



DeSPACE (International) Limited

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Appendix Ic of RNTPC
Paper No. A/YL-NSW/348B

Date: 9th July 2025

Pages: 1 + Attachments

Secretary, Town Planning Board
15/F, North Point Government Offices
333 Java Road, North Point, Hong Kong

BY HAND & BY EMAIL

Dear Sir/Madam,

**SECTION 16 APPLICATION
TOWN PLANNING ORDINANCE (CHAPTER 131)**

**PROPOSED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR PERSONS WITH
DISABILITIES) IN "VILLAGE TYPE DEVELOPMENT" ZONE ON APPROVED NAM SANG WAI
OUTLINE ZONING PLAN NO. S/YL-NSW/10 AT LOTS 3669 S.A RP (PART), 3669 S.B RP (PART),
3670 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG**

Town Planning Application No. A/YL-NSW/348 - Submission of Further Information (1)

References are made to the email dated 27th June 2025 and 4th July 2025 from the Planning Department in relation to technical comments from various departments.

In order to address the comments, please find attached 4 hard copies of the response-to-comment (R to C) table with the updated Environmental Assessment and Sewerage Impact Assessment at **Appendix 1** and **Appendix 2**, respectively. Photomontages of the Proposal in its surrounding context from different vantage points are also attached at **Appendix 3**.

Should you have any queries, please feel free to contact Mr. Jeffrey Kwok or Ms. Samantha Ng at [REDACTED]

Yours faithfully,
FOR AND ON BEHALF OF
DeSPACE (INTERNATIONAL) LIMITED

Greg Lam



**Proposed Social Welfare Facility (Residential Care Home For Persons With Disabilities) In “Village Type Development” Zone on Approved Nam Sang Wai Outline Zoning Plan No. S/YL-NSW/10 at Lots 3669 S.A RP (Part), 3669 S.B RP (Part), 3670 RP (Part) and adjoining government land in D.D.104, Nam Sang Wai, Yuen Long
(Planning Application No. A/YL-NSW/348)**

Departmental Comments	Response
<u>Email dated 27th June 2025 refers:</u> <u>Social Welfare Department</u>	
1. Please advise to state clearly targeted services of its proposed RCHDs to be operated;	Regarding the targeted services of the proposed RCHD, it is intended to offer comprehensive care for both physically and mentally handicapped individuals, with a flexible range of services to address their diverse needs. The facility of the proposed RCHD will be operated in accordance with the standards of high-level nursing care services, and its design has been developed with this objective in mind to ensure optimal service delivery.
2. The applicant/operator shall ensure that the design and construction as well as facilities of the proposed RCHD shall comply with all relevant licensing and statutory requirements including but not limited to (i) Residential Care Homes (Persons with Disabilities) Ordinance (Cap. 613) [Ordinance]; (ii) Residential Care Homes (Persons with Disabilities) Regulation (Cap.613A); and (iii) Code of Practice for Residential Care Homes (Persons with Disabilities). In consideration of the RCHD licence application, the applicant/operator is required to submit a copy of the occupation permit/certificate on completion of building works to the Licensing Office of Residential Care Homes for Persons with Disabilities of the Social Welfare Department;	Noted with thanks.
3. The applicant/operator shall ensure that the use of the subject location/premises for the operation of an RCHD complies with relevant planning and land lease conditions;	Noted with thanks.
4. The proposed RCHD shall incur no financial implication, both capital and recurrent, on the Government	Noted with thanks.
5. There is no guarantee and commitment that residential care places of any RCHD, including the proposed RCHD, would be purchased by SWD under Bought Place Scheme.	Noted with thanks.
6. The intended RCHD has to comply with the licensing requirements as stipulated in the Residential Care Homes (Persons with Disabilities) Ordinance (Cap. 613), its subsidiary legislation and the latest version of Code of Practice for Residential Care Homes (Persons with Disabilities)	Noted with thanks.

7. Given the proximity of the proposed RCHD to several high-end private residential properties, from a district perspective, please clarify on the exact clientele that the proposed RCHD will serve and whether initial support from the stakeholders in the vicinity has been sought.	Regarding the clientele, the proposed RCHD is intended to serve both physically and mentally handicapped individuals. We have conducted a public consultation during the statutory form planning procedure and notified nearby residents to gather their feedback, and are pleased to confirm that we have received their support for the proposed RCHD.
Email dated 27th June 2025 refers: Environmental Protection Department (Comments on the EA and SIA)	
<u>General</u>	
1. S.1.2.1 - The site area is inconsistent with that provided in the planning statement. Please check.	The site area is corrected.
2. Please highlight all the changes/amendments in the next submission.	Noted.
<u>Air Quality (Please refer to Appendix 1 for the revised EA)</u>	
1. Section 2.2.2 and Table 2.1 - The AQOs were updated on 11 April 2025. Please revise Table 2.1 to present the updated AQOs.	The table is updated accordingly.
2. Section 2.2.4 a. Please delete “active and passive” in line 1. b. Please revise “open road” in line 3 to “vehicular”.	The section is revised accordingly. The section is revised accordingly.
3. Section 2.3.1, Table 2.3 and Figure 2.1 - Please note that not only the domestic premises are the ASRs, some places/premises such as factory and workshop may also be the ASRs. Based on the desktop review, there are some areas in the vicinity of the project site which have been used for workshops/open storage, etc. Please review the potential existing/planned ASRs within the assessment area with reference to the Determination of ASR under the EIAO-TM and update as appropriate.	More ASRs have been identified in Table 2.3 and Figure 2.1. For other areas mainly for open storage use where long duration of exposure to air pollutants is not expected are, therefore, not considered as ASR.
5. Section 2.4.2 a. Please revise “dust” in line 1 to “air quality”. b. Please revise “minimise the dust impact” in line 3 to “control the air pollutant emissions”, and revise “fugitive dust” to “air quality”.	The section is revised accordingly. The section is revised accordingly.
6. Section 2.4.3 a. Please revise “minimized” in line 1 to “controlled”. b. Please revise “dust” in line 2 to “air quality”. c. Please revise “suppression” in line 5 to “control”.	The section is revised accordingly. The section is revised accordingly. The section is revised accordingly.
7. Section 2.5.2 and Table 2.4 b. Please delete “of mechanical ventilation” in the 2nd last line, and revise “area” in the last line to “space”.	The section is revised accordingly.
10. Section 2.6.1 a. Please add “and gaseous” after “Fugitive dust” in line 1. b. Please revise “dust” in line 2 to “air quality”. c. Please delete “at source to acceptable levels” in the 2nd last line, and add “adverse” before “air”. d. Please delete “to be adverse” in the last line.	The section is revised accordingly. The section is revised accordingly. The section is revised accordingly. The section is revised accordingly.

12. Figure 2.2 a. The buffer distance should be measured from the edge of road kerb. Please update and present the buffer zone appropriately. b. Please show the road name of Kam Pok Road East clearly in the figure. c. Please add a remark "No air-sensitive use including openable window, fresh air intake and recreational use in open space shall be located within the buffer zone".	Figure 2.2 is revised accordingly.
<u>Sewerage (Please refer to Appendix 2 for the revised SIA)</u>	
1. Section 2.2.2 - Please supplement with information of the public sewerage system identified along Kam Pok Road East e.g. alignment, pipe details etc. that is proposed to be utilized for discharging the sewage flow from the application site.	Section 2.2.2 is updated accordingly.
2. Appendix B – The hydraulic assessment should take into consideration the existing and planned developments utilizing the proposed sewerage network. Please revise.	Appendix B is updated accordingly.
3. Figure 3 – Please indicate the pipes and manholes to be provided under the application and by others.	Figure 3 is updated accordingly.
4. Please provide the population intake year.	The population intake year is provided in Section 1.3.1.
<u>Email dated 4th July 2025 refers:</u> <u>Drainage Services Department (Comments on the SIA)</u> <u>(Please refer to Appendix 2 for the revised SIA)</u>	
1. Para. 2.2.1 - Please check if the Figure 2 including existing sewerage record;	Figure 2 is supplemented.
2. Para. 2.2.2 - Please review "coube";	The typo is revised.
3. Para. 2.2.2 - Please review "termination" should read "terminal";	The typo is revised.
4. Para. 3.1.2 - Please clearly show the existing sewerage system on drawings for reference;	The existing sewerage system is indicated in Figure 3.
5. Please advise who will implement and maintain the proposed sewerage system/facilities. Please discuss in the report text and prepare a drawing for comment; and	Figure 3 is updated to include liability of implementation and maintenance. Detailed discussion refer to Para 2.2.2 and 2.2.3.
6. Figure 3 - Please indicate all cover levels. Please note that the cover level(s) of terminal manhole(s) should be higher than that of the downstream public manhole(s). Please include the above in report text and drawing remark.	The cover levels has included in Figure 3. Report text is provided in Para.2.2.3.
<u>Email dated 27th June 2025 refers:</u> <u>Architectural Services Department</u>	
Please provide photomontages of the proposal in its surrounding context from different vantage points.	The proposal in its surrounding context could be seen from 2 different vantage points as demonstrated by the photomontages attached in Appendix 3.

Appendix 1

Revised Environmental Assessment (EA)

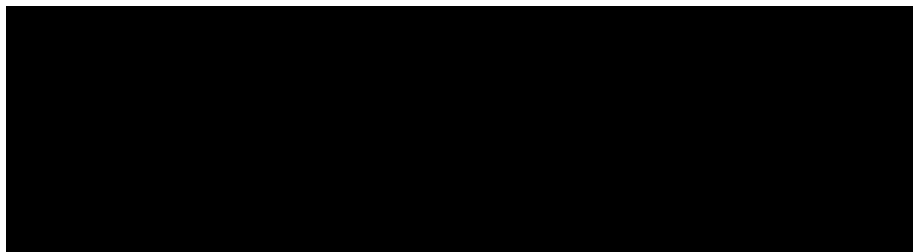
PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE DISABILITIES (RCHD)) IN “VILLAGE TYPE DEVELOPMENT” ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG WAI, YUEN LONG

ENVIRONMENTAL ASSESSMENT

08 Jul 2025

Report No.: RT25285-EA-02A

Prepared By:



Project:	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				
Report No.:	RT25285-EA-02A				
Revision	Issue Date	Description	Author	Checker	Approver
0	20/05/2025	Issued for Comment	LY	YS	HM
A	08/07/2025	Issued for Comment	LY	YS	HM

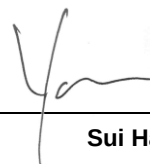
Prepared By:



Leo Yu

Consultant

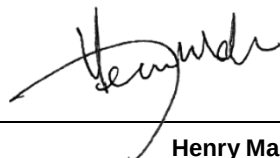
Checked by



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer:

- This report is prepared and submitted by BeeXergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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APPENDICES

Appendix 1.1	Indicative Building Plan
Appendix 3.1	Traffic Forecast Data
Appendix 3.2	Traffic Noise Impact Assessment Results
Appendix 6.1	Enquiries to Governmental Authority

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 1605m², currently bounded by abandoned 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	208

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;
- Water Quality Impact;
- Waste Management; and
- Land Contamination;

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 evaluates the water quality impact;
- Section 5 evaluates the waste management implications;
- Section 6 presents the land contamination review; and
- Section 7 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] ($\mu\text{g}/\text{m}^3$)	Number of Exceedances Allowed
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	40	3
Respirable Suspended Particulates (PM_{10}) ^[ii]	24-hour	75	9
	Annual	30	N/A
Fine Suspended Particulates ($\text{PM}_{2.5}$) ^[iii]	24-hour	37.5	18
	Annual	15	N/A

Pollutant	Averaging Time	Concentration Limit ^[i] (µg/m ³)	Number of Exceedances Allowed
Nitrogen Dioxide (NO ₂)	1-hour	200	18
	24-hour	120	9
	Annual	40	N/A
Ozone (O ₃)	8-hour	160	9
	Peak season	100	N/A
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Lead	Annual	0.5	N/A
Notes: [i] All measurements of the concentration of gaseous air pollutants, i.e., SO ₂ , NO ₂ , O ₃ and CO, are to be adjusted to a reference temperature of 293 K and a reference pressure of 101.325 kPa. [ii] PM ₁₀ 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 recreational uses are also recommended. Evaluation of potential air quality impact on the Proposed Scheme due to the open vehicular 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
Roads and Highways	Type of Road		
		> 20m	Active and Passive Recreational Uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
	Trunk Road and Primary Distributor	3 – 20m	Passive Recreational Uses
		< 3m	Amenity Areas
	District Distributor	> 10m	Active and Passive Recreational Uses
Roads and Highways	District Distributor	< 10m	Passive Recreational Uses
	Local Distributor	> 5m	Active and Passive Recreational Uses
		< 5m	Passive Recreational Uses
	Under Flyover	N/A	Passive Recreational Uses
Industrial Areas	<i>Difference in Height between Industrial Chimney Exit and the Site</i>		
	< 20m	> 200m	Active and Passive Recreational Uses
		5 – 200m	Passive Recreational Uses
	20 – 30m (*)	> 100m	Active and Passive Recreational Uses
		5 – 100m	Passive Recreational Uses
	30 – 40m	> 50m	Active and Passive Recreational Uses
		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
A05	JAC Auto Repair Shop	Workshop	Existing	249
A06	FUSO Fairview Park Service Center	Workshop	Existing	239
A07	Hung Kee Metal Recycling Int'l Ltd.	Workshop	Existing	154
A08	Dorfield Ltd.	Workshop	Existing	206

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 **air quality** control measures and the requirements as listed in the Air Pollution Control (Construction Dust) Regulation of APCO to **control the air pollutant emissions**, adverse **air quality** impact is not anticipated during construction.

Recommended Mitigation Measures

- 2.4.3. To ensure that dust and gaseous emissions are **controlled** during the construction phase of the Project, 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. The proposed **control** 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 and recreational uses in the open space, 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 and gaseous emission is the major source of air pollution during the construction phase of the Project. Through proper implementation of air quality 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. Therefore, adverse air quality impact during construction phase is not anticipated.
- 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 Temporary housing accommodation Hostels Convalescences homes Homes for the aged	75
Places of public worship Courts of law Hospitals and medical clinics	70
Educational institutions (including kindergartens and nurseries)	70 (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 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
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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		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
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. The 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 $L_{10(1\text{hour})}$ 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 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.

Predicted Road Traffic Noise Impact on the Proposed Development under Base Case Scenario

- 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/m^3) 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. WATER QUALITY IMPACT

4.1. INTRODUCTION

4.1.1. This section identifies the potential water quality impact that could arise from the Project during its construction and operation phases. It also recommends the corresponding measures to pre-empt and mitigate potential impacts as necessary.

4.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

4.2.1. The relevant legislation, standards and guidelines applicable to the present environmental review of water quality impacts include:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Water Pollution Control (General) Regulations (Cap. 358D);
- Water Pollution Control (Sewerage) Regulation (Cap. 358AL);
- Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN 1/23 “Drainage Plans subject to Comment by the Environmental Protection Department – Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations”; and
- Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN 2/23 “Construction Site Drainage”.

4.2.2. Under the WPCO, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary water control zones. 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 of the WCZ based on their beneficial uses. The Project Site falls within the Deep Bay WCZ and the respective WQOs shall be followed.

4.3. WATER SENSITIVE RECEIVERS

4.3.1. The assessment area for water quality is defined by a distance of 500m from the Project Site boundary. Water sensitive receiver (WSR) located within 500m assessment area is listed in **Table 4.1** and its location is shown in **Figure 4.1**.

Table 4.1 Water Sensitive Receiver

WSR ID	Description
W01	Kam Tin River

4.4. CONSTRUCTION PHASE IMPACT REVIEW

Impact Identification and Evaluation

- 4.4.1. The major water quality concerns during the construction phase shall be the on-site runoff from dust suppression activities and rainfall, sewage effluent from construction workforce, and chemical spillage. The key pollutants would be suspended solids from surface runoff and other pollutants would include fuel and lubricant oil from the construction vehicles and powered mechanical equipment (PME) on-site.
- 4.4.2. The Contractor is required to apply discharge license for the discharge of effluent from the construction site under the WPCO and all discharges during the construction should comply with the TM-DSS issued under the WPCO.
- 4.4.3. During the construction of the Project, the workforce on-site will generate sewage effluents, which are characterized by high levels of Biochemical Oxygen Demand (BOD), ammonia and *E. coli* counts. Potential water quality impacts upon the local drainage and freshwater system may arise from these sewage effluents, if uncontrolled. The construction sewage should be handled by interim sewage treatment facilities, such as portable chemical toilets. Appropriate number of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. Provided that sewage is not discharged directly into the storm drains or watercourses adjacent to the construction site, and temporary sanitary facilities are used and properly maintained, it is unlikely that sewage generated from the Project Site would have a significant water quality impact.
- 4.4.4. A large variety of chemicals may be used during construction activities. These may include petroleum products, surplus adhesives, spent lubrication oil, grease and mineral oil, spent acid and alkaline solutions/solvent and other chemicals. The use of these chemicals and their storage as waste materials has the potential to create impacts on the water quality of adjacent watercourses or storm drains if spillage occurs. Waste oil may infiltrate into the surface soil layer, or runoff into local watercourses, increasing hydrocarbon levels. The potential impact could however be mitigated by practical mitigation measures and good site practices as given in the Waste Disposal Ordinance (Cap. 354), its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

Recommended Mitigation Measures

- 4.4.5. To mitigate the water quality impact during construction phase, construction practices outlined in the ProPECC PN 2/23, where applicable, shall be implemented. Typical relevant wastewater control measures include:
- Surface runoff from construction sites should be discharged into storm water

drains via adequately designed sand/silt removal facilities such as sand traps, silt traps, sedimentation tanks and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept surface 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 site formation works and 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 minimize soil excavation works in rainy seasons (generally from April to September). If soil excavation works could not 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), and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of excavation) to prevent surface 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 works or surface protection works 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;
- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar impermeable fabric during rainstorms. Measures should be taken to prevent washing away 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 surface runoff from getting into foul sewers. Discharge of surface runoff into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;
- Wastewater generated from the washing down of mixer trucks and drum mixers and similar equipment should wherever practicable be recycled. The discharge

of wastewater should be kept to a minimum;

- All vehicles and plants 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 water drains. The section of construction road between the wheel washing bay and the public road should be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains;
- Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand, etc. from entering public sewers/drains;
- Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the storm water drainage system;
- Sewage from toilets, kitchens and similar facilities should be discharged into a foul sewer. If there is no foul sewer in the vicinity, chemical toilets, a septic tank and soakaway system will have to be provided as appropriate;
- Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to the foul sewer via petrol interceptor(s). Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance (Cap. 354);
- Sufficient number of chemical toilets shall be provided by a licensed contractor and properly maintained; and
- The construction solid waste, debris and rubbish on-site should be collected, handled and disposed of properly to avoid causing any water quality impacts.

4.4.6. By adopting the above mitigation measures with best management practices, the impacts arisen during the construction phase would be reduced to an acceptable level and adverse water quality impacts would not be anticipated.

4.5. OPERATION PHASE IMPACT REVIEW

Impact Identification and Evaluation

4.5.1. During operation phase, stormwater runoff from paved surfaces within the Project Site would be directed to a managed stormwater drainage system following the requirements in the ProPECC PN 1/23. Runoff from the roofs of buildings and road surfaces within the Project Site may carry suspended solids and other pollutants such

as fuel, oils and heavy metals that could enter nearby surface water bodies or storm drains if uncontrolled. With implementation of stormwater best management practices including provision of trapped gullies and catchpits, adverse impact to the water quality is not anticipated.

4.5.2. Effluent discharge from the kitchen within the Proposed Development during operation phase is also governed by the WPCO. All restaurants and food processing factories are required to install grease traps so that greasy materials will be separated from wastewater before passing to communal sewers. The operator shall ensure that the grease traps are properly designed, constructed and maintained so as to effectively remove greasy materials from wastewater before discharge to the sewerage system. Materials removed from a grease trap shall be handled and disposed of properly in order to maintain kitchen hygiene and protect Hong Kong's environment. "Grease Traps for Restaurants and Food Processors" published by the EPD detailed the requirements of such discharge.

4.5.3. Sewage discharge would be the major water pollution source throughout the operation phase of the Proposed Development. Sewage generated from the Proposed Development would be collected and conveyed to the nearest public sewerage system, which is the Nam Sang Wai Sewage Pumping Station and Yuen Long Sewage Treatment Works, via proper connections. No sewage will be released to the environment without treatment.

Recommended Mitigation Measures

4.5.4. The following mitigation measures are recommended to avoid causing any water quality impacts during the operation phase:

- Grease traps should be properly designed and constructed so as to effectively remove greasy materials from the kitchen wastewater before discharge to the sewerage system;
- Grease traps should be properly maintained so that it can continue to function as an effective grease removal device; and
- Materials removed from a grease trap should be handled and disposed of properly.

5. WASTE MANAGEMENT

5.1. INTRODUCTION

5.1.1. This section aims to assess the potential environmental impacts that may be resulted from the waste generation during the construction and operation of the Proposed Development. Options of reuse, minimization, recycling, treatment, storage, collection, transport and disposal of such wastes were examined. Where appropriate, procedures for waste reduction and management were considered, with environmental control measures to avoid or to minimize the impacts.

5.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

5.2.1. The Waste Disposal Ordinance (WDO) (Cap. 354) prohibits unauthorized disposal of wastes, with waste defined as any substance that is abandoned. All wastes should be properly stored and disposed in accordance with relevant waste management regulations and guidelines listed below:

- Waste Disposal Ordinance (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O);
- Land (Miscellaneous Provisions) Ordinance (Cap. 28);
- Public Health and Municipal Services Ordinance (Cap. 132);
- Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK);
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; and
- Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers.

5.3. CONSTRUCTION PHASE IMPACT REVIEW

5.3.1. The construction activities to be carried out for the Proposed Development would result in the generation of a variety of wastes (i.e. construction and demolition (C&D) materials, chemical waste and general refuse). These C&D materials and wastes if not properly stored, handled and disposed of would give rise to environmental impacts, such as dust, odour, water quality and visual impacts.

5.3.2. Waste disposal during the construction phase would follow the trip ticket system and

comply with legislation requirements including:

- Application for a billing account in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N); and
- Registration as a Chemical Waste Producer and storage/disposal of chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C).

Construction and Demolition Materials

5.3.3. C&D materials would be generated from the demolition and construction activities. All C&D materials generated shall be sorted into inert (i.e. excavated soil, rock, broken concrete) and non-inert C&D materials (i.e. vegetation, wood, plastics, packaging materials, etc). Inert C&D material reused on-site shall be encouraged to minimize material volumes requiring off-site transport. On-site reuse opportunities for inert materials will be identified prior to delivery to public fill reception facilities. Non-inert C&D materials should be reused or recycled, and landfill disposal should be considered as the last resort for waste handling. Outlets for each of the identified construction waste are summarized in below **Table 5.1**.

Table 5.1 Government Waste Facilities for Construction Waste

Government Waste Facilities	Type of Construction Waste Accepted
Public fill reception facilities	Consisting entirely of inert C&D materials ^(a)
Sorting facilities	Containing more than 50% by weight inert C&D materials ^(a)
Landfills ^(b)	Containing not more than 50% by weight of inert C&D materials ^(a)
Outlying Islands Transfer Facilities ^(b)	Containing any percentage of inert C&D materials ^(a)
Notes:	
(a) Inert C&D materials means rock, rubble, boulder, earth, soil, sand, concrete, asphalt, brick, tile, masonry or used bentonite.	
(b) If a load of waste contains construction waste and other wastes, that load will be regarded as consisting entirely of construction waste for the purpose of calculating the applicable charge.	

Chemical Waste

5.3.4. The maintenance and servicing of the construction plants and vehicles may generate a small amount of chemical waste, such as cleaning fluids, solvents, lubrication oil and

fuels.

5.3.5. Chemical waste arising during the construction phase may pose environmental, health and safety hazards if not stored and disposed of appropriately as outlined in the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The potential hazards include:

- Toxic effects on the construction workforce;
- Adverse impact on air quality and water quality due to spills; and
- Fire hazards.

5.3.6. Chemical waste may be generated any time throughout the construction phase of the Project. The amount of chemical waste that will arise from the construction activities will be highly dependent on the Contractor's on-site maintenance activities and the quantity of plant and equipment utilised. With respect to the scale of the construction activities, it is anticipated that the quantity of chemical waste to be generated will be small. The chemical waste will be properly stored on site and will be collected by licensed chemical waste collectors regularly for disposal at the licensed chemical waste treatment facilities (i.e. Chemical Waste Treatment Centre (CWTC) in Tsing Yi). Reuse and recycle shall be prioritized, where disposal shall be the last resort for waste handling.

5.3.7. 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 published by the EPD. A trip-ticket system should be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) to monitor all movements of chemical wastes which would be collected by licensed chemical waste collectors to a licensed facility for final treatment and disposal.

5.3.8. Provided that the chemical waste is properly stored, handled, transported and disposed of, no adverse environmental impact would result from a minimal quantity of chemical waste arising from the Project.

General Refuse

5.3.9. The construction workforce would generate refuse comprising food scraps, paper waste, empty containers, etc. The amount of general refuse which is likely to produce cannot be quantified at this time as it will be largely dependent on the size of the workforce employed by the contractor. General refuse will be produced any time throughout the construction phase of the Project. Such refuse will be properly stored in a designated area prior to collection and disposal. Disposal of refuse at site other than approved waste transfer or disposal facilities is prohibited. Effective collection of the on-site waste will prevent waste materials being blown around by wind, or creating

an odour nuisance or pest and vermin problems. Waste storage areas will be well maintained and cleaned regularly.

5.3.10. The daily generation of general refuse during the construction phase would be minimal and those waste generated could be effectively controlled by normal measures. With the implementation of good waste management practices on-site, adverse environmental impacts are not expected to arise from the storage, handling and transportation of general refuse.

5.4. OPERATION PHASE IMPACT REVIEW

General Refuse

5.4.1. General refuse is anticipated during the operation of the Proposed Development. It would be generated from the daily activities of elders, staff and visitors. General refuse would include food waste, paper waste and domestic waste. It is estimated that a maximum of 178 residents, 90 workers and visitors will be occupied in the development. With a general refuse generation rate of 0.93kg per person per day, the maximum amount of general refuse to be generated will be about 294.2kg per day during the operation phase. The storage of general refuse has potential to give rise to adverse environmental impacts. These include odour if waste is not collected frequently, windblown litter and visual impact. The Proposed Development may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly.

5.4.2. General refuse generated during the operation phase will be collected at the refuse collection point provided within the Proposed Development for further collection. The waste management practice will comply with the statutory requirements.

5.4.3. With the implementation of good waste management practices on-site, the environmental impacts caused by storage, handling, transportation and disposal of general refuse are expected to be minimal.

Other Waste

5.4.4. Small amount of chemical waste (e.g. lubricant generated from maintenance of equipment) and clinical waste (e.g. cartridges, ampoules, surgical dressings, swabs) may be generated during operation when the need arises. With a chemical waste generation rate of 0.004kg/day and a clinic waste generation rate of 0.002kg/day, it is anticipated that the maximum amount of other waste to be generated will be about 1.608kg per day during the operation phase. The handling, storage, transportation and disposal of chemical and clinical waste shall comply with the requirements stipulated

in the following legislation and code of practice:

- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O);
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; and
- Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers.

5.4.5. Provided that relevant legislation and code of practice are strictly followed during the handling, storage, transportation and disposal of chemical waste and clinical waste, no adverse environmental impact is anticipated.

5.5. WASTE MANAGEMENT STRATEGIES

5.5.1. In line with Government's position on waste minimization, the practice of avoiding and minimizing waste generation and waste recycling should be adopted. It is recommended that waste reduction and management would be implemented, including the provision of recycling bins and adequate space to facilitate separation, collection and storage of recyclable materials for recycling in the refuse storage and material recovery chamber.

Waste Management Hierarchy

5.5.2. The various waste management options are categorised in terms of preference from an environmental viewpoint. The options considered to be most preferable have the least environmental impacts and are more sustainable in the long term. The waste management hierarchy is as follows:

- Avoidance and reduction;
- Re-use of materials;
- Recovery and recycling; and
- Treatment and disposal.

5.5.3. The above hierarchy is used to evaluate and select waste management options. The aim is to reduce waste generation and reduce waste handling and disposal costs. Good site practices and mitigation measures recommended shall be implemented:-

- Nomination of approved personnel to be responsible for 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 proper waste management and chemical handling

procedures;

- Provision of sufficient waste disposal points and regular collection for disposal;
- Adoption of appropriate measures to reduce windblown/ floating litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre; and
- A recording system for the amount of wastes generated, recycled and disposed of and the disposal sites.

Waste Reduction Measures

5.5.4. Good management and control can prevent the generation of significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance re-use or recycling of waste materials and their proper disposal;
- Encourage collection of aluminum cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce;
- Any unused chemicals, and those with remaining functional capacity, shall be prioritized to recycle;
- Use of reusable non-timber formwork to reduce the amount of C&D materials;
- Prior to disposal of C&D materials, wood, steel and other metals will be separated, to the extent practical for re-use and/or recycling to reduce the quantity of waste to be disposed in a landfill;
- Proper storage and site practices to reduce the potential for damage or contamination of construction materials; and
- Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.

Measures for Management of C&D Materials

5.5.5. C&D materials will be segregated on-site into public fill and non-inert C&D materials and stored in different containers or skips to facilitate re-use of the public fill and proper disposal of the non-inert C&D materials. Specific areas within the construction sites will be designated for such segregation and storage, if immediate re-use is not

practicable. The C&D materials generated during the construction phase will be transported by trucks with cover or enclosed containers to minimize the potential environmental impact.

Measures for Management of Chemical Waste & Other Waste

5.5.6. The Contractor 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, Handling and Storage of Chemical Wastes* as listed below.

5.5.7. Containers used for storage of chemical wastes will:

- Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;
- Have a capacity of less than 450L unless the specifications have been approved by the EPD; and
- Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.

5.5.8. The storage area for chemical wastes will:

- Be clearly labelled and used solely for the storage of chemical waste;
- Be enclosed on at least 3 sides;
- Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;
- Have adequate ventilation;
- Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and
- Be arranged so that incompatible materials are appropriately separated.

5.5.9. Chemical waste will be disposed of:

- Via a licensed 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 chemical waste storage containers.

Measures for Management of General Refuse

5.5.10. General refuse will be stored in enclosed bins separately from C&D materials and chemical wastes. General refuse will be delivered separately from C&D materials and chemical wastes for offsite disposal on a daily basis to reduce odour, pest and litter

impacts.

5.5.11. Recycling bins will be provided at strategic locations within the construction site to facilitate recovery of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) from the construction site. Materials recovered will be sold for recycling.

5.5.12. Recycling bins will be provided at strategic locations in the Proposed Development to facilitate recovery of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) during operation stage. Materials recovered will be collected by the recyclers appointed by the facility management team.

5.6. CONCLUSION

5.6.1. The potential impacts of wastes arising from construction and operation of the Proposed Development have been assessed. With the recommended procedures/ measures in place, the wastes generated/ disposed of during the construction and operation phases should not result in any adverse environmental impacts.

6. LAND CONTAMINATION

6.1. INTRODUCTION

6.1.1. The potential environmental issues associated with land contamination have been reviewed and are presented in this section. The implications of land contamination for the proposed land uses in the Project Site have been assessed.

6.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

6.2.1. The relevant legislation, standards and guidelines applicable to the present review of land contamination include:

- Guidance Note for Contaminated Land Assessment and Remediation;
- Practice Guide for Investigation and Remediation of Contaminated Land;
- Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management.

6.3. ACQUISITION OF LOCAL AUTHORITY

6.3.1. The following HKSAR Government Departments have been enquired on the latest update on the availability of land use status and records of land contamination and/or spillage for the site. The summary of correspondence is presented in **Table 6.1** below. Copy of the letters replied from various Government Departments are included in **Appendix 6.1** for reference.

Table 6.1 Enquiries and Responses on Land Contamination Related Records

Consultant's Letter Ref.	Department	Response Date	Summary
W25185/RCHD-0002	Environmental Protection Department	3 Jul 2025	No record of chemical spillage/ leakage within the site boundary in the past ten years.
W25185/RCHD-0001	Fire Services Department	-	Pending response from FSD

6.4. SITE HISTORY

6.4.1. Selected historical aerial photographs between year 1977 and 2024 of the Project Site have been reviewed in order to ascertain any historical land uses with the potential for land contamination. The historical photographs in 1977, 1988, 1992, 2005, 2018, 2019, 2021 and 2024 are provided in **Figure 6.1** to indicate the past land use. Referring to

Table 6.2, the Project Site was used as farmland in late 1970s to 1990s. Later, the land use was vacant and covered with vegetation till 2018. Afterwards, the land was converted to an open storage area in 2019 till 2021. The land was vacant again in 2024.

6.4.2. Before 2019, no potentially polluting activities were carried out in the Project Site. From 2019 to 2021, there were construction materials and construction equipment stored at the Project Site. Due to short period of time for open storage use, no land contamination were anticipated.

Table 6.2 Chronological Changes in Land Use Activities of the Project Site

Year	Land Use Condition/ Activities
1977	Farmland
1988	Farmland
1992	Farmland
2005	Vacant land covered with vegetation
2018	Vacant land covered with vegetation
2019	Open Storage Area
2021	Open Storage Area
2024	Vacant land

6.5. CONCLUSION

6.5.1. The potential issues on land contamination of the Proposed Development have been assessed. Based on the aerial photographs, the Project Site should unlikely to have any previous land contamination history. Hence, it is anticipated that no potentially contaminating activities have been carried out and no potential sources and signs of contamination have been discovered.

7. CONCLUSION

- 7.1.1. 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, noise, water quality, waste and land contamination.
- 7.1.2. 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



LEGEND:

Site Boundary

300/500m Assessment Area

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250530	20250530	20250530

Project Title

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

DrawingTitle

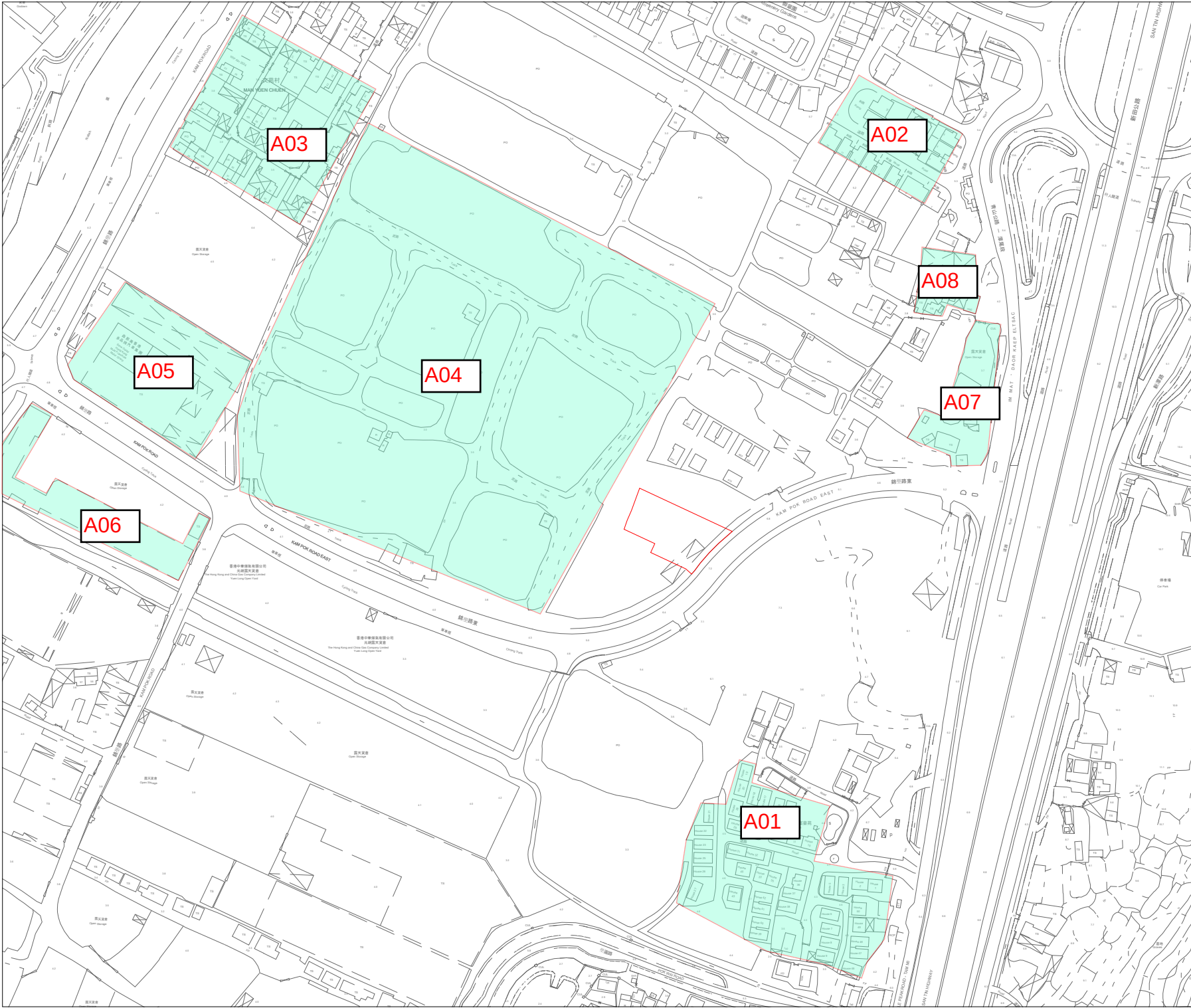
PROPOSED DEVELOPMENT LOCATION

Drawing No.	Rev.
FIGURE 1	0

Scale:

A4 - 1:5500

FIGURE 2.1
LOCATION OF REPRESENTATIVE AIR
SENSITIVE RECEIVERS



LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250530	20250530	20250530

Project Title

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

DrawingTitle

LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS

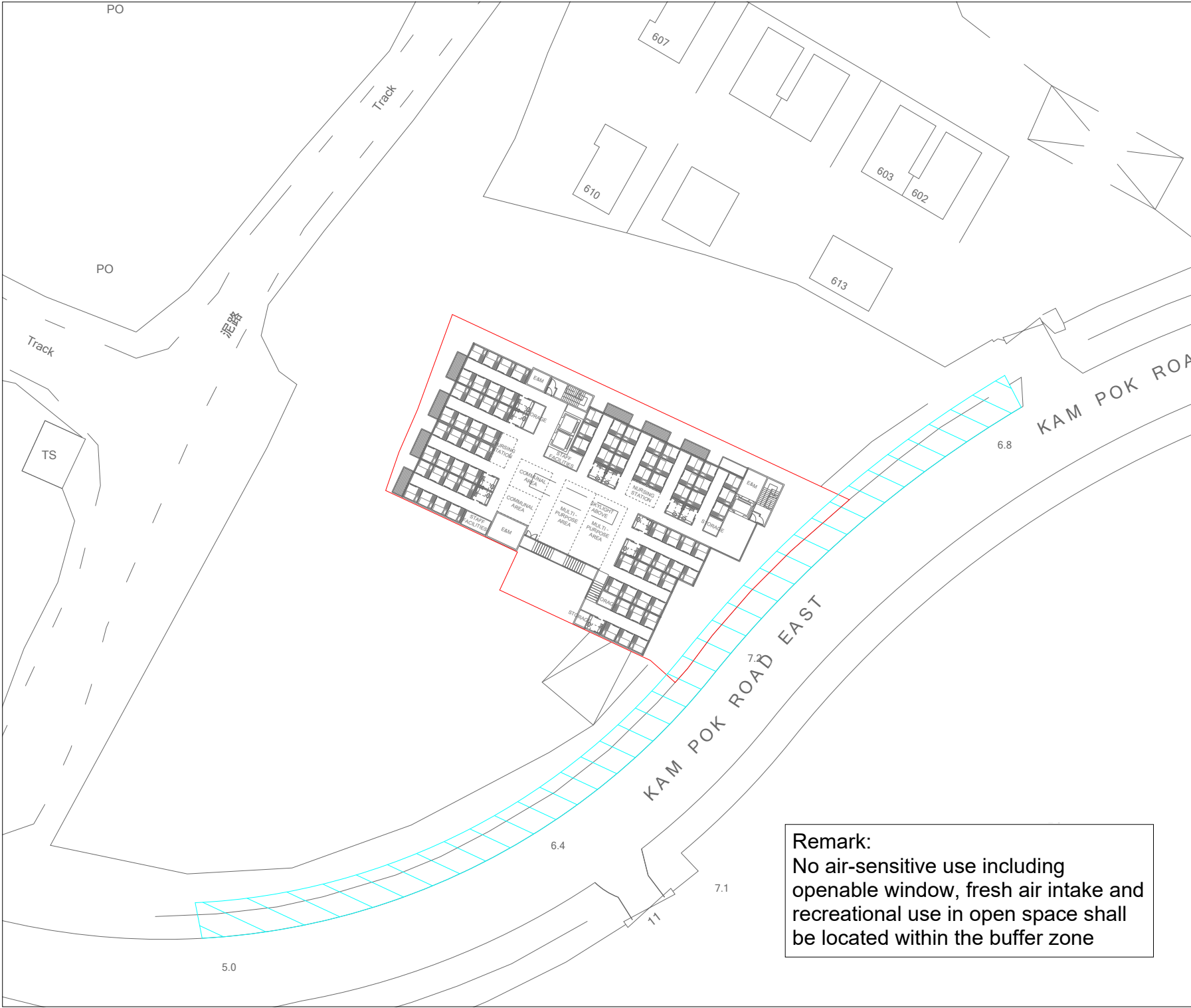
Drawing No.	Rev.
FIGURE 2.1	0

Scale:

A4 - 1:3000

FIGURE 2.2

BUFFER DISTANCES



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LEGEND:

Site Boundary

5m Buffer Distance

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250707	20250707	20250707

Project Title

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

DrawingTitle

BUFFER DISTANCE

Drawing No.	Rev.
FIGURE 2.2	0

Scale:

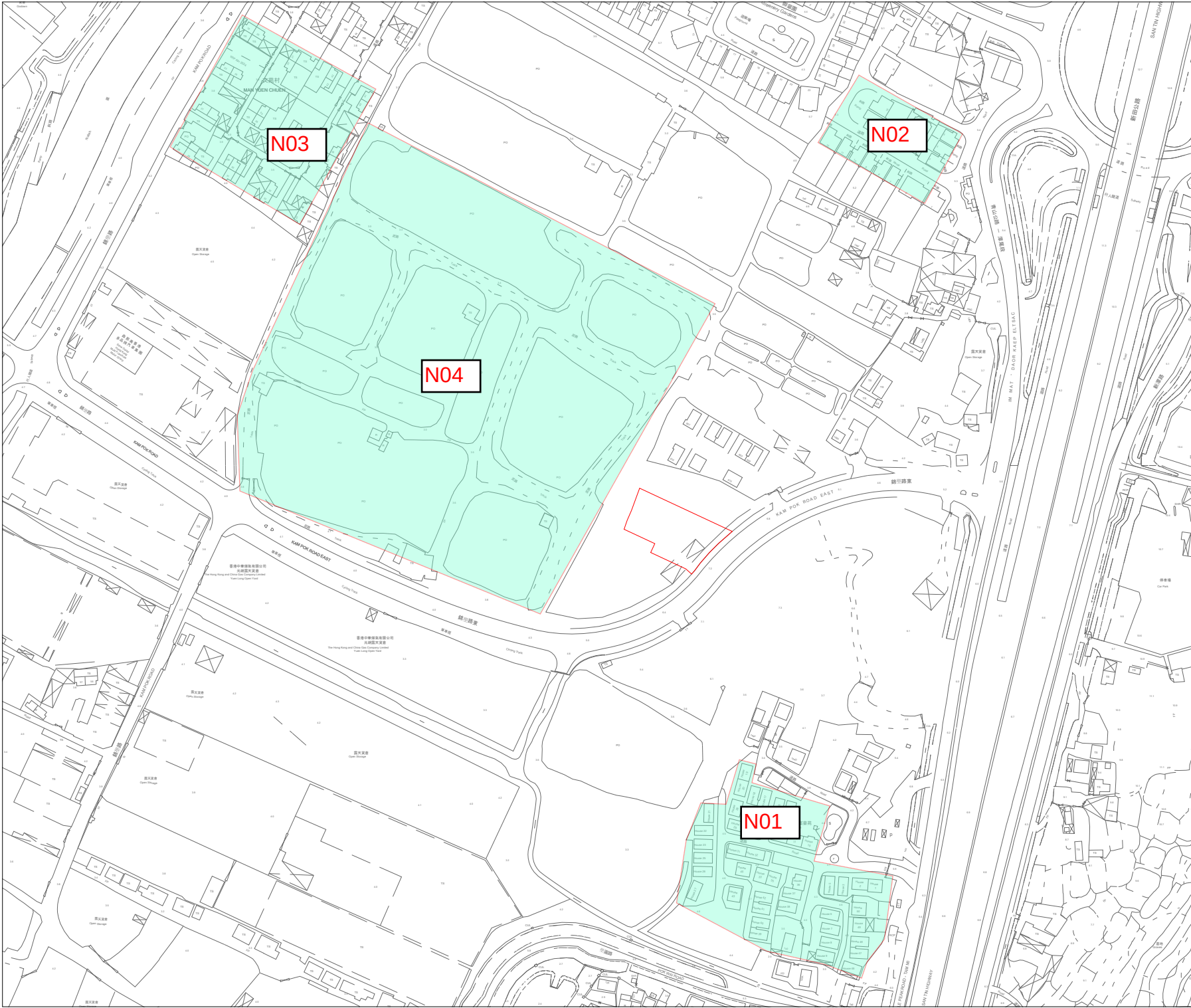
A4 - 1:700

BXG

BeeXergy Consulting Limited

Remark:
No air-sensitive use including openable window, fresh air intake and recreational use in open space shall be located within the buffer zone

FIGURE 3.1
LOCATION OF REPRESENTATIVE NOISE
SENSITIVE RECEIVERS



Copyright by BeeXergy Consulting Limited

LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250530	20250530	20250530

Project Title

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

DrawingTitle

LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Drawing No. FIGURE 3.1	Rev. 0
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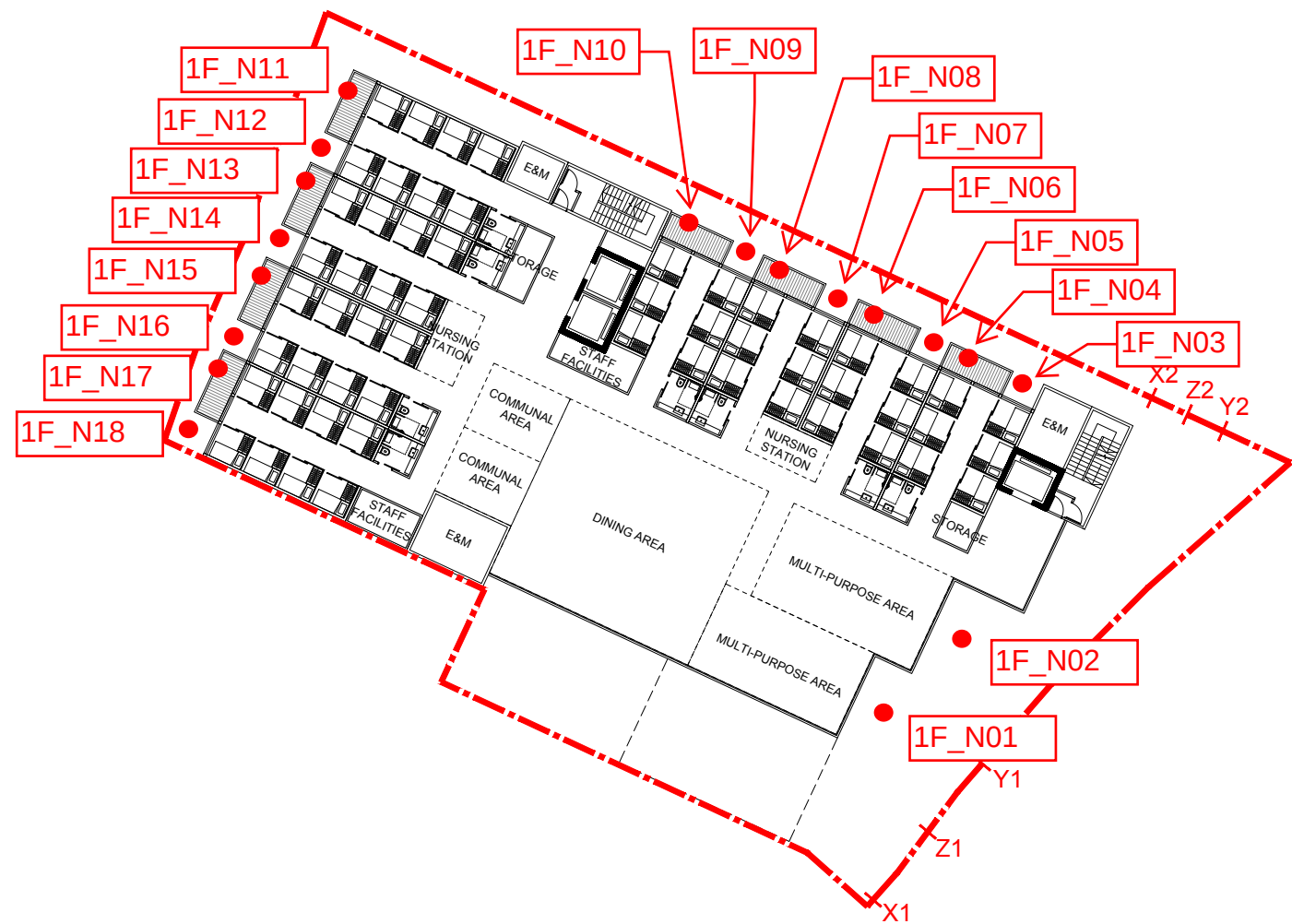
Scale:

A4 - 1:3000

BXG

BeeXergy Consulting Limited

FIGURE 3.2
LOCATION OF REPRESENTATIVE TRAFFIC
NOISE SENSITIVE RECEIVERS



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

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NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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CLIENT

TOWN PLANNER

DeSPACE (International) Limited



ARCHITECT

Vessel International Limited
Syn Plus Design Limited



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

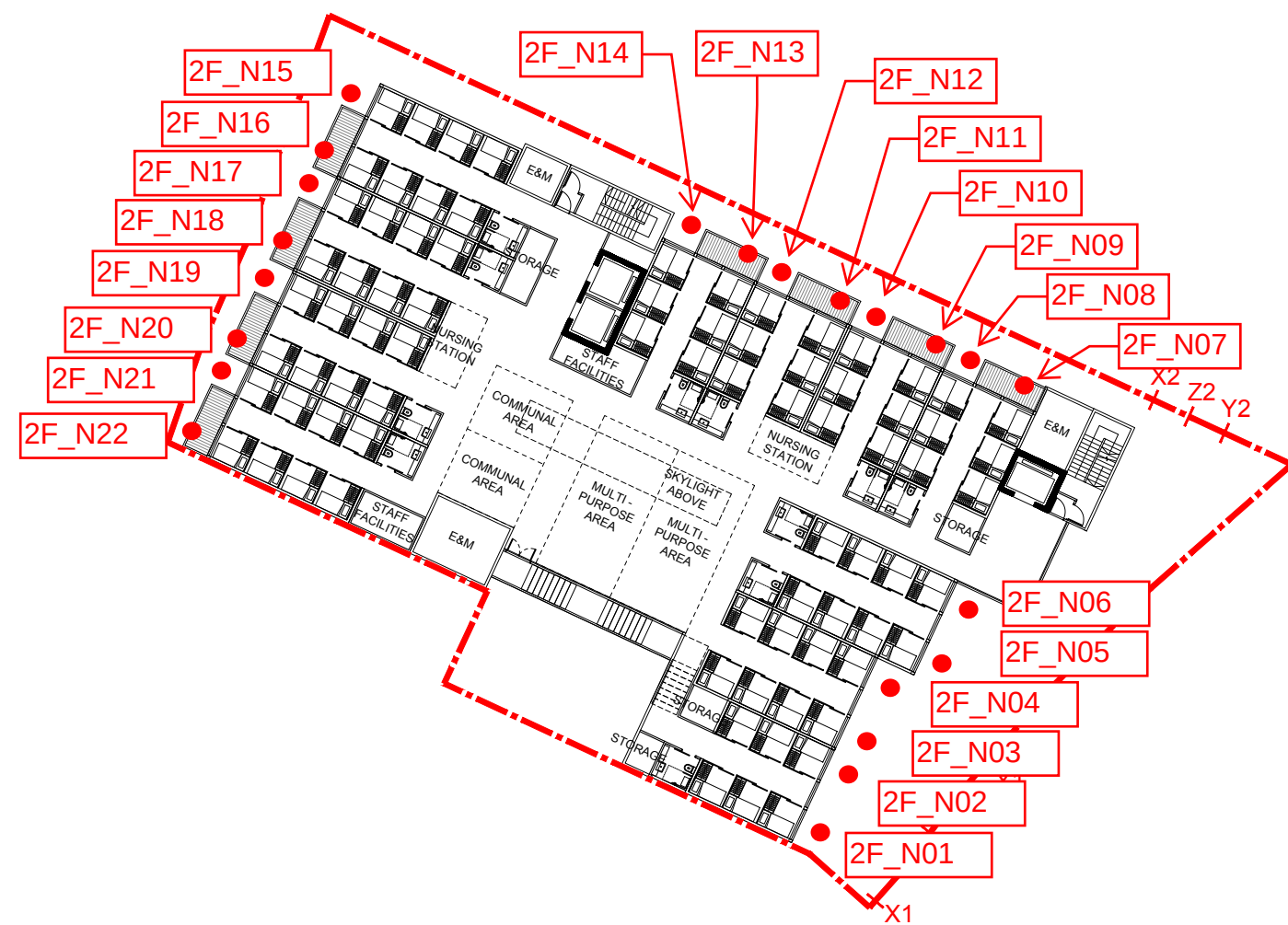
DRAWING : FIRST FLOOR PLAN

SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-A104 MAY 2025



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

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NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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ARCHITECT

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DRAWING : SECOND FLOOR PLAN

SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-A105 MAY 2025

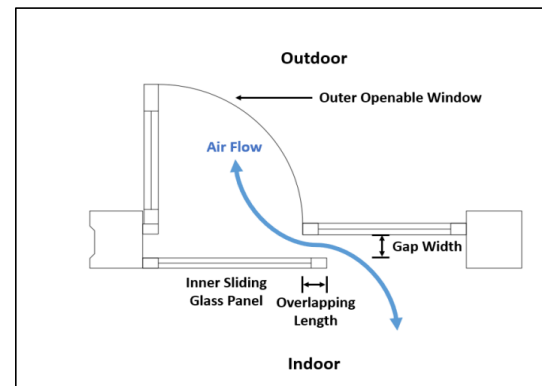
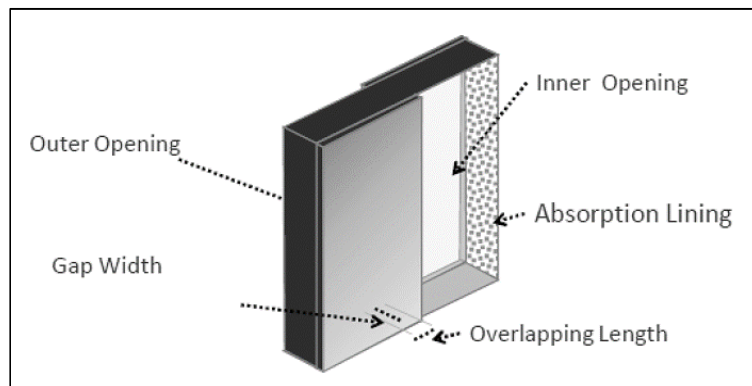
FIGURE 3.3
LOCATION OF PROPOSED ACOUSTIC
WINDOW

Proposed Types of Acoustic Window (Baffle Type)

Type of AW(BT)	Reference Case	Room Area, m ²	Noise Attenuation, dB(A)	Inner Window Opening, mm		Outer Window Opening, mm		Window Overlapping Length, mm	Window Pane Separation, mm	MPA ^[1] Applied?
				Height	Width	Height	Width			
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





■ Type 2 AW(BT)



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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 : FIRST FLOOR PLAN

SCALE : 1:400 @A3

PROJECT NO: 25001_KPR

Drawing No. : _____ Date: _____

CP-A104 MAY 2025



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Limited

DRAWING : SECOND FLOOR PLAN

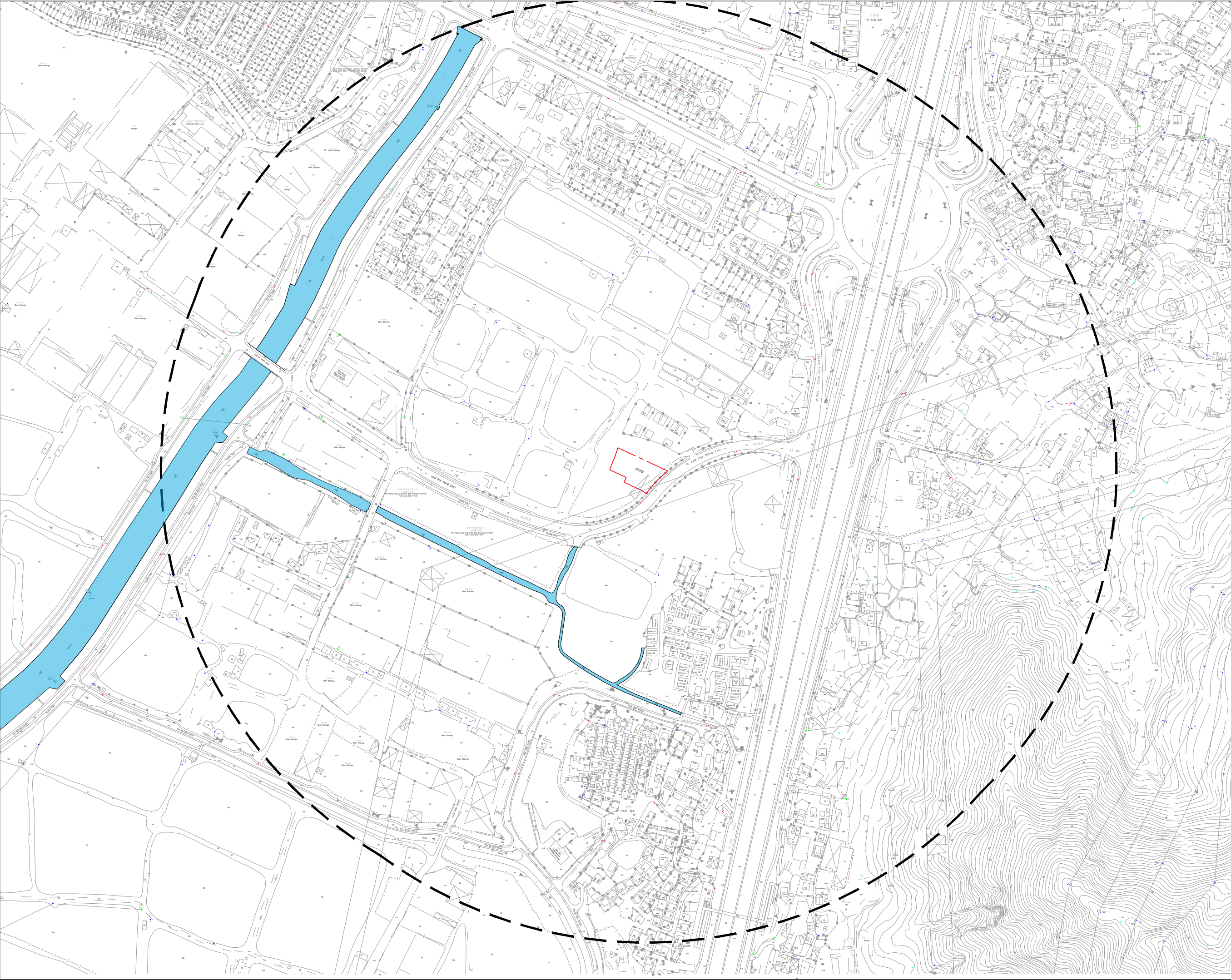
PROJECT NO: 25001_KPR

CP-A105 MAY 2025



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

FIGURE 4.1
LOCATION OF WATER SENSITIVE RECEIVER



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

	Prepared	Checked	Approved
Initial	Various	TL	HM
Date	20250623	20250623	20250623

Project Title
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

Drawing Title
Location of Water Sensitive Receiver

Drawing No. Figure 4.1	Rev. 0
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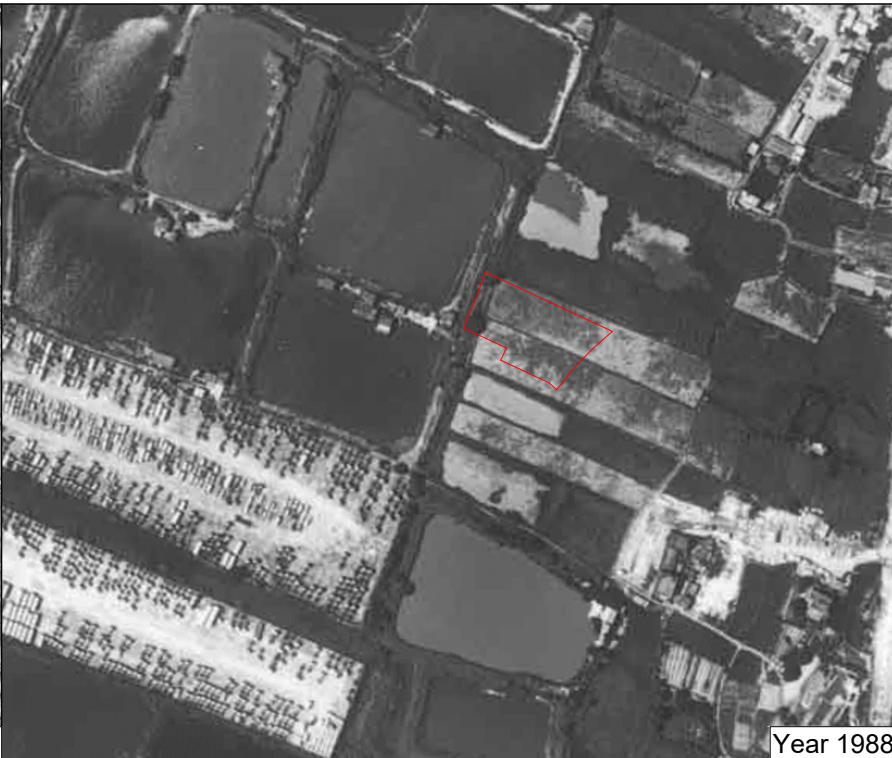
Scale: A3

FIGURE 6.1

AERIAL PHOTOS



Year 1977



Year 1988



Year 1992



Year 2005

LEGEND:

 Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250630	20250630	20250630

Project Title
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

DrawingTitle
AERIAL PHOTOS

Drawing No. FIGURE 6.1a	Rev. 0
----------------------------	-----------

Scale:
A4 - N.T.S



Year 2018



Year 2019



Year 2021



Year 2024

LEGEND:

 Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250630	20250630	20250630

Project Title
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

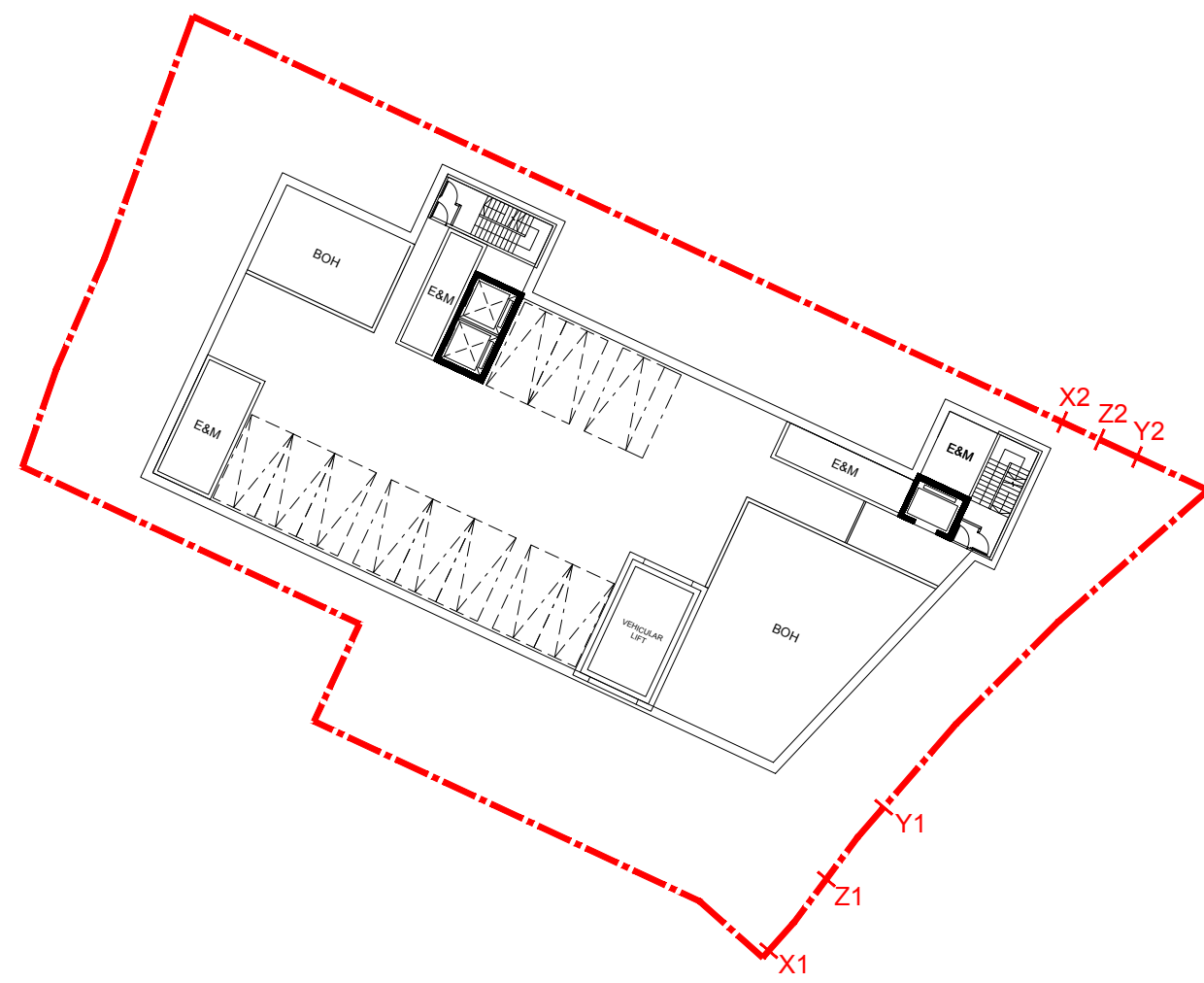
DrawingTitle
AERIAL PHOTOS

Drawing No. FIGURE 6.1b	Rev. 0
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Scale:
A4 - N.T.S

APPENDIX 1.1

INDICATIVE BUILDING PLAN

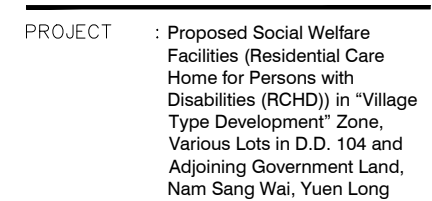


CP-A102 MAY 2025



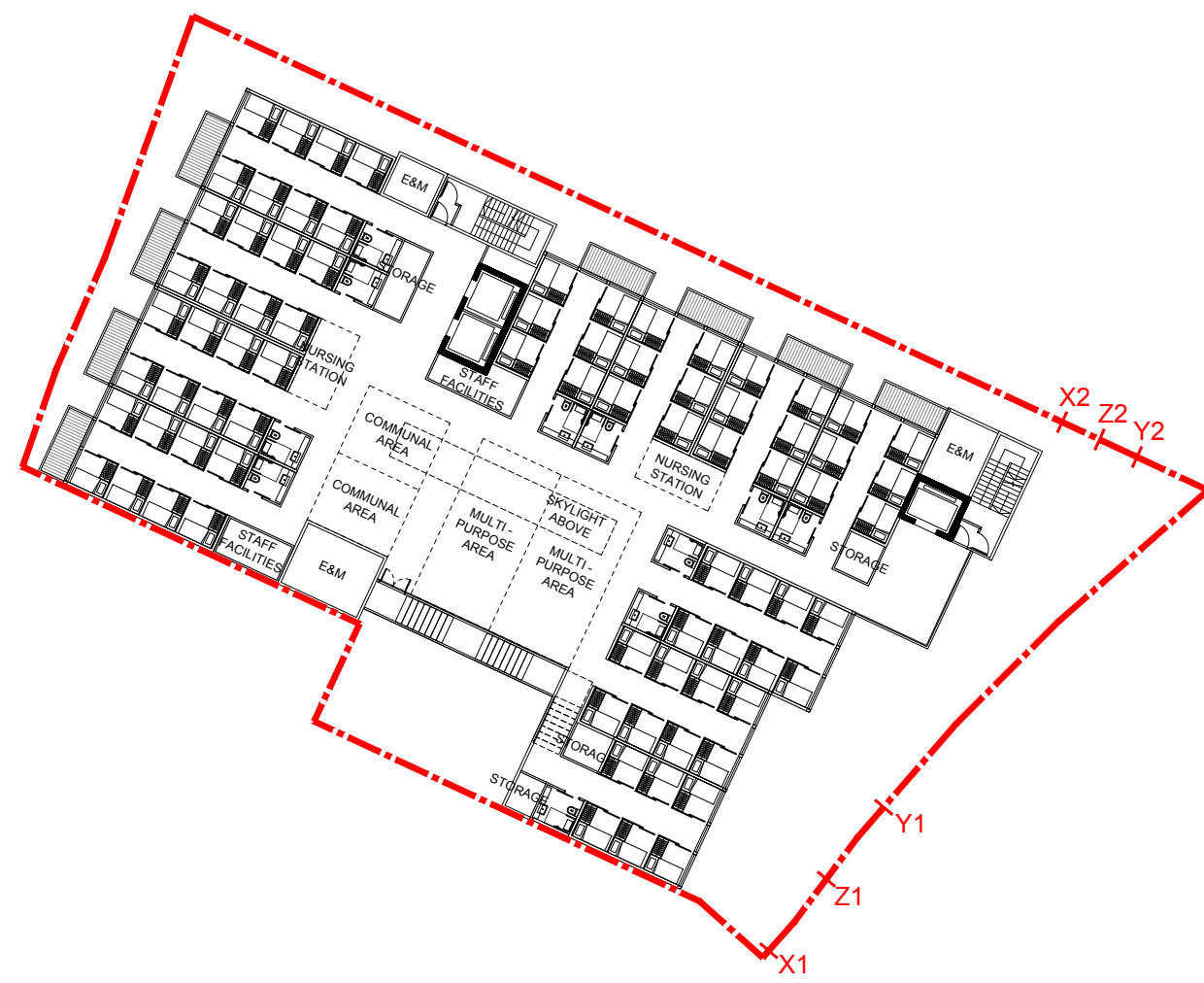
Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

Journal of Management Inquiry 20(4)p. 403-418

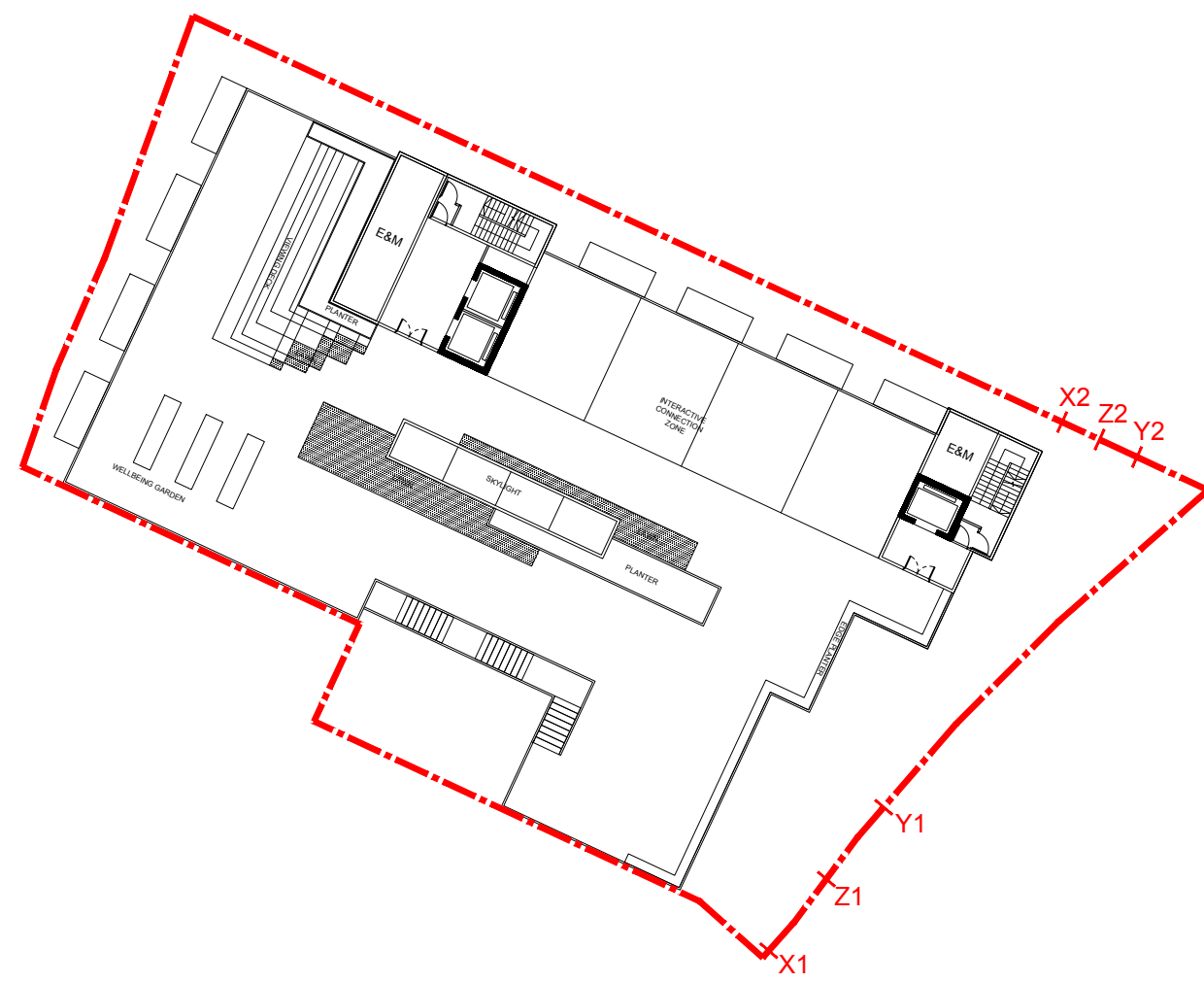


PROJECT NO: 25001_KPR —

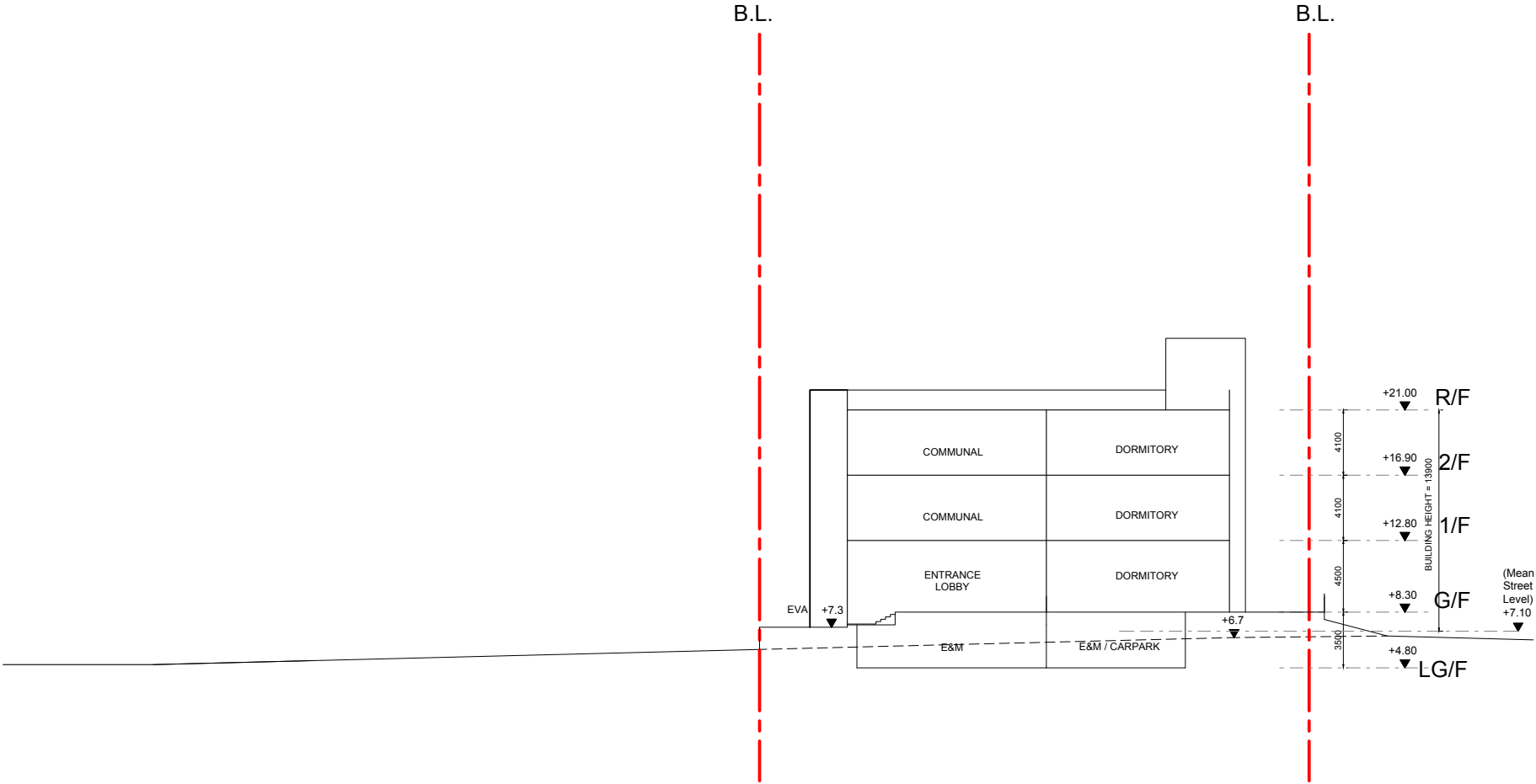




CP-A105 MAY 2025



Drawing No. : CP-A106 Date: MAY 2025



SCHEMATIC SECTION
KAM POK ROAD E RCHD 1:400 @ A3

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NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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TOWN PLANNER

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ARCHITECT

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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 : SCHEMATIC SECTION

SCALE : 1: 400 @A3 Rev: —

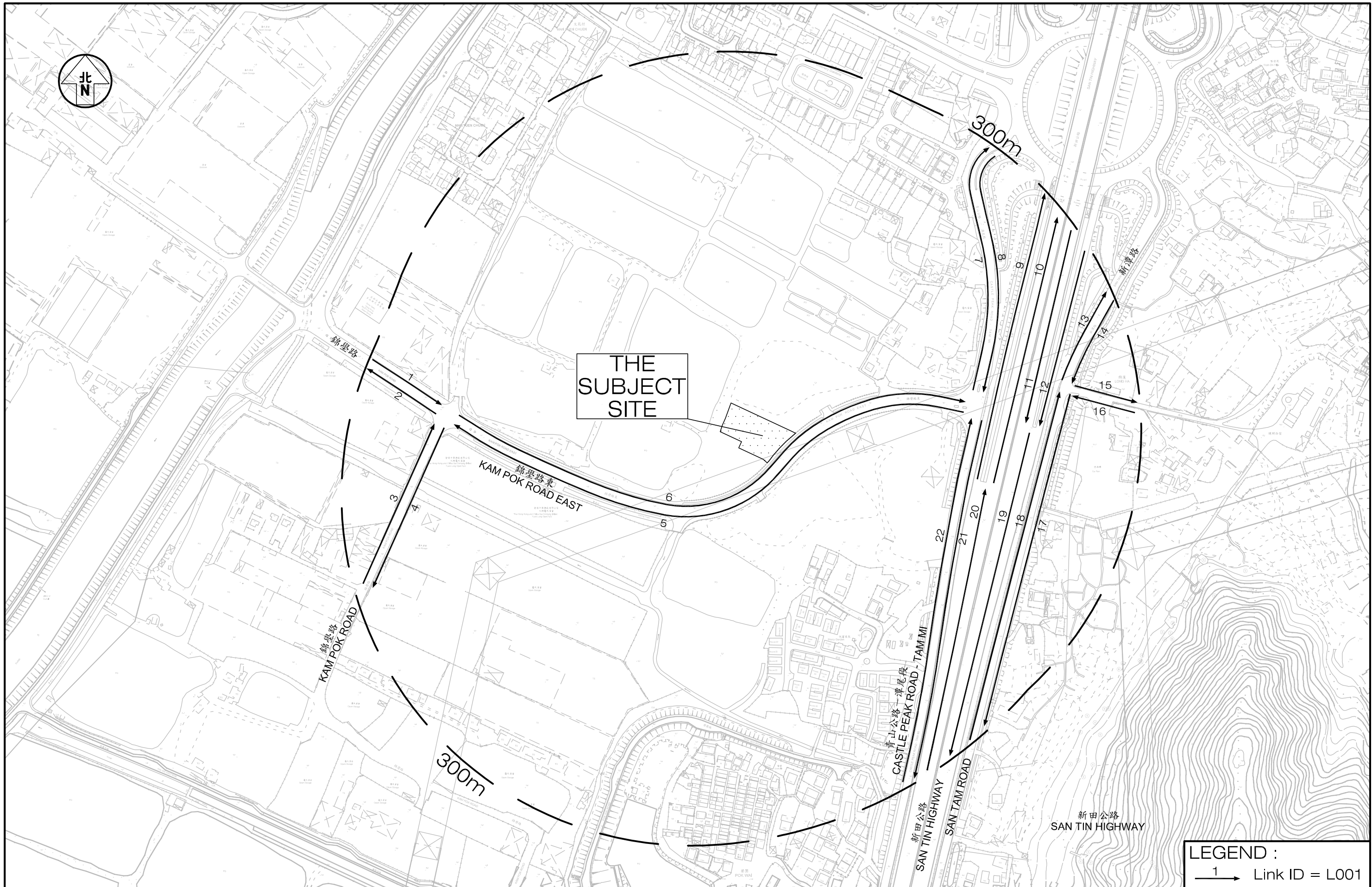
PROJECT NO: 25001_KPR

Drawing No. : Date:

CP—A201 MAY 2025

APPENDIX 3.1

TRAFFIC FORECAST DATA



Project PROPOSED SOCIAL WELFARE FACILITIES (RCHD) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3669 S.A RP (PART), 3669 S.B RP (PART), 3670 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG J7400

Figure Title

LOCATION OF TRAFFIC DATA

LEGEND :
1 → Link ID = L001

Figure No. EIA1		Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants
Designed by K C	Drawn by C C L	Checked by -	
Scale in A3 1 : 3,000		Date 26 MAY 2025	

T:\Proposal\10000-P10999\P10735\Fig EIA1 RevA.dwg

YEAR 2045 TRAFFIC FORECAST

Date: 23 May 2025

Job No.: J7400 & J7401

Link ID	Road Section	From Road	To Road	Speed Limit (kph)	Road Classification	AM Peak Hour		
						Traffic Flows (veh/hr)	Vehicle Composition	
							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%
L008	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%
L010	San Tin Highway (NB)	San Tin Highway	San Tin Highway	100	PD	3,940	68%	32%
L011	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%
L013	San Tam Road (NB)	Unnamed Road	Fairview Park Interchange	50	RR	340	62%	38%
L014	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%
L016	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	80%	20%
L017	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	68%	32%
L018	San Tam Road (NB)	Fung Kat Heung Road	Unnamed Road	50	RR	330	62%	38%
L019	San Tin Highway (SB)	San Tin Highway	Yuen Long Highway	100	PD	4,740	61%	39%
L020	San Tin Highway (NB)	Yuen Long Highway	San Tin Highway	100	PD	4,760	69%	31%
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	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 bus

PD – Primary Distributor

DD – District Distributor

LD – Local Distributor

RR – Rural Road

YEAR 2045 TRAFFIC FORECAST

Date: 23 May 2025

Job No.: J7400 & J7401

Link ID	Road Section	From Road	To Road	Speed Limit (kph)	Road Classification	PM Peak Hour		
						Traffic Flows (veh/hr)	Vehicle Composition	
							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%
L013	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%
L016	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	100%	0%
L017	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	66%	34%
L018	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

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

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, mPD	Noise Criteria, dB(A)	Unmitigated Noise Level, L_{10} (1 hour) ¹ , dB(A)	Proposed Noise Mitigation Measures	Estimated Noise Attenuation, dB(A)	Mitigated Noise Level, L_{10} (1 hour) ¹ , dB(A)	Compliance
						AM				
G/F	GF_N01	RCHD Dormitory	+8.30	+9.5	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
	GF_N06	RCHD Dormitory			70	63	N/A	N/A	63	Yes
	GF_N07	RCHD Dormitory			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
1/F	1F_N01	Multi-prupose Room	+12.80	+14.0	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			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
	1F_N09	RCHD Dormitory			70	71	Type 2	7	64	Yes
	1F_N10	RCHD Dormitory			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
2/F	2F_N01	RCHE Dormitory	+16.90	+18.1	70	78	Type 2 (w/absorptive material)	8	70	Yes
	2F_N02	RCHE Dormitory			70	78	Type 2 (w/absorptive 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
	2F_N11	RCHE Dormitory			70	72	Type 2	7	65	Yes
	2F_N12	RCHE Dormitory			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
	2F_N22	RCHE Dormitory			70	65	N/A	7	65	Yes

Results Summary	
Total No. of NAPs	52
Total No. of NAPs with exceedance	0
Compliance Rate	100%

APPENDIX 6.1

ENQUIRIES TO GOVERNMENTAL AUTHORITY

本署檔案
OUR REF :
來函檔案
YOUR REF : W25185/RCHD-0002
電話
TEL NO : 3162 8418
圖文傳真
FAX NO : 3162 8584
網址
HOMEPAGE : <http://www.epd.gov.hk/>

Environmental Protection Department
Environmental Compliance Division
Regional Office (North)
10/F., Shatin Government Offices,
1 Sheung Wo Che Road,
Sha Tin, New Territories,
Hong Kong.

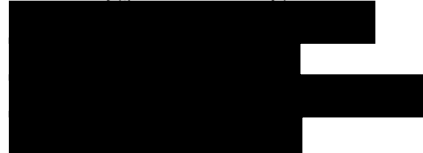


環境保護署
環保法規管理科
區域辦事處 (北)
香港新界沙田
上禾輦路一號
沙田政府合署 10 樓

By email only ([REDACTED])

3 July 2025

BeeXergy Consulting Limited



(Attn: Mr. Leo YU)

Dear Mr. YU,

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

RE: Request for Information of Registered Chemical Waste Producer Records and Historical Records of Chemical Spillage / Leakage

Regarding your enquiries in the letter under reference dated 30 June 2025, this Regional Office has no record of spillage or leakage of chemicals within the site boundary in the past ten years.

Concerning the records of registered chemical waste producers, a register of chemical waste producers is available for inspection in the Territorial Control Office of the department. If you would like to inspect, please contact Mr. Tim H. T. CHAN at 2835 1017 for making an appointment to view the records.

Should you have any query on the matter, please contact the undersigned at 3162 8418.

Yours sincerely,

(Ken NG)

For Director of Environmental Protection

Appendix 2

Revised Sewerage Impact Assessment (SIA)

**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**

SEWERAGE IMPACT ASSESSMENT

08 Jul 2025

Report No: RT25285-SIA-02A

Prepared By:



BeeXergy Consulting Limited (BXG)

Phone:

Address:

Email:



Project:	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 SEWERAGE IMPACT ASSESSMENT				
Report No.:	Ref: RT25285-SIA-02A				
Revision	Issue Date	Description	Author	Checker	Approver
0	20/05/2025	Issued for Comment	LY	YS	HM
A	08/07/2025	Issued for Comment	LY	YS	HM

Prepared By:


Leo Yu

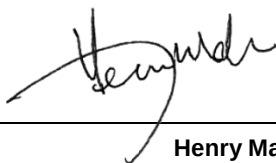
Consultant

Checked by


Sui Hang Yan

Technical Director

Approved by:


Henry Mak

Director

Disclaimer:

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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APPENDIX A	MASTER LAYOUT PLAN
APPENDIX B	SEWAGE CALCULATION AND HYDRAULIC CAPACITY CHECK

1 INTRODUCTION

1.1 PROJECT 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”).
- 1.1.1. BeeXergy Consulting Limited was appointed by DeSPACE (International) Limited (the Town Planner) to conduct a Sewerage Impact Assessment (SIA) for the Proposed Development to support the application under Section 16 of the Town Planning Ordinance. The latest architectural drawings and technical information on the Project Site were largely provided by the Project Architect.

1.2 PROJECT LOCATION

- 1.2.1. The Project Site is approximately 1603m², currently bounded by abandoned fishponds to the north and west, Kam Pok Road East to the south. **Figure 1** shows the location of the Project Site and its surrounding area.

1.3 DESCRIPTION OF THE SUBJECT SITE AND PROPOSED DEVELOPMENT

- 1.3.1. The Project Site area is approximately 1,603m². The Proposed Development is an 3-storey building consisting of RCHD dormitory and communal area. The master layout plan provided by the Project Architect is enclosed in **Appendix A**. The tentative population intake year is 2030.

2 SEWERAGE IMPACT ASSESSMENT

2.1 SCOPE OF WORKS

- 2.1.1. The objective of this SIA is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewage flow arising from the Proposed Development during its operation stage or not and to recommend appropriate mitigation measures to alleviate unacceptable sewerage impact, if any.

2.2 EXISTING SEWERAGE FACILITIES

- 2.2.1. The existing sewerage record from the Lands Department (LandsD) and Drainage Service Department (DSD) are obtained for this SIA and attached in **Figure 2**. There are no existing manholes located within the Project Site. The public sewerage facility located closest to the Project Site is Nam Sang Wai Sewage Pumping Station which is located approximately 800m away from the boundary of the Project Site.

- 2.2.2. Reference was made to the approved planning application (A/YL-NSW/314), upgrading works of the existing sewers were proposed. A site survey to identify the existing site condition and surrounding environment was conducted on 06 May 2025. The existing public sewerage system identified along Kam Pok Road East and proposed upgrading works by other development could serve the Project Site. The location of the proposed terminal manhole and connection are shown in **Figure 3**.
- 2.2.3. A new terminal manhole (namely S1) will be built to collect the sewage generated from the Proposed Development and connect to the existing sewer via a new 225mm diameter sewer pipe. The proposed new terminal manhole and 225mm sewer pipe will be implemented and maintained by the Project Proponent, sewerage system other than newly proposed system will be implemented and maintained by other development. The cover level of proposed terminal manhole should be higher than that of the downstream public manhole(s). The capacity check of the sewer will start from the proposed terminal manhole S1.

2.3 ASSESSMENT CRITERIA, METHODOLOGY, AND ASSUMPTIONS

- 2.3.1. The Unit Flow Factors and Global Peaking Factor are adopted from the figures in the Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (Version 1.0)¹ (GESF) issued by the Environmental Protection Department (EPD) in March 2005 to estimate the sewage flows generated from the Project Site.
- 2.3.2. The Unit Flow Factors and Catchment Inflow Factors as shown in **Table 2.1** below are adopted in the assessment and the surrounding catchments are shown in **Figure 3**.

Table 2.1 Unit Flow Factors and Catchment Inflow Factors Extracted from GESF

Parameter	Value	Justification
<i>Population</i>		
Residents in Proposed Development	178 people	178 beds
Employees in Proposed Development	90 people	Advised by Project Proponent
<i>Unit Flow Factors</i>		
Residents and Visitors in Proposed Development	0.19m ³ /day	"Institutional and special class" based on EPD's GESF Table T-1.
Employees in Proposed	0.28m ³ /day	J11 "Community, Social & Personal Services"

¹ http://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/guide_ref/files/gesf.pdf

Development		based on EPD's GESF Table T-2.
<i>Catchment Inflow Factor (P_{CIF})</i>		
Discharge from the Project Site and all Catchments	1.0	Yuen Long Catchment based on EPD's GESF Table T-4.

2.3.3. With reference to Table T-5 of GESF, a global peaking factor of 8 and 6 (including stormwater allowance) are adopted according to the contributing population.

2.3.4. With reference to Table 5 in the Sewerage Manual (Part 1)² issued by the DSD in May 2013, slimed sewer of k_s of 0.6mm under "Poor" condition is assumed for both the sewers from the Subject Site and existing sewerage system in the worst-case scenario. The Colebrook-White Equation will be used to analyse the flow conditions. Equation (ii) for circular pipes flowing partially full is adopted to estimate the sewage flow for the Subject Site and following sewers.

2.4 RESULTS AND DISCUSSION

2.4.1. The estimated average flow rate and total peak flow of the Proposed Development are approximately 59.0m³/day and 5.46L/s.

2.4.2. Sewage generated from the Proposed Development and surrounding catchment areas will be connected at the downstream of sewage network. The cumulative flow is generally no more than 20% of sewer capacity and no adverse sewerage impacts to the existing sewerage system are identified. Therefore, no upgrading or improvement works of the sewerage system are required. Details of the sewage calculation are included in **Appendix B**.

² http://www.dsd.gov.hk/EN/Files/Technical_Manual/technical_manuals/Sewerage_Manual_1_Eurocodes.pdf

3 CONCLUSION

- 3.1.1. A Social Welfare Facility (Residential Care Home for the Disabilities) is proposed to develop at various lots in D.D. 104, Nam Sang Wai. This is the SIA to support the application under Section 16 of the Town Planning Ordinance.
- 3.1.2. Based on the SIA results, it is found that the existing sewerage system serving the area has sufficient capacity to cater for the sewage generation from the proposed development and the surrounding catchment areas. Adverse sewerage impacts are not anticipated, and thus no upgrading or improvement works are required.

FIGURE 1

**LOCATION OF THE PROJECT SITE AND ITS
SURROUNDING AREA**



LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title

Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

DrawingTitle

PROPOSED DEVELOPMENT LOCATION

Drawing No.	Rev.
FIGURE 1	0

Scale:

A4 - 1:5500

FIGURE 2

EXISTING SEWERAGE SYSTEM

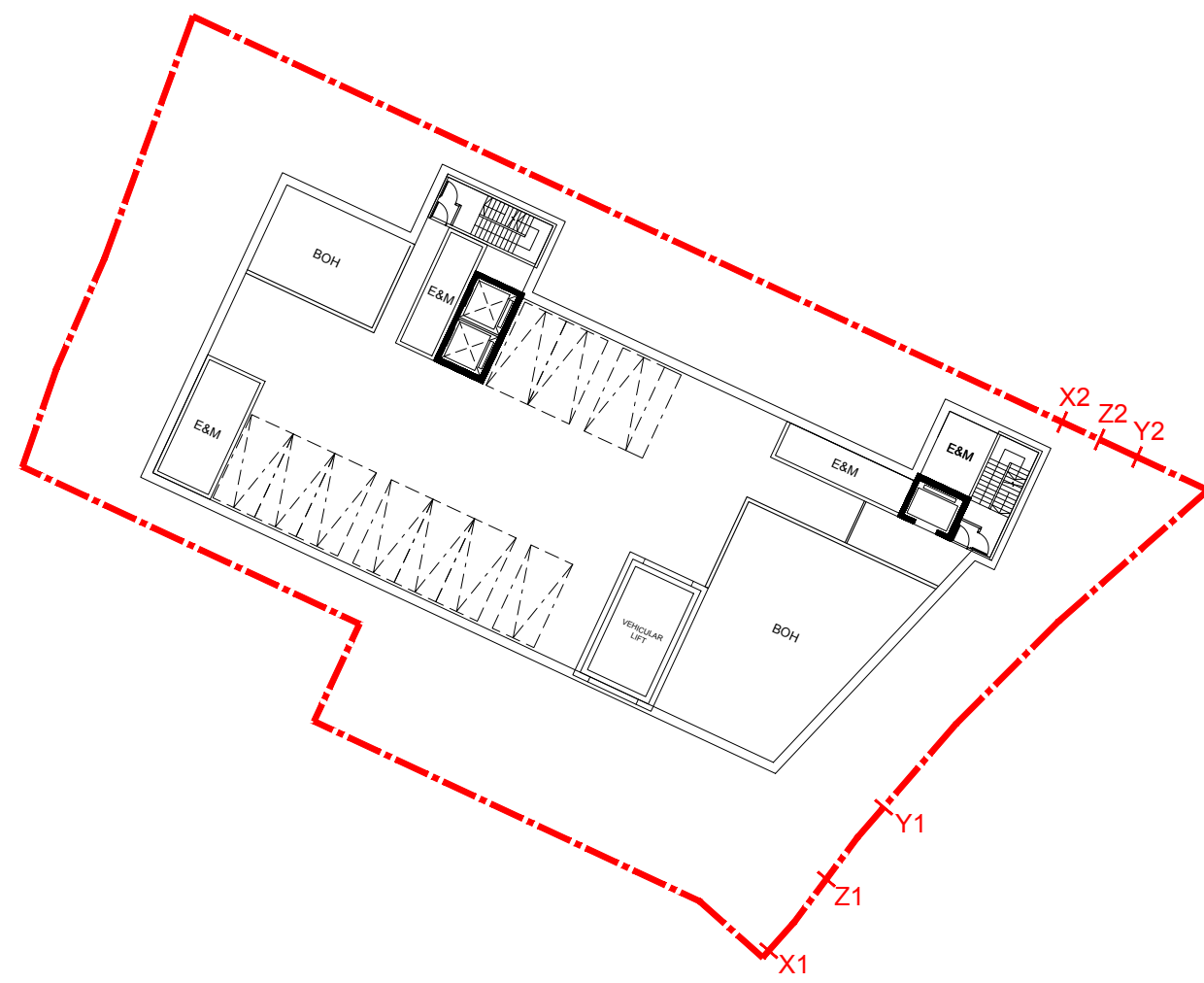


FIGURE 3

**PROPOSED TERMINAL MANHOLE AND
CONNECTION**

APPENDIX A

MASTER LAYOUT PLAN



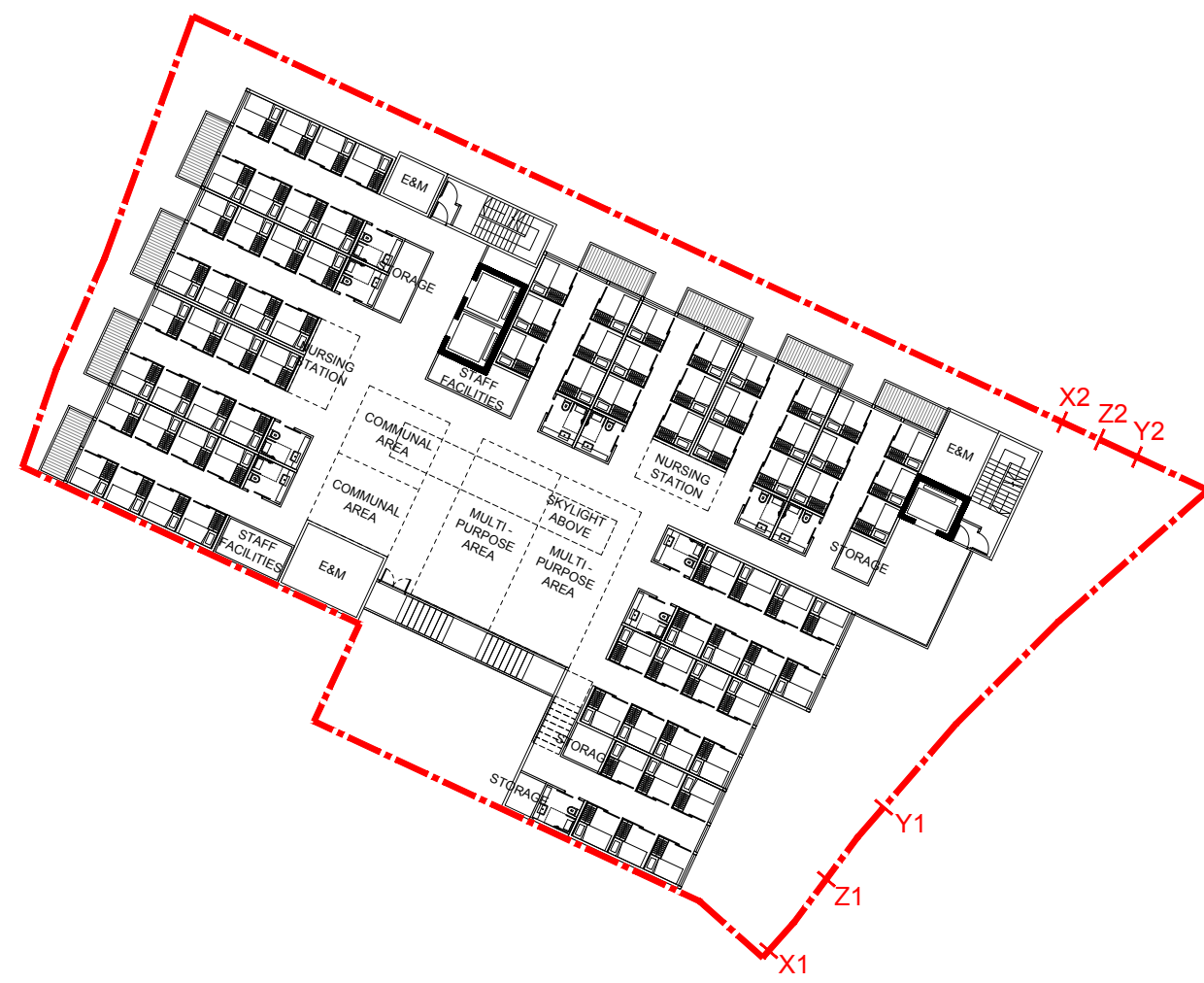
CP-A102 MAY 2025



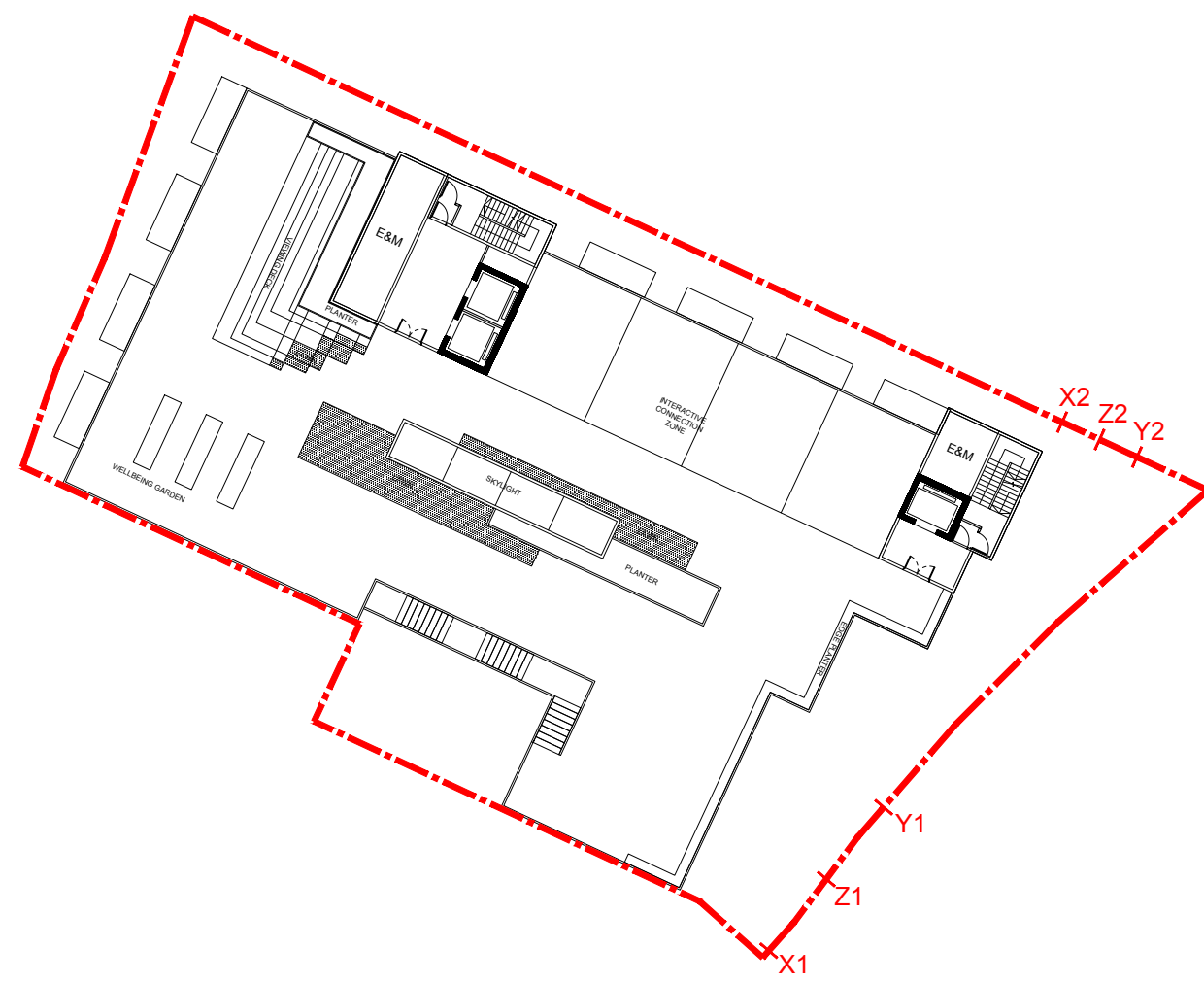
CP-A103 MAY 2025



Drawing No. : CP-A104 Date: MAY 2025



CP-A105 MAY 2025



Drawing No. : CP-A106 Date: MAY 2025

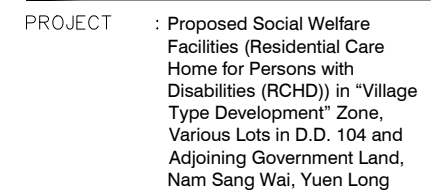


Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

DeSPACE (International)

 DeSPACE (International) Limited

Vessel International Limited



PROJECT NO: 25001_KPR

CP-A201 MAY 2025



APPENDIX B

SEWAGE CALCULATION AND HYDRAULIC CAPACITY CHECK

APPENDIX B - CALCULATION OF SEWAGE FLOW

Development	GFA (m ²)	No. of Flat	Occupancy Density ^{(a), (b)} (Number of Persons) (Workers per GFA in 100m ²)	Estimated Population	Unit Flow Factor (m ³ /day)	Estimated Average Dry Weather Flow (m ³ /day)	Catchment Inflow Factor	Estimated Average Dry Weather Flow X Catchment Inflow Factor (m ³ /day)	Remarks
1) Proposed Development									
Residents in Proposed Development	3286	-	-	178	0.19	33.820	1.0	33.820	Estimated Population: The proposed development scheme will provide 178 bed spaces. Unit Flow Factor: 0.190m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Employees in Proposed Development		-	-	90	0.28	25.200		25.200	Estimated Population: Number of staff advised by Project Proponent . Unit Flow Factor: 0.280m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Total Awaerge Daily Dry Weather Flow of Proposed Development (m ³ /day)								59.020	
2) Catchment A									
Residents in Proposed Development	3850	-	-	208	0.19	39.520	1.0	39.520	Estimated Population: The proposed development scheme will provide 178 bed spaces. Unit Flow Factor: 0.190m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Employees in Proposed Development		-	-	90	0.28	25.200		25.200	Estimated Population: Number of staff advised by Project Proponent . Unit Flow Factor: 0.280m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Total Awaerge Daily Dry Weather Flow of Catchment A (m ³ /day)								64.720	
3) Catchment B									
Planned Residential Area	-	-	-	464	-	-	-	125.300	Estimated Average Day Weather Flow refer to approved SIA of planning application A/YL-NSW/314.
Total Awaerge Daily Dry Weather Flow of Catchment B (m ³ /day)								125.300	

Appendix B - Hydraulic Capacity of the Proposed and Downstream Sewers

Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Upstream Invert Level	Downstream Invert Level	$g^{(1)}$	$k_s^{(1),(2)}$	$s^{(1)}$	$v^{(1)}$	$v^{(1),(2)}$	A	$Q^{(4)}$	rated Cap. L/s	ADWF m ³ /day	Communi- ng Populatio n	Peaking Factor	Peak Flow	Capacity	Compliance	Remarks
		mm	m	mPD	mPD	m/s ²	m		m ³ /s	m/s	m ²	m ³ /s					L/s	%		
S1	MH740	225	17.0	5.200	5.000	9.81	0.0006	0.0118	1.31E-06	1.4151	0.0398	0.0563	56.27	59.02	268	8	5.46	9.7%	Yes	Project Site
MH740	MH700	225	12.0	5.000	4.700	9.81	0.0006	0.0250	1.31E-06	2.0704	0.0398	0.0823	82.32	59.02	268	8	5.46	6.6%	Yes	Project Site
MH700	MH660	225	27.0	4.700	4.500	9.81	0.0006	0.0074	1.31E-06	1.1196	0.0398	0.0445	44.52	59.02	268	8	5.46	12.3%	Yes	Project Site
MH660	MH620	225	42.0	4.500	3.650	9.81	0.0006	0.0202	1.31E-06	1.8611	0.0398	0.0740	74.00	123.74	566	8	11.46	15.5%	Yes	Project Site + Catchment A
MH620	MH580	225	31.0	3.650	3.150	9.81	0.0006	0.0161	1.31E-06	1.6597	0.0398	0.0660	65.99	123.74	566	8	11.46	17.4%	Yes	Project Site + Catchment A
MH580	MH540	225	38.0	3.150	2.500	9.81	0.0006	0.0171	1.31E-06	1.7097	0.0398	0.0680	67.98	123.74	566	8	11.46	16.9%	Yes	Project Site + Catchment A
MH540	MH500	300	46.0	2.500	2.300	9.81	0.0006	0.0043	1.31E-06	1.0286	0.0707	0.0727	72.71	249.04	1030	6	17.29	23.8%	Yes	Project Site + Catchment A & B
MH500	MH460	300	40.0	2.300	2.100	9.81	0.0006	0.0050	1.31E-06	1.1042	0.0707	0.0781	78.05	249.04	1030	6	17.29	22.2%	Yes	Project Site + Catchment A & B
MH460	MH420	300	27.0	2.100	2.000	9.81	0.0006	0.0037	1.31E-06	0.9482	0.0707	0.0670	67.02	249.04	1030	6	17.29	25.8%	Yes	Project Site + Catchment A & B
MH420	MH380	300	24.0	2.000	1.900	9.81	0.0006	0.0042	1.31E-06	1.0066	0.0707	0.0712	71.16	249.04	1030	6	17.29	24.3%	Yes	Project Site + Catchment A & B
MH380	MH380(1)	300	23.0	1.900	1.800	9.81	0.0006	0.0043	1.31E-06	1.0286	0.0707	0.0727	72.71	249.04	1030	6	17.29	23.8%	Yes	Project Site + Catchment A & B
MH380(1)	MH340	300	29.0	1.800	1.700	9.81	0.0006	0.0034	1.31E-06	0.9144	0.0707	0.0646	64.63	249.04	1030	6	17.29	26.8%	Yes	Project Site + Catchment A & B
MH340	MH300	300	38.0	1.700	1.570	9.81	0.0006	0.0034	1.31E-06	0.9107	0.0707	0.0644	64.37	249.04	1030	6	17.29	26.9%	Yes	Project Site + Catchment A & B
MH300	MH260	300	35.0	1.570	1.450	9.81	0.0006	0.0034	1.31E-06	0.9117	0.0707	0.0644	64.44	249.04	1030	6	17.29	26.8%	Yes	Project Site + Catchment A & B
MH260	MH235	300	39.0	1.450	1.320	9.81	0.0006	0.0033	1.31E-06	0.8987	0.0707	0.0635	63.53	249.04	1030	6	17.29	27.2%	Yes	Project Site + Catchment A & B
MH235	P1	300	13.0	1.320	0.170	9.81	0.0006	0.0885	1.31E-06	4.6970	0.0707	0.3320	332.01	249.04	1030	6	17.29	5.2%	Yes	Project Site + Catchment A & B
P1	P2	675	66.0	0.170	-1.400	9.81	0.0006	0.0238	1.31E-06	4.0451	0.3578	1.4475	1447.52	249.04	1030	6	17.29	1.2%	Yes	Project Site + Catchment A & B
P2	P3	675	16.0	-1.400	-2.610	9.81	0.0006	0.0756	1.31E-06	7.2258	0.3578	2.5857	2585.73	249.04	1030	6	17.29	0.7%	Yes	Project Site + Catchment A & B
P3	P4	675	43.0	-2.610	-2.920	9.81	0.0006	0.0072	1.31E-06	2.2194	0.3578	0.7942	794.19	249.04	1030	6	17.29	2.2%	Yes	Project Site + Catchment A & B
P4	P5	675	52.0	-2.920	-3.200	9.81	0.0006	0.0054	1.31E-06	1.9158	0.3578	0.8856	885.57	249.04	1030	6	17.29	2.5%	Yes	Project Site + Catchment A & B
P5	P6	750	60.0	-3.200	-3.330	9.81	0.0006	0.0022	1.31E-06	1.2920	0.4418	0.5708	570.80	249.04	1030	6	17.29	3.0%	Yes	Project Site + Catchment A & B
P6	P7	750	88.0	-3.330	-3.520	9.81	0.0006	0.0022	1.31E-06	1.2897	0.4418	0.5698	569.79	249.04	1030	6	17.29	3.0%	Yes	Project Site + Catchment A & B
P7	P8	750	50.0	-3.520	-3.630	9.81	0.0006	0.0022	1.31E-06	1.3020	0.4418	0.5752	575.23	249.04	1030	6	17.29	3.0%	Yes	Project Site + Catchment A & B
P8	P9	750	61.0	-3.630	-3.760	9.81	0.0006	0.0021	1.31E-06	1.2813	0.4418	0.5660	566.04	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B
P9	P10	750	59.0	-3.760	-3.890	9.81	0.0006	0.0022	1.31E-06	1.3031	0.4418	0.5757	575.68	249.04	1030	6	17.29	3.0%	Yes	Project Site + Catchment A & B
P10	P11	750	67.0	-3.890	-4.030	9.81	0.0006	0.0021	1.31E-06	1.2685	0.4418	0.5604	560.43	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B
P11	P12	750	34.0	-4.030	-4.100	9.81	0.0006	0.0021	1.31E-06	1.2591	0.4418	0.5562	556.24	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B
P12	P13	750	40.0	-4.100	-4.180	9.81	0.0006	0.0020	1.31E-06	1.2407	0.4418	0.5481	548.13	249.04	1030	6	17.29	3.2%	Yes	Project Site + Catchment A & B
P13	P14	750	34.0	-4.180	-4.250	9.81	0.0006	0.0021	1.31E-06	1.2591	0.4418	0.5562	556.24	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B
P14	P15	750	39.0	-4.250	-4.330	9.81	0.0006	0.0021	1.31E-06	1.2567	0.4418	0.5552	555.21	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B
P15	E1	750	24.0	-4.330	-4.380	9.81	0.0006	0.0021	1.31E-06	1.2666	0.4418	0.5596	559.58	249.04	1030	6	17.29	3.1%	Yes	Project Site + Catchment A & B

Note:

(1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2) The mean velocity (V) is calculated by the Colebrook-White Equation for circular pipes:

$$V = -\sqrt{(8gDs)} \log\left(\frac{k_s}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

where V = mean velocity (m/s)

g = gravitational aceration (m/s²)

D = internal pipe diameter (m)

s = slope

k_s = roughness coefficient(m)

v = kinematic viscosity of fluid (m²/s)

(3) The value of k_s = 0.6mm is used for the calculation of existing pipe for conservative approach and 0.6mm for proposed new clayware pipe in poor condition based on OSD's "Sewerage Manual" Table 5: Recommended roughness values

(4) Peak flow (Q) is calculated by Q = V x A

Appendix 3

Photomontages



Figure No.	Figure Title	Date	Prepared by
Viewpoint 1	Viewpoint 1: View from the Junction of Kam Pok Road and Kam Pok Road East Facing East	July 2025	 DeSPACE (International) Limited



Figure No.	Figure Title	Date	Prepared by
Viewpoint 2	Viewpoint 2: View from Kam Pok Road East facing Northeast	July 2025	 DeSPACE (International) Limited