Appendix 6

Noise Impact Assessment

Prepared for

Free Ocean Investments Limited

Prepared by

Ramboll Hong Kong Limited

S16 PLANNING APPLICATION PROPOSED MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS FOR THE PROPOSED RESIDENTIAL DEVELOPMENT (FLAT) WITH SHOP AND SERVICES USE AT LOTS. 531 RP, 532 S.D. RP AND 532 RP IN DD 130 AND THE ADJOINING GOVERNMENT LAND, LAM TEI, TUEN MUN

NOISE IMPACT ASSESSMENT REPORT

Date	**June 2026**
Prepared by	**Simon Lai** **Senior Environmental Consultant**
Signed	
Approved by	**Billy Fan** **Principal Consultant**
Signed	
Project Reference	**ASLLT130EI00**
Document No.	**R9921_v1.4**

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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CHAPTERS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Project Background

1.1.1 This Planning Application is prepared and submitted on behalf of Free Ocean Investments Limited ("the Applicant") to seek approval from the Town Planning Board ("TPB") under Section 16 of the Town Planning Ordinance for the Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei ("Application Site"/the "Site"). The Application Site falls within "Commercial" ("C") zone and area shown as Road on the Draft Lam Tei and Yick Yuen Outline Zoning Plan ("Approved OZP") No. S/TM-LTYY/14.

1.1.2 TPB approved a similar application for minor relaxation of Plot Ratio and Building Height Restrictions for a proposed residential development with shop and services at the Site (TPB Ref.: A/TM-LTYY/426) on 24 June 2022. In order to support the planning application, a Noise Impact Assessment Report (the Approved NIA Report) has been submitted and approved by Environmental Protection Department. Subsequent to the approval of the aforementioned planning application, the Applicant has lodged the land exchange application to the Lands Department to kick-start the approved development. For better management of the residual unmanned land near the Site, and as negotiated with the Lands Department, the Application Site has been modified to include the unmanned land and road works in relation to the proposed run in/out for the Proposed Residential Development. Whilst the resultant development scheme involves material changes to the approved scheme, a fresh Section 16 Planning Application is therefore required.

1.1.3 Ramboll Hong Kong Limited is commissioned to conduct a Noise Impact Assessment (NIA) for the support of the planning application.

1.2 Objectives

1.2.1 This NIA covers the following aspects:

i. Assess the potential rail noise impacts generated from Tuen Ma Line (TML) (previously known as West Rail Line (WRL)) and Light Rail Transit (LRT) on the representative Noise Sensitive Receivers (NSRs) for the latest Master Layout Plan (MLP) of the proposed development;

ii. Assess the fixed noise sources/ industrial noise impacts associated with the surrounding temporary industrial uses on the representative NSRs for the latest MLP of the proposed development;

iii. Assess the potential road traffic noise impact from roads within 300 m from the Development Boundary of the Application Site on the NSRs for the latest MLP of the proposed development;

iv. To propose noise mitigation measures for mitigating the rail noise impact in order to comply with the standards of the Hong Kong Planning Standards and Guidelines (HKPSG) and *"Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Spaces or Construction Sites"* (IND-TM)

v. To review and update the noise mitigation measures proposed in Approved NIA report of the S16 Planning Application (Application No.: A/TM-LTYY/426) for mitigating the traffic noise impact in order to comply with the standards of the HKPSG.

1.3 Report Structure

1.3.1 The remaining chapters of this report are shown below:

Section 2 – Site and Proposed Development

Section 3 – Road Traffic Noise Impact Assessment

Section 4 – Rail Noise Impact Assessment

Section 5 – Fixed Noise Sources Impact Assessment

Section 6 – Conclusion

2. SITE AND PROPOSED DEVELOPMENT

2.1 Site Location and Its Environs

2.1.1 The Development Site is currently vacant and situated at San Hing Tsuen, Lam Tei bounded by Castle Peak Road – Lam Tei Section to the southeast, TML viaduct and LRT tracks to the northwest. To the north is the existing residential development, Lingrade Garden separated by an open space. Some temporary carparks and the village houses are located to the west of the Development Site separated by a nullah. The Development Site area is about 2,195.5m^2. The Development Site Location and its environs are shown in **Figure 2.1**.

2.2 Proposed Development Scheme

2.2.1 The proposed development consists of one 17-storey residential tower with car parking, landscape gardens and shop. Compared with the previous version of the master layout plan, only the top three storeys of residential units have been removed. Therefore, the predicted results of previous version of the master layout plan would be considered applicable and update of noise models is considered not necessary. The development schedule of the proposed development is listed in **Table 2.1**.

Table 2.1 Development Schedule of the Proposed Development

Floor	Uses
G/F	Car parking, E/M Plant Rooms, Lobby, Landscaping Area and Shop
1/F	Car parking and E/M Plant Room
2/F	Recreational Facilities
3/F	Residential Units and Covered Landscape Area
4/F – 16/F	Residential Units
R/F	Roof Garden

2.2.2 The updated master layout plan, typical floor plan and sectional view are presented in **Appendix 2.1**.

2.2.3 As mentioned above, the Development Site is located between Castle Peak Road – Lam Tei Section and TML viaduct. Setbacks of the proposed development from Castle Peak Road – Lam Tei Section and TML should be maintained as far as practicable. With the design of non-noise sensitive uses (such as car parking, E/M Plant Rooms, landscaping area, recreational facilities, etc.) on G/F to 2/F, longer distances between the noise sensitive receivers of the residential units and Castle Peak Road – Lam Tei Section, TML and viaduct and LRT tracks can be provided in order to reduce the noise impacts from the road, TML and LRT.

3. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

3.1 Introduction

3.1.1 The proposed development is noise sensitive and subject to traffic noise impact from the surrounding roads during the operational stage. This section aims to assess the noise impacts and propose mitigation measures, where necessary, to reduce the road traffic noise impact to comply with relevant standard.

3.2 Assessment Criteria and Guidelines

3.2.1 Noise standards are recommended in Chapter 9, "Environment", of the Hong Kong Planning Standards and Guidelines (HKPSG) for planning against possible noise impact from road traffic.

3.2.2 For the Proposed Development, only dwellings will rely on openable window for ventilation purpose. The clubhouse and the shop will be provided with air-conditioning system and will not be provided with any openable windows / openings for ventilation.

3.2.3 According to the guidelines, the criterion for road traffic noise impact on domestic premises (habitable rooms) is $L_{10(1\text{-hour})}$ 70dB(A). This criterion applies to uses which rely on openable windows for ventilation.

3.3 Assessment Methodology

3.3.1 In this assessment, the potential noise impact arising from nearby existing and future road carriageways on the proposed development has been assessed. It involved the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from traffic flows along existing and future road carriageways situated in the vicinity of the Development Site. Calculation of predicted road traffic noise was based on the worst case peak hour traffic flows projected within a 15-year period from the target completion date (i.e. Year 2046) of the proposed development. For worst-case scenario evaluation, the assessment year was chosen to be year 2046, which has the maximum forecasted traffic flow within the 15-year period. The year 2046 traffic forecast data is prepared by project traffic consultant and attached in **Appendix 3.1**. The project traffic consultant has sought the confirmation from Transport Department and the endorsement is provided in **Appendix 3.1**.

3.3.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" (CRTN) has been applied to predict the hourly $L_{10(1\text{-hour})}$ noise levels generated from road traffic at selected representative NSRs. Practicable environmental mitigation measures have been recommended, where necessary. The predicted noise levels were compared with the relevant HKPSG noise criterion (i.e. $L_{10(1\text{-hour})}$ 70dB(A)).

3.4 Noise Sensitive Receivers

3.4.1 All residential dwellings with openable windows/doors of habitable room (noise sensitive use) intended for prescribed ventilation purposes have been assigned assessment points. All assessment points were taken at 1.2m above the floor and 1m away from the facade of openable windows in rooms of sensitive use (living rooms and bedrooms). **Figure 3.1** shows the locations of the NSRs for road traffic noise impact assessment.

3.5 Predicted Road Traffic Noise Impact Assessment Results (Base Case Scenario)

3.5.1 As mentioned in **Section 2.2.3**, setback of the proposed development from Castle Peak Road – Lam Tei Section has been maintained as far as practicable. The noise

sensitive receivers of the residential units have been located further way from Castle Peak Road – Lam Tei Section as far as practicable with the provision of the design of non-noise sensitive uses (such as car parking, E/M Plant Rooms, landscaping area, recreational facilities, etc.) on G/F to 2/F in order to reduce the road traffic noise impact from the road. The base case scenario is defined as the scheme to reflect the aforementioned design but without further direct noise mitigation measures.

3.5.2 According to the predicted noise level for the base case scenario, road traffic noise exceedances are found at the location close to Castle Peak Road – Lam Tei Section. Noise mitigation measures are therefore recommended for the proposed development based on this scenario to attenuate the road traffic noise impact.

3.5.3 There are 196 out of 276 residential flat units with noise exceedance at the Development Site, equivalent to a compliance level of 29%. The maximum predicted road traffic noise level for residential flat is $L_{10(1\text{-hour})}$ 81 dB(A). AM peak scenario is represented as the worst case scenario. Detailed result is presented in **Appendix 3.2**. Noise mitigation measures are therefore recommended for the proposed development based on this scenario to attenuate the road traffic noise impact.

3.6 Proposed Road Traffic Noise Mitigation Measures

3.6.1 The following noise mitigation measures have been considered and adopted where appropriate. The noise mitigation measures incorporated into the building layout design (including podium) were assessed.

1.5m High Solid Wall

3.6.2 The application of 1.5m high solid walls are proposed on 3/F to reduce road traffic noise impact from Castle Peak Road – Lam Tei Section to the NSRs at lower levels. The solid walls have been included in the road traffic noise model.

Enhanced Acoustic Balcony (Baffle Type) [EAB(BT)]

3.6.3 "Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact" (ProPECC PN 5/23) issued by EPD is referred in this planning application. For EAB(BT) with solid parapet at the front (and 70% permeability fence on the side), sound absorptive material (SAM) applied at balcony ceiling, and inner sliding door with gap width of 100mm and overlapping length of at least 100mm, a noise reduction of 8 dB(A) and 9 dB(A) are achievable with reference to room area of 14 m^2 and 18 m^2 respectively. Further, addition of SAM of Noise Reduction Coefficient (NRC) ≥ 0.7 at top and outer opening side of the mullion can offer an additional 1.5 dB(A) reduction. Altogether, 9.5 dB(A) (for room area of 14 m^2) is assumed as the maximum noise reduction and adopted in this study for habitable room of residential tower using EAB(BT).

Acoustic Window (Baffle Type) [AW(BT)]

3.6.4 According to ProPECC PN 5/23, there are configurations of AW(BT) with opening of around 0.5 m^2 (600mm x 870mm) and 1.1 m^2 (750mm x 1500mm), inner sliding door with gap width of 100mm to 175mm and overlapping length of at least 100mm with the referenced room area of 8m^2 and 18m^2. Noise reduction of 6 dB(A) and 7dB(A) are achievable. Further, addition of SAM of NRC ≥ 0.7 at top and outer opening side of the mullion can offer an additional 1.5 dB(A). Moreover, additional 1 dB(A) reduction can offer for tilting the AW(BT) with not less than 30° horizontal incident angle to the dominant line source. Additional 1 dB(A) and 2 dB(A) reduction can offer for adding 1.5m long full-height noise effective fin while tiling not less than 30 degree and not less than 60 degree respectively. Altogether, 11.5 dB(A) is assumed as the maximum

noise reduction and adopted in this study for habitable room of residential towers using AW(BT).

3.6.5 The design of these innovative measures is shown in **Appendix 3.3**. The configuration of noise reduction of these innovative measures and noise reduction after adjustment for improvement measures, room size, etc. are shown in **Appendix 3.4**.

Acoustic Fin and Sound Absorption Material

3.6.6 In order to further reduce the view angle between the noise sensitive receivers and the major carriageways and in turn road traffic noise impact, acoustic fins of 0.2m(L) to 1.5m(L) are proposed to mitigate the adverse noise impact. Sound absorption material (SAM) would also be applied to the surface of acoustic fins adjacent to ventilation opening to avoid multi-reflection effects. Noise reduction due to use of vertical fin is determined based on approach of CRTN but capped to not more than 3 dB(A).

Sound Absorption Material

3.6.7 It is noted that some NSRs are located with reflective façade surface nearby (e.g. just aside a façade/fin surface), and hence inducing possible multiple noise reflection effect. In order to avoid the potential multiple noise reflection effect at NSRs, sound absorptive material (SAM) is proposed to the building façade at the surface facing the opening where necessary.

3.7 Road Traffic Impact Assessment Result (Mitigated Case Scenario)

3.7.1 According to the assessment result under mitigated scenario in **Appendix 3.5**, the predicted results at all NSRs could comply with relevant standard. No adverse road traffic noise impact on the proposed development is anticipated. A schedule of noise mitigation measures is shown in **Appendix 3.6**. It is worth noted that this exercise aims to demonstrate the technical feasibility of minimising road traffic noise impact. The type and extent of noise mitigation measures are subject to finetuning in future.

3.8 Conclusion

3.8.1 Road traffic noise impact assessment has been carried out for the proposed development.

3.8.2 All practical and effective noise mitigation measures have been explored, which include setback, 0.2m - 1.5m acoustic fins with sound absorption material, acoustic window (baffle type), enhanced acoustic balcony (baffle type), 1.5m high solid wall, self-closing door, fixed glazing with maintenance window and sound absorption material.

3.8.3 With the implementation of the proposed mitigation measures, the road traffic noise compliance level of the residential flats would be increased from 29% (base case scenario) to 100% (mitigated case scenario). No exceedance is found when adopting the proposed noise mitigation measures. No adverse road traffic noise impact is anticipated to the proposed development.

4. RAIL NOISE IMPACT ASSESSMENT

4.1 Introduction

4.1.1 The proposed development is noise sensitive and subject to potential rail noise from Tuen Ma Line (TML) and Light Rail Transit (LRT) during the operational stage. This section aims to assess the rail noise impacts and propose mitigation measures, where necessary, to reduce the rail noise impact to comply with relevant standards.

4.2 Assessment Criteria and Guidelines

4.2.1 The rail noise impacts from TML or LRT operations are governed by the "Technical Memorandum on Noise from Places other than Domestic Premises, Public Places or Construction Sites" (IND-TM) issued under the Noise Control Ordinance (NCO).

4.2.2 According to the IND-TM, the airborne noise shall comply with the Acceptable Noise Level (ANL) which depends on the Area Sensitivity Rating (ASR).

4.2.3 As mentioned in **Section 2.1.1**, the Development Site is bounded by the Castle Peak Road – Lam Tei Section located to east of the Development Site. According to "Annual Traffic Census" issued by Transport Department (TD) from Year 2023, the annual average daily traffic flow of Castle Peak Road – Lam Tei Section is in excess of 30,000. Therefore, Castle Peak Road – Lam Tei Section is considered as an Influencing Factor (IF) in accordance with the IND-TM.

4.2.4 As the area around the Development Site is being developed including the proposed development area at San Hing Road and Hong Po Road and the site at Residential (Group A) Zone (2), the type of area for the Development Site is considered as "Type (iv) Area other than those above" which will be affected by the Influencing Factors (IFs), the area sensitivity rating of the assessment points facing the Castle Peak Road – Lam Tei Section is defined as "C". For the Noise Sensitive Receivers (NSRs) facing the TML/ LRT, it will be indirectly affected/ not affected by the IFs and the area sensitivity rating is defined as "B". The noise standards for the rail noise is tabulated in **Table 4.1** below.

Table 4.1 Acceptable Rail Noise Levels for NSRs

Time Period	ANL in IND-TM, Leq(30min), dB(A)	
	ASR "B"	ASR "C"
Day and Evening (0700 to 2300 hours)	65	70
Night (2300 to 0700 hours)	55	60

4.2.5 Besides the IND-TM, the Hong Kong Planning Standards and Guideline (HKPSG) also provides planning noise standards of 65 dB(A) Leq(24-hour) and 85 dB(A) Lmax (2300 to 0700 hours) for assessing rail noise impact.

4.2.6 ANL for night-time (i.e. 55 dB(A) for ASR"B" and 60 dB(A) for ASR"C") is basically regarded as the most stringent criterion. Should the ANL of 55 dB(A) for ASR"B" and 60 dB(A) for ASR"C" for night-time period be complied with, all other noise criteria as mentioned above should be met.

4.3 Environmental Condition and Railway Operational Characteristics

4.3.1 The Development Site is situated in close proximity to TML and LRT. The railway line of TML in the vicinity is in the form of twin viaduct, which is about 19m aboveground. For twin viaduct, there are parapets on two sides but no barrier structure between 2

railway line. In addition to the standard parapet wall, it is observed that a section of railway line is covered by a noise enclosure. The section of LRT near Lam Tei LRT Station is at-grade.

4.3.2 The operational information for TML and LRT is referred to the information from MTRC extracted from the Approved EA report for Approved Rezoning Application (Application No.: Y/TM-LTYY/11). The extracted correspondences from MTRC are provided in **Appendix 4.1**. In addition, the latest information (e.g. speed of TML) provided by MTRC is adopted for the assessment. The latest correspondence from MTRC is provided in **Appendix 4.7**.

4.4 Assessment Methodology

4.4.1 Rail noise impact arisen from TML and LRT has been predicted with reference to "Calculation of Railway Noise (1995)" published by the UK Department of Transport. A noise prediction software, CadnaA, is used to model and predict the rail noise impact. For TML, the source term information is based on the Approved EIA report for Development at San Hing Road and Hong Po Road, Tuen Mun (AEIAR-227/2020). The extracted information is provided in **Appendix 4.2**. For LRT, the source term information is based on the Approved EA report for Approved Rezoning Application. The extracted information is provided in **Appendix 4.1**. Applying with relevant correction factors and operation parameters, the train noise source terms are derived as the model inputs (in terms of Leq (30min) and Leq (24hr)) to CadnaA are summarised in **Table 4.2**. The details of the derivation of the model inputs are shown in **Appendix 4.3**.

Table 4.2 Adopted Source Terms for CadnaA

Noise Source Term	TML Northbound	TML Southbound	LRT Northbound	LRT Southbound
Leq (30min) – Day & Evening Time Periods	64.0 dB(A)	63.3 dB(A)	LN4: 63.3 dB(A) LN5: 67.3 dB(A) LN6-LN8: 62.6 dB(A) LN9-LN15: 65.3 dB(A)	LS4: 60.1 dB(A) LS5: 61.8 dB(A) LS6-LS8: 57.2 dB(A) LS9-LS15:62.9 dB(A)
Leq (30min) – Night-Time Period	62.6 dB(A)	61.9 dB(A)	LN4: 63.9 dB(A) LN5: 67.9 dB(A) LN6-LN8: 63.2 dB(A) LN9-LN15: 65.9 dB(A)	LS4: 60.7 dB(A) LS5: 62.4 dB(A) LS6-LS8: 57.8 dB(A) LS9-LS15:63.5 dB(A)
Leq (24hr)	59.9 dB(A)	59.2 dB(A)	LN4: 60.9 dB(A) LN5: 64.9 dB(A) LN6-LN8: 60.2 dB(A) LN9-LN15: 62.9 dB(A)	LS4: 57.7 dB(A) LS5: 59.4 dB(A) LS6-LS8: 54.8 dB(A) LS9-LS15:60.5 dB(A)

Noise Source Term (Structure-reradiated Noise)	TML Non-Enclosed Structure-reradiated Noise	TML Fully-Enclosed Structure-reradiated Noise	LRT Non-Enclosed Structure-reradiated Noise
Leq (30min) – Day & Evening Time Periods	47.7 dB(A)	51.9 dB(A)	44.8 dB(A)
Leq (30min) – Night-Time Period	46.3 dB(A)	50.5 dB(A)	45.4 dB(A)
Leq (24hr)	43.6 dB(A)	47.8 dB(A)	42.5 dB(A)

4.4.2 For TML, the data of Lmax from the Approved EIA report has been referred and adopted. The extracted information is provided in **Appendix 4.2**. For LRT, the data of Lmax from the Approved EA report has been referred and adopted. The extracted information is provided in **Appendix 4.1**. The prediction of the Lmax at the noise sensitive receivers has been considered poor track correction (or track deterioration correction) (+3.0dB(A)), façade correction (+2.5dB(A)), and air absorption correction (Cair = 0.2 – 0.008 x d where d = distance between segment and receiver).

4.5 Noise Sensitive Receivers

4.5.1 The proposed development itself is considered as noise sensitive receiver (NSR) given that the noise sensitive rooms such as living/dining rooms and bedrooms will rely on opened windows for ventilation which will be subject to rail noise impact. Representative NSRs have been selected to assess the rail noise impact. Other NSRs have no line of sight to TML or LRT have not been selected due to the blockage by structure of the residential tower of the proposed development. The NSRs are selected at 1m away from the façade of the openable window/door opening at 1.2m above the floor slab of the unit. Locations of the representative NSRs are shown in **Figure 4.3**.

4.6 Rail Noise Impact Assessment Results (Base Case Scenario)

4.6.1 The noise sensitive receivers of the residential units have been located further way from LRT as far as practicable with the provision of the design of non-noise sensitive uses (such as car parking, E/M Plant Rooms, landscaping area, recreational facilities, etc.) on G/F to 2/F in order to reduce the rail noise impact from LRT. In addition, the noise enclosure of the viaduct of TML has also been included in the noise model. The base case scenario is defined as the scheme to reflect the aforementioned design and the noise enclosure of the viaduct.

4.6.2 The rail noise impact assessment result under base case scenario is summarized in **Appendix 4.4**. According to the result, exceedances are found for Leq(30min) during night time. The maximum predicted noise level for Leq(30min) during night time is up to 56 dB(A).

4.7 Proposed Rail Noise Mitigation Measures

Fixed Glazing with Maintenance Window

4.7.1 For those window façade that are not necessary to serve ventilation purpose yet exposed to adverse rail noise, Fixed Glazing with Maintenance Window is proposed. The fixed glazing will be equipped with well gasketed maintenance window, if any, and a removable handle or key lock system to ensure the maintenance window remains locked except for cleaning and maintenance purpose.

2m High Solid Balustrade on 2/F of the Podium

4.7.2 2m high solid balustrade is proposed on 2/F of the podium in order to provide shielding to the noise sensitive receivers of the units at lower floors to mitigate the adverse noise impact.

Acoustic Fins and Sound Absorption Material

4.7.3 In order to further reduce the view angle between the noise sensitive receivers and the rail tracks and in turn rail noise impact, acoustic fins of 0.7m(L) to 1.5m(L) are proposed to mitigate the adverse noise impact. Sound absorption material (SAM) would also be applied to the surface of acoustic fins adjacent to ventilation opening to avoid multi-reflection effects.

4.7.4 The proposed rail noise mitigation measures are shown in **Figure 4.4**.

4.8 Rail Noise Impact Assessment Results (Mitigated Case Scenario)

4.8.1 The predicted noise level at the representative NSRs for mitigated case scenario is presented in **Appendix 4.5**. With the proposed mitigation measures in place, all NSRs comply with rail noise standards. No exceedance is found. Proposed rail noise mitigation measures schedule is summarized in **Appendix 4.6**. Moreover, on-site noise measurement for obtaining the rail noise source term and assumptions (especially for the enclosed viaduct) will be conducted at the level of first-floor or second-floor residential unit as early as practicable in the next stage (i.e. the construction period). As such, the measured rail noise source term and assumptions will be adopted in the upcoming NIA report for supporting the building layout of the Proposed Development in the next stage. Should the measured data of the future on-site measurements reveals deviations from the predicted noise level, a contingency plan of implementation of additional noise mitigation measures (NMN) such as acoustic fins and sound absorption material, acoustic window (baffle type) (AW(BT)) or enhanced acoustic balcony (baffle type) (EAB(BT)), etc. will be reviewed and considered in the next stage. By referring to reference case such as the residential development at Kam Sheung Road Station, AW(BT) and EAB(BT) have been adopted as noise mitigation measures for mitigating the rail noise impact induced by TML. The noise reduction levels provided by the AW(BT) for 4.3m^2 room area and the EAB(BT) for 7.6m^2 room area are 16 dB(A) and 19.8 dB(A), respectively. According to the current layout of the MLP, the room size of the bedrooms and the living rooms of the units under rail noise impact are 4.2m^2 to 6.9 m^2 and 12.4m^2 to 15.2m^2, respectively, which are similar to/ larger than the room size of the reference case (i.e. similar noise reduction levels can be provided). Therefore, it is considered practical to adopt AW(BT) and EAB(BT) for mitigating the rail noise impact. Should AW(BT) and EAB(BT) are required for mitigating the rail noise impact, mock-up test will be conducted to demonstrate the noise reduction effectiveness for assessment purpose in the upcoming NIA report in the next stage. It is noted that details of AW(BT) and EAB(BT) specific to the Proposed Development will be designed later for mock-up test. Also, on-site verification noise measurement will be carried out upon completion of the residential units to verify the noise reduction effectiveness of the proposed noise mitigation measures.

4.9 Conclusion

4.9.1 Rail noise impact assessment has been carried out for the proposed development.

4.9.2 Practical and effective noise mitigation measures have been explored, which include building setback, podium, fixed glazing with or without maintenance window, solid balustrade at podium and acoustic fins and sound absorption material.

4.9.3 After mitigation, the rail noise impact assessment result reveals that all noise sensitive receivers would comply with the rail noise standard. Therefore, the proposed development would not subject to any adverse rail noise impact.

4.9.4 Moreover, on-site noise measurement at approximate level of first-floor residential unit in the NIA report for supporting the layout of the Proposed Development at the construction period as early as practicable. If any deviations found from the results of future on-site noise measurement, contingency plan of implementation of additional noise mitigation measures such as acoustic fins and sound absorption material, acoustic window (baffle type) or enhanced acoustic balcony (baffle type) can be reviewed in the next stage.

5. FIXED NOISE SOURCES IMPACT ASSESSMENT

5.1 Introduction

5.1.1 The proposed development is noise sensitive and subject to potential fixed noise from surrounding sites for car repairing and storage uses (if any) during the operational stage. This section aims to assess the fixed noise sources impact and propose mitigation measures, where necessary.

5.2 Criteria and Guidelines

5.2.1 Under the Noise Control Ordinance (NCO), noise criteria for fixed noise sources are stipulated in the "Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites" (IND-TM).

5.2.2 Based on the classification in the IND-TM, the Area Sensitive Rating of "B" is applicable where the identified NSRs are indirectly affected/ not affected by IF (i.e. Castle Peak Road – Lam Tei Section) and Area Sensitive Rating of "C" is applicable where the identified NSRs are directly affected by IFs in the type of area considered as "Type (iv) Area other than those above". Therefore, the noise standards for this fixed noise sources impact assessment as tabulated in **Table 5.1** should be followed.

Table 5.1 Acceptable Fixed Noise Levels for NSRs

Time Period	ANL in IND-TM, Leq(30min), dB(A)	
	ASR "B"	ASR "C"
Day and Evening (0700 to 2300 hours)	65	70
Night (2300 to 0700 hours)	55	60

5.3 Assessment Methodology

5.3.1 Assessment of noise impact arising from fixed noise sources has been based on standard acoustic principles and procedures given in the IND-TM. Noise impacts due to individual noise sources are calculated and logarithmically summed at each NSR to represent the overall impacts:

$$\sum PNL_i = \sum [SWL_i + C_{distance} + C_{barrier} + C_{impulse} + C_{tonality} + C_{barrier} + C_{facade}]$$

where

PNL_i = Predicted noise level, i.e. the overall sound pressure level arising from individual noise sources after various corrections

SWL_i = Derived sound power level of individual noise sources from measured noise levels

$C_{distance}$ = Correction for distance attenuation (for simplicity, only horizontal distance is considered in this study)

$C_{barrier}$ = Correction (-10 dB(A)) for substantial shielding by building structure

$C_{impulse}$ = According to the nature of the identified noise sources in the surrounding, noise of impulsive nature is not expected. No correction is recommended

$C_{tonality}$ = Correction for tonality as in IND-TM, if applicable

C_{facade} = Correction (+3 dB(A)) for façade reflection at receiver

5.4 Identification of Fixed Noise Sources

5.4.1 Based on onsite observation, the noise environment is dominated by road traffic. There are heavy traffic along Castle Peak Road – Lam Tei Section immediate to the Development Site.

5.4.2 On the other hand, by referring to the section of the fixed noise sources impact assessment in the Approved Environmental Assessment (EA) report for the Approved Rezoning Application (Application No.: Y/TM-LTYY/11), several fixed noise sources (S1 to S8) were identified including car repairing workshops, logistic companies and ice manufacturing. With reference to the Approved EIA report for Development at San Hing Road and Hong Po Road, Tuen Mun (AEIAR-227/2020), the population intake at San Hing Road Site will be in year 2031. Therefore, the identified fixed noise sources (i.e. S4 to S8) within San Hing Road Site will not be existed and considered in this fixed noise sources impact assessment. The information of the identified fixed noise sources is extracted from the Approved EA report and shown in **Appendix 5.1**.

5.4.3 Based on onsite survey conducted on 31 October 2025, 22 January 2026 and 25 January 2026, except S3, other identified fixed noise sources are still valid. The details of the onsite survey for the potential fixed noise sources is provided in **Appendix 5.2**. For S3, as the site is being used for material storage, the loading and unloading activity using forklift is still valid for the use of fixed noise sources impact assessment. The locations of the identified fixed noise sources are shown in **Figure 5.1**. During the onsite survey, no other fixed noise sources was identified.

5.4.4 Furthermore, as referred to the approved noise impact assessment (NIA) report for the Approved S16 Planning Application (Application No.: A/TM-LTYY/426), the operation of Wing Hing Meat Roasting Factory is carried out between 6:00 a.m. to 6:00 p.m. All works for the meat roasting are conducted within the factory. It was observed that the loading and unloading to/from the lorry and light good vehicle are conducted by hand, no powered mechanical equipment is involved. Besides, no other noise source was observed during site surveys.

5.4.5 As advised by Vegetable Marketing Organization, the operation of the Lam Tei Vegetable Collection Depot is carried out between 7:00 a.m. and 10:30 a.m. from Monday to Saturday only. Such operation involves in weighing vegetable in a tray with a scale, which then are moved onto the light good vehicle by hand. Only two staff, one light good vehicle and one scale are involved in the whole processing.

5.4.6 Besides, farmers' market for selling vegetable is held every Sunday between 9:00a.m. and 1:00p.m. According to our site survey on 25 January 2025, the activities involve in setting tables and selling vegetable. No sound amplifier , powered mechanical equipment or lorry is observed. The details are provided in **Appendix 5.2**.

5.4.7 Lam Tei Vegetable Depot involved in weighing vegetable in a tray with a scale, which then were moved onto the lorry by hand. The whole process did not involve any powered mechanical equipment. Furthermore, the activities mainly were carried out within the structure with metal cover.

5.4.8 Based on the above information and the previous site observations, no adverse noise impact arising from Lam Tei Vegetable Collection Depot on the proposed development is anticipated.

5.5 Noise Sensitive Receivers

5.5.1 A number of representative Noise Sensitive Receivers (NSRs), corresponding to habitable rooms which are likely to be subject to worst noise impact were selected for the assessment. All assessment points were taken at 1 m away from the façade of openable windows of rooms of sensitive use (living room, bedroom).

Figure 5.2 illustrates the locations of the selected representative NSRs for fixed noise sources impact assessment.

5.6 Assessment Result without Noise Mitigation Measures (Base Scenario)

5.6.1 **Appendix 5.3** shows the noise strength of identified noise sources and predicted noise level at the selected NSRs. According to the assessment results, the predicted noise levels at all selected NSRs would comply with relevant standards without noise mitigation. No adverse fixed noise sources impact on the proposed development is anticipated.

5.7 Impact due to Future Fixed Noise Sources of the Proposed Development

5.7.1 The Proposed Development will inevitably contain noisy facilities such as ventilation system, fan system and HVAC (for clubhouse and proposed on-site sewage treatment plant). However, in this early planning stage, building services consultant/contractor has not been engaged and there is absence of any detail regarding potential noisy facilities. In all circumstances, the requirement under the HKPSG is fully observed (i.e. acceptable noise level minus 5 decibels). In future detailed design of the project, same requirement will be imposed so that the relevant noise standard will be met by various means such as selection of quiet equipment, use of shielding device, acoustic louvers, silencers, semi/full-enclosure. Upon availability of details of fixed noise sources, the assessment of fixed noise sources impact can be conducted with respect to the said planning approval condition. With abundance of direct noise mitigation measures to control and suppressed the generated noise level, no adverse noise impact due to operation of potentially noisy facilities of the Proposed Development is anticipated.

5.8 Conclusion

5.8.1 According to the result of fixed noise sources impact assessment, no adverse fixed noise sources impact due to surrounding fixed noise sources on the proposed development is anticipated. No noise mitigation is considered necessary.

5.8.2 This is in early planning stage of the study so that there is no detail of future fixed noise sources onsite available. With abundance of direct noise mitigation measures to control and suppressed the generated fixed noise level, no adverse noise impact due to operation of potentially noisy facilities of the proposed development is anticipated.

6. CONCLUSION

6.1.1 The Noise Impact Assessment (NIA) was undertaken to evaluate the potential noise impacts arising from the nearby railway, fixed plants and road traffic upon the proposed development.

6.1.2 The road traffic noise impact from Castle Peak Road – Lam Tei Section can be reduced by adopting 0.2m - 1.5m acoustic fins with sound absorption material, acoustic window (baffle type), enhanced acoustic balcony (baffle type), 1.5m high solid wall, self-closing door, fixed glazing with maintenance window and sound absorption material. The compliance rate of road traffic noise for mitigated case scenario would be 100% with the implementation of the proposed road traffic noise mitigation measures.

6.1.3 The rail noise impact from TML and LRT can be reduced by adopting building setback, podium, fixed glazing with or without maintenance window, solid balustrade at podium and acoustic fins and sound absorption material. After mitigation, the rail noise impact assessment result reveals that all noise sensitive receivers would comply with the rail noise standard. Therefore, the proposed development would not subject to any adverse rail noise impact with the implementation of the proposed rail noise mitigation measures. Moreover, on-site noise measurement for obtaining the rail noise source term and assumptions (especially for the enclosed viaduct) will be conducted at the level of first-floor or second-floor residential unit as early as practicable in the next stage (i.e. the construction period). As such, the measured rail noise source term and assumptions will be adopted in the upcoming NIA report for supporting the building layout of the Proposed Development in the next stage. Should the measured data of the future on-site measurements reveals deviations from the predicted noise level, a contingency plan of implementation of additional noise mitigation measures (NMN) such as acoustic fins and sound absorption material, acoustic window (baffle type) (AW(BT)) or enhanced acoustic balcony (baffle type) (EAB(BT)), etc. will be reviewed and considered in the next stage. By referring to reference case such as the residential development at Kam Sheung Road Station, AW(BT) and EAB(BT) have been adopted as noise mitigation measures for mitigating the rail noise impact induced by TML. The noise reduction levels provided by the AW(BT) for 4.3m^2 room area and the EAB(BT) for 7.6m^2 room area are 16 dB(A) and 19.8 dB(A), respectively. According to the current layout of the MLP, the room size of the bedrooms and the living rooms of the units under rail noise impact are 4.2m^2 to 6.9 m^2 and 12.4m^2 to 15.2m^2, respectively, which are similar to/ larger than the room size of the reference case (i.e. similar noise reduction levels can be provided). Therefore, it is considered practical to adopt AW(BT) and EAB(BT) for mitigating the rail noise impact. Should AW(BT) and EAB(BT) are required for mitigating the rail noise impact, mock-up test will be conducted to demonstrate the noise reduction effectiveness for assessment purpose in the upcoming NIA report in the next stage. It is noted that details of AW(BT) and EAB(BT) specific to the Proposed Development will be designed later for mock-up test. Also, on-site verification noise measurement will be carried out upon completion of the residential units to verify the noise reduction effectiveness of the proposed noise mitigation measures.

6.1.4 The overall noise mitigation measures are shown in **Figure 6.1** and the proposed overall noise mitigation measures schedule is summarized in **Appendix 6.1**.

6.1.5 According to the result of fixed noise sources impact assessment, no adverse fixed noise sources impact due to surrounding fixed noise sources on the proposed development is anticipated. No noise mitigation is considered necessary.

Figures

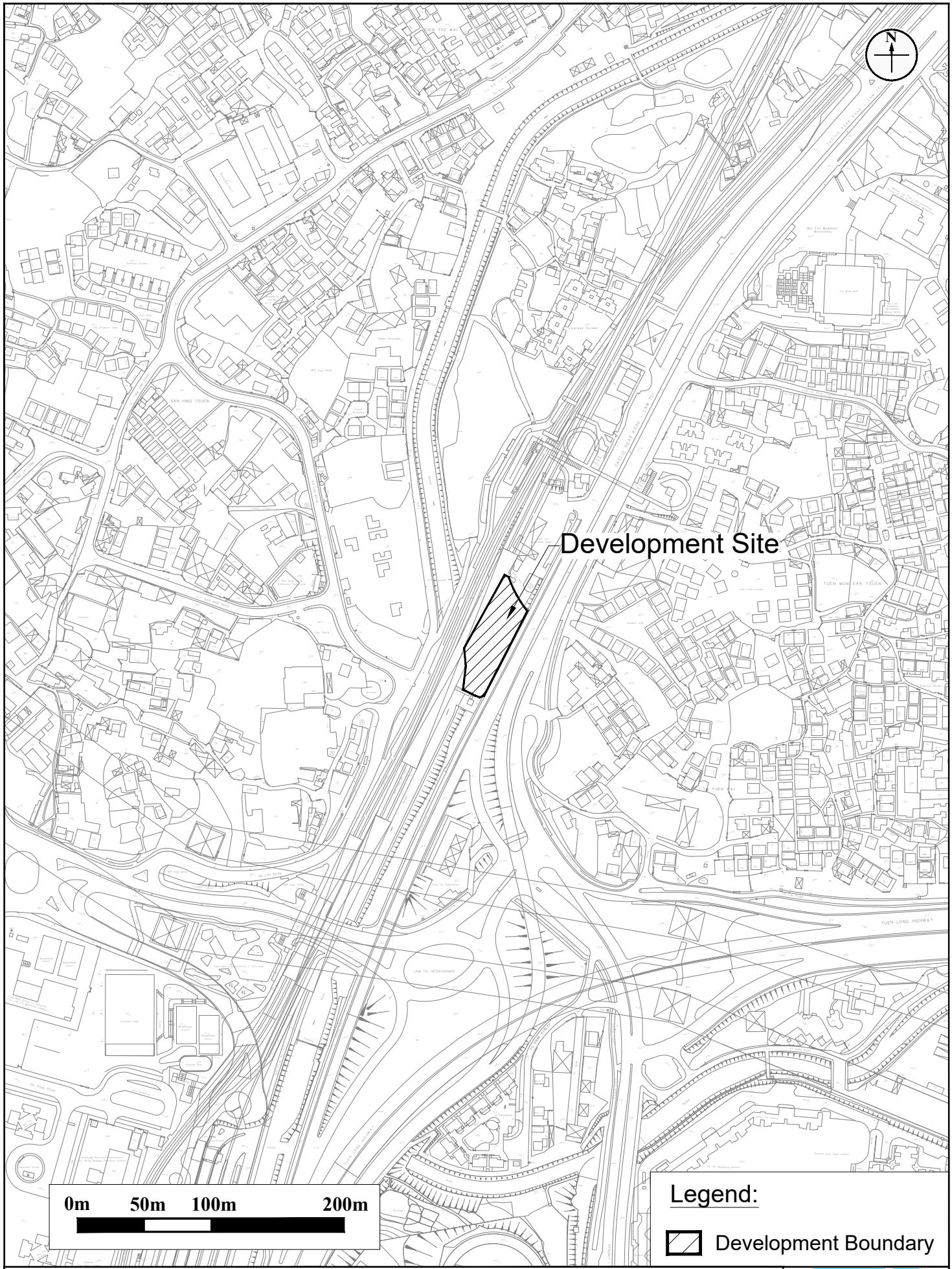

Figure: 2.1

Title: Development Site Location and Its Environs

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

RAMBOLL

Drawn by:	CM
Checked by:	CC
Rev.:	1.2
Date:	May 2026

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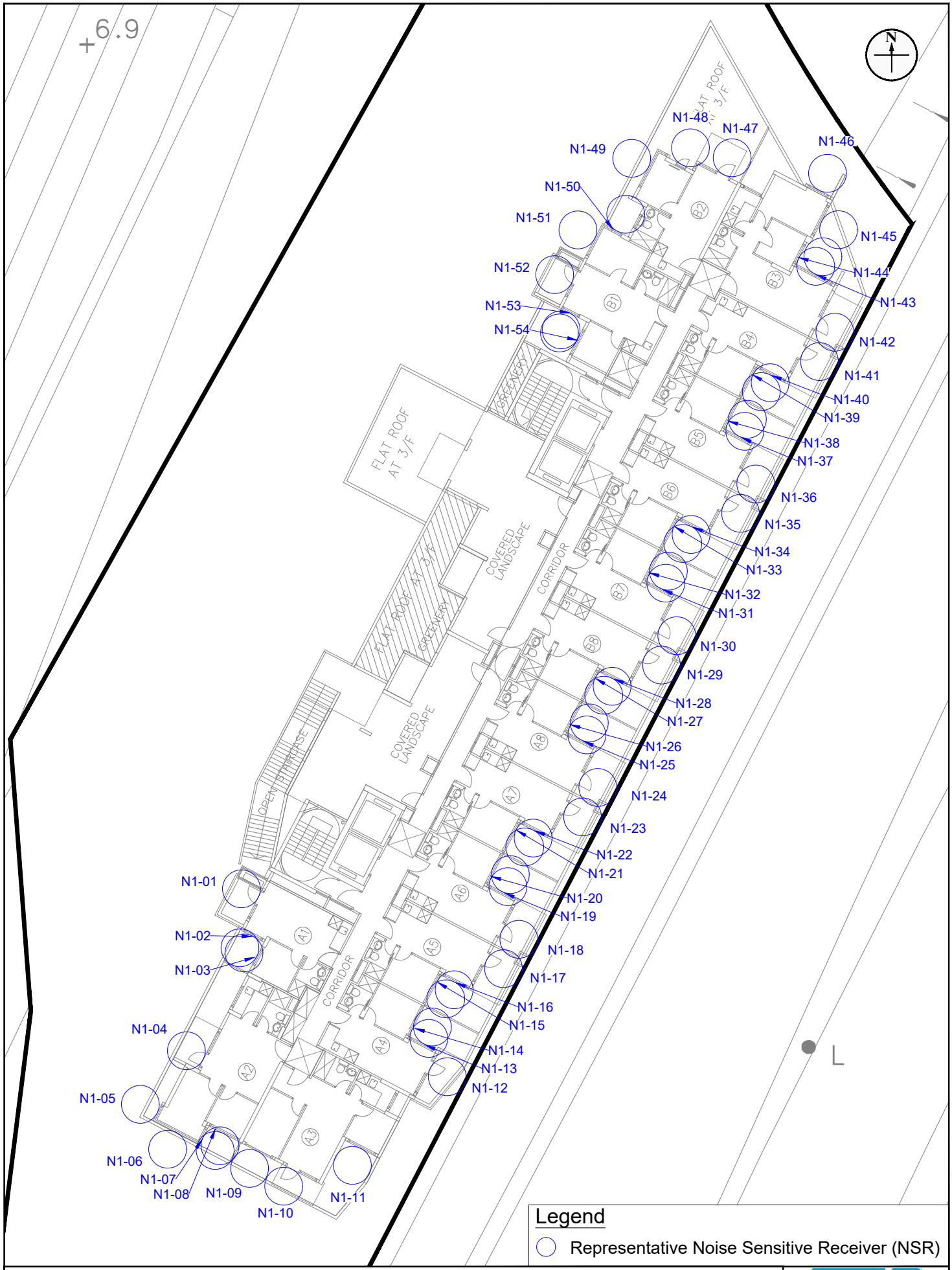

Figure:	3.1a	RAMBOLL
Title:	Locations of Representative Noise Sensitive Receivers for Road Traffic Noise Impact Assessment (3/F)	Drawn by: CM Checked by: CC
Project:	S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun	Rev.: 1.2 Date: Mar 2026

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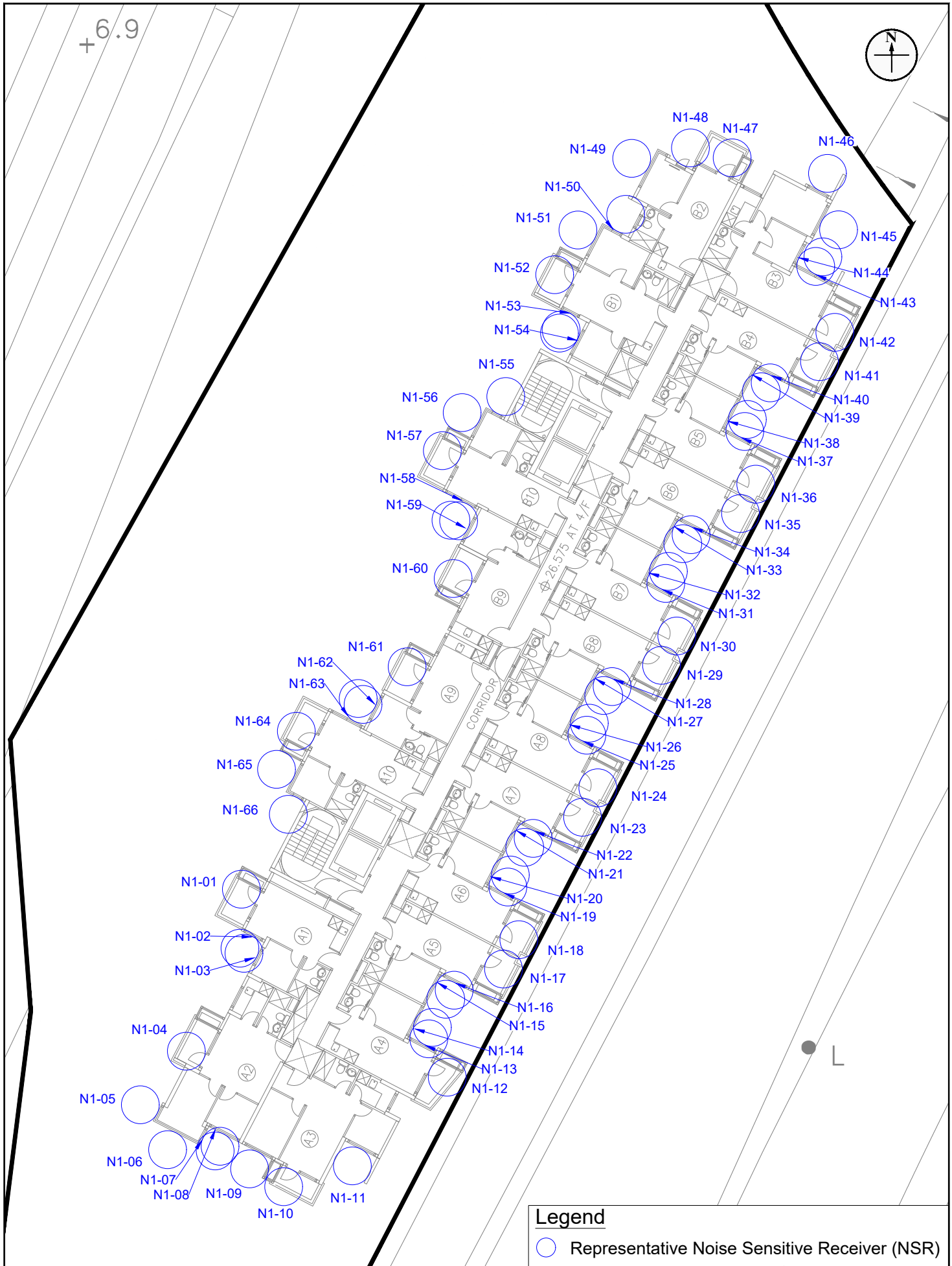

Figure:	3.1b	RAMBOLL
Title:	Locations of Representative Noise Sensitive Receivers for Road Traffic Noise Impact Assessment (4/F - 16/F)	Drawn by: CM Checked by: CC
Project:	S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun	Rev.: 1.2 Date: Mar 2026

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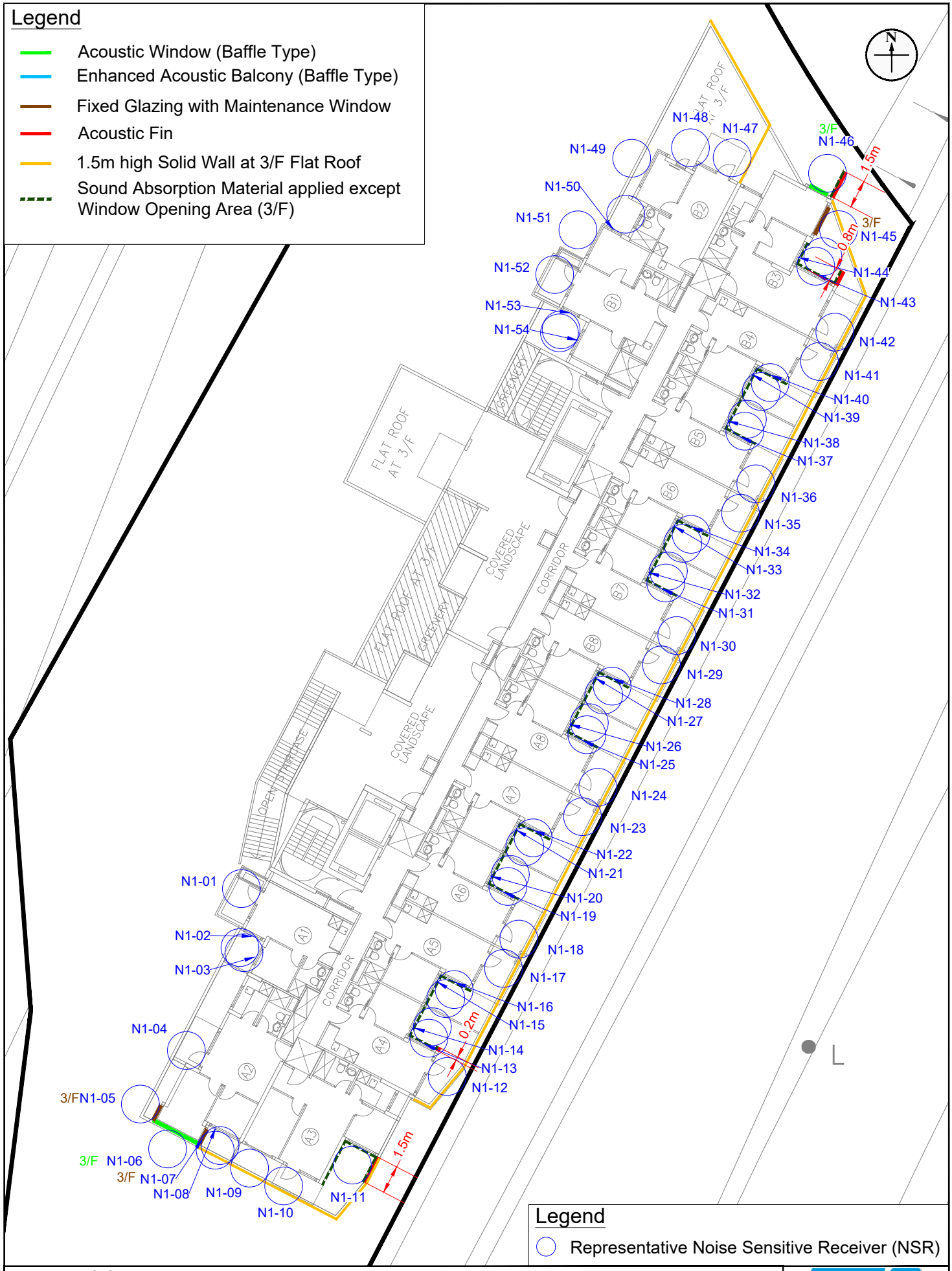

Figure: 3.2a

Title: Proposed Road Traffic Noise Mitigation Measures (3/F)

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

RAMBOLL

Drawn by:	CM
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Date:	Mar 2026

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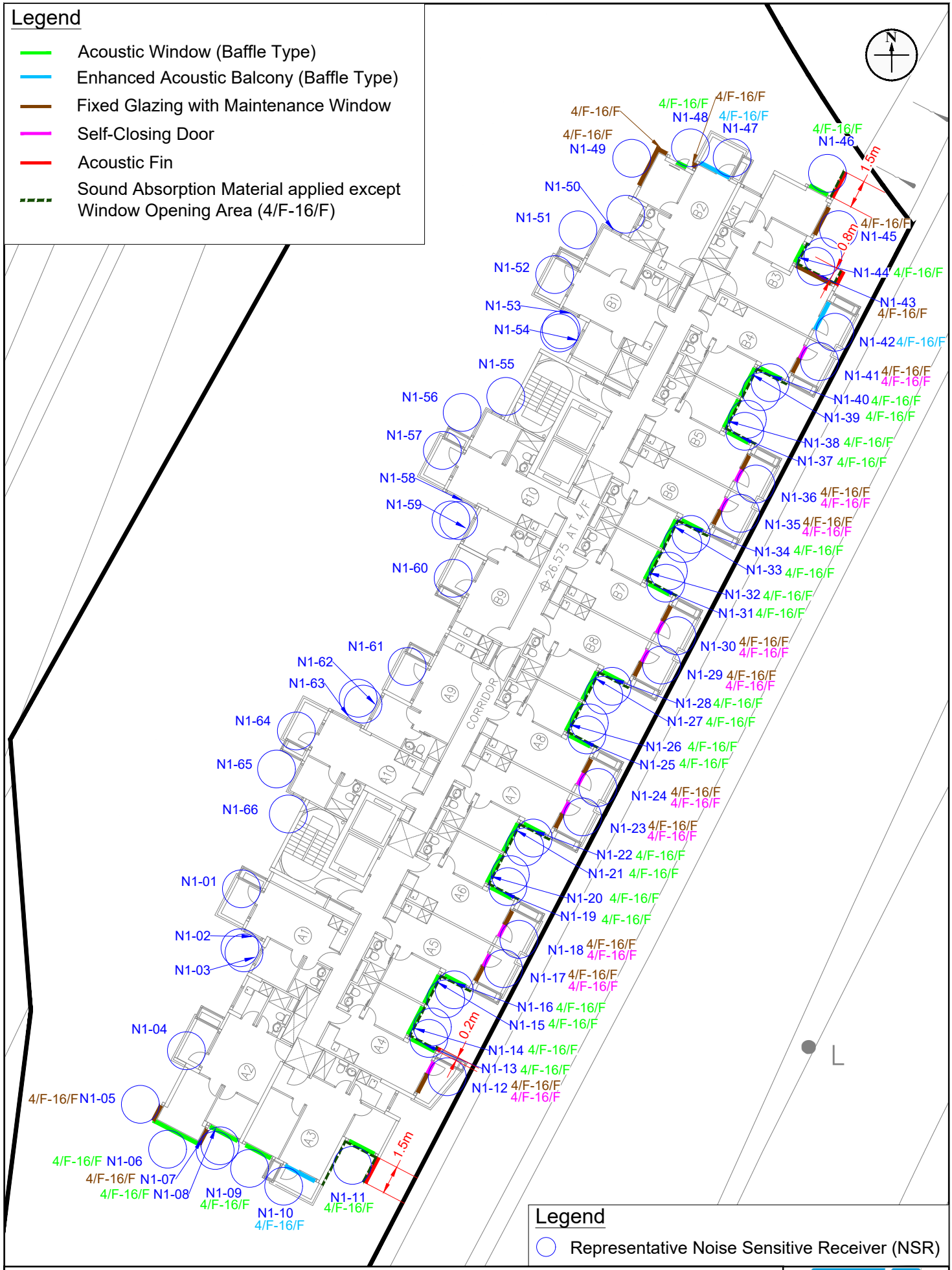

Figure: 3.2b

Title: Proposed Road Traffic Noise Mitigation Measures (4/F - 16/F)

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

RAMBOLL

Drawn by:	CM
Checked by:	CC
Rev.:	1.2
Date:	Mar 2026

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Figure: 4.1a	RAMBOLL
Title: Applicable Area Sensitivity Rating for Individual Facades (3/F)	Drawn by: MW
	Checked by: BF
Project: Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3
	Date: May 2026

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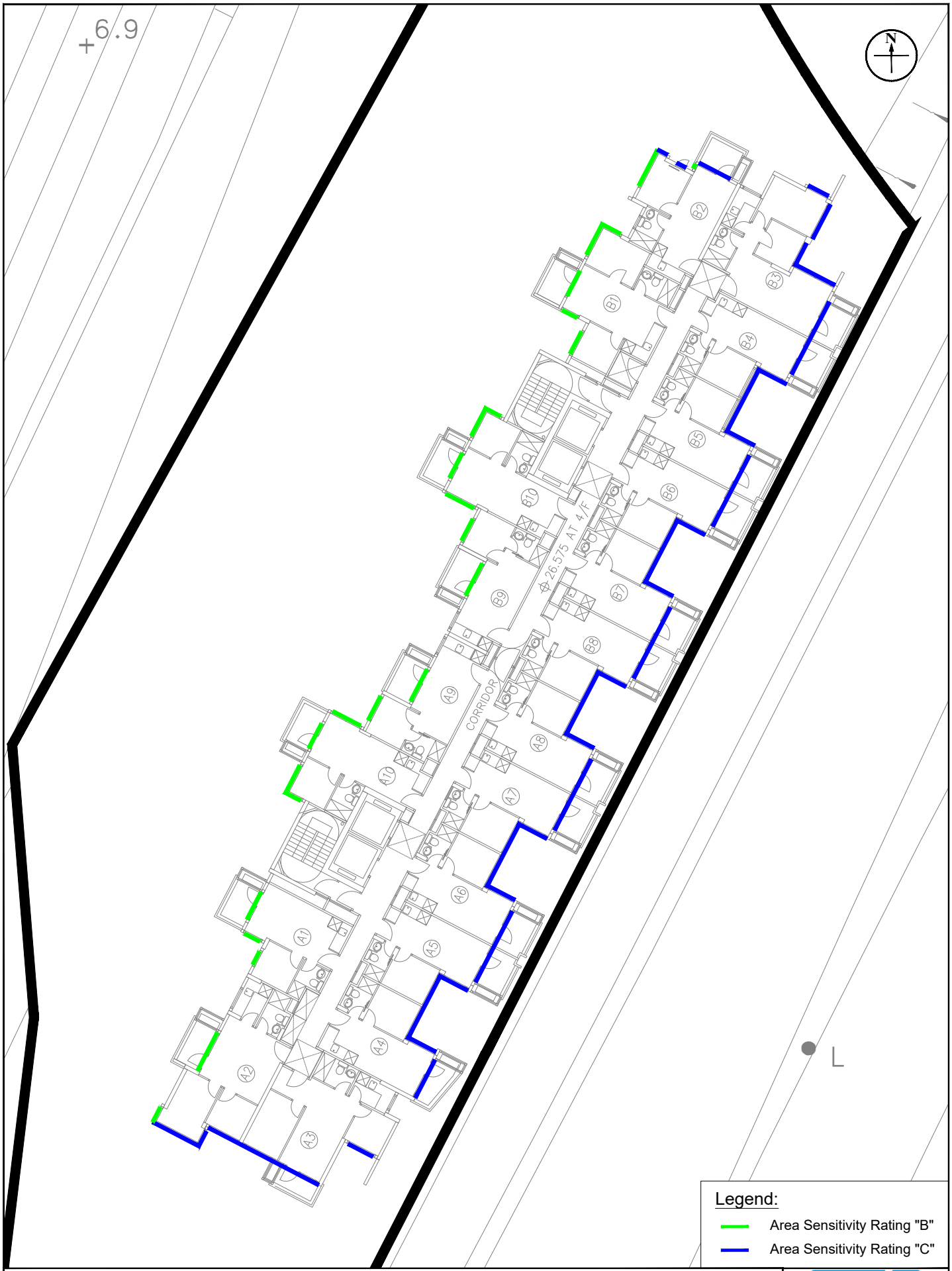

Figure: 4.1b	RAMBOLL
Title: Applicable Area Sensitivity Rating for Individual Facades (4/F - 16/F)	Drawn by: MW
	Checked by: BF
Project: Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3
	Date: May 2026

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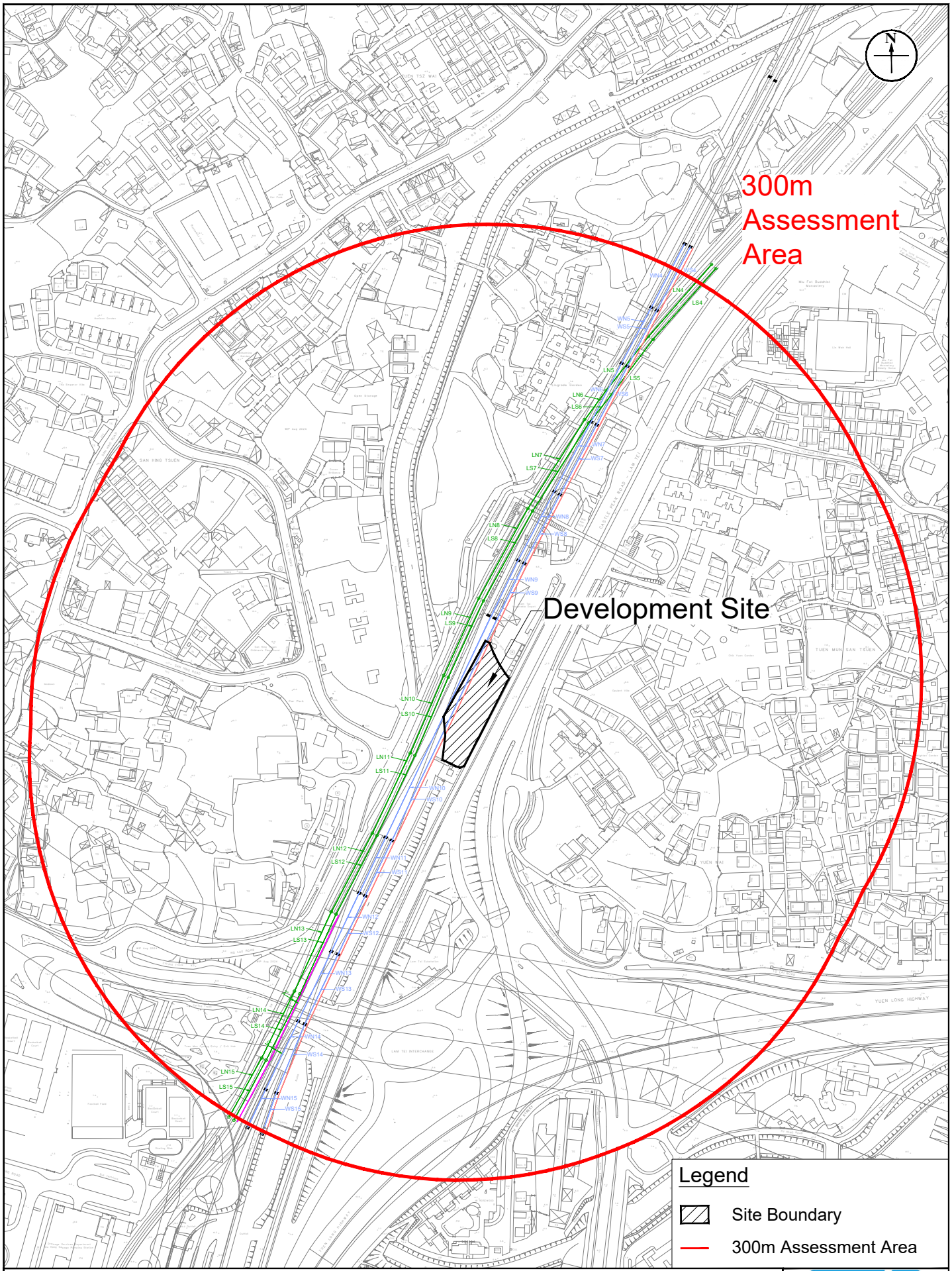

Figure:	4.2a	RAMBOLL
Title:	Locations of the Identified Rail Track within 300m Assessment Area (Overview)	Drawn by: MW Checked by: CC
Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.4 Date: May 2026

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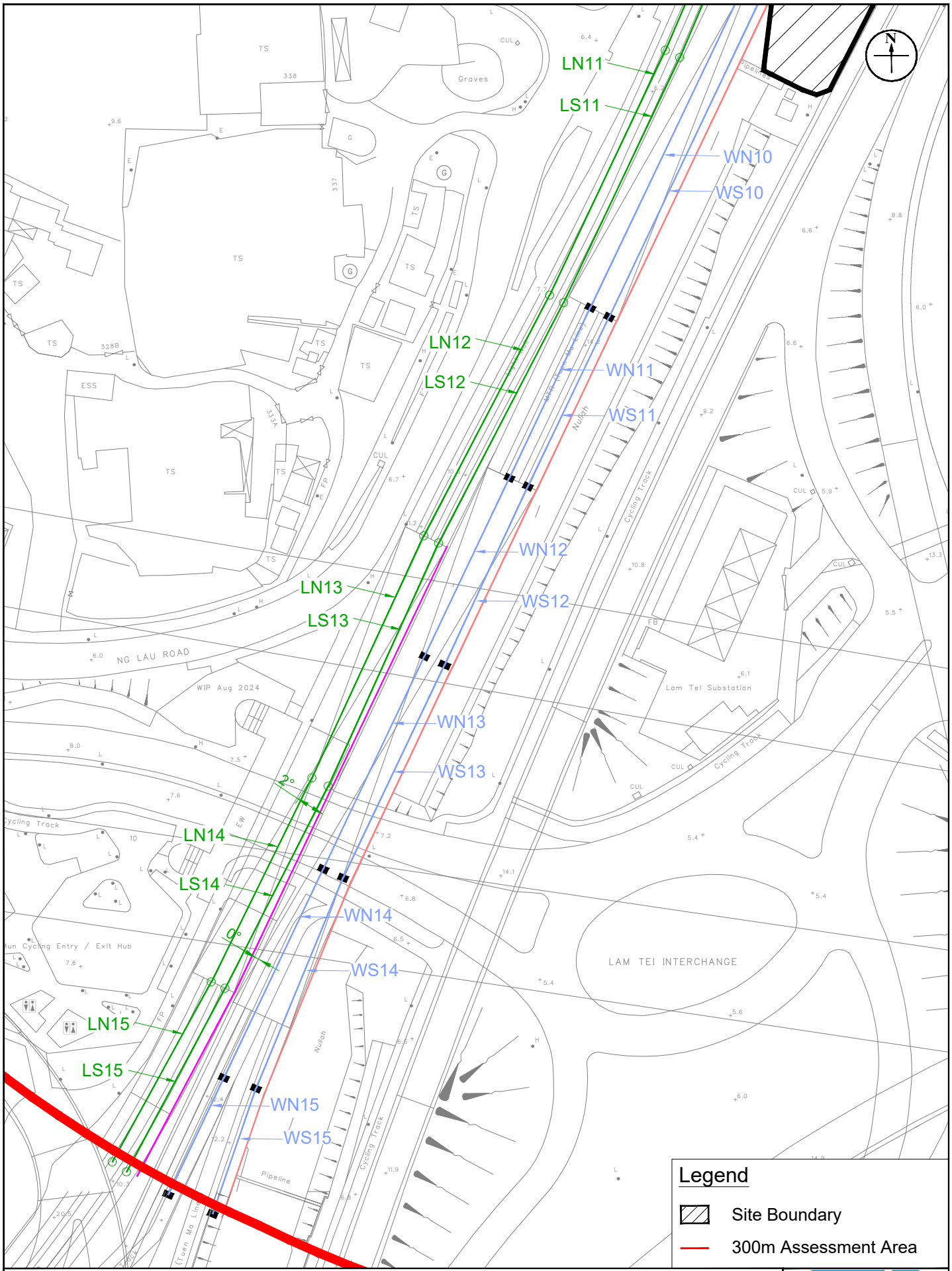

Figure:	4.2b	RAMBOLL
Title:	Locations of the Identified Rail Track within 300m Assessment Area (Zoom In 1)	Drawn by: MW Checked by: CC
Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.4 Date: May 2026

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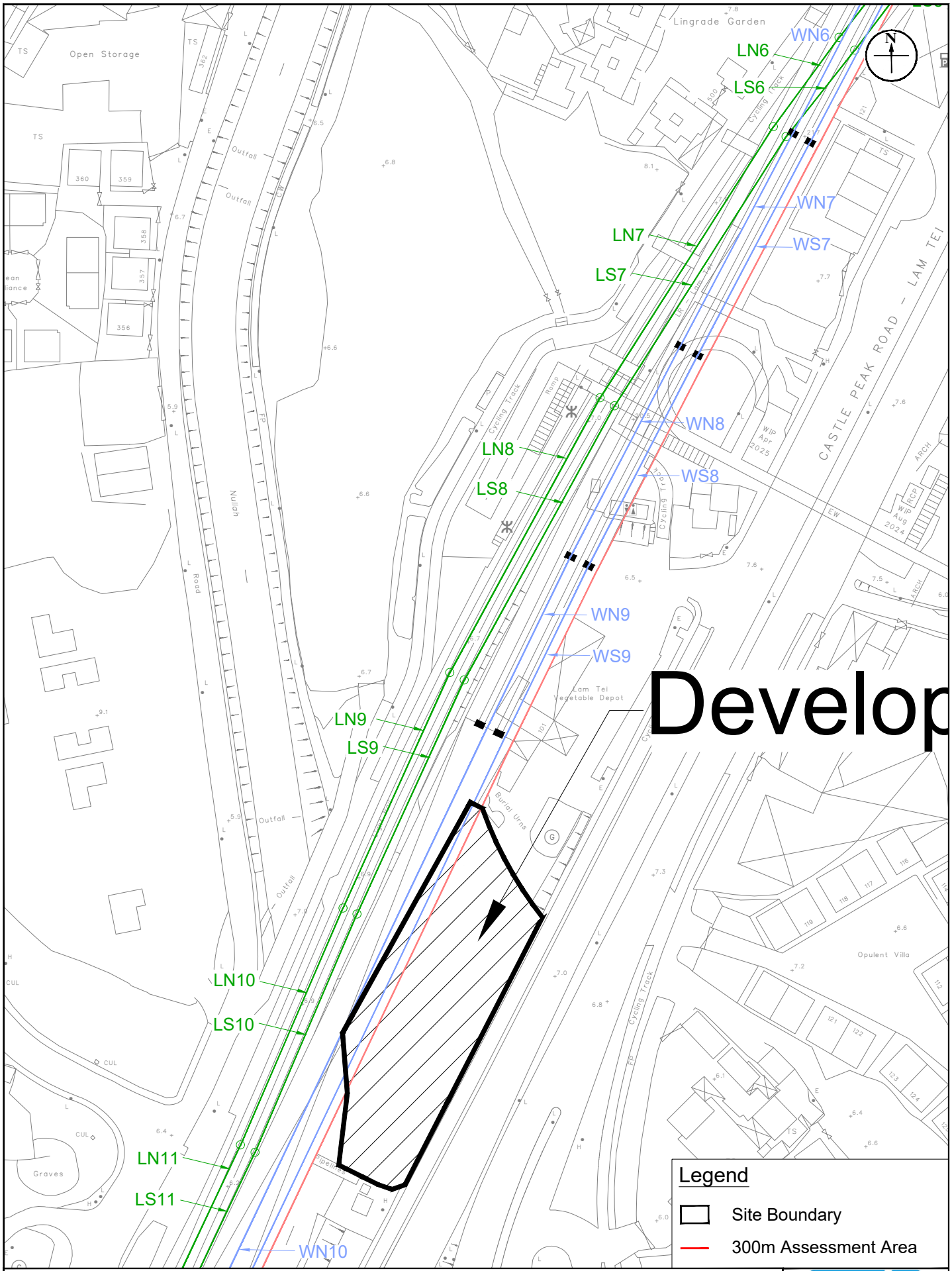

Figure:	4.2c	RAMBOLL
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Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.4 Date: May 2026

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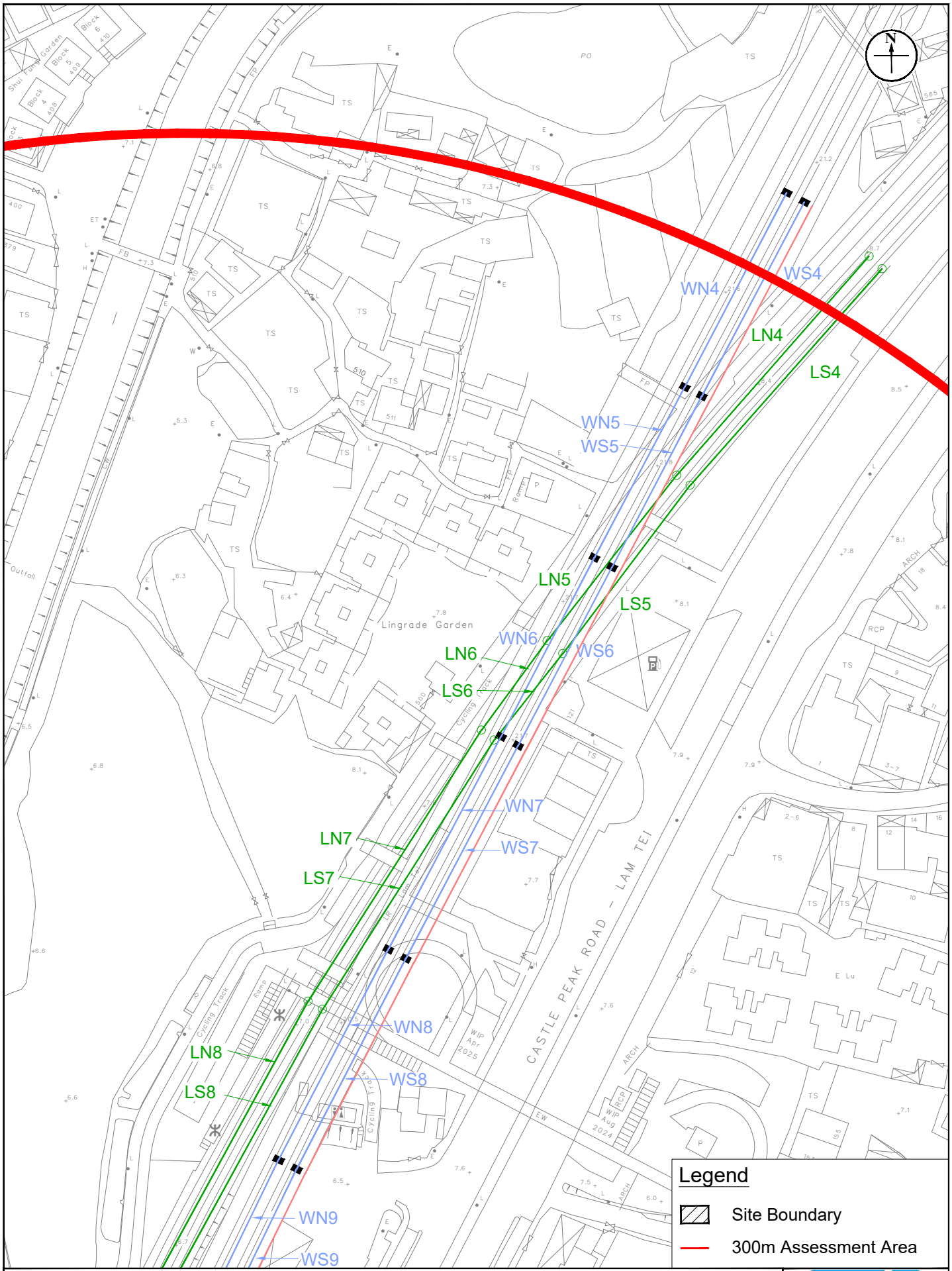

Figure:	4.2d	RAMBOLL
Title:	Locations of the Identified Rail Track within 300m Assessment Area (Zoom In 3)	Drawn by: MW Checked by: CC
Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.4 Date: May 2026

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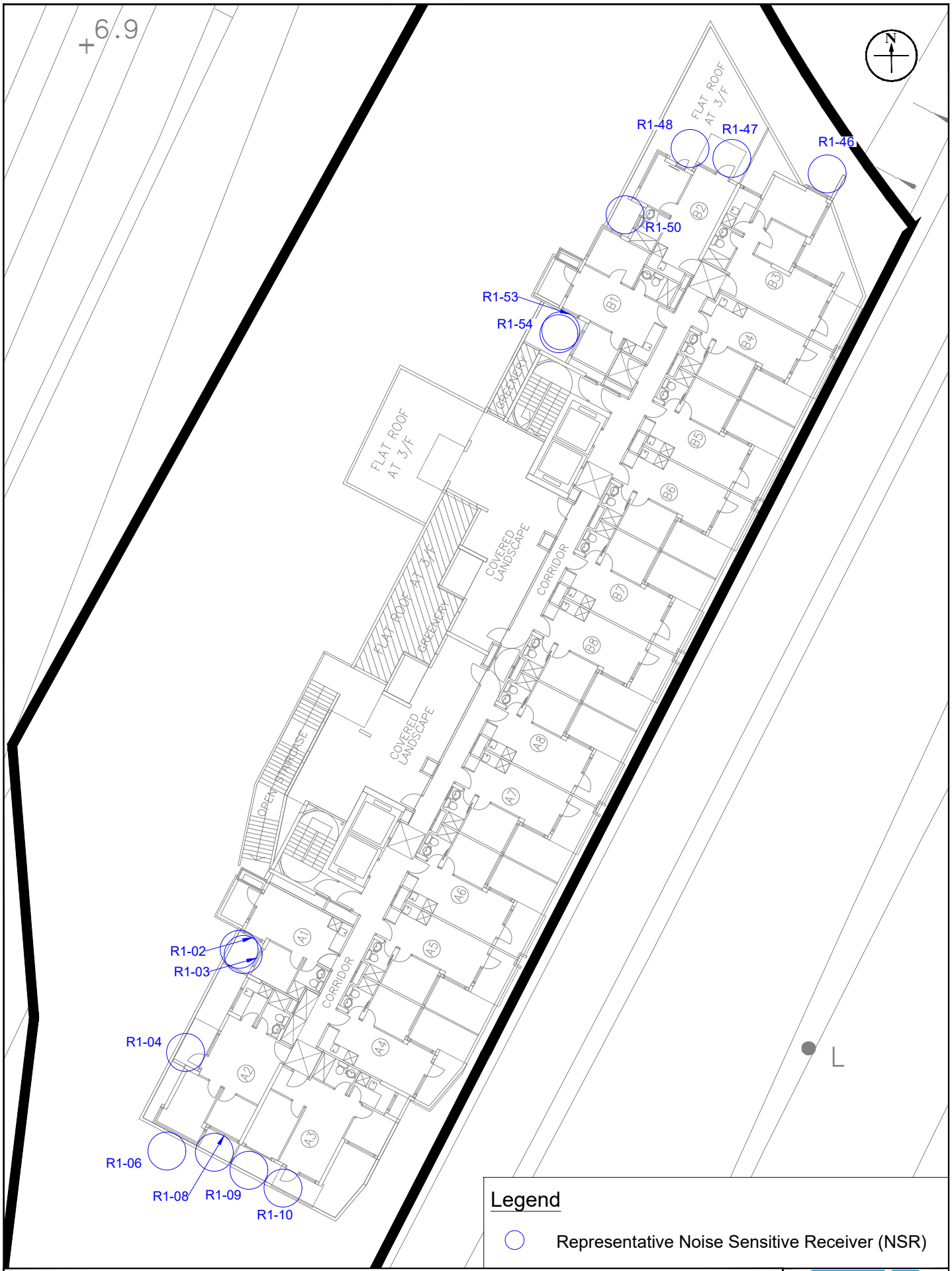

Figure:	4.3a	RAMBOLL
Title:	Locations of Representative Noise Sensitive Receivers for Rail Noise Impact Assessment (3/F)	Drawn by: MW Checked by: BF
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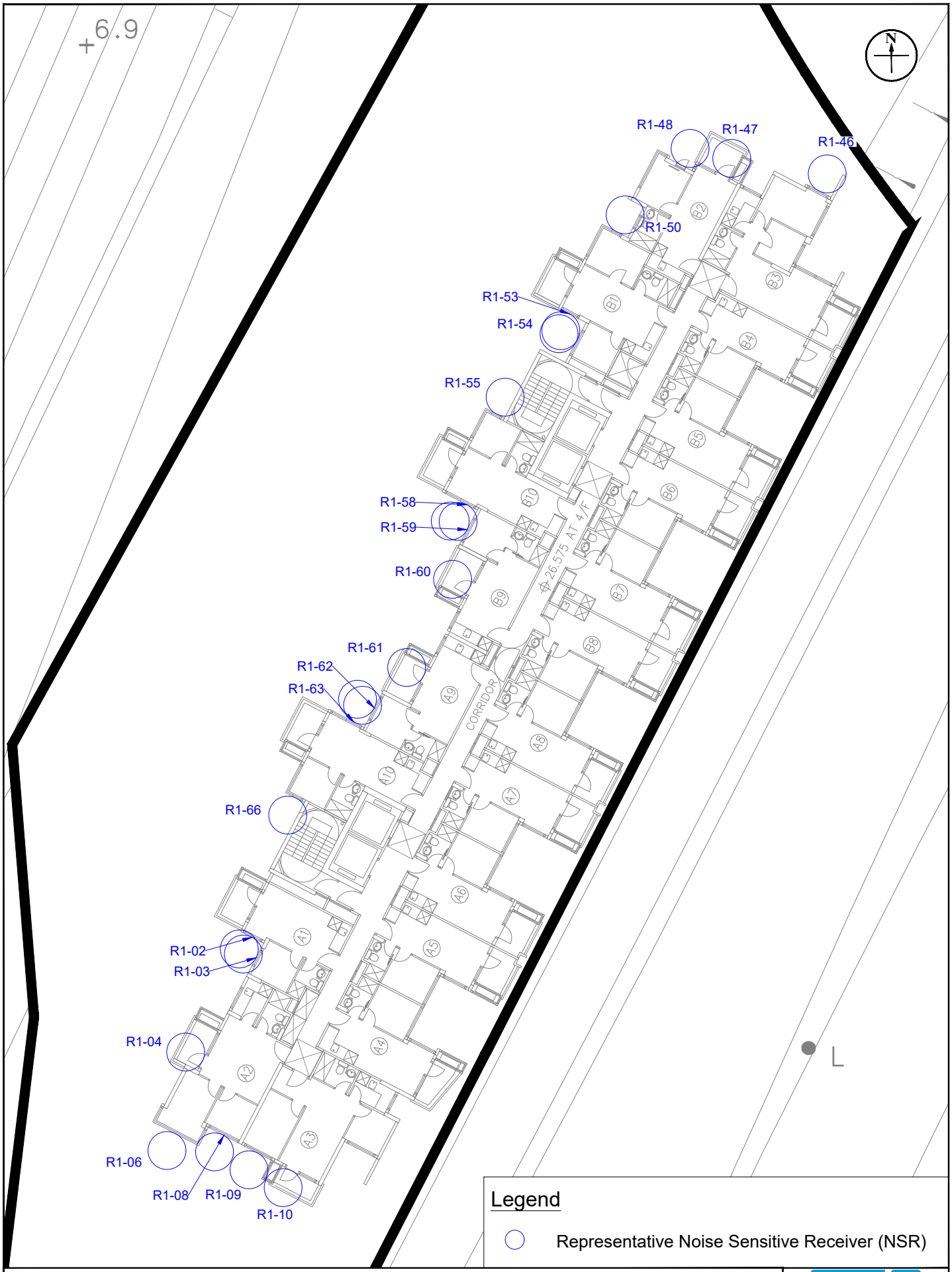

Figure:	4.3b	RAMBOLL
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Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3 Date: May 2026

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Figure:	4.4a	RAMBOLL
Title:	Proposed Rail Noise Mitigation Measures (2/F)	Drawn by: MW Checked by: BF
Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3 Date: May 2026

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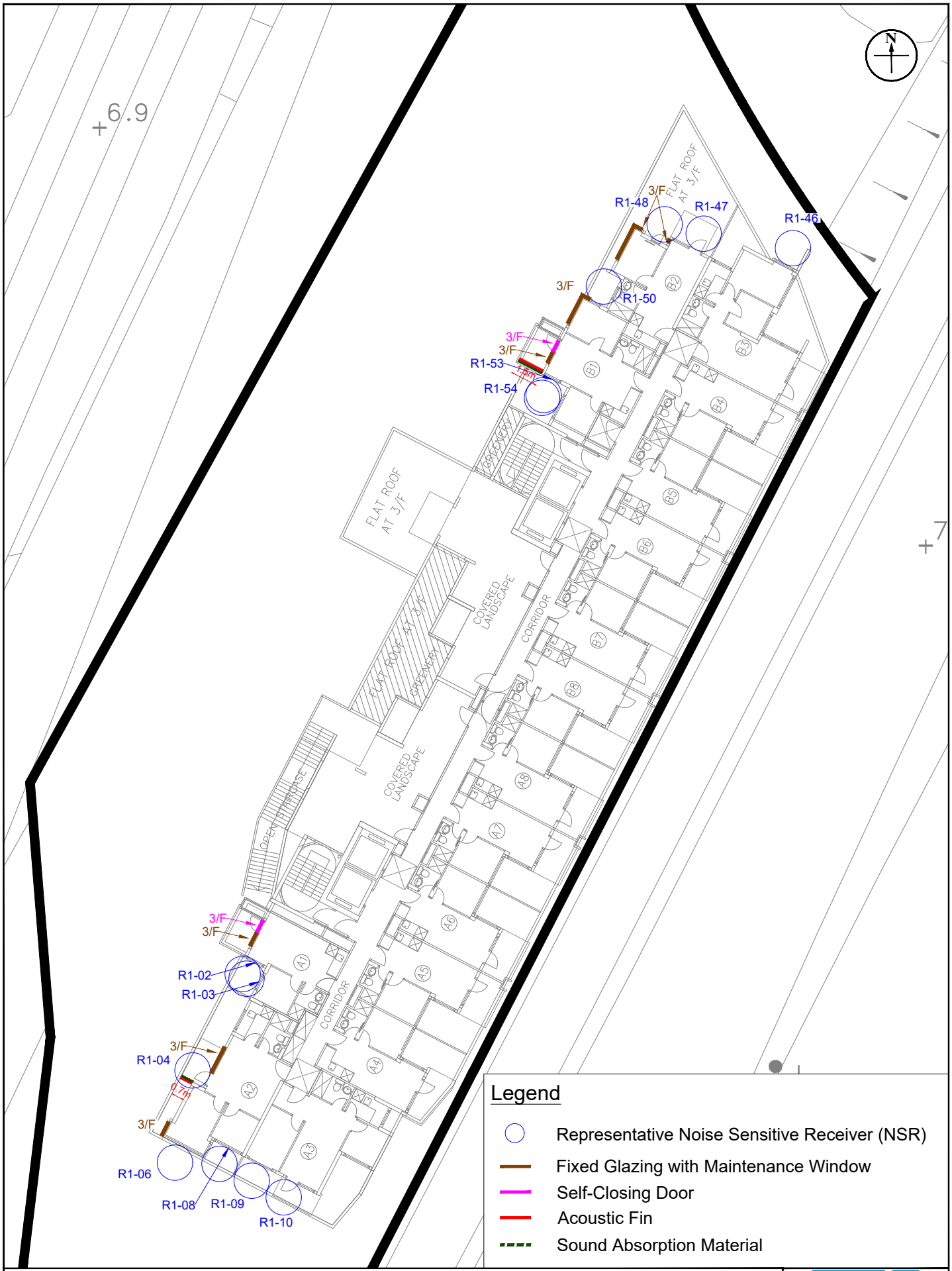

Figure:	4.4b	RAMBOLL
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Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3 Date: May 2026

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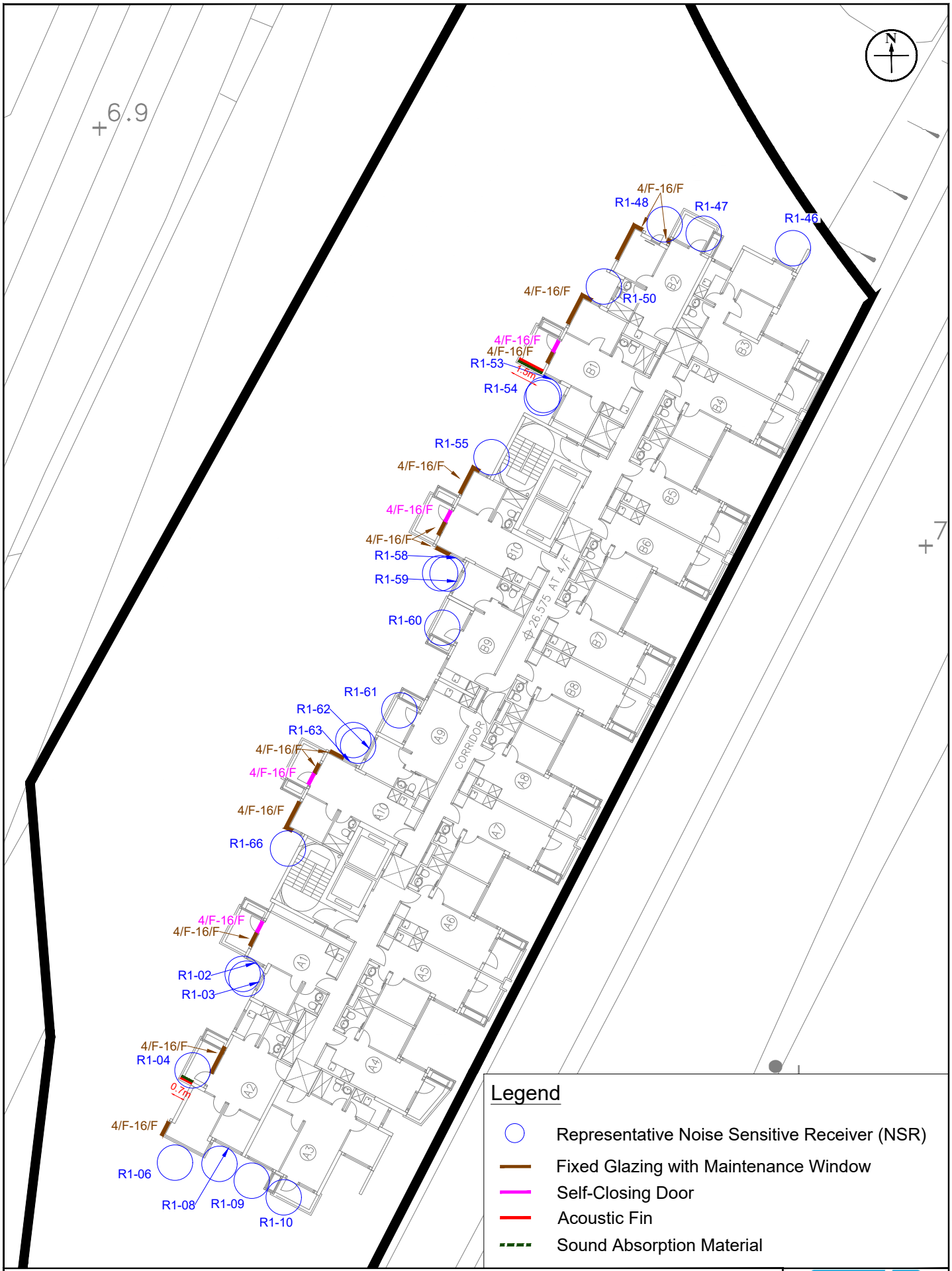

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Project:	Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun	Rev.: 1.3 Date: May 2026

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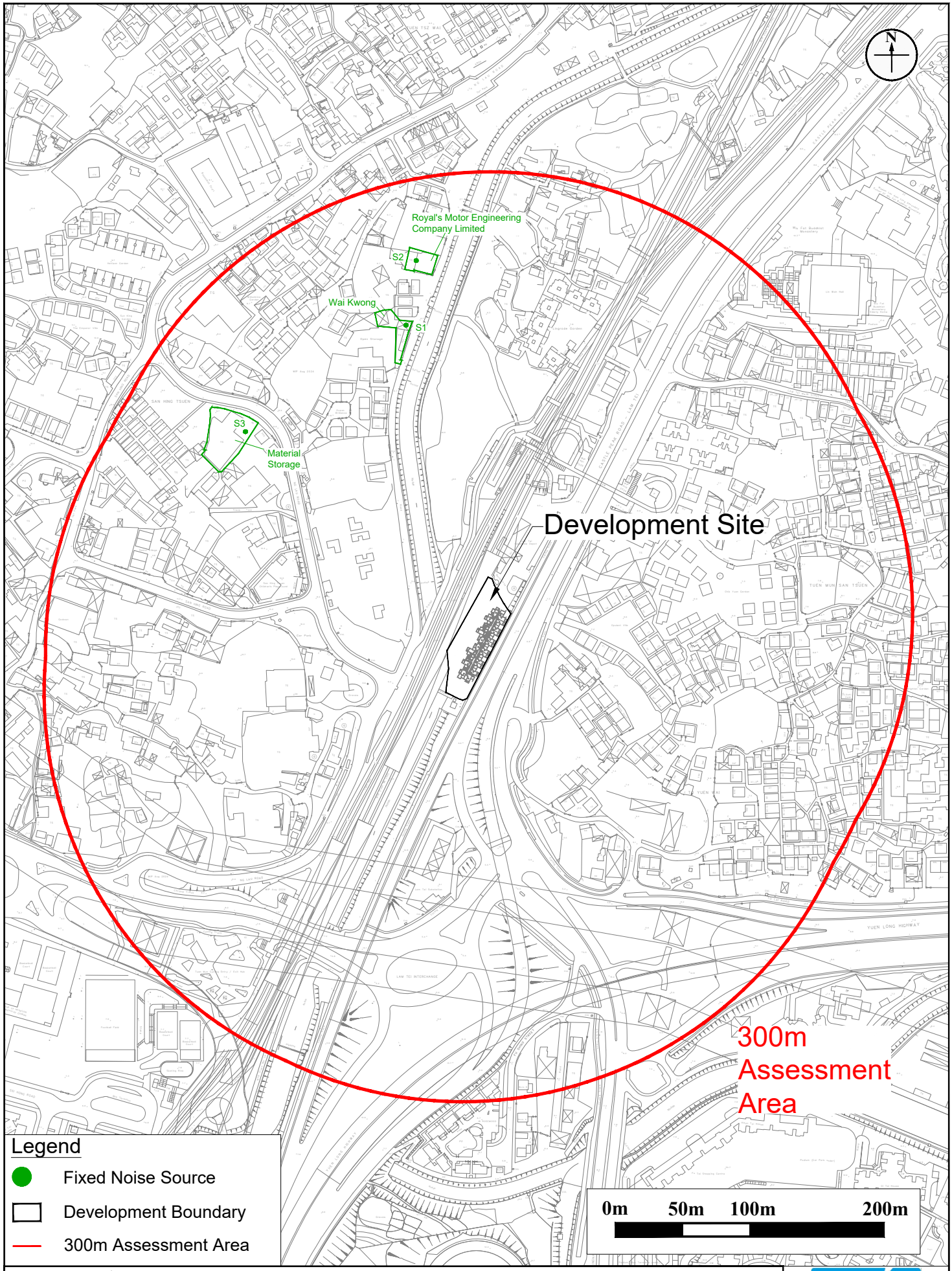

Figure: 5.1a

Title: Locations of Identified Fixed Noise Sources for Fixed Noise Sources Impact Assessment

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

RAMBOLL

Drawn by:	CM
Checked by:	CC
Rev.:	1.2
Date:	May 2026

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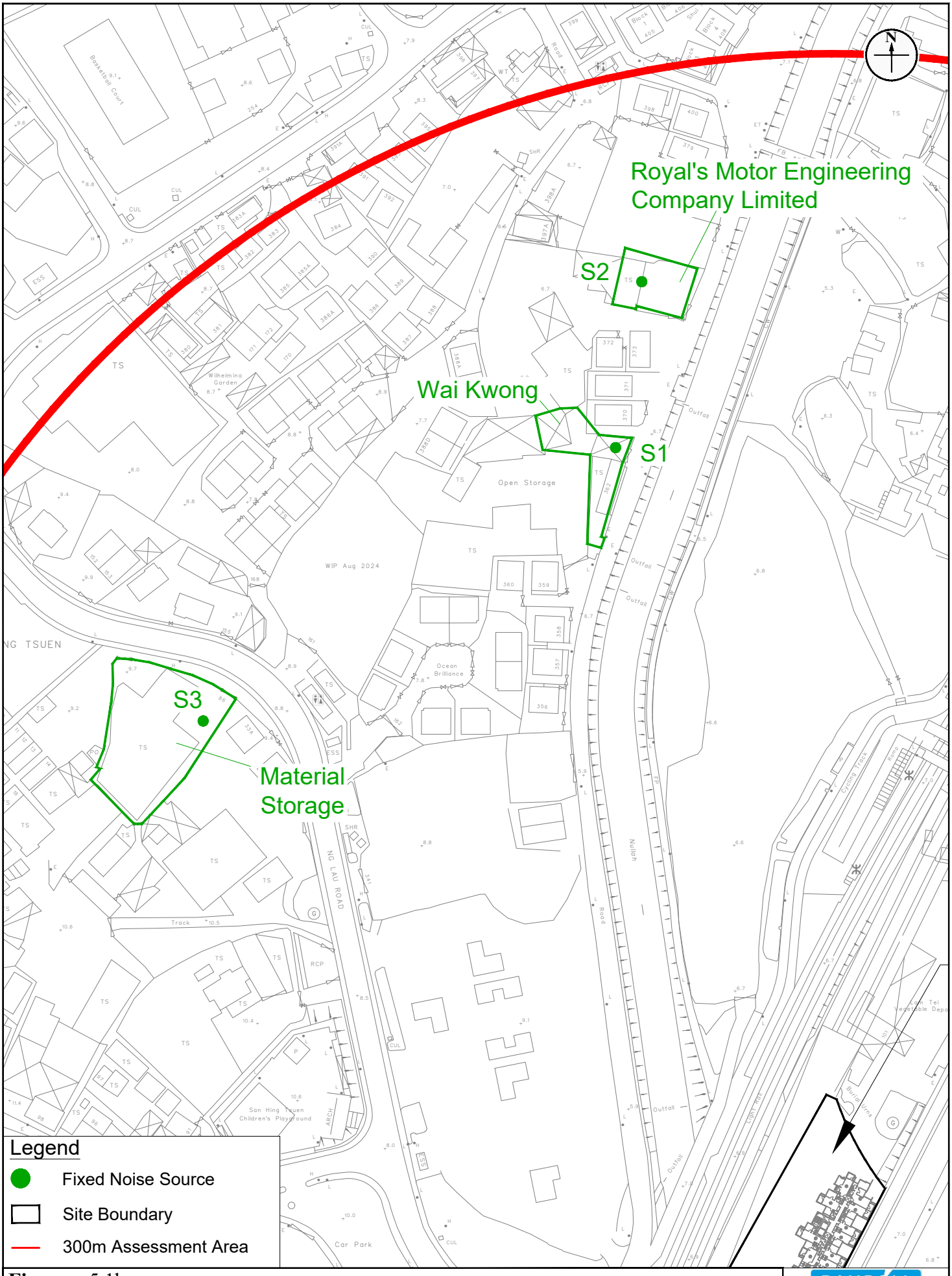

Figure: 5.1b	RAMBOLL
Title: Locations of Identified Fixed Noise Sources for Fixed Noise Sources Impact Assessment (Zoom In)	Drawn by: CM Checked by: CC
Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun	Rev.: 1.2 Date: May 2026

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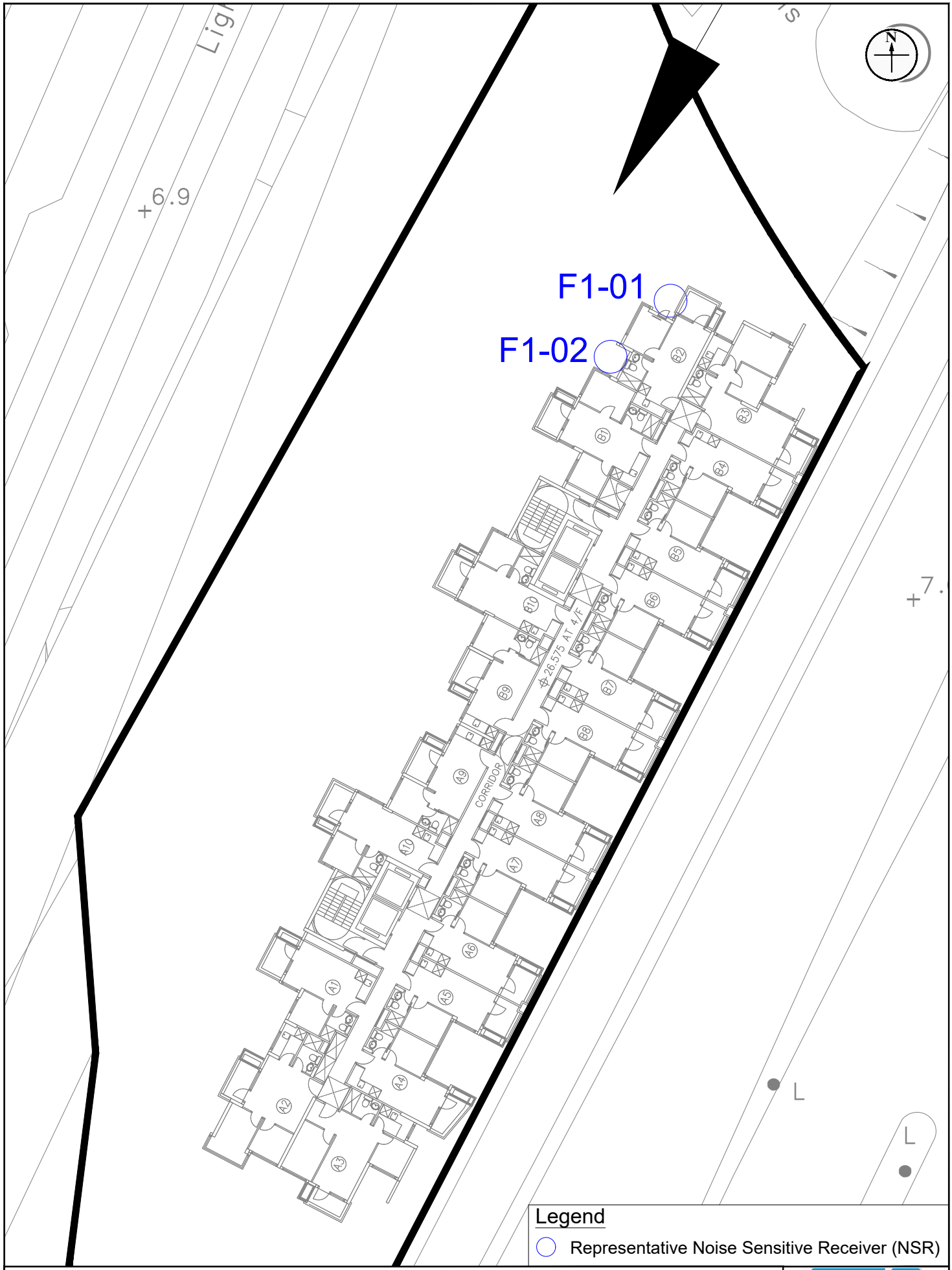

Figure:	5.2	RAMBOLL
Title:	Locations of Representative Noise Sensitive Receivers for Fixed Noise Sources Impact Assessment	Drawn by: CM Checked by: CC
Project:	S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun	Rev.: 1.2 Date: May 2026

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Figure:	6.1a	RAMBOLL
Title:	Proposed Overall Noise Mitigation Measures (2/F)	Drawn by: CM Checked by: BF
Project:	S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun	Rev.: 1.3 Date: May 2026

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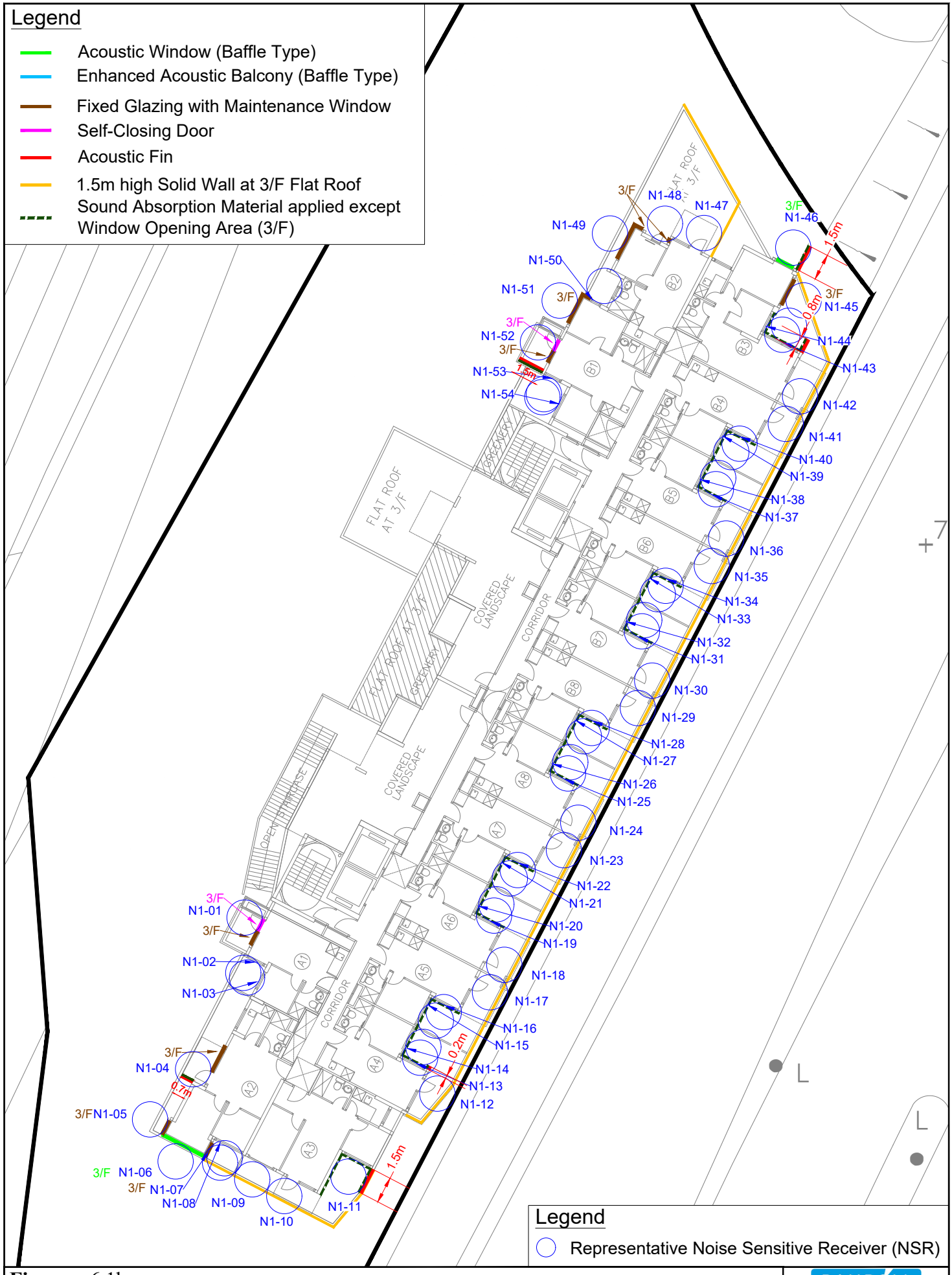

Figure: 6.1b

Title: Proposed Overall Noise Mitigation Measures (3/F)

RAMBOLL

Drawn by:	CM
Checked by:	BF
Rev.:	1.3
Date:	May 2026

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

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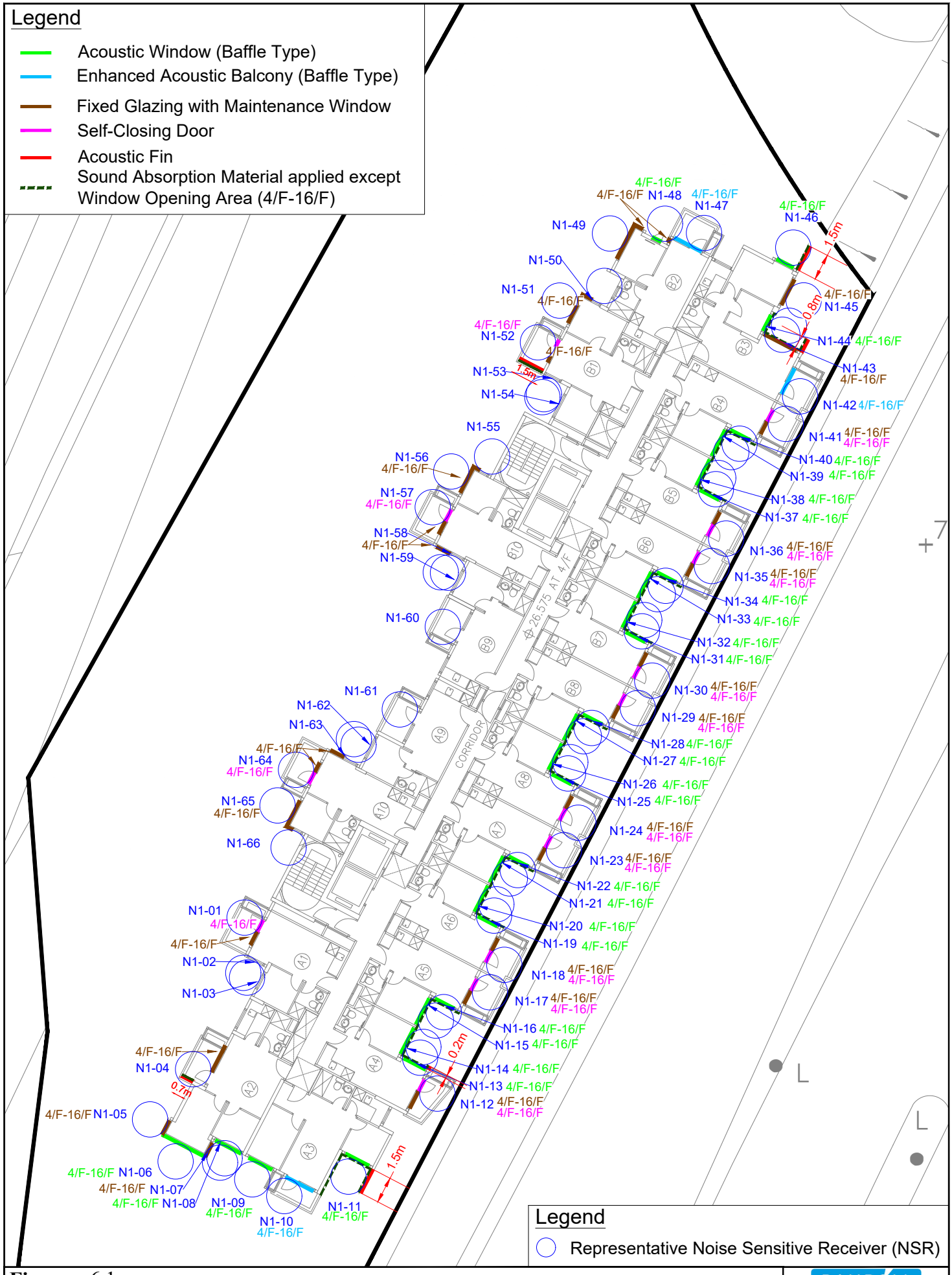


Figure: 6.1c

Title: Proposed Overall Noise Mitigation Measures (4/F - 16/F)

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

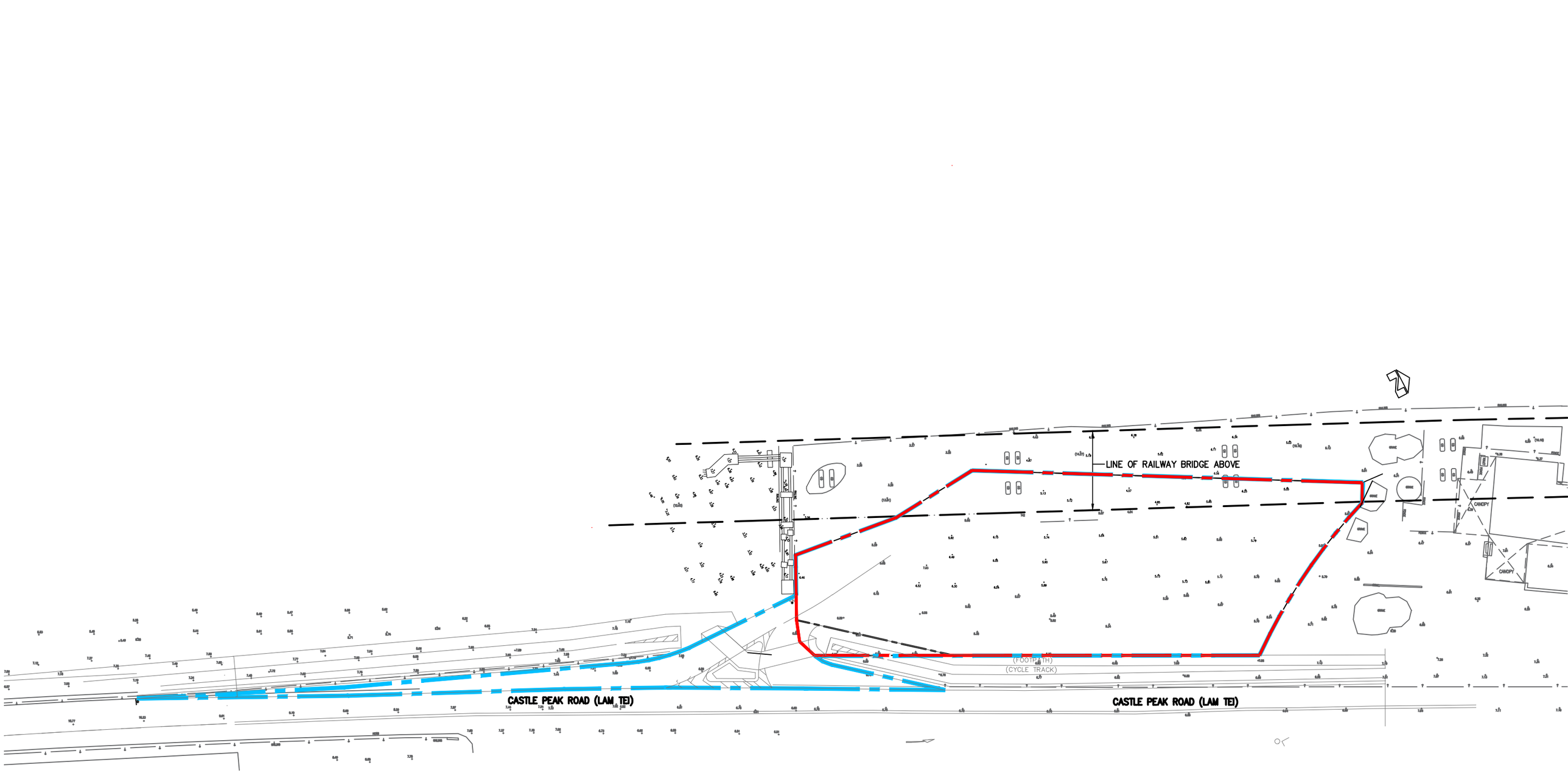
RAMBOLL

Drawn by:	CM
Checked by:	BF
Rev.:	1.3
Date:	May 2026

\\aphkfps3\Drive Q\Projects\ASLLT130EI00\04 Deliverables\01 NIA Report\01 Figures\R9921_v1.3\Overall NMM_20260505.dwg

Appendix 2.1

Master Layout Plan, Floor Plans and Section Plan of the Proposed Development



DEVELOPMENT BOUNDARY

S16 PLANNING APPLICATION SITE AREA

MLA ARCHITECTS (HK) LTD
馬梁建築師事務所(香港)有限公司

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 600 (A3)

SP–43–01C
05–2026

PROPOSED RESIDENTIAL DEVELOPMENT WITH SHOP AND SERVICES

DEVELOPMENT BOUNDARY
S16 PLANNING APPLICATION AREA

PROPOSED SCHEME - PLOT RATIO 4.2 ~ 14 STOREYS)

SITE AREA = 2195.500 s.m.
PERMITTED PLOT RATIO = 4.2 (9221.100 s.m.)

ACTUAL G.F.A. OF DOMESTIC

G/F ENTRANCE LOBBY	=	159.180 s.m.
1/F CAR PARK		
2/F LOBBIES	=	112.00 s.m.
3/F DOMESTIC & COVERED LANDSCAPE	=	516.486 s.m.
4/F TO 16/F DOMESTIC (646.855 x 13 STOREYS)	=	8409.115 s.m.
	=	9196.781 s.m.

9196.781 - 40.680 (LIFT EXEMPTION) = 9156.101 s.m.

TOTAL G.F.A. OF NON - DOMESTIC

G/F SHOP = 64.999 s.m.

ACTUAL PLOT RATIO OF DOMESTIC & NON - DOMESTIC

9156.101 + 64.999 / 2,195.500 = 4.20 ⩽ 4.20

ACTUAL SITE COVERAGE

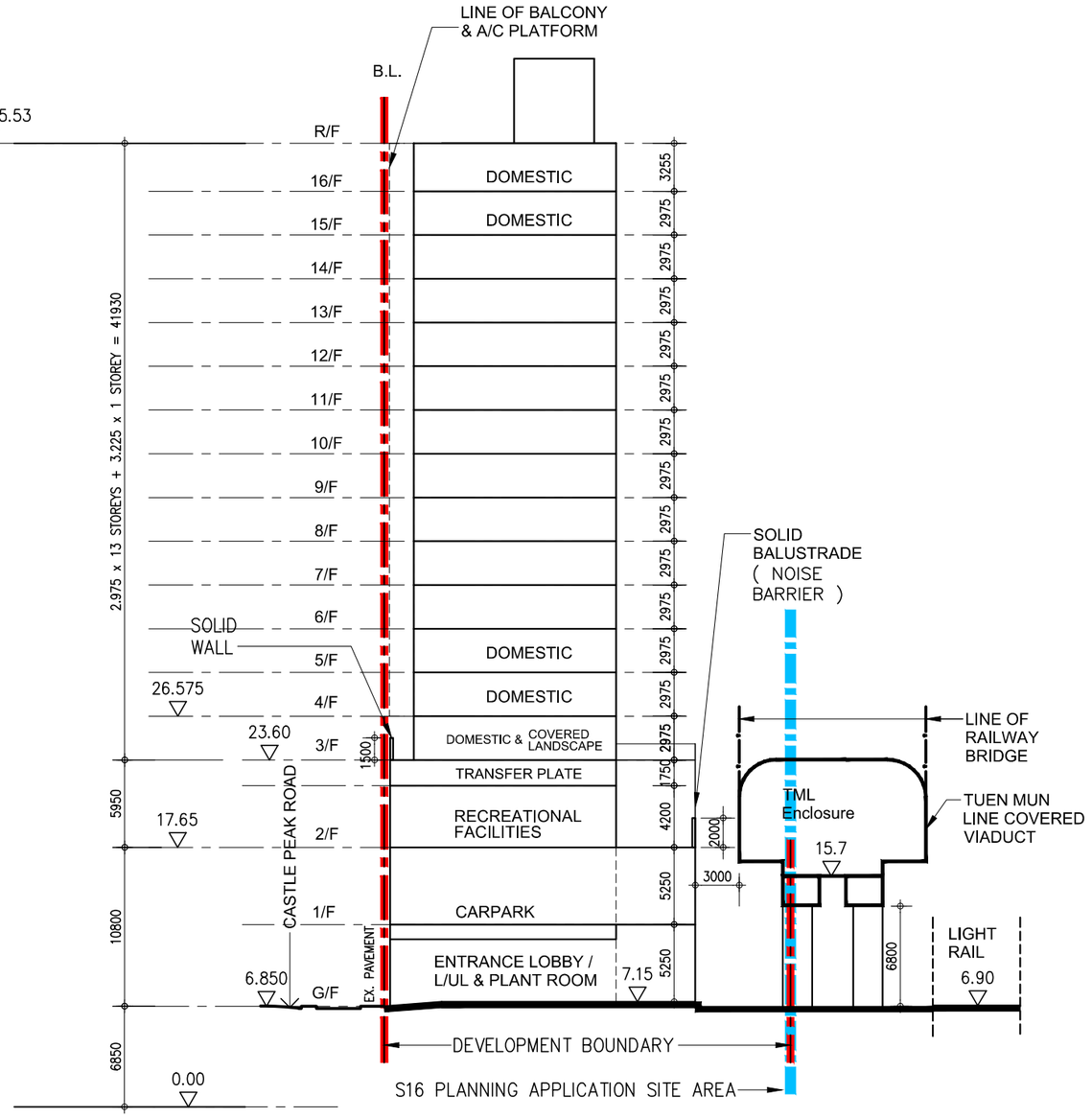
PERMITTED SITE COVERAGE OF DOMESTIC = 33.33 %
731.760 / 2,195.500 s.m. = < 33.33 %

RESIDENTIAL RECREATIONAL FACILITIES AREA

PERMITTED AREA OF RESIDENTIAL RECREATIONAL FACILITIES = 9156.101 % x 5% = 457.80 s.m.
2/F RECREATIONAL FACILITIES AREA = 457 s.m. < 457.80 s.m.

SITE COVERAGE OF GREENERY (SITE AREA : 1000 s.m. ~ 20000 s.m.)

PROVIDED OF GREENERY AREA
(G/F) = 255 s.m. (app.)
(2/F) = 165 s.m. (app.)
(3/F) = 25 s.m. (app.)
= 445.000 s.m. (app.) > 20 % = 440 s.m.



PROPOSED DIAGRAMMATIC SECTION

(13 + 1 DOMESTIC STOREYS)

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 400 (A3)

SP–43–02G
05–2026

MLA ARCHITECTS (HK) LTD 馬梁建築師事務所(香港)有限公司

Light Rail Transit

Kowloon-Canton Railway West Rail)

Nullah

Light Rail Transit

Outfall

Outfall

N

LINE OF RAILWAY BRIDGE ABOVE

Pipelines

Burial Urns

FLAT ROOF

FLAT ROOF

FLAT ROOF

TOP ROOF

FLAT ROOF

(FOOTPATH)

(CYCLE TRACK)

EX. PAVEMENT

EX. CYCLING TRACK

EX. RAILING

(FOOTPATH)

(CYCLE TRACK)

CASTLE PEAK ROAD (LAM TEI)

CASTLE PEAK ROAD (LAM TEI)

BLOCK PLAN

DEVELOPMENT BOUNDARY

S16 PLANNING APPLICATION SITE AREA

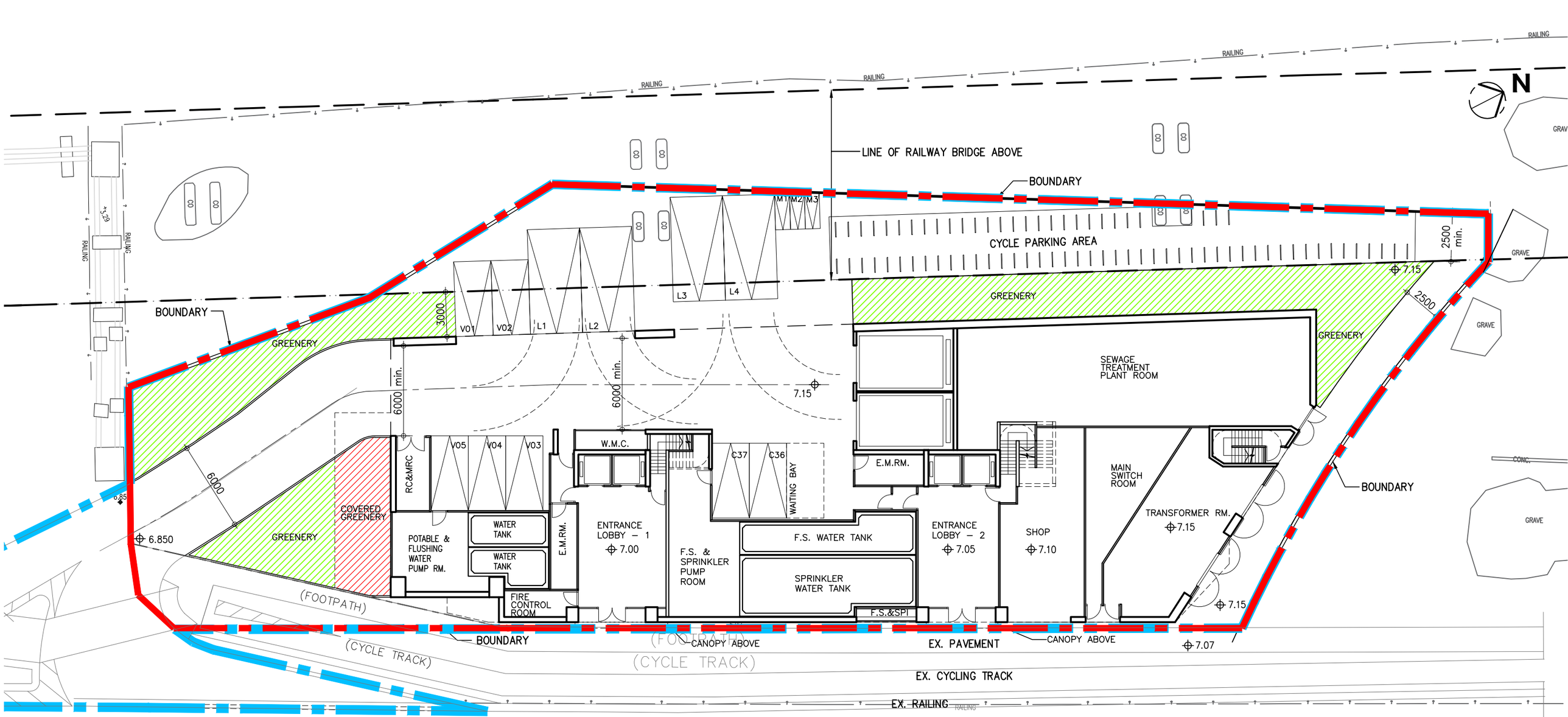
MLA ARCHITECTS (HK) LTD 馬梁建築師事務所(香港)有限公司

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 500 (A3)

SP–43–03D

05–2026



GROUND FLOOR PLAN

NOS. OF LGV PARKING = 4
NOS. OF PRIVATE CAR PARKING = 2
NOS. OF MOTOR–CYCLE PARKING = 3
NOS. OF VISITOR'S CARPARK = 5
NOS. OF CYCLE PARKING = 62

GREENERY
COVERED GREENERY
DOUBLE DECK CAR PARKING

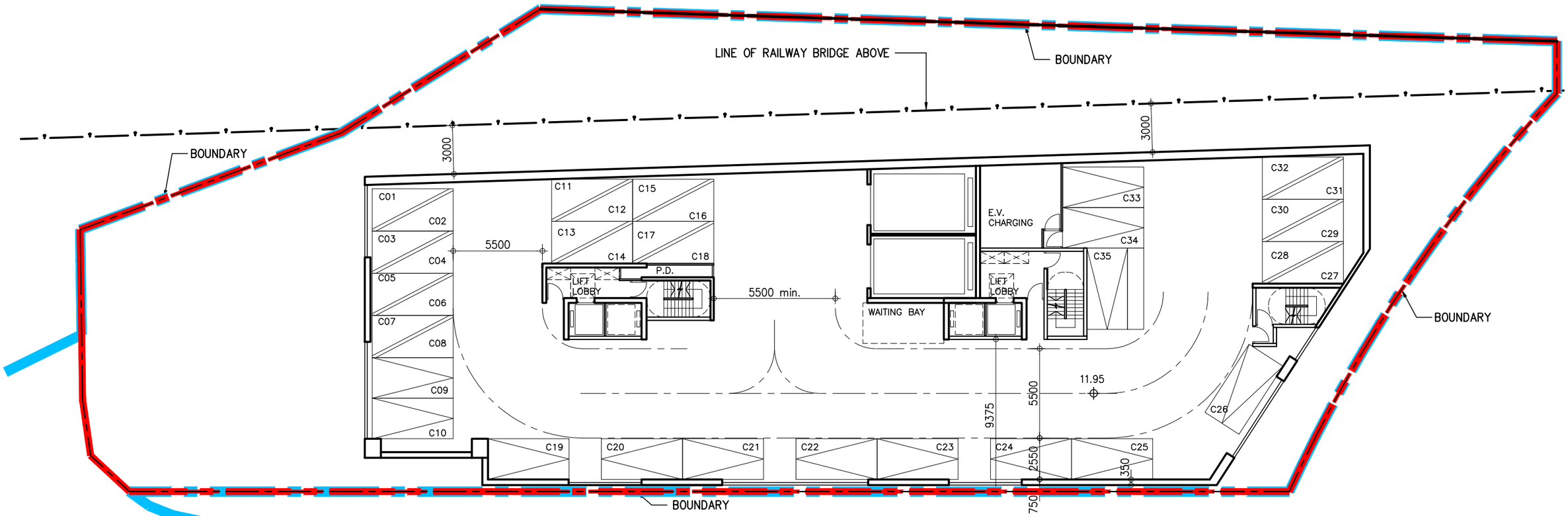
DEVELOPMENT BOUNDARY
S16 PLANNING APPLICATION SITE AREA

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP–43–04H
05–2026

MLA ARCHITECTS (HK) LTD 馬梁建築師事務所(香港)有限公司



1st FLOOR PLAN

NOS. OF PRIVATE CAR PARKING = 35

PRIVATE CAR PARKING

DOUBLE DECK CAR PARKING

DEVELOPMENT BOUNDARY

S16 PLANNING APPLICATION SITE AREA

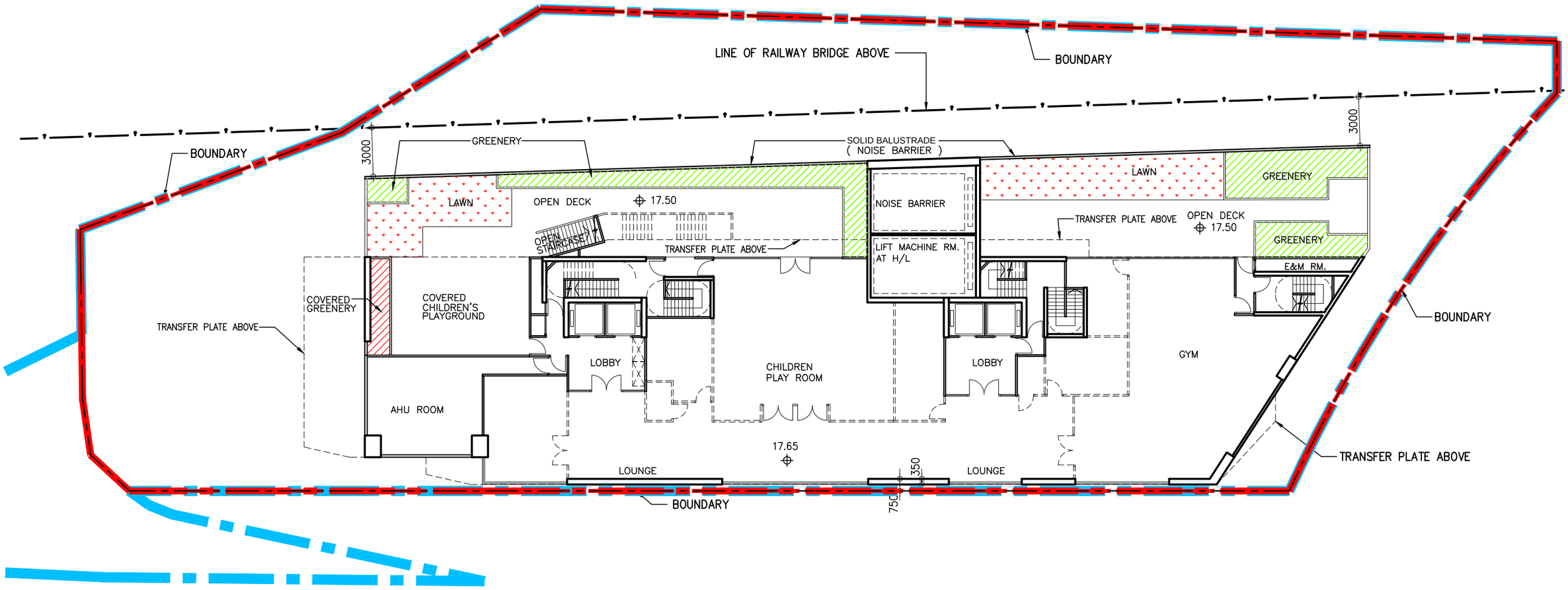
Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP–43–05E

05–2026

MLA ARCHITECTS (HK) LTD 馬梁建築師事務所(香港)有限公司



2nd FLOOR PLAN (RESIDENTIAL RECREATIONAL FACILITIES)

RECREATIONAL FACILITIES AREA = 10800.00 x 5% = 540.00 s.m.

GREENERY / LAWN

COVERED GREENERY

DEVELOPMENT BOUNDARY

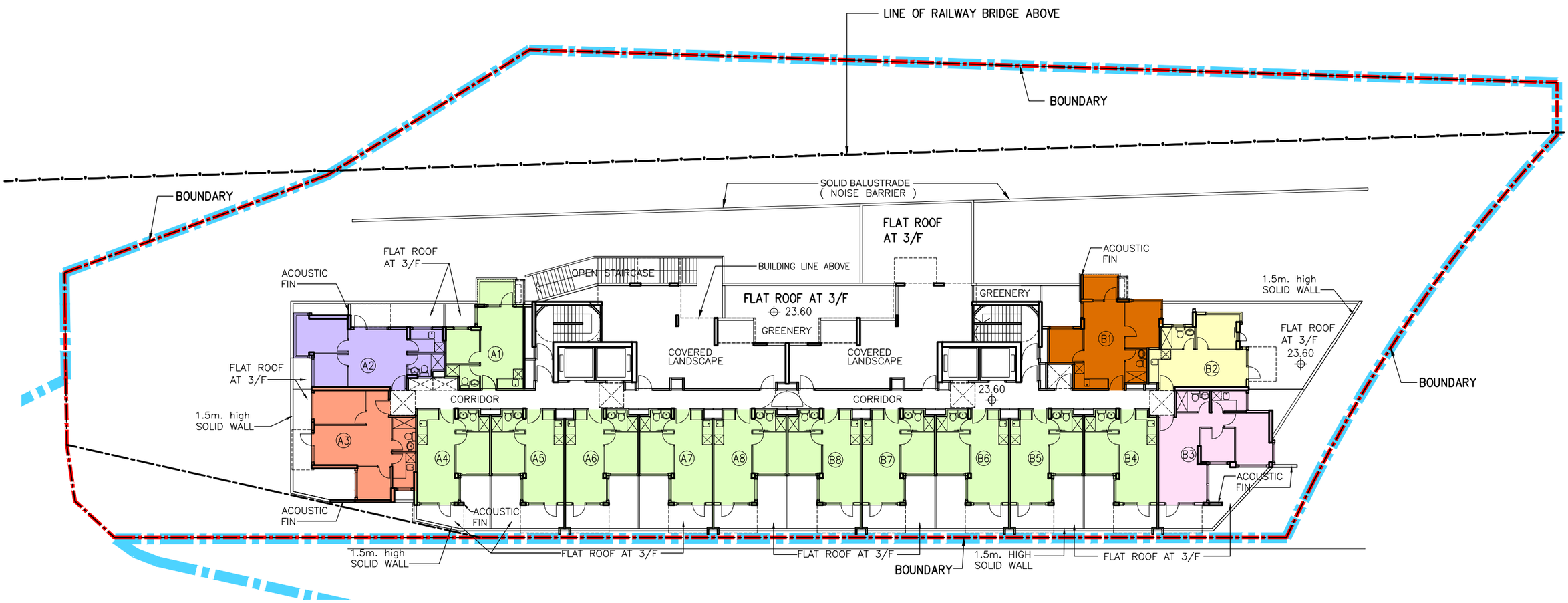
S16 PLANNING APPLICATION SITE AREA

ARCHITECTS (HK) LTD
馬梁建築師事務所(香港)有限公司

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP–43–06E
05–2026



3rd FLOOR PLAN (1 STOREY)

(16 UNITS)

GREENERY

DEVELOPMENT BOUNDARY

S16 PLANNING APPLICATION SITE AREA

MLA ARCHITECTS (HK) LTD
馬梁建築師事務所(香港)有限公司

馬梁

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP-43-07G

05-2026

4th TO 16th FLOOR PLAN (13 STOREYS)
(20 UNITS)

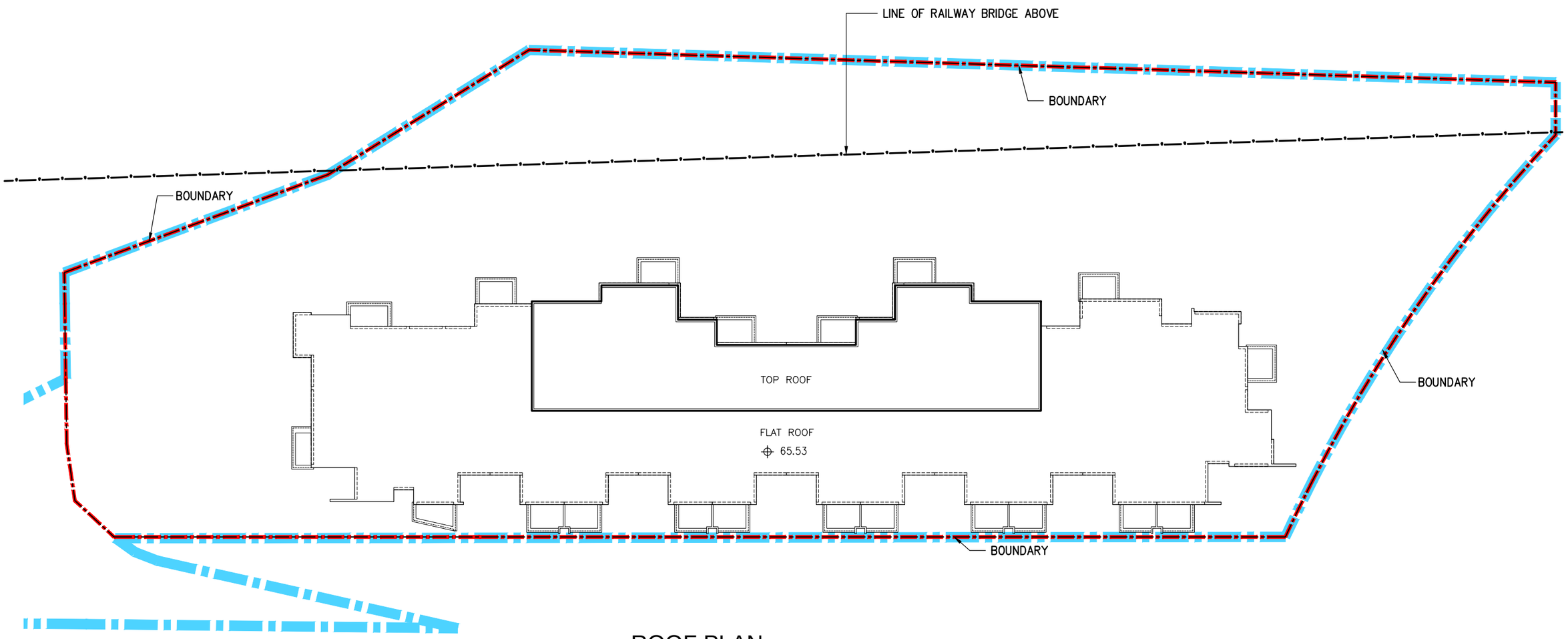
DEVELOPMENT BOUNDARY
S16 PLANNING APPLICATION SITE AREA

MLA ARCHITECTS (HK) LTD
馬梁建築師事務所(香港)有限公司

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP-43-08E
05-2026



ROOF PLAN

DEVELOPMENT BOUNDARY

S16 PLANNING APPLICATION SITE AREA

MLA ARCHITECTS (HK) LTD 馬梁建築師事務所(香港)有限公司

Proposed Minor Relaxation of Plot Ratio and Building Height Restriction for the Residential Development with Shop and Services at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and adjoining Government Land in Lam Tei

SCALE 1 : 250 (A3)

SP-43-09E

05-2026

Appendix 3.1

TD's Endorsement and Traffic Forecast of Year 2046

HWSPB 何黃
Traffic & Transportation Consultants

Ho Wang SPB Limited 何黃交通顧問有限公司
香港上環蘇杭街41 - 47號蘇杭商業大廈5樓
5 Floor, So Hong Commercial Building, 41 - 47 Jervois Street, Sheung Wan, Hong Kong
Tel : (852) 2865 0090 Fax : (852) 2866 4332
E-mail : info@howangspb.com Website : www.howangspb.com

BY POST & EMAIL (bfan@ramboll.com)

29 April 2026
Our reference: J977.4/5

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

Attention: Mr. Billy Fan (Principal Consultant)

Dear Mr. Fan,

Proposed Residential Development at Lot 531RP, 532DRP & 532RP in DD130, Lam Tei, Tuen Mun
Traffic Forecast for Environmental Impact Assessment

We refer to our submission of Technical Note on Traffic Forecast for Environmental Impact Assessment to TD via letter dated 22 April 2026 (Our ref.: J977.4/4) and the endorsement from Transport Department via fax dated 28 April 2026 regarding to the captioned subject.

We write to confirm that Transport Department's endorsed methodology prepared by us has been strictly adopted in preparing the traffic forecast for the Environmental Impact Assessment Report (Noise & Air) prepared by Ramboll Hong Kong Limited.

Should you have any queries, please do not hesitate to contact the undersigned at [redacted] / [redacted].

Yours sincerely,
For and on behalf of
Ho Wang SPB Limited

Tommy Lam
Associate

JW/TL/TA/my

c.c.: Asia Standard - Ms. Zoe Lee (zoelee@asiastandard.com) - by Email only

中国办事处
上海市黃浦区淮海中路918号
久事复兴大厦10楼G座
邮政编码 200020
电 话：(86) 21-5465 6571
传 真：(86) 21-5465 6573

By Fax
2866 4332

運輸署
Transport Department

本署檔案 Our Ref. : (00VFB) in 010-070-452-NR-TMDD-130
來函檔號 Your Ref. : J977.4/4
電 話 Tel. : 2399 2426
圖文傳真 Fax : 2381 3799
電 郵 Email : -

28 April 2026

Ho Wang SPB Limited
5/F, So Hong Commercial Building
41 – 47 Jervois Street, Sheung Wan
Hong Kong
(Attention: Mr Tinson LEUNG)

Dear Sir/Madam,

Proposed Residential Development at Lot 531RP, 532DRP & 532RP in DD130 Lam Tei, Tuen Mun

Technical Note for Traffic Forecast [Environmental Impact Assessment]

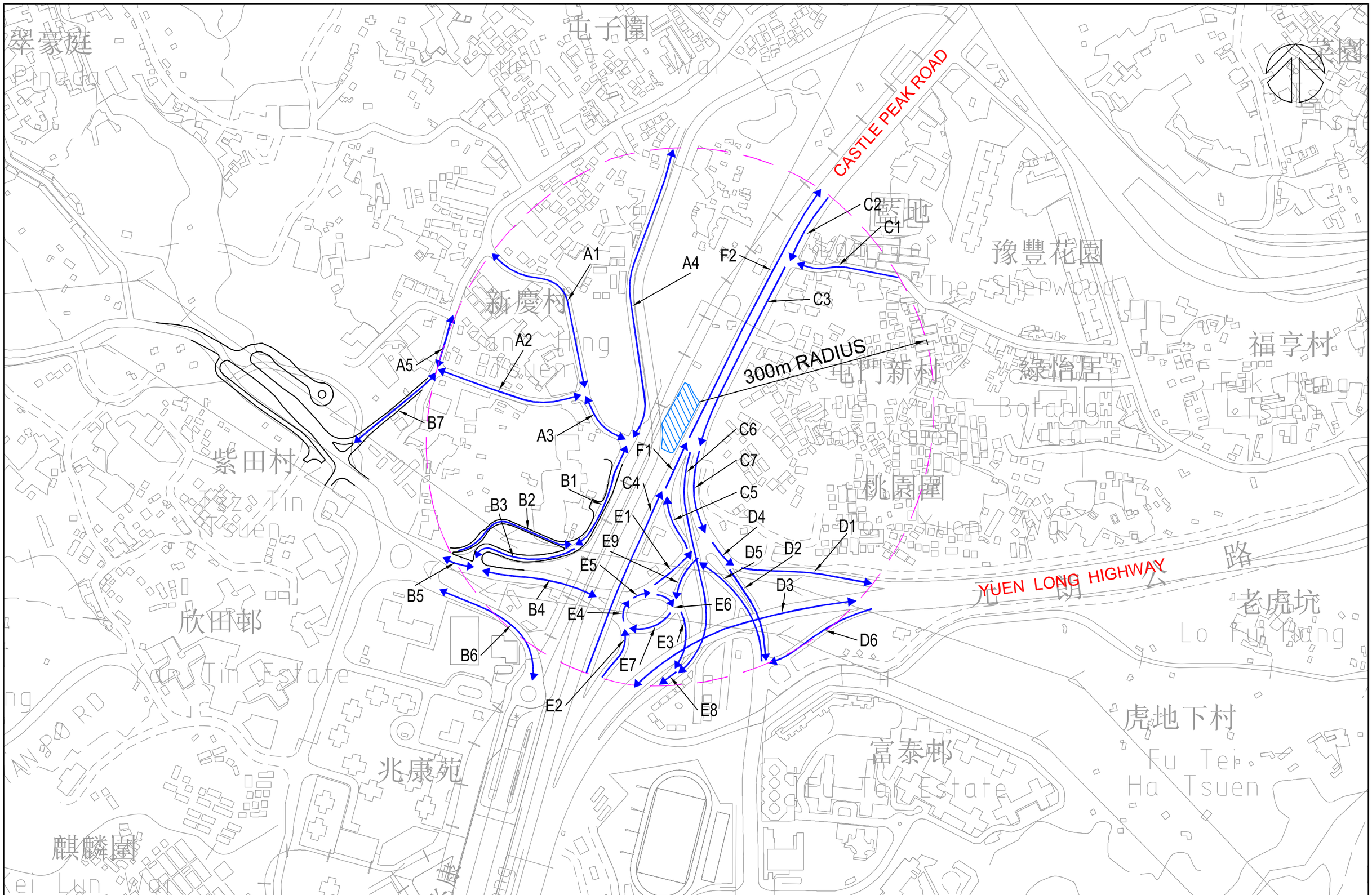
I refer to the above referenced letter regarding captioned.

Please note that Environmental Impact Assessment (Noise and Air) is not under our purview. We are not in a position to provide comments on the traffic figures tailor-made for the environmental assessment study. Notwithstanding the above, we have no objection in principle to the methodology of traffic forecast provided that the methodology is consistent with the TIA Report submitted in the project.

Yours faithfully,

(William MOK)
for Commissioner for Transport

新界分區辦事處
NT Regional Office
九龍眺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



HWSPB 何黃 Traffic & Transportation Consultants Ho Wang SPB Limited	Project Title: SECTION 16 PLANNING APPLICATION FOR THE PROPOSED FLAT DEVELOPMENT, MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTION, LOTS 531 RP, 532 S.D. RP AND 532 RP IN D.D. 130 AND ADJOINING GOVERNMENT LAND, LAM TEI, TUEN MUN, NEW TERRITORIES	Scale: N. T. S.	Date: OCT 2025	Figure No.: 1
	Figure Title: FLOW INDEX (NIA)	Project No.: 977.4	CAD Ref.: J977.4/EIA1/F01/2025-10-09	Rev.: –

Index	Road Name	Direction	Road Speed	Observed Heavy Vehicle (%)		2046 Traffic Flows (VEH/hr)	
				AM	PM	AM	PM
F1	Lam Tei Interchange	N	70	25%	32%	1467	1424
F2	Castle Peak Road - Lam Tei	N	70	25%	32%	1467	1424
E1	Lam Tei Interchange	N	50	27%	22%	1682	1516
E2	Lam Tei Interchange	N	50	26%	28%	788	863
E3	Lam Tei Interchange	S	50	28%	19%	1361	763
E4	Lam Tei Interchange	N	50	19%	16%	414	454
E5	Lam Tei Interchange	E	50	28%	22%	2488	2106
E6	Lam Tei Interchange	E	50	33%	24%	791	599
E7	Lam Tei Interchange	W	50	22%	24%	1388	1401
E8	Lam Tei Interchange	S	70	30%	20%	2546	1674
E9	Lam Tei Interchange	S	50	23%	21%	1846	1496
D1	Lam Tei Interchange	E	50	29%	22%	1600	1420
D2	Lam Tei Interchange	E	50	29%	21%	443	440
D3	Yuen Long Highway	N	80	27%	28%	3630	4089
D3	Yuen Long Highway	S	80	40%	24%	2857	3296
D4	Lam Tei Interchange	E	50	29%	22%	1854	1676
D5	Lam Tei Interchange	N	50	26%	26%	1659	1437
D6	Lam Tei Interchange	W	50	24%	26%	1646	1250
C1	Lam Tei Main Street	W	50	16%	6%	295	444
C2	Castle Peak Road - Lam Tei	S	70	28%	20%	1940	1481
C3	Castle Peak Road - Lam Tei	S	70	28%	20%	2097	1748
C4	Lam Tei Interchange	N	70	23%	31%	887	875
C5	Lam Tei Interchange	N	50	24%	31%	521	496
C6	Lam Tei Interchange	S	70	30%	19%	1195	887
C7	Lam Tei Interchange	S	50	30%	22%	895	855
B1	Ng Lau Street	N	50	20%	24%	482	550
B1	Ng Lau Street	S	50	24%	13%	733	458
B2	Ng Lau Street	N	50	20%	24%	482	550
B3	Ng Lau Street	S	50	24%	13%	733	458
B4	Lam Tei Interchange	E	50	29%	24%	2060	1648
B4	Lam Tei Interchange	W	50	25%	29%	1763	1788
B5	Lam Tei Interchange	E	50	28%	25%	2045	1700
B5	Lam Tei Interchange	W	50	23%	28%	1714	1744
B6	Access Road to Siu Hong Stat	E	50	34%	38%	388	322
B6	Access Road to Siu Hong Stat	W	50	33%	40%	259	190
B7	Unnamed Road	N	50	0%	25%	5	5
B7	Unnamed Road	S	50	4%	12%	50	14
A1	Ng Lau Street	N	50	16%	23%	138	207
A1	Ng Lau Street	S	50	23%	14%	289	190
A2	San Hing Road	E	50	22%	20%	21	23
A2	San Hing Road	W	50	33%	38%	18	9
A3	Ng Lau Street	N	50	17%	23%	150	225
A3	Ng Lau Street	S	50	24%	15%	300	194
A4	Unnamed Road	N	50	17%	23%	142	158
A4	Unnamed Road	S	50	24%	15%	233	130
A5	Unnamed Road	N	50	21%	21%	26	29
A5	Unnamed Road	S	50	13%	23%	69	23

Appendix 3.2

Predicted Road Traffic Noise Impact Assessment Results (Base Case Scenario)

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Base Case (AM Peak Flow - Worst Case)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	69	69	69	69	**75**	**78**	**76**	**77**	**77**	**77**	**77**	**80**	**72**	70	**73**	**73**	**79**	**79**	70	70	**73**	**73**	**79**	**79**	70	69	**73**	**72**	**79**	**79**	70	69
4/F	26.6	69	69	69	70	**76**	**77**	**77**	**77**	**78**	**78**	**79**	**81**	**78**	**76**	**77**	**78**	**81**	**81**	**77**	**76**	**77**	**77**	**80**	**80**	**76**	**76**	**77**	**77**	**80**	**80**	**76**	**76**
5/F	29.6	69	69	69	69	**76**	**77**	**77**	**77**	**78**	**79**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**78**	**77**
6/F	32.5	69	69	69	69	**76**	**77**	**77**	**77**	**78**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**78**	**77**
7/F	35.5	69	69	69	69	**75**	**77**	**77**	**77**	**78**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**77**	**76**
8/F	38.5	69	69	69	69	**75**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**
9/F	41.5	69	69	69	69	**75**	**77**	**77**	**77**	**77**	**78**	**78**	**79**	**78**	**77**	**77**	**78**	**79**	**79**	**77**	**77**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
10/F	44.4	69	69	69	69	**75**	**77**	**77**	**77**	**78**	**78**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
11/F	47.4	69	69	69	69	**75**	**77**	**76**	**77**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**75**
12/F	50.4	69	69	69	69	**75**	**77**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**78**	**79**	**76**	**76**	**77**	**77**	**78**	**78**	**76**	**75**
13/F	53.4	69	68	69	69	**75**	**77**	**76**	**76**	**77**	**77**	**78**	**78**	**77**	**76**	**77**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**
14/F	56.3	69	68	68	69	**75**	**76**	**76**	**76**	**77**	**77**	**77**	**78**	**77**	**75**	**77**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
15/F	59.3	68	68	68	68	**75**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**74**
16/F	62.3	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**
Max Noise Level		69	69	69	70	76	78	77	77	78	79	79	81	78	77	78	78	81	81	78	77	78	78	80	80	77	77	78	78	80	80	78	77
Exceedance		0				14				14			14			14			14			14			14			14			14		

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	**72**	**72**	**79**	**79**	70	69	**72**	**72**	**79**	**79**	**75**	**73**	**79**	**79**	**73**	**71**	69	65	67	67	64	64	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	**77**	**77**	**80**	**80**	**77**	**76**	**77**	**77**	**80**	**80**	**78**	**77**	**80**	**79**	**76**	**75**	**73**	65	70	69	66	65	66	69	69	68	68	67	66	66	66	69	69	69
5/F	29.6	**77**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**78**	**79**	**79**	**76**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
6/F	32.5	**77**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**79**	**78**	**76**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
7/F	35.5	**77**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	65	69	69	69
8/F	38.5	**77**	**78**	**79**	**79**	**77**	**77**	**77**	**78**	**79**	**79**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	69	68	68	68	67	66	66	65	69	69	69
9/F	41.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**78**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	68	68	68	68	67	66	66	65	69	69	69
10/F	44.4	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**75**	**75**	**73**	65	70	69	66	66	66	68	68	68	68	67	66	65	65	69	69	69
11/F	47.4	**76**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	65	69	68	66	66	66	68	68	68	68	67	66	65	65	69	69	69
12/F	50.4	**76**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	68	67	66	65	65	69	69	69
13/F	53.4	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	67	66	65	65	68	69	68
14/F	56.3	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
15/F	59.3	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
16/F	62.3	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**73**	**73**	**72**	64	69	68	65	65	66	68	68	67	67	66	65	65	65	68	68	68
Max Noise Level		77	78	80	80	78	77	78	78	80	80	78	78	80	79	76	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
Exceedance			14			14			14			14					14				0			0				0			0				

Total no. of Flats:	276
Total no. of Exceedance:	196
Compliance Level:	29%
Max. Noise Level:	81

Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Base Case (PM Peak Flow)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	68	68	68	68	**75**	**77**	**75**	**76**	**77**	**77**	**76**	**79**	**71**	69	**72**	**72**	**78**	**78**	69	69	**72**	**72**	**78**	**78**	69	68	**72**	**71**	**78**	**78**	69	68
4/F	26.6	68	68	68	68	**75**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**76**	**75**	**76**	**77**	**80**	**80**	**76**	**75**	**76**	**76**	**80**	**80**	**75**	**75**	**76**	**76**	**80**	**80**	**75**	**75**
5/F	29.6	68	68	68	68	**75**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**80**	**80**	**77**	**76**	**77**	**77**	**80**	**80**	**77**	**76**
6/F	32.5	68	68	68	68	**75**	**77**	**77**	**77**	**77**	**78**	**78**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
7/F	35.5	68	68	68	68	**75**	**77**	**76**	**77**	**77**	**78**	**78**	**79**	**78**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
8/F	38.5	68	68	68	68	**75**	**77**	**76**	**77**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
9/F	41.5	68	68	68	68	**75**	**76**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**75**
10/F	44.4	68	68	68	68	**75**	**76**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**
11/F	47.4	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**77**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
12/F	50.4	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
13/F	53.4	68	67	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**
14/F	56.3	68	67	67	68	**74**	**76**	**76**	**76**	**76**	**76**	**77**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**	**76**	**76**	**77**	**77**	**75**	**74**
15/F	59.3	67	67	67	67	**74**	**76**	**75**	**76**	**76**	**76**	**77**	**78**	**76**	**75**	**76**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**
16/F	62.3	67	67	67	67	**74**	**76**	**75**	**75**	**76**	**76**	**76**	**77**	**75**	**74**	**76**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**75**	**77**	**77**	**75**	**74**
Max Noise Level		68	68	68	68	75	77	77	77	77	78	79	80	78	77	78	78	80	80	77	77	77	78	80	80	77	76	77	77	80	80	77	76
Exceedance		0				14				14			14			14			14			14			14			14			14		

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	**71**	**71**	**78**	**78**	69	68	**71**	**71**	**79**	**78**	**74**	**73**	**78**	**79**	**72**	70	69	64	67	66	63	63	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	**76**	**76**	**80**	**80**	**76**	**75**	**76**	**76**	**80**	**80**	**78**	**77**	**79**	**79**	**75**	**74**	**72**	64	69	68	65	64	65	68	68	67	67	66	65	65	65	68	68	68
5/F	29.6	**77**	**77**	**80**	**80**	**77**	**76**	**77**	**78**	**80**	**80**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
6/F	32.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
7/F	35.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**78**	**75**	**75**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
8/F	38.5	**76**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**75**	**74**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
9/F	41.5	**76**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	64	64	68	68	68
10/F	44.4	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	64	69	68	65	65	65	68	67	67	67	66	65	64	64	68	68	68
11/F	47.4	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	64	69	68	65	64	65	67	67	67	67	66	65	64	64	68	68	68
12/F	50.4	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**74**	**73**	**72**	64	69	68	65	64	65	67	67	66	66	66	65	64	64	68	68	68
13/F	53.4	**75**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**73**	**73**	**71**	64	68	67	65	64	65	67	67	66	66	66	65	65	64	64	67	68	67
14/F	56.3	**75**	**76**	**77**	**77**	**75**	**74**	**76**	**76**	**77**	**77**	**76**	**75**	**77**	**76**	**73**	**73**	**71**	64	68	67	65	64	65	67	67	66	66	66	65	64	64	64	67	67	67
15/F	59.3	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**77**	**76**	**73**	**73**	**71**	64	68	67	64	64	65	67	67	66	66	65	64	64	64	67	67	67
16/F	62.3	**75**	**75**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**76**	**76**	**73**	**73**	**71**	63	68	67	64	64	64	67	67	66	66	65	64	64	64	67	67	67
Max Noise Level		77	77	80	80	77	76	77	78	80	80	78	77	79	79	75	75	73	64	69	68	65	65	65	68	68	67	67	66	65	65	65	68	68	68
Exceedance		14			14			14			14					14			0				0				0			0			0		

Total no. of Flats:	276
Total no. of Exceedance:	196
Compliance Level:	29%
Max. Noise Level:	80

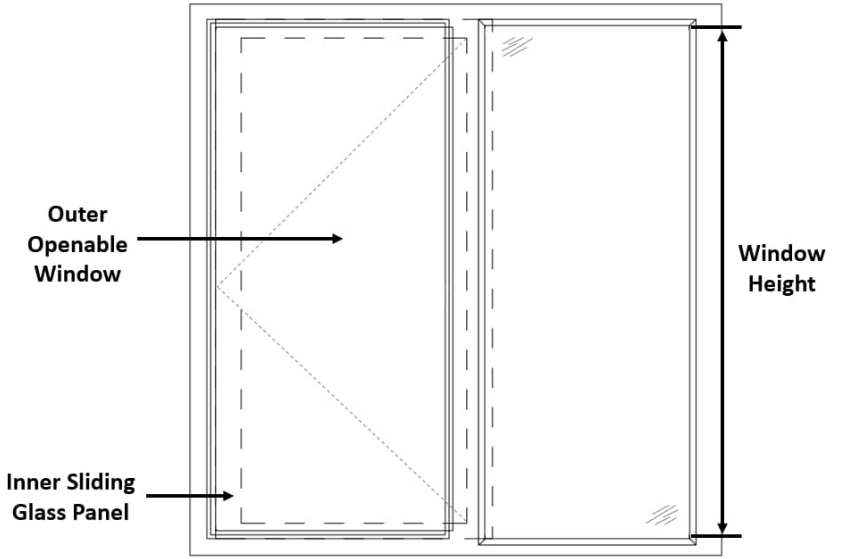
Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

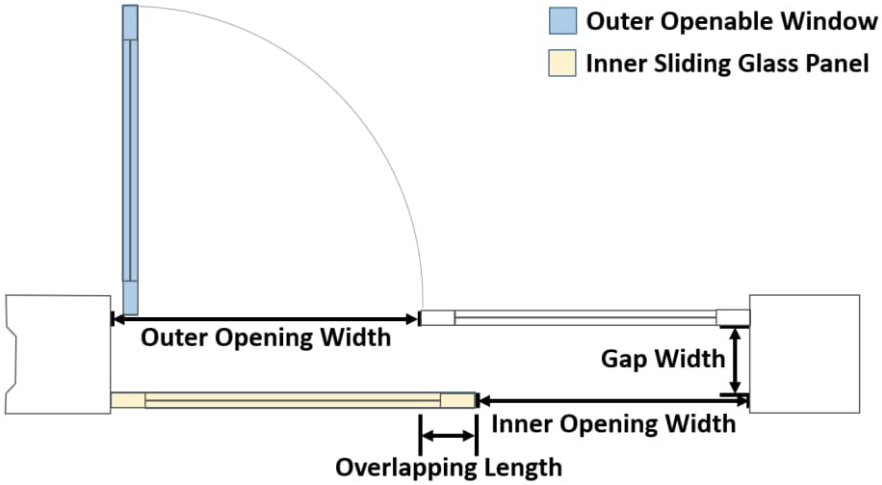
Appendix 3.3

Proposed Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type)

(I) Possible design of "Acoustic Window (Baffle Type)" for 8m² and 18m² habitable rooms (i.e. dining room, living room or bedroom)



INTERNAL VIEW (NOT TO SCALE)



PLAN (NOT TO SCALE)

Possible Designs of "Acoustic Window (Baffle Type)" for 8m² and 18m² rooms					
Room Size (m^2)	**Room Dimensions (mm^3)**	**Inner Window Opening (mm^2)**	**Outer Window Opening (mm^2)**	**Overlapping Length (mm)**	**Gap Width (mm)**
8	**3200 (W) x 2500 (D) x 3400 (H)**	**580 (W) x 870 (H)**	**600 (W) x 870 (H)**	**≥ 100**	**100 to 175**
18	**5300 (W) x 3390 (D) x 3400 (H)**	**750 (W) x 1500 (H)**	**750 (W) x 1500 (H)**	**≥ 100**	**100 to 175**

Notes:

a. These are feasible designs of AW(BT) for 8m² and 18m² rooms.

b. For optimum performance of noise reduction, the air gap should have a pane-to-pane overlapping length of ≥ 100mm and a gap width between 100mm and 175mm, with the inner sliding glass panel in a closed position. The window pane shall be ≥ 6mm in thickness.

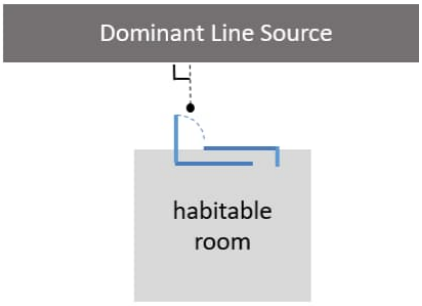
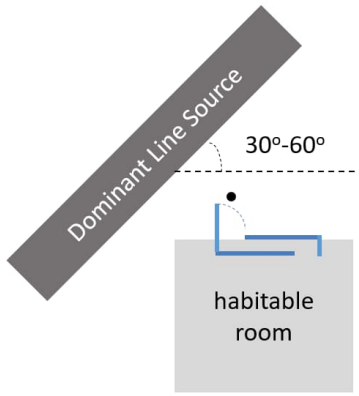
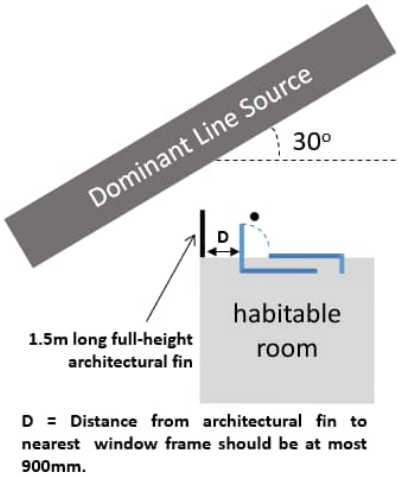
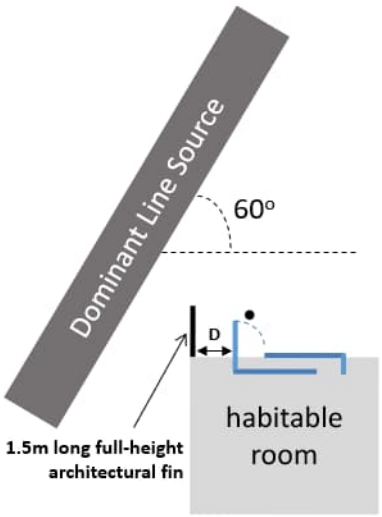
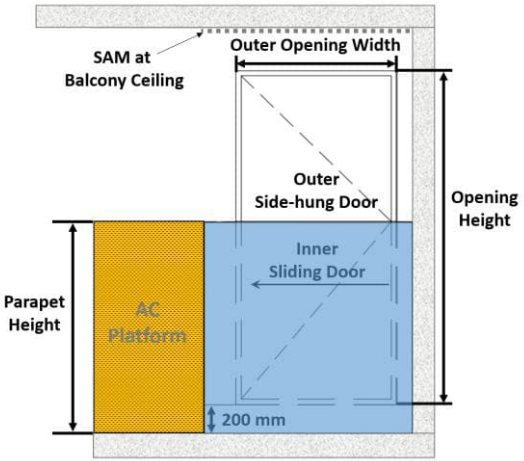
Table 1: Summary on RNR of Acoustic Window (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)	
		8m²	18m²
	**(a) Provision of AW(BT) parallel to dominant line source** (whichever side the outer side-hung window is)	- **6.0** - **7.5 (added SAM[1])**	- **7.0** - **8.5 (added SAM[1])**
	**(b) Tilting the AW(BT) in (a) above to 30° - 60° horizontal incident angle to dominant line source** (whichever side the outer side-hung window is)	- **7.0** - **8.5 (added SAM[1])**	- **8.0** - **9.5 (added SAM[1])**
 D = Distance from architectural fin to nearest window frame should be at most 900mm.	**(b1) If tilted AW(BT) is at 30° horizontal incident angle to dominant line source** **+ 1.5m long full-height architectural fin[2]** *** AW(BT) + architectural fin should be considered as ONE package of noise mitigation measures. Outer side-hung window of AW(BT) and architectural fin should be installed at the side nearer to dominant line source.**	- **8.0** - **9.5 (added SAM[1])**	- **9.0** - **10.5 (added SAM[1])**

Table 1: Summary on RNR of Acoustic Window (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)	
		8m²	18m²
 D = Distance from architectural fin to nearest window frame should be at most 900mm.	**(b2) If tilted AW(BT) is at 60° horizontal incident angle to dominant line source** **+ 1.5m long full-height architectural fin[2]** *** AW(BT) + architectural fin should be considered as ONE package of noise mitigation measures. Outer side-hung window of AW(BT) and architectural fin should be installed at the side nearer to dominant line source.**	**- 9.0** **- 10.5 (added SAM[1])**	**- 10.0** **- 11.5 (added SAM[1])**

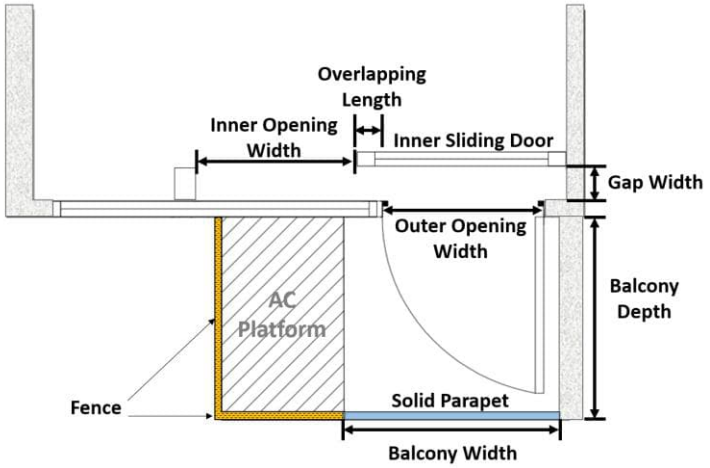
Note 1: The additional Sound Absorptive Material (SAM) shall be of Noise Reduction Coefficient ≥ 0.7 and applied at top and outer opening side of mullion. The material of SAM is subject to the requirements of section 3 of Building (Construction) Regulation.

Note 2: The 1.5m long full-height architectural fin may be subject to the requirements for natural lighting and ventilation, gross floor area and site coverage under the B(P)R.

(II) Possible designs of "Enhanced Acoustic Balcony (Baffle Type)" in 14m^2 and 18m^2 habitable rooms (i.e. dining room, living room or bedroom)



EXTERNAL VIEW (NOT TO SCALE)

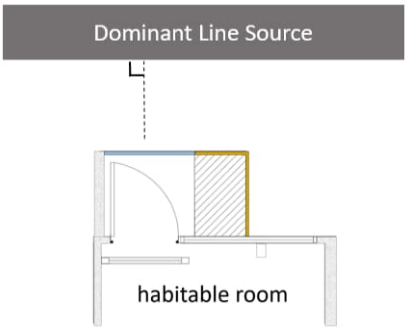
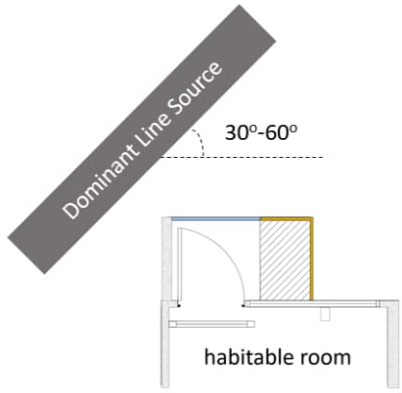


PLAN (NOT TO SCALE)

Fence (≥ 70% Permeability) Solid Parapet

Possible Designs of "Enhanced Acoustic Balcony (Baffle Type)" for 14m^2 and 18m^2 rooms								
Room size (m^2)	**Room Dimensions (mm^3)**	**Balcony Width (mm)**	**Balcony Depth (mm)**	**Parapet Height (mm)**	**Inner Opening (mm^2)**	**Outer Opening (mm^2)**	**Overlapping Length (mm)**	**Gap Width (mm)**
14	**3400 (W) x 4100 (D) x 3100 (H)**	**≥ 1440**	**≥ 1300**	**≥ 1450**	**1025 (W) x 2210 (H)**	**1150 (W) x 2210 (H)**	**≥ 100**	**100**
18	**5300 (W) x 3390 (D) x 3400 (H)**	**≥ 2055**	**≥ 1300**	**≥ 1450**	**1150 (W) x 2210 (H)**	**1150 (W) x 2210 (H)**	**≥ 100**	**100**

Notes:
1. These are feasible designs of EAB for 14m^2 and 18m^2 rooms. The room with EAB should meet the natural lighting and ventilation requirements in regulations 30 & 31 of the Building (Planning) Regulations (B(P)R). The AC platform should comply with the requirements under Appendix B of Code of Practice on Access for External Maintenance 2021 (AfEM Code), and balconies for residential buildings should comply with the criteria and conditions set out in Joint Practice Note (JPN) 1 for application of exemption from gross floor area and/or site coverage under the B(P)R.
2. SAM at balcony ceiling refers to sound absorptive material of noise reduction coefficient ≥ 0.7. It is an essential feature to attain the basic noise reduction performance in Annex B.
3. Comparable noise performance is anticipated should the AC platform be replaced by balcony with solid parapet.

Table 2: Summary on RNR of Enhanced Acoustic Balcony (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)	
		14m²	18m²
	**(a) Provision of EAB(BT) parallel to dominant line source**	- **8.0** - **9.5 (added SAM[1])**	- **9.0** - **10.5 (added SAM[1])**
	**(b) Tilting the EAB(BT) in (a) above to 30° - 60° horizontal incident angle to dominant line source**	- **11.0** - **12.5 (added SAM[1])**	- **11.0** - **12.5 (added SAM[1])**
Note 1: The additional Sound Absorptive Material (SAM) shall be of Noise Reduction Coefficient ≥ 0.7 and applied at top and outer opening side of the mullion. The material of SAM is subject to the requirements of section 3 of Building (Construction) Regulation.			

[i] *Should there be any variation on the proposed INMD, or practitioners and professionals consider that a higher RNR value should be adopted, justifications together with technical documents, e.g. corrections based on acoustic principles, laboratory testing reports, in-situ measurement reports, etc. should be submitted to the EPD for consideration. For requirements of laboratory measurement or in-situ measurement requirements, practitioners and professionals may contact the EPD for further details. As RNR varies with room size, practitioners and professionals may like to propose the preferred RNR to the EPD for consideration if different room size is encountered in the NIA study. Having said that, information indicates that for* ***Tables 1 and 2****:*

- *Variations of room size within +/- 10% would not affect the RNR;*
- *Variations of floor-to-ceiling height within +/- 5% would not affect the RNR; and*
- *Variations of window / door opening size within +/- 5% would not affect the RNR.*

Appendix 3.4

Referenced Configurations of Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type)

Road Traffic Noise Impact Assessment
Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type)
Summary Table of Major Parameters of Reference Case and Maximum Sound Attenuation Available

Name	Outer opening width, mm	Outer opening height, mm	Outer opening area, m^2	Air gap, mm	Overlapping length, mm	MPA Applied	Solid Parapet Applied	Acoustic Ceiling Applied	Room Area, m^2	Maximum Noise Reduction Available, dB(A)
Acoustic Window (Baffle Type)										
AW1-PN	600	870	0.5	100	100	No	-	-	8.0	6.0
AW2-PN	750	1500	1.1	100	100	No	-	-	18.0	7.0
Enhanced Acoustic Balcony (Baffle Type)										
EAB1-PN	1150	2210	2.5	100	100	No	Yes	Yes	14.0	8.0
EAB2-PN	1150	2210	2.5	100	100	No	Yes	Yes	18.0	9.0

Note:
MPA: Micro Perforated Absorber
Solid Parapet: Minimum 1440mm (W), 1450mm (H) parallel to door opening
SAM: Sound Absoptive Material
Acoustic Ceiling: Balcony ceiling to be covered by SAM

Road Traffic Noise Impact Assessment
Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type)
Table of Major Parameters, Room Size and Sound Attenuation Adjustment of "Proposed Case for Proposed Development" and "Corresponding Reference Case"

						Proposed Development								Reference Case														
Tower	Unit	Room	Opening	NSRs	Case	Outer opening area, m^2	Air gap, mm	Overlapping length, mm	MPA applied?	SAM and Pelmet applied	Solid Parapet Applied	Acoustic Ceiling applied	Room area (RA), m^2	Outer opening width, mm	Outer opening height, mm	Outer opening area, m^2	Air gap, mm	Overlapping length, mm	MPA applied?	Room area (RAref), m^2	Ref. sound attenuation, dB(A)	Room Size Adjustment: 10xlog(RA / RAref) (adjust downward only), dB(A)	Adjusted sound attenuation, dB(A)	Incident angle, deg	Window / Door: Extra sound attenuation from incident angle, dB(A)	Window / Door: Extra sound attenuation with SAM, dB(A)	Window: 1.5m Fin	Window: Extra sound attenuation with 1.5m Fin, dB(A)	Maximum possible sound attenuation, dB(A)
1	A2	BR	W	N1-06	AW1-PN	**0.5**	100	100	No	Yes	-	-	7.40	600	870	**0.5**	100	100	No	8.00	6.0	-0.3	5.7	90	1.0	1.5	No	0	8.2
1	A2	BR	W	N1-08	AW1-PN	**0.5**	100	100	No	Yes	-	-	5.40	600	870	**0.5**	100	100	No	8.00	6.0	-1.7	4.3	90	1.0	1.5	No	0	6.8
1	A3	BR	W	N1-09	AW1-PN	**0.5**	100	100	No	Yes	-	-	6.70	600	870	**0.5**	100	100	No	8.00	6.0	-0.8	5.2	90	1.0	1.5	No	0	7.7
1	A3	LIV	D	N1-10	EAB2-PN	**2.5**	100	100	No	No	Yes	Yes	17.30	1150	2210	**2.5**	100	100	No	18.00	9.0	-0.2	8.8	90	2.0	0	No	0	10.8
1	A3	BR	W	N1-11	AW1-PN	**0.5**	100	100	No	Yes	-	-	5.40	600	870	**0.5**	100	100	No	8.00	6.0	-1.7	4.3	90	1.0	1.5	Yes	2.0	8.8
1	A4	LIV	W	N1-13	AW2-PN	**1.1**	100	100	No	Yes	-	-	13.30	750	1500	**1.1**	100	100	No	18.00	7.0	-1.3	5.7	90	1.0	1.5	No	0	8.2
1	A4	BR	W	N1-14	AW1-PN	**0.5**	100	100	No	No	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	0	No	0	6.0
1	A5	BR	W	N1-15	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	A5	LIV	W	N1-16	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	A6	LIV	W	N1-19	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	A6	BR	W	N1-20	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	A7	BR	W	N1-21	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	A7	LIV	W	N1-22	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	A8	LIV	W	N1-25	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	A8	BR	W	N1-26	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	B8	BR	W	N1-27	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	B8	LIV	W	N1-28	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	B7	LIV	W	N1-31	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	B7	BR	W	N1-32	AW1-PN	**0.5**	100	100	No	No	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	0	No	0	6.0
1	B6	BR	W	N1-33	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	B6	LIV	W	N1-34	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	B5	LIV	W	N1-37	AW2-PN	**1.1**	100	100	No	Yes	-	-	12.90	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	B5	BR	W	N1-38	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	B4	BR	W	N1-39	AW1-PN	**0.5**	100	100	No	Yes	-	-	8.00	600	870	**0.5**	100	100	No	8.00	6.0	0.0	6.0	0	0	1.5	No	0	7.5
1	B4	LIV	W	N1-40	AW2-PN	**1.1**	100	100	No	Yes	-	-	13.00	750	1500	**1.1**	100	100	No	18.00	7.0	-1.4	5.6	90	1.0	1.5	No	0	8.1
1	B3	LIV	D	N1-42	EAB2-PN	**2.5**	100	100	No	Yes	Yes	Yes	18.20	1150	2210	**2.5**	100	100	No	18.00	9.0	0.0	9.0	0	0	1.5	No	0	10.5
1	B3	BR	W	N1-44	AW1-PN	**0.5**	100	100	No	Yes	-	-	5.40	600	870	**0.5**	100	100	No	8.00	6.0	-1.7	4.3	0	0	1.5	No	0	5.8
1	B3	BR	W	N1-46	AW1-PN	**0.5**	100	100	No	Yes	-	-	7.60	600	870	**0.5**	100	100	No	8.00	6.0	-0.2	5.8	90	1.0	1.5	Yes	2.0	10.3
1	B2	LIV	D	N1-47	EAB1-PN	**2.5**	100	100	No	No	Yes	Yes	13.20	1150	2210	**2.5**	100	100	No	14.00	8.0	-0.3	7.7	90	3.0	0	No	0	10.7
1	B2	BR	W	N1-48	AW1-PN	**0.5**	100	100	No	No	-	-	5.60	600	870	**0.5**	100	100	No	8.00	6.0	-1.5	4.5	90	1.0	0	No	0	5.5

Appendix 3.5

Predicted Road Traffic Noise Impact Assessment Results (Mitigated Case Scenario)

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Mitigated (Solid Wall) (AM Peak Flow - Worst Case)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	69	69	69	69	**75**	**78**	66	66	66	67	68	69	65	64	66	66	69	69	64	64	66	66	69	69	64	64	66	66	69	69	64	63
4/F	26.6	69	69	69	70	**76**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**76**	**74**	**76**	**76**	**80**	**80**	**74**	**74**	**76**	**76**	**80**	**80**	**74**	**74**	**76**	**75**	**80**	**80**	**74**	**74**
5/F	29.6	69	69	69	69	**76**	**77**	**77**	**77**	**78**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**80**	**80**	**77**	**76**	**77**	**77**	**80**	**80**	**77**	**76**
6/F	32.5	69	69	69	69	**76**	**77**	**77**	**77**	**78**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**77**	**76**
7/F	35.5	69	69	69	69	**75**	**77**	**77**	**77**	**78**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**77**	**76**
8/F	38.5	69	69	69	69	**75**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**78**	**77**	**78**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**
9/F	41.5	69	69	69	69	**75**	**77**	**77**	**77**	**77**	**78**	**78**	**79**	**78**	**77**	**77**	**78**	**79**	**79**	**77**	**77**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
10/F	44.4	69	69	69	69	**75**	**77**	**77**	**77**	**77**	**78**	**78**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
11/F	47.4	69	69	69	69	**75**	**77**	**76**	**77**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**75**
12/F	50.4	69	69	69	69	**75**	**77**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**78**	**79**	**76**	**76**	**77**	**77**	**78**	**78**	**76**	**75**
13/F	53.4	69	68	69	69	**75**	**77**	**76**	**76**	**77**	**77**	**78**	**78**	**77**	**76**	**77**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**
14/F	56.3	69	68	68	69	**75**	**76**	**76**	**76**	**77**	**77**	**77**	**78**	**77**	**75**	**77**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
15/F	59.3	68	68	68	68	**75**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**74**
16/F	62.3	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**
Max Noise Level		69	69	69	70	76	78	77	77	78	78	79	80	78	77	78	78	80	80	78	77	78	78	80	80	77	77	78	78	80	80	77	76
Exceedance			0				14				13			13			13			13			13			13			13			13	

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	65	66	69	69	64	63	66	66	69	69	66	64	68	**79**	65	65	67	65	67	66	64	64	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	**75**	**75**	**80**	**80**	**74**	**74**	**75**	**76**	**80**	**80**	**77**	**76**	**79**	**79**	**76**	**74**	**72**	65	70	69	66	65	66	69	69	68	68	67	66	66	66	69	69	69
5/F	29.6	**77**	**77**	**80**	**80**	**77**	**76**	**77**	**78**	**80**	**80**	**78**	**77**	**79**	**79**	**76**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
6/F	32.5	**77**	**78**	**80**	**80**	**77**	**77**	**78**	**78**	**80**	**80**	**78**	**77**	**79**	**78**	**76**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
7/F	35.5	**77**	**78**	**80**	**80**	**77**	**77**	**77**	**78**	**80**	**80**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	69	69	68	68	67	66	66	65	69	69	69
8/F	38.5	**77**	**78**	**79**	**79**	**77**	**77**	**77**	**78**	**79**	**79**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	69	68	68	68	67	66	66	65	69	69	69
9/F	41.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**78**	**78**	**75**	**75**	**73**	65	70	69	66	66	66	68	68	68	68	67	66	66	65	69	69	69
10/F	44.4	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**75**	**75**	**73**	65	70	69	66	66	66	68	68	68	68	67	66	65	65	69	69	69
11/F	47.4	**76**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	65	69	68	66	66	66	68	68	68	68	67	66	65	65	69	69	69
12/F	50.4	**76**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	68	67	66	65	65	69	69	69
13/F	53.4	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	67	66	65	65	68	69	68
14/F	56.3	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
15/F	59.3	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**74**	**74**	**72**	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
16/F	62.3	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**73**	**73**	**72**	64	69	68	65	65	66	68	68	67	67	66	65	65	65	68	68	68
Max Noise Level		77	78	80	80	77	77	78	78	80	80	78	77	79	79	76	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
Exceedance			13			13			13			14					13				0			0				0			0			0	

Total no. of Flats:	276
Total no. of Exceedance:	184
Compliance Level:	33%
Max. Noise Level:	80

Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Mitigated (Solid Wall) (PM Peak Flow)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	68	68	68	68	**75**	**77**	66	66	66	66	67	68	65	63	65	65	68	68	64	63	65	65	68	68	63	63	65	65	68	68	64	62
4/F	26.6	68	68	68	68	**75**	**77**	**76**	**77**	**77**	**77**	**78**	**80**	**74**	**73**	**75**	**75**	**79**	**80**	**73**	**73**	**74**	**75**	**79**	**79**	**73**	**73**	**74**	**74**	**79**	**79**	**73**	**72**
5/F	29.6	68	68	68	68	**75**	**77**	**77**	**77**	**77**	**78**	**79**	**80**	**77**	**76**	**77**	**77**	**80**	**80**	**76**	**76**	**76**	**77**	**80**	**80**	**76**	**76**	**77**	**76**	**80**	**80**	**76**	**75**
6/F	32.5	68	68	68	68	**75**	**77**	**76**	**77**	**77**	**78**	**78**	**80**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
7/F	35.5	68	68	68	68	**75**	**77**	**76**	**77**	**77**	**78**	**78**	**79**	**77**	**76**	**77**	**78**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**
8/F	38.5	68	68	68	68	**75**	**77**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**75**
9/F	41.5	68	68	68	68	**75**	**76**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**76**	**77**	**77**	**79**	**79**	**76**	**75**
10/F	44.4	68	68	68	68	**75**	**76**	**76**	**76**	**77**	**77**	**78**	**79**	**77**	**76**	**77**	**77**	**78**	**78**	**76**	**76**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**
11/F	47.4	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**77**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
12/F	50.4	68	68	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**
13/F	53.4	68	67	68	68	**74**	**76**	**76**	**76**	**76**	**77**	**77**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**
14/F	56.3	68	67	67	68	**74**	**76**	**76**	**76**	**76**	**76**	**77**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**75**	**74**	**76**	**76**	**77**	**77**	**75**	**74**
15/F	59.3	67	67	67	67	**74**	**76**	**75**	**76**	**76**	**76**	**77**	**78**	**76**	**75**	**76**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**
16/F	62.3	67	67	67	67	**74**	**76**	**75**	**75**	**76**	**76**	**76**	**77**	**75**	**74**	**76**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**75**	**77**	**77**	**75**	**74**
Max Noise Level		68	68	68	68	75	77	77	77	77	78	79	80	77	76	77	78	80	80	77	76	77	77	80	80	77	76	77	77	80	80	77	76
Exceedance			0				14				13			13			13			13			13			13			13			13	

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	65	65	68	68	64	63	65	65	68	68	65	64	67	**79**	64	64	66	64	66	65	63	63	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	**74**	**74**	**79**	**79**	**73**	**73**	**74**	**75**	**80**	**79**	**76**	**75**	**79**	**79**	**75**	**73**	**71**	64	69	68	65	64	65	68	68	67	67	66	65	65	65	68	68	68
5/F	29.6	**76**	**76**	**80**	**80**	**76**	**76**	**76**	**77**	**80**	**80**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
6/F	32.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**78**	**77**	**79**	**78**	**75**	**75**	**73**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
7/F	35.5	**77**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**78**	**75**	**75**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
8/F	38.5	**76**	**77**	**79**	**79**	**77**	**76**	**77**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**75**	**74**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
9/F	41.5	**76**	**77**	**79**	**79**	**76**	**76**	**76**	**77**	**79**	**79**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	64	69	68	65	65	65	68	68	67	67	66	65	64	64	68	68	68
10/F	44.4	**76**	**77**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**77**	**76**	**78**	**77**	**74**	**74**	**72**	64	69	68	65	65	65	68	67	67	67	66	65	64	64	68	68	68
11/F	47.4	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**77**	**78**	**78**	**76**	**75**	**77**	**77**	**74**	**74**	**72**	64	69	68	65	64	65	67	67	67	67	66	65	64	64	68	68	68
12/F	50.4	**76**	**76**	**78**	**78**	**76**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**74**	**73**	**72**	64	69	68	65	64	65	67	67	66	66	66	65	64	64	68	68	68
13/F	53.4	**75**	**76**	**78**	**78**	**75**	**75**	**76**	**76**	**78**	**78**	**76**	**75**	**77**	**76**	**73**	**73**	**71**	64	68	67	65	64	65	67	67	66	66	66	65	65	64	64	67	68	67
14/F	56.3	**75**	**76**	**77**	**77**	**75**	**74**	**76**	**76**	**77**	**77**	**76**	**75**	**77**	**76**	**73**	**73**	**71**	64	68	67	65	64	65	67	67	66	66	66	65	64	64	64	67	67	67
15/F	59.3	**75**	**76**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**77**	**76**	**73**	**73**	**71**	64	68	67	64	64	65	67	67	66	66	65	64	64	64	64	67	67	67
16/F	62.3	**75**	**75**	**77**	**77**	**75**	**74**	**75**	**76**	**77**	**77**	**75**	**74**	**76**	**76**	**73**	**73**	**71**	63	68	67	64	64	64	67	67	66	66	65	64	64	64	64	67	67	67
Max Noise Level		77	77	80	80	77	76	77	77	80	80	78	77	79	79	75	75	73	64	69	68	65	65	65	68	68	67	67	66	65	65	65	68	68	68
Exceedance			13			13			13			14					13				0				0			0			0			0	

Total no. of Flats:	276
Total no. of Exceedance:	184
Compliance Level:	33%
Max. Noise Level:	80

Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Mitigated (Acoustic Fin, Solid Wall) (AM Peak Flow - Worst Case)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	69	69	69	69	75	78	66	66	66	67	68	69	65	63	66	66	69	69	64	64	66	66	69	69	64	64	66	66	69	69	64	63
4/F	26.6	69	69	69	70	76	77	77	77	77	78	79	80	75	73	76	76	80	80	74	74	76	76	80	80	74	74	76	75	80	80	74	74
5/F	29.6	69	69	69	69	76	77	77	77	78	78	79	80	77	76	78	78	80	80	77	77	77	78	80	80	77	76	77	77	80	80	77	76
6/F	32.5	69	69	69	69	76	77	77	77	78	78	79	80	78	76	78	78	80	80	78	77	78	78	80	80	77	77	78	78	80	80	77	76
7/F	35.5	69	69	69	69	75	77	77	77	78	78	79	80	78	76	78	78	80	80	77	77	78	78	80	80	77	77	78	78	80	80	77	76
8/F	38.5	69	69	69	69	75	77	77	77	77	78	79	80	77	76	78	78	80	80	77	77	77	78	79	79	77	76	77	78	79	79	77	76
9/F	41.5	69	69	69	69	75	77	77	77	77	78	78	79	77	76	77	78	79	79	77	77	77	78	79	79	77	76	77	77	79	79	77	76
10/F	44.4	69	69	69	69	75	77	77	77	78	78	79	77	75	77	78	79	79	77	76	77	78	79	79	77	76	76	77	77	79	79	77	76
11/F	47.4	69	69	69	69	75	77	76	77	77	77	78	79	77	75	77	77	79	79	77	76	77	77	79	79	76	76	77	77	79	79	76	75
12/F	50.4	69	69	69	69	75	77	76	76	77	77	78	79	77	75	77	77	79	79	76	76	77	77	78	79	76	76	77	77	78	78	76	75
13/F	53.4	69	68	69	69	75	77	76	76	77	77	78	78	76	75	77	77	78	78	76	76	76	77	78	78	76	75	76	77	78	78	76	75
14/F	56.3	69	68	68	69	75	76	76	76	77	77	77	78	76	74	76	77	78	78	76	75	76	77	78	78	76	75	76	76	78	78	76	75
15/F	59.3	68	68	68	68	75	76	76	76	76	77	77	78	76	74	76	77	78	78	76	75	76	77	78	78	75	75	76	76	78	78	76	74
16/F	62.3	68	68	68	68	74	76	76	76	76	77	77	78	76	74	76	76	78	78	76	75	76	76	78	78	75	75	76	76	78	78	75	74
Max Noise Level		69	69	69	70	76	78	77	77	78	78	79	80	78	76	78	78	80	80	78	77	78	78	80	80	77	77	78	78	80	80	77	76
Exceedance		0			14			13			13																						

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	65	66	69	69	64	63	66	66	69	69	65	63	67	79	64	65	67	65	67	66	64	64	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	75	75	80	80	74	74	75	76	80	80	77	75	79	79	75	74	72	65	70	69	66	65	66	69	69	68	68	67	66	66	66	69	69	69
5/F	29.6	77	77	80	80	77	76	77	78	80	80	77	76	79	79	75	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
6/F	32.5	77	78	80	80	77	77	78	78	80	80	77	76	79	78	75	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
7/F	35.5	77	78	80	80	77	77	77	78	80	80	77	76	78	78	75	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	65	69	69	69
8/F	38.5	77	78	79	79	77	77	77	78	79	79	77	75	78	78	75	75	73	65	70	69	66	66	66	69	68	68	68	67	66	66	65	69	69	69
9/F	41.5	77	77	79	79	77	76	77	78	79	79	76	75	78	78	74	74	73	65	70	69	66	66	66	68	68	68	68	67	66	66	65	69	69	69
10/F	44.4	77	77	79	79	77	76	77	77	79	79	76	75	78	77	74	74	73	65	70	69	66	66	66	68	68	68	68	67	66	65	65	69	69	69
11/F	47.4	76	77	79	79	76	76	77	77	79	79	76	74	78	77	74	74	72	65	69	68	66	66	66	68	68	68	68	67	66	65	65	69	69	69
12/F	50.4	76	77	78	78	76	76	76	77	78	78	75	74	77	77	74	74	72	65	69	68	66	65	66	68	68	67	68	67	66	65	65	69	69	69
13/F	53.4	76	77	78	78	76	75	76	77	78	78	75	74	77	77	74	74	72	65	69	68	66	65	66	68	68	67	67	67	66	65	65	68	69	68
14/F	56.3	76	76	78	78	76	75	76	77	78	78	75	74	77	77	73	73	72	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
15/F	59.3	76	76	78	78	76	75	76	76	78	78	75	74	77	76	73	73	72	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
16/F	62.3	76	76	78	78	75	75	76	76	78	78	75	73	76	76	73	73	72	64	69	68	65	65	66	68	68	67	67	66	65	65	65	68	68	68
Max Noise Level		77	78	80	80	77	77	78	78	80	80	77	76	79	79	75	75	73	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
Exceedance		13			13			13			14					13			0				0				0		0		0			

Total no. of Flats:	276
Total no. of Exceedance:	184
Compliance Level:	33%
Max. Noise Level:	80

Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Mitigated (Acoustic Fin, Solid Wall) (PM Peak Flow)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	68	68	68	68	75	77	66	66	66	66	67	68	64	62	65	65	68	68	64	63	65	65	68	68	63	63	65	65	68	68	64	62
4/F	26.6	68	68	68	68	75	77	76	77	77	77	78	80	74	72	75	75	79	80	73	73	74	75	79	79	73	73	74	74	79	79	73	72
5/F	29.6	68	68	68	68	75	77	77	77	77	78	79	80	76	75	77	77	80	80	76	76	76	77	80	80	76	76	77	76	80	80	76	75
6/F	32.5	68	68	68	68	75	77	76	77	77	78	78	80	77	75	77	77	79	79	77	76	77	77	79	79	77	76	77	77	79	79	77	76
7/F	35.5	68	68	68	68	75	77	76	77	77	78	78	79	77	75	77	77	79	79	77	76	77	77	79	79	77	76	77	77	79	79	77	76
8/F	38.5	68	68	68	68	75	77	76	76	77	77	78	79	77	75	77	77	79	79	77	76	77	77	79	79	76	76	77	77	79	79	76	75
9/F	41.5	68	68	68	68	75	76	76	76	77	77	78	79	76	75	77	77	79	79	76	76	77	77	79	79	76	76	77	77	79	79	76	75
10/F	44.4	68	68	68	68	75	76	76	76	77	77	78	78	76	75	77	77	78	78	76	76	76	77	78	78	76	75	76	77	78	78	76	75
11/F	47.4	68	68	68	68	74	76	76	76	76	77	77	78	76	74	76	77	78	78	76	75	76	77	78	78	76	75	76	76	78	78	76	75
12/F	50.4	68	68	68	68	74	76	76	76	76	77	77	78	76	74	76	76	78	78	76	75	76	76	78	78	75	75	76	76	78	78	76	75
13/F	53.4	68	67	68	68	74	76	76	76	76	77	77	78	76	74	76	76	78	78	75	75	76	76	78	78	75	75	76	76	78	78	75	74
14/F	56.3	68	67	67	68	74	76	76	76	76	76	77	78	75	74	76	76	78	78	75	75	76	76	78	78	75	74	76	76	77	77	75	74
15/F	59.3	67	67	67	67	74	76	75	76	76	76	77	78	75	73	76	76	77	77	75	74	75	76	77	77	75	74	75	76	77	77	75	74
16/F	62.3	67	67	67	67	74	76	75	75	76	76	76	77	75	73	76	76	77	77	75	74	75	76	77	77	75	74	75	75	77	77	75	74
Max Noise Level		68	68	68	68	75	77	77	77	77	78	79	80	77	75	77	77	80	80	77	76	77	77	80	80	77	76	77	77	80	80	77	76
Exceedance			0				14			13				13			13			13			13			13			13			13	

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	65	65	68	68	64	63	65	65	68	68	64	63	67	79	64	64	66	64	66	65	63	63	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	74	74	79	79	73	73	74	75	80	79	76	74	78	79	75	73	71	64	69	68	65	64	65	68	68	67	67	66	65	65	65	68	68	68
5/F	29.6	76	76	80	80	76	76	76	77	80	80	77	75	78	78	75	74	73	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
6/F	32.5	77	77	79	79	77	76	77	77	79	79	76	75	78	78	74	74	73	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
7/F	35.5	77	77	79	79	77	76	77	77	79	79	76	75	78	78	74	74	72	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
8/F	38.5	76	77	79	79	77	76	77	77	79	79	76	75	78	77	74	74	72	64	69	68	65	65	65	68	68	67	67	66	65	65	64	68	68	68
9/F	41.5	76	77	79	79	76	76	76	77	79	79	76	74	77	77	74	74	72	64	69	68	65	65	65	68	68	67	67	66	65	64	64	68	68	68
10/F	44.4	76	77	78	78	76	75	76	77	78	78	75	74	77	77	73	74	72	64	69	68	65	65	65	68	67	67	67	66	65	64	64	68	68	68
11/F	47.4	76	76	78	78	76	75	76	77	78	78	75	74	77	77	73	73	72	64	69	68	65	64	65	67	67	67	67	66	65	64	64	68	68	68
12/F	50.4	76	76	78	78	76	75	76	76	78	78	75	74	77	76	73	73	72	64	69	68	65	64	65	67	67	66	66	66	65	64	64	68	68	68
13/F	53.4	75	76	78	78	75	75	76	76	78	78	75	73	76	76	73	73	71	64	68	67	65	64	65	67	67	66	66	65	65	64	64	67	68	67
14/F	56.3	75	76	77	77	75	74	76	76	77	77	74	73	76	76	73	73	71	64	68	67	65	64	65	67	67	66	66	65	64	64	64	67	67	67
15/F	59.3	75	76	77	77	75	74	75	76	77	77	74	73	76	76	72	73	71	64	68	67	64	64	65	67	67	66	66	65	64	64	64	67	67	67
16/F	62.3	75	75	77	77	75	74	75	76	77	77	74	73	76	76	72	72	71	63	68	67	64	64	64	67	67	66	66	65	64	64	64	67	67	67
Max Noise Level		77	77	80	80	77	76	77	77	80	80	77	75	78	79	75	74	73	64	69	68	65	65	65	68	68	67	67	66	65	65	65	68	68	68
Exceedance			13			13			13			14					13				0				0			0		0			0	

Total no. of Flats:	276
Total no. of Exceedance:	184
Compliance Level:	33%
Max. Noise Level:	80

Notes:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey

Predicted Road Traffic Noise (L10, dB(A)) at Selected Sensitive Receivers
Mitigated (Acoustic Window (Baffle Type), Enhanced Acoustic Balcony (Baffle Type), Fixed Glazing with Maintenance Window, Self-Closing Door, Acoustic Fin, Solid Wall)

Tower 1

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30	N1-31	N1-32
3/F	23.6	69	69	69	69	-	69	-	66	66	67	68	69	65	63	66	66	69	69	64	64	66	66	69	69	64	64	66	66	69	69	64	63
4/F	26.6	69	69	69	70	-	69	-	70	70	67	70	-	67	67	68	68	-	-	66	67	68	68	-	-	66	67	68	67	-	-	66	68
5/F	29.6	69	69	69	69	-	69	-	70	70	67	70	-	69	70	70	70	-	-	69	69	70	70	-	-	69	69	70	69	-	-	69	70
6/F	32.5	69	69	69	69	-	69	-	70	70	68	70	-	70	70	70	70	-	-	69	70	70	70	-	-	69	69	70	70	-	-	69	70
7/F	35.5	69	69	69	69	-	69	-	70	70	67	70	-	69	70	70	70	-	-	69	69	70	70	-	-	69	69	70	70	-	-	69	70
8/F	38.5	69	69	69	69	-	69	-	70	70	67	70	-	69	70	70	70	-	-	69	69	70	70	-	-	69	69	70	70	-	-	69	70
9/F	41.5	69	69	69	69	-	69	-	70	70	67	70	-	69	70	70	70	-	-	69	69	70	70	-	-	69	69	70	69	-	-	69	70
10/F	44.4	69	69	69	69	-	69	-	70	69	67	69	-	69	69	70	69	-	-	69	69	70	69	-	-	68	69	69	69	-	-	69	70
11/F	47.4	69	69	69	69	-	69	-	70	69	67	69	-	69	69	70	69	-	-	69	69	69	69	-	-	68	68	69	69	-	-	68	69
12/F	50.4	69	69	69	69	-	68	-	70	69	66	69	-	68	69	69	69	-	-	68	68	69	69	-	-	68	68	69	69	-	-	68	69
13/F	53.4	69	68	69	69	-	68	-	70	69	66	69	-	68	69	69	69	-	-	68	68	69	69	-	-	68	68	69	69	-	-	68	69
14/F	56.3	69	68	68	69	-	68	-	69	69	66	69	-	68	68	69	69	-	-	68	68	69	69	-	-	68	68	69	68	-	-	68	69
15/F	59.3	68	68	68	68	-	68	-	69	69	66	68	-	68	68	69	68	-	-	68	68	69	68	-	-	67	67	69	68	-	-	67	68
16/F	62.3	68	68	68	68	-	68	-	69	69	66	68	-	67	68	69	68	-	-	67	67	68	68	-	-	67	67	68	68	-	-	67	68
Max Noise Level		69	69	69	70	0	69	0	70	70	68	70	69	70	70	70	70	69	69	69	70	70	70	69	69	69	69	70	70	69	69	69	70
Exceedance			0				0				0			0			0			0			0			0			0			0	

Floor	mPD	N1-33	N1-34	N1-35	N1-36	N1-37	N1-38	N1-39	N1-40	N1-41	N1-42	N1-43	N1-44	N1-45	N1-46	N1-47	N1-48	N1-49	N1-50	N1-51	N1-52	N1-53	N1-54	N1-55	N1-56	N1-57	N1-58	N1-59	N1-60	N1-61	N1-62	N1-63	N1-64	N1-65	N1-66
3/F	23.6	65	66	69	69	64	63	66	66	69	69	65	63	-	69	64	65	67	65	67	66	64	64	--	--	--	--	--	--	--	--	--	--	--	--	--
4/F	26.6	68	67	-	-	66	67	68	68	-	70	-	69	-	69	65	68	-	65	70	69	66	65	66	69	69	68	68	67	66	66	66	69	69	69
5/F	29.6	69	69	-	-	69	69	70	70	-	70	-	70	-	68	65	70	-	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
6/F	32.5	70	70	-	-	69	69	70	70	-	69	-	70	-	68	64	70	-	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
7/F	35.5	70	70	-	-	69	69	70	70	-	69	-	70	-	68	64	69	-	65	70	69	66	66	66	69	69	68	68	67	66	66	65	69	69	69
8/F	38.5	70	69	-	-	69	69	70	70	-	69	-	69	-	68	64	69	-	65	70	69	66	66	66	69	68	68	68	67	66	66	65	69	69	69
9/F	41.5	69	69	-	-	69	69	70	70	-	69	-	69	-	67	64	69	-	65	70	69	66	66	66	68	68	68	68	67	66	66	65	69	69	69
10/F	44.4	69	69	-	-	69	69	69	69	-	68	-	69	-	67	63	69	-	65	70	69	66	66	66	68	68	68	68	67	66	65	65	69	69	69
11/F	47.4	69	69	-	-	68	68	69	69	-	68	-	69	-	67	63	68	-	65	69	68	66	66	66	68	68	68	68	67	66	65	65	69	69	69
12/F	50.4	69	69	-	-	68	68	69	69	-	68	-	68	-	67	63	68	-	65	69	68	66	65	66	68	68	67	68	67	66	65	65	69	69	69
13/F	53.4	69	68	-	-	68	68	69	69	-	68	-	68	-	67	63	68	-	65	69	68	66	65	66	68	68	67	67	67	66	65	65	68	69	68
14/F	56.3	68	68	-	-	68	68	69	69	-	68	-	68	-	66	63	68	-	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
15/F	59.3	68	68	-	-	68	67	68	68	-	67	-	68	-	66	62	68	-	65	69	68	66	65	66	68	68	67	67	66	65	65	65	68	68	68
16/F	62.3	68	68	-	-	67	67	68	68	-	67	-	68	-	66	62	68	-	64	69	68	65	65	66	68	68	67	67	66	65	65	65	68	68	68
Max Noise Level		70	70	69	69	69	69	70	70	69	70	65	70	0	69	65	70	67	65	70	69	66	66	66	69	69	68	68	67	66	66	66	69	69	69
Exceedance			0				0			0			0				0				0			0				0			0			

Total no. of Flats:	276
Total no. of Exceedance:	0
Compliance Level:	100%
Max. Noise Level:	70

Noted:

71	Noise level exceed stardand of 70 dB(A)
--	Not Available at this residential storey
	Acoustic Window (Baffle Type)
	Enhanced Acoustic Balcony (Baffle Type)
-	Fixed Glazing with Maintenance Window
-	Self-Closing Door

Appendix 3.6

Schedule of Road Traffic Noise Mitigation Measures

Schedule of Road Traffic Noise Mitigation Measures

Tower 1

NSRs	Unit	Room	Floor	Noise Mitigation Measures
N1-05	A2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-06	A2	BR	3/F-16/F	Acoustic Window (Baffle Type)
N1-07	A2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-08	A2	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-09	A3	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-10	A3	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-11	A3	BR	4/F-16/F	Acoustic Window (Baffle Type)
-	A3	BR	3/F-16/F	1.5m Acoustic Fin with Sound Absorption Material
N1-12	A4	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
-	A4	LIV	3/F-16/F	0.2m Acoustic Fin with Sound Absorption Material
N1-13	A4	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-14	A4	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-15	A5	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-16	A5	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-17	A5	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-18	A6	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-19	A6	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-20	A6	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-21	A7	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-22	A7	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-23	A7	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-24	A8	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-25	A8	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-26	A8	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-49	B2	BR	4/F-16/F	Fixed Glazing with Maintenance Window
N1-48	B2	BR	4/F-16/F	Acoustic Window (Baffle Type)
-	B2	LIV	4/F-16/F	Fixed Glazing with Maintenance Window
N1-47	B2	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-46	B3	BR	3/F-16/F	Acoustic Window (Baffle Type)
-	B3	BR	3/F-16/F	1.5m Acoustic Fin with Sound Absorption Material

N1-45	B3	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-44	B3	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-43	B3	LIV	4/F-16/F	Fixed Glazing with Maintenance Window
-	B3	LIV	3/F-16/F	0.8m Acoustic Fin with Sound Absorption Material
N1-42	B3	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-41	B4	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-40	B4	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-39	B4	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-38	B5	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-37	B5	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-36	B5	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-35	B6	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-34	B6	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-33	B6	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-32	B7	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-31	B7	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-30	B7	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-29	B8	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-28	B8	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-27	B8	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-07 to N1-11	A2 to A3	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-12 to N1-45	A4 to B3	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-47 to N1-48	B2	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-11	A3	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-13 to N1-16	A4 to A5	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-19 to N1-22	A6 to A7	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-25 to N1-28	A8 to B8	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-43 to N1-44	B3	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-37 to N1-40	B4 to B5	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-31 to N1-34	B6 to B7	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)

Appendix 4.1

Information Extracted from Approved EA report for Approved Rezoning Application (Application No.: Y/TM-LTYY/11)

Procedure	Assumption/Remarks	Reference
14. Incorporate Façade Correction	+2.5 dB(A)	(2)
15. Calculate the L_{max} (2300 – 0700)	• L_{max} at NSR= $L_{max\ rolling}$ + $L_{max\ A/C}$ + $L_{max\ structure}$ • $L_{eq\ max\ rolling}$ at NSR = SEL + C_{speed} + C_{freq} + C_{track} + C_{joint} + $C_{distance}$ + C_{angle} + $C_{Barrier}$ • $L_{max\ structure}$ at NSR = SEL + C_{freq} + $C_{distance}$ + C_{angle} + $C_{Barrier}$	-
16. Calculate the overall noise level from all rail segments including rolling noise, noise from air conditioning units and structural re-radiated noise ($L_{eq\ 24hr}$)	• $L_{eq\ 24hour}$ at NSR= $L_{eq\ 24hour\ rolling}$ + $L_{eq\ 24hour\ A/C}$ + $L_{eq\ 24hour\ structure}$ • $L_{eq\ 24hour\ rolling}$ at NSR = SEL + C_{speed} + C_{freq} + C_{track} + C_{joint} + $C_{distance}$ + C_{angle} + $C_{Barrier}$ • $L_{eq\ 24hour\ structure}$ at NSR = SEL + C_{freq} + $C_{distance}$ + C_{angle} + $C_{Barrier}$	-

References:

(1) "West Rail Operation Noise Assessment Report" prepared by the MTRC (July 2015).

(2) "Calculation of Railway Noise 1995" issued by the Department of Transport, UK.

(3) EIA Report (Register No. AEIAR-028/1999) of "East Rail Extensions - Tai Wai to Ma On Shan, KCRC East Rail Extension".

(4) Nelson, P. M. (ed.) (1987). Transportation Noise Reference Book, Butterworths.

Table 2.4 Input for Rail Noise Assessment

Parameters	Tuen Ma Line (TML)	Light Rail Transit (LRT)
Train type and no. of car	SP1900 (or equivalent), 9-car train (approximate 225 m long) *	LRV, 2 cars of total 40 m as conservative scenario ‡
Rolling Noise (at reference distance 25m)	SEL Northbound (Segment WN1-WN9, WN11-WN13) = 81.4 dB(A); L_{max} Northbound (Segment WN1-WN9, WN11-WN13) = 74.1 dB(A)## SEL Northbound (Segment WN10) = 0 dB(A); L_{max} Northbound (Segment WN10) = 0 dB(A) ##	SEL Northbound (Segment LN1-LN4) = 78.9 dB(A); L_{max} Northbound (Segment LN1-LN4) = 77.9 dB(A) ## SEL Northbound (Segment LN5) = 82.9 dB(A); L_{Max} Northbound (Segment LN5) = 81.0 dB(A) ##

Parameters	Tuen Ma Line (TML)	Light Rail Transit (LRT)
	SEL Southbound (Segment WS1-WS9, WS11-13) = 80.7 dB(A); L_{max} Southbound (Segment WS1-WS9, WS11-WS13) = 73.4 dB(A) ## SEL Southbound (Segment WS10) = 0 dB(A); L_{max} Southbound (Segment WS10) = 0 dB(A) ## (8 cars at 25 m)	SEL Northbound (Segment LN6-LN8) = 78.2 dB(A); L_{max} (Segment LN6-LN8) =74.3 dB(A) ## SEL Northbound (Segment LN9-LN13) = 80.9 dB(A); L_{max} Northbound (Segment LN9-LN13) = 78.7 dB(A) ## SEL Southbound (Segment LS1-LS4) = 75.7 dB(A); L_{max} Southbound (Segment LS1-LS4) = 74.0 dB(A) ## SEL Southbound (Segment LS5) = 77.4 dB(A); L_{Max} Southbound (Segment LS5) = 75.9 dB(A) ## SEL Southbound (Segment LS6-LS8) = 72.8 dB(A); L_{max} Southbound (Segment LS6-LS8) =68.7 dB(A) ## SEL Southbound (Segment LS9-LS13) = 78.5 dB(A); L_{max} Southbound (Segment LS9-LS13) = 74.4 dB(A) ##
Air Conditioning Noise	L_{max} at viaduct = 48.8 dB(A) (8 cars at 25 m) †	Not applicable as the contribution is insignificant
Structural Re-radiated Noise	SEL = 62.8 dB(A) for viaduct structure ** L_{max} = 58.6 dB(A) for viaduct structure ** SEL = 66.9 dB(A) for enclosed viaduct (Segment WN10) ** L_{max} = 63.0 dB(A) for enclosed viaduct (Segment WN10) ** SEL = 67.0 dB(A) for enclosed viaduct (Segment WS10) **	SEL = 60.5 dB(A) for non-enclosed viaduct structure ** L_{max} = 60.3 dB(A) for non-enclosed viaduct structure ** SEL and L_{max} at viaduct have been measured (2-car train at 25 m) **

Parameters	Tuen Ma Line (TML)	Light Rail Transit (LRT)
	L_{max} = 63.9 dB(A) for enclosed viaduct (Segment WS10) ** SEL and L_{max} at viaduct have been measured (8 cars at 25 m) **	
Train frequency per 30 minutes per direction	14 number during peak daytime # 10 number during peak night-time *	14 number during peak daytime # 16 number during peak night-time #
24 hour train frequency per direction	260 #	382 #
Train Speed for tracks within Assessment Area	Station speed, 50 km per hour† Approach and leaving Station, 80 km per hour†	70 km per hour #

References:

†: "West Rail Operation Noise Assessment Report" prepared by the MTRC (July 2015)

*: Information is adopted by referring Environmental Permit (Permit No. FEP-24/004/1998/J) for West Rail – Final Assessment Report West Kowloon to Tuen Mun Centre.

**: EIA Report (Register No. AEIAR-227/2020) "Development at San Hing Road and Hong Po Road, Tuen Mun"

#: Updated information provided by MTRC (**Appendix 2.1**)

##: Based on on-site noise measurements conducted for this EA Study.

Appendix 2.1

Railway Operation Information Provided by MTRC

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www.mtr.com.hk

MTR

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

Our ref: T&ESD/E&IC/ES/EnvE/L1184

Date: - 8 MAY 2023

Attention: Ms. Katie Yu

By Post and Fax
(Fax no.: 3465 2899)

Dear Ms. Yu,

Re: Re: Proposed Residential Development at D.D.130, Lam Tei, Tuen Mun
Request for Tuen Ma Line and Light Rail Transit Information

We refer to your letter (ref.: FECTMLT-EI00_0_0004L.23.docx) dated 17 March 2023 requesting operational information regarding Tuen Ma Line (TML) and Light Rail Transit (LRT).

Please be informed that the information provided in our letter dated 7 September 2021 (ref.: T&ESD/E&IC/ES/EnvE/L1096) is still valid as of the date of this reply, except the following updates:

- There are currently 8 cars per train for the operation condition of TML. However, according to the latest Environmental Permit (EP) for West Rail, the ultimate maximum train cars would be 9 cars.
- For the operational frequency for LRT (from Nai Wai Stop to Siu Hong Stop – Route 610, 614, 615 and 751), the current peak train frequency during the period of 07:00-23:00 hours and 23:00 to 07:00 is about 27 trains per hour per direction and 31 trains per hour per direction respectively. The current train frequency for both directions in one-day operation is about 764 trains, including non-passenger trains.

Please be reminded that any information that may come to your knowledge or come into your possession from MTR Corporation Limited shall only be used solely as reference for this captioned project. Further distribution and/or publication of the above information for purposes not connected with the captioned project are strictly prohibited without the prior consent of MTR Corporation Limited. Please also note that any such information is subject to change without prior notification.

Should you have any additional enquiries, please feel free to contact our Lead Environmental Manager, Ms. Catherine Leung at [redacted].

Yours sincerely,

HK Chan
Chief of Operations Engineering Service & Innovation

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk

MTR

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

Our ref: T&ESD/E&IC/ES/EnvE/L1096

Date: 7 SEP 2021

Attention: Ms. Katie Yu

By Post and Fax
(Fax no.: 3465 2899)

Dear Ms. Yu,

Re: Proposed Residential Development at D.D. 130, Lam Tei, Tuen Mun
Request for West Rail Line Railway and Light Rail Transit Information

We refer to your letter dated 17 August 2021 (ref.: FECTMLT-EI00_0_0001L.21) requesting operational information regarding Tuen Ma Line (TML) and Light Rail Transit (LRT).

Please be informed that the information provided in our letter dated 22 October 2019 (ref.: T&ESD/TS&SE/EnvE/L1017) is still valid as of the date of this reply, except the following updates:

- The daily operating hours for TML and LRT at the concerned section are from approximately 05:30 to 01:15 hours and 05:15 to 01:18 hours respectively.
- The current train frequency for both directions in one-day operation for TML is about 519 trains, including non-passenger trains.
- For the operational frequency for LRT (from Nai Wai Stop to Siu Hong Stop – Route 610, 614, 615 and 751), the current peak train frequency during the period of 23:00 to 07:00 hours is about 33 trains per hour per direction. The current train frequency for both directions in one-day operation is about 798 trains, including non-passenger trains.

Please be reminded that any information that may come to your knowledge or come into your possession from MTR Corporation Limited shall only be used solely as reference for this captioned project. Further distribution and/or publication of the above information for purposes not connected with the captioned project are strictly prohibited without the prior consent of MTR Corporation Limited. Please also note that any such information is subject to change without prior notification.

Should you have any additional enquiries, please feel free to contact our Acting Lead Environmental Manager, Ms. Catherine Leung at [redacted]

Yours sincerely,

HK Chan
General Manager – Engineering & Innovation Centre

MTR Headquarters Building, Telford Plaza, Kowloon Bay,
Kowloon, Hong Kong. GPO Box 9916, Hong Kong
Tel (852) 2993 2111 Fax (852) 2798 8822

香港九龍灣德福廣場港鐵總部大樓
香港郵政總局信箱9916號
電話 (852) 2993 2111 傳真 (852) 2798 8822

b.c.c

Siman Tang	-	General Manager - Ops Performance & Services Mgmt
David Chan	-	Head of Line Group Management – TML, LR & Bus
Gary Lam	-	Sr Signaling & Electronic Control Engineering Manager

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk

MTR

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

Our ref: T&ESD/TS&SE/EnvE/L1017

Date: 22 OCT 2019

Attention: Ms. Katie Yu

By Post and Fax
(Fax no.: 3465 2899)

Dear Ms. Yu,

Re: Proposed Residential Development at D.D. 130, Lam Tei, Tuen Mun

Request for Information of West Rail Line Railway and Light Rail Transit

We refer to your letter dated 30 September 2019 (ref.: STATMSHTEI01_0_0002L.19) requesting operational information regarding West Rail Line (WRL) and Light Rail Transit (LRT).

Operating Hours
For WRL, the daily operating hours at the concerned section are from approximately 05:00 to 01:00 hours.

For LRT, the daily operating hours at the concerned section are from approximately 05:15 to 01:15 hours.

Number of Cars per Train
Please note that there will be 8 cars per train for the future operating condition of the Tuen Ma Line. However, according to the Environmental Permit for West Rail available via EPD website, the ultimate maximum train cars would be 9 cars.

For LRT, the arrangement of single or coupled-set vehicles will vary depending on the traffic needs and is subject to change without prior notification. For environmental assessment purposes, you may wish to work on the assumption that all vehicles are in coupled-set where appropriate.

Operational Headway for WRL
- The future ultimate daily peak operating train frequency during the period of 07:00-23:00 hours is about 28 trains per hour per direction.
- For the future ultimate daily peak operating train frequency during the period of 23:00-07:00 hours, please refer to the latest Environmental Permit for West Rail Available via the EPD website.
- The current train frequency for both directions in one-day operation is about 551 trains, including non-passenger trains.

MTR Headquarters Building, Telford Plaza, Kowloon Bay,
Kowloon, Hong Kong. GPO Box 9916, Hong Kong
Tel (852) 2993 2111 Fax (852) 2798 8822

香港九龍灣德福廣場港鐵總部大樓
香港郵政總局信箱9916號
電話 (852) 2993 2111 傳真 (852) 2798 8822

MTR

Our ref: T&ESD/TS&SE/EnvE/L1017
Date : 22 OCT 2019

Operational Frequency for LRT (From Nai Wai Stop to Siu Hong Stop – Route 610, 614, 615 and 751)

- The current peak train frequency during the period of 07:00-23:00 hours is about 28 trains per hour per direction.
- The current peak train frequency during the period of 23:00 to 07:00 hours is about 27 trains per hour per direction.
- The current train frequency for both directions in one-day operation is about 913 trains, including non-passenger trains.

Please note that Light Rail service frequencies are subject to change without prior notification due to future patronage growth. As such, please consider allowing a buffer on the assessment assumptions when estimating future possible environmental impacts.

Speed Profile

For WRL, the current maximum train speed for the section of track between Siu Hong Station and Tin Shui Wai Station is 100 km/h for both directions. However, please note that the latest Environmental Permit for WRL has considered a maximum operating speed of 130km/hr (i.e. EP limit) to cater for potential speed increment in the future.

For LRT, the current maximum train speed for the section of track between Nai Wai Stop and Siu Hong Stop is 70 km/h for both directions.

Please be reminded that any information that may come to your knowledge or come into your possession from MTR Corporation Limited shall only be used solely as reference for this captioned project. Further distribution and/or publication of the above information for purposes not connected with the captioned project are strictly prohibited without the prior consent of MTR Corporation Limited. Please also note that any such information is subject to change without prior notification.

Should you have any additional enquiries, please feel free to contact our Environmental Engineering Manager, Ms. Catherine Leung at [redacted].

Yours sincerely,

HK Chan
Deputy General Manager – Train Services & Systems Engineering

Appendix 4.2

Information Extracted from Approved EA report for Approved EIA report for Development at San Hing Road and Hong Po Road, Tuen Mun (AEIAR-227/2020)

5.9.5 Additional on-site measurements of structure re-radiated noise from viaduct section with and without mounted structure were conducted along the section of WRL within the assessment area. The noise measurement locations are appended in **Appendix 5.19**.

LRT Source Term

5.9.6 On-site measurements of rolling noise from at-grade section and structure re-radiated noise from viaduct section were conducted along the section of LRT within the assessment area. The noise measurement locations are appended in **Appendix 5.19**.

Rail Noise Assessment Procedures

5.9.7 The assessment is based on the "Calculation of Railway Noise 1995" (CRN) issued by the Department of Transport, UK. It would be carried out to assess various worst-case scenarios under normal, abnormal, transient and emergency operation. The railway will be divided into number of segments to address changes in traffic flow, speed, gradient of the track, turnout, or due to progress variation in screening along the railway lines. The propagation of rail noise to the noise sensitive receivers (NSRs) will be corrected by distance, ground and air absorption, screening effect by barriers, reflection, angle of view at the reception point, train speed, number of trains, etc.

5.9.8 **Table 5.32** summarises each step of calculation and the assumptions in this approach. **Table 5.33** includes the source term information based on on-site measurement, extracted from relevant studies, other literatures and updated information provided by MTRC (shown in **Appendix 5.20**) adopted for this study. The potential railway noise sources of WRL and LRT have been identified. Therefore, cumulative impact of WRL and LRT will be assessed.

Table 5.32 Procedures of Rail Noise Assessment

Steps	Assumptions / Remarks	Reference
Identify the extent of the site area to be affected by the air-borne noise from the rail operation; locate the assessment points at the representative NSRs	The first layer of planned NSRs located near WRL and LRT will be selected for rail noise prediction and evaluation	-
Identify the noise sources of rail operation	WRL: • The rolling noise is emitted through the gap between the train and the walkway on the viaduct of WRL. The multi-plenum system installed at the viaduct section of WRL absorbs some of the noise from train wheel-rail interaction. The effect of the system had been included in the source measurement in the previous study (A). • Noise from air conditioning units located on the roof of each car and source level was measured in the previous study (A). • Structural re-radiated noise generated from the vibration of the viaduct during train passing by was measured on site in this Study. LRT • Rolling noise and structure re-radiated noise were measured on site in this Study.	A
Identify the train type and the source term of the train	Refers to **Table 5.33**.	-

Steps	Assumptions / Remarks	Reference
Calculate the SEL from L_{max} at reference conditions	SEL = L_{max} + 10log(L/V) +10.5 – 10log[(4D/(4D^2+1)) + 2tan^{-1}(1/(2D))] where D = d/L, d = perpendicular distance from the track (m), L = train length (m) and V = train speed (km per hour)	Equation 15.21 of D
Evaluate the correction due to train speed	+20 $\log_{10}(V/V_{ref})$ in dB(A) where V = Train speed, V_{ref} = Reference train speed	B
Correction of train frequency for 30 mins	+10 $\log_{10}(N)$ in dB(A) where N = No. of trains per 30 minutes per direction	B
Incorporate Track Wear Correction	+3 dB(A)	B
Incorporate Joint/Turnout Correction (to represent the augmentation in noise due to thermal expansion joints)	With conservative assumption, +7.0 dB(A) for a representative 20 m segment	C
Evaluate the distance between the NSR and the track and make distance correction	-10 $\log_{10}(d'/d_{ref})$ in dB(A) where d' = Slant distance from track to NSR and d_{ref} = Reference distance	B
Evaluate the angle of view and calculate angle of view correction	+10 $\log_{10}(\pi\theta/180 - \cos2\alpha \sin\theta) - 5$ in dB(A) where θ = Angle of view and α = Acute angle between a line drawn through the NSR, parallel to the track, and the line bisecting the angle of view, θ	B
Incorporate Barrier Correction	Shadow Zone: • -21 dB(A) for δ > 2.5 m where δ is the path difference in meter • -7.75 $\log_{10}(5.2 + 203\ \delta)$ dB(A) for 0≤ δ <2.5 m Illuminated Zone: • 0 dB(A) for δ > 0.4 m • 0.88 + 2.14 $\log_{10}(10^{-3} + \delta)$ dB(A) for 0 ≤ δ <0.4 m	Chart 6(a) of B
Calculate the overall noise level from all rail segments including rolling noise, noise from air conditioning units and structural re-radiated noise	• $L_{eq(30mins),\ overall}$ at NSR= $L_{eq(30mins),\ rolling}$ + $L_{eq(30mins),\ A/C}$ + $L_{eq(30mins),\ structure}$ • $L_{eq(30mins),\ rolling}$ at NSR = SEL + C_{speed} + C_{freq} + C_{track} + C_{joint} + $C_{distance}$ + C_{angle} + $C_{Barrier}$ + $C_{air\ absorption}$ • $L_{eq(30mins),A/C}$ at NSR = SEL + C_{freq} + $C_{distance}$ + C_{angle} + $C_{Barrier}$ • $L_{eq(30mins),\ structure}$ at NSR = SEL + C_{freq} + $C_{distance}$ + C_{angle} + $C_{Barrier}$+ $C_{air\ absorption}$	-
Incorporate Façade Correction	+2.5 dB(A)	B
Calculate the L_{max} (2300 – 0700)	• $L_{max,\ overall}$ at NSR = $L_{max,\ rolling}$ + $L_{max,\ A/C}$ + $L_{max,\ structure}$ • $L_{max,\ rolling}$ at NSR = L_{max} + C_{speed} + C_{freq} + C_{track} + C_{joint} + $C_{distance}$ + C_{angle} + $C_{Barrier}$ • $L_{max,\ structure}$ at NSR = L_{max} + C_{freq} + $C_{distance}$ + C_{angle} + $C_{Barrier}$	-

Steps	Assumptions / Remarks	Reference
References: A. "West Rail Operation Noise Assessment Report" prepared by the MTRC (July 2015). B. "Calculation of Railway Noise 1995" issued by the Department of Transport, UK. C. EIA Report (Register No. AEIAR-028/1999) of "East Rail Extensions - Tai Wai to Ma On Shan, KCRC East Rail Extension". D. Nelson, P. M. (ed.) (1987). *Transportation Noise Reference Book*, Butterworths.		

Table 5.33 Input for Rail Noise Assessment

Parameters	WRL	LRT
Train type and no. of car	SP1900 (or equivalent), 9-car train (approximate 225 m long) *	LRV, 2 cars of total 40 m as conservative scenario ‡
Rolling Noise	SEL Northbound = 81.4 dB(A) SEL Southbound = 80.7 dB(A) L_{max} Northbound = 74.1 dB(A) L_{max} Northbound = 73.4 dB(A) (8 cars running 130 km per hour at 25 m) †	SEL Northbound (Segment LN0-LN2) = 78.0 dB(A) SEL Northbound (Segment LN3-LN13) = 75.3 dB(A) SEL Southbound (Segment LS0-LS2) = 73.5 dB(A) SEL Southbound (Segment LS3-LS13) = 74.1 dB(A) L_{max} Northbound (Segment LN0-LN2) = 76.3 dB(A) L_{max} Northbound (Segment LN3-LN13) = 73.1 dB(A) L_{max} Southbound (Segment LS0-LS2) = 70.1 dB(A) L_{max} Southbound (Segment LS3-LS13) = 70.7 dB(A) SEL and L_{max} have been measured (2-car train running at 70 km per hour at 25 m) ##
Air Conditioning Noise	L_{max} at viaduct = 48.8 dB(A) L_{max} at station = 54.8 dB(A) (8 cars at 25 m) † SEL of the Air Conditioning Noise refers to the following equation as stated in Equation 15.21 of *Transportation Noise Reference Book*: $SEL = L_{max} + 10\log(L/V) + 10.5 - 10\log[(4D/(4D^2+1)) + 2\tan^{-1}(1/(2D))]$ where D = d/L, d = perpendicular distance from the track (m), L = train length (m) and V = train speed (km per hour)	Not applicable as insignificant contribution‡
Structural Re-radiated Noise	SEL = 62.8 dB(A) for non-enclosed viaduct structure L_{max} = 58.6 dB(A) for non-enclosed viaduct structure	SEL = 60.5 dB(A) for non-enclosed viaduct structure L_{max} = 60.3dB(A) for non-enclosed viaduct structure

Parameters	WRL	LRT
	SEL Northbound = 66.9 dB(A) for enclosed viaduct SEL Southbound = 67.0 dB(A) for enclosed viaduct L_{max} Northbound = 63.0 dB(A) for enclosed via-duct L_{max} Southbound = 63.9 dB(A) for enclosed viaduct SEL and L_{max} at viaduct have been measured (8 cars at 25 m) ##	SEL and L_{max} at viaduct have been measured (2-car train at 25 m) ##
Train frequency per 30 minutes per direction	14 number during peak daytime # 10 number during peak night-time*	14 number during peak daytime # 14 number during peak night-time #
Train Speed for tracks within Assessment Area	Station speed, 50 km per hour† Approach and leaving Station, 80 km per hour†	70 km per hour #

Note:
† "West Rail Operation Noise Assessment Report" prepared by the MTRC (July 2015). The same source term was adopted in the approved EIA Report for the Hung Shui Kiu Development (AEIAR-203/2016).
* Information is adopted by referring Environmental Permit (Permit No. FEP-24/004/1998/J) for West Rail – Final Assessment Report West Kowloon to Tuen Mun Centre.
# Updated information provided by MTRC.
Based on on-site noise measurements conducted for this EIA Study. Please refer to **Appendix 5.19** for the details.

Prediction and Evaluation of Rail Noise Impacts

5.9.9 The predicted air-borne noise levels from WRL and LRT at the representative NSRs are presented in **Table 5.34**, with details provided in **Appendix 5.21**. Exceedance of rail noise impact was predicted at NAPs P1_RN01 and P1_RN05 to P1_RN07 (approximately 236 dwellings, assuming 1 NAP represents 2 dwellings per floor) during night-time. Mitigation measures will be required.

Table 5.34 Predicted Rail Noise Impact at Representative NSRs (Unmitigated)

NSR/ NAP	Descriptions	Unit of Criteria	Daytime/ Evening Period (0700-2300)		Night-time Period (2300-0700)	
			Criteria	Impact	Criteria	Impact
P1/ P1_RN01	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	65	57-59	55	56-**58**
		L_{max} dB(A)	-	-	85	77-80
P1/ P1_RN02	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	65	51-52	55	50-52
		L_{max} dB(A)	-	-	85	75-76
P1/ P1_RN03	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	70	57-58	60	56-58
		L_{max} dB(A)	-	-	85	76-79
P1/ P1_RN04	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	70	59-60	60	58-59
		L_{max} dB(A)	-	-	85	77-80
P1/ P1_RN05	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	70	61-63	60	60-**62**
		L_{max} dB(A)	-	-	85	77-81
P1/ P1_RN06	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	70	61-63	60	60-**62**
		L_{max} dB(A)	-	-	85	78-82
P1/ P1_RN07	Block 1, San Hing Road Site	$L_{eq\ (30\ min)}$ dB(A)	70	62-63	60	60-**62**
		L_{max} dB(A)	-	-	85	77-81
P2/ P2_RN01		$L_{eq\ (30\ min)}$ dB(A)	65	48-55	55	47-54

Appendix 4.3

Details of Derivation of Model Inputs

Conversion from SEL_{25m} of TML and LRT for CadnaA Input, Leq(30min)

	SEL_{25m}*	Rail Deterioration Correction	Train Frequency per 30 minutes (Day & Evening time / Night-time)	Train Frequency Correction ^ (Day & Evening time / Night-time)	Time Correction for Leq (30min)	Façade Correction	Train Speed / Reference Speed (km/h)	Speed Correction #	Number of cars Correction %	Leq (30min) adopted for CadnaA (Day & Evening time / Night-time)
TML Northbound	81.4	+3 dB(A)	14 / 10	+11.5 dB(A) / +10.0 dB(A)	-32.6 dB(A)	+2.5 dB(A)	100 / 130	- 2.3 dB(A)	+ 0.5 dB(A)	64.0 dB(A) / 62.6 dB(A)
TML Southbound	80.7		14 / 10							63.3 dB(A) / 61.9 dB(A)
TML Structure-reradiated Noise for non-enclosed viaduct structure	62.8	-	28 / 20	+14.5 dB(A) / +13.0 dB(A)			-	-		47.7 dB(A) / 46.3 dB(A)
TML Structure-reradiated Noise for enclosed viaduct	67.0	-	28 / 20							51.9 dB(A) / 50.5 dB(A)
LRT Segment LN4	78.9	+3 dB(A)	14 / 16	+11.5 dB(A) / +12.0 dB(A)					-	63.3 dB(A) / 63.9 dB(A)
LRT Segment LN5	82.9		14 / 16							67.3 dB(A) / 67.9 dB(A)
LRT Segment LN6 - LN8	78.2		14 / 16							62.6 dB(A) / 63.2 dB(A)
LRT Segment LN9 – LN15	80.9		14 / 16							65.3 dB(A) / 65.9 dB(A)
LRT Segment LS4	75.7		14 / 16	+11.5 dB(A) / +12.0 dB(A)						60.1 dB(A) / 60.7 dB(A)
LRT Segment LS5	77.4		14 / 16							61.8 dB(A) / 62.4 dB(A)
LRT Segment LS 6 - LS 8	72.8		14 / 16							57.2 dB(A) / 57.8 dB(A)
LRT Segment LS 9 – LS 15	78.5		14 / 16							62.9 dB(A) / 63.5 dB(A)
LRT Structure-reradiated Noise for non-enclosed viaduct	60.5	-	27 / 31	+14.3 dB(A) / +14.9 dB(A)						44.8 dB(A) / 45.4 dB(A)

Conversion from SEL_{25m} of TML and LRT for CadnaA Input, Leq(24hr)

	SEL_{25m}*	Rail Deterioration Correction	Train Frequency (24hr)	Train Frequency Correction ^ (24hr)	Time Correction for Leq (24hr)	Façade Correction	Train Speed / Reference Speed (km/h)	Speed Correction #	Number of cars Correction %	Leq (24hr) adopted for CadnaA
TML Northbound	81.4	+3 dB(A)	260	+24.1 dB(A)	-49.4 dB(A)	+2.5 dB(A)	100 / 130	- 2.3 dB(A)	+ 0.5 dB(A)	59.9 dB(A)
TML Southbound	80.7		260	+24.1 dB(A)						59.2 dB(A)
TML Structure-reradiated Noise for non-enclosed viaduct structure	62.8	-	520	+27.2 dB(A)			-	-		43.6 dB(A)
TML Structure-reradiated Noise for enclosed viaduct	67.0	-	520							47.8 dB(A)
LRT Segment LN4	78.9	+3 dB(A)	382	+25.8 dB(A)					-	60.9 dB(A)
LRT Segment LN5	82.9		382							64.9 dB(A)
LRT Segment LN6 - LN8	78.2		382							60.2 dB(A)
LRT Segment LN9 – LN15	80.9		382							62.9 dB(A)
LRT Segment LS4	75.7		382							57.7 dB(A)
LRT Segment LS5	77.4		382							59.4 dB(A)
LRT Segment LS 6 - LS 8	72.8		382							54.8 dB(A)
LRT Segment LS 9 – LS 15	78.5		382							60.5 dB(A)
LRT Structure-reradiated Noise for non-enclosed viaduct	60.5	-	764	+28.8 dB(A)						42.5 dB(A)

* For TML, the source term information is based on the Approved EIA report for Development at San Hing Road and Hong Po Road, Tuen Mun (AEIAR-227/2020), For LRT, the source term information is based on the Approved EA report for Approved Rezoning Application

^ Train Frequency Correction = 10*log(Train Frequency)

% Number of Cars Correction = 10*log(Maximum Train Cars **(9)** according to the latest TML Environmental Permit / Reference Number of Train Cars **(8)**)

Speed Correction = 20*log(Speed of Train / Reference Speed), with speed profile of TML referencing correspondence from MTRC

Appendix 4.4

Predicted Rail Noise Impact Assessment Result (Base Case Scenario)

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Day & Evening Time Period, dB(A) - Base Case (without Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	46	46	47	47	48	49	49	55	53	51	47	46	46	--	--	--	--	--	--	--	--
4/F	26.6	49	49	49	49	49	49	49	55	53	52	48	48	48	50	48	48	48	48	49	49	49
5/F	29.6	49	49	49	49	49	49	49	54	52	52	48	48	48	50	48	48	48	48	49	49	49
6/F	32.5	48	49	49	49	49	49	49	54	53	52	48	48	48	50	48	48	48	48	49	49	48
7/F	35.5	48	48	49	49	49	49	49	54	53	53	48	48	48	50	48	48	48	48	49	49	48
8/F	38.5	48	48	49	49	49	49	49	55	54	53	47	48	48	51	47	48	47	48	49	49	48
9/F	41.5	49	49	49	49	49	49	49	55	54	54	48	48	48	51	48	48	48	48	49	49	49
10/F	44.4	49	49	50	49	49	49	49	55	54	54	48	48	48	51	48	48	48	48	50	49	49
11/F	47.4	50	50	51	50	49	49	49	56	55	54	49	49	49	52	48	49	48	49	50	50	50
12/F	50.4	50	51	51	50	49	49	50	56	55	55	49	49	49	52	49	49	49	49	51	50	50
13/F	53.4	51	51	52	51	50	50	50	56	55	55	49	49	49	53	49	50	49	49	51	51	51
14/F	56.3	51	52	52	51	50	50	50	56	55	55	50	50	50	53	50	50	50	50	51	51	51
15/F	59.3	52	52	53	52	51	50	50	56	56	55	50	50	50	54	50	51	50	50	52	51	52
16/F	62.3	52	53	53	52	51	51	51	56	56	56	51	51	51	54	51	51	50	51	53	52	52
Max		52	53	53	52	51	51	51	56	56	56	51	51	51	54	51	51	50	51	53	52	52
Noise Criteria		65			70							65										

Notes:

71/66	Noise level exceed standard of 70/65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Day & Evening Time Period, dB(A) - Base Case (Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	52	54	54	53	50	50	49	47	42	48	53	50	50	--	--	--	--	--	--	--	--
4/F	26.6	54	54	54	53	50	50	50	47	51	53	54	53	53	52	50	51	51	51	52	51	54
5/F	29.6	53	53	54	52	50	50	49	49	51	52	53	52	52	52	50	50	51	51	52	51	53
6/F	32.5	52	53	53	51	49	49	49	50	51	51	52	51	51	51	50	50	51	51	52	51	52
7/F	35.5	52	52	52	51	49	49	49	49	50	51	51	51	51	51	50	50	50	51	51	50	52
8/F	38.5	51	51	52	50	48	48	48	49	50	50	51	50	50	50	49	50	50	50	50	50	51
9/F	41.5	50	51	51	49	48	48	48	49	49	49	50	49	49	50	49	49	49	50	50	49	50
10/F	44.4	50	50	51	49	47	48	47	48	48	49	49	49	49	49	48	49	49	49	49	49	50
11/F	47.4	49	50	51	48	47	47	47	48	48	48	49	48	48	49	48	48	48	49	49	48	49
12/F	50.4	49	49	50	48	47	47	47	47	47	48	48	48	48	49	48	48	48	48	48	48	49
13/F	53.4	48	49	50	47	46	46	46	47	47	47	48	47	47	48	47	48	47	48	48	47	48
14/F	56.3	48	48	49	47	46	46	46	46	47	47	47	47	47	48	47	47	47	47	47	47	48
15/F	59.3	47	48	49	47	46	46	46	46	46	46	47	46	46	47	46	47	46	47	47	47	47
16/F	62.3	47	48	49	46	45	45	45	46	46	46	46	46	46	47	46	46	46	46	47	46	47
Max		54	54	54	53	50	49	49	50	51	51	52	51	51	51	50	50	51	51	52	51	54
Noise Criteria		65			70							65										

Notes:

71/66	Noise level exceed standard of 70/65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Day & Evening Time Period, dB(A) - Base Case (Consolidated)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	53	55	55	54	52	52	52	56	53	53	54	51	51	--	--	--	--	--	--	--	--
4/F	26.6	55	55	56	54	53	53	52	56	55	55	55	54	54	54	52	53	53	53	54	53	55
5/F	29.6	54	55	55	54	52	52	52	55	55	55	54	54	54	54	52	52	53	53	54	53	54
6/F	32.5	54	54	54	53	52	52	52	55	55	55	53	53	53	54	52	52	52	53	53	53	54
7/F	35.5	53	54	54	53	52	52	52	56	55	55	53	52	52	53	52	52	52	53	53	53	53
8/F	38.5	53	53	54	52	51	52	52	56	55	55	52	52	52	53	51	52	52	52	53	52	53
9/F	41.5	53	53	53	52	51	51	51	56	55	55	52	52	52	53	51	52	52	52	53	52	53
10/F	44.4	52	53	53	52	51	51	51	56	55	55	52	52	52	54	51	52	51	52	53	52	52
11/F	47.4	52	53	54	52	51	51	51	56	56	55	52	51	52	54	51	52	51	52	53	52	53
12/F	50.4	53	53	54	52	51	51	51	56	56	55	52	52	52	54	51	52	51	52	53	52	53
13/F	53.4	53	53	54	52	51	51	51	57	56	56	51	51	51	54	51	52	51	52	53	52	53
14/F	56.3	53	53	54	53	52	51	51	57	56	56	52	52	52	54	51	52	51	52	53	52	53
15/F	59.3	53	54	54	53	52	52	52	57	56	56	52	52	52	54	52	52	52	52	53	53	53
16/F	62.3	53	54	54	53	52	52	52	57	56	56	52	52	52	55	52	52	52	52	54	53	54
Max		55	55	56	54	53	52	52	57	56	56	53	53	53	55	52	52	52	53	54	53	55
Noise Criteria		65			70							65										

Notes:

71/66	Noise level exceed standard of 70/65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - Base Case (without Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	47	47	47	48	49	49	50	55	53	51	48	47	47	--	--	--	--	--	--	--	--
4/F	26.6	49	49	50	50	49	49	49	55	52	51	49	49	49	50	49	49	49	49	50	49	49
5/F	29.6	49	49	49	49	49	49	49	54	52	52	49	49	49	50	49	49	49	49	49	49	49
6/F	32.5	49	49	49	49	49	49	49	53	52	52	48	48	48	50	48	48	48	49	49	49	49
7/F	35.5	49	49	49	49	49	49	49	54	53	52	48	48	48	50	48	48	48	48	49	49	49
8/F	38.5	49	49	49	49	49	49	49	54	53	53	48	48	48	50	48	48	48	48	49	49	49
9/F	41.5	49	49	50	49	49	49	49	54	53	53	48	48	48	51	48	48	48	48	50	49	49
10/F	44.4	49	50	50	49	49	49	49	54	54	53	49	49	49	51	48	49	49	49	50	50	50
11/F	47.4	50	50	51	50	49	49	49	55	54	54	49	49	49	52	49	49	49	49	51	50	50
12/F	50.4	51	51	51	50	49	49	50	55	54	54	50	50	50	52	49	50	49	50	51	50	51
13/F	53.4	51	51	52	51	50	50	50	55	54	54	50	50	50	52	50	50	50	50	51	51	51
14/F	56.3	52	52	52	51	50	50	50	55	55	54	50	50	50	53	50	51	50	50	52	51	52
15/F	59.3	52	53	53	52	51	50	50	55	55	55	51	51	51	53	51	51	51	51	52	52	52
16/F	62.3	52	53	53	52	51	51	51	55	55	55	51	51	51	54	51	52	51	51	53	52	53
Max		52	53	53	52	51	51	51	55	55	55	51	51	51	54	51	52	51	51	53	52	53
Noise Criteria		55			60							55										

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - Base Case (Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	51	52	52	52	49	48	48	45	41	46	52	48	48	--	--	--	--	--	--	--	--
4/F	26.6	53	53	53	52	49	49	49	46	49	51	52	52	52	51	49	49	49	49	50	49	52
5/F	29.6	52	52	52	51	48	48	48	48	50	51	51	51	51	50	49	49	50	50	51	50	52
6/F	32.5	51	51	52	50	48	48	48	48	49	50	51	50	50	50	48	49	49	50	50	50	51
7/F	35.5	50	51	51	49	47	47	47	48	49	49	50	49	49	49	48	48	49	49	49	49	50
8/F	38.5	49	50	50	49	47	47	47	48	48	49	49	49	49	49	48	48	48	49	49	48	50
9/F	41.5	49	49	50	48	46	47	46	47	48	48	49	48	48	49	47	48	48	48	48	48	49
10/F	44.4	48	49	50	47	46	46	46	47	47	47	48	47	48	48	47	47	47	48	48	47	48
11/F	47.4	48	48	49	47	46	46	46	46	47	47	47	47	47	48	47	47	47	47	47	47	48
12/F	50.4	47	48	49	47	45	45	45	46	46	46	47	46	46	47	46	47	46	47	47	46	47
13/F	53.4	47	47	48	46	45	45	45	45	46	46	46	46	46	47	46	46	46	46	46	46	47
14/F	56.3	46	47	48	46	45	45	45	45	45	45	46	45	45	46	45	46	46	46	46	46	46
15/F	59.3	46	46	48	45	44	44	44	45	45	45	45	45	45	46	45	45	45	45	46	45	46
16/F	62.3	46	46	47	45	44	44	44	44	44	45	45	44	44	46	45	45	45	45	45	45	46
Max		53	53	53	52	49	48	48	48	49	50	51	50	50	50	48	49	49	50	51	50	52
Noise Criteria		55			60							55										

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - Base Case (Consolidated)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	52	54	54	53	52	52	52	56	53	52	53	51	51	--	--	--	--	--	--	--	--
4/F	26.6	54	55	55	54	52	52	52	56	54	54	54	53	54	54	52	52	52	52	53	52	54
5/F	29.6	54	54	54	53	52	52	52	55	54	54	53	53	53	53	52	52	52	52	53	53	54
6/F	32.5	53	53	54	53	52	52	51	54	54	54	53	52	52	53	51	52	52	52	53	52	53
7/F	35.5	53	53	53	52	51	51	51	55	54	54	52	52	52	53	51	51	51	52	52	52	53
8/F	38.5	52	52	53	52	51	51	51	55	54	54	52	51	51	53	51	51	51	51	52	52	52
9/F	41.5	52	52	53	52	51	51	51	55	54	54	51	51	51	53	51	51	51	51	52	52	52
10/F	44.4	52	52	53	52	51	51	51	55	54	54	51	51	51	53	51	51	51	51	52	52	52
11/F	47.4	52	52	53	52	51	51	51	55	55	54	51	51	51	53	51	51	51	51	52	52	52
12/F	50.4	52	53	53	52	51	51	51	55	55	55	51	51	51	53	51	52	51	51	52	52	52
13/F	53.4	52	53	54	52	51	51	51	55	55	55	51	51	51	53	51	52	51	51	52	52	53
14/F	56.3	53	53	54	52	51	51	51	56	55	55	51	52	52	54	51	52	51	52	53	52	53
15/F	59.3	53	53	54	53	52	51	51	56	55	55	52	52	52	54	52	52	52	52	53	52	53
16/F	62.3	53	54	54	53	52	52	51	56	55	55	52	52	52	54	52	53	52	52	53	53	54
Max		54	55	55	54	52	52	51	56	55	55	53	52	52	54	52	53	52	52	53	53	54
Noise Criteria		55			60							55										

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(24hr), dB(A) - Base Case (without Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	44	44	44	45	46	46	47	52	50	48	45	44	44	--	--	--	--	--	--	--	--
4/F	26.6	46	46	47	47	46	46	46	52	49	48	46	46	46	47	46	46	46	46	47	46	46
5/F	29.6	46	46	46	46	46	46	46	51	49	49	46	46	46	47	46	46	46	46	46	46	46
6/F	32.5	46	46	46	46	46	46	46	50	49	49	45	45	45	47	45	45	45	46	46	46	46
7/F	35.5	46	46	46	46	46	46	46	51	50	49	45	45	45	47	45	45	45	45	46	46	46
8/F	38.5	46	46	46	46	46	46	46	51	50	50	45	45	45	47	45	45	45	45	46	46	46
9/F	41.5	46	46	47	46	46	46	46	51	50	50	45	45	45	48	45	45	45	45	47	46	46
10/F	44.4	47	47	47	46	46	46	46	52	51	50	46	46	46	48	45	46	46	46	47	47	47
11/F	47.4	47	47	48	47	46	46	46	52	51	51	46	46	46	49	46	46	46	46	48	47	47
12/F	50.4	48	48	48	47	47	47	47	52	51	51	47	47	47	49	46	47	46	47	48	47	48
13/F	53.4	48	49	49	48	47	47	47	52	52	51	47	47	47	50	47	47	47	47	48	48	48
14/F	56.3	49	49	49	48	47	47	47	52	52	51	47	47	47	50	47	48	47	47	49	48	49
15/F	59.3	49	50	50	49	48	48	47	53	52	52	48	48	48	50	48	48	48	48	49	49	49
16/F	62.3	50	50	51	49	48	48	48	53	52	52	48	48	48	51	48	49	48	48	50	49	50
Max		50	50	51	49	48	48	48	53	52	52	48	48	48	51	48	49	48	48	50	49	50
Noise Criteria		65																				

Notes:

66	Noise level exceed standard of 65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(24hr), dB(A) - Base Case (Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	48	50	50	49	46	46	45	42	38	44	49	46	46	--	--	--	--	--	--	--	--
4/F	26.6	50	50	50	49	46	46	46	43	47	49	50	49	49	48	46	47	46	46	48	46	50
5/F	29.6	49	49	50	48	46	46	45	45	47	48	49	48	48	48	46	46	47	47	48	47	49
6/F	32.5	48	49	49	47	45	45	45	46	47	47	48	47	47	47	46	46	46	47	47	47	48
7/F	35.5	47	48	48	47	45	45	44	45	46	47	47	47	47	47	45	46	46	47	47	46	48
8/F	38.5	47	47	48	46	44	44	44	45	45	46	47	46	46	46	45	46	46	46	46	46	47
9/F	41.5	46	47	47	45	44	44	44	44	45	45	46	45	45	46	45	45	45	46	46	45	46
10/F	44.4	46	46	47	45	43	43	43	44	44	45	45	45	45	45	44	45	45	45	45	45	46
11/F	47.4	45	46	46	44	43	43	43	44	44	44	45	44	44	45	44	44	44	45	45	44	45
12/F	50.4	45	45	46	44	43	43	43	43	43	44	44	44	44	44	43	44	44	44	44	44	45
13/F	53.4	44	45	46	43	42	42	42	43	43	43	43	43	43	44	43	43	43	44	44	43	44
14/F	56.3	44	44	45	43	42	42	42	42	43	43	43	43	43	44	43	43	43	43	43	43	44
15/F	59.3	43	44	45	43	42	42	42	42	42	42	42	42	42	43	42	43	42	43	43	43	43
16/F	62.3	43	43	45	42	41	41	41	42	42	42	42	42	42	43	42	42	42	42	43	42	43
Max		50	50	50	49	46	45	45	46	47	47	48	47	47	47	46	46	46	47	48	47	50
Noise Criteria		65																				

Notes:

66	Noise level exceed standard of 65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(24hr), dB(A) - Base Case (Consolidated)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	50	51	51	50	49	49	49	53	50	49	51	48	48	--	--	--	--	--	--	--	--
4/F	26.6	51	52	52	51	49	49	49	53	51	52	51	51	51	51	49	49	49	49	50	49	51
5/F	29.6	51	51	51	50	49	49	49	52	51	51	50	50	50	50	49	49	49	50	50	50	51
6/F	32.5	50	51	51	50	49	49	49	52	51	51	50	49	49	50	49	49	49	49	50	49	50
7/F	35.5	50	50	50	49	48	48	48	52	51	51	49	49	49	50	48	48	49	49	49	49	50
8/F	38.5	49	50	50	49	48	48	48	52	51	51	49	48	49	50	48	48	48	49	49	49	49
9/F	41.5	49	49	50	49	48	48	48	52	52	51	49	48	48	50	48	48	48	48	49	49	49
10/F	44.4	49	49	50	49	48	48	48	52	52	51	48	48	48	50	48	48	48	48	49	49	49
11/F	47.4	49	50	50	49	48	48	48	52	52	52	48	48	48	50	48	48	48	48	49	49	49
12/F	50.4	49	50	50	49	48	48	48	53	52	52	48	48	49	50	48	49	48	49	49	49	50
13/F	53.4	50	50	51	49	48	48	48	53	52	52	48	48	48	51	48	49	48	49	50	49	50
14/F	56.3	50	50	51	49	48	48	48	53	52	52	48	49	49	51	48	49	49	49	50	49	50
15/F	59.3	50	51	51	50	49	49	48	53	52	52	49	49	49	51	49	49	49	49	50	50	50
16/F	62.3	50	51	52	50	49	49	49	53	53	52	49	49	49	52	49	50	49	49	51	50	51
Max		51	52	52	51	49	49	49	53	53	52	50	49	49	52	49	50	49	50	51	50	51
Noise Criteria		65																				

Notes:

66	Noise level exceed standard of 65dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Lmax, dB(A) - Base Case

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	83	83	84	84	84	84	84	83	84	84	84	84	84	--	--	--	--	--	--	--	--
4/F	26.6	83	83	84	84	84	84	84	83	84	84	84	84	84	84	84	84	84	84	84	84	83
5/F	29.6	83	83	83	84	84	84	83	83	83	84	84	84	84	84	84	84	84	84	84	84	83
6/F	32.5	83	83	83	83	83	83	83	83	83	83	84	84	84	84	84	84	84	84	83	83	83
7/F	35.5	83	83	83	83	83	83	83	83	83	83	83	83	83	84	84	84	83	83	83	83	83
8/F	38.5	83	83	83	83	83	83	83	82	83	83	83	83	83	83	83	83	83	83	83	83	83
9/F	41.5	82	82	83	83	83	83	83	82	83	83	83	83	83	83	83	83	83	83	83	83	83
10/F	44.4	82	82	83	83	83	83	83	82	82	82	83	83	83	83	83	83	83	83	83	83	82
11/F	47.4	82	82	82	82	83	82	82	82	82	82	83	83	83	83	83	83	83	83	82	82	82
12/F	50.4	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
13/F	53.4	82	82	82	82	82	82	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82
14/F	56.3	82	82	82	82	82	82	82	81	82	82	82	82	82	82	82	82	82	82	82	82	82
15/F	59.3	82	82	82	82	82	82	82	81	81	81	82	82	82	82	82	82	82	82	82	82	82
16/F	62.3	82	82	82	82	82	82	81	81	81	81	82	82	82	82	82	82	82	82	82	82	82
Max		83	83	84	84	84	84	84	83	84	84	84	84	84	84	84	84	84	84	84	84	83
Noise Criteria		85																				

Notes:

86	Noise level exceed standard of 85 dB(A)
--	Not Available at this residential storey

Appendix 4.5

Predicted Rail Noise Impact Assessment Result (Mitigated Case Scenario)

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - with 2m(H) Solid Balustrade at 19.5 mPD and Full Height Acoustic Fins (without Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	47	47	47	48	49	49	50	55	53	51	48	47	47	--	--	--	--	--	--	--	--
4/F	26.6	49	49	50	50	49	49	49	55	52	51	49	49	49	49	49	49	49	49	50	49	49
5/F	29.6	49	49	49	49	49	49	49	54	52	52	49	49	49	49	49	49	49	49	49	49	49
6/F	32.5	49	49	49	49	49	49	49	53	52	52	48	48	48	49	48	48	48	49	49	49	49
7/F	35.5	49	49	49	49	49	49	49	54	53	52	48	48	48	48	48	48	48	48	49	49	49
8/F	38.5	48	49	49	49	49	49	49	54	53	53	48	48	48	48	48	48	48	48	49	49	49
9/F	41.5	49	49	49	49	49	49	49	54	53	53	48	48	48	49	48	48	48	48	50	49	49
10/F	44.4	49	49	50	49	49	49	49	54	54	53	49	48	48	49	48	49	49	49	50	50	50
11/F	47.4	50	50	50	50	49	49	49	55	54	54	49	49	49	50	49	49	49	49	51	50	50
12/F	50.4	50	51	50	50	49	49	50	55	54	54	50	49	49	50	49	50	49	50	51	50	51
13/F	53.4	51	51	51	51	50	50	50	55	54	54	50	49	49	50	50	50	50	50	51	51	51
14/F	56.3	51	52	51	51	50	50	50	55	55	54	50	50	50	51	50	51	50	50	52	51	52
15/F	59.3	52	52	52	52	51	50	50	55	55	55	51	50	50	51	51	51	51	51	52	52	52
16/F	62.3	52	53	52	52	51	51	51	55	55	55	51	50	50	52	51	52	51	51	53	52	53
Max		52	53	52	52	51	51	51	55	55	55	51	50	50	52	51	52	51	51	53	52	53
Noise Criteria		55			60								55									

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - with 2m(H) Solid Balustrade at 19.5 mPD and Full Height Acoustic Fins (Structure-reradiated Noise)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	47	48	50	52	49	48	48	45	41	46	50	46	46	--	--	--	--	--	--	--	--
4/F	26.6	50	51	51	52	49	49	49	46	49	50	51	49	49	50	47	48	47	48	50	49	51
5/F	29.6	51	51	51	51	48	48	48	47	49	50	51	49	49	50	48	48	49	49	50	50	51
6/F	32.5	50	51	51	50	48	48	48	48	49	50	51	48	48	50	48	48	49	49	50	49	51
7/F	35.5	50	50	50	49	47	47	47	48	49	49	50	48	48	49	48	48	48	49	49	49	50
8/F	38.5	49	50	49	49	47	47	47	47	48	49	49	47	47	49	48	48	48	49	49	48	49
9/F	41.5	49	49	49	48	46	47	46	47	48	48	49	46	46	48	47	48	48	48	48	48	49
10/F	44.4	48	49	48	47	46	46	46	47	47	47	48	46	46	48	47	47	47	48	48	47	48
11/F	47.4	48	48	48	47	46	46	46	46	47	47	47	45	45	47	47	47	47	47	47	47	48
12/F	50.4	47	48	47	47	45	45	45	46	46	46	47	45	45	47	46	47	46	47	47	46	47
13/F	53.4	47	47	47	46	45	45	45	45	46	46	46	44	44	47	46	46	46	46	46	46	47
14/F	56.3	46	47	46	46	45	45	45	45	45	45	46	44	44	46	45	46	46	46	46	46	46
15/F	59.3	46	46	46	45	44	44	44	45	45	45	45	43	43	46	45	45	45	45	46	45	46
16/F	62.3	45	46	46	45	44	44	44	44	44	45	45	43	43	45	45	45	45	45	45	45	46
Max		51	51	51	52	49	48	48	48	49	50	51	48	48	50	48	48	49	49	50	50	51
Noise Criteria		55			60								55									

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Proposed Residential Development at Lot Nos. 531 RP, 532 S.D RP and 532 RP in D.D. 130 and Adjoining Government Land, Lam Tei, Tuen Mun

Predicted Leq(30mins) during Night Time Period, dB(A) - with 2m(H) Solid Balustrade at 19.5 mPD and Full Height Acoustic Fins (Consolidated)

Tower 1

Floor	mPD	R1-02	R1-03	R1-04	R1-06	R1-08	R1-09	R1-10	R1-46	R1-47	R1-48	R1-50	R1-53	R1-54	R1-55	R1-58	R1-59	R1-60	R1-61	R1-62	R1-63	R1-66
3/F	23.6	50	51	52	53	52	52	52	56	53	52	52	50	49	--	--	--	--	--	--	--	--
4/F	26.6	53	53	54	54	52	52	52	56	54	54	53	52	52	53	51	52	51	51	53	52	53
5/F	29.6	53	53	53	53	52	52	52	55	54	54	53	52	52	52	51	52	52	52	53	52	53
6/F	32.5	53	53	53	53	52	52	51	54	54	54	53	51	51	52	51	51	52	52	53	52	53
7/F	35.5	52	53	52	52	51	51	51	55	54	54	52	51	51	52	51	51	51	52	52	52	53
8/F	38.5	52	52	52	52	51	51	51	55	54	54	52	50	50	52	51	51	51	51	52	52	52
9/F	41.5	52	52	52	52	51	51	51	55	54	54	51	50	50	52	51	51	51	51	52	52	52
10/F	44.4	52	52	52	52	51	51	51	55	54	54	51	50	50	52	51	51	51	51	52	52	52
11/F	47.4	52	52	52	52	51	51	51	55	55	54	51	50	50	52	51	51	51	51	52	52	52
12/F	50.4	52	52	52	52	51	51	51	55	55	55	51	50	50	52	51	52	51	51	52	52	52
13/F	53.4	52	53	52	52	51	51	51	55	55	55	51	51	51	52	51	52	51	51	52	52	53
14/F	56.3	52	53	52	52	51	51	51	56	55	55	51	51	51	52	51	52	51	52	53	52	53
15/F	59.3	53	53	53	53	52	51	51	56	55	55	52	51	51	53	52	52	52	52	53	52	53
16/F	62.3	53	54	53	53	52	52	51	56	55	55	52	51	51	53	52	53	52	52	53	53	54
Max		53	54	54	54	52	52	52	56	55	55	53	51	51	53	52	53	52	52	53	53	54
Noise Criteria		55			60								55									

Notes:

61/56	Noise level exceed standard of 60/55dB(A)
--	Not Available at this residential storey

Appendix 4.6

Proposed Rail Noise Mitigation Measures Schedule

Schedule of Rail Noise Mitigation Measures

Unit	Room	Floor	Noise Mitigation Measures
-	-	2/F	2m high Solid Balustrade on 2/F of the podium (Please refer to **Figure 4.4** for details)
A1	LIV	3/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
A2	LIV	3/F-16/F	Fixed Glazing with Maintenance Window
A2	LIV	3/F-16/F	0.7m(L) Acoustic Fin with SAM
A2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
A10	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
A10	BR	4/F-16/F	Fixed Glazing with Maintenance Window
B1	LIV	3/F-16/F	1.5m(L) Acoustic Fin with SAM
B1	LIV	3/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
B1	BR	3/F-16/F	Fixed Glazing with Maintenance Window
B2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
B2	LIV	3/F-16/F	Fixed Glazing with Maintenance Window
B10	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
B10	BR	4/F-16/F	Fixed Glazing with Maintenance Window

Appendix 4.7

Latest Correspondence from MTRC

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk

MTR

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

Our ref: T&ESD/E&IC/ES/EnvE/L1314

Date: 9 MAR 2026

Attention: Mr. Billy FAN

By Post and Fax
(Fax no.:3465 2899)

Dear Mr. Fan,

Re: S16 Planning Application for Proposed Flat Development and Minor Relaxation of Building Height Restriction in "Commercial" Zone, Lots 531 RP, 532 S.D RP and 532 RP and Adjoining Government Land, Lam Tei, Tuen Mun, NT - Request for Operation Mode and Conditions of Tuen Ma Line and Light Rail

We refer to your letter (ref.:ASLLT130EI00_0_0013L.26) dated 22 January 2026, which we received on 6 February 2026, requesting information regarding Tuen Ma Line (TML) and Light Rail Transit (LRT).

Operational Information for TML (between Siu Hong Station and Tin Shui Wai Station)

- The daily operating hours for the concerned section are from approximately 05:00 to 01:10 hours.
- There are currently 8 cars per train for the operation condition of TML. However, according to the latest Environmental Permit (EP) for West Rail, the ultimate maximum train cars would be 9 cars.
- The future ultimate daily peak operating train frequency during the period of 07:00-23:00 hours is about 28 trains per hour per direction.
- For the future ultimate daily peak operating train frequency during the period of 23:00-07:00 hours, please refer to the latest Environmental Permit (EP) for West Rail available via the EPD website.

Operational Information for LRT (between Siu Hong Stop and Nai Wai Stop - Routes 610, 614, 615 and 751 only)

- The daily operating hours for the concerned section are from approximately 05:15 to 01:20 hours.
- There are different types of Light Rail vehicles currently operating on LRT. The arrangement of single or coupled-set vehicles will vary depending on the traffic needs and is subject to change without prior notification. For environmental assessment purpose, you may wish to work on the assumption that all vehicles are in couple-set where appropriate.

MTR Headquarters Building, Telford Plaza, Kowloon Bay,
Kowloon, Hong Kong. GPO Box 9916, Hong Kong
Tel (852) 2993 2111 Fax (852) 2798 8822

香港九龍灣德福廣場港鐵總部大樓
香港郵政總局信箱9916號
電話 (852) 2993 2111 傳真 (852) 2798 8822

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk

Our ref: T&ESD/E&IC/ES/EnvE/L1314
Date: - 9 MAR 2026

- The current peak train frequency during the period of 07:00-23:00 hours and 23:00-07:00 hours is about 22 trains per hour per direction and 20 trains per hour per direction respectively. Please note that the Light Rail service frequencies are subject to change without prior notification due to future patronage growth. As such, please consider allowing a buffer on the assessment assumptions when estimating future possible environmental impacts.

Train Speed

- For TML, the current maximum train speed for the concerned track section is 100 km/h for both directions.
- For LRT, the current maximum train speed for the concerned sections is 70 km/h for both directions.

Trackform

The concerned track section of TML is in floating slab trackform. For LRT, the concerned track section is mainly in ballast trackform. We suggest that your organization conduct its own survey to review the actual site condition, if necessary.

Noise Mitigation Measures, Datum Level and Location of Joints and Rail Crossing

There is an existing full enclosure with an approximate length of 180 m at the concerned track sections of TML in the assessment area mentioned in your letter. The Corporation does not have any plan to provide trackside noise barriers along the concerned sections of TML and LRT. We suggest that your organization contact us to arrange the checking of the respective drawings on the requested information suitable for your study.

Please be reminded that any information that may come to your knowledge or come into your possession from MTR Corporation Limited shall only be used solely as reference for this captioned project. Further distribution and/or publication of the above information for purposes not connected with the captioned project are strictly prohibited without the prior consent of MTR Corporation Limited. Please also note that any such information is subject to change without prior notification.

Should you have any additional enquiries, please feel free to contact the undersigned at [redacted].

Yours sincerely,

Catherine Leung
Lead Environmental Manager

MTR Headquarters Building, Telford Plaza, Kowloon Bay, Kowloon, Hong Kong. GPO Box 9916, Hong Kong
香港九龍灣德福廣場港鐵總部大樓
香港郵政總局信箱9916號

Appendix 5.1

Information Extracted from Approved EA report for Approved Rezoning Application (Application No.: Y/TM-LTYY/11)

Table 3.2 Identified Fixed Noise Sources during Site Visits

ID	Name and Photo	Description
S1 & S1a	天龍/偉光 (Tin Lung and Wai Kwong) 	S1 & S1a is a car repairing workshop. As advised by the operator during site survey, its operation is from 0900 to 1800. There is no night-time operation. S1 is the location where car repairing is conducted. Car repairing noise includes tyre pumping and car cleansing. Not all the activities were carried at the time of the site visit. Thus, the SPL of some of the activities were reference from similar operation in previously approved planning application. Noise from tyre pumping has made reference to an approved planning application A/YL-KTN/501[(a)]. The measured SPL was 75.1dB(A) at 2m from noise source and hence the SWL is 89.1 dB(A). With reference to the approved planning application Y/TM-LTYY/9, noise from car cleansing was measured onsite with SPL of 59.3 dB(A) at 5m from the noise source and hence the SWL is 81.3 dB(A).
S2	御浚 (Royal's Motor Engineering Company Limited) 	S2 is a car repairing workshop. As advised by the operator during site survey, its operation is from 1000 to 1900. There is no night-time operation. Car repairing noise includes pneumatic screwdriver, hammering and tyre pumping are considered. During the site visits, no noisy activity was observed. As a conservative approach, noise from the car repairing activities has made reference to an approved planning application A/YL-KTN/501[(a)]. Therefore, the overall SWL adopted at S3 is 98.3 dB(A).
S3	CHEP	S5 is a covered storage for pallet. As advised by the operator during site survey, its operation is from 0900 to 1800. There is no night-time operation. The noisy industrial activity is loading / unloading of pallet using forklift. With reference to the approved planning

ID	Name and Photo	Description
		application Y/TM-LTYY/9, the onsite measured SPL was 66.0 dB(A) at 8m and hence the SWL is 92.1 dB(A).
S4	捷興汽車(Jit Hing) 	S6 is a covered car repairing workshop. As advised by the operator during site survey, its operation is from 0900 to 2000. There is no night-time operation. This car repairing workshop will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, this noise source is not included in the assessment.
S5	高田 (Ko Tin) 	S7 is an open storage site for dumped electronic appliance. This open storage site will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, this noise source is not included in the assessment.
S6	Ice Manufacturing Factory (德保雪粒) to the southeast of the site 	S8 is an ice manufacturing factory. As advised by the operators, their working hours is from 0900 to 1900. The major noisy activity is the loading and unloading activities. This factory will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, this noise source is not included in the assessment.
S7	Ice Manufacturing Factory (德保雪粒) to the southeast of the Application Site	As advised by the operators, their working hours is from 0900 to 1900. The Major noisy activity is the operation of the air-cooling chiller. There is no breakthrough noise observed.

ID	Name and Photo	Description
		This factory will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, this noise source is not included in the assessment.
S8	Enclosed Storage (Long United Furniture Limited) to the southeast of the site 	The storage is totally enclosed. As advised by the operators, their working hours is from 0900 to 1800. The noisy industrial activities are the loading / unloading of goods and movement of vehicles. No tonal character activities as well as impulsiveness characteristic activities are observed. This storage facility will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, this noise source is not included in the assessment.

Note:

(a) SWL of a vehicle repair workshop is referenced to a similar one with several standard activities in an approved planning application (Application No. A/YL-KTN/501). The equipment involved in the activities include pneumatic screwdriver and tyre pump.

(b) All of the noise sources have no tonal or impulsiveness characteristics.

3.3.3 Out of the 8 noise sources identified, 5 of them (S4 to S8) will be resumed for public housing development at San Hing Road under CEDD's contract B764CL before population intake at the Proposed Development. Hence, these noise sources are not included for assessment.

Planned Fixed Noise Sources

3.3.4 Mechanical ventilation system would be provided for the proposed clubhouse and the on-site underground sewage treatment plant. The ventilation equipment and plant room louvres would be designed to face away from noise sensitive receivers along Ng Lau Road as far as practicable. The design of any fixed noise source will comply with the noise standards stipulated in Chapter 9 of the HKPSG and the Noise Control Ordinance. However, as the Proposed Development is still at an early stage, the proposed location and design of the planned fixed noise source as well as the required mitigation measures (if any) are subject to further study during the detailed design stage.

3.3.5 With conformed design and provision of adequate mitigation measures, if required, for any planned fixed noise sources, the noise standards stipulated in Chapter 9 of HKPSG and NCO should be complied, no adverse noise impact is anticipated from the planned fixed noise sources.

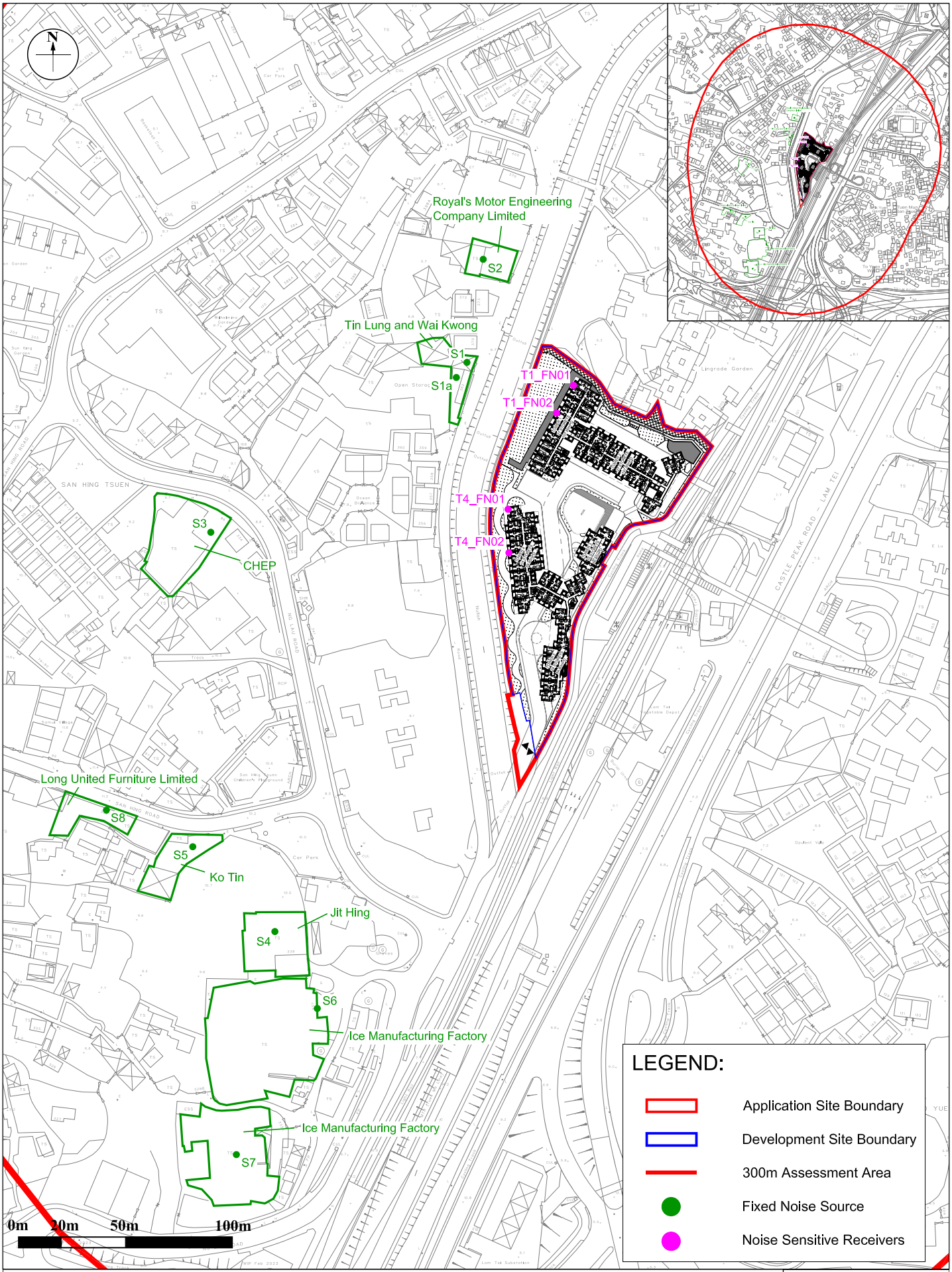


Figure:	3.1	RAMBOLL
Title:	Location of Fixed Noise Sources and Representative Noise Sensitive Receivers for Fixed Noise Impact Assessment	Drawn by: EC Checked by: KY
Project:	Proposed Rezoning from "Residential (Group B)1" Zone to "Residential (Group B)4" Zone for Medium-Density Housing Development to Include a Footpath for Public use at Various Lots and Adjacent Government Land in DD130, Lam Tei, Tuen Mun	Rev.: 5.0 Date: Nov 2024

Appendix 5.2

On-Site Survey for Verification of Fixed Noise Sources

31 October 2025 Day Time Survey

	
1. Tin Lung no longer existed. Wai Kwong (偉光) – A car repairing workshop was observed. Car repairing equipment for tyre pumping and car cleansing were observed. Therefore, the fixed noise sources have been updated and only the fixed noise source – S1 would be included for the assessment. No noisy activity was observed during the site survey. (S1)	2. Royal's Motors Engineering Company Limited (御浚) – A car repairing workshop. The workshop was fenced off during site survey. No noisy activity was observed. (S2)
	
3. 新法 – A storage warehouse for the storage of metal pipes was observed during site survey. The storage warehouse is assumed to be used for material storage, loading and unloading activity. No noisy activity was observed during site survey. (S3)	4. Yue Kee Rattan Factory (堯記籐廠) – The factory was closed during site survey. No noticeable sound was observed from the factory during site survey. Therefore, no noise impact was observed from the factory and it is not identified as fixed noise source. (A3)

	
5. Ming Lee Metal Foundry Limited (明利鑄造有限公司) – A warehouse for the office only was observed during site survey. No noisy activity and equipment were observed. Therefore, no noise impact was observed from the warehouse and it is not identified as fixed noise source. (A4)	

22 January 2026 and 25 January 2026 Day Time Survey

	
1. Tin Lung no longer existed. Wai Kwong (偉光) – A car repairing workshop was observed. Car repairing equipment for tyre pumping and car cleansing were observed. Threrefore, the fixed noise sources have been updated and only the fixed noise source – S1 would be included for the assessment. No noisy activity was observed during the site survey. (S1)	2. Royal's Motors Engineering Company Limited (御浚) – A car repairing workshop. The workshop was open during site survey. No noisy activity and equipment were observed during site survey. (S2)
	
3. 新法 – A storage warehouse for the storage of metal pipes was observed during site survey. The storage warehouse is assumed to be used for material storage, loading and unloading activity. No noisy activity was observed during site survey. (S3)	4. Lam Tei Vegetable Collection Depot – a vegtable wholesale depot. During site visit on 25 January 2026, It was observed that farmers carried vegetables by hands or hand-held trolleys. No powered mechanical equipment in use was observed. Additionally, use of PA system was not observed for selling. Therefore, no noise impact is expected from depot operations and it is not identified as fixed noise source. (A1)

	
5. Lam Tei Substation – An electricity substation. No noticeable sound was observed from the substations during site survey. Therefore, no noise impact was observed from the substation and it is not identified as fixed noise source. (A2)	6. Yue Kee Rattan Factory (堯記籐廠) – The factory was closed during site survey. No noticeable sound was observed from the factory during site survey. Therefore, no noise impact was observed from the factory and it is not identified as fixed noise source. (A3)
	
7. Ming Lee Metal Foundry Limited (明利鑄造有限公司) – A warehouse for the office only was observed during site survey. No noisy activity was observed. Therefore, no noise impact was observed from the warehouse and it is not identified as fixed noise source. (A4)	

新法

Royal's Motor Engineering Company Limited

Tin Lung and Wai Kwong

S1
S1a
S2
S3

Public Housing Development
at San Hing Road under
AEIAR-227/2020

Legend

- Application Site
- Identified Fixed Noise Source
- 300m Assessment Area

Appendix: 5.2

Title: Site Survey Record for Verification of Fixed Noise Sources

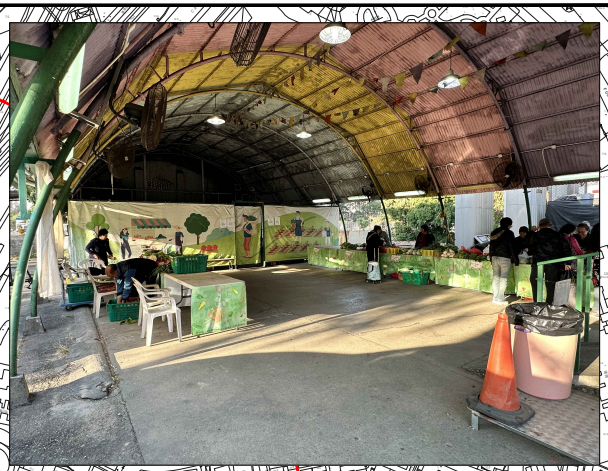
Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for The Proposed Residential Development (Flat) with Shop and Services Use at Lots. 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei, Tuen Mun

RAMBOLL

Drawn by:	MK
Checked by:	BF
Rev.:	1.0
Date:	Nov 2025

Q:\Projects\ASLLT130EI00\05 Assessments\02 Noise\01 Industrial\Site Survey Result.dwg

Ming Lee Metal Foundry Limited



Lam Tei Vegetable Collection Depot

A1

A2

A3

A4

Public Housing Development
at San Hing Road under
AEIAR-227/2020

Yue Kee Rattan Factory

Lam Tei Substation

Legend

Application Site

Identified Fixed Noise Source

300m Assessment Area

Appendix: 5.2b

Title: Site Survey Record for Verification of Fixed Noise Sources

Project: S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for The Proposed Residential Development (Flat) with Shop and Services Use at Lots. 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei, Tuen Mun

RAMBOLL

Drawn by:	MK
Checked by:	BF
Rev.:	1.0
Date:	Jan 2026

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Appendix 5.3

Detailed Fixed Noise Impact Sources Assessment

S16 Planning Application Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for the Proposed Residential Development (Flat) with Shop and Services Use at Lots 531 RP, 532 S.D. RP and 532 RP in DD 130 and the Adjoining Government Land, Lam Tei Tuen Mun

NSR ID	NSR (x)	NSR (y)	Noise Source	Description	Noise Source (x)	Noise Source (y)	SWL (dB(A))	Shortest Horizontal Distance from receiver to source (m) to the noise source	Distance Correction dB(A)	Barrier Correction dB(A)	Tonality dB(A)	Façade Correction dB(A)	Corrected Noise Level dB(A)
F1-01	816157.3	830929.7	S1	Wai Kwong	816090.6	831141.3	89.8	222	54.9	0	3	3	41
			S2	Royal's Motor Engineering Company Limited	816098.2	831189.5	98.3	266	56.5	0	3	3	48
			S3	CHEP	815970.6	831061.8	92.1	229	55.2	0	3	3	43
												Total	50
												Criteria	***65***

NSR ID	NSR (x)	NSR (y)	Noise Source	Description	Noise Source (x)	Noise Source (y)	SWL (dB(A))	Shortest Horizontal Distance from receiver to source (m) to the noise source	Distance Correction dB(A)	Barrier Correction dB(A)	Tonality dB(A)	Façade Correction dB(A)	Corrected Noise Level dB(A)
F1-02	816153.6	830926.3	S1	Wai Kwong	816090.6	831141.3	89.8	224	55.0	0	3	3	41
			S2	Royal's Motor Engineering Company Limited	816098.2	831189.5	98.3	269	56.6	0	3	3	48
			S3	CHEP	815970.6	831061.8	92.1	228	55.1	0	3	3	43
												Total	50
												Criteria	***65***

Appendix 6.1

Proposed Overall Noise Mitigation Measures Schedule

Schedule of Overall Noise Mitigation Measures

Tower 1

NSRs	Unit	Room	Floor	Noise Mitigation Measures
-	-	-	2/F	2m high Solid Balustrade on 2/F of the podium (Please refer to **Figure 4.4** for details)
N1-01	A1	LIV	3/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-04	A2	LIV	3/F-16/F	Fixed Glazing with Maintenance Window
-	A2	LIV	3/F-16/F	0.7m Acoustic Fin with Sound Absorption Material
N1-05	A2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-06	A2	BR	3/F-16/F	Acoustic Window (Baffle Type)
N1-07	A2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-08	A2	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-09	A3	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-10	A3	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-11	A3	BR	4/F-16/F	Acoustic Window (Baffle Type)
-	A3	BR	3/F-16/F	1.5m Acoustic Fin with Sound Absorption Material
N1-12	A4	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
-	A4	LIV	3/F-16/F	0.2m Acoustic Fin with Sound Absorption Material
N1-13	A4	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-14	A4	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-15	A5	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-16	A5	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-17	A5	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-18	A6	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-16	A6	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-20	A6	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-21	A7	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-22	A7	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-23	A7	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-24	A8	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-25	A8	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-26	A8	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-64	A10	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door

Schedule of Overall Noise Mitigation Measures

N1-65	A10	BR	4/F-16/F	Fixed Glazing with Maintenance Window
-	B1	LIV	3/F-16/F	1.5m Acoustic Fin with Sound Absorption Material
N1-52	B1	LIV	3/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-51	B1	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-49	B2	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-48	B2	BR	4/F-16/F	Acoustic Window (Baffle Type)
-	B2	LIV	3/F-16/F	Fixed Glazing with Maintenance Window
N1-47	B2	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-46	B3	BR	3/F-16/F	Acoustic Window (Baffle Type)
-	B3	BR	3/F-16/F	1.5m Acoustic Fin with Sound Absorption Material
N1-45	B3	BR	3/F-16/F	Fixed Glazing with Maintenance Window
N1-44	B3	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-43	B3	LIV	4/F-16/F	Fixed Glazing with Maintenance Window
-	B3	LIV	3/F-16/F	0.8m Acoustic Fin with Sound Absorption Material
N1-42	B3	LIV	4/F-16/F	Enhanced Acoustic Balcony (Baffle Type)
N1-41	B4	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-40	B4	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-39	B4	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-38	B5	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-37	B5	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-36	B5	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-35	B6	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-34	B6	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-33	B6	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-32	B7	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-31	B7	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-30	B7	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-29	B8	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-28	B8	LIV	4/F-16/F	Acoustic Window (Baffle Type)
N1-27	B8	BR	4/F-16/F	Acoustic Window (Baffle Type)
N1-57	B10	LIV	4/F-16/F	Fixed Glazing with Maintenance Window, Self-Closing Door
N1-56	B10	BR	4/F-16/F	Fixed Glazing with Maintenance Window
N1-01 to N1-08	A1 to A2	-	2/F	2m high Solid Balustrade on 2/F (Please refer to **Figure 4.4** for details)

Schedule of Overall Noise Mitigation Measures

N1-07 to N1-11	A2 to A3	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-12 to N1-45	A4 to B3	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-47 to N1-48	B2	-	3/F	1.5m high solid wall at 3/F the flat roof (Please refer to **Figure 3.2** for details)
N1-11	A3	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-13 to N1-16	A4 to A5	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-16 to N1-22	A6 to A7	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-25 to N1-28	A8 to B8	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-43 to N1-44	B3	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-37 to N1-40	B4 to B5	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)
N1-31 to N1-34	B6 to B7	-	3/F-16/F	Sound Absorption Material on Façade (Please refer to **Figure 3.2** for details)