Appendix 4

Environmental Assessment (EA)

PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE DISABILITIES (RCHD)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG WAI, YUEN LONG

ENVIRONMENTAL ASSESSMENT

20 May 2025

Report No.: RT25285-EA-02

Prepared By:



BeeXergy Consulting Limited (BXG)





Project:

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PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE DISABILITIES (RCHD)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG

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1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. The Project Proponent proposes to develop a 3-storey Residential Care Home for the Disabilities (RCHD in various lots in D.D. 104, Nam Sang Wai (hereafter called "the Proposed Development").
- 1.1.2. BeeXergy Consulting Limited was commissioned by DeSPACE (International) Limited (the Project Planner) to undertake an Environmental Assessment (EA) in support of its planning application under Section 16 of the Town Planning Ordinance (TPO) for the Proposed Development.

1.2. PROJECT LOCATION

1.2.1. The Project Site is approximately 1603m², currently bounded by abanoned fishponds to the north and west, Kam Pok Road East to the south. The Project Site is currently zoned as "Village Type Development" ("V") under the Approved Nam Sang Wai Outline Zoning Plan No. S/YL-NSW/10. Figure 1.1 shows the location of Project Site and its environs.

1.3. PROJECT DESCRIPTION

1.3.1. The Proposed Development will comprise one 3-storey building (excluding carpark) comprising RCHD dormitory and communal area. The key development parameters are summarised in **Table 1.1** and the Master Layout Plan is enclosed in **Appendix 1.1**.

Table 1.1 Key Development Parameters of the Proposed Development

No. of Storeys	3 storeys
Total Gross Floor Area (GFA)	Approx. 3,691.5m ²
Building Height	+21.00 mPD
Proposed Major Floor Use	LG/F: Carpark G/F to 2/F: Dormitory for RCHD(s), Communal Area
Tentative Population Intake Year	2030
Total No. of Beds	178



1.4. SCOPE OF THE ENVIRONMENTAL ASSESSMENT

- 1.4.1. This EA Report covers the following key issues arising from the construction and operation of the Proposed Scheme:
 - Air Quality Impact;
 - Noise Impact;

1.5. STRUCTURE OF THE REPORT

- 1.5.1. This EA Report includes the following sections:
 - Section 1 introduces the project background and outlines the scope of this EA;
 - Section 2 evaluates the air quality impact;
 - Section 3 presents the noise impact assessment;
 - Section 4 summarizes the findings of this EA study.



2. AIR QUALITY IMPACT

2.1. INTRODUCTION

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

2.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

- 2.2.1. The relevant legislation, standards and guidelines applicable to the present review of air quality impact include:
 - Air Pollution Control Ordinance (APCO) (Cap. 311);
 - Air Pollution Control (Smoke) Regulations (Cap. 311C);
 - Air Pollution Control (Fuel Restriction) Regulations (Cap. 311I);
 - Air Pollution Control (Construction Dust) Regulation (Cap. 311R);
 - Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (Cap. 311Z);
 - · Hong Kong Planning Standards and Guidelines (HKPSG); and
 - EPD's Guidelines on "Control of Oily Fume and Cooking Odour from Restaurants and Food Business".

Air Quality Objectives

2.2.2. The APCO provides a statutory framework for establishing the Air Quality Objectives (AQOs) and stipulating the anti-pollution requirements for air pollution sources. The AQOs stipulate concentration for a range of pollutants, which are summarized below in **Table 2.1**.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging Time	Concentration Limit ^[i] (µg/m³)	Number of Exceedances Allowed
Sulphur Diovido (SO ₂)	10-minute	500	3
Sulphur Dioxide (SO ₂)	24-hour	50	3
Respirable Suspended	24-hour	100	9
Particulates (PM ₁₀) [ii]	Annual	50	N/A
Fine Suspended	24-hour	50	35
Particulates (PM _{2.5}) [iii]	Annual	25	N/A



Pollutant	Averaging Time	Concentration Limit ^[i] (µg/m³)	Number of Exceedances Allowed
Nitrogon Diovido (NO.)	1-hour	200	18
Nitrogen Dioxide (NO ₂)	Annual	40	N/A
Ozone (O ₃)	8-hour	160	9
Carbon Monoxide	1-hour	30,000	0
(CO)	8-hour	10,000	0
Lead	Annual	0.5	N/A

Notes:

- [i] All measurements of the concentration of gaseous air pollutants, i.e., SO₂, NO₂, O₃ and CO, are to be adjusted to a reference temperature of 293 K and a reference pressure of 101.325 kPa.
- [ii] PM₁₀ means suspended particles in air with a nominal aerodynamic diameter of 10µm or less.
- [iii] PM_{2.5} means suspended particles in air with a nominal aerodynamic diameter of 2.5µm or less.

Hong Kong Planning Standards and Guidelines

- 2.2.3. Environmental requirements to be considered in land use planning are outlined in Chapter 9 of the HKPSG. The standards and guidelines provide recommendation on suitable locations for developments and sensitive users, provision of environmental facilities and design, layout, phasing and operational controls to minimize adverse environmental impacts. It also lists out environmental factors influencing the land use planning and recommends buffer distances for land uses.
- 2.2.4. Buffer distances on usage of open space site for active and passive recreational uses are also recommended. Evaluation of potential air quality impact on the Proposed Scheme due to the open road emissions and industrial emissions shall make reference to the guidelines as stipulated in the HKPSG. The buffer distance requirements in HKPSG are extracted below in **Table 2.2**.

Table 2.2 HKPSG Recommended Buffer Distance

Pollution Source	Parameter	Buffer Distance	Permitted Uses
	Type of Road		
	Trunk Road and Primary Distributor	> 20m	Active and Passive Recreational Uses
Roads and Highways		3 – 20m	Passive Recreational Uses
		< 3m	Amenity Areas
	District Distributor	> 10m	Active and Passive Recreational Uses



Pollution Source	Parameter	Buffer Distance	Permitted Uses	
	District Distributor	< 10m	Passive Recreational Uses	
Roads and	Local Distributor	> 5m	Active and Passive Recreational Uses	
Highways	Local Distributor	< 5m	Passive Recreational Uses	
	Under Flyover	N/A	Passive Recreational Uses	
	Difference in Height between Industrial Chimney Exit and the Site			
	< 20m	> 200m	Active and Passive Recreational Uses	
	20111	5 – 200m	Passive Recreational Uses	
Industrial Areas	20 – 30m ^(*)	> 100m	Active and Passive Recreational Uses	
	20 – 3011	5 – 100m	Passive Recreational Uses	
	30 – 40m	> 50m	Active and Passive Recreational Uses	
	30 – 4 0111	5 – 50m	Passive Recreational Uses	
	> 40m	> 10m	Active and Passive Recreational Uses	

Remarks:

- a) 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.
- b) 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.
- c) The guidelines are generally applicable to major industrial areas but not individual large industrial establishments which are likely to be significant air pollution sources. Consult EPD when planning open space sites close to such establishments.
- d) Amenity areas are permitted in any situation.

2.3. AIR SENSITIVE RECEIVERS

2.3.1. Representative air sensitive receivers (ASRs) within 500m assessment area have been identified based on topographic maps supplemented by site surveys, outline zoning plans and other published plans in the vicinity of the Project Site. Within the 500m assessment area, ASRs that are closest to the Project Site are anticipated to be the most affected and therefore considered the most representative ASRs for the worst-case scenario air quality impact assessment, whilst other ASRs located further away from these first-tier representative ASRs are expected to be less impacted. Details of the identified representative ASRs are summarized in Table 2.3 below and



their locations are shown in Figure 2.1.

Table 2.3 Representative Air Sensitive Receivers

ASR ID	Description	Use	Existing/ Planned	Approximate Shortest Distance from Project Site, m
A01	Merry Garden	Residential	Existing	90
A02	Meister House	Residential	Existing	256
A03	Man Yuen Chun	Residential	Existing	265
A04	Planned Residential Development	Residential	Planned	27

2.4. CONSTRUCTION PHASE IMPACT REVIEW

Impact Identification and Evaluation

- 2.4.1. Major construction activities include construction works for site set up, foundation, excavation, superstructure and fitting out, etc of the new building. Potential fugitive dust emission arising from these construction activities is anticipated.
- 2.4.2. With the implementation of appropriate dust control measures and the requirements as listed in the Air Pollution Control (Construction Dust) Regulation of APCO to minimise the dust impact, adverse fugitive dust impact is not anticipated during construction.

Recommended Mitigation Measures

- 2.4.3. To ensure that dust and gaseous emissions are minimized during the construction phase of the Project, relevant dust 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. The proposed suppression measures are listed below.
 - The designated haul road should be hard paved to minimize fugitive dust emission;
 - During the site formation works, the 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 minimize 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 10 kph except on completed access roads;
- The portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- 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;
- The working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet;
- Restricting height from which materials are to be dropped as far as practicable to minimize 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;

- Electric power supply shall be provided for on-site machinery as far as practicable;
- Regular maintenance of construction equipment deployed on-site should be conducted to minimize 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; and
- Regular site audit shall be conducted to ensure all the mitigation measures are properly implemented.
- 2.4.4. With the implementation of above mitigation measures, no adverse construction phase air quality impact is anticipated.

2.5. OPERATION PHASE IMPACT REVIEW

Impact Identification and Evaluation

Vehicular Emission

- 2.5.1. Vehicular emission from existing open roads is the potential air pollution source to the Proposed Scheme during operation phase.
- 2.5.2. The Application Site is bounded by Kam Pok Road East and is subject to the air quality impact associated with the vehicular emission from existing open roads. In order to comply with the buffer distance requirements as stipulated in the HKPSG, the air-sensitive uses at the Proposed Development have been positioned away from Kam Pok Road East. The required buffer distances from the surrounding road were summarized in Table 2.4 and illustrated in Figure 2.2. No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Table 2.4 Relevant Buffer Distance Requirements

Road Name	Road Type	Recommended Buffer Distance in HKPSG	Buffer Distance allowed for the Proposed Scheme
Kam Pok Road East	Local Distributor	5m	>5m

Note:

As advised by the Project's Traffic Consultant, Kam Pok Road East (from Castle Peak Road - Tam Mi to Kam Pok Road) is classified as a Local Distributor



As the required buffer distances between ASRs and the surrounding roads could be achieved, no adverse air quality impact associated with vehicular emission on the Proposed Scheme is anticipated.

Recommended Mitigation Measures

2.5.3. The setback distance between the building façades and the fresh air intakes/opened windows is recommended to be at least 5m away from Kam Pok Road East to satisfy the recommended buffer distance from the carriageway as per Chapter 9 of HKPSG

2.6. CONCLUSION

- 2.6.1. Fugitive dust emission is the major source of air pollution during the construction phase of the Project. Through proper implementation of dust control measures as required under the Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations, construction dust and gaseous emissions can be controlled at source to acceptable levels. Therefore, air quality impact during construction phase is not anticipated to be adverse.
- 2.6.2. The potential operation phase air quality impact due to vehicular emission from the surrounding roads and industrial chimney emission have been evaluated. Since the HKPSG buffer distance requirements could be complied, no adverse operation phase air quality impact on the Proposed Scheme is expected.



3. NOISE IMPACT

3.1. INTRODUCTION

3.1.1. The Project will have potential noise impacts during the construction and operation phases. During the construction phase, potential construction airborne noise impact may be generated due to the use of powered mechanical equipment (PME) for various construction works including site formation, foundation and superstructure. During the operation phase of the Project, noise due to building equipment will also have potential noise impacts to the NSRs nearby.

3.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

- 3.2.1. The relevant legislation, standards and guidelines applicable to the present 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);
 - Technical Memorandum on Noise from Construction Work Other Than Percussive Piling (GW-TM);
 - Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM);
 - Technical Memorandum on Noise from Percussive Piling (PP-TM);
 - Hong Kong Planning Standards and Guidelines (HKPSG);
 - Professional Persons Environmental Consultative Committee (ProPECC)
 Practice Note PN 1/24 "Minimizing Noise from Construction Activities";
 - Good Practices on Pumping System Noise Control; and
 - Good Practices on Ventilation System Noise Control



3.3. CONSTRUCTION PHASE IMPACT REVIEW

Noise Standards for Construction Works during Non-restricted Hours

3.3.1. There is no statutory control for noise arising from construction activities (except for percussive piling and the use of hand-held percussive breakers and air compressors) during non-restricted hours (i.e. 0700 to 1900 hours from Monday to Saturday, not including general holidays). However, ProPECC PN 1/24 provides the assessment criteria for construction works during non-restricted hours. The recommended daytime construction noise levels for uses rely on openable windows for ventilation are summarized in Table 3.1 below.

Table 3.1 Noise Standards for Construction Works during Non-restricted Hours

	•
Uses	L _{eq (30 mins)} , dB(A)
All domestic premises	75
Temporary housing accommodation	
Hostels	
Convalescences homes	
Homes for the aged	
Places of public worship	70
Courts of law	
Hospitals and medical clinics	
Educational institutions	70
(including kindergartens and nurseries)	(65 during examination)
	•

Note: The above standards apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.

Noise Standards for Construction Works during Restricted Hours

- 3.3.2. Noise impacts arising from construction activities (excluding percussive piling) conducted during the restricted hours (1900 to 0700 hours on any day and anytime on Sunday and general holiday) are governed by the NCO.
- 3.3.3. All the proposed construction works are expected to be carried out during non-restricted hours. In case of any construction activities during restricted hours, it is the Contractor's responsibility to ensure compliance with the NCO and the relevant technical memoranda. The Contractor will be required to submit a construction noise permit (CNP) application to the Noise Control Authority and abide by any conditions stated in the CNP, should one be issued. It should be noted that description made in this report does not guarantee that a CNP will be granted for the project construction. The Noise Control Authority would take into account the contemporary condition of adjoining land uses and other considerations when processing the CNP application



based on the NCO and relevant technical memoranda issued under the NCO. The findings in this report shall not bind the Noise Control Authority in making the decision.

Noise Standards for Percussive Piling

- 3.3.4. Noise impact arising from percussive piling at any time is also governed by the NCO. The noise criteria and the assessment procedures for issuing a CNP for percussive piling are specified in the PP-TM. Separate application to EPD for a CNP is required.
- 3.3.5. Should percussive piling be required, the requirements in the PP-TM shall be followed.

Impact Identification and Evaluation

- 3.3.6. The potential source of noise impact during the construction phase would be the use of PME for various construction activities. The key construction works would include:
 - Site clearance, including demolition of existing structures and tree removal;
 - Site formation;
 - · Foundation; and
 - Construction of superstructure.
- 3.3.7. No construction works will be carried out during restricted hours. Should restricted hours works or percussive piling work be required, the Contractor shall apply for a CNP and ensure full compliance with the NCO.

Recommended Mitigation Measures

- 3.3.8. Standard construction noise control measures such as adoption of quieter construction method, use of quality PME (QPME) with lower sound power level (SWL), use of movable noise barriers and noise enclosures to screen noise from PME, and implementation of good site practices to limit noise emissions at source are recommended.
- 3.3.9. Good site practices and noise management can further minimize the potential construction noise impact. The following good site practices are recommended for implementation during construction phase:
 - Contractor shall devise and execute working methods that will minimize the noise impact on the surrounding environment; and shall provide experienced personnel with suitable training to ensure these methods are properly implemented;
 - Noisy activities should be scheduled to minimize exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background



noise (such as during peak traffic hours);

- The Contractor should arrange construction activities with care so that concurrent construction activities are avoided as much as possible;
- Only well-maintained plant should be operated on-site and plant will be serviced regularly during the construction phase;
- Machines and plant that may be in intermittent use should be shut down between work periods or throttled down to a minimum;
- Silencers or mufflers on construction equipment should be utilized and properly maintained during the construction phase;
- Noisy equipment such as emergency generators shall always be sited as far away as possible from NSRs;
- Mobile plants should be sited as far away from NSRs as possible;
- Plant known to emit noise strongly in one direction should be orientated so that the noise is directed away from the nearby NSRs; and
- Material stockpiles and other structures should be effectively utilized in screening noise from on-site construction activities.

3.4. OPERATION PHASE

Noise Standards for Fixed Noise Impact Assessment

3.4.1. IND-TM stipulates the appropriate Acceptable Noise Level (ANL) for fixed noise sources. The ANL is dependent on the area sensitivity rating of a noise sensitive receivers (NSR), as defined in Table 1 of the IND-TM (reproduced in **Table 3.2**). The area sensitivity rating of a 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 and industrial areas.

Table 3.2 Area Sensitivity Ratings

Type of Area Containing NSP	Degree to which NSR is affected by IF			
Type of Area Containing NSR	Not Affected	Indirectly Affected	Directly Affected	
Rural area, including country parks or village type developments	Α	В	В	
Low density residential area consisting of low-rise or isolated high-rise developments	А	В	С	
Urban area	В	С	С	



Area other than those above	В	В	С	1
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3.4.2. The HKPSG also states that in order to plan for a better environment, 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 5 dB(A) below the appropriate ANL shown in Table 2 of IND-TM or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background. The ANLs stipulated in the IND-TM are provided in Table 3.3.

Table 3.3 Acceptable Noise Levels

Time Period	Area Sensitivity Rating			
Tille Period	Α	В	С	
Day (0700 to 1900 hours)	60	65	70	
Evening (1900 to 2300 hours)	60			
Night (2300 to 0700 hours)	50	55	60	

Noise Standards for Road Traffic Noise Impact Assessment

3.4.3. 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 3.4 summarizes the adopted road traffic noise criteria for noise sensitive uses with openable windows at the Proposed Scheme.

Table 3.4 Road Traffic Noise Criteria for Noise Sensitive Uses

Location	Use	L _{10 (1 hour)} , dB(A)
G/F – 2/F	RCHD Dormitory	70
1/F	Multi-Purpose Area	70

Notes:

[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.

Noise sensitive receivers

3.4.4. Existing NSRs and planned/committed noise sensitive uses identified on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board have been identified. The first layer of representative NSRs within the 300m assessment area are listed in Table 3.5 below



and their locations are illustrated in Figure 3.1.

Table 3.5 Representative Noise Sensitive Receivers

NSR ID	Description	Nature of Use	Existing/ Planned	Approximate Shortest Distance from Project Site, m
N01	Merry Garden	Residential	Existing	90
N02	Meister House	Residential	Existing	256
N03	Man Yuen Chun	Residential	Existing	265
N04	Planned Residential Development	Residential	Planned	27

Road Traffic Noise Impact on the Proposed Scheme

Impact Identification

3.4.5. The Project Site is bounded by Kam Pok Road East to the south, Castle Peak Road – Tam Mi and San Tin Highway to the east. The key noise impact during operation phase would be road traffic noise from the abovementioned roads and other local roads.

Noise Sensitive Uses

3.4.6. Noise assessment points have been provided for all 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 3.4**. The locations of all NSRs for road traffic noise impact assessment are shown in **Figures 3.2a** to **3.2c**.

Assessment Methodology

- 3.4.7. Thee road traffic noise impact from the existing and planned road network has been assessed within 300m assessment area on the future NSRs within 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(1hour)} 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 model in predicting the potential traffic noise impacts.
- 3.4.8. Traffic flow of the existing and planned roads within 300m assessment area have been forecasted by the traffic consultant of the Project. As stated in CRTN, the traffic flow used for assessment shall be the maximum traffic projection within 15 years upon occupancy of the development. The assessment has been undertaken based on the projected AM peak hourly traffic flows in Year 2045, which corresponds to the



maximum projected traffic conditions within 15 years upon occupancy of the Proposed Development, i.e. Year 2030. The traffic forecast data is 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.

<u>Predicted Road Traffic Noise Impact on the Proposed Development under Base Case</u> <u>Scenario</u>

3.4.9. Predicted peak hourly road traffic noise levels at all NSRs within the Proposed Development are summarized in **Table 3.6** below. Detailed breakdown of the road traffic noise impact assessment results under base case scenario are presented in **Appendix 3.2**.

Table 3.6 Summary of Predicted Road Traffic Noise Levels (Base Case Scenario)

Floor	Facility / Room	Noise Criteria, dB(A)	Predicted Maximum L _{10 (1 hour)} , dB(A)
G/F – 2/F	RCHD Dormitory	70	77
1/F	Multi-Purpose Area	70	76

- 3.4.10. In view of the predicted traffic noise level exceeded noise standard, mitigation measures are required to ensure the noise level would be comply with relevant noise standard.
- 3.4.11. With reference to "Practice Note on Application of INNOVATIVE NOISE MITIGATION DESIGNS in Planning Private Residential Developments against Road Traffic Noise Impact", the design of AW(BT) and corresponding noise reduction is shown in Appendix 3.3. The locations of the proposed acoustic window (baffle type) are shown in Figure 3.3.
- 3.4.12. The proposed reference cases can provide noise reduction from 6dB(A) to 7dB(A) based on their corresponding room size.
- 3.4.13. The assessment results revealed that all NSRs within the Proposed Development could comply with the respective noise criteria under the mitigated scenario. Hence, no adverse road traffic noise impact on the Proposed Development is anticipated and no road traffic noise mitigation measure is required.

Fixed Noise Impact from the Proposed Scheme

Impact Identification and Evaluation

- 3.4.14. According to the latest development scheme, potential fixed noise sources within the Proposed Scheme include the transformer room and E&M rooms. During the operation phase, potential fixed noise sources will be fully enclosed and located inside the building structure. Noise impact arising from fixed plants is expected to be minimal.
- 3.4.15. To ensure the fixed plant noise generated by the Proposed Scheme would not cause



- excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG.
- 3.4.16. 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 Scheme will not exceed the relevant noise criteria under the HKPSG and NCO.

Recommended Mitigation Measures

- 3.4.17. The following noise mitigation measures are recommended to control noise emissions from planned fixed plant noise sources within the Proposed Scheme:
 - All the noisy plants should be installed within plant room or with acoustic enclosure;
 - Proper selection of quiet plant aiming to reduce the tonality at NSRs;
 - Installation of silencer / acoustic enclosure / acoustic louvre for the exhaust of ventilation system;
 - Openings of ventilation systems should be located away from NSRs as far as practicable and oriented away from the NSRs;
 - Installation of absorptive noise barrier (with density of absorption material of 48kg/m³) for the aerator which would duly shield the engine and other noisy parts of the aerator as far as practicable, and;
 - Provide suitable at source noise control measures with reference to EPD's
 "Good Practices on Ventilation System Noise Control" and "Good Practices on
 Pumping System Noise Control" such as silencers and acoustic linings when
 necessary.

Fixed Noise Impact on the Proposed Development

Identification of Fixed Noise Sources

3.4.18. A number of existing fixed noise sources have been identified within 300m assessment area through desktop study and site visit conducted on 12 May 2025. Figure 3.3 indicates the locations of existing major fixed noise sources with details summarized in Table 3.7.

Table 3.7 Information of the Identified Fixed Noise Sources



Location	Source ID	Equipment	Approximate Shortest Horizontal Distance to the Project Site
Open Storage	S01	Fork Lift	103m
Open Storage	S02	Fork Lift	200m
Open Storage	S03	Fork Lift	244m

3.4.19. Given the large separation distance between the identified major fixed noise sources and the Project Site (i.e. approximately 100m or above) and no noticeable fixed noise was observed at the Project Site during site visit, no adverse fixed noise impact to the Proposed Development is expected.

3.5. CONCLUSION

Construction Phase

3.5.1. Evaluation on construction noise impact associated with different construction activities has been conducted. With the implementation of practical mitigation measures including good site management practices, use of quieter construction methods and equipment, and use of movable noise barriers and noise enclosures, the construction noise impact on the nearby NSRs would be minimized.

Operation Phase

- 3.5.2. Traffic noise impact has been identified and assessed based on the maximum traffic flow within 15 years upon commencement of operation of the Proposed Development. With the implementation of noise mitigation measures (i.e., Acoustic Windows (Baffle Type)), no adverse traffic noise impact is anticipated.
- 3.5.3. To ensure the fixed plant noise generated by the Proposed Scheme would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme 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, no adverse fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Scheme is expected.



4. CONCLUSION

- 4.1.1. The Project is to construct a 3-storey RCHD dormitory and communal area. This EA Report addressed the potential environmental issues arising from the construction and operation of the Proposed Scheme, which include the air quality and noise.
- 4.1.2. With the recommended environmental mitigation measures in place, no unacceptable environmental impact on or arising from the Proposed Scheme is anticipated.



FIGURE 1.1 LOCATION OF PROJECT SITE

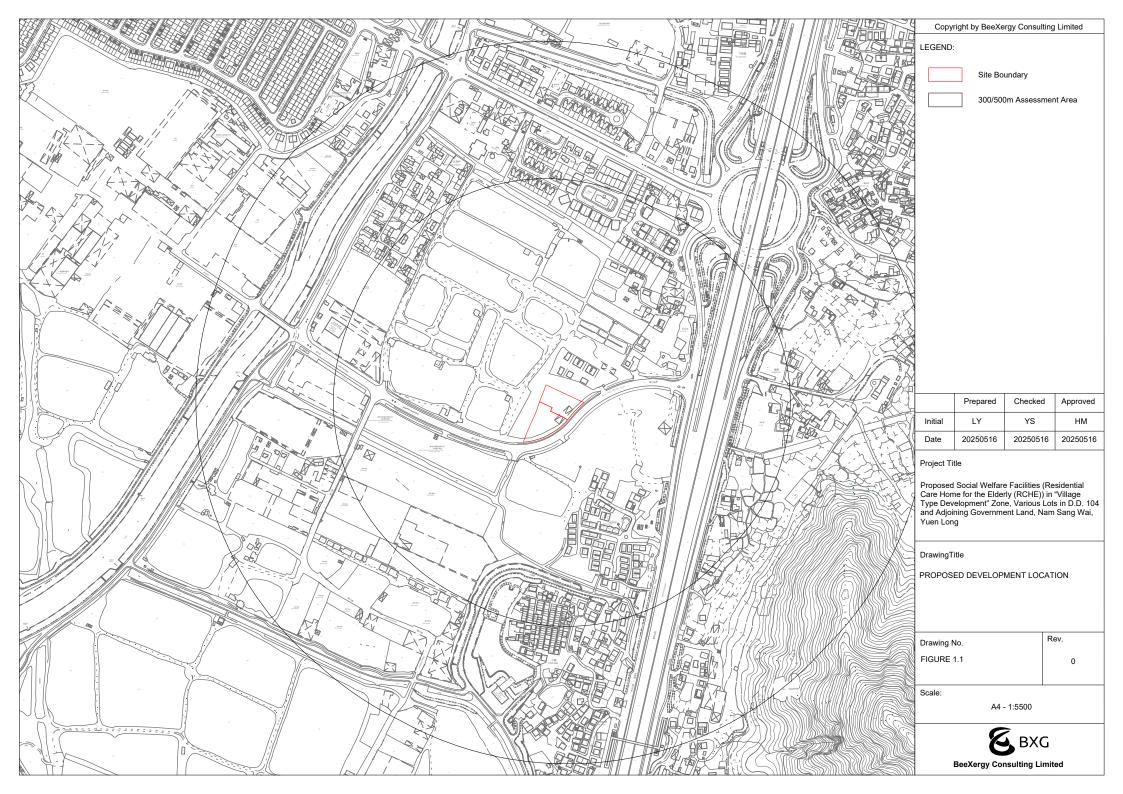




FIGURE 2.1 LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS

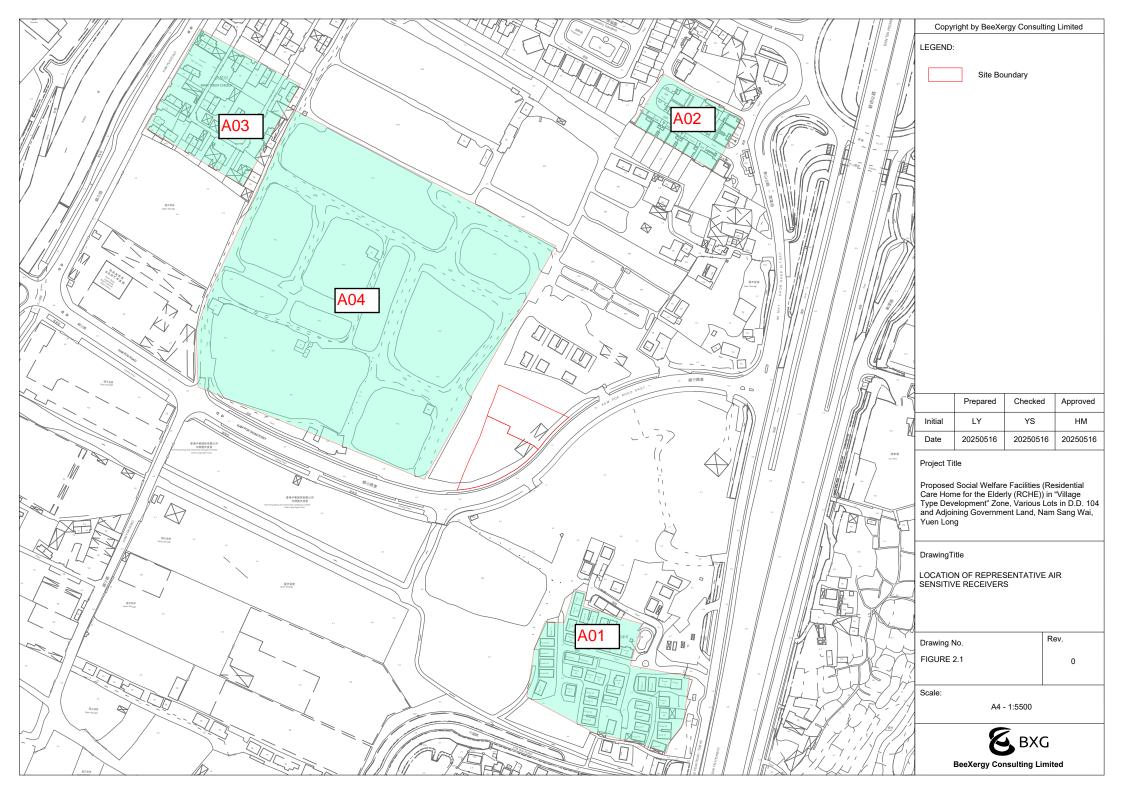




FIGURE 2.2 BUFFER DISTANCES

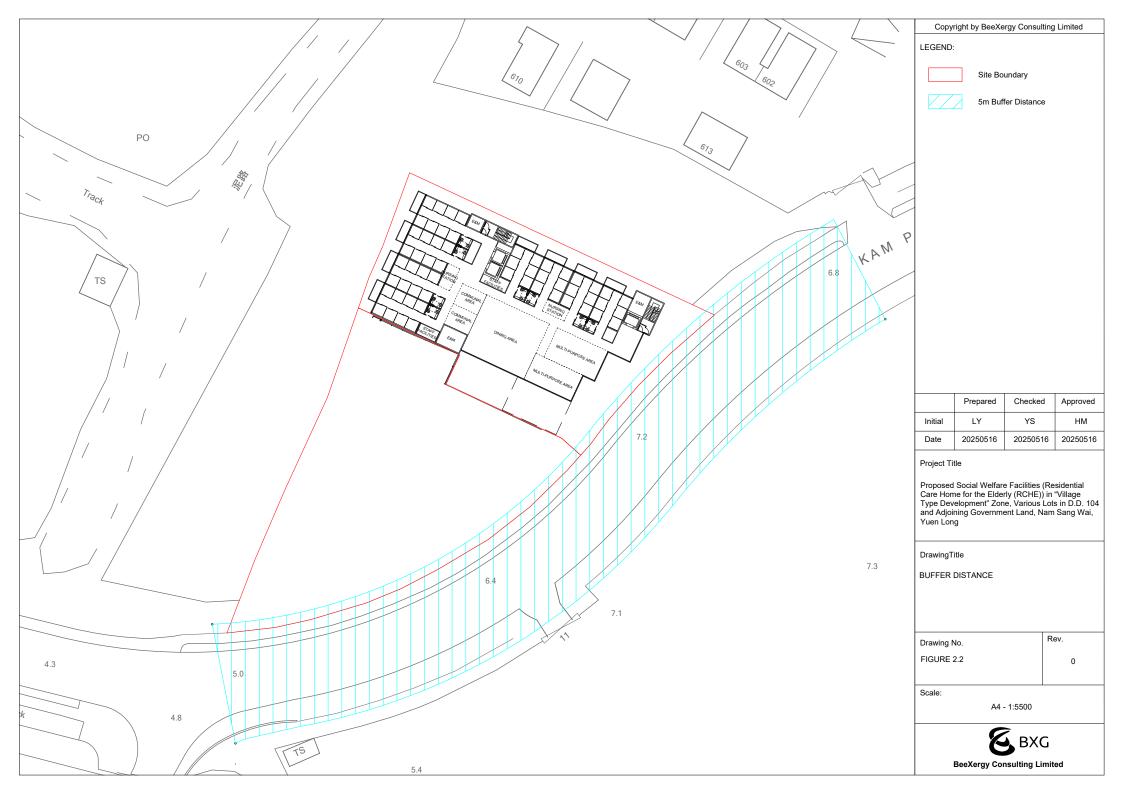




FIGURE 3.1 LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

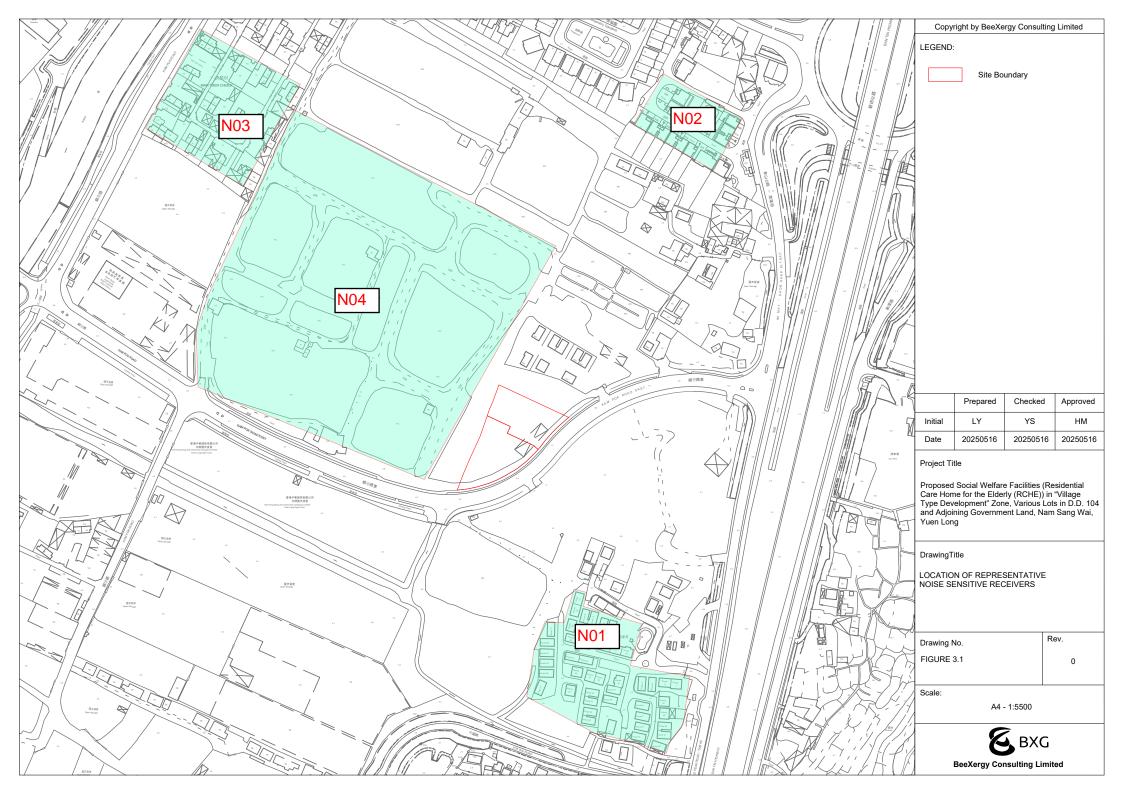
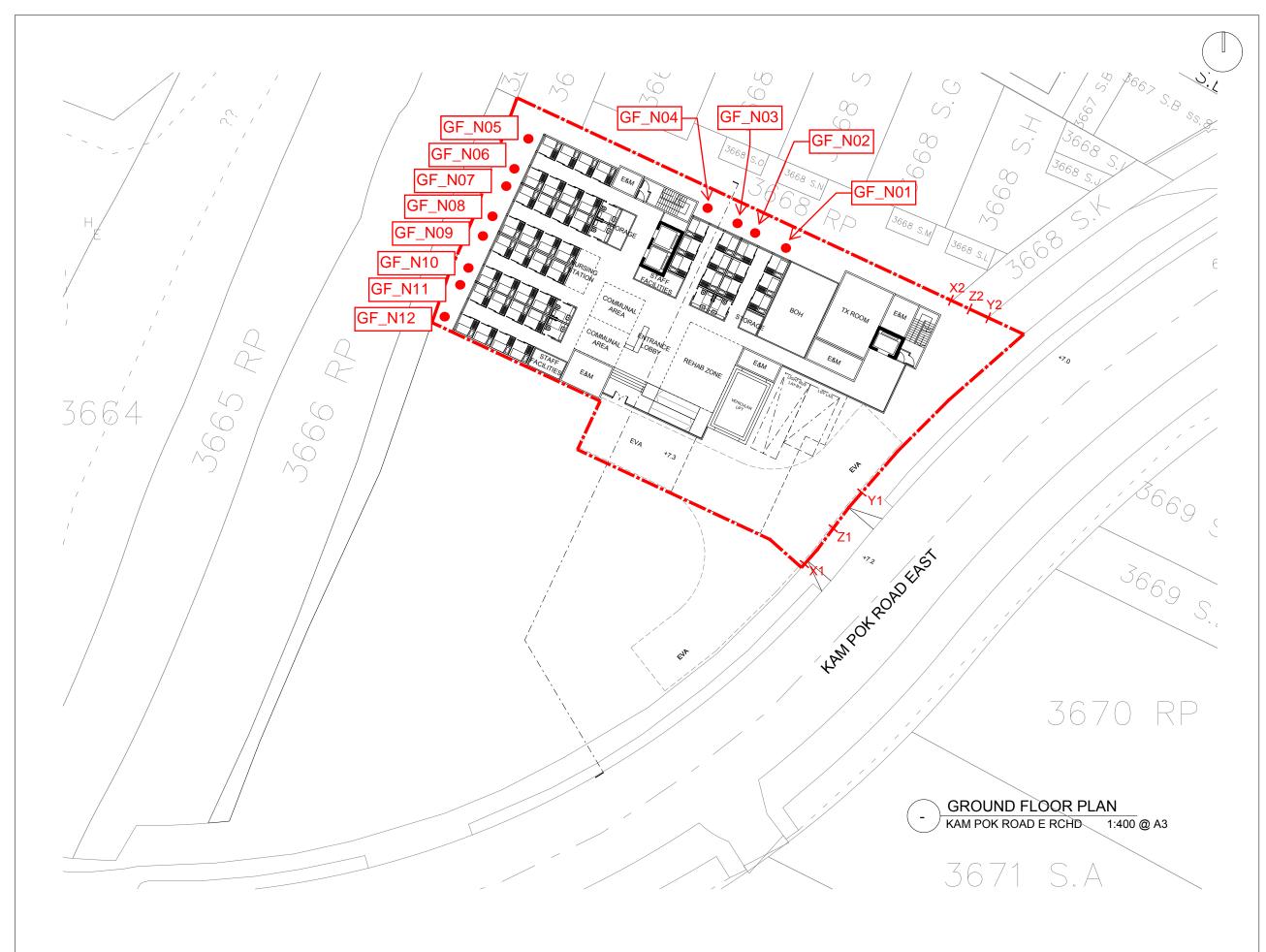


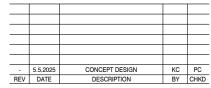


FIGURE 3.2 LOCATION OF REPRESENTATIVE TRAFFIC NOISE SENSITIVE RECEIVERS



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NOTES:



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PROJECT

: Proposed Social Welfare Facilities (Residential Care Home for Persons with Disabilities (RCHD)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

DRAWING : GROUND FLOOR PLAN

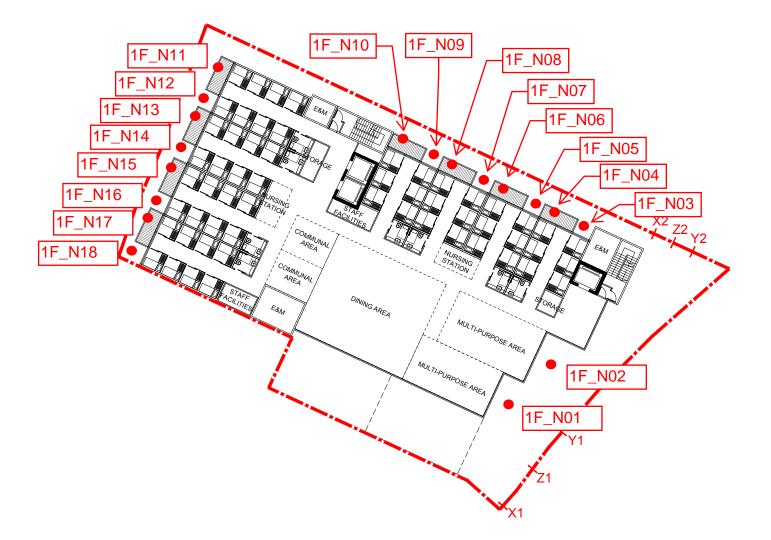
SCALE : 1:400 @A3 PROJECT NO: 25001_KPR Rev:

Date:

Drawing No. :

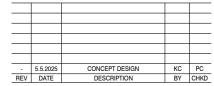
CP-A10MAY 2025





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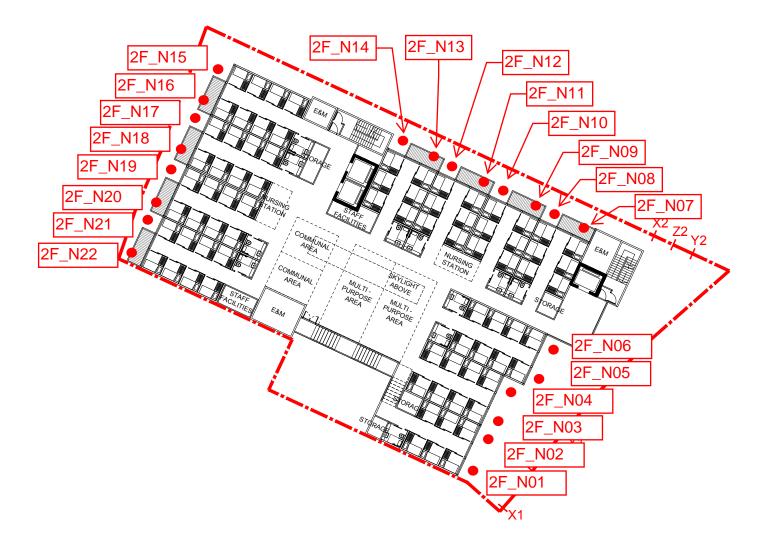
DRAWING : FIRST FLOOR PLAN

SCALE : 1: 400 @A3 PROJECT NO: 25001_KPR

Drawing No. : Date: CP-A10MAY 2025

Rev:

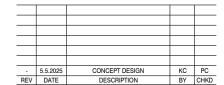




- 2ND FLOOR PLAN
- KAM POK ROAD E RCHD 1:400 @ A3

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DRAWING : SECOND FLOOR PLAN

SCALE : 1:400 @A3
PROJECT NO: 25001_KPR

Drawing No. :

Date:

CP-A10 MAY 2025

Rev:



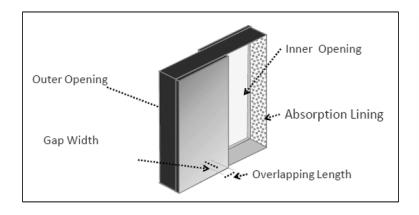
FIGURE 3.3 LOCATION OF PROPOSED ACOUSTIC WINDOW

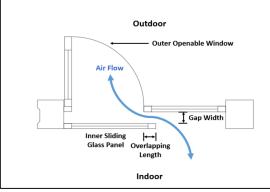
Proposed Types of Acoustic Window (Baffle Type)

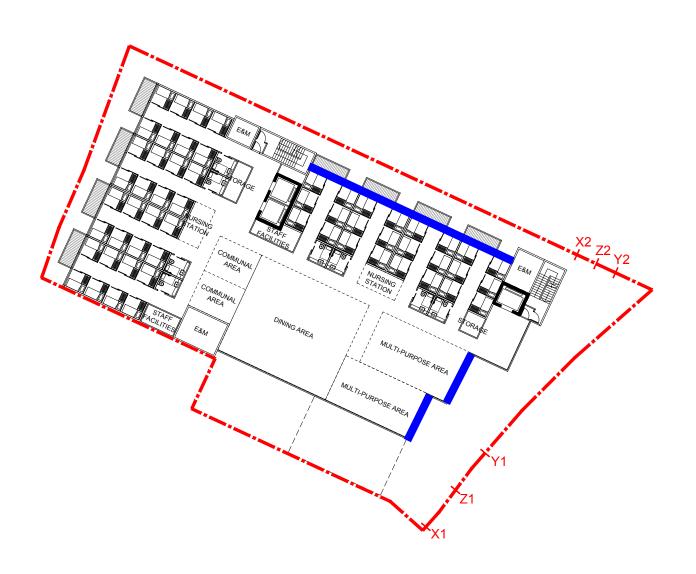
Type of AW(BT)	Reference Case	Room Area,	Noise Inner Windo Attenuation, mr				Outer Window Opening, mm		Window Pane Separation,	MPA ^[1] Applied?
		m ⁻	dB(A)	Height	Width	Height	Width	Length, mm	mm	
Type 1	EPD	8	6	870	580	870	600	100	100	No
Type 2	EPD	18	7	1500	750	1500	750	100	100	No

Notes:

[1] MPA: Micro-Perforated Absorber



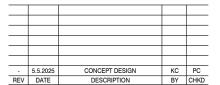




- 1ST FLOOR PLAN
KAM POK ROAD E RCHD 1:400 @ A3

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DRAWING : FIRST FLOOR PLAN

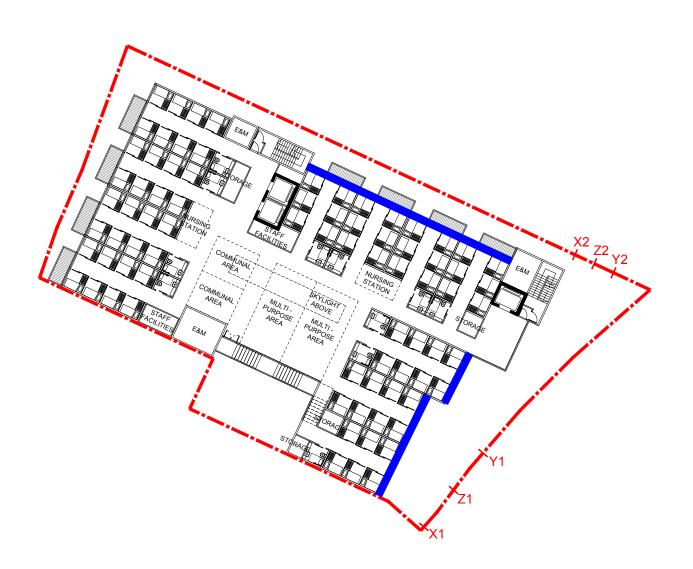
SCALE : 1:400 @A3 PROJECT NO: 25001_KPR

Drawing No. :

CP-A10May 2025

Rev:

Date:

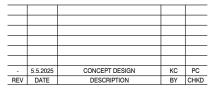


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Type 2 AW(BT)



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DRAWING : SECOND FLOOR PLAN

: 1: 400 @A3 SCALE PROJECT NO: 25001_KPR

Rev:

Date: Drawing No. :

CP-A10 DAY 2025



APPENDIX 1.1 INDICATIVE BUILDING PLAN



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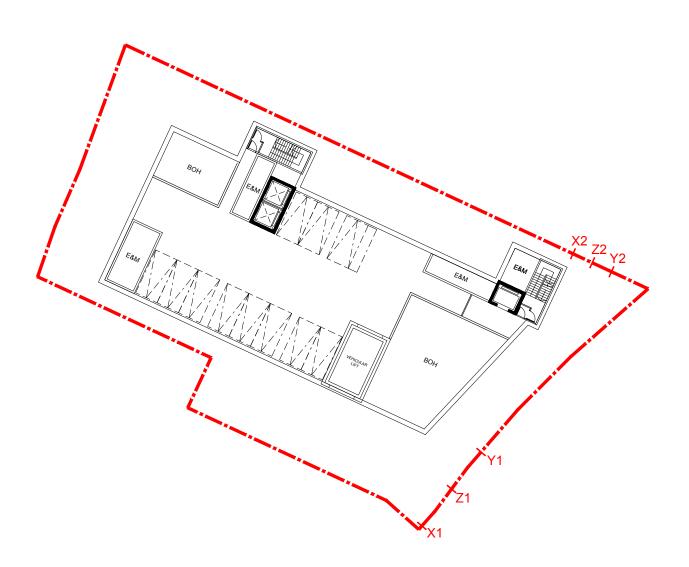
: Proposed Social Welfare Facilities (Residential Care Home for Persons with Disabilities (RCHD)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

: MASTER LAYOUT PLAN

: 1: 400 @A3 PROJECT NO: 25001_KPR Rev:

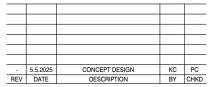
Date:

FIGURE 2 MAY 2025



BASEMENT FLOOR PLAN KAM POK ROAD E RCHD 1:400 @ A3 © 2025 SYN PLUS DESIGN LIMITED. All rights reserved.

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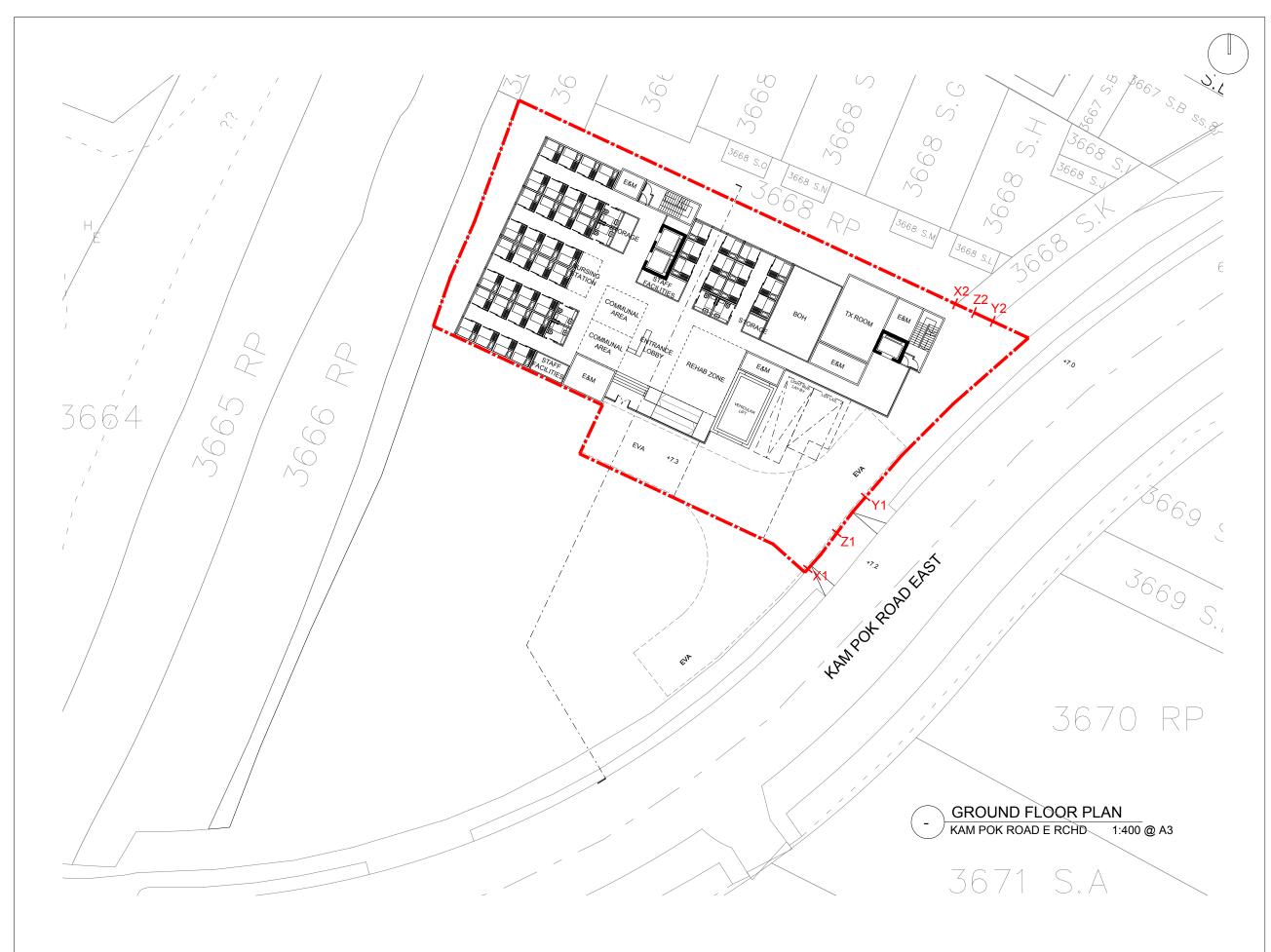
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: 1: 400 @A3 SCALE PROJECT NO: 25001_KPR

Date: Drawing No. :

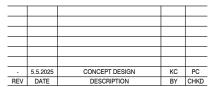
CP-A10224 2025

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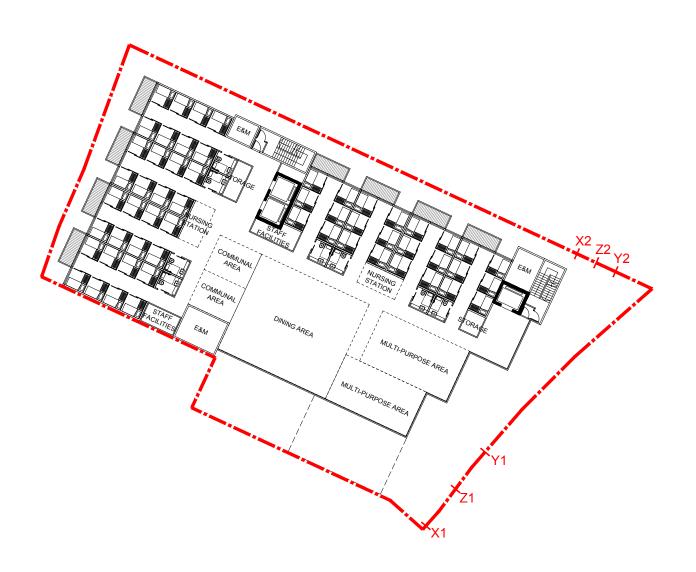
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SCALE : 1:400 @A3 PROJECT NO: 25001_KPR Rev:

Date:

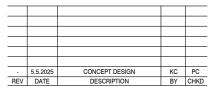
Drawing No. :

CP-A10MAY 2025



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DRAWING : FIRST FLOOR PLAN

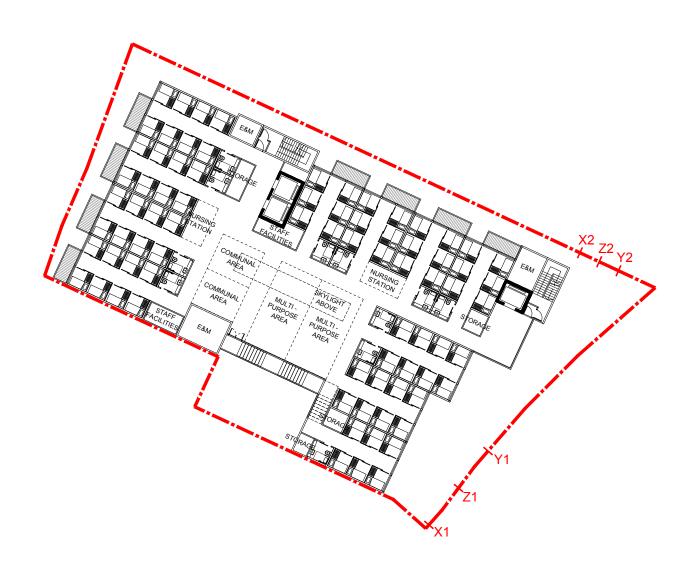
: 1: 400 @A3 SCALE PROJECT NO: 25001_KPR

Drawing No. :

CP-A10May 2025

Rev:

Date:



2ND FLOOR PLAN

KAM POK ROAD E RCHD 1:400 @ A3

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NOTES:

-	5.5.2025	CONCEPT DESIGN	KC	PC
REV	DATE	DESCRIPTION	BY	CHKD

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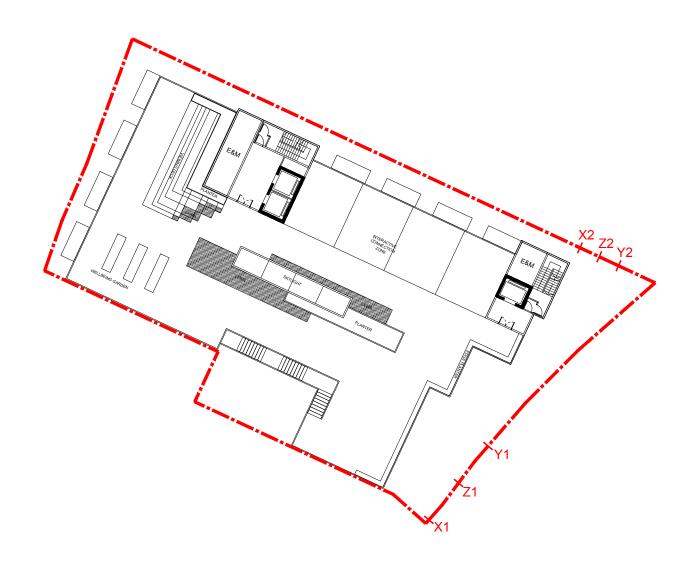
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SCALE : 1:400 @A3
PROJECT NO: 25001_KPR

Rev:

Drawing No. : Date:

CP-A105ay 2025

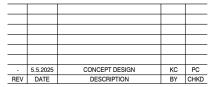


ROOF PLAN

KAM POK ROAD E RCHD 1:400 @ A3

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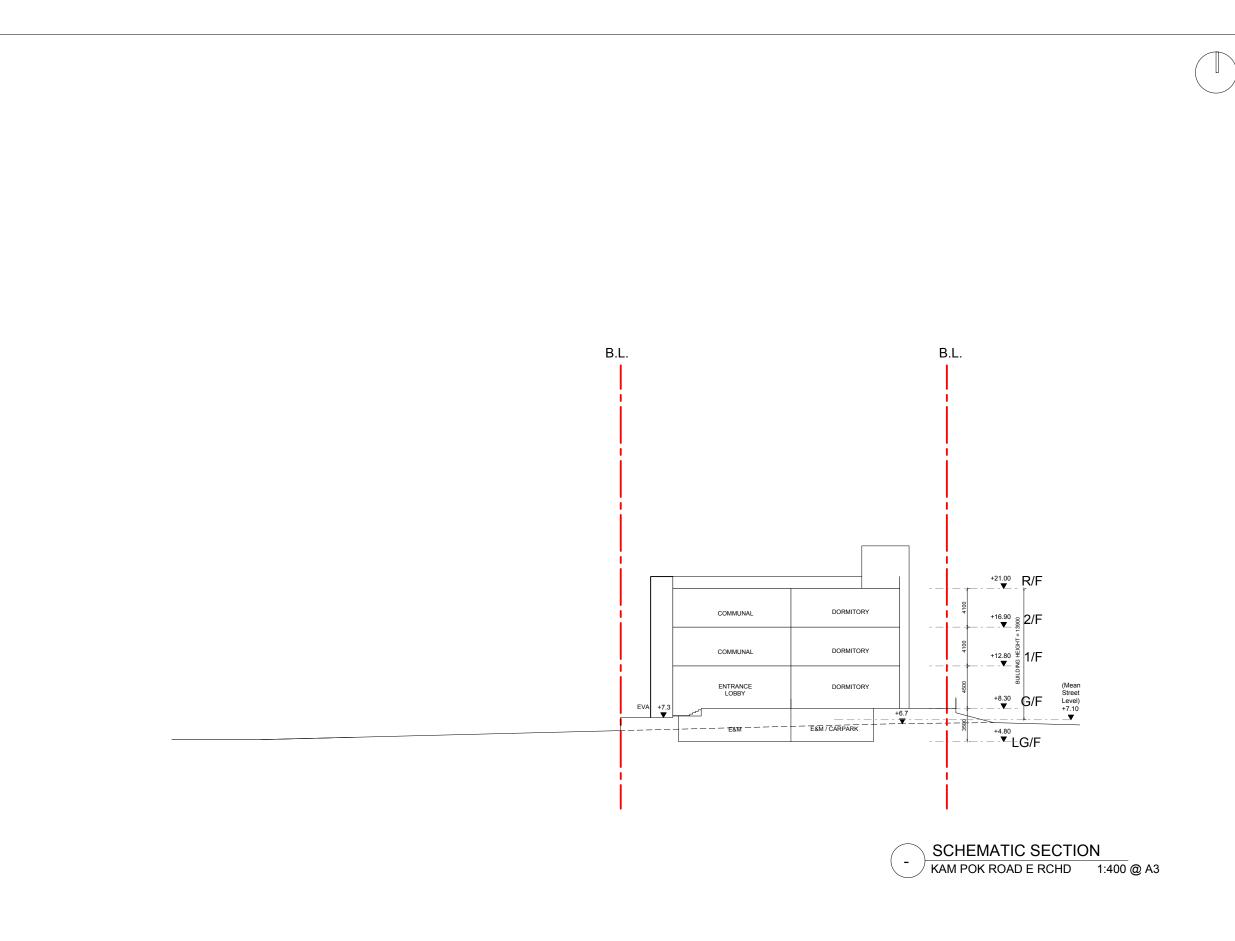
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PROJECT NO: 25001_KPR

Drawing No. :

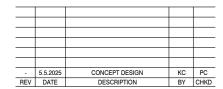
Rev:
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Date:

CP-A106AY 2025



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DRAWING : SCHEMATIC SECTION

SCALE : 1:400 @A3
PROJECT NO: 25001_KPR

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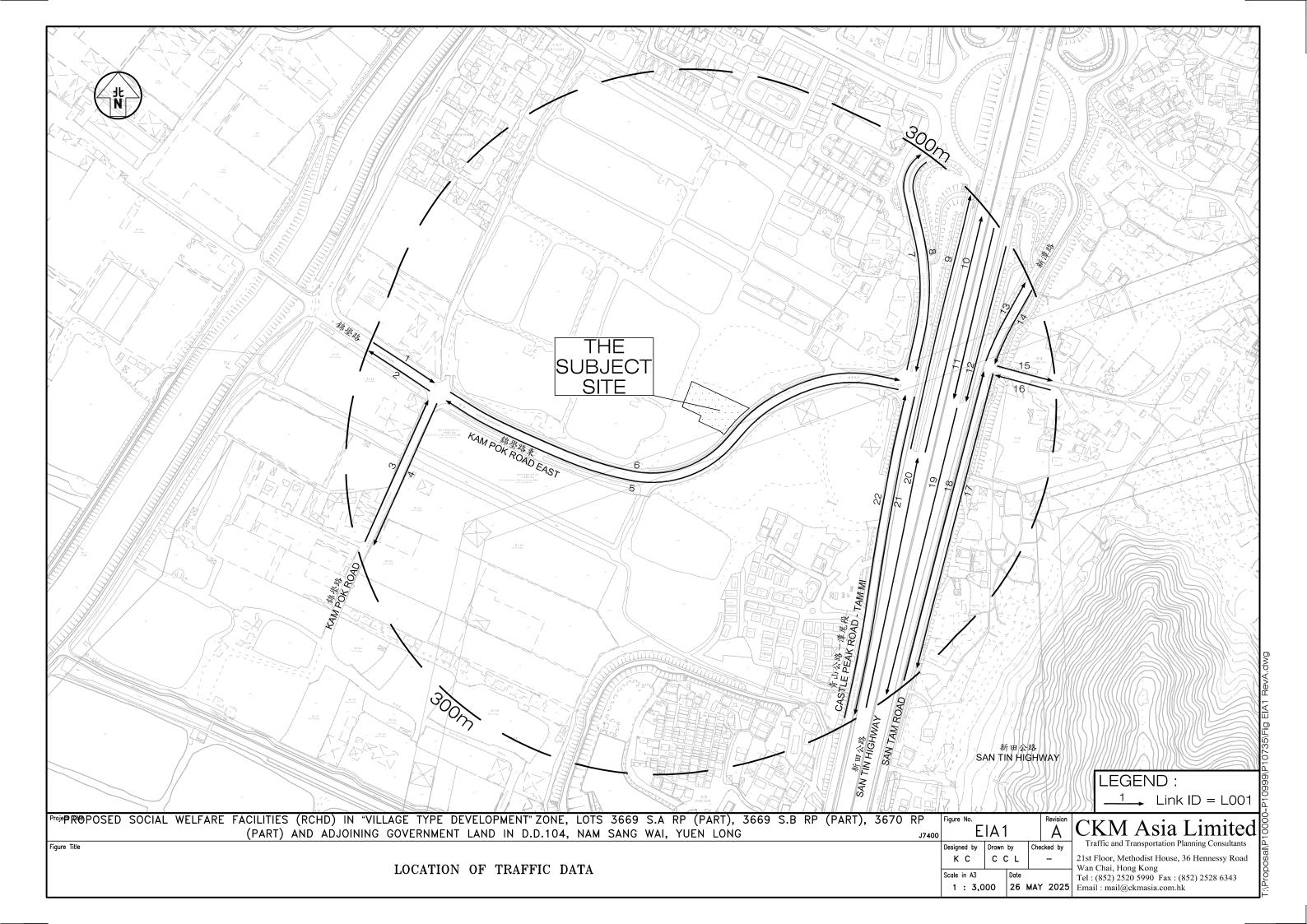
Rev:

Drawing No. : Date:

CP-A20May 2025



APPENDIX 3.1 TRAFFIC FORECAST DATA



YEAR 2045 TRAFFIC FORECAST

Date	: 23	May	2025	

Job No.:

J7400 & J7401

Link	Road	From	То	Speed	Road	AM Peak Hour		
ID	Section	Road	Road	Limit (kph)	Classification	Traffic	Veh	nicle
						Flows	Composition	
						(veh/hr)	LV	HV
L001	Kam Pok Road (EB)	Pok Wai South Road	Kam Pok Road East	50	LD	80	43%	57%
L002	Kam Pok Road (WB)	Kam Pok Road East	Pok Wai South Road	50	LD	130	42%	58%
L003	Kam Pok Road (NB)	Pok Wai West Road	Kam Pok Road East	50	LD	80	18%	82%
L004	Kam Pok Road (SB)	Kam Pok Road East	Pok Wai West Road	50	LD	70	48%	52%
L005	Kam Pok Road East (WB)	Castle Peak Road - Tam Mi	Kam Pok Road	50	LD	170	43%	57%
L006	Kam Pok Road East (EB)	Kam Pok Road	Castle Peak Road - Tam Mi	50	LD	140	27%	73%
L007	Castle Peak Road - Tam Mi (NB)	Kam Pok Road East	Fairview Park Interchange	50	RR	460	49%	51%
	Castle Peak Road - Tam Mi (SB)	Fairview Park Interchange	Kam Pok Road East	50	RR	290	51%	49%
L009	San Tin Highway (NB)	San Tin Highway	Fairview Park Interchange	50	DD	820	72%	28%
	San Tin Highway (NB)	San Tin Highway	San Tin Highway	100	PD	3,940	68%	32%
	San Tin Highway (SB)	San Tin Highway	San Tin Highway	100	PD	3,610	57%	43%
L012	San Tin Highway (SB)	Fairview Park Interchange	San Tin Highway	50	DD	1,130	75%	25%
	San Tam Road (NB)	Unnamed Road	Fairview Park Interchange	50	RR	340	62%	38%
	San Tam Road (SB)	Fairview Park Interchange	Unnamed Road	50	RR	700	68%	32%
L015	Unnamed Road (EB)	San Tam Road	Cul-de-sac	50	RR	10	75%	25%
	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	80%	20%
	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	68%	32%
	San Tam Road (NB)	Fung Kat Heung Road	Unnamed Road	50	RR	330	62%	38%
	San Tin Highway (SB)	San Tin Highway	Yuen Long Highway	100	PD	4,740	61%	39%
	San Tin Highway (NB)	Yuen Long Highway	San Tin Highway	100	PD	4,760	69%	31%
	Castle Peak Road - Tam Mi (SB)	Kam Pok Road East	Access Road to Merry Garden	50	RR	160	62%	38%
L022	Castle Peak Road - Tam Mi (NB)	Access Road to Merry Garden	Kam Pok Road East	50	RR	370	57%	43%

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

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

PD - Primary Distributor

DD – District Distributor

LD - Local Distributor

RR - Rural Road

YEAR 2045 TRAFFIC FORECAST

Job No.:

J7400 & J7401

Link	Road	From	То	Speed	Road	PM Peak Hour		
ID	Section	Road	Road	Limit (kph)	Classification	Traffic	Vehicle	
				,		Flows	Composition	
						(veh/hr)	LV	HV
L001	Kam Pok Road (EB)	Pok Wai South Road	Kam Pok Road East	50	LD	120	40%	60%
L002	Kam Pok Road (WB)	Kam Pok Road East	Pok Wai South Road	50	LD	100	39%	61%
L003	Kam Pok Road (NB)	Pok Wai West Road	Kam Pok Road East	50	LD	70	43%	57%
L004	Kam Pok Road (SB)	Kam Pok Road East	Pok Wai West Road	50	LD	70	20%	80%
L005	Kam Pok Road East (WB)	Castle Peak Road - Tam Mi	Kam Pok Road	50	LD	150	33%	67%
L006	Kam Pok Road East (EB)	Kam Pok Road	Castle Peak Road - Tam Mi	50	LD	170	42%	58%
L007	Castle Peak Road - Tam Mi (NB)	Kam Pok Road East	Fairview Park Interchange	50	RR	450	56%	44%
L008	Castle Peak Road - Tam Mi (SB)	Fairview Park Interchange	Kam Pok Road East	50	RR	270	51%	49%
L009	San Tin Highway (NB)	San Tin Highway	Fairview Park Interchange	50	DD	880	73%	27%
L010	San Tin Highway (NB)	San Tin Highway	San Tin Highway	100	PD	3,750	71%	29%
L011	San Tin Highway (SB)	San Tin Highway	San Tin Highway	100	PD	3,900	68%	32%
L012	San Tin Highway (SB)	Fairview Park Interchange	San Tin Highway	50	DD	680	76%	24%
	San Tam Road (NB)	Unnamed Road	Fairview Park Interchange	50	RR	330	67%	33%
L014	San Tam Road (SB)	Fairview Park Interchange	Unnamed Road	50	RR	700	66%	34%
L015	Unnamed Road (EB)	San Tam Road	Cul-de-sac	50	RR	10	100%	0%
	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	100%	0%
	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	66%	34%
	San Tam Road (NB)	Fung Kat Heung Road	Unnamed Road	50	RR	330	67%	33%
L019	San Tin Highway (SB)	San Tin Highway	Yuen Long Highway	100	PD	4,570	69%	31%
L020	San Tin Highway (NB)	Yuen Long Highway	San Tin Highway	100	PD	4,630	71%	29%
L021	Castle Peak Road - Tam Mi (SB)	Kam Pok Road East	Access Road to Merry Garden	50	RR	160	62%	38%
L022	Castle Peak Road - Tam Mi (NB)	Access Road to Merry Garden	Kam Pok Road East	50	RR	340	59%	41%

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

[&]quot;HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bu

PD - Primary Distributor

DD – District Distributor

LD - Local Distributor

RR - Rural Road



APPENDIX 3.2 TRAFFIC NOISE IMPACT ASSESSMENT RESULTS

Predicted Road Traffic Noise Levels for 2045 (Mitigated Case Scenario)

Floor	NAP ID	Description	Floor Height, mPD	Assessment Height,	Noise Criteria,	Unmitigated Noise Level, L _{10 (1 hour)} , dB(A)	Proposed Noise	Estimated Noise	Mitigated Noise Level,	Compliance
			MPD	mPD	dB(A)	AM	Mitigation Measures	Attenuation, dB(A)	L _{10 (1 hour)} , dB(A)	
	GF_N01	RCHD Dormitory			70	70	N/A	N/A	70	Yes
	GF_N02	RCHD Dormitory			70	70	N/A	N/A	70	Yes
	GF_N03	RCHD Dormitory			70	70	N/A	N/A	70	Yes
	GF_N04	RCHD Dormitory			70	70	N/A	N/A	70	Yes
	GF_N05	RCHD Dormitory			70	66	N/A	N/A	66	Yes
G/F	GF_N06	RCHD Dormitory	+8.30	+9.5	70	63	N/A	N/A	63	Yes
۵,۱	GF_N07	RCHD Dormitory	10.30	13.3	70	63	N/A	N/A	63	Yes
	GF_N08	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	GF_N09	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	GF_N10	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	GF_N11	RCHD Dormitory			70	64	N/A	N/A	64	Yes
	GF_N12	RCHD Dormitory			70	65	N/A	N/A	65	Yes
	1F_N01	Multi-prupose Room			70	76	Type 2	7	69	Yes
	1F_N02	Multi-prupose Room			70	76	Type 2	7	69	Yes
	1F_N03	RCHD Dormitory			70	70	N/A	N/A	70	Yes
	1F_N04	RCHD Dormitory			70	72	Type 2	7	65	Yes
	1F_N05	RCHD Dormitory		+14.0	70	72	Type 2	7	65	Yes
	1F_N06	RCHD Dormitory			70	72	Type 2	7	65	Yes
	1F_N07	RCHD Dormitory			70	72	Type 2	7	65	Yes
	1F_N08	RCHD Dormitory			70	71	Type 2	7	64	Yes
1/F	1F_N09	RCHD Dormitory	+12.80		70	71	Type 2	7	64	Yes
1/1	1F_N10	RCHD Dormitory	+12.00		70	71	Type 2	7	64	Yes
	1F_N11	RCHD Dormitory			70	67	N/A	N/A	67	Yes
	1F_N12	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	1F_N13	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	1F_N14	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	1F_N15	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	1F_N16	RCHD Dormitory			70	64	N/A	N/A	64	Yes
	1F_N17	RCHD Dormitory			70	64	N/A	N/A	64	Yes
	1F_N18	RCHD Dormitory			70	65	N/A	N/A	65	Yes
	2F_N01	RCHE Dormitory			70	78	Type 2 (w/absorptive	8	70	Yes
	2F_N02	RCHE Dormitory			70	78	material)	8	70	Yes
	2F_N03	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F_N04	RCHE Dormitory			70	76	Type 2	7	69	Yes
	2F_N05	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F_N06	RCHE Dormitory			70	75	Type 2	7	68	Yes
	2F_N07	RCHE Dormitory			70	71	Type 2	7	64	Yes
	2F_N08	RCHE Dormitory			70	73	Type 2	7	66	Yes
	2F_N09	RCHE Dormitory			70	73	Type 2	7	66	Yes
[2F_N10	RCHE Dormitory			70	73	Type 2	7	66	Yes
2/F	2F_N11	RCHE Dormitory	+16.90	+18.1	70	72	Type 2	7	65	Yes
2/1	2F_N12	RCHE Dormitory	+10.50	10.1	70	72	Type 2	7	65	Yes
[2F_N13	RCHE Dormitory			70	72	Type 2	7	65	Yes
	2F_N14	RCHE Dormitory			70	72	Type 2	7	65	Yes
[2F_N15	RCHE Dormitory			70	67	N/A	7	67	Yes
	2F_N16	RCHE Dormitory			70	64	N/A	7	64	Yes
	2F_N17	RCHE Dormitory			70	64	N/A	7	64	Yes
	2F_N18	RCHE Dormitory			70	64	N/A	7	64	Yes
	2F_N19	RCHE Dormitory			70	64	N/A	7	64	Yes
	2F_N20	RCHE Dormitory			70	64	N/A	7	64	Yes
	2F_N21	RCHE Dormitory			70	64	N/A	7	64	Yes
l i	2F N22	RCHE Dormitory		ļ	70	65	N/A	7	65	Yes

Results Summary							
Total No. of NAPs	52						
Total No. of NAPs with exceedance	0						
Compliance Rate	1009/						

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