

# SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND

## ENVIRONMENTAL ASSESSMENT STUDY

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<b>Project:</b>	SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND ENVIRONMENTAL ASSESSMENT STUDY				
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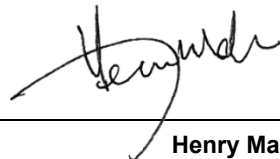
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## 1. INTRODUCTION

### 1.1. BACKGROUND AND OBJECTIVES

- 1.1.1. The Project Proponent proposed the change of land use from 'Residential (Group C)' and 'Residential (Group D)' to 'Government, Institution or Community (2)' in Lot 827 RP in D.D.130 and adjoining Government land, Lam Tei, Tuen Mun (hereinafter referred to as 'Proposed Development').
- 1.1.2. BeeXergy Consulting Limited was commissioned by the Project Proponent to undertake an Environmental Assessment Study (EAS) to assess the potential environmental impacts arising from the Proposed Development, and as a supporting document for the planning application under Section 12A of the Town Planning Ordinance (TPO) for the Proposed Development.

### 1.2. PROJECT SITE AND SURROUNDING ENVIRONMENT

- 1.2.1. The Project Site is located to the east of Botania Villa and Fuk Hang Tsuen Road. The Project Site area is about 1,694m<sup>2</sup>, with consists of about 89m<sup>2</sup> of government land. Topographically, the Project Site is currently flat and paved. The private land within the Project Site is comprised of village house and temporary structures, while the government land within the Project Site is the road access of the Project Site. **Figure 1.1** indicates the location of the Project Site and the surrounding environment.

### 1.3. PROJECT DESCRIPTION

- 1.3.1. The Proposed Development consists of a proposed 8-storey RCHD with 260-320 bedspace. The Gross Floor Area (GFA) is approximately 6,500m<sup>2</sup>. The master layout plan and section plan of the Proposed Development are provided in **Appendix 1.1**. The key development parameters are summarised in **Table 1.1**.

**Table 1.1 Key Development Parameters of the Proposed Development**

Parameters	Value
Project Site Area	1,694m <sup>2</sup>
Maximum Gross Floor Area	6,500m <sup>2</sup>
Proposed Number of Storey	8
Proposed Number of Beds	260-320
Tentative Construction Period	2029 to 2031
Tentative Operation Period	End of 2031

## 1.4. STRUCTURE OF THE REPORT

1.4.1. The description of the Project is introduced in this section. Sections 2 to 7 detail the relevant legislation, environmental conditions, assessment criteria, methodology and results and recommended mitigation measures of each environmental aspect, including Air Quality Impact (Section 2), Traffic Noise Impact (Section 3), Fixed Noise Impact (Section 4), Water Quality Impact (Section 5), Waste Management Implication (Section 6) and Land Contamination (Section 7). Section 8 summarises the conclusion of the EAS.

## 2. AIR QUALITY IMPACT

### 2.1. INTRODUCTION

2.1.1. This section identifies the potential air quality impact associated with the construction and operation phases of the Proposed Development. It also recommends practical pollution control and mitigation measures, where necessary.

### 2.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

#### Hong Kong's Air Quality Objectives (AQOs)

2.2.1. The principal legislation for the management of air quality in Hong Kong is the Air Pollution Control Ordinance (APCO) (CAP.311). Under the APCO, the AQOs stipulate the statutory limits for air pollutants and the maximum allowable number of exceedances over specific time periods. The prevailing AQOs presented in **Table 2.1** has been applied in this Air Quality Impact Assessment (AQIA).

**Table 2.1. Hong Kong's Air Quality Objectives**

Pollutant	Averaging Time	Concentration Limit <sup>[1]</sup> ( $\mu\text{g}/\text{m}^3$ )	Number of Exceedances Allowed
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	200	18
	24-hour	120	9
	Annual	40	-
Sulphur Dioxide (SO <sub>2</sub> )	10-minute	500	3
	24-hour	40	3
Respirable Suspended Particulates (RSP) <sup>[2]</sup>	24-hour	75	9
	Annual	30	-
Fine Suspended Particulates (FSP) <sup>[3]</sup>	24-hour	37.5	18
	Annual	15	-
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Ozone (O <sub>3</sub> )	8-hour	160	9
	Peak Season	100	-
Lead (Pb)	Annual	0.5	N/A
<b>Notes:</b>			
[1] All measurements of the concentration of gaseous air pollutants (i.e. SO <sub>2</sub> , NO <sub>2</sub> , O <sub>3</sub> and CO) are to be adjusted to a reference temperature of 293K and a reference pressure of 101.325kPa.			
[2] RSP means suspended particles in air with a nominal aerodynamic diameter of 10 $\mu\text{m}$ or less.			
[3] FSP means suspended particles in air with a nominal aerodynamic diameter of 2.5 $\mu\text{m}$ or less.			

## Hong Kong Planning Standards and Guidelines (HKPSG)

2.2.2. Environmental requirements to be considered in land use planning are outlined in Chapter 9 of HKPSG, which provides recommendations on suitable locations for development and sensitive users, provision of environmental facilities and design, layout, phasing and operational controls to minimise adverse environmental impacts. It also lists out environmental factors influencing the land use planning and recommends buffer distances for land uses.

2.2.3. The minimum buffer distances from different types of open roads and industrial emissions to the air sensitive uses as recommended in Table 3.1 of Chapter 9 of HKPSG are extracted in **Table 2.2** below.

**Table 2.2. HKPSG Recommended Buffer Distance**

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Roads and Highways	<u>Type of Road</u>		
	Trunk Road and Primary Distributor	>20m	Active recreation open spaces
		3–20m	Passive recreation open spaces
		<3m	Amenity Areas
	District Distributor	>10m	Active recreation open spaces
		<10m	Passive recreation open spaces
	Local Distributor	>5m	Active recreation open spaces
		<5m	Passive recreation open spaces
Under Flyover	N/A	Passive recreation open spaces	
Industrial Areas	<u>Difference in Height between Industrial Chimney Exit and the Site</u>		
	< 20m	> 200m	Active recreation open spaces
		5 – 200m	Passive recreation open spaces
	20 – 30m (*)	> 100m	Active recreation open spaces
		5 – 100m	Passive recreation open spaces
	30 – 40m	> 50m	Active recreation open spaces
		5 – 50m	Passive recreation open spaces
	> 40m	> 10m	Active and passive recreation open spaces
<b>Notes:</b>			
[1] In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk (*) for preliminary planning purpose and refine as and when more information is available.			
[2] The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.			
[3] The guidelines are generally applicable to major industrial areas but not individual large industrial establishments which are likely to be significant air pollution sources.			
[4] Amenity areas are permitted in any situation.			

## **Other Regulations and Guidelines**

### Air Pollution Control (Construction Dust) Regulation

- 2.2.4. Notifiable and regulatory works are under the control of Air Pollution Control (Construction Dust) Regulation. Notifiable works include site formation, reclamation, demolition, foundation and superstructure construction for buildings and road construction. Regulatory works include building renovation, road opening and resurfacing slope stabilization, and other activities including stockpiling, dusty material handling, excavation, concrete production, etc. Contractors and site agents are required to adopt construction dust suppression measures to reduce dust emission to the acceptable level.
- 2.2.5. The Regulation requires that advance notice for any notifiable work shall be given to the Environmental Protection Department (EPD), and the contractor shall ensure that both notifiable works and regulatory works will be conducted in accordance with the Schedule of the Regulation, which provides dust control and suppression measures.

### Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

- 2.2.6. Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation specifies that all Non-road Mobile Machinery (NRMMs), except those exempted, used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes are required to comply with the prescribed emission standards.

### Air Pollution Control (Fuel Restriction) (Emission) Regulations

- 2.2.7. In order to minimise SO<sub>2</sub> emission from construction plants and equipment, the Air Pollution Control (Fuel Restriction) Regulations imposes the legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes, which stipulates that liquid fuel with a sulphur content of less than 0.001% by weight or viscosity less than 6 Centistokes at 40°C should be fulfilled.

## **2.3. BASELINE CONDITIONS**

- 2.3.1. The local air quality is likely to be primarily influenced by vehicular emissions from nearby vehicular road (i.e. Fuk Hang Tsuen Road) in the vicinity of the Project Site.

### **Measured Background Air Quality**

- 2.3.2. The nearest EPD's Air Quality Monitoring Station (AQMS) from the Proposed Development is located in Tuen Mun. The latest 5 years concentrations (Year 2020 to Year 2024) of NO<sub>2</sub>, SO<sub>2</sub>, RSP, FSP, O<sub>3</sub> and CO recorded at this AQMS are presented in **Table 2.3**.

**Table 2.3. Concentrations of Air Pollutants Measured at the EPD's Tuen Mun AQMS in the Past 5 Years (Year 2020 to Year 2024)**

Pollutant	Averaging Time	AQO	Pollutant Concentration ( $\mu\text{g}/\text{m}^3$ )				
			2020	2021	2022	2023	2024
NO <sub>2</sub>	19th Highest 1-hour	200 (18)	166	172	128	160	144
	10th Highest 24-hour	120 (9)	80	92	71	85	75
	Annual	40	40	<u>44</u>	39	40	40
SO <sub>2</sub>	4th Highest 10-minute	500 (3)	98	22	29	23	18
	4th Highest 24-hour	40 (3)	10	9	11	7	9
RSP	10th Highest 24-hour	75 (9)	<u>84</u>	<u>87</u>	<u>65</u>	<u>76</u>	<u>76</u>
	Annual	30	<u>34</u>	<u>36</u>	<u>32</u>	<u>34</u>	<u>34</u>
FSP	19th Highest 24-hour	37.5 (18)	<u>41</u>	<u>42</u>	<u>39</u>	<u>38</u>	<u>43</u>
	Annual	15	<u>20</u>	<u>19</u>	<u>18</u>	<u>19</u>	<u>20</u>
O <sub>3</sub>	10th Highest 8-hour	160 (9)	<u>166</u>	<u>161</u>	<u>195</u>	155	<u>173</u>
	Peak season	100	88	82	91	84	92
CO	1st Highest 1-hour	30,000 (0)	1,650	1,720	1,480	1,370	1,470
	1st Highest 8-hour	10,000 (0)	1,513	1,450	1,345	1,143	1,424
	1st Highest 24-hour	4,000 (0)	1,105	1,205	1,090	973	1,115
<b>Notes:</b>							
[1] The AQMS data are extracted from EPD's Smart Air Modelling Platform (SAMP) website.							
[2] Data in brackets ( ) means allowance of AQOs.							
[3] <u>Underlined</u> value means exceedance of AQOs.							

2.3.3. The 1-hour average NO<sub>2</sub>, 24-hour average NO<sub>2</sub>, SO<sub>2</sub> and CO concentrations from Year 2020 to Year 2024 are below their respective prevailing AQOs. Annual average NO<sub>2</sub> concentrations in Year 2021, RSP in Year 2020 to Year 2024, FSP in Year 2020 to Year 2024 and 8-hour average O<sub>3</sub> FSP concentrations in Year 2023 have exceeded their respective AQO. As such, most criteria pollutant concentrations generally complied with the AQOs from Year 2020 to Year 2024.

### Predicted Future Background Air Quality

2.3.4. Apart from the EPD's AQMS data, reference is also made to the PATH-v3.0, which is developed by EPD to simulate air quality over Hong Kong. The Proposed Development falls within the PATH Grid (21,44). The pollutants concentration data predicted by PATH-v3.0 in Year 2030 (nearest available year to the operation year) are summarised in **Table 2.4**.

**Table 2.4. Background Concentrations of Air Pollutants in Year 2030 Predicted by the PATH-v3.0 Model**

Pollutant	Averaging Time	AQO	Pollutant Concentration ( $\mu\text{g}/\text{m}^3$ )
			(21,44)
NO <sub>2</sub>	19 <sup>th</sup> Highest 1-hour	200 (18)	79.11
	10 <sup>th</sup> Highest 24-hour	120 (9)	32.75
	Annual	40	18.17
SO <sub>2</sub>	4 <sup>th</sup> Highest 10-minute	500 (3)	25.60
	4 <sup>th</sup> Highest 24-hour	40 (3)	6.86
RSP	10 <sup>th</sup> Highest 24-hour	75 (9)	50.89
	Annual	30	19.61
FSP	19 <sup>th</sup> Highest 24-hour	37.5 (18)	30.67
	Annual	15	12.17
O <sub>3</sub>	10 <sup>th</sup> Highest 8-hour	160 (9)	<u>183.86</u>
	Peak season	100	<u>118.26</u>
CO	1 <sup>st</sup> Highest 1-hour	30,000 (0)	532.21
	1 <sup>st</sup> Highest 8-hour	10,000 (0)	486.11
	1 <sup>st</sup> Highest 24-hour	4,000 (0)	463.17
<b>Notes:</b>			
[1] The PATH data are extracted from EPD's Smart Air Modelling Platform (SAMP) website.			
[2] Data in brackets ( ) means allowance of AQOs.			
[3] <u>Underlined</u> value means exceedance of AQOs.			

2.3.5. As shown in **Table 2.4**, except for O<sub>3</sub>, the predicted background concentrations of NO<sub>2</sub>, SO<sub>2</sub>, RSP, FSP and CO in the relevant PATH grid in Year 2030 are below the relevant AQO criteria. Background air quality is anticipated to improve in the subsequent years. Thus, it is expected that the background air quality will further improve during the commencement year (i.e. Year 2031).

## 2.4. ASSESSMENT AREA AND AIR SENSITIVE RECEIVERS

2.4.1. The Assessment Area for AQIA covers an area of 500m from the Project Site, as shown in **Figure 2.1**. Representative Air Sensitive Receivers (ASRs) in the vicinity of the Proposed Development have been identified and are summarised in **Table 2.5**. The

identified representative ASRs are also shown in **Figure 2.1**.

**Table 2.5. Identified Representative Air Sensitive Receivers**

ASR ID	Description	Type of Use	Existing/Planned	Approximate Shortest Distance from Proposed Development (m)
A01	3 Fuk Hang Tsuen	Village	Existing	15
A02	The Church of Christian Faith Lam Tei Gospel Church	Place of Worship	Existing	25
A03	7D Fuk Hang Tsuen	Village	Existing	<5
A04	28 Fuk Hang Tsuen	Village	Existing	<5
A05	29 Fuk Hang Tsuen	Village	Existing	<5
A06	25C Fuk Hang Tsuen	Village	Existing	15
A07	Greenview	Residential	Existing	25
A08	Botania Villa	Residential	Existing	40
A09	130 Lam Tei Main Street	Village	Existing	30
A10	The Sherwood	Residential	Existing	75

## 2.5. IDENTIFICATION OF AIR EMISSION SOURCES AND EVALUATION OF ENVIRONMENTAL IMPACTS

### Construction Phase

- 2.5.1. Potential air quality impacts to the nearby ASRs from the Proposed Development are mainly related to fugitive dust nuisance from the construction activities as well as air pollutant emissions from construction machinery and construction trucks.
- 2.5.2. Construction work activities such as site clearance, site formation and earthworks are classified as 'notifiable' and 'regulatory' work under the Air Pollution Control (Construction Dust) Regulation. Works associated with the Project will involve demolition of aboveground structures, piling and superstructure work, which will involve minor excavation works. No major site formation will be required as the Project Site is flat formed. The construction of the Proposed Development will be on a small scale considering the area size of the Project Site is approximately 1,694m<sup>2</sup>. The quantity of excavated materials to be generated from the aforementioned construction works, is anticipated to be very limited with approximate 5,000m<sup>3</sup>. Fugitive dust emissions from these construction works are also expected to be limited with the proper implementation of good site practices. Hence, the potential dust emissions associated with the construction works will be limited.
- 2.5.3. Considering limited dust emissions from the construction works and with the implementation of the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation, together with proper site management and good

housekeeping, adverse air quality impact arising from fugitive dust emissions at nearby ASRs during construction of the Proposed Development is not anticipated.

- 2.5.4. Due to the relatively small scale of the construction works for the Proposed Development, limited number of construction machinery and construction trucks are to be deployed on-site. Gaseous emissions, such as NO<sub>2</sub>, SO<sub>2</sub> and CO and particulates (including RSP and FSP) exhaust from the limited number of construction machinery and construction trucks are considered to be minimal. In addition, requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and the use of ultra-low sulphur diesel (ULSD) with sulphur content not exceeding 0.001% by weight as fuel under Air Pollution Control (Fuel Restriction) Regulations will also be followed to control potential air pollutant emissions from NRMMs during the construction phase. Hence, adverse air quality impact due to the operation of the construction machinery and trucks during construction phase is not anticipated.
- 2.5.5. With the implementation of appropriate air quality control measures and the requirements as listed in the Regulations under APCO to control the air pollutant emissions, adverse air quality impact is not anticipated during construction phase.

### **Operation Phase**

- 2.5.6. Potential air quality impacts during the operation phase of the Proposed Development are expected from vehicular emissions on surrounding roads. The nearest public road, Fuk Hang Tsuen Road, is situated immediately west of the Project Site. The 5m buffer area from the road kerb of Fuk Hang Tsuen Road (considered as Local Distributor based on the hierarchy of the road surroundings) do not encroach into the building block of the Proposed Development (see **Figure 2.2**) based on HKPSG (see **Table 2.2**). In view of the above, adverse air quality impact from vehicular emission during the operation phase is not anticipated.
- 2.5.7. Based on desktop study on publicly available information (including published plans and environmental reports) and site visit on 25 February 2026, the Proposed Development is currently surrounded by low-rise village houses and high-rise residential development. No industrial chimney emission sources and odour emission source are observed and identified within the 200m buffer area from the Proposed Development based on HKPSG (see **Table 2.2**). Therefore, adverse air quality impact from industrial emission and odour impact during the operation phase is not anticipated.

## **2.6. CUMULATIVE IMPACTS**

- 2.6.1. The construction period of the Project is tentatively from 2029 to 2031. Concurrent projects in the vicinity of the Project Site that may have the potential to interact have

been identified and presented in **Table 2.6** and **Figure 2.3**.

**Table 2.6. Summary of the Concurrent Projects in the Vicinity of the Project Site**

Concurrent Project	Description	Construction Period	Approximate Shortest Distance from Proposed Development (m)
Route 11 (Section between Yuen Long and North Lantau) (Route 11)	A new highway linking Lam Tei, So Kwun Wat, Tai Lam, Tsing Lung Tau and North Lantau	Q1 2026 - Q4 2033	112
Proposed Public Housing Developments at Lam Tei North	Development of public housing sites to alleviate territorial housing needs	Under Planning	196

- 2.6.2. A portion of Route 11 (near Lam Tei) falls within the 500m Assessment Area and will be constructed as elevated flyovers. During the construction phase of Route 11, dust and air emission control measures will be implemented to minimise dusty or air polluting construction activities as outlined in the approved EIA Report for Route 11 (AEIAR-255/2023). Therefore, adverse cumulative air quality impact from the construction of Route 11 to the Project Site is not anticipated. During the operation phase of Route 11, the area of the Project Site will comply with the prevailing AQO as indicated in Figures 3.5 to 3.11 of the approved EIA Report of Route 11 (AEIAR-255/2023). As such, no adverse air quality impact from the operation of Route 11 to the Project Site is expected.
- 2.6.3. The proposed public housing development at Lam Tei North is considered to have adequate separation distances from the Project Site. During the construction phase, the development is considered small in scale and mainly involve piling and superstructure works. Thus, the associated fugitive dust emissions and air emissions are expected to be limited with proper implementation of good site practices. Cumulative air quality impact from construction works at the aforementioned public housing development to the Project Site is expected to be minimal. During the operation phase, no air emissions from the public housing development are anticipated, and thus adverse air quality impact from the operation of public housing development to the Project Site is not expected.

## 2.7. MITIGATION MEASURES

### Construction Phase

- 2.7.1. To ensure that air pollutant emissions are controlled during the construction phase, relevant air quality control requirements stipulated in Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations should be

implemented.

2.7.2. Any potential dust impact and watering mitigation would be subject to the actual site condition. In addition to the watering, dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation (where applicable), typical control measures listed below are also recommended to implement:

- The designated haul road should be hard paved to minimise fugitive dust emission;
- Active works areas should be water sprayed with water browser or sprayed manually hourly during construction period. The Contractor should ensure that the amount of water spraying is just enough to dampen the exposed surfaces without over-watering which could result in surface water runoff;
- Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated as soon as possible;
- Dusty materials remaining after a stockpile is removed should be wetted with water;
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore or similar;
- The Contractor(s) shall only transport adequate amount of fill materials to the Project Site to minimise stockpiling of fill materials on-site, thus reducing fugitive dust emission due to wind erosion;
- Should temporary stockpiling of dusty materials be required, it shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- Vehicle speed to be limited to 10km/hour except on completed access roads;
- Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving the construction site;
- The load of dusty materials carried by vehicle leaving the construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
- Restricting height from which materials are to be dropped as far as practicable to minimise the fugitive dust arising from loading/unloading activities;
- Every stock of more than 20 bags of cement or dry pulverized fuel ash shall be covered entirely by impervious sheeting or placed in an area sheltered on the top

and the 3 sides;

- Cement, pulverized fuel ash or any other dusty materials collected by fabric filters or other air pollution control system or equipment shall be disposed of in totally enclosed containers;
- Regular maintenance of construction equipment deployed on-site should be conducted to minimise gaseous and prevent black smoke emission;
- Hoarding of not less than 2.4m high from ground level shall be provided along the site boundary except for a site entrance or exit to minimise dust nuisance to the nearby sensitive receivers. For locations with ASRs in immediate proximity to the Project Site, higher hoarding shall be erected;
- Regular site audit shall be conducted to ensure all the mitigation measures are properly implemented;
- Electric power supply shall be provided for on-site machinery as far as practicable;
- Electrified NRMMS shall be provided as far as practicable; and
- NRMMS exempted from regulatory control shall be avoided as far as practicable

### **Operation Phase**

2.7.3. Adverse air quality impact is not anticipated during the operation phase. Thus, no mitigation measure is required.

## **2.8. CONCLUSION**

2.8.1. With the implementation of appropriate mitigation measures as mentioned in **Section 2.6**, adverse air quality impacts during the construction phase and operation phase of the Proposed Development are not anticipated.

### 3. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

#### 3.1. INTRODUCTION

- 3.1.1. The potential road traffic noise impact on the Proposed Development due to the nearby existing roads has been assessed. Practicable noise mitigation measures have been recommended, where necessary.

#### 3.2. ASSESSMENT METHODOLOGY

- 3.2.1. The Road Noise Module 2.7.2 of NoiseMap Enterprise Edition has been used to assess the road traffic noise impact from the existing road network within 300m Assessment Area on the representative NSRs at the Proposed Development. The road traffic noise model adopts the methodology outlined in the Calculation of Road Traffic Noise (CRTN) developed by the UK Department of Transport. The road traffic noise would be presented in terms of noise levels exceeded for 10% of the one-hour period for the hour having the peak traffic flow  $L_{10(1\text{hour})}$  under various traffic forecast scenarios. Representative NAPs, key building structures with noise screening effects, topographical contours and road segments with traffic flow data have been inputted into the NoiseMap model in predicting the potential traffic noise impact.
- 3.2.2. Traffic flow of the existing roads within 300m Assessment Area have been forecasted by the Project traffic consultant. As stated in the CRTN, the traffic flow used for assessment shall be the maximum traffic projection within 15 years upon occupancy of the Proposed Development. The assessment has been undertaken based on the projected AM peak hourly traffic flows in Year 2046, which corresponds to the maximum projected traffic conditions within 15 years upon occupancy of the Proposed Development, i.e. Year 2031.
- 3.2.3. According to the approved EIA of Route 11 (AEIAR-255/2023), the construction of Route 11 will be completed in Year 2033, which falls within 15 years upon occupancy of the Proposed Development. Hence, the traffic flow of the sections of Route 11 within 300m of the Project Site are also included in the road traffic noise impact assessment.
- 3.2.4. The roads sections included in the road traffic impact assessment and the traffic forecast data are enclosed in **Appendix 3.1**. The traffic forecasting methodology for producing the adopted traffic data has been submitted to the Transport Department (TD) for endorsement.

#### 3.3. ASSESSMENT CRITERIA

- 3.3.1. Table 4.1 of Chapter 9 of the HKPSG provides the assessment criteria for road traffic noise impact at noise sensitive uses which rely on opened windows for ventilation. **Table 3.1** summarises the adopted road traffic noise criteria for noise sensitive uses

with openable windows at the Proposed Development.

**Table 3.1 Road Traffic Noise Criteria for Noise Sensitive Uses**

Location	Facility / Room	Noise Criteria, L <sub>10</sub> (1 hour), dB(A)
G/F – 2/F	Rehabilitation Area <sup>[2]</sup>	70
1/F – 6/F	Dormitories	70
1/F – 6/F	Dining/Multipurpose Room	70
1/F – 6/F	Sick/Isolation/Quiet Room <sup>[2]</sup>	70
5/F – 6/F	Small Group Activity Room	70
7/F	General Office	70
7/F	Superintendent's Office	70
7/F	Assistant Superintendent's Office	70
<p>Notes:</p> <p>[1] The above standards apply to noise sensitive uses which rely on opened windows for ventilation and should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.</p> <p>[2] As advised by the Project Team, no medical operation and/or diagnostic activities will be carried out at the Rehabilitation Areas and Sick/Isolation/Quiet Rooms. Therefore, the noise planning standard of 70 dB(A) for domestic uses as stipulated in Table 4.1 of Chapter 9 of the HKPSG is adopted.</p>		

### 3.4. NOISE ASSESSMENT POINTS

3.4.1. Noise assessment points (NAPs) have been provided for noise sensitive uses with openable windows at the Proposed Development. The respective criteria for all types of noise sensitive uses with openable windows have been listed in **Table 3.1**. The locations of NAPs for road traffic noise assessment are shown in **Figures 3.1a to 3.1g**

### 3.5. ASSESSMENT RESULTS – BASE CASE SCENARIO

3.5.1. Detailed results of the road traffic impact assessment under base case scenario have been attached in **Appendix 3.2**. Since the predicted noise levels under AM scenario are higher than those under PM scenario, only the results under AM scenario are presented.

Noise exceedances (max 76 dB(A)) are found at 1/F – 4/F along the western facades with more noise exposure to Fuk Hang Tsuen Road. Mitigation measures would be required to mitigate the noise exceedances.

### 3.6. PROPOSED TRAFFIC NOISE MITIGATION MEASURES

#### **Acoustic Window (Baffle Type) (Abbreviated as AW(BT))**

- 3.6.1. A baffle type acoustic window system typically comprises outer window system and inner sliding panel. The setting of the system is that while the outer window is opened, the sliding panel should be shifted to behind the outer opening. The outer opening and inner opening (aside the sliding panel) are then on the opposite sides so that noise outdoors cannot penetrate directly into indoor area while air can pass through the gap between outer and inner glass pane such that natural ventilation is possible.
- 3.6.2. For the Proposed Development, the possible designs of AW(BT) as mentioned in EPD's ProPECC PN 5/23 "Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact" are made reference. According to PN 5/23, the sound attenuation performance of AW(BT) is 6dB(A) or more. Extracts of PN 5/23 have been attached in **Appendix 3.3**.
- 3.6.3. The locations of proposed AW(BT) are indicated in **Figures 3.3a – 3.3d**. Since the proposed layouts are only under preliminary design stage, for this assessment, 6 dB(A) will be adopted as the sound attenuation performance of the proposed AW(BT) as conservative approach. The actual performance of the AW(BT) to be adopted in the Proposed Development will be further studied in later stage, subject to detailed design parameters such as the location of ventilation windows, dimensions of the adopted AW(BT) and room area.

#### **Acoustic Balcony**

- 3.6.4. Acoustic balcony is also proposed to mitigate the noise exceedances. According to EPD's website, a typical acoustic balcony has a depth of more than 1m deep with solid parapet of about 1.2m high and its ceiling lined with absorptive material. The noise reduction of the acoustic balcony would be about 2 – 2.5 dB(A).
- 3.6.5. The locations of proposed Acoustic Balcony are indicated in **Figures 3.3a – 3.3d**. As conservative approach, 2 dB(A) will be adopted as the sound attenuation performance of the proposed Acoustic Balcony. Further studies will be conducted during detailed design stage.

### 3.7. ASSESSMENT RESULTS – MITIGATED SCENARIO

- 3.7.1. Detailed road traffic noise impact assessment results can be referred to **Appendix 3.3**. With the implementation of proposed mitigation measures, all noise exceedances have been mitigated.

### 3.8. CONCLUSION

- 3.8.1. Road traffic noise impact on the Proposed Development has been assessed. With the implementation of proposed mitigation measures (i.e. acoustic window (baffle type) and acoustic balcony), the Proposed Development would not be subject to adverse road traffic noise impact.

## 4. FIXED PLANT NOISE IMPACT ASSESSMENT

### 4.1. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

4.1.1. The relevant legislation, standards and guidelines applicable to the fixed plant noise impact assessment include:

- Noise Control Ordinance (NCO) (Cap. 400);
- Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Good Practices on Pumping System Noise Control; and
- Good Practices on Ventilation System Noise Control.

4.1.2. IND-TM stipulates the appropriate Acceptable Noise Level (ANL) for fixed noise sources. The ANL is dependent on the area sensitivity rating of an NSR, as defined in Table 1 of the IND-TM (see **Table 4.1**). The area sensitivity rating of an NSR is determined by the type of area where the NSR is located and the presence of any influencing factors (IFs) such as major roads (i.e. a road with an annual average daily traffic flow in excess of 30,000) and industrial areas.

**Table 4.1 Area Sensitivity Ratings**

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Rural area, including country parks or village type developments	A	B	B
Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
Urban area	B	C	C
Area other than those above	B	B	C

4.1.3. The HKPSG also states that all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the façade of the nearest existing sensitive use should be at least 5dB(A) below the appropriate ANL shown in Table 2 of IND-TM or, in the case of the background. The ANLs stipulated in the IND-TM are provided in **Table 4.2**.

**Table 4.2 Acceptable Noise Levels**


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

**4.2. IDENTIFICATION AND EVALUATION OF FIXED PLANT NOISE IMPACT**


**Identification of Fixed Plant Noise Sources**

4.2.1. Potential fixed plant noise sources within 300m of the Project Site were identified by desktop review and site surveys that were conducted in February 2026. Site observation each potential noise source has been tabulated in **Table 4.3** below. The locations of these potential noise sources and the 300m assessment area have been indicated in **Figure 4.1**.

**Table 4.3 Site Observations of Potential Fixed Plant Noise Sources**

Potential Noise Source	Site Observation and Assessment Methodology
Timber/Logistics Workshop 祥隆木行/湛新物流 (F01) 	A timber/logistics workshop is located to the south of the Project Site. During the site survey in Feb 2026, no works are being operated. Based on site observation, loading/unloading works would be conducted within an enclosed (apart from the entrance) area. No nighttime operation is expected. Considering that an existing village house is located to the immediate south of the workshop, typical noise emission of the workshop would be insignificant. Hence, the workshop is not considered as a significant noise source to the Proposed Development.

Potential Noise Source	Site Observation and Assessment Methodology
<p>CLP Fuk Hang Tsuen Substation (F02)</p> 	<p>CLP Fuk Hang Tsuen Substation is located at around 70m to the southeast of the Project Site. A ventilation louvre is located at the southern façade of the substation. During the site survey in Feb 2026, there is no audible noise from the ventilation louvre. Considering the louvre is facing away from the Project Site, the substation is not considered as a significant noise source to the Proposed Development.</p>
<p>Unnamed Logistics Workshop (F03)</p> 	<p>An unnamed logistics workshop is located at around 80m to the southeast of the Project Site. During the site survey in Feb 2026, no loading/unloading operation were being conducted. Based on site observations, typical loading/unloading works would be conducted at the area facing away from the Project Site, with the noise generation being shielding by the workshop structure. Hence, the workshop is not considered as a significant noise source to the Proposed Development.</p>
<p>Germanwest (Hong Kong) Co. (F04)</p> 	<p>F04 is located at around 270m to the northwest of the Project Site. During the site survey in Feb 2026, no works were being operated. Considering the large separation distance between F04 and the Project Site, and that there are existing NSRs located closer to F04, such as The Sherwood Block 13, F04 is not considered as a significant noise source to the Proposed Development.</p>

Potential Noise Source	Site Observation and Assessment Methodology
<p>Hop Kee (Kam Fai) Engineering Co. Ltd. (F05)</p> 	<p>F05 is located at around 230m to the northeast of the Project Site. During the site survey in Feb 2026, no works were being operated. Considering the large separation distance between F05 and the Project Site, and that there are existing village houses in between, F05 is not considered as a significant noise source to the Proposed Development</p>

4.2.2. As such, it is concluded that there are no significant fixed plant noise sources in the vicinity of the Project Site. The Proposed Development is not subject to adverse fixed plant noise impact.

**4.3. FIXED PLANT NOISE IMPACT FROM THE PROPOSED DEVELOPMENT**

4.3.1. Potential fixed plant noise sources from the Proposed Development would include pump rooms and EM&A rooms etc. To ensure the fixed plant noise generated by the Proposed Development would not cause excessive impact to neighbouring noise sensitive uses, fixed noise sources within the Proposed Development shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG.

4.3.2. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it is anticipated that the fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Development will not exceed the relevant noise criteria under the HKPSG and NCO.

**4.4. CONCLUSION**

4.4.1. Potential fixed plant noise sources have been identified via desktop studies and site survey. No significant fixed plant noise sources have been identified in the vicinity of the Project Site. Therefore, the Proposed Development is not subject to adverse fixed plant noise impact.

4.4.2. To ensure the fixed plant noise generated by the Proposed Development would not cause excessive impact to neighbouring noise sensitive uses, fixed noise sources within the Proposed Development shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it is anticipated that the fixed

plant noise impact on the surrounding NSRs due to the operation of the Proposed Development will not exceed the relevant noise criteria under the HKPSG and NCO.

## 5. WATER QUALITY IMPACT

### 5.1. INTRODUCTION

5.1.1. This section identifies the potential water quality impact associated with the construction phase and operation phase of the Proposed Development. Recommendations for mitigation measures have been made, where necessary, to minimise the potential water quality impacts to an acceptable level.

### 5.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

5.2.1. Relevant legislations, standards and guidelines governing water quality in Hong Kong include the following:

- Water Pollution Control Ordinance (WPCO) (CAP.358);
- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG);
- Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Drainage Plans subject to Comment by the Environmental Protection Department - Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations (ProPECC PN1/23); and
- Construction Site Drainage (ProPECC PN2/24).

#### **Water Pollution Control Ordinance (WPCO)**

5.2.2. The WPCO provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislations, Hong Kong waters are divided into ten Water Control Zones (WCZs). Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in each WCZ based on their beneficial uses. The Proposed Development is in the catchment of the North Western WCZ and its respective WQOs are presented in **Table 5.1**.

**Table 5.1. Summary of Water Quality Objectives for Watercourses in North Western Water Control Zone**

Parameters	Criteria	Subzone
Aesthetic appearance	(a) Waste discharges shall cause no objectionable odours or discolouration of the water	Whole Zone
	(b) Tarry residues, floating wood, articles made of glass, plastic, rubber or of any other substances should be absent.	Whole Zone

Parameters	Criteria	Subzone
	(c) Mineral oil should not be visible on the surface. Surfactants should not give rise to a lasting foam.	Whole Zone
	(d) There should be no recognisable sewage-derived debris.	Whole Zone
	(e) Floating, submerged and semi-submerged objects of a size likely to interfere with the free movement of vessels, or cause damage to vessels, should be absent.	Whole Zone
	(f) Waste discharges shall not cause the water to contain substances which settle to form objectionable deposits.	Whole Zone
Colour	(a) Waste discharges shall not cause the colour of water to exceed 30 Hazen units.	Tuen Mun (A) and Tuen Mun (B) Subzones and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the colour of water to exceed 50 Hazen units.	Tuen Mun (C) Subzone and other inland waters
Bacteria	(a) The level of Escherichia coli should not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in one calendar year.	Secondary Contact Recreation Subzones
	(b) The level of Escherichia coli should be less than 1 per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Tuen Mun (A) and Tuen Mun (B) Subzones and Water Gathering Ground Subzones
	(c) The level of Escherichia coli should not exceed 1000 per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Tuen Mun (C) Subzone and other inland waters
	(d) The level of Escherichia coli should not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive in one	Bathing Beach Subzones

Parameters	Criteria	Subzone
	calendar year. Samples should be taken at least 3 times in a calendar month at intervals of between 3 and 14 days.	
Dissolved oxygen (DO)	(a) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 mg per litre for 90% of the sampling occasions during the whole year; values should be calculated as water column average (arithmetic mean of at least 3 measurements at 1m below surface, mid-depth and 1m above seabed). In addition, the concentration of dissolved oxygen should not be less than 2mg per litre within 2m of the seabed for 90% of the sampling occasions during the whole year.	Marine Waters
	(b) Waste discharges shall not cause the level of dissolved oxygen to be less than 4 mg per litre.	Tuen Mun (A), Tuen Mun (B) and Tuen Mun (C) Subzones, Water Gathering Ground Subzones and other inland waters
Temperature	Waste discharges shall not cause the natural daily temperature range to change by more than 2.0 degrees Celsius.	Whole Zone
Salinity	Waste discharges shall not cause the natural ambient salinity level to change by more than 10%.	Whole Zone
pH	(a) The pH of the water should be within the range of 6.5-8.5 units. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.2 units.	Marine waters excepting Bathing Beach Subzones
	(b) Waste discharges shall not cause the pH of the water to exceed the range of 6.5-8.5 units.	Tuen Mun (A), Tuen Mun (B) and Tuen Mun (C) Subzones and Water Gathering Ground Subzones
	(c) The pH of the water should be within the	Other inland waters

Parameters	Criteria	Subzone
	range of 6.0- 9.0 units.	
	(d) The pH of the water should be within the range of 6.0- 9.0 units for 95% of samples collected during the whole year. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.5 units.	Bathing Beach Subzone
Suspended solids (SS)	(a) Waste discharges shall neither cause the natural ambient level to be raised by 30% nor give rise to accumulation of suspended solids which may adversely affect aquatic communities.	Marine waters
	(b) Waste discharges shall not cause the annual median of suspended solids to exceed 20 mg per litre.	Tuen Mun (A), Tuen Mun (B) and Tuen Mun (C) Subzones and Water Gathering Ground Subzones
	(c) Waste discharges shall not cause the annual median of suspended solids to exceed 25 mg per litre.	Other Inland waters
Ammonia	The un-ionised ammoniacal nitrogen level should not be more than 0.021 milligram per litre, calculated as the annual average (arithmetic mean).	Whole Zone
Nutrients	(a) Nutrients shall not be present in quantities sufficient to cause excessive or nuisance growth of algae or other aquatic plants.	Marine waters
	(b) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.3 mg per litre, expressed as annual water column average (arithmetic mean of at least 3 measurements at 1 m below surface, mid-depth and 1 m above seabed).	Castle Peak Bay Subzone
	(c) Without limiting the generality of objective (a) above, the level of inorganic nitrogen	Marine waters excepting Castle Peak Bay

Parameters	Criteria	Subzone
	should not exceed 0.5 mg per litre, expressed as annual water column average (arithmetic mean of at least 3 measurements at 1m below surface, mid-depth and 1m above seabed).	Subzone
5-day biochemical oxygen demand (BOD)	(a) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 3 mg per litre.	Tuen Mun (A), Tuen Mun (B) and Tuen Mun (C) subzones and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 5 mg per litre.	Other inland waters
Chemical oxygen demand (COD)	(a) Waste discharges shall not cause the chemical oxygen demand to exceed 15 mg per litre.	Tuen Mun (A), Tuen Mun (B) and Tuen Mun (C) subzones and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the chemical oxygen demand to exceed 30 mg per litre.	Other Inland waters
Toxins	(a) Waste discharges shall not cause the toxins in water to attain such levels as to produce significant toxic, carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone
	(b) Waste discharges shall not cause a risk to any beneficial uses of the aquatic environment.	Whole Zone
Phenol	Phenols shall not be present in such quantities as to produce a specific odour, or in concentration greater than 0.05 mg per litre as C <sub>6</sub> H <sub>5</sub> OH.	Bathing Beach Subzone

Parameters	Criteria	Subzone
Turbidity	Waste discharges shall not reduce light transmission substantially from the normal level.	Bathing Beach Subzone

### **Hong Kong Planning Standards and Guidelines (HKPSG)**

5.2.3. Chapter 9 of HKPSG provides environmental considerations for land use planning. Site selection for development, sensitive uses, provision of environmental facilities, and design, layout, phasing and operational controls to minimise adverse environmental impacts, etc., are covered in the chapter. Other factors affecting land use planning to be taken into account are listed and suitable buffer distances for land uses are recommended.

### **Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)**

5.2.4. Discharges of effluents into WCZs are controlled by the WPCO through a licensing system. The TM-DSS sets limits for effluent discharge, covering the physical, chemical, and microbial quality of effluents. Any effluent from the construction and operation of the Project must comply with relevant standards for effluents discharged into the foul sewers, inland/inshore/marine waters of the WCZ where the Project Site located.

### **Drainage Plans subject to Comment by the Environmental Protection Department - Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations (ProPECC PN1/23)**

5.2.5. The ProPECC PN1/23 provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN1/23.

### **Construction Site Drainage (ProPECC PN2/24)**

5.2.6. EPD has issued ProPECC PN2/24 that controls site runoff and wastewater generated during the construction phase of the Project. It provides guidelines for handling and disposal of construction discharges. Practices given in the ProPECC PN2/24 shall be followed as far as possible during the construction phase to minimise potential water quality impacts due to construction site drainage.

## **5.3. DESCRIPTION OF THE ENVIRONMENT**

5.3.1. The Assessment Area for the Water Quality Impact Assessment (WQIA) covers an area of 500m from the Project Site, as shown in **Figure 5.1**.

5.3.2. Based on the desktop study, the Proposed Development is situated inland and is at least 4km southwest from the nearest marine water (i.e. Castle Peak Bay) and 610m south from the nearest river water (i.e. Tuen Mun River Channel). The nullah from Lam Tei Irrigation Reservoir to Tuen Mun River Channel is the only body of water identified and is identified as Water Sensitive Receiver (WSR). The location of WSR is presented in **Figure 5.1** and the details are listed in **Table 5.2**.

**Table 5.2. Identified Representative Water Sensitive Receivers**

WSR ID	Description	Nature	Existing/Planned	Approximate Shortest Distance from Proposed Development (m)
W01	Nullah (from Lam Tei Irrigation Reservoir to Tuen Mun River Channel)	Nullah	Existing	285

#### 5.4. IDENTIFICATION OF WATER EMISSION SOURCES AND EVALUATION OF ENVIRONMENTAL IMPACTS

##### Construction Phase

5.4.1. Potential sources of water quality impact associated with activities during the construction phase of the Proposed Development include:

- General construction activities;
- Construction site runoff;
- Accidental spillage; and
- Sewage effluent from the construction workforce.

5.4.2. Water would be used in various construction activities and wastewater would be generated in the construction process. Such processes may include general cleaning and washing, dust suppression and wheel washing. Wastewater from these processes generally contains high levels of suspended sediment and should not be discharged into the environment without treatment. The wastewater would generally be collected and stored for disposal after necessary treatment. With proper collection, storage, treatment and disposal, adverse water quality impact from the construction wastewater is not expected.

5.4.3. Site clearance would require the removal of surface vegetation or existing man-made cover. Exposed soil is prone to erosion and would result in an increase in sediment load in the drainage system. Unprotected earth working areas and stockpiles could also lead to elevated levels of sediment in stormwater/runoff in case of rainstorms. Release of site runoff, if uncontrolled, would lead to an increase in suspended solid

levels in the drainage system and the receiving marine water. With the implementation of applicable mitigation measures listed in **Section 5.5**, adverse water quality impact from the construction site runoff is not expected.

5.4.4. Various chemicals, such as lubricants and fuel, would be used for the construction of Proposed Development. In case of a chemical spillage, spilled chemicals may contaminate soil and/or make their way into the drainage system and affect the water quality of the receiving water. These chemicals should generally be stored and applied at designated areas within the Project Site. Suitable clean-up kits and equipment should be prepared onsite to ensure spilt chemicals can be contained and removed as soon as possible. Chemical waste generated from normal operation and spillage events should be stored at the designated place for proper disposal by a licensed contractor. With the implementation of proper control over storage, application, clean up after spillage (if any) and disposal, adverse water quality impact from the chemical spillage is not expected.

5.4.5. Construction workforce would generate domestic sewage. In general, appropriate numbers of chemical toilets would be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment. Adverse water quality impact from sewage generated by the construction workforce is not expected.

### **Operation Phase**

5.4.6. Potential sources of water quality impact associated with activities during the operation phase of the Proposed Development include:

- Sewage generated from the new population; and
- Stormwater runoff.

5.4.7. Sewage generated from the Proposed Development should be collected and conveyed to the nearest public sewerage system via proper connections to minimise water quality impact from the operation of the Proposed Development. All sewage discharged shall comply with the TM-DSS under the WPCO. Hence, no adverse sewerage impact is expected.

5.4.8. Stormwater runoff from the paved surfaces within the Proposed Development will be directed to a managed stormwater drainage system. Appropriate drainage system, equipped with necessary pollution control devices, such as silt trap and oil and grease separators, would be provided. Mitigation measures listed in **Section 5.5**, such as the installation of silt traps in the stormwater drainage system can effectively reduce the potential impacts of these pollutants on drainage water quality. Good practices recommended under ProPECC PN1/23 could also be referenced for the design of the drainage system. Hence, no adverse drainage impact is expected.

## 5.5. MITIGATION MEASURES

### Construction Phase

5.5.1. Suitable control measures stipulated in ProPECC PN2/24 should be implemented. These practices include but are not limited to the following:

- Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels and/or earth bunds or sandbag barriers should be provided on-site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of earthworks;
- Silt removal facilities, channels and manholes should be maintained, and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times;
- Construction works should be programmed to minimise soil excavation works in rainy seasons (April to September). If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered e.g. by tarpaulin. Intercepting channels should be provided (e.g. along the crest/edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm;
- Earthworks final surfaces should be well compacted, and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary;
- Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;
- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of

construction materials, soil, silt or debris into any drainage system;

- Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;
- All construction vehicles and construction machinery should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site runoff from entering public road drains;
- Wastewater generated from building construction activities including concreting, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary;
- Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater should be tankered off-site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters; and
- Sufficient number of chemical toilets should be required for each works area. These toilets should be regularly cleaned, maintained and emptied by a licensed contractor.

5.5.2. In case any discharge of effluent from the construction site is required, a discharge licence for discharge of effluent should be applied under the WPCO. Runoff and wastewater generated from the project works areas should be treated to comply with the discharge quality stipulated in the WPCO discharge licence before discharge.

### **Operation Phase**

5.5.3. During the operation phase, all sewage arising from the Proposed Development will be collected and conveyed to the nearest public sewerage system via proper connections. No specific mitigation measures are required for sewage arising from the Proposed Development.

5.5.4. A surface water drainage system should be installed to collect and convey the road surface runoff to the existing drainage system downstream. The design of mitigation

measures for the drainage system during the operation phase shall take account of the guidelines as presented in ProPECC PN1/23. Best Management Practices (BMPs) should be implemented to control run-off. The drainage system should be designed to avoid flooding with devices and facilities to control sedimentation and runoff quality, prevent 'first flush' pollution, and eliminate pollutant discharge into poor flushing water downstream. Manholes, as well as stormwater gullies and ditches provided at the Project Site should be regularly inspected and cleaned. Additional inspection and cleansing should be carried out before forthcoming heavy rainfall.

## 5.6. CONCLUSION

- 5.6.1. No adverse impact of water quality during construction phase is anticipated provided that the recommended mitigation measures listed in **Section 5.5** are properly implemented. As all the wastewater effluent is anticipated to be conveyed to public sewer, and the stormwater runoff is anticipated to be properly collected by the drainage system, no adverse impact on nearby WSRs during the operation phase will be anticipated.

## 6. WASTE MANAGEMENT

### 6.1. INTRODUCTION

6.1.1. This Section identifies the potential waste arisings from the construction phase and operation phase of the Proposed Development and the potential environmental impacts associated with the storage, handling, transportation and disposal of the waste.

### 6.2. ENVIRONMENTAL LEGISLATION AND GUIDELINES

6.2.1. The relevant legislation, standards and guidelines related to the study for the assessment of waste management implications include:

- Waste Disposal Ordinance (CAP.354);
- Waste Disposal (Chemical Waste) (General) Regulation (CAP.354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (CAP.354N);
- Land (Miscellaneous Provisions) Ordinance (CAP.28); and
- Public Health and Municipal Services Ordinance (CAP.132) - Public Cleansing and Prevention of Nuisances Regulation.

#### **Other Relevant Guidelines and Documents**

6.2.2. Other relevant guidelines/ circulars applicable to waste management and disposal for this Project include:

- A Guide to the Chemical Waste Control Scheme;
- A Guide to the Registration of Chemical Waste Producers;
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes;
- Public Dumps (Works Branch Technical Circular (WBTC) No.2/93);
- Public Filling Facilities (WBTC No.2/93B);
- Fill Management (WBTC No.12/2000);
- Specification Facilitating the Use of Recycled Aggregates (WBTC No.12/2002);
- Environmental Management on Construction Sites (Environmental, Transport and Works Bureau Technical Circular (Works) (ETWB TC(W)) No.19/2005);
- Trip Ticket System for Disposal of Construction and Demolition Materials (Development Bureau Technical Circular (Works) (DEVB TC(W)) No.6/2010);
- Enhanced Specification for Site Cleanliness and Tidiness (DEVB TC(W))

No.8/2010);

- Management of Construction and Demolition Materials (CEDD TC No.11/2019);
- Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2024; and
- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG).

### 6.3. ASSESSMENT METHODOLOGY

6.3.1. The assessment of potential environmental impacts associated with wastes generated from the construction phase and operation phase of the Proposed Development includes the following tasks:

- Identification/estimation of the types and quantities of waste arising from construction and operation activities of the Proposed Development;
- Evaluation of opportunities for waste reduction, re-use and recycling on-site or off-site;
- Identification of delivery/disposal options, transportation routing and frequency for each type of waste;
- Assessment of potential impacts from the handling, collection, transportation and reuse/delivery/disposal of wastes with respect to potential hazards, air and odour emissions, noise, wastewater discharge and public transport; and
- Proposing of mitigation measures and evaluation of residual impacts.

### 6.4. EXPECTED WASTE ARISING DURING CONSTRUCTION PHASE

6.4.1. During the construction phase, the main activities, such as site demolition, excavation and superstructure works, will result in the generation of waste. The typical waste types associated with these activities are summarised below:

- Excavated materials from site excavation works;
- Construction and demolition (C&D) materials from demolition of existing structures, site clearance and superstructure works;
- Chemical waste from maintenance of construction equipment; and
- General refuse from construction workforce.

#### **Excavated Materials from Site Excavation Works**

6.4.2. The Proposed Development will involve minor excavation works. An approximate of 5,000m<sup>3</sup> inert C&D materials will be excavated. The excavation area and the estimated quantity of inert materials generated is considered limited. The surplus excavated material will be all delivered to public fill reception facilities. The designation of inert C&D materials delivery is subject to the designation by the Public

Fill Committee (PFC) according to DEVB TC(W) No.6/2010.

- 6.4.3. With the proper implementation of good construction site practice and mitigation measures described in **Section 6.6**, adverse environmental impacts from the handling, transportation and delivery of excavated materials are not anticipated.
- 6.4.4. The additional traffic generated due to off-site delivery of the small amount of excavated materials is expected to be very limited, which will not cause any traffic impact concern.

#### **C&D Materials from Demolition of Existing Buildings, Site Clearance and Superstructure Works**

- 6.4.5. C&D materials generated from demolition of existing buildings, site clearance and superstructure works would be primarily inert (e.g. broken concrete, asphalt and granular materials etc.) and non-inert (e.g. bamboo, timber, paper and plastic etc.). A total of 5,000m<sup>3</sup> C&D materials from site clearance is expected, which comprises of 4,500m<sup>3</sup> inert C&D and 500m<sup>3</sup> non-inert C&D materials <sup>[1]</sup>.
- 6.4.6. The GFA of the Proposed Development is approximately 6,500m<sup>2</sup>. Based on the generation rate of 0.1m<sup>3</sup>/m<sup>2</sup> of GFA constructed <sup>[2]</sup> with 90% of the total C&D waste composed of inert waste, it is estimated that the volume of C&D materials for the construction of new buildings and structures is 570m<sup>3</sup>, in which 513m<sup>3</sup> is inert C&D materials and 57m<sup>3</sup> is non-inert C&D materials.
- 6.4.7. Non-inert C&D waste will mainly be generated from site clearance, which will be sorted for reuse and recycling as much as possible before disposal to landfill. Other surplus non-inert C&D materials would be disposed of the landfills as the last resort. The designated disposal site of non-inert C&D materials shall be confirmed with EPD.
- 6.4.8. Inert C&D materials will be all delivered to public fill reception facilities. The designation of inert C&D materials delivery is subject to the designation by the Public Fill Committee (PFC) according to DEVB TC(W) No.6/2010.
- 6.4.9. With the proper implementation of good construction site practice and mitigation measures described in **Section 6.6**, adverse environmental impacts from the handling, transportation and delivery of C&D waste from construction works are not anticipated.
- 6.4.10. The additional traffic generated due to off-site delivery of the small amount of C&D waste from construction works is expected to be limited, which will not cause any traffic

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<sup>[1]</sup> Based on the 'Monitoring of Solid Waste in Hong Kong, 2024' published by EPD, 67% of the C&D materials were received at public fill reception facilities, while 23% were transferred to projects for direct use inert waste. Thus, 90% of the C&D materials would be assumed to be inert C&D materials. The quantity of inert C&D materials that have been re-used on-site were not taken into account in the assumption above.

<sup>[2]</sup> The C&D material generation rate of 0.1m<sup>3</sup> per 1m<sup>2</sup> of GFA is referenced from the 'Reduction of Construction Waste Final Report' (PolyU, 1993).

impact concern.

### **Chemical Waste**

6.4.11. Chemical waste, as defined under the Waste Disposal (Chemical Waste) (General) Regulation. Regulation includes any unwanted substances specified under Schedule 1 of the Regulation. Substances likely to be generated from the construction works are listed below.

- Used paint, engine oils, hydraulic fluids and waste fuel;
- Spent mineral oils/cleaning fluids from mechanical machinery; and
- Spent solvents/ solutions from equipment cleaning activities.

6.4.12. The amount of chemical waste generated from the construction activities will be dependent on the contractor's on-site maintenance activities and the quantities of plant and equipment utilised. Where the construction processes produce chemical waste, the Contractor shall register with EPD as a chemical waste producer and duly follow the requirement in Waste Disposal (Chemical Waste) (General) Regulation. With respect to the scale of the construction activities, it is anticipated that the quantity of chemical waste to be generated will be very small (i.e. less than 5L/day). Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste. The chemical waste will be collected by a licensed chemical waste collector and delivered to the licensed chemical waste treatment facilities for disposal (e.g. Chemical Waste Treatment Facility (CWTC) in Tsing Yi).

6.4.13. With the incorporation of suitable arrangements for the storage, handling, transportation and disposal of chemical wastes under the requirements stated in the Waste Disposal (Chemical Waste) (General) Regulation and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, no adverse environmental impacts will be resulted from the handling, transportation and disposal of chemical waste.

### **General Refuse**

6.4.14. The presence of a construction site with workers and associated site office will result in the generation of general refuse (mainly consists of food waste, plastic bottles, aluminium cans and wastepaper) which requires off-site disposal.

6.4.15. Assuming a maximum of 50 workers working at any one time and a waste generation rate of about 0.65kg/person/day, the amount of general refuse that would be generated is approximately 32.5kg/day. Such refuse will be properly managed by suitable waste collectors to prevent intentional or accidental release into the surrounding environment. Recycling bins will be provided on site to facilitate the recovery of recyclable materials.

The contractor shall employ a reliable waste collector to remove the non-recyclable general refuse from the site to the designated landfill on a regular basis and deliver the recyclables to the local specialised recycling companies.

6.4.16. Given the small quantity of general refuse to be transferred, adverse impact on the capacity of waste collection, transfer and disposal facilities is not anticipated as the amount of general refuse is limited. With the implementation of mitigation measures recommended in **Section 6.6**, the generation of general refuse could be minimised, and no adverse environmental impact is expected.

## 6.5. EXPECTED WASTE ARISING DURING OPERATION PHASE

### General Refuse

- 6.5.1. General refuse (such as food scraps, wastepaper, empty containers and packaging, etc.) from operation of Proposed Development will mainly be generated from elderly care services, retail shops within the Proposed Development.
- 6.5.2. The estimated amount of general refuse generated by the elderly residents in the Proposed Development is approximately 308kg/day, with a population of 260 persons (i.e. 260-320 beds provided in Proposed Development), reference to the Monitoring of Solid Waste in Hong Kong – Waste Statistic 2024 published by EPD <sup>[3]</sup>. The estimated amount of general refuse generated by the staffs in the Proposed Development is approximately 31kg/day, with a population of 30 staffs, reference to the Monitoring of Solid Waste in Hong Kong – Waste Statistic 2024 published by EPD <sup>[4]</sup>.
- 6.5.3. The total general refuse generated from the Proposed Development is therefore 339kg/day. General refuse will be recycled as far as possible through the placement of recycling bins throughout the Proposed Development. As part of the Proposed Development daily operation, general refuse is expected to be collected on daily basis and delivered to the refuse collection point regularly by waste collector, to avoid odour nuisance and/or pest/vermin problem and be disposed of at landfills. With the proper implementation of these waste management measures, no adverse environmental impact associated with waste management is expected during operation phase.

## 6.6. MITIGATION MEASURES FOR CONSTRUCTION PHASE

6.6.1. With the implementation of the proposed waste management practices, no adverse environmental impacts are envisaged for the handling, collection and delivery/disposal

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[3] The disposal rate of domestic waste is 0.86kg/person/day, and the recovery rate of domestic waste is 22%. By calculation, the generation rate, disposal rate and recovery rate are 1.10kg/person/day, 0.86kg/person/day and 0.24kg/person/day, respectively.

[4] The disposal rate of commercial waste is 0.53kg/person/day, and the recovery rate of commercial waste is 48%. By calculation, the generation rate, disposal rate and recovery rate are 1.02kg/person/day, 0.53kg/person/day and 0.49kg/person/day, respectively.

of waste arising during the construction phase of the Proposed Development.

6.6.2. This Section further describes the good practices to avoid or further reduce the potential environmental impacts associated with the handling, collection and disposal of various types of waste.

#### **Good Site Practices**

6.6.3. Adverse waste management implications are not expected, provided that good site practices are strictly implemented. The following good site practices are recommended throughout the construction activities:

- Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;
- Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;
- Provision of sufficient waste disposal points and regular collection for disposal;
- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and
- A Waste Management Plan (WMP) should be prepared by the contractor and submitted to the Engineer for approval.

#### **Waste Reduction Measures**

6.6.4. Amount of waste generation can be significantly reduced through good management and control. Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices.

#### **Storage, Collection and Transportation of Waste**

6.6.5. Storage, collection and transportation of waste on site may induce adverse environmental implications if not properly managed. The following recommendation should be implemented to minimise the impacts:

- Waste such as soil should be handled and stored well to ensure secure containment;
- Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away;
- Different locations should be designated to stockpile each material to enhance

reuse;

- Sufficient waste disposal points will be provided and collection of waste for disposal will be arranged regularly; and
- Waste will be transported in enclosed containers or skips to minimise windblown litter and dust/ odour nuisance during the transportation of waste.

#### **Measures for the Reduction of Construction Waste Generation**

- 6.6.6. C&D materials arose will be segregated on-site into public fill and C&D waste and stored in different containers or skips to facilitate reuse of the public fill and proper disposal of the C&D waste. Specific areas of the site will be designated for such segregation and storage if immediate use is not practicable.
- 6.6.7. During inclement weather (e.g., heavy rain or typhoon), the storage area of C&D waste shall be covered by an impermeable sheeting to minimise polluted runoff. Prefabrication will be adopted as far as practicable to reduce the construction waste.

#### **Management for Construction Materials Disposal**

- 6.6.8. All C&D materials generated will be sorted by the contractor into different categories on-site for recycling and reuse as fill materials as far as practicable prior to delivery at public filling reception facilities and landfills.
- 6.6.9. The contractor(s) shall open a billing account with the EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation.
- 6.6.10. Permitted waste hauliers will be used to collect and transport waste to the appropriate disposal points. To minimise windblown litter and dust during transportation, waste shall be transported in enclosed containers/compartment, or the skip shall be covered.

#### **Measures for the Management of Chemical Waste**

- 6.6.11. The contractor(s) will register as a chemical waste producer with the EPD. Chemical waste will be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes as listed below to minimise any danger to health of risk and pollution to the environment. Chemical waste will be disposed of via a licensed chemical waste collector; and to a facility licensed to receive chemical waste, such as the CWTC which also offers a chemical waste collection service and can supply the necessary storage containers.

#### **Measures for the Management of General Refuse**

- 6.6.12. General refuse will be stored in enclosed bins separately from other waste. The general refuse will be delivered to the landfill separately from other types of waste, on a daily basis to reduce odour, pest and litter impacts.
- 6.6.13. Recycling bins will be provided at strategic locations within the construction site to

facilitate recovery of recyclable materials (including aluminium can, wastepaper, glass bottles and plastic bottles) from the construction of the Proposed Development. Materials recovered will be sold for recycling.

6.6.14. Permitted waste hauliers will be used to collect and transport waste to the appropriate disposal points. To minimise windblown litter and dust during transportation, waste shall be transported in sealed refuse collection vehicles.

## 6.7. MITIGATION MEASURES FOR OPERATION PHASE

6.7.1. Sufficient recycling containers are recommended to be provided at suitable locations of the Proposed Development to encourage collection of recyclable wastes, such as aluminium cans, plastics and wastepaper. Segregation of food waste with the provision of collection points at the Proposed Development and facilitation of recycling of food waste will also be considered and exercised as far as practicable. The feasibility of providing separate recycling bins for food waste will be explored in later stages.

6.7.2. Recyclables will be collected by a licensed collector and recycled at recycling facilities. Other non-recyclable general refuse would be collected by licensed collector daily and delivered to refuse collection point.

## 6.8. CONCLUSION

6.8.1. Types and volume of waste generated during the construction and operation phases of the Proposed Development have been evaluated. Various waste management measures and good site practices are in place to properly manage the waste generated during construction phase and operation phase of the Proposed Development.

6.8.2. With the proper implementation of the waste management and mitigation measures, adverse environmental impact arising from the handling, storage, transportation or delivery/disposal of the waste generated by the Proposed Development is not anticipated.

## 7. LAND CONTAMINATION

### 7.1. INTRODUCTION

7.1.1. This Section presents the potential implications of land contamination due to historical and current land uses within the Project Site. Site appraisal, including desktop review and site walkover, was conducted to identify the presence of potential land contamination and assess the potential land contamination impacts within the Project Site.

### 7.2. ENVIRONMENTAL LEGISLATION AND GUIDELINES

7.2.1. The relevant legislation, standards and guidelines related to the study for land contamination assessment includes:

- Annex 19 of the Technical Memorandum on Environmental Impact Assessment Process (Annex 19 of EIAO-TM);
- Guidance Note for Contaminated Land Assessment and Remediation (the RBRGs Guidance Note);
- Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (the RBRGs Guidance Manual); and
- Practice Guide for Investigation and Remediation of Contaminated Land (the Practice Guide).

### 7.3. DESCRIPTION OF THE ENVIRONMENT

7.3.1. The location of the Project is shown in **Figure 1.1**. The Project Site is located on generally flat terrain and is mainly bounded by high-rise residential buildings to the west, village houses to the north, east and south. The land use in close vicinity of the Project Site are urban high-rise residential, low-rise village houses and vehicle road networks.

### 7.4. ASSESSMENT METHODOLOGY

7.4.1. Land contamination assessment was undertaken in accordance with the criteria set out in Annex 19 of the EIAO-TM, as well as other Guidance Note, Practice Guide, Guidance Manual and related legislation as presented in **Section 7.2**.

7.4.2. A site appraisal, including desktop review and site walkover, was conducted to identify the potentially contaminating activities that may pose an adverse impact on the Project Site. Site walkovers were conducted within the Project Site to review the general site conditions and to identify any sources of land contamination. For the desktop review, the following information was reviewed:

- Historical aerial photos from the Lands Department (LandsD).

## 7.5. IDENTIFICATION OF POTENTIAL LAND CONTAMINATION

### Desktop Appraisal

7.5.1. A review of past land uses of the Project Site was conducted by reviewing the relevant historical aerial photographs in the years between 1963 and 2025. The aerial photographs were obtained from the Surveys and Mapping Office of LandsD. This review aims to evaluate potential land contamination implications associated with any land changes within the Project Site. The historical land uses within the Project Site are summarised in **Table 7.1**. The referenced historical aerial photographs and descriptions are presented in **Appendix 7.1**.

**Table 7.1 Summary of Historical Land Uses**

Period	Description
1964-1995	The Project Site consisted of farmlands and village houses.
1995-2015	Parking space is observed in the north portion of the Project Site, while covered storage are for materials is observed in the south portion of Project Site.
2015-2020	The Project Site is vacant except the village house. The covered structure at the south portion of Project Site is demolished.
2020-2025	Parking space is observed in Project Site.

### Site Walkover

7.5.2. A site walkover was conducted on 25 February 2026 to observe the conditions and identify signs of potential land contamination issues (if any) associated with current land uses and activities within the Project Site. Site observations and findings are presented in **Table 7.2**. Photos of the site walkover are presented in **Appendix 7.2**. The site walkover checklist is provided in **Appendix 7.3**.

**Table 7.2 Site Observations and Findings of Current Land Uses**

Area	Description
Overall	<ul style="list-style-type: none"> <li>• Neither storage and/or handling of hazardous chemical and chemical waste nor equipment repair and/or maintenance activities were observed within the Project Site. No evidence of oil stains or chemical leakages and/or spillages were observed.</li> <li>• No potential land contamination facilities, such as underground fuel oil storage tanks, underground oil pipelines, chemical and chemical waste storage areas, dangerous goods stores, wastewater treatment facilities and transformer rooms, were observed within the Project Site.</li> <li>• No signs of suspected contamination such as abnormal odour, distress vegetation or clear damage of ground surface were observed.</li> </ul>

Area	Description
Eastern	<ul style="list-style-type: none"> <li>• A village house is observed at the middle of eastern part of the Project Site. No potentially contaminating land uses or activities were observed within the village house.</li> <li>• Private car parking spaces for small private vehicles and light goods vehicles were observed at the remaining eastern part of the Project Site. The parking spaces were concrete paved in a general good condition. No oil stain was noticeable at these parking spaces.</li> </ul>
Western	<ul style="list-style-type: none"> <li>• Private car parking spaces for small private vehicles and light goods vehicles were observed at the remaining eastern part of the Project Site. The parking spaces were concrete paved in a general good condition. No oil stain was noticeable at these parking spaces.</li> </ul>

7.5.3. To conclude, no land contamination issues (including land contamination activities and facilities) were found during the site walkover.

## 7.6. PREDICTION AND EVALUATION OF ENVIRONMENTAL IMPACTS

7.6.1. Based on the aerial photos from the Survey and Mapping Office of LandsD, the Project site was undeveloped (consisting of farmland and village houses) as of 1964 and earlier. Since the mid-1990s, the area has been converted into brownfield land for storage and parking spaces. While there was a brief period during which the land was vacant with no signs of activity, no historical land contamination activities were identified within the Project Site from the aerial photos.

7.6.2. According to the site walkover, the majority of the area of the Project Site comprises of a village house and concrete paved parking spaces in a general good condition. Oil stain was not noticeable at the parking spaces. No potential contamination activities and no potential land contamination facilities were observed within the Project Site. No signs of obvious and/or suspected contamination (e.g. abnormal odour, distressed vegetation) were observed within the Project Site. Therefore, no land contamination issues were observed during the site walkover.

7.6.3. In view of the above, no potential land contamination issue is anticipated within the Project Site. Therefore, it is considered that the land contamination impact associated with the Project is not anticipated.

## 7.7. MITIGATION MEASURES

7.7.1. No land contamination impacts are anticipated, and thus further site investigation and mitigation measures are considered not necessary.

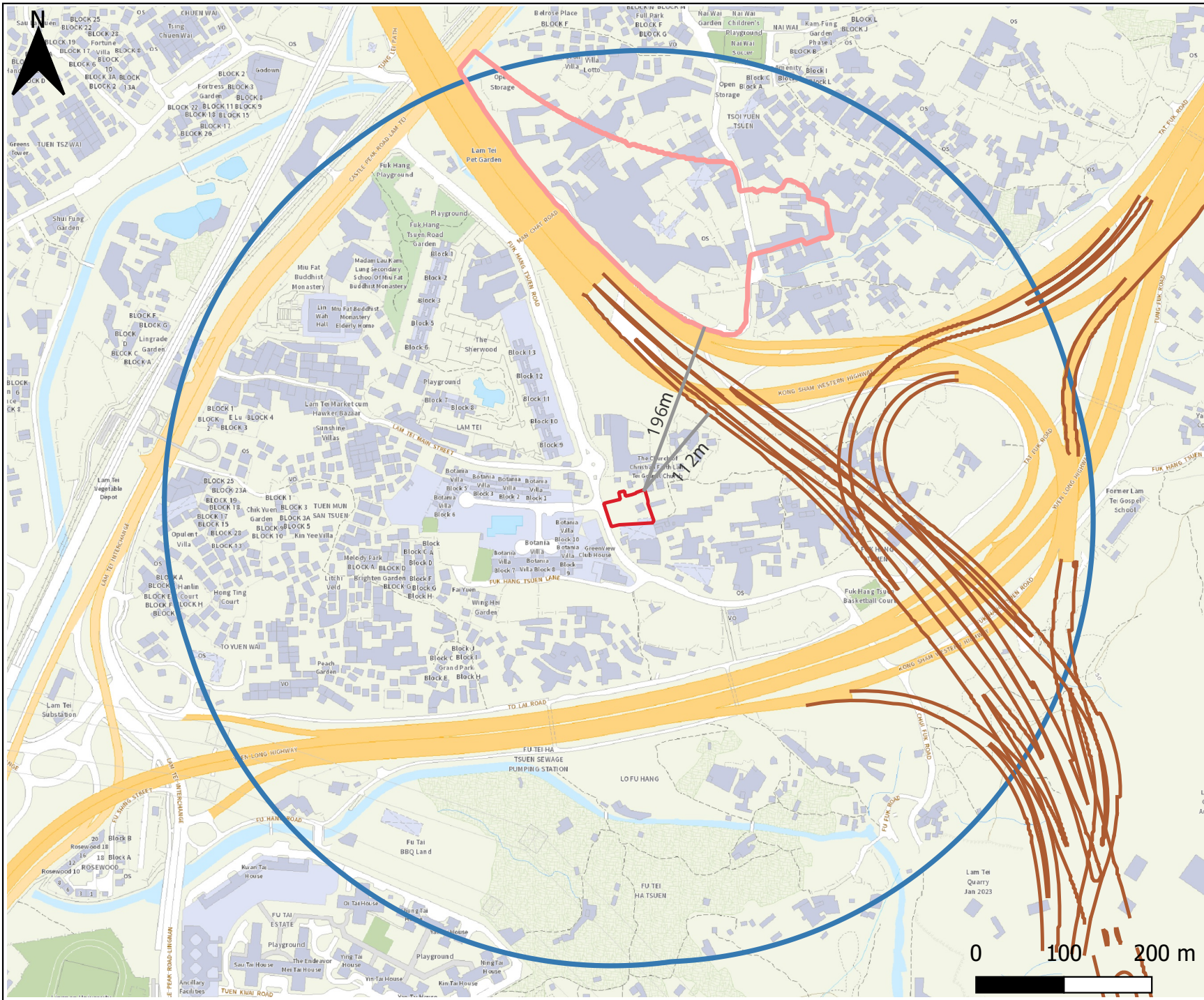
## 7.8. CONCLUSION

- 7.8.1. Desktop appraisal and site walkover were carried out to identify any historical and current potentially contaminating land uses and activities within the Project Site.
- 7.8.2. Based on the findings of the desktop appraisal and site walkover, no potentially contaminating activities and facilities were identified within the Project Site. Therefore, no adverse land contamination impact is anticipated. Further site investigation works and mitigation measures are deemed not necessary for the Project.

## 8. CONCLUSION

- 8.1.1. The potential environmental impacts arising from operation of the Proposed Development have been identified and evaluated in the EAS.
- 8.1.2. In terms of air quality aspects, with the implementation of the recommended mitigation measures and good site practice, no adverse air quality impact during the construction phase is anticipated. No adverse air quality impact from surrounding air emissions during the operation phase is anticipated.
- 8.1.3. Regarding the road traffic noise impact assessment, with the implementation of proposed mitigation measures, the Proposed Development would not be subject to adverse road traffic noise impact assessment.
- 8.1.4. No significant fixed plant noise sources have been identified in the vicinity of the Project Site. Hence, the Proposed Development is not subject to adverse fixed plant noise impact.
- 8.1.5. With proper design of proposed fixed plant noise sources of the Proposed Development, adverse fixed plant noise impact from the Proposed Development would not be expected.
- 8.1.6. With respect to water quality impact, no adverse water quality impact is anticipated during construction phase, provided that the recommended mitigation measures are properly implemented. As all the wastewater effluent is anticipated to be conveyed to public sewer, and the stormwater runoff is anticipated to be properly collected by the drainage system, no adverse water quality impact is anticipated during operation phase.
- 8.1.7. With proper implementation of the waste management and its mitigation measures, adverse impact arising from the handling, storage, transportation or delivery/disposal of the waste generated by the Proposed Development during construction phase and operation phase are not anticipated.
- 8.1.8. Based on the findings of historical and current land uses, desktop review and site visit, no potential land contamination issue is identified within the Project Site. Potentially land contaminating activities/facilities under the Project are also not anticipated.
- 8.1.9. Overall, with the implementation of the recommended environmental mitigation measures, no adverse environmental impacts are anticipated by or occur on the Proposed Development during construction phase and operation phase.

# FIGURES



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**LEGEND**

- Project Site Boundary
- 500m Assessment Area
- Proposed Public Housing Developments at Lam Tei North
- Route 11 (Section between Yuen Long and North Lantau)

	Prepared	Checked	Approved
Initial	DH	HC	HM
Date	20260417	20260417	20260417

Project Title  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND

ENVIRONMENTAL ASSESSMENT STUDY

Figure Title  
 Locations of Concurrent Projects

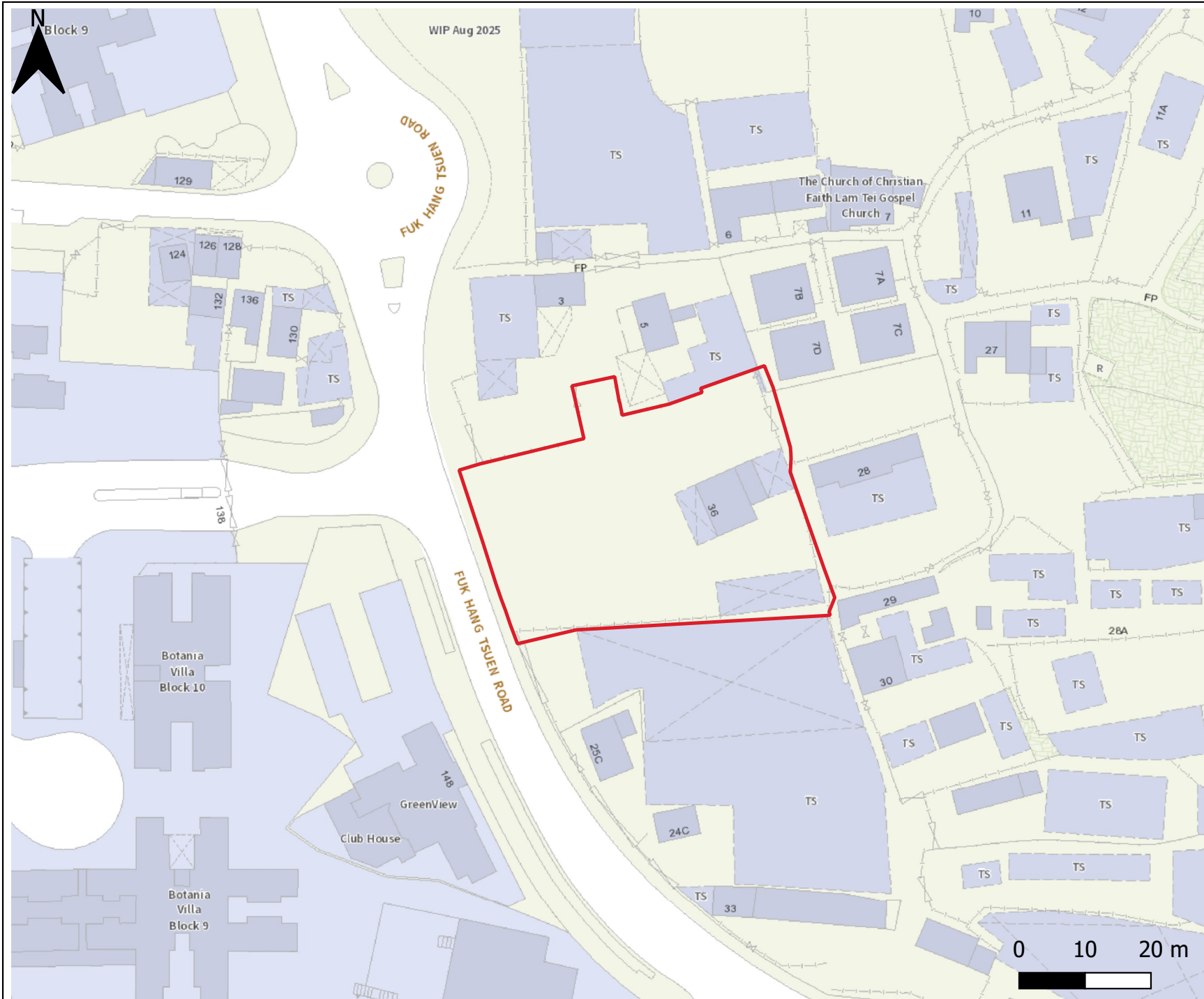
Figure No.	Rev.
2.3	0



0 100 200 m



Lam Tei Quarry  
 Jan 2023



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### LEGEND

— Project Site Boundary

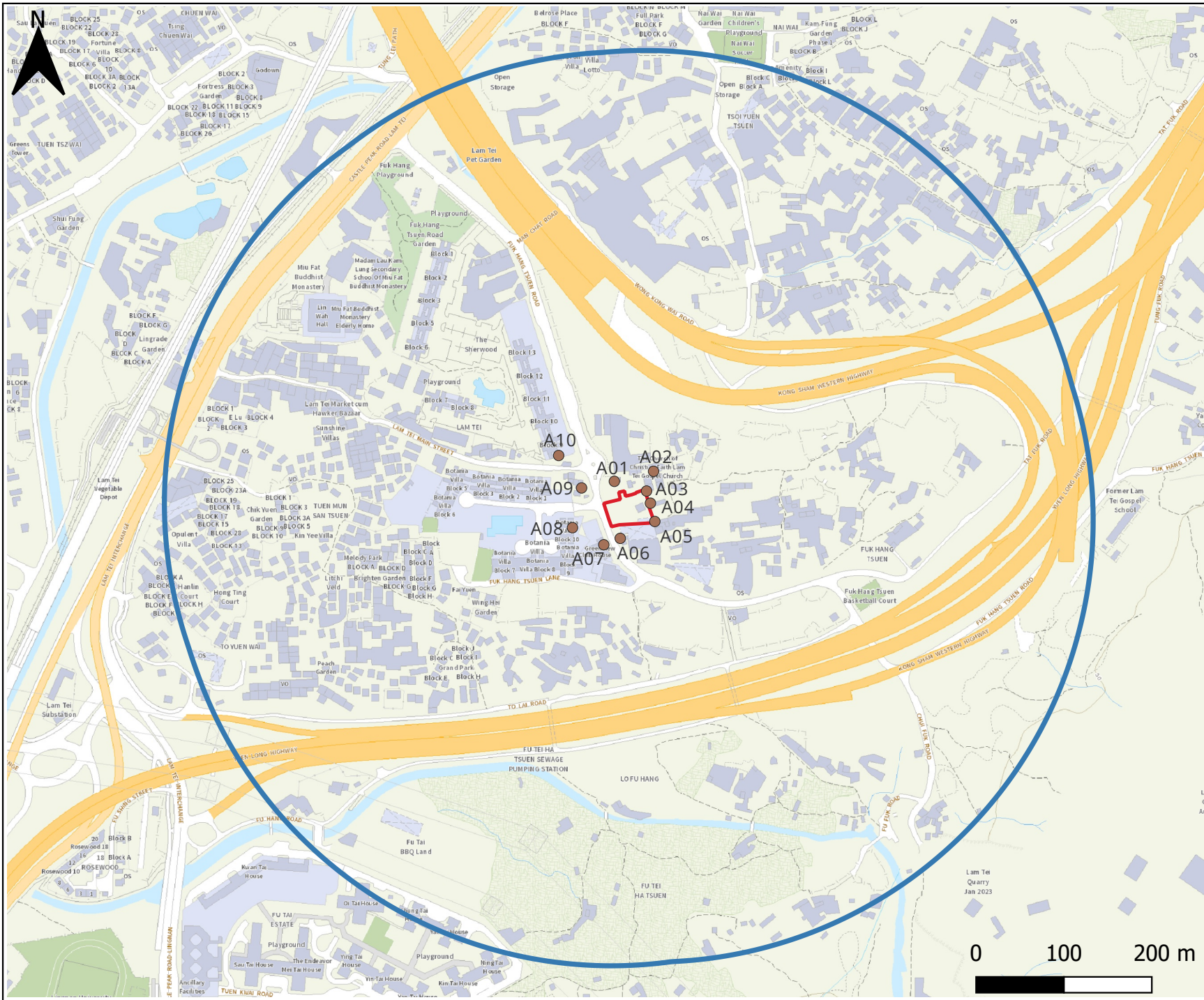
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Initial	DH	HC	HM
Date	20260417	20260417	20260417

Project Title  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

Figure Title  
 Location of Project Site

Figure No.	Rev.
1.1	0





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**LEGEND**

- Project Site Boundary
- 500m Assessment Area
- Representative Air Sensitive Receiver

	Prepared	Checked	Approved
Initial	DH	HC	HM
Date	20260417	20260417	20260417

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND

**ENVIRONMENTAL ASSESSMENT STUDY**

**Figure Title**  
 Locations of 500m Assessment Area and Representative Air Sensitive Receivers

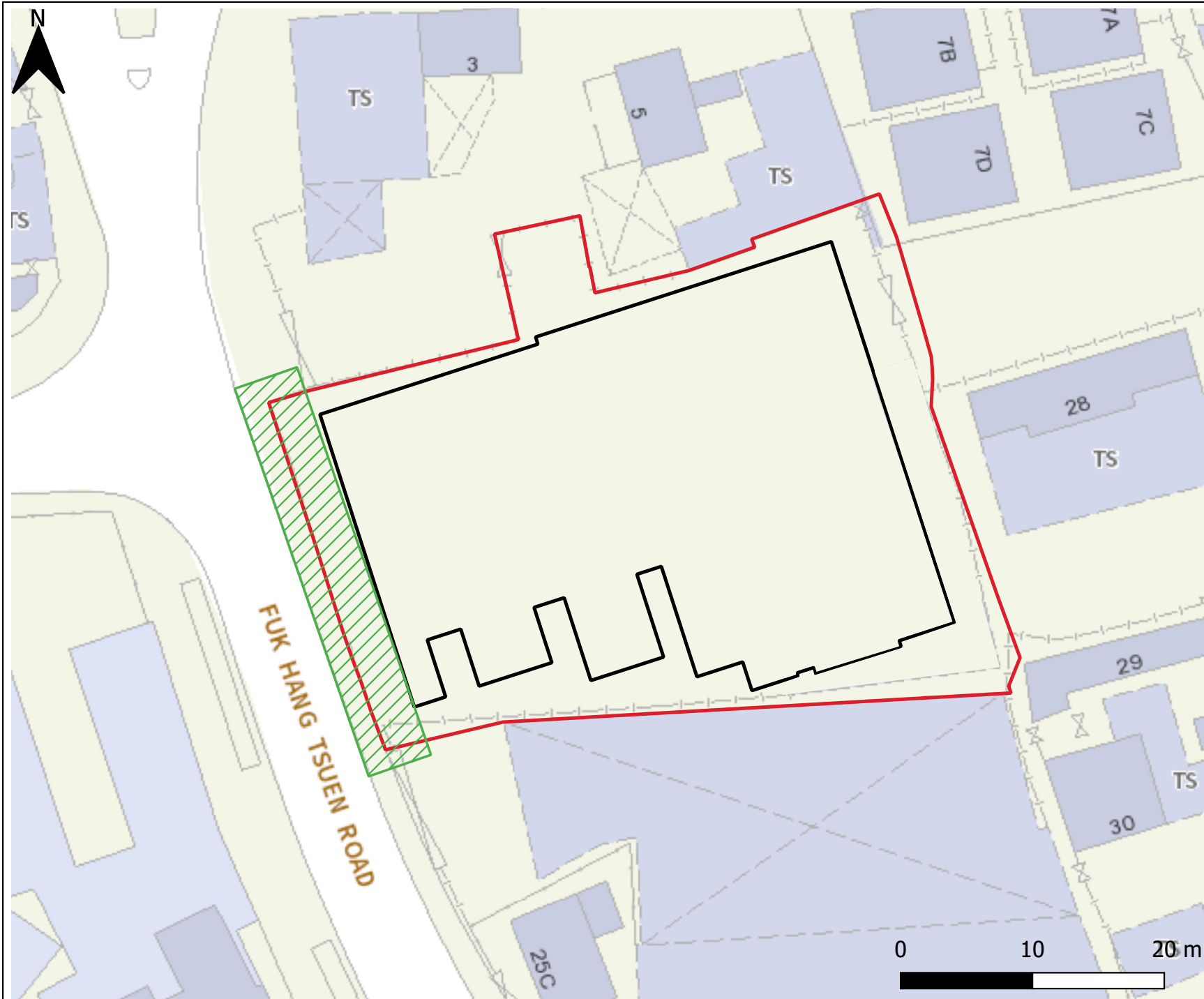
Figure No.	Rev.
2.1	0



0 100 200 m



Lam Tei Quarry  
 Jan 2023



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**LEGEND**

- Project Site Boundary
- Building Block
- 5m Air Quality Buffer  
Distance Measured from Road Kerb

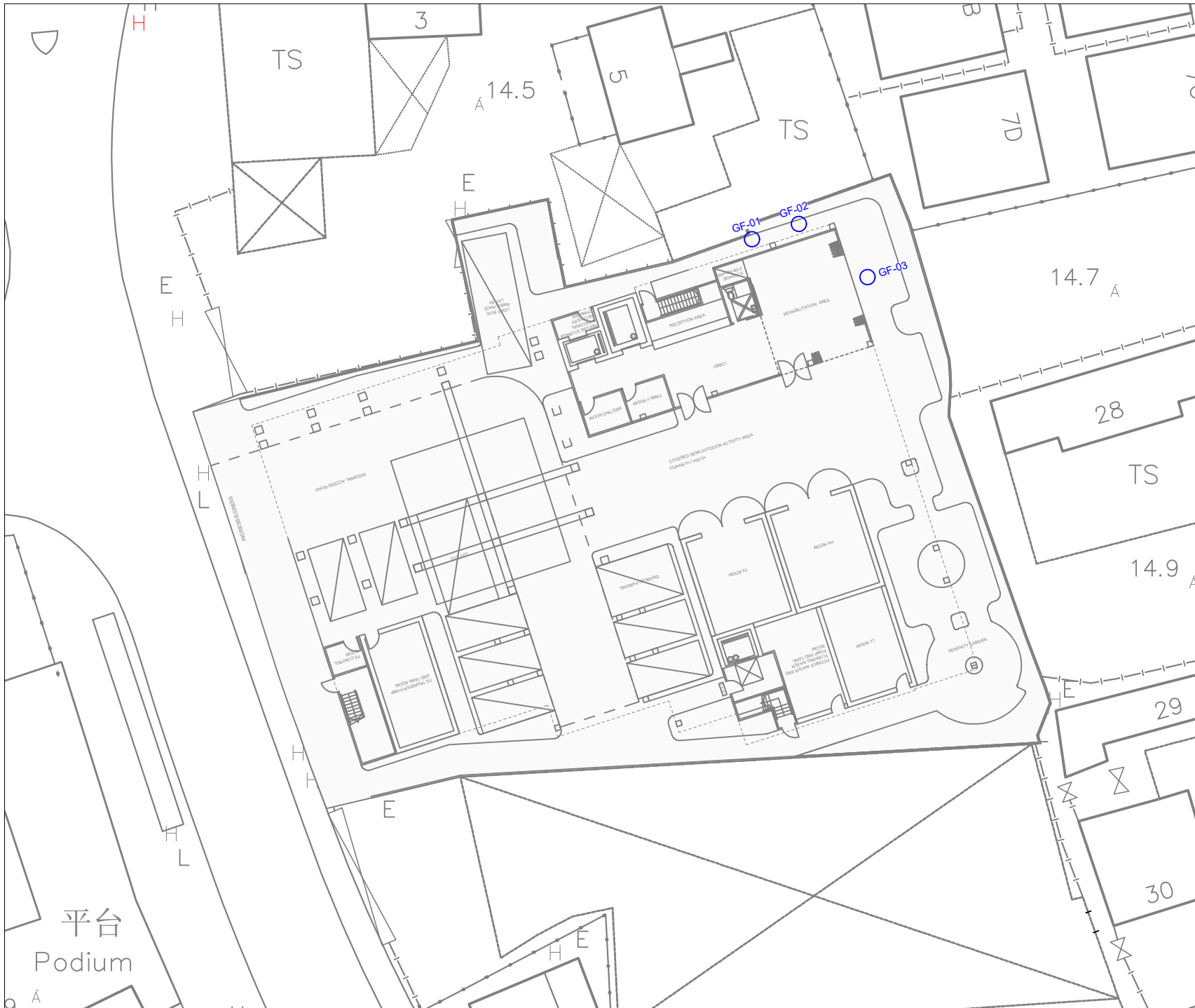
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Initial	DH	HC	HM
Date	20260417	20260417	20260417

Project Title  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

Figure Title  
 HKPSG Air Quality Buffer Distance

Figure No.	Rev.
2.2	0





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**LEGEND**

○ Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

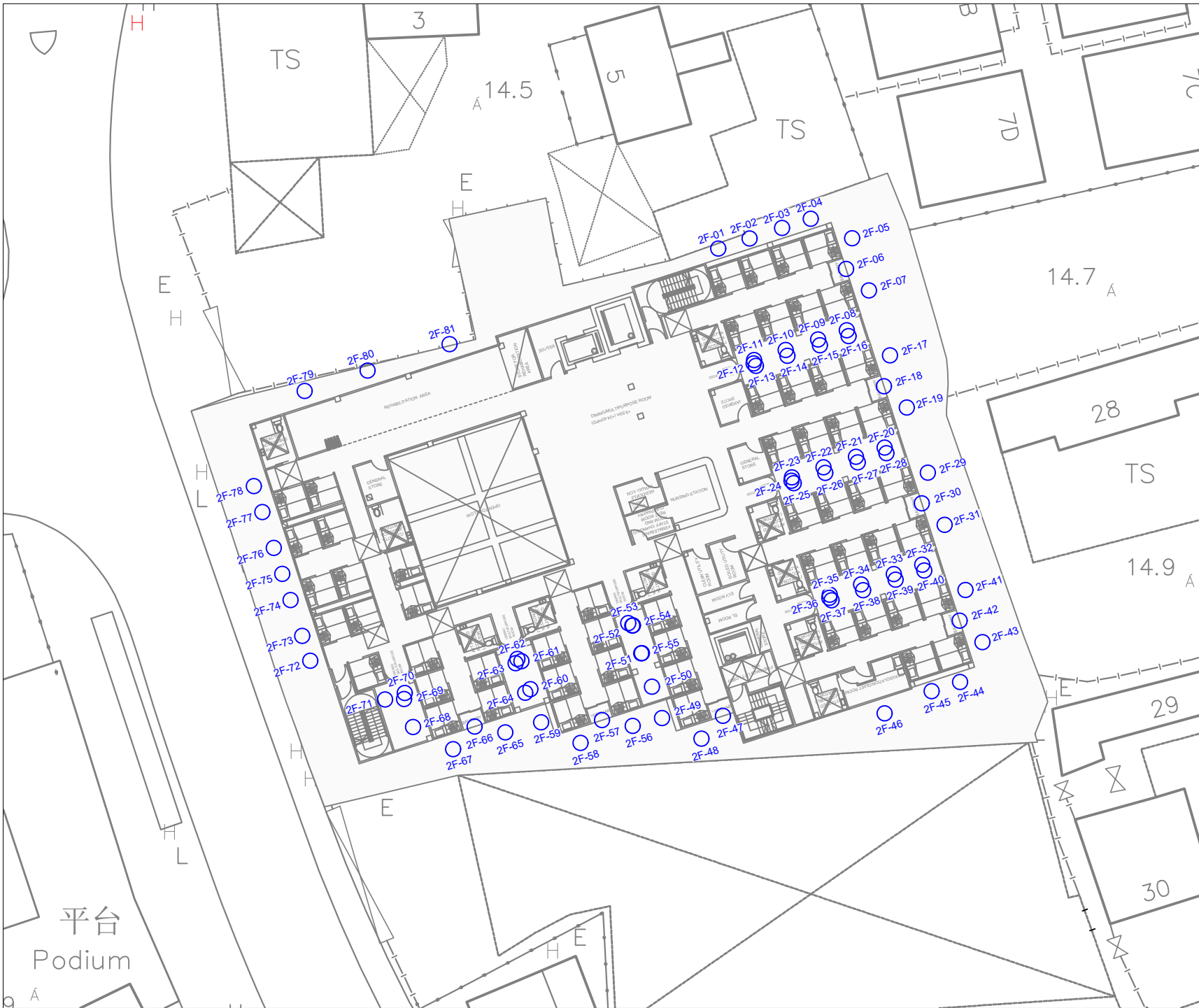
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 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (G/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1a	0







**LEGEND**

○ Noise Assessment Point

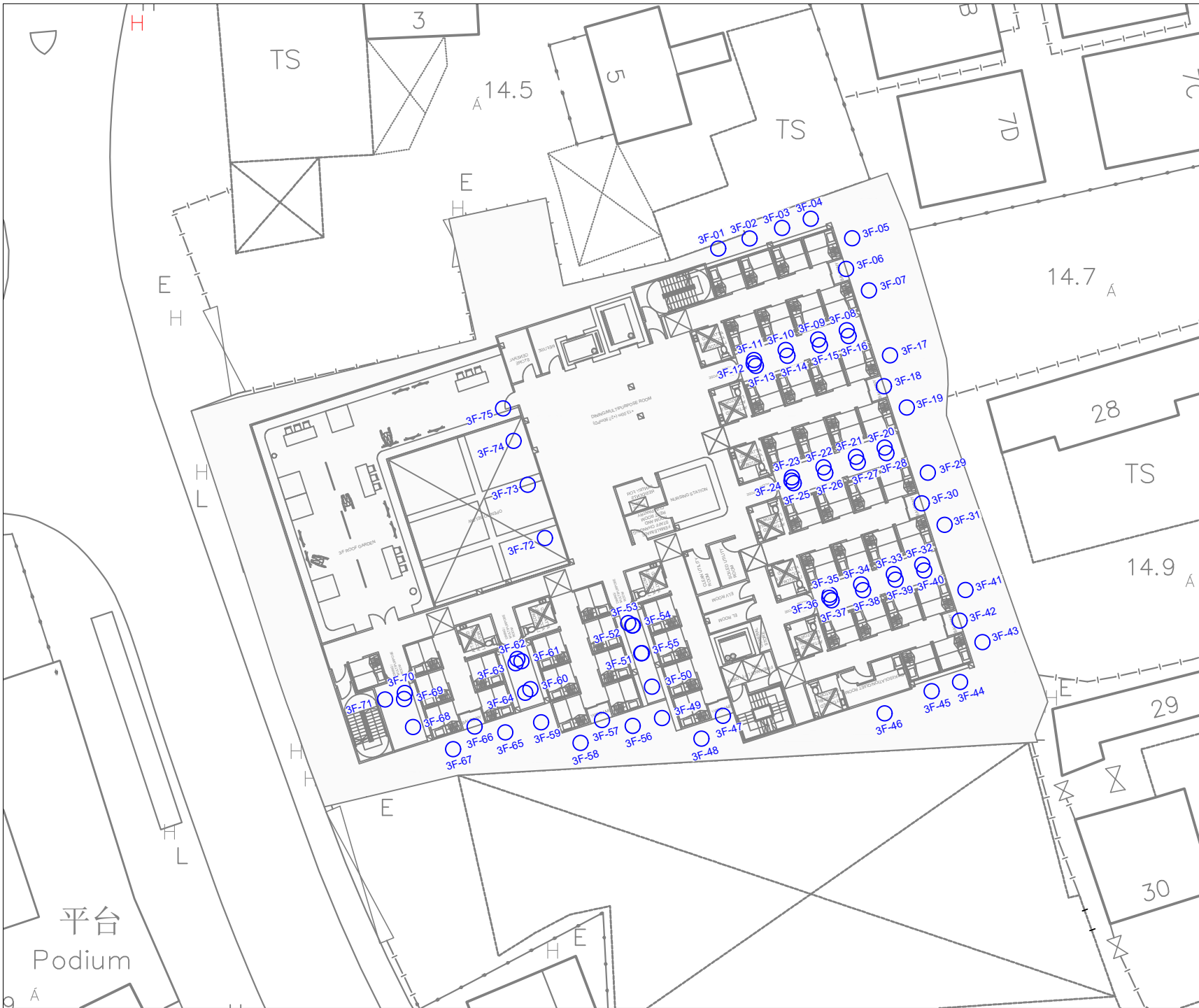
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Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (2/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1c	0





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**LEGEND**

○ Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

**Project Title**

SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND

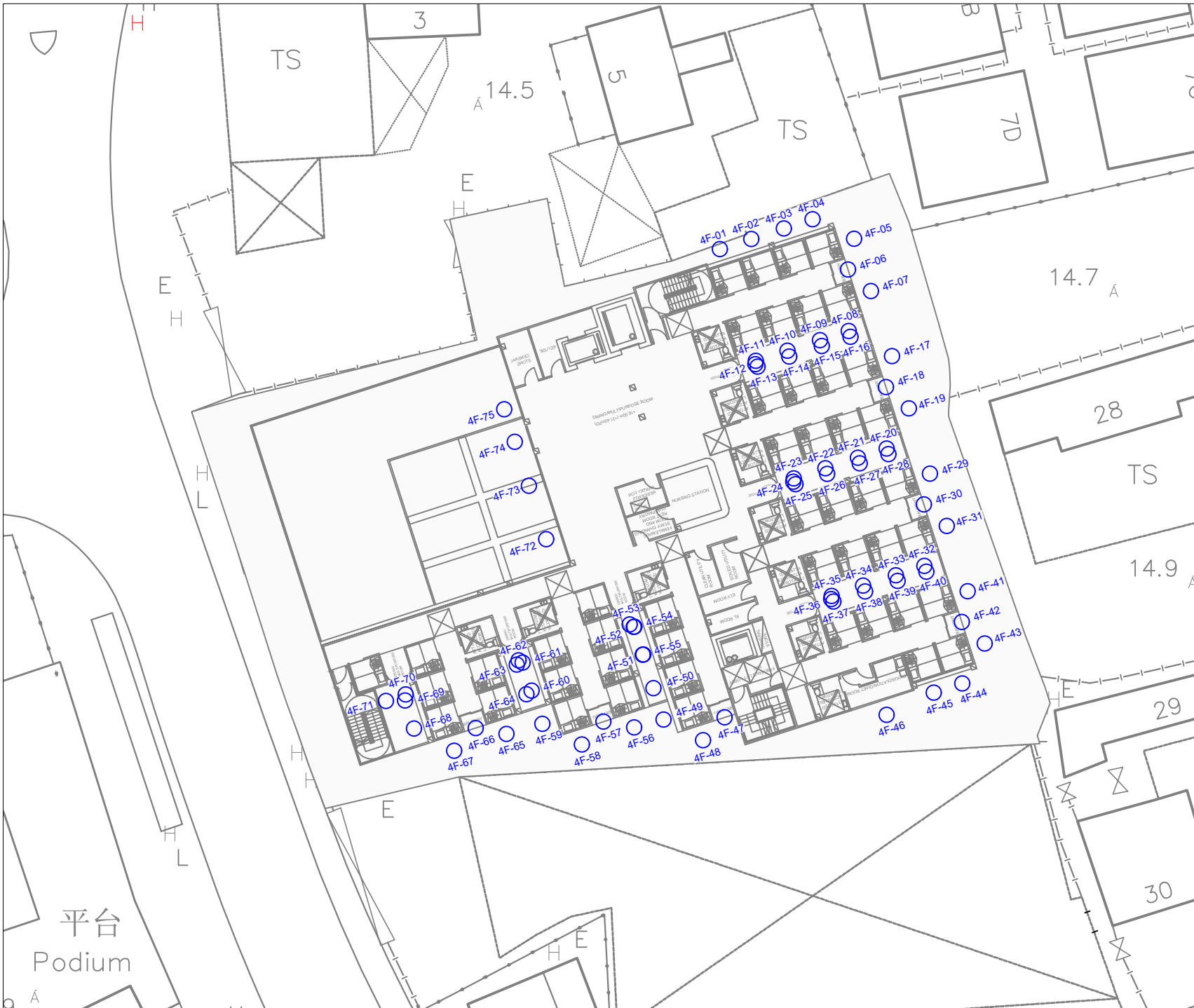
ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**

Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (3/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1d	0





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**LEGEND**

○ Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (4/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1e	0



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**LEGEND**

- Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (5/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1f	0





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**LEGEND**

- Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (6/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1g	0



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**LEGEND**

○ Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

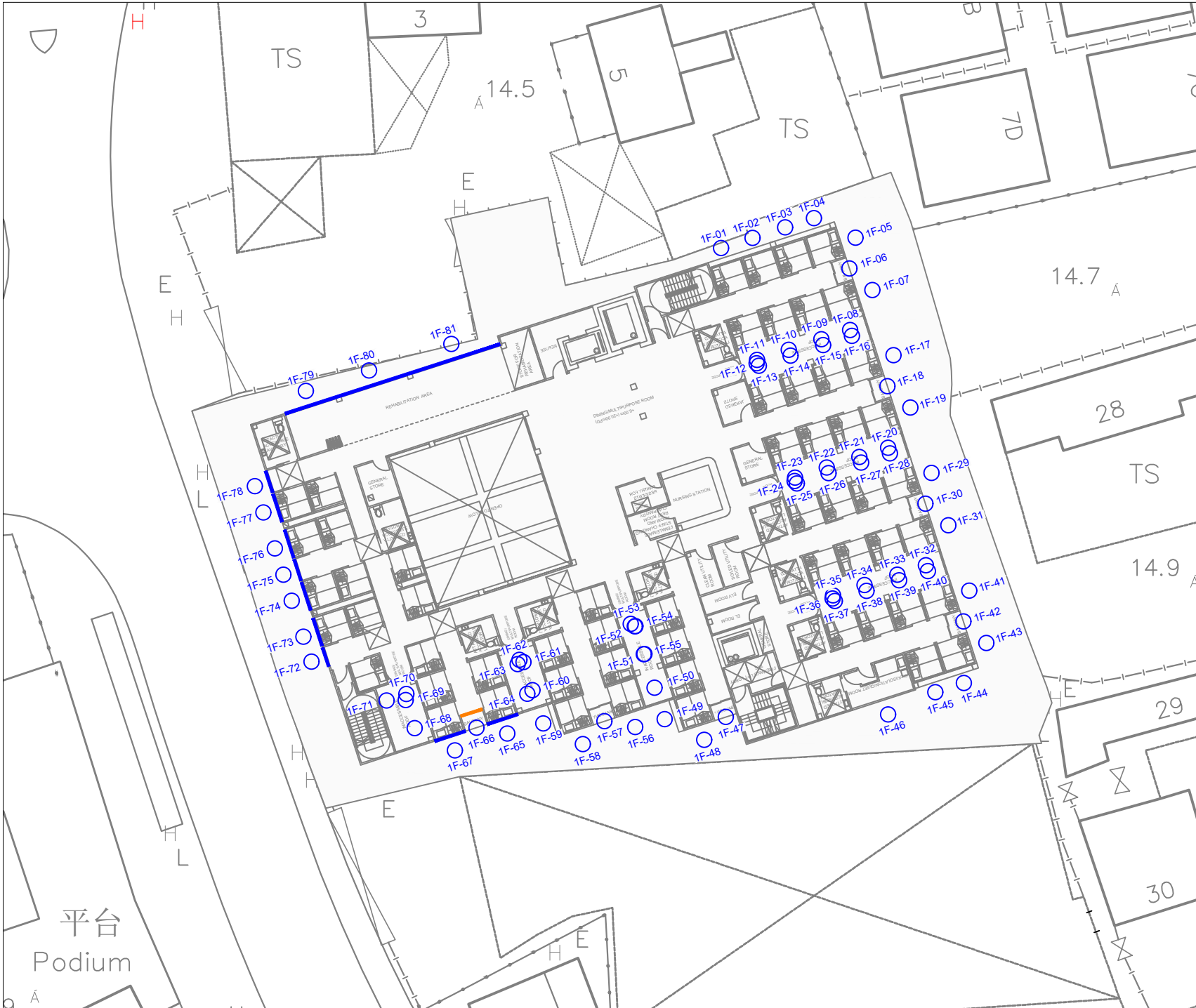
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 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (7/F)

<b>Figure No.</b>	<b>Rev.</b>
3.1h	0



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**LEGEND**

- Noise Assessment Point
- Acoustic Window (Baffle Type)
- Acoustic Balcony

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260420	20260420	20260420

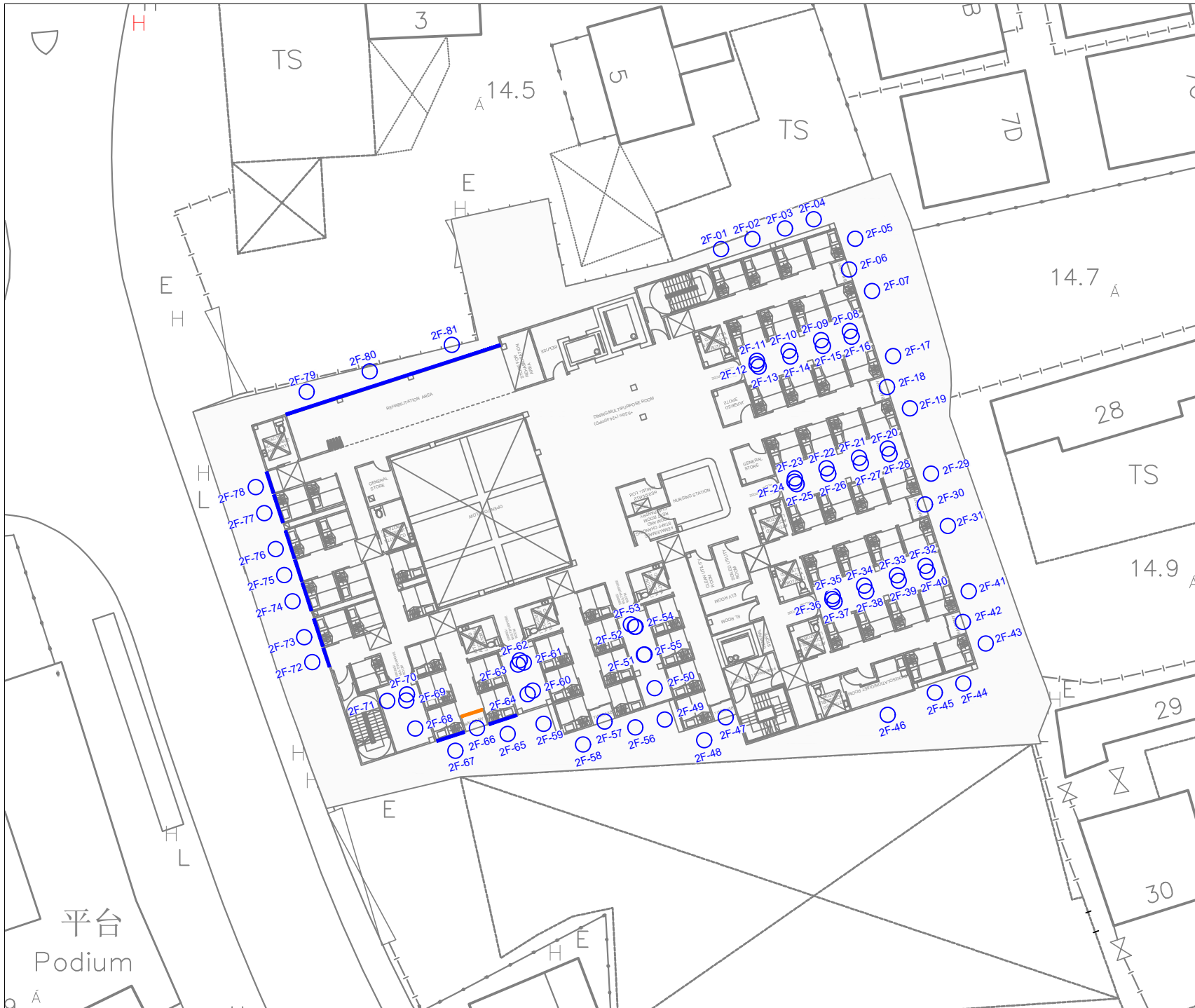
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 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Proposed Mitigation Measures for Road Traffic Noise Impact Assessment (1/F)

<b>Figure No.</b>	<b>Rev.</b>
3.2a	0



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**LEGEND**

- Noise Assessment Point
- Acoustic Window (Baffle Type)
- Acoustic Balcony

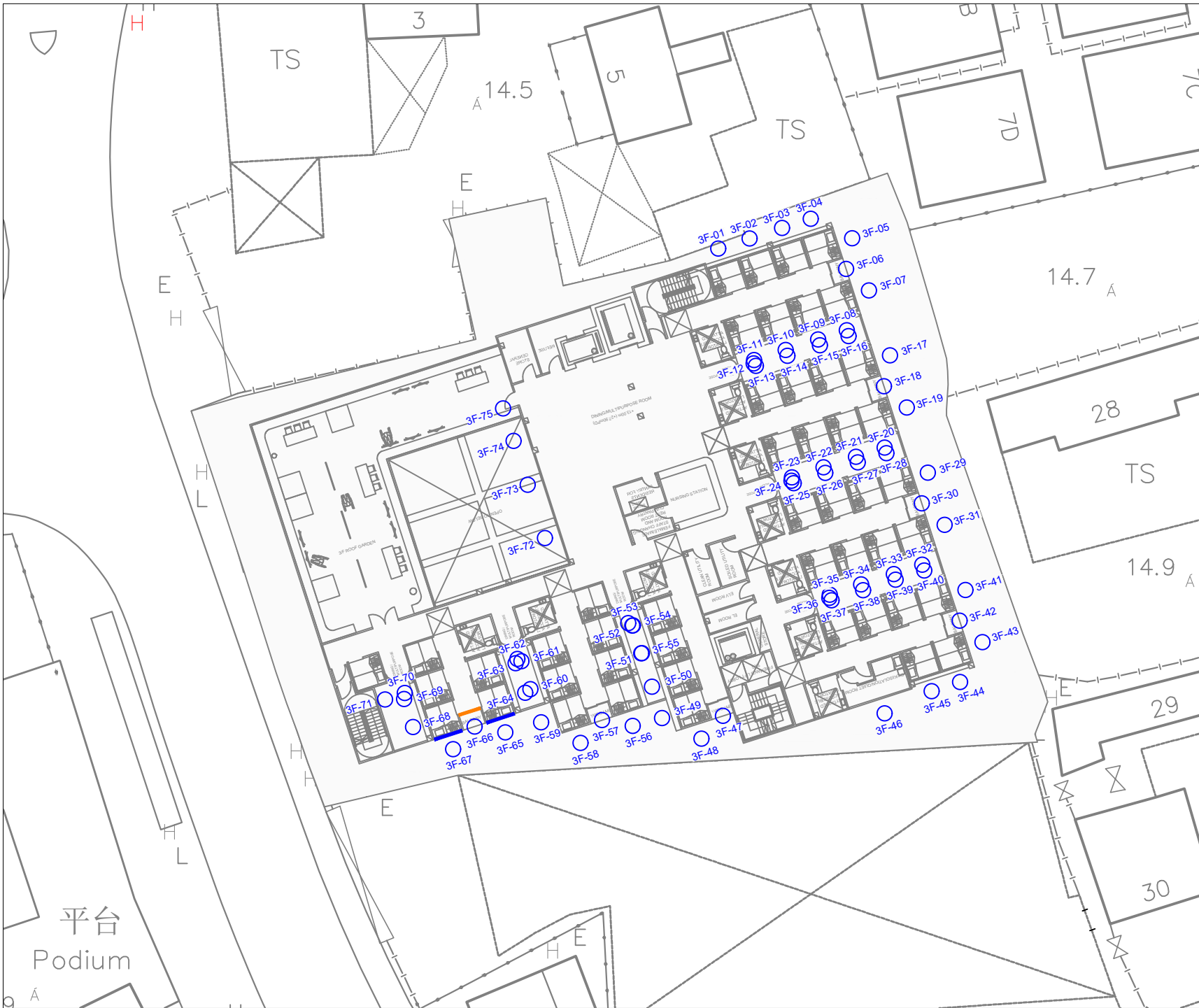
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Initial	Various	HC	HM
Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Proposed Mitigation Measures for Road Traffic Noise Impact Assessment (2/F)

<b>Figure No.</b>	<b>Rev.</b>
3.2b	0





**LEGEND**

- Noise Assessment Point
- Acoustic Window (Baffle Type)
- Acoustic Balcony

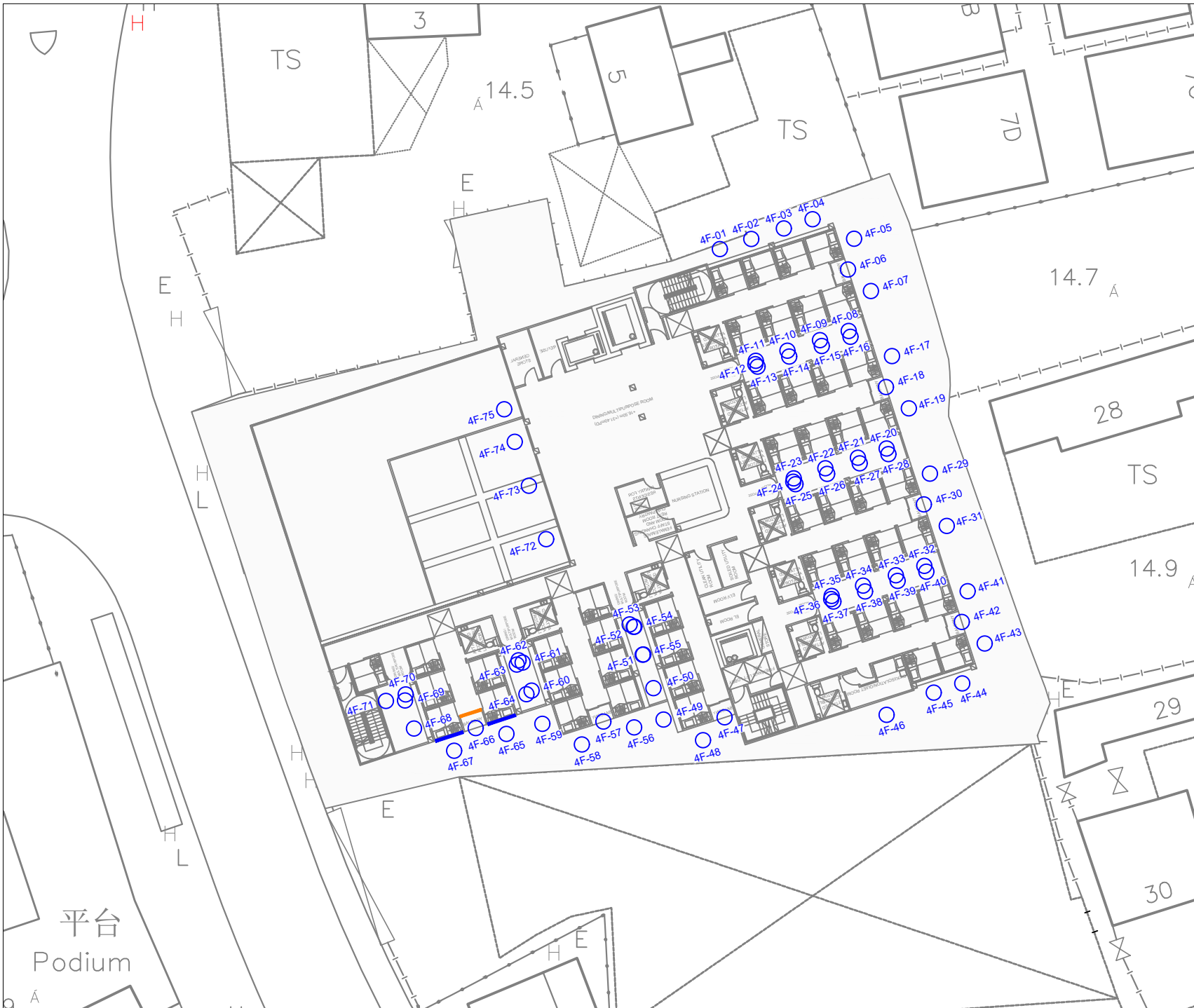
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Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Proposed Mitigation Measures for Road Traffic Noise Impact Assessment (3/F)

<b>Figure No.</b>	<b>Rev.</b>
3.2c	0





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**LEGEND**

- Noise Assessment Point
- Acoustic Window (Baffle Type)
- Acoustic Balcony

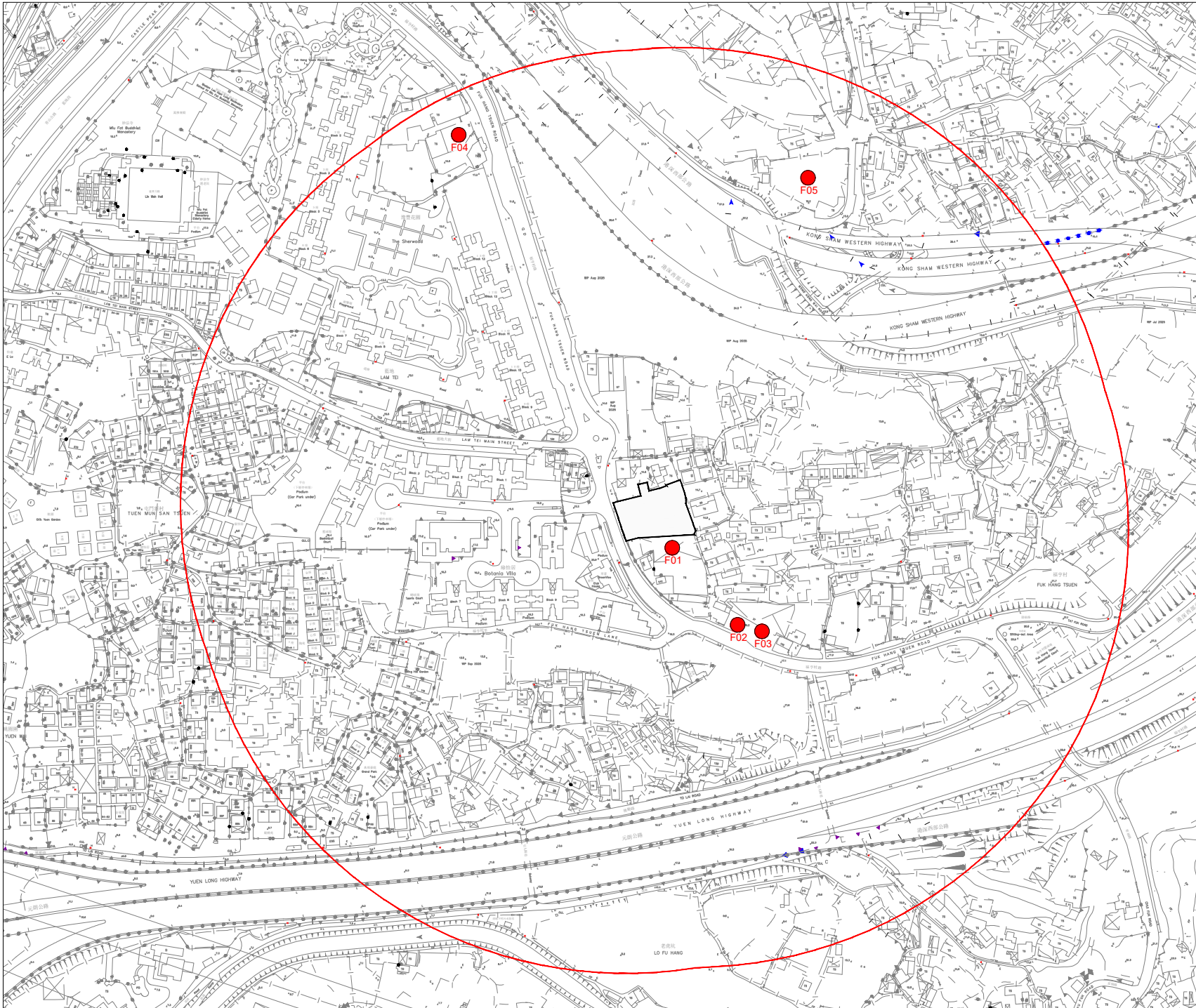
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Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Proposed Mitigation Measures for Road Traffic Noise Impact Assessment (4/F)

<b>Figure No.</b>	<b>Rev.</b>
3.2d	0





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**LEGEND**

- Project Site
- 300m Assessment Area
- Potential Fixed Plant Noise Source

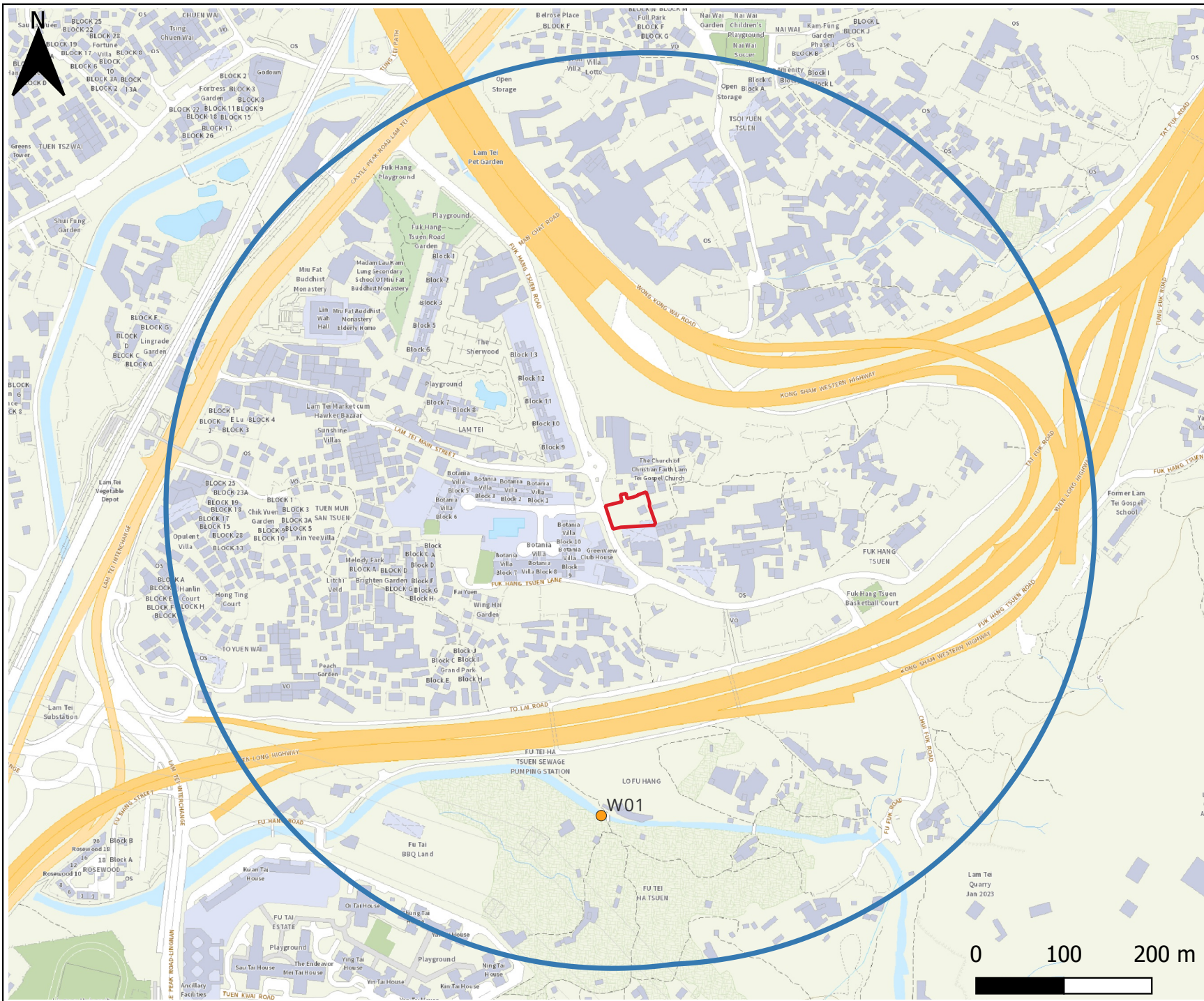
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Date	20260420	20260420	20260420

**Project Title**  
 SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND  
 ENVIRONMENTAL ASSESSMENT STUDY

**Figure Title**  
 Locations of Potential Fixed Plant Noise Sources in the vicinity of the Project Site

<b>Figure No.</b>	<b>Rev.</b>
4.1	0





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**LEGEND**

- Project Site Boundary
- 500m Assessment Area
- Representative Water Sensitive Receiver

	Prepared	Checked	Approved
Initial	DH	HC	HM
Date	20260417	20260417	20260417

Project Title  
**SECTION 12A TOWN PLANNING APPLICATION FOR PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY OR ELDERLY IN LOT 827RP IN DD130 TUEN MUN AND ADJOINING GOVERNMENT LAND**

ENVIRONMENTAL ASSESSMENT STUDY

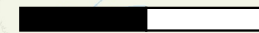
Figure Title  
 Locations of 500m Assessment Area and Representative Water Sensitive Receivers

Figure No.	Rev.
5.1	0



Lam Tei Quarry  
 Jan 2023

0 100 200 m



# APPENDIX 1.1

## LAYOUT AND SECTION PLANS









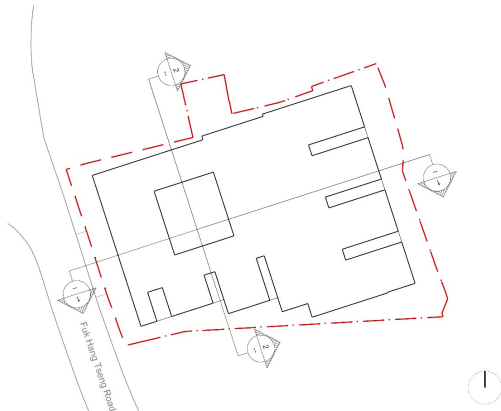




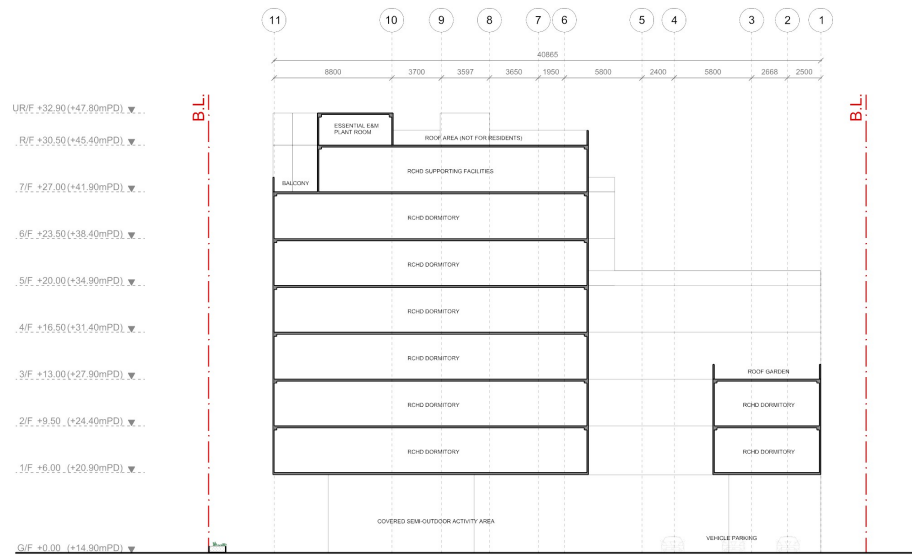




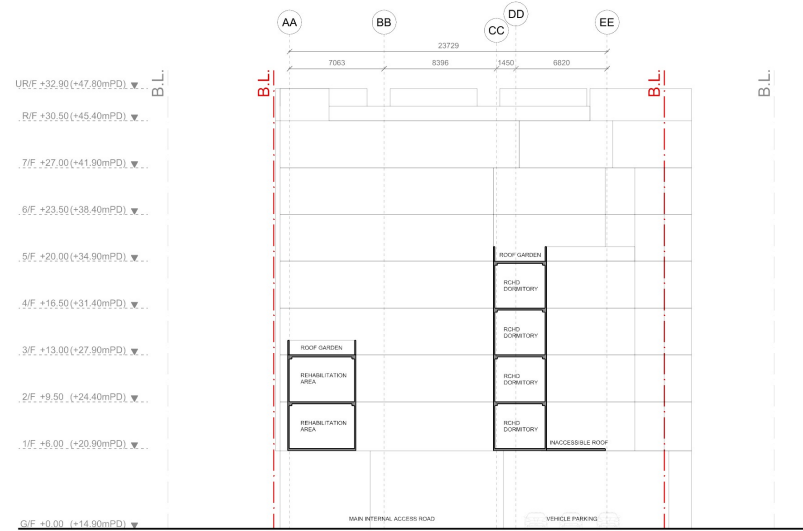




KEY PLAN (N.T.S.)



1 SECTIONAL DRAWING  
1:400@A3



2 SECTIONAL DRAWING  
1:400@A3

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1	20/04/2026	FOR SUBMISSION
0	13/04/2026	FOR INFORMATION

DESIGNER  
 DeSPACE (International) Limited

PROJECT MANAGER

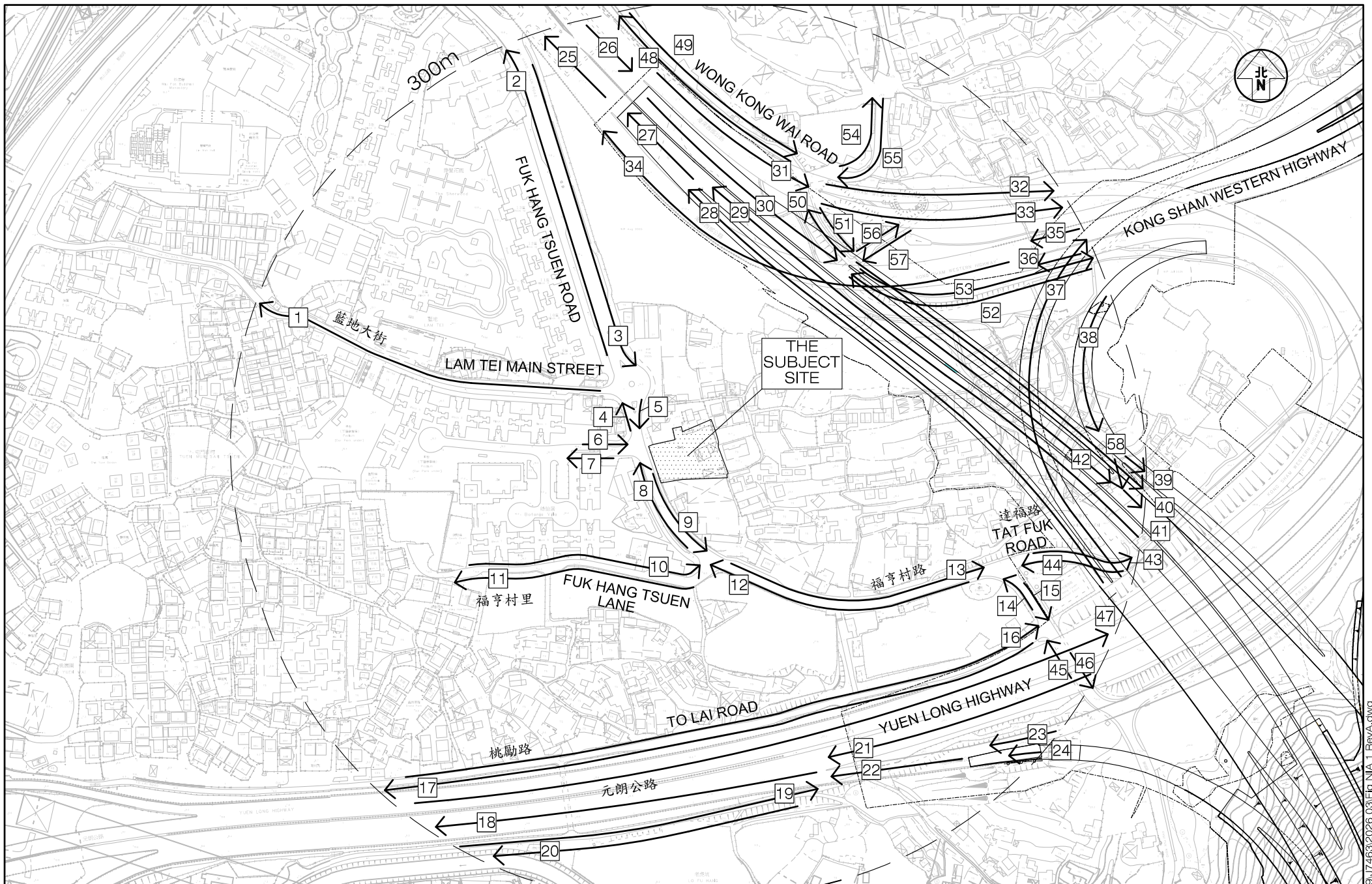
PROJECT  
PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITIES AT LAM TEI, TUEN MUN

DRAWING TITLE

A.S. @ A3

DRAWN BY  
-

**APPENDIX 3.1  
TRAFFIC FORECAST DATA FOR ROAD  
TRAFFIC NOISE IMPACT ASSESSMENT**



Project Title	PROPOSED RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITY ("RCHD") AT LOT 827 RP IN D.D.130, FUK HANG TSUEN ROAD, LAM TEI, TUEN MUN			Figure No. J7463	Revision A	<b>CKM Asia Limited</b> Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk	
Figure Title	LOCATION OF THE ROAD SECTIONS FOR NOISE IMPACT ASSESSMENT TRAFFIC FORECAST			Designed by T T O	Drawn by N C M		Checked by K C
				Scale in A3 1 : 2,500	Date 20 MAR 2026		

T:\JOB\J7450-J7499\J7463\2026 03\Fig NIA 1 RevA.dwg

**TABLE A – PEAK HOUR TRAFFIC FLOW AND VEHICLE COMPOSITION**

**YEAR 2046 TRAFFIC FORECAST**

Date: 8 April 2026

Job No.: J7463

Link ID	Road Section	From Road	To Road	AM Peak Hour		
				Traffic Flows (veh/hr)	Vehicle Composition	
					LV	HV
L01	Lam Tei Main Street	Fuk Hang Tsuen Road	Castle Peak Road - Lam Tei	150	83.0%	17.0%
L02	Fuk Hang Tsuen Road	Lam Tei Main Street	Man Chat Road	300	56.0%	44.0%
L03	Fuk Hang Tsuen Road	Man Chat Road	Lam Tei Main Street	250	66.0%	34.0%
L04	Fuk Hang Tsuen Road	Access Road to Botania Villa	Lam Tei Main Street	300	56.0%	44.0%
L05	Fuk Hang Tsuen Road	Lam Tei Main Street	Access Road to Botania Villa	150	48.0%	52.0%
L06	Access Road to Botania Villa	Botania Villa	Fuk Hang Tsuen Road	100	82.0%	18.0%
L07	Access Road to Botania Villa	Fuk Hang Tsuen Road	Botania Villa	50	67.0%	33.0%
L08	Fuk Hang Tsuen Road	Fuk Hang Tsuen Lane	Access Road to Botania Villa	250	50.0%	50.0%
L09	Fuk Hang Tsuen Road	Access Road to Botania Villa	Fuk Hang Tsuen Lane	100	44.0%	56.0%
L10	Fuk Hang Tsuen Lane	Cul-de-sac	Fuk Hang Tsuen Road	50	55.0%	45.0%
L11	Fuk Hang Tsuen Lane	Fuk Hang Tsuen Road	Cul-de-sac	50	54.0%	46.0%
L12	Fuk Hang Tsuen Road	Tat Fuk Road	Fuk Hang Tsuen Lane	250	49.0%	51.0%
L13	Fuk Hang Tsuen Road	Fuk Hang Tsuen Lane	Tat Fuk Road	100	43.0%	57.0%
L14	Fuk Hang Tsuen Road	To Lai Road	Tat Fuk Road	150	30.0%	70.0%
L15	Fuk Hang Tsuen Road	Tat Fuk Road	To Lai Road	100	32.0%	68.0%
L16	To Lai Road	Fu Hang Road	Cul-de-sac	50	87.0%	13.0%
L17	To Lai Road	Cul-de-sac	Fu Hang Road	50	77.0%	23.0%
L18	Yuen Long Highway	Kong Sham Western Highway	Tuen Mun Road	4,750	55.0%	45.0%
L19	Unnamed Road	Fu Hang Road	Cul-de-sac	50	86.0%	14.0%
L20	Unnamed Road	Cul-de-sac	Fu Hang Road	50	70.0%	30.0%
L21	Yuen Long Highway	Yuen Long Highway	Kong Sham Western Highway	3,100	50.0%	50.0%
L22	Kong Sham Western Highway	Kong Sham Western Highway	Yuen Long Highway	1,650	65.0%	35.0%
L23	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,100	66.0%	34.0%
L24	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	600	62.0%	38.0%
L25	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	3,500	68.0%	32.0%
L26	Kong Sham Western Highway	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	4,350	68.0%	32.0%
L27	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	2,250	66.0%	34.0%
L28	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	800	61.0%	39.0%
L29	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	1,500	69.0%	31.0%
L30	Route 11/Tuen Mun Bypass Slip Road	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	3,200	69.0%	31.0%
L31	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,150	63.0%	37.0%
L32	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,000	67.0%	33.0%
L33	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	150	39.0%	61.0%
L34	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,250	72.0%	28.0%
L35	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	200	71.0%	29.0%
L36	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,100	72.0%	28.0%
L37	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	2,800	57.0%	43.0%
L38	Route 11/Tuen Mun Bypass Slip Road	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	700	68.0%	32.0%
L39	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	50	100.0%	0.0%
L40	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	1,250	62.0%	38.0%
L41	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	2,650	72.0%	28.0%
L42	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	2,000	73.0%	27.0%
L43	Tat Fuk Road	Fuk Hang Tsuen Road	Wong Kong Wai Road	50	70.0%	30.0%
L44	Tat Fuk Road	Wong Kong Wai Road	Fuk Hang Tsuen Road	150	66.0%	34.0%
L45	Fuk Hang Tsuen Road	Chui Fuk Road	To Lai Road	100	19.0%	81.0%
L46	Fuk Hang Tsuen Road	To Lai Road	Chui Fuk Road	100	40.0%	60.0%
L47	Yuen Long Highway	Tuen Mun Road	Kong Sham Western Highway	5,150	68.0%	32.0%
L48	Wong Kong Wai Road	Access Road to Nai Wai	Man Chat Road	250	60.0%	40.0%
L49	Wong Kong Wai Road	Man Chat Road	Access Road to Nai Wai	300	57.0%	43.0%
L50	Wong Kong Wai Road	Access Road to HKIC - Lam Tei	Access Road to Nai Wai	250	59.0%	41.0%
L51	Wong Kong Wai Road	Access Road to Nai Wai	Access Road to HKIC - Lam Tei	250	53.0%	47.0%
L52	Wong Kong Wai Road	Tat Fuk Road	Access Road to HKIC - Lam Tei	200	59.0%	42.0%
L53	Wong Kong Wai Road	Access Road to HKIC - Lam Tei	Tat Fuk Road	250	53.0%	47.0%
L54	Access Road to Nai Wai	Wong Kong Wai Road	Nai Wai	50	77.0%	23.0%
L55	Access Road to Nai Wai	Nai Wai	Wong Kong Wai Road	50	61.0%	39.0%
L56	Access Road to HKIC - Lam Tei	Wong Kong Wai Road	HKIC - Lam Tei	50	75.0%	25.0%
L57	Access Road to HKIC - Lam Tei	HKIC - Lam Tei	Wong Kong Wai Road	50	85.0%	15.0%
L58	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	700	67.0%	33.0%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**TABLE A – PEAK HOUR TRAFFIC FLOW AND VEHICLE COMPOSITION**

**YEAR 2046 TRAFFIC FORECAST**

Date: 8 April 2026

Job No.: J7463

Link ID	Road Section	From Road	To Road	PM Peak Hour		
				Traffic Flows (veh/hr)	Vehicle Composition	
					LV	HV
L01	Lam Tei Main Street	Fuk Hang Tsuen Road	Castle Peak Road - Lam Tei	150	88.0%	12.0%
L02	Fuk Hang Tsuen Road	Lam Tei Main Street	Man Chat Road	300	71.0%	29.0%
L03	Fuk Hang Tsuen Road	Man Chat Road	Lam Tei Main Street	250	70.0%	30.0%
L04	Fuk Hang Tsuen Road	Access Road to Botania Villa	Lam Tei Main Street	300	74.0%	26.0%
L05	Fuk Hang Tsuen Road	Lam Tei Main Street	Access Road to Botania Villa	150	61.0%	39.0%
L06	Access Road to Botania Villa	Botania Villa	Fuk Hang Tsuen Road	50	80.0%	20.0%
L07	Access Road to Botania Villa	Fuk Hang Tsuen Road	Botania Villa	50	89.0%	11.0%
L08	Fuk Hang Tsuen Road	Fuk Hang Tsuen Lane	Access Road to Botania Villa	250	73.0%	27.0%
L09	Fuk Hang Tsuen Road	Access Road to Botania Villa	Fuk Hang Tsuen Lane	100	49.0%	51.0%
L10	Fuk Hang Tsuen Lane	Cul-de-sac	Fuk Hang Tsuen Road	50	92.0%	8.0%
L11	Fuk Hang Tsuen Lane	Fuk Hang Tsuen Road	Cul-de-sac	50	80.0%	20.0%
L12	Fuk Hang Tsuen Road	Tat Fuk Road	Fuk Hang Tsuen Lane	250	72.0%	28.0%
L13	Fuk Hang Tsuen Road	Fuk Hang Tsuen Lane	Tat Fuk Road	100	47.0%	53.0%
L14	Fuk Hang Tsuen Road	To Lai Road	Tat Fuk Road	150	71.0%	29.0%
L15	Fuk Hang Tsuen Road	Tat Fuk Road	To Lai Road	50	16.0%	84.0%
L16	To Lai Road	Fu Hang Road	Cul-de-sac	100	84.0%	16.0%
L17	To Lai Road	Cul-de-sac	Fu Hang Road	50	97.0%	3.0%
L18	Yuen Long Highway	Kong Sham Western Highway	Tuen Mun Road	5,150	76.0%	24.0%
L19	Unnamed Road	Fu Hang Road	Cul-de-sac	50	60.0%	40.0%
L20	Unnamed Road	Cul-de-sac	Fu Hang Road	50	83.0%	17.0%
L21	Yuen Long Highway	Yuen Long Highway	Kong Sham Western Highway	3,700	77.0%	23.0%
L22	Kong Sham Western Highway	Kong Sham Western Highway	Yuen Long Highway	1,450	73.0%	27.0%
L23	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	800	82.0%	18.0%
L24	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	650	62.0%	38.0%
L25	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	4,000	73.0%	27.0%
L26	Kong Sham Western Highway	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	3,400	73.0%	27.0%
L27	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	3,300	72.0%	28.0%
L28	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	1,050	63.0%	37.0%
L29	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	2,300	76.0%	24.0%
L30	Route 11/Tuen Mun Bypass Slip Road	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	2,350	68.0%	32.0%
L31	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	1,100	82.0%	18.0%
L32	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	800	82.0%	18.0%
L33	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	300	84.0%	16.0%
L34	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	700	77.0%	23.0%
L35	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	250	80.0%	20.0%
L36	Kong Sham Western Highway	Kong Sham Western Highway	Kong Sham Western Highway	500	76.0%	24.0%
L37	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Kong Sham Western Highway	3,100	68.0%	32.0%
L38	Route 11/Tuen Mun Bypass Slip Road	Kong Sham Western Highway	Route 11/Tuen Mun Bypass Slip	350	64.0%	36.0%
L39	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	50	100.0%	0.0%
L40	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	600	59.0%	41.0%
L41	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	2,100	70.0%	30.0%
L42	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	1,800	71.0%	29.0%
L43	Tat Fuk Road	Fuk Hang Tsuen Road	Wong Kong Wai Road	100	62.0%	38.0%
L44	Tat Fuk Road	Wong Kong Wai Road	Fuk Hang Tsuen Road	150	70.0%	30.0%
L45	Fuk Hang Tsuen Road	Chui Fuk Road	To Lai Road	100	72.0%	28.0%
L46	Fuk Hang Tsuen Road	To Lai Road	Chui Fuk Road	50	29.0%	71.0%
L47	Yuen Long Highway	Tuen Mun Road	Kong Sham Western Highway	5,550	76.0%	24.0%
L48	Wong Kong Wai Road	Access Road to Nai Wai	Man Chat Road	250	68.0%	32.0%
L49	Wong Kong Wai Road	Man Chat Road	Access Road to Nai Wai	250	67.0%	33.0%
L50	Wong Kong Wai Road	Access Road to HKIC - Lam Tei	Access Road to Nai Wai	200	66.0%	34.0%
L51	Wong Kong Wai Road	Access Road to Nai Wai	Access Road to HKIC - Lam Tei	200	64.0%	36.0%
L52	Wong Kong Wai Road	Tat Fuk Road	Access Road to HKIC - Lam Tei	200	66.0%	34.0%
L53	Wong Kong Wai Road	Access Road to HKIC - Lam Tei	Tat Fuk Road	200	64.0%	36.0%
L54	Access Road to Nai Wai	Wong Kong Wai Road	Nai Wai	100	78.0%	22.0%
L55	Access Road to Nai Wai	Nai Wai	Wong Kong Wai Road	50	86.0%	14.0%
L56	Access Road to HKIC - Lam Tei	Wong Kong Wai Road	HKIC - Lam Tei	50	73.0%	27.0%
L57	Access Road to HKIC - Lam Tei	HKIC - Lam Tei	Wong Kong Wai Road	50	87.0%	13.0%
L58	Route 11/Tuen Mun Bypass Slip Road	Route 11/Tuen Mun Bypass Slip	Route 11/Tuen Mun Bypass Slip	350	64.0%	36.0%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

## **APPENDIX 3.2**

# **DETAILED RESULTS OF ROAD TRAFFIC NOISE ASSESSMENT (BASE CASE SCENARIO)**



4/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-01	4F-02	4F-03	4F-04	4F-05	4F-06	4F-07	4F-08	4F-09	4F-10	4F-11	4F-12	4F-13	4F-14	4F-15	4F-16	4F-17	4F-18	4F-19	4F-20	4F-21	4F-22	4F-23	4F-24	4F-25
4/F	31.40	32.60	70	70	69	70	69	68	68	65	60	58	54	56	58	59	61	64	68	68	68	65	60	56	53	53	56
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-26	4F-27	4F-28	4F-29	4F-30	4F-31	4F-32	4F-33	4F-34	4F-35	4F-36	4F-37	4F-38	4F-39	4F-40	4F-41	4F-42	4F-43	4F-44	4F-45	4F-46	4F-47	4F-48	4F-49	4F-50
4/F	31.40	32.60	59	61	64	68	68	68	64	59	53	53	53	54	58	61	64	68	68	69	69	69	69	67	70	69	64
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-51	4F-52	4F-53	4F-54	4F-55	4F-56	4F-57	4F-58	4F-59	4F-60	4F-61	4F-62	4F-63	4F-64	4F-65	4F-66	4F-67	4F-68	4F-69	4F-70	4F-71	4F-72	4F-73	4F-74	4F-75
4/F	31.40	32.60	61	59	58	59	61	70	70	71	70	66	63	63	66	71	71	72	69	66	66	65	65	66	67	68	
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N

5/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	5F-01	5F-02	5F-03	5F-04	5F-05	5F-06	5F-07	5F-08	5F-09	5F-10	5F-11	5F-12	5F-13	5F-14	5F-15	5F-16	5F-17	5F-18	5F-19	5F-20	5F-21	5F-22	5F-23	5F-24	5F-25	5F-26	5F-27	5F-28	5F-29	5F-30
5/F	34.90	36.10	70	70	70	70	70	68	68	65	61	58	55	57	58	60	62	65	68	68	68	65	61	57	54	55	56	59	61	65	68	68
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	5F-31	5F-32	5F-33	5F-34	5F-35	5F-36	5F-37	5F-38	5F-39	5F-40	5F-41	5F-42	5F-43	5F-44	5F-45	5F-46	5F-47	5F-48	5F-49	5F-50	5F-51	5F-52	5F-53	5F-54	5F-55	5F-56	5F-57	5F-58	5F-59	5F-60
5/F	34.90	36.10	69	65	60	55	54	54	55	59	61	65	69	68	69	69	69	69	64	68	67	63	60	60	60	63	68	67	66	67	68	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

6/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	6F-01	6F-02	6F-03	6F-04	6F-05	6F-06	6F-07	6F-08	6F-09	6F-10	6F-11	6F-12	6F-13	6F-14	6F-15	6F-16	6F-17	6F-18	6F-19	6F-20	6F-21	6F-22	6F-23	6F-24	6F-25	6F-26	6F-27	6F-28	6F-29	6F-30
6/F	38.40	39.60	70	70	70	70	70	68	69	66	62	59	57	58	59	60	62	65	69	69	69	66	61	58	56	57	58	60	62	65	69	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	6F-31	6F-32	6F-33	6F-34	6F-35	6F-36	6F-37	6F-38	6F-39	6F-40	6F-41	6F-42	6F-43	6F-44	6F-45	6F-46	6F-47	6F-48	6F-49	6F-50	6F-51	6F-52	6F-53	6F-54	6F-55	6F-56	6F-57	6F-58	6F-59	6F-60
6/F	38.40	39.60	69	65	60	57	56	56	57	60	62	65	69	69	70	70	69	70	68	69	69	65	62	62	62	65	70	70	67	68	69	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

7/F

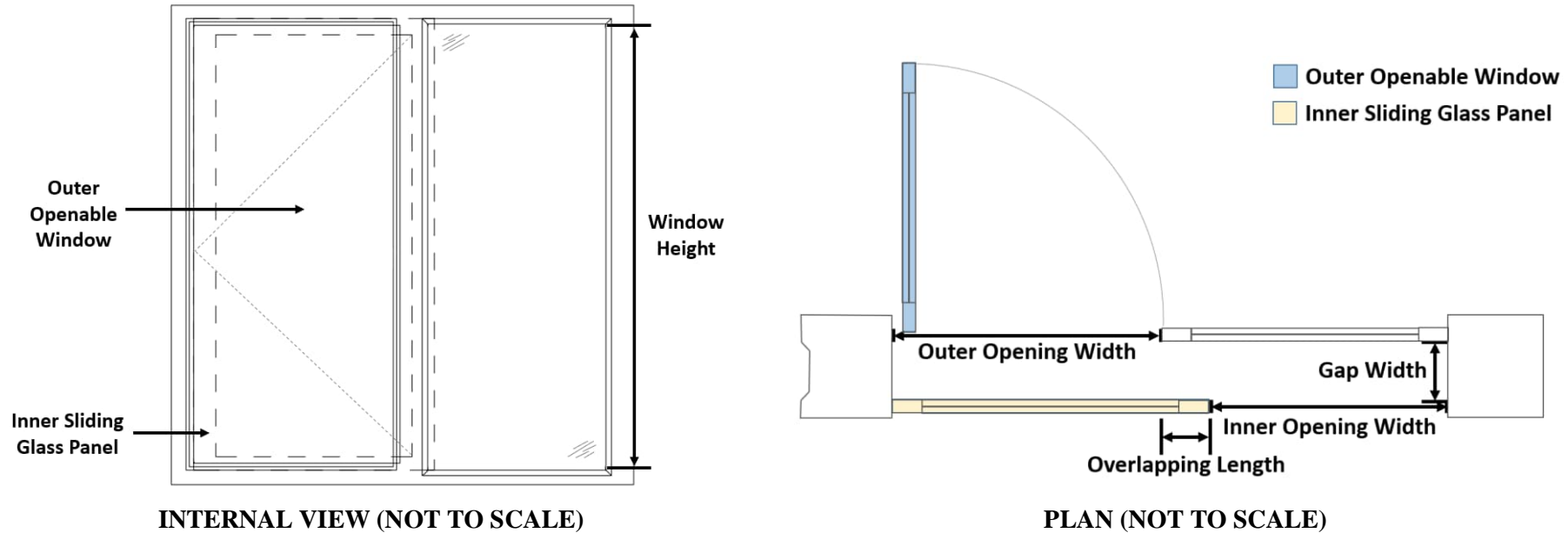
Floor	Floor Slab Level, mPD	NAP Level, mPD	7F-01	7F-02	7F-03	7F-04	7F-05	7F-06	7F-07	7F-08
7/F	41.90	43.10	60	60	65	69	70	70	70	70
Noise Criteria			70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N

Note:   Predicted noise level exceeded the corresponding noise criteria  
 [1] The assessment point is located at 1m in front of the most exposed part of an openable window for ventilation at a habitable room (NSRs) and 1.2m above the floor level of respective floors of the Proposed Development.

# **APPENDIX 3.3**

## **EXTRACTS OF EPD'S PN 5/23**

(I) Possible design of “Acoustic Window (Baffle Type)” for 8m<sup>2</sup> and 18m<sup>2</sup> habitable rooms (i.e. dining room, living room or bedroom)

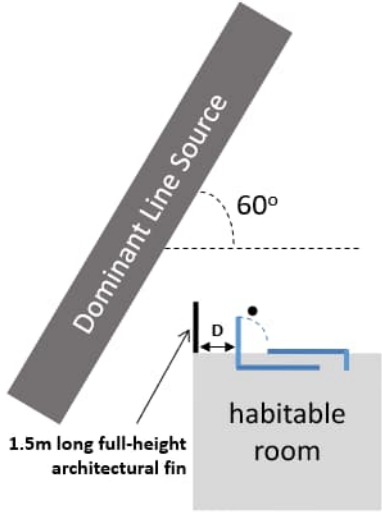


Possible Designs of “Acoustic Window (Baffle Type)” for 8m <sup>2</sup> and 18m <sup>2</sup> rooms					
Room Size (m <sup>2</sup> )	Room Dimensions (mm <sup>3</sup> )	Inner Window Opening (mm <sup>2</sup> )	Outer Window Opening (mm <sup>2</sup> )	Overlapping Length (mm)	Gap Width (mm)
8	3200 (W) x 2500 (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:*

- These are feasible designs of AW(BT) for 8m<sup>2</sup> and 18m<sup>2</sup> rooms.
- 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)	
		8m <sup>2</sup>	18m <sup>2</sup>
	<p>(a) Provision of AW(BT) parallel to dominant line source (whichever side the outer side-hung window is)</p>	<p>- 6.0 - 7.5 (added SAM<sup>1</sup>)</p>	<p>- 7.0 - 8.5 (added SAM<sup>1</sup>)</p>
	<p>(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)</p>	<p>- 7.0 - 8.5 (added SAM<sup>1</sup>)</p>	<p>- 8.0 - 9.5 (added SAM<sup>1</sup>)</p>
	<p>(b1) If tilted AW(BT) is at 30° horizontal incident angle to dominant line source  + 1.5m long full-height architectural fin<sup>2</sup></p>	<p>- 8.0 - 9.5 (added SAM<sup>1</sup>)</p>	<p>- 9.0 - 10.5 (added SAM<sup>1</sup>)</p>
<p>D = Distance from architectural fin to nearest window frame should be at most 900mm.</p>	<p>* 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.</p>		

Table 1: Summary on RNR of Acoustic Window (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)	
		8m <sup>2</sup>	18m <sup>2</sup>
 <p>D = Distance from architectural fin to nearest window frame should be at most 900mm.</p>	<p>(b2) If tilted AW(BT) is at 60° horizontal incident angle to dominant line source</p> <p>+ 1.5m long full-height architectural fin<sup>2</sup></p> <p>* 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.</p>	- 9.0	- 10.0
		- 10.5 (added SAM <sup>1</sup> )	- 11.5 (added SAM <sup>1</sup> )
<p><b>Note 1:</b> The additional Sound Absorptive Material (SAM) shall be of Noise Reduction Coefficient <math>\geq 0.7</math> 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.</p> <p><b>Note 2:</b> 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.</p>			

## **APPENDIX 3.4**

# **DETAILED RESULTS OF ROAD TRAFFIC NOISE ASSESSMENT (MITIGATED SCENARIO)**



4/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-01	4F-02	4F-03	4F-04	4F-05	4F-06	4F-07	4F-08	4F-09	4F-10	4F-11	4F-12	4F-13	4F-14	4F-15	4F-16	4F-17	4F-18	4F-19	4F-20	4F-21	4F-22	4F-23	4F-24	4F-25
4/F	31.40	32.60	70	70	69	70	69	68	68	65	60	58	54	56	58	59	61	64	68	68	68	65	60	56	53	53	56
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-26	4F-27	4F-28	4F-29	4F-30	4F-31	4F-32	4F-33	4F-34	4F-35	4F-36	4F-37	4F-38	4F-39	4F-40	4F-41	4F-42	4F-43	4F-44	4F-45	4F-46	4F-47	4F-48	4F-49	4F-50
4/F	31.40	32.60	59	61	64	68	68	64	59	53	53	53	54	58	61	64	68	68	69	69	69	69	69	67	70	69	64
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	4F-51	4F-52	4F-53	4F-54	4F-55	4F-56	4F-57	4F-58	4F-59	4F-60	4F-61	4F-62	4F-63	4F-64	4F-65	4F-66	4F-67	4F-68	4F-69	4F-70	4F-71	4F-72	4F-73	4F-74	4F-75
4/F	31.40	32.60	61	59	58	59	61	70	70	70	70	66	63	63	66	65	69	66	66	66	66	65	65	66	67	68	
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

5/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	5F-01	5F-02	5F-03	5F-04	5F-05	5F-06	5F-07	5F-08	5F-09	5F-10	5F-11	5F-12	5F-13	5F-14	5F-15	5F-16	5F-17	5F-18	5F-19	5F-20	5F-21	5F-22	5F-23	5F-24	5F-25	5F-26	5F-27	5F-28	5F-29	5F-30
5/F	34.90	36.10	70	70	70	70	70	68	68	65	61	58	55	57	58	60	62	65	68	68	68	65	61	57	54	55	56	59	61	65	68	68
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	5F-31	5F-32	5F-33	5F-34	5F-35	5F-36	5F-37	5F-38	5F-39	5F-40	5F-41	5F-42	5F-43	5F-44	5F-45	5F-46	5F-47	5F-48	5F-49	5F-50	5F-51	5F-52	5F-53	5F-54	5F-55	5F-56	5F-57	5F-58	5F-59	5F-60
5/F	34.90	36.10	69	65	60	55	54	54	55	59	61	65	69	68	69	69	69	69	64	68	67	63	60	60	60	63	68	67	66	67	68	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

6/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	6F-01	6F-02	6F-03	6F-04	6F-05	6F-06	6F-07	6F-08	6F-09	6F-10	6F-11	6F-12	6F-13	6F-14	6F-15	6F-16	6F-17	6F-18	6F-19	6F-20	6F-21	6F-22	6F-23	6F-24	6F-25	6F-26	6F-27	6F-28	6F-29	6F-30
6/F	38.40	39.60	70	70	70	70	70	68	69	66	62	59	57	58	59	60	62	65	69	69	69	66	61	58	56	57	58	60	62	65	69	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	Floor Slab Level, mPD	NAP Level, mPD	6F-31	6F-32	6F-33	6F-34	6F-35	6F-36	6F-37	6F-38	6F-39	6F-40	6F-41	6F-42	6F-43	6F-44	6F-45	6F-46	6F-47	6F-48	6F-49	6F-50	6F-51	6F-52	6F-53	6F-54	6F-55	6F-56	6F-57	6F-58	6F-59	6F-60
6/F	38.40	39.60	69	65	60	57	56	56	57	60	62	65	69	69	70	70	69	70	68	69	69	65	62	62	62	65	70	70	67	68	69	69
Noise Criteria			70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

7/F

Floor	Floor Slab Level, mPD	NAP Level, mPD	7F-01	7F-02	7F-03	7F-04	7F-05	7F-06	7F-07	7F-08
7/F	41.90	43.10	60	60	65	69	70	70	70	70
Noise Criteria			70	70	70	70	70	70	70	70
Compliance			N	N	N	N	N	N	N	N

Note:

Adopted with Acoustic Window (Baffle Type) (Assume - 6 dB(A))

Adopted with Acoustic Balcony (Assume - 2dB(A))

[1] The assessment point is located at 1m in front of the most exposed part of an openable window for ventilation at a habitable room (NSRs) and 1.2m above the floor level of respective floors of the Proposed Development.

# APPENDIX 7.1 AERIAL PHOTOS OF THE PROJECT SITE

Year 1964



Aerial Photo No.: 1964-3979

The Project Site consisted of farmlands on the southwest, and village houses at the remaining parts.

Year 1974



Aerial Photo No.: 1974\_10352

The village house at the northwest of the Project Site was demolished and became greenery area.

No significant change was observed at the remaining parts of the Project Site.

**Aerial Photos of Project Site**

**Year 1979**



Aerial Photo No.: 1979\_26543

Building structure at the northeast portion of the Project Site was demolished.

No significant change was observed at the remaining parts of the Project Site.

**Aerial Photos of Project Site**

**Year 1984**



Aerial Photo No.: 1984\_55537

No significant change was observed at the Project Site.

**Aerial Photos of Project Site**

<b>Year 1990</b>	Aerial Photo No.: 1990_A21458
	<p>The farmland at the southwest of the Project Site was no longer observed.</p> <p>The greenery at the northwest of the Project Site was no longer observed.</p> <p>No significant change was observed at the remaining parts of the Project Site.</p>

**Aerial Photos of Project Site**

<p><b>Year 1995</b></p>	<p>Aerial Photo No.: 1995_CN13040</p>
	<p>No significant change was observed at the Project Site.</p>

Year 2000



Aerial Photo No.: 2000\_CN27937

Parking space is observed at the north portion of the Project Site, while covered storage area is observed at the south portion of Project Site.

**Aerial Photos of Project Site**

**Year 2005**



Aerial Photo No.: 2005\_CW64814

No significant change was observed at the Project Site.

**Aerial Photos of Project Site**

**Year 2009**



Aerial Photo No.: 2009\_CS25474

No significant change was observed at the Project Site.

**Aerial Photos of Project Site**

**Year 2015**



**Aerial Photo No.: 2015\_CW116572**

The Project Site is vacant except the village house. The covered structure at the south portion of Project Site is demolished.

**Aerial Photos of Project Site**

**Year 2020**



**Aerial Photo No.: 2020\_E095722C**

Most of the Project Site has been converted to parking spaces.

**Aerial Photos of Project Site**

**Year 2025**



Aerial Photo No.: 2025\_E257741C

No significant change was observed at the Project Site.

## **APPENDIX 7.2**

# **SITE WALKOVER PHOTOS**



Site Photos

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Site Photos

Photo 7



Photo 8



Photo 9



Photo 10



# APPENDIX 7.3 SITE WALKOVER CHECKLIST

# Site Walkover Checklist

Reference from Annex C1 Site Walkover Checklist of Practice Guide for Investigation and Remediation of Contaminated Land (EPD, 2011)

DATE 25 February 2026

## GENERAL SITE DETAILS

Site Owner/Client DeSPACE (International) Limited

Property Address 36 Fuk Hang Tsuen Road

## PERSON CONDUCTING THE QUESTIONNAIRE

Name Harmony CHUH

Position Senior Engineer

## AUTHORIZED OWNER/CLIENT REPRESENTATIVE (IF APPLICABLE)

Name Not Applicable

Position Not Applicable

Telephone Not Applicable

## SITE ACTIVITIES

Briefly describe activities carried out on site, including types of products/chemicals/materials handled.

- Not Applicable

Number of employees:	Full-time:	<u>Not Applicable</u>
	Part-time:	<u>Not Applicable</u>
	Temporary/Seasonal:	<u>Not Applicable</u>
Maximum no. of people on site at any time:		<u>Not Applicable</u>
Typical hours of operation:		<u>Not Applicable</u>
Number of shifts:		<u>Not Applicable</u>
Days per week:		<u>Not Applicable</u>
Weeks per year:		<u>Not Applicable</u>
Scheduled plant shut-down:		<u>Not Applicable</u>

Detail the main sources of energy at the site:

- Gas	<u>Yes/No</u>
- Electricity	<u>Yes/No</u>
- Coal	<u>Yes/No</u>
- Oil	<u>Yes/No</u>
- Other	<u>Yes/No</u>

## SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area:	<u>1,693m<sup>2</sup></u>
What area of the site is covered by buildings (%):	<u>7.50% (127m<sup>2</sup>)</u>
Please list all current and previous owners/occupiers if possible.	<u>Current: 智行停車場</u>
Is a site plan available? If yes, please attach.	<u>Yes/No</u>
Are there any other parties on site as tenants or sub-tenants?	<u>Yes/No</u>
If yes, identify those parties:	<u>Not Applicable</u>

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

- North, East, South:  
Mainly in low-rise residential use, where the majority of village houses of Fuk Hang Tsuen are found.
- West:  
Mainly in high-rise residential use, where the Botania Villa and GreenView are found.

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

- Flat Terrain with Paved Road

State the size and location of the nearest residential communities.

- Less than 10m away from the southern part of Site:
  - o Botania Villa – ~1160m<sup>2</sup>, 726 units
  - o GreenView – ~21,300m<sup>2</sup>, 32 units

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

- No

## QUESTIONNAIRE WITH EXISTING/PREVIOUS SITE OWNER OR OCCUPIER

No.	Question	Yes/No	Notes
1.	What are the main activities/operations at the above address?	-	Parking Spaces
2.	How long have you been occupying the site?	-	Not Provided
3.	Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy?)	No	
4.	Prior to your occupancy, who occupied the site?	-	Not Provided
5.	What were the main activities/operations during their occupancy?	-	Not Applicable

No.	Question	Yes/No	Notes
6.	Have there been any major changes in operations carried out at the site in the last 10 years?	No	
7.	Have any polluting activities been carried out in the vicinity of the site in the past?	No	
8.	To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	No	
9.	Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	No	
10	Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	No	
11.	Are any chemicals used in your daily operations? (If yes, please provide details.)	No	
	• Where do you store these chemicals?	-	Not Applicable
12.	Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	-	Not Applicable
13.	Has the facility produced a separate hazardous substance inventory?	No	
14.	Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No	
15.	How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	-	Not Applicable
16.	Do you have any underground storage tanks? (If yes, please provide details.)	No	
	• How many underground storage tanks do you have on site?	-	Not Applicable
	• What are the tanks constructed of?	-	Not Applicable
	• What are the contents of these tanks?	-	Not Applicable
	• Are the pipelines above or below ground?	-	Not Applicable
	• If the pipelines are below ground, has any leak and integrity testing been performed?	-	Not Applicable
	• Have there been any spills associated with these tanks?	-	Not Applicable
17.	Are there any disused underground storage tanks?	No	
18.	Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	No	
19.	How are the wastes disposed of?	-	No waste is generated for parking space.
20.	Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	No	
21.	Have any spills occurred on site? (If yes, please provide details.)	No	
	• When did the spill occur?	-	Not Applicable
	• What were the substances spilled?	-	Not Applicable
	• What was the quantity of material spilled?	-	Not Applicable

No.	Question	Yes/No	Notes
	<ul style="list-style-type: none"> <li>• Did you notify the relevant departments of the spill?</li> </ul>	-	Not Applicable
	<ul style="list-style-type: none"> <li>• What were the actions taken to clean up the spill?</li> </ul>	-	Not Applicable
	<ul style="list-style-type: none"> <li>• What were the areas affected?</li> </ul>	-	Not Applicable
22.	Do you have any records of major renovation of your site or rearrangement of underground utilities, pipe work/underground tanks (If yes, please provide details.)	No	
23.	Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	No	
24.	Are there any known contaminations on site? (If yes, please provide details.)	No	
25.	Has the site ever been remediated? (If yes, please provide details.)	No	

## OBSERVATIONS

No.	Question	Yes/No	Notes
1.	Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	-	No chemical storage area within the area.
2.	What are the conditions of the bund walls and floors?	-	No bund walls and floors within the area.
3.	Are any surface water drains located near to drum storage and unloading areas?	No	
4.	Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	No	
5.	Is there a storage site for the wastes?	No	
6.	Is there an on-site landfill?	No	
7.	Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8.	Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9.	Are there any potential off-site sources of contamination?	No	
10.	Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11.	Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12.	Any noticeable odours during site walkover?	No	
13.	Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	No	