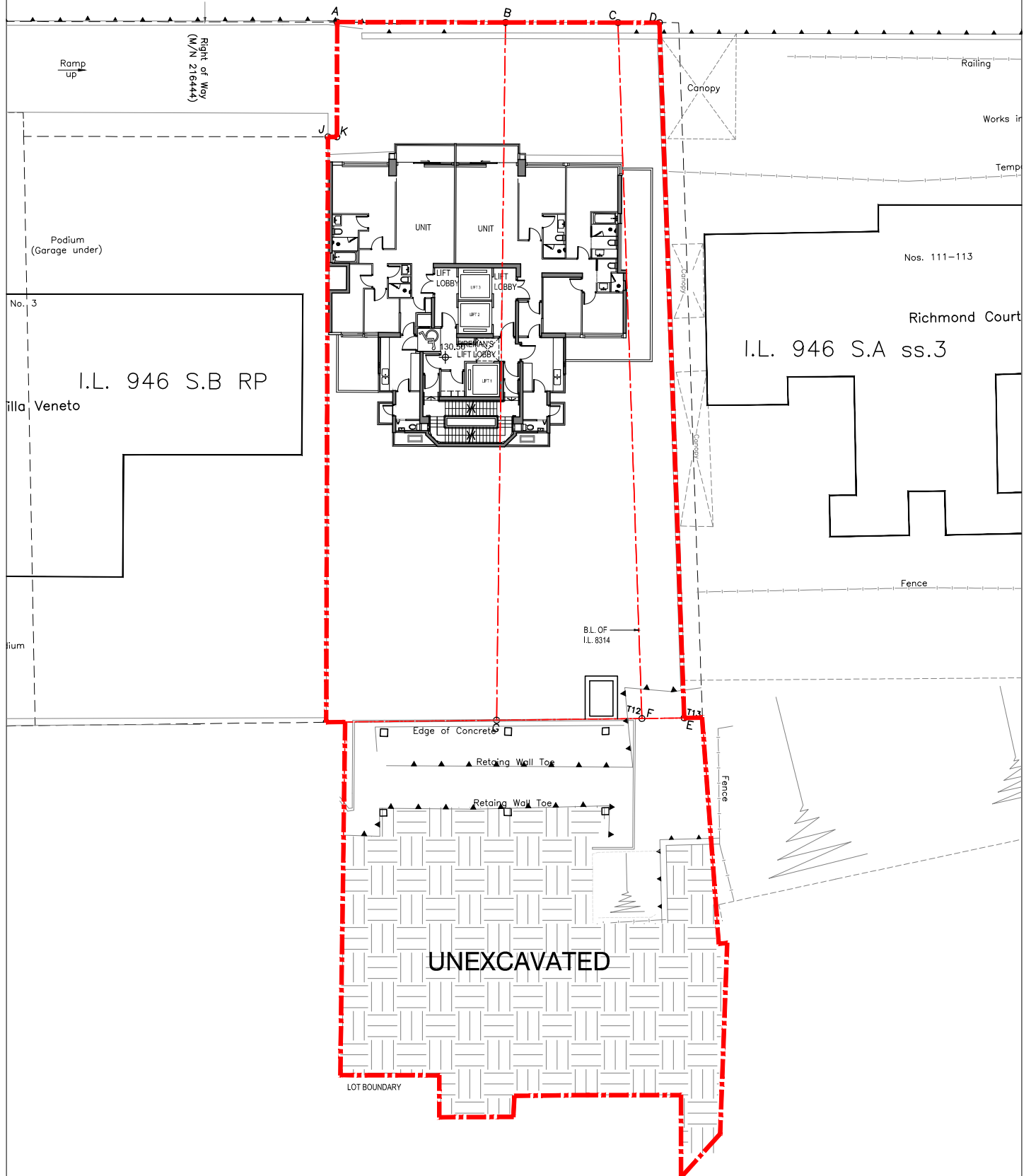
LEGEND

-  APPLICATION SITE
-  UNEXCAVATED AREA



Kotewall Road

Robinson Road

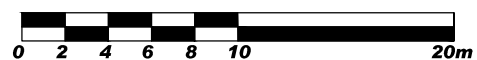


SK-4

2ND FLOOR PLAN

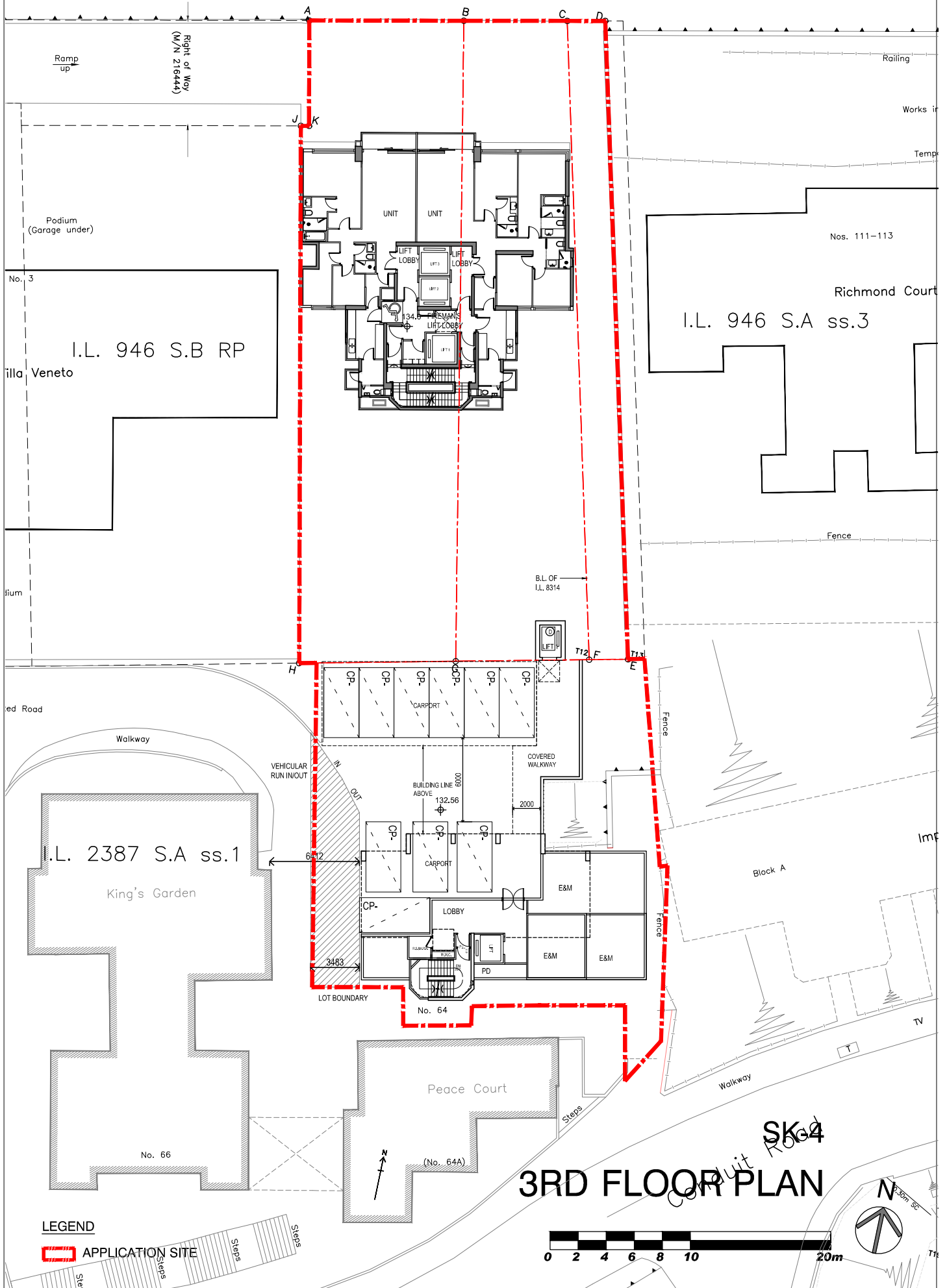
LEGEND

- APPLICATION SITE
- UNEXCAVATED AREA

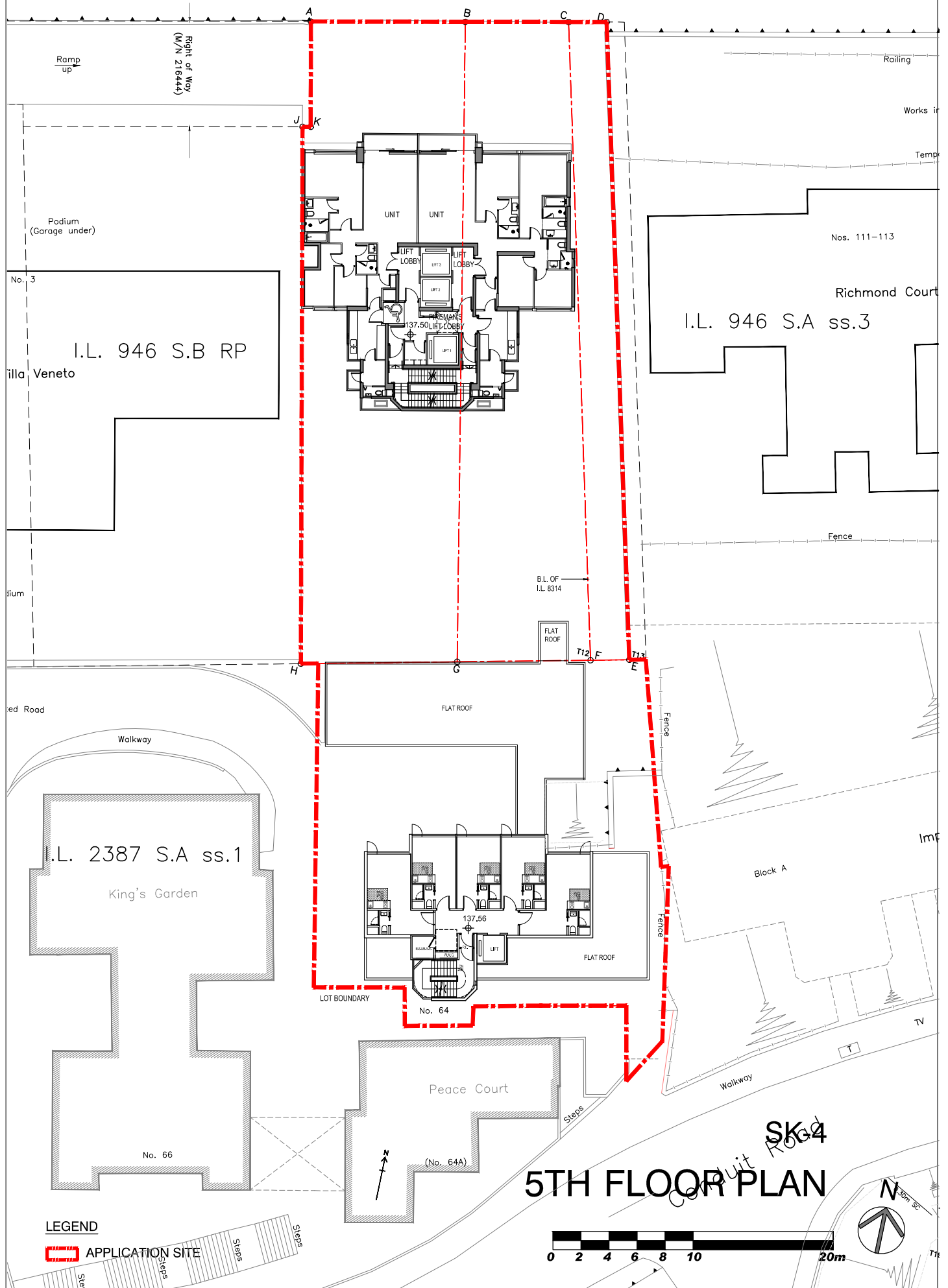


Kotewall Road

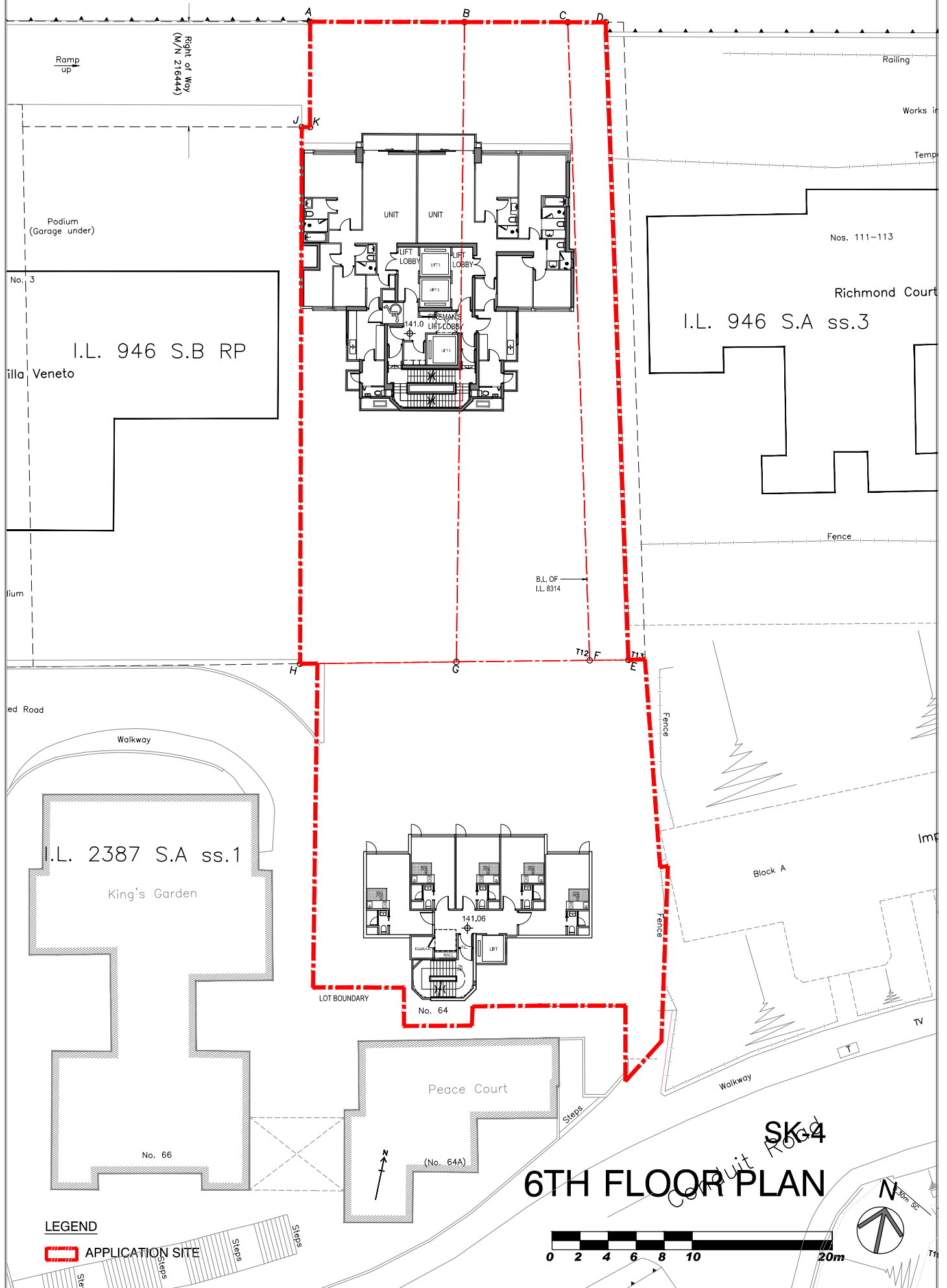
Robinson Road



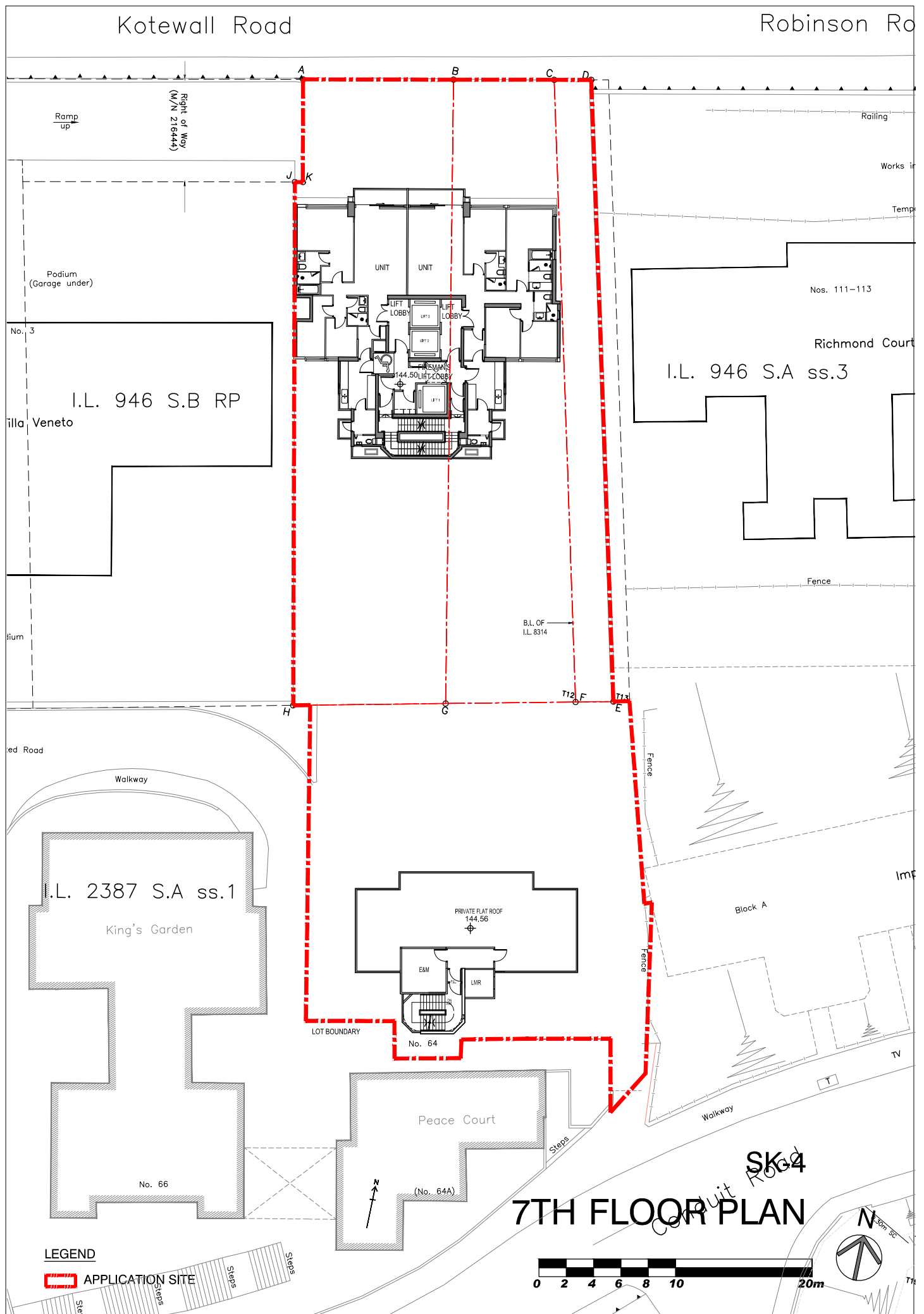
Robinson Ro

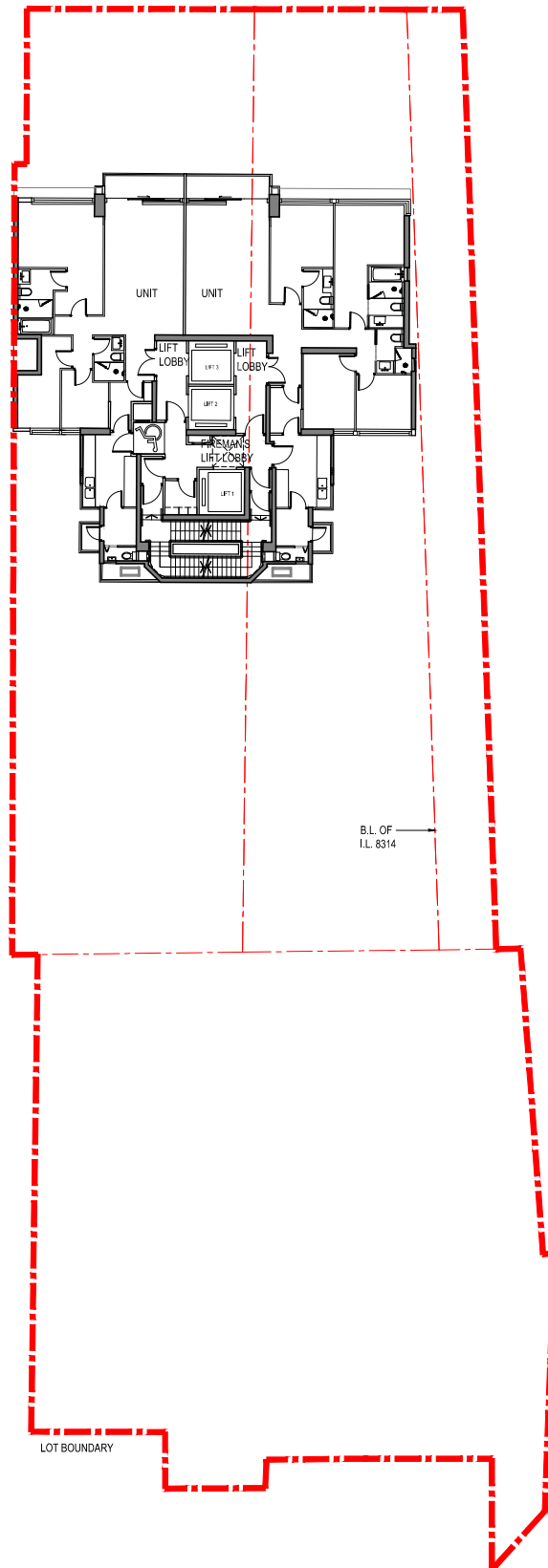


Robinson Ro



Robinson Ro





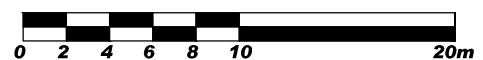
SK-4

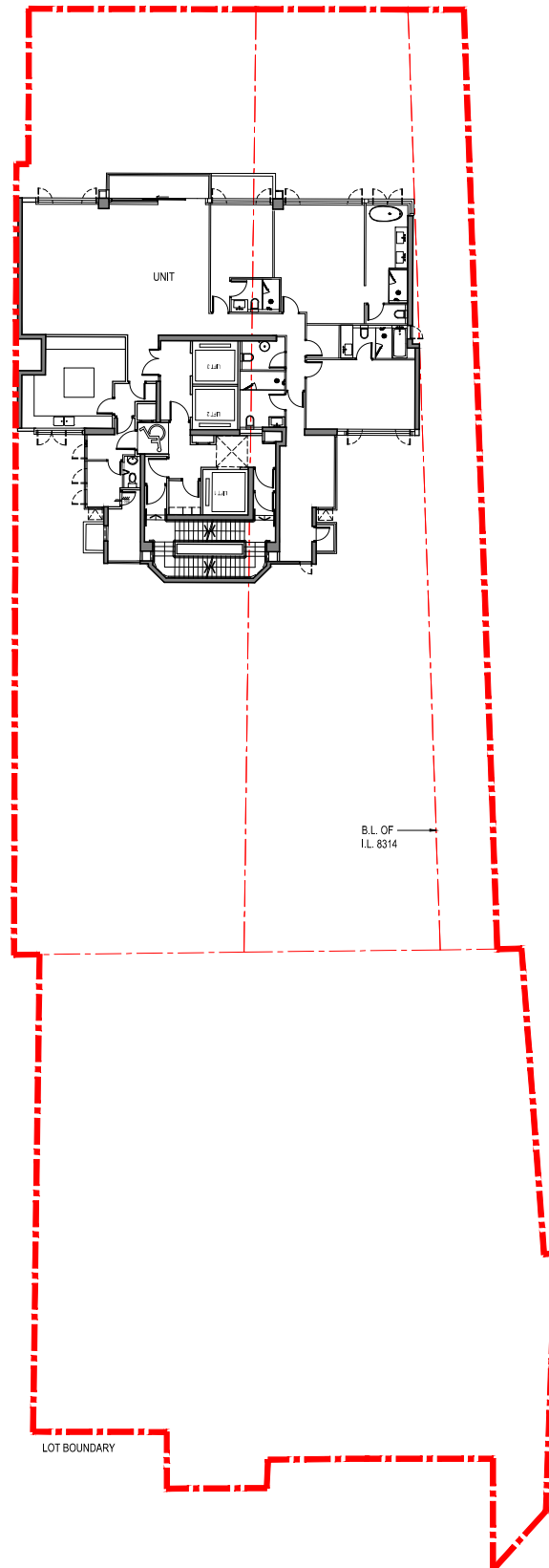
8-12TH FLOOR PLAN



LEGEND

 APPLICATION SITE





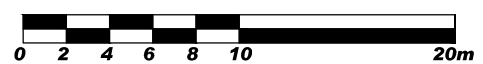
SK-4

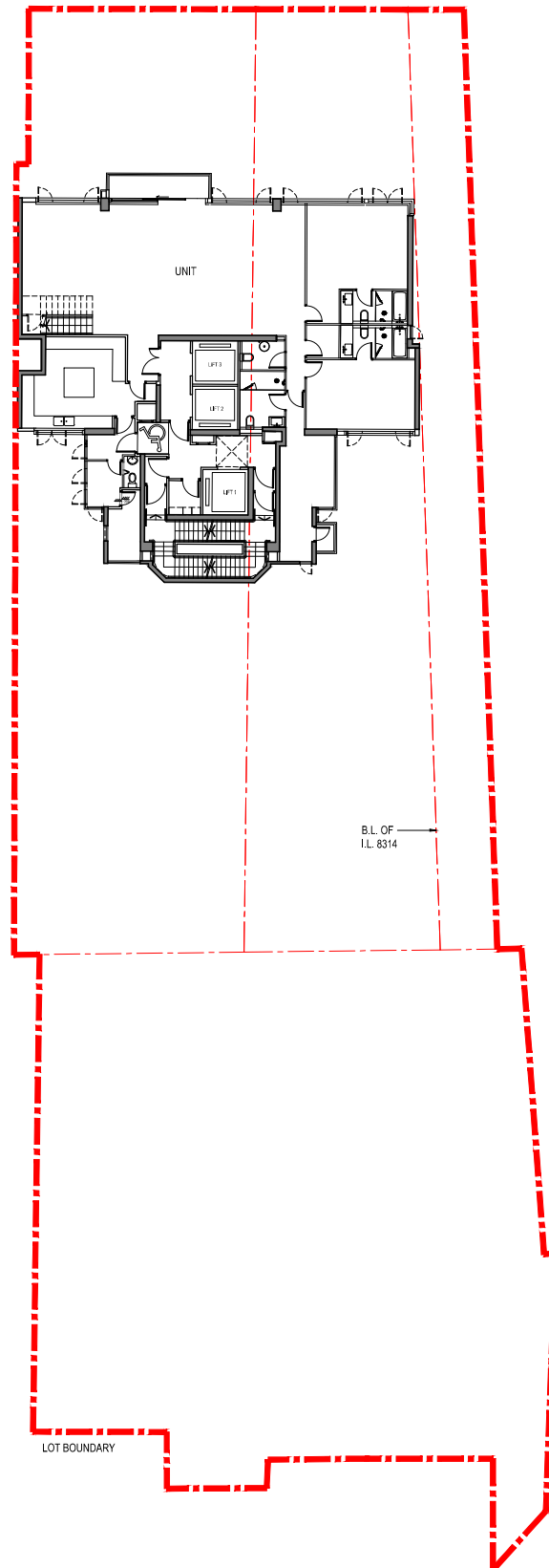
15-30TH FLOOR PLAN



LEGEND

 APPLICATION SITE





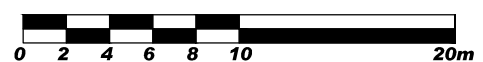
SK-4

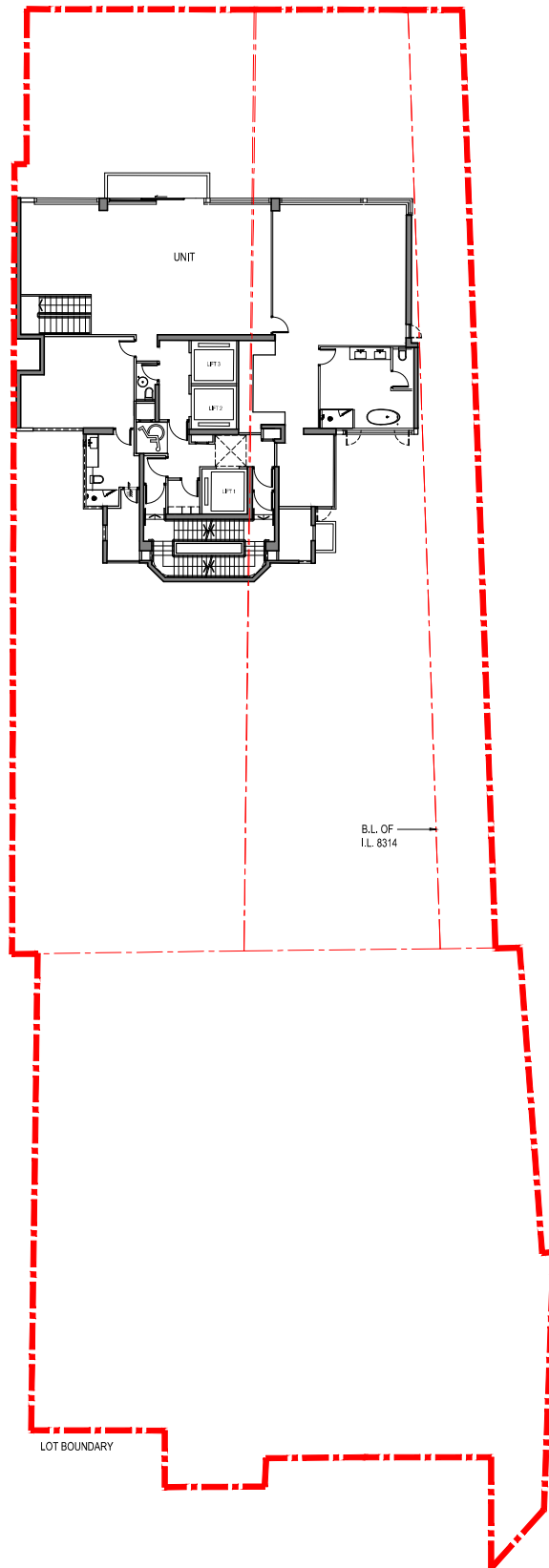
31st FLOOR PLAN



LEGEND

 APPLICATION SITE



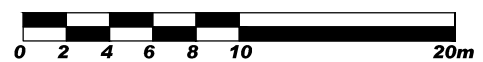


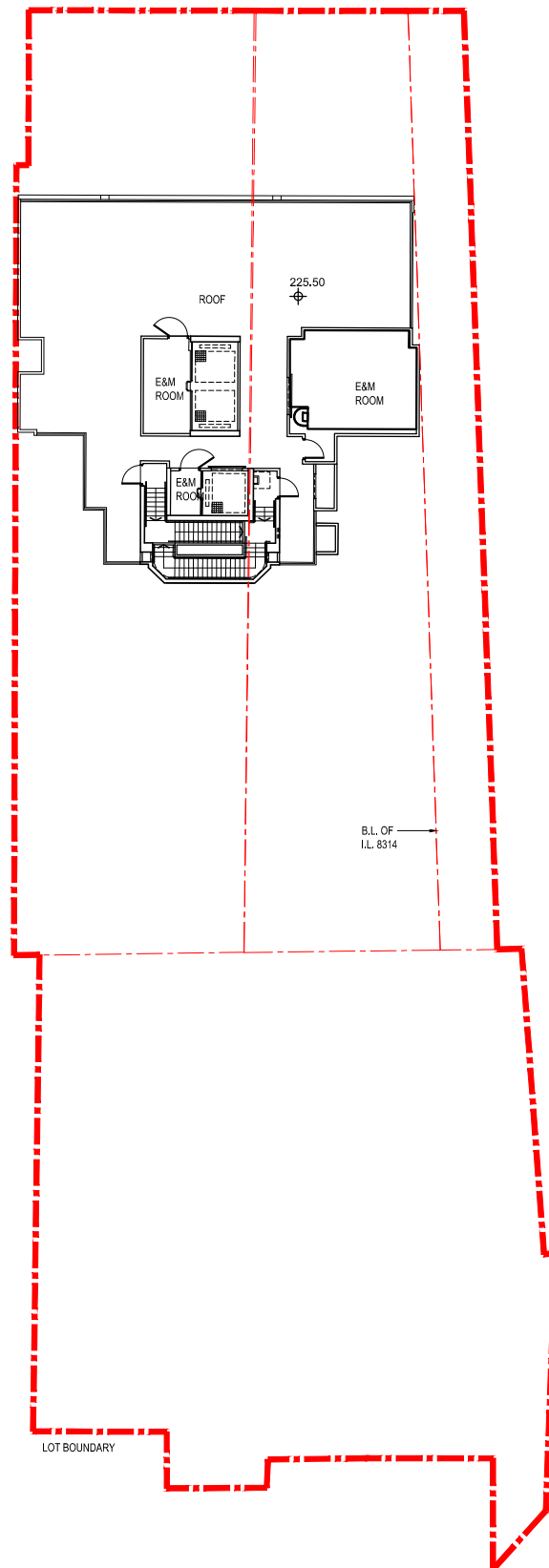
SK-4

32nd FLOOR PLAN

LEGEND

 APPLICATION SITE



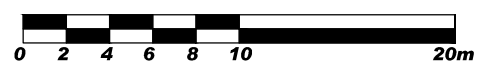


SK-4

ROOF FLOOR PLAN

LEGEND

 APPLICATION SITE



**APPENDIX 6-1
MAXIMUM ALLOWABLE SOUND POWER
LEVELS FOR PLANNED FIXED NOISE
SOURCES**

Maximum Allowable Sound Power Level at Source

Time Period	Maximum Allowable SPL at NSR, dB(A)	Horizontal Distance from the Podium to the Nearest NSR, m	Correction, dB(A)		Allowable Sound Power Level at Source, dB(A) [1]
			Distance	Facade	
Podium of Tower 1					
Day and Evening Time	60	3	18	-3	75
(07:00-23:00)					
Night Time	50	3	18	-3	65
(23:00 – 07:00)					
Podium of Tower 2					
Day and Evening Time	60	3	18	-3	75
(07:00-23:00)					
Night Time	50	3	18	-3	65
(23:00 – 07:00)					

[1] The Maximum Allowable Sound Power Level at Source should be corrected by the tonality, intermittency, & impulsiveness correction of the selected equipment, according to Section 3.3 of the IND-TM.

Cumulative Noise level form the Planned the Building Service Equipment of the Proposed Development

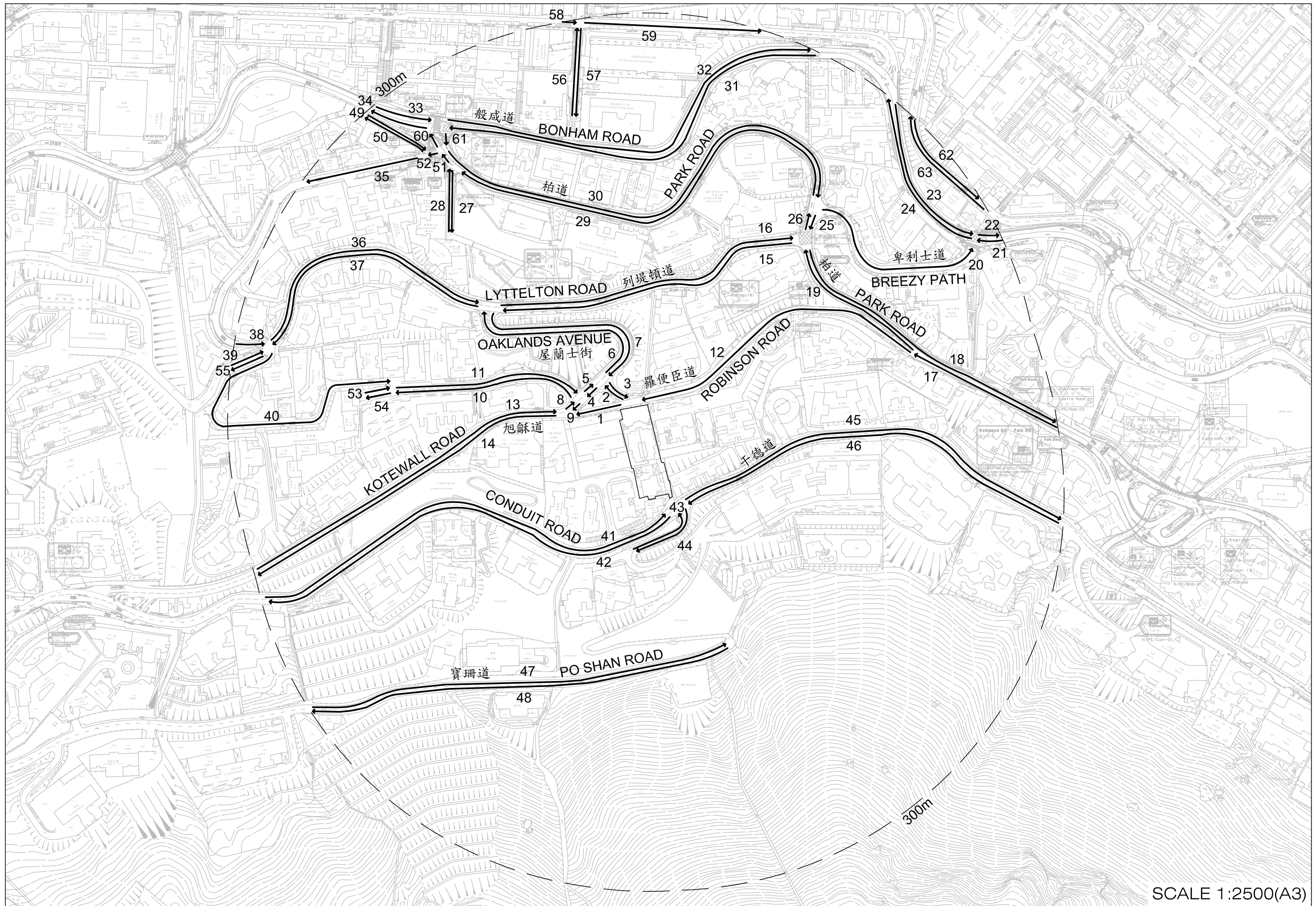
NSR ID	Description	Horizontal Distance (m)		Allowable Sound Power Level at Source, dB(A)				Correction, dB(A) [1]					SPL at NSR, dB(A)							
				Day and Evening Time (07:00-23:00)		Night Time (23:00 – 07:00)		Distance		Barrier [2]		Facade	Day and Evening Time (07:00-23:00)				Night Time (23:00 – 07:00)			
		Podium of T1	Podium of T2	Podium of T1	Podium of T2	Podium of T1	Podium of T2	Podium of T1	Podium of T2	Podium of T1	Podium of T2		Podium of T1	Podium of T2	Total	Criteria	Podium of T1	Podium of T2	Total	Criteria
NSR01	Serene Court	71	107	75	75	65	65	-45	-49	0	-10	3	33	19	33	60	23	9	23	50
NSR02	Fairview Mansion	37	82					-39	-46	0	-10		38	21	38		28	11	28	
NSR03	Richmond Court	3	40					-18	-40	0	0		60	38	60		50	28	50	
NSR04	Imperial Court	36	3					-39	-18	0	0		38	60	60		28	50	50	
NSR05	Peace Court	45	3					-41	-18	0	0		36	60	60		26	50	50	
NSR06	King's Garden	38	7					-40	-25	0	0		38	53	53		28	43	43	
NSR07	Villa Veneto	3	107					-18	-49	0	0		60	29	60		50	19	50	

Note:

[1] The Maximum Allowable Sound Power Level at Source should be corrected by the tonality, intermittency, & impulsiveness correction of the selected equipment, according to Section 3.3 of the IND-TM.

[2] 10 dB(A) of noise reduce has been adopted to the NSR without any view to the noise source.

**APPENDIX 6-2
PREDICTED TRAFFIC FLOW AT PEAK
HOUR IN YEAR 2044**



Predicted Traffic Flow at Peak Hours of Year 2044

Road ID	Road	At grade / Flyover	Speed Limit (km/hr)	AM Peak		PM Peak	
				Traffic	% Heavy	Traffic	% Heavy
1	Kotewall Road	At grade	50	100	26.6%	110	15.5%
2	Robinson Road	At grade	50	100	29.7%	110	26.4%
3	Robinson Road	At grade	50	10	0%	10	0%
4	Robinson Road	At grade	50	120	18.5%	150	6.4%
5	Robinson Road	At grade	50	180	21.2%	230	18.1%
6	Oaklands Avenue	At grade	50	250	23.2%	310	22.4%
7	Oaklands Avenue	At grade	50	110	14.2%	130	7.8%
8	Kotewall Road	At grade	50	110	20.8%	140	15.2%
9	Kotewall Road	At grade	50	160	15.2%	200	10.1%
10	Robinson Road	At grade	50	10	20.0%	30	14.3%
11	Robinson Road	At grade	50	150	20.6%	180	18.6%
12	Robinson Road	At grade	50	180	29.1%	220	21.4%
13	Kotewall Road	At grade	50	90	21.0%	120	17.9%
14	Kotewall Road	At grade	50	240	19.1%	290	12.9%
15	Lyttelton Road	At grade	50	70	27.9%	80	13.0%
16	Lyttelton Road	At grade	50	350	17.9%	400	15.4%
17	Robinson Road	At grade	50	570	14.9%	660	13.3%
18	Robinson Road	At grade	50	320	21.3%	280	16.2%
19	Park Road	At grade	50	390	8.0%	440	9.2%
20	Breezy Path	At grade	50	240	10.4%	290	11.8%
21	Bonham Road	At grade	50	70	75.0%	60	72.9%
22	Bonham Road	At grade	50	510	21.2%	530	16.1%
23	Bonham Road	At grade	50	300	29.2%	270	21.5%
24	Bonham Road	At grade	50	90	58.6%	100	54.3%
25	Park Road	At grade	50	210	24.1%	210	14.4%
26	Park Road	At grade	50	570	10.2%	690	11.1%
27	Oaklands Path	At grade	50	10	0%	10	28.6%
28	Oaklands Path	At grade	50	10	0%	10	28.6%
29	Park Road	At grade	50	360	9.7%	430	11.8%
30	Park Road	At grade	50	230	22.2%	230	15.7%
31	Bonham Road	At grade	50	120	46.6%	130	45.2%
32	Bonham Road	At grade	50	190	31.0%	210	21.0%
33	Bonham Road	At grade	50	610	19.7%	700	12.8%
34	Bonham Road	At grade	50	370	19.5%	490	19.6%
35	Babington Path	At grade	50	310	9.8%	330	7.0%
36	Lyttelton Road	At grade	50	180	10.8%	190	10.1%
37	Lyttelton Road	At grade	50	40	51.6%	50	54.0%
38	Babington Path	At grade	50	250	8.7%	290	7.4%
39	Access road to the University of Hong Kong	At grade	50	20	6.7%	20	0%
40	Babington Path	At grade	50	110	17.5%	160	19.1%
41	Conduit Road	At grade	50	270	17.5%	340	12.6%
42	Conduit Road	At grade	50	130	17.9%	170	14.8%
43	Access road to Haddon Court	At grade	50	90	2.3%	80	6.6%
44	Access road to Haddon Court	At grade	50	60	3.8%	90	5.7%
45	Conduit Road	At grade	50	340	14.4%	370	12.2%
46	Conduit Road	At grade	50	160	15.1%	210	12.8%
47	Po Shan Road	At grade	50	20	62.5%	40	28.9%
48	Po Shan Road	At grade	50	20	50.0%	50	28.3%
49	St. Stephen's Lane	At grade	50	10	0%	10	11.1%
50	St. Stephen's Lane	At grade	50	10	0%	10	0%
51	Park Road	At grade	50	360	9.6%	430	11.8%
52	Babington Path	At grade	50	310	10.4%	330	6.8%
53	Robinson Road	At grade	50	20	15.4%	20	21.1%
54	Robinson Road	At grade	50	20	18.2%	30	13.0%
55	Access road to the University of Hong Kong	At grade	50	20	9.1%	10	0%
56	Eastern Street	At grade	50	10	50.0%	10	0%
57	Eastern Street	At grade	50	10	33.3%	10	0%
58	High Street	At grade	50	210	20.7%	150	16.0%
59	High Street	At grade	50	140	23.9%	100	21.6%
60	Park Road	At grade	50	290	11.2%	390	12.6%
61	Park Road	At grade	50	470	17.2%	530	10.9%
62	Hospital Road	At grade	50	240	10.8%	230	9.5%
63	Hospital Road	At grade	50	120	21.8%	120	26.9%

**APPENDIX 6-3
TRAFFIC NOISE ASSESSMENT RESULTS
(BASE SCENARIO)**

Base Scenario, Tower 1 (by Noise Assessment Points)

Tower 1																	
Floor	Height (mPD)	Duplex Flat (High Floor)															
		T1_HDup-F01-O01	T1_HDup-F01-O02	T1_HDup-F01-O03	T1_HDup-F01-O04	T1_HDup-F01-O05	T1_HDup-F01-O06	T1_HDup-F01-O07	T1_HDup-F01-O08	T1_HDup-F01-O09	T1_HDup-F01-O10	T1_HDup-F01-O11	T1_HDup-F01-O12	T1_HDup-F01-O13	T1_HDup-F01-O14		
		Predicted Noise Level, L10 (1-hr), dB(A)															
32/F	222.7	61.4	60.1	58.0	63.1	62.8	62.7	62.8	63.2	63.5	62.0	61.3	61.7	62.3	63.0		
Floor	Height (mPD)	Duplex Flat (Low Floor)														T1_LDup-F01-O16	T1_LDup-F01-O17
		T1_LDup-F01-O02	T1_LDup-F01-O03	T1_LDup-F01-O04	T1_LDup-F01-O05	T1_LDup-F01-O06	T1_LDup-F01-O07	T1_LDup-F01-O08	T1_LDup-F01-O09	T1_LDup-F01-O10	T1_LDup-F01-O11	T1_LDup-F01-O12	T1_LDup-F01-O13	T1_LDup-F01-O14	T1_LDup-F01-O15		
		Predicted Noise Level, L10 (1-hr), dB(A)															
31/F	219.2	59.9	58.8	58.3	57.2	65.4	65.2	65.3	65.3	65.2	65.4	65.0	60.6	60.9	61.4	62.1	63.0
Floor	Height (mPD)	Simplex Flat															
		T1_Sim-F01-O01	T1_Sim-F01-O02	T1_Sim-F01-O03	T1_Sim-F01-O04	T1_Sim-F01-O05	T1_Sim-F01-O06	T1_Sim-F01-O07	T1_Sim-F01-O08	T1_Sim-F01-O09	T1_Sim-F01-O10	T1_Sim-F01-O11	T1_Sim-F01-O12	T1_Sim-F01-O13	T1_Sim-F01-O14		
		Predicted Noise Level, L10 (1-hr), dB(A)															
30/F	215.7	61.2	59.9	58.6	58.3	57.2	65.5	65.4	65.4	65.4	60.6	60.9	61.3	62.1	63.0		
29/F	212.2	61.1	60.0	58.6	58.3	57.2	65.7	65.5	65.6	65.5	60.5	60.8	61.3	62.1	63.0		
28/F	208.7	61.0	60.0	58.6	58.3	57.2	65.8	65.7	65.7	65.7	60.5	60.8	61.3	62.0	62.9		
27/F	205.2	60.9	60.0	58.5	58.3	57.1	66.0	65.8	65.9	65.8	60.4	60.8	61.3	62.0	62.8		
26/F	201.7	60.8	59.9	58.4	58.2	57.1	66.1	66.0	66.1	66.0	60.3	60.7	61.2	62.0	62.8		
25/F	198.2	60.6	59.9	58.2	58.2	56.9	66.3	66.1	66.2	66.1	60.2	60.7	61.2	61.8	62.6		
23/F	194.7	60.5	59.9	58.1	58.0	56.8	66.5	66.3	66.4	66.3	60.1	60.7	61.2	61.7	62.5		
22/F	191.2	60.3	59.7	57.8	57.9	56.7	66.6	66.5	66.6	66.5	60.0	60.7	61.1	61.6	62.2		
21/F	187.7	60.1	59.6	57.5	57.8	56.5	66.8	66.7	66.7	66.7	60.0	60.7	61.1	61.5	62.0		
20/F	184.2	59.9	59.5	57.1	57.7	56.3	67.0	66.9	66.9	66.8	59.9	60.7	61.1	61.4	61.9		
19/F	180.7	59.7	59.4	56.8	57.6	56.2	67.2	67.1	67.1	67.0	59.9	60.5	61.0	61.3	61.6		
18/F	177.2	59.5	59.5	56.7	57.7	56.1	67.4	67.3	67.3	67.2	60.0	60.6	60.9	61.1	61.5		
17/F	173.7	59.3	59.2	56.2	57.4	55.7	67.6	67.5	67.5	67.4	59.9	60.6	60.6	60.8	61.1		
16/F	170.2	59.2	59.1	55.6	56.9	54.9	67.8	67.7	67.8	67.7	59.7	60.3	60.0	60.2	60.3		
15/F	166.7	59.0	58.9	54.9	56.7	54.5	68.1	67.9	68.0	67.9	59.0	59.5	59.1	59.3	59.8		
Floor	Height (mPD)	Typical Flat															
		T1_Typ-F01-O01	T1_Typ-F01-O02	T1_Typ-F01-O03	T1_Typ-F01-O04	T1_Typ-F01-O05	T1_Typ-F02-O06	T1_Typ-F02-O07	T1_Typ-F02-O08	T1_Typ-F02-O09	T1_Typ-F02-O10	T1_Typ-F02-O11	T1_Typ-F02-O12				
		Predicted Noise Level, L10 (1-hr), dB(A)															
12/F	163.2	58.9	53.6	56.0	68.3	68.2	68.2	68.1	68.0	67.4	58.1	56.0	58.5				
11/F	159.7	59.0	53.5	55.9	68.5	68.4	68.5	68.4	68.3	67.6	57.3	55.6	57.7				
10/F	156.2	58.9	53.4	55.8	68.8	68.7	68.7	68.6	68.5	67.8	56.8	55.5	57.4				
9/F	152.7	58.7	53.4	55.3	69.1	68.9	68.9	68.8	68.7	68.0	56.5	55.2	57.2				
8/F	149.2	58.3	53.2	54.4	69.3	69.2	69.2	69.1	69.0	68.2	55.9	54.6	56.5				
7/F	145.7	57.3	53.0	53.4	69.6	69.4	69.5	69.4	69.2	68.5	55.1	54.1	55.5				
6/F	142.2	56.9	52.7	52.7	69.8	69.7	69.7	69.6	69.5	68.6	54.3	53.6	54.7				
5/F	138.7	56.3	52.5	52.4	70.1	69.9	69.9	69.8	69.7	68.8	53.9	53.3	54.3				
3/F	135.2	55.5	52.4	52.1	70.3	70.2	70.1	70.0	69.8	68.8	53.6	53.1	54.1				
2/F	131.7	54.7	52.3	52.0	70.4	70.4	70.2	70.1	69.9	68.6	53.4	53.0	53.9				

Base Scenario, Tower 1 (by Flats)

Tower 1			
Floor	Height (mPD)	Duplex Flat	
		Predicted Noise Level, L10 (1-hr), dB(A)	
32/F	222.7	65.4	
31/F	219.2		
Floor	Height (mPD)	Simplex Flat	
		Predicted Noise Level, L10 (1-hr), dB(A)	
30/F	215.7	65.5	
29/F	212.2	65.7	
28/F	208.7	65.8	
27/F	205.2	66.0	
26/F	201.7	66.1	
25/F	198.2	66.3	
23/F	194.7	66.5	
22/F	191.2	66.6	
21/F	187.7	66.8	
20/F	184.2	67.0	
19/F	180.7	67.2	
18/F	177.2	67.4	
17/F	173.7	67.6	
16/F	170.2	67.8	
15/F	166.7	68.1	
Floor	Height (mPD)	Typical Flat	
		F01	F02
		Predicted Noise Level, L10 (1-hr), dB(A)	
12/F	163.2	68.3	68.2
11/F	159.7	68.5	68.5
10/F	156.2	68.8	68.7
9/F	152.7	69.1	68.9
8/F	149.2	69.3	69.2
7/F	145.7	69.6	69.5
6/F	142.2	69.8	69.7
5/F	138.7	70.1	69.9
3/F	135.2	70.3	70.1
2/F	131.7	70.4	70.2

Base Scenario, Tower 2 (by Noise Assessment Points and Flats)

Tower 2						
Floor	Height (mPD)	T2-F01-O01	T2-F02-O02	T2-F03-O03	T2-F04-O04	T2-F05-O05
		Predicted Noise Level, L10 (1-hr), dB(A)				
2/F	142.2	48.8	51.6	52.9	52.9	52.8
1/F	138.7	45.6	49.4	50.9	51.3	50.8