Annex A

Environmental Assessment

MOTT MACDONALD

Proposed ‘Social Welfare Facility’ (Residential Care Home for Persons with Disabilities) (“RCHD”) and Proposed Excavation of Land associated with the Proposed RCHD in “Village Type Development” Zone, at portion of Former Wa Fung School (華封學校) and adjoining Government Land, Lam Hau Tsuen, Yuen Long, New Territories

Environmental Assessment

September 2025

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1.1 Introduction

1.1.1.1 An Environmental Assessment (EA) has been conducted to support Planning Application for the proposed 'Social Welfare Facility' (Residential Care Home for Persons with Disabilities (RCHDs)) (hereafter referred to as "proposed development") at Former Wa Fung School. It comprises a total of 90 bed spaces. Potential impacts associated with road traffic noise, fixed noise, construction air quality, vehicular emission, industrial emission and land contamination have been reviewed in this study.

1.2 Noise Impact

1.2.1.1 Given that a 3m high solid boundary wall with a surface density of at least 10kg/m^2 is erected around the site to effectively screen the line of sight between the proposed RCHD and surrounding road links, including the major traffic noise sources at Yuen Long Highway, no adverse road traffic noise impact is anticipated.

1.2.1.2 Based on the review on the potential existing fixed noise sources, including existing car repairing workshops, car parks, open storage areas and logistic company, the noise impacts from these noise sources should be insignificant. This is due to a 3m high solid boundary wall is proposed to be erected along the north, east, southeast and south of the proposed development. The pump room is surrounded by an unexcavated area within site boundary and is fully enclosed. Considering that the surrounding NSRs are low-rise buildings, the 3m high solid boundary wall and the unexcavated area can block the direct line of sight between the planned fixed noise sources of the proposed development and existing NSRs. In addition, the installation of noise mitigation measures, including acoustic louvres and silencers, are expected to further reduce noise emissions from the planned fixed noise sources. As a result, no adverse fixed noise impact is anticipated from existing fixed noise sources to the proposed development, from the planned fixed noise sources to the existing NSRs and from planned fixed noise sources to the planned NSRs.

1.3 Air Quality Impact

1.3.1.1 Potential dust generating activities (excavation and filling, materials handling, truck movements on unpaved roads and wind erosion from open stockpile of dusty materials), and exhaust emission from the use of construction machinery and construction vehicles have the potential to cause construction air quality impacts. With the implementation of the recommended air quality control measures and adoption of good construction site practices, no adverse construction air quality impact is anticipated.

1.3.1.2 Potential air quality impacts due to vehicular emission were reviewed. As the proposed development is in full compliance with the recommended buffer distances stipulated in the HKPSG, adverse air quality impact due to the vehicular emissions is not anticipated. Potential odour impacts from the proposed kitchen and Septic Tank/Soakaway Pit System were also reviewed. The exhausts of kitchen will be positioned as far as practicable from surrounding ASRs. To further mitigate odour emissions, the ventilation system will incorporate multiple layers of filtration and

treatment. Grease filters will be installed within the cooker hoods to capture oily fumes and cooking odours at the source, and a scrubber and hydrovent unit will be integrated into the system to remove fine oil particulates and residual odours prior to discharge. The design and construction of the proposed Septic Tank/Soakaway Pit System will fulfil relevant regulations and government guidelines. The septic tank is located underground and enclosed with reinforced concrete; and exhaust that is placed aboveground shall be installed with a high-efficiency deodorizer. Sufficient separation distance should be provided. With abovementioned measures incorporated, no adverse air quality impacts on the proposed development due to odour emission is anticipated.

1.4 Land Contamination

1.4.1.1 Having reviewed historical aerial photos and relevant information from government department (i.e. EPD and FSD), no activity causing potential land contamination and spillage / leakage has been identified. According to the site reconnaissance survey, potential land contamination should not be anticipated for the Project Site.

1.5 Water Quality Impact

1.5.1.1 During the construction phase, potential sources of water quality impact include general construction activities, site runoff, accidental spillages and on-site sewage effluent. With the implementation of appropriate mitigation measures, such as good site practices, installation of drainage systems with silt traps, and proper sewage collection and disposal, no adverse impact on water quality is anticipated.

1.5.1.2 For the operational phase, water quality concerns primarily relate to sewage discharge and surface runoff from the proposed development. The adoption of a well-designed drainage and sewage treatment will ensure that no adverse impact on water quality is expected.

1.6 Waste Management

1.6.1.1 Waste management implications during the construction phase have been assessed, with strategies identified to minimise waste generation and off-site disposal. These include on-site sorting and reuse of construction and demolition (C&D) materials. Recommendations have been provided for implementation by the Contractor to ensure effective waste handling throughout the construction period.

1.6.1.2 For the operational phase, the types of waste expected have been identified, and appropriate measures have been recommended to ensure their proper treatment and disposal. With the implementation of these mitigation measures, the storage, handling, transportation, and disposal of waste during both construction and operation phases are not expected to result in any adverse environmental impacts.

1 Introduction

1.1 General

1.1.1.1 Mott MacDonald Hong Kong Limited has been commissioned to provide consultancy service and conduct and Environmental Assessment (EA) to support Planning Application for proposed 'Social Welfare Facility' (Residential Care Home for Persons with Disabilities) at part of Former Wa Fung School at Lam Hau Tsuen and its adjoining government land, Yuen Long, New Territories. The proposed development contains a total of 90 bed spaces.

1.2 Objectives of Report

1.2.1.1 The objectives of this EAS are to:

- Assess the road traffic noise impacts upon the proposed development with reference to the Hong Kong Planning Standards and Guidelines (HKPSG);
- Assess the potential of other noise sources impacts upon the proposed development with reference to HKPSG;
- Assess the potential vehicular, industrial emissions and odour impact with reference to HKPSG;
- Assess the potential waste and evaluate potential impacts from waste generated;
- Assess the potential land contamination impacts associated with the proposed development; and
- Recommend appropriate environmental mitigation measures as required.

1.3 Site Location

1.3.1.1 The proposed development is approximately 0.2945 hectare in size and is bounded by existing village houses to the northeast, east and northwest, open storage and vehicle repair workshops to the southwest. The location of the proposed development is shown in **Figure 1.1**.

1.4 Proposed RCHD Development Layout

1.4.1.1 The proposed development contains a total of 90 bed spaces. The tentative building completion year is 2027. The master layout of the proposed development is shown in **Appendix A** and the current key development parameters of building block are given in **Table 1.1**.

Table 1.1 Key Development Parameters of Proposed RCHD

Key Development Parameter	Proposed Development
No. of RCHD	1
Typical Floor to Floor Height for Proposed Development	3.50
First Residential Floor (mPD)	14.00
First NSR Level (mPD)	15.20

Key Development Parameter	Proposed Development
No. of RCHD	1
Typical Floor to Floor Height for Proposed Development	3.50
Proposed Intake Year	Year 2027

Note:

1. The latest key development parameter listed above is adopted in the current EAS report.
2. Please refer to **Appendix A** for the layout and cross-sectional plans for the information on numbers of proposed RCHD.

2 Road Traffic Noise Impact Assessment

2.1 Assessment Criteria

2.1.1 Road Traffic Noise Criteria

2.1.1.1 With reference to the guideline in Chapter 9 of HKPSG, the noise criteria for road traffic noise level measured at 1 metre away from typical noise sensitive façade in terms of $L_{10(1\ hour)}$ is recommended to be 70 dB(A) for domestic premises and office. These criteria apply to premises which rely on opened windows as a primary means of ventilation. The summary of noise criteria is given in **Table 2.1** below.

Table 2.1 Relevant Noise Standard for Planning Purposes

Uses	Road Traffic Noise Peak Hour Traffic $L_{10(1\ hour)}$, dB(A)
All domestic premises including dormitories	70
Office	

Note:
1. The above standards apply to uses which rely on opened windows for ventilation.
2. The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

2.1.1.2 In this proposed development, the road traffic noise criterion of 70 dB(A) is applicable to the residential dwellings within the block.

2.2 Identification of Noise Sources

2.2.1.1 Road traffic noise from nearby road network is anticipated. The nearby road network within the 300m assessment area has been indicated in **Appendix B**. Yuen Long Highway is considered the dominant sources of road traffic noise within 300m assessment area.

2.3 Evaluation and Assessment of Noise Impacts

2.3.1.1 According to **Figure 3.1**, a 3m high solid boundary wall is proposed to be erected around the perimeter of the development site. The proposed development only comprises a 1-storey layout, including both the retrofit of existing structures and the construction of new buildings. With 3m high solid boundary wall, the line of sight between the proposed RCHD and the surrounding road network will be fully screened. In addition, the 3m high solid boundary wall will be constructed with materials having a minimum surface density of 10 kg/m², which is considered acoustically sufficient to act as an effective barrier to significantly reduce the transmission of traffic noise from the surrounding road network to the proposed RCHD. Therefore, no adverse road traffic noise impact is from the surrounding road network.

2.3.1.2 With reference to the Annual Traffic Census 2023 published by Transport Department, Yuen Long Highway is classified as an Expressway, which is also identified as the most major road traffic noise source within the 300m assessment area from the proposed development. Considering that the shortest horizontal distance between the proposed RCHD to Yuen Long Highway is at least 200m, road

traffic noise from Yuen Long Highway is expected to be attenuated over this long separation distance. In addition, the proposed 3m high solid boundary wall will act as an effective physical barrier to further reduce the road traffic noise by screening the direct line of sight between the Yuen Long Highway and the proposed RCHD. As a result, the road traffic noise from Yuen Long Highway is expected to be significantly reduced by the combined effect of long separation distance and screening from 3m high solid boundary wall. Therefore, no adverse road traffic noise impact is anticipated.

2.4 Summary

2.4.1.1 Given that a 3m high solid boundary wall with a surface density of at least 10kg/m^2 is erected around the site to effectively screen the line of sight between the proposed RCHD and surrounding road links, including the major traffic noise sources at Yuen Long Highway, no adverse road traffic noise impact is anticipated.

3 Fixed Noise Impact Assessment

3.1 Assessment Criteria

3.1.1.1 According to Section 4.2.13 in Chapter 9 of the HKPSG, noise assessments for fixed noise sources would normally be conducted in accordance with the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM) under the Noise Control Ordinance (NCO). The IND-TM lays down statutory Acceptable Noise Levels (ANLs).

3.1.1.2 For fixed noise impact assessment to the proposed development, the ANLs for the Noise Sensitive Receivers (NSRs) are determined with consideration of the Area Sensitivity Rating (ASR), which is defined in the IND-TM. The ASR depends on the type of area and the degree of impact that Influencing Factors (IF) have on the NSRs as illustrated in **Table 3.1**. Industrial area, major road or the area within the boundary of Hong Kong International Airport shall be considered an IF.

Table 3.1 Area Sensitivity Rating

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
(i) Rural area, including country parks[(a)] or village type developments	A	B	B
(ii) Lower density residential area consisting of low-rise or isolated high-rise developments	A	B	C
(iii) Urban area[(b)]	B	C	C
(iv) Area other than those above	B	B	C

Definition:

(a) "Country park" means an area that is designated as a country park pursuant to section 14 of the Country Parks Ordinance.

(b) "Urban area" means an area of high density, diverse development including a mixture of such elements as industrial activities, major trade or commercial activities and residential premises.

(c) "Not Affected" means that the NSR is at such a location that noise generated by the IF is not noticeable at the NSR.

(d) "Indirectly Affected" means that the NSR is at such a location that noise generated by the IF, whilst noticeable at the NSR, is not a dominant feature of the noise climate of the NSR.

(e) "Directly Affected" means that the NSR is at such a location that noise generated by the IF is readily noticeable at the NSR and is a dominant feature of the noise climate of the NSR.

3.1.1.3 Fixed plant noise is controlled under the NCO and shall comply with ANLs laid down in Table 2 of the IND-TM. For a given ASR, the ANL, in dB(A), is given in **Table 3.2**.

Table 3.2 Acceptable Noise Level for Fixed Plant Noise

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

Definition:

1. The above standards apply to uses which rely on opened windows for ventilation

2. The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade

3.1.1.4 The proposed site is located in a low density sub-urban diverse development area including village houses, vehicle repair workshops and open storage area. Therefore, the type of area containing the NSRs is considered as "Area other than those above" as defined in the IND-TM. In accordance with the Annual Traffic Census 2023 published by Transport Department, Yuen Long Highway from Shap Pat Heung Interchange to Tong Yan San Tsuen Interchange with Annual Average Daily Traffic (AADT) of 96,570 which exceeds 30,000, should be considered as an IF. As the proposed NSRs are considered not affected or indirectly affected by the IF, the ASRs for the representative NSRs in this study have been classified as "B" according to **Table 3.1**. The ANL for noise sensitive façade with ASR of "B" would be 65 dB(A) during daytime and evening (between 07:00 and 23:00 hours) and 55 dB(A) for night-time (between 23:00 and 07:00 hours).

3.2 Identification of Noise Sources

3.2.1.1 Potential fixed noise sources were identified based on the desktop study. Details for the locations and types of the identified fixed noise sources are summarised in **Table 3.3** and **Figure 3.1**. Noise survey was conducted on 19 March 2025 to verify the findings of the desktop appraisal and site photos are provided in **Appendix G**.

Table 3.3 Locations and Types of Identified Fixed Noise Sources

Identified Fixed Noise Sources	Existing / Planned	Potential Noise Activities	Type of use	Operation Hours
Chung Wai Tat Logistics Ltd. (CWT)	Existing	Heavy vehicles movements and material loading and unloading	Along haul roads and open storage area	0700 to 2300
Hanyang Group (HY)	Existing	Vehicle movement	Open storage	0900 to 1800
Sunstar Motor Engineering Ltd. (CR1)	Existing	Car repairing, hammering and tyres pumping	Car repairing shop	0900 to 1800
Star Power Motor Engineering Ltd. (CR2)	Existing	Car repairing, hammering and tyres pumping	Car repairing shop	0830 to 1800
Mass Autotech Co. Ltd. (CR3)	Existing	Car repairing, hammering and tyres pumping	Car repairing shop	0900 to 1800
Car Repairing Workshop (CR4)	Existing	Car repairing, hammering and tyres pumping	Car repairing shop	0900 to 1900
Hung Shing Car Park (CP1)	Existing	Vehicle movement	Car Park	24 hours
Planned Pump Room	Planned	Ventilation louvres	Mechanical plant	24 hours
Planned Septic Tank/Soakaway Pit System	Planned	Ventilation stacks	Mechanical plant	24 hours

Chung Wai Tat Logistics Ltd. (CWT)

3.2.1.2 CWT is located at 1m south of the site boundary. According to the interview with the employee, the operation of CWT is from 0700 to 2300 hours on Monday to Saturday. Based on the interview, the major noise sources are heavy vehicles movements

along haul roads and material loading and unloading at the open storage area. However, no noisy activities were observed during the site survey on 19 March 2025. As 3m height solid boundary wall is proposed to be erected around the proposed development, and the proposed development is a 1-storey development including retrofit of existing buildings and construction of new buildings, the line of sight between the proposed RCHD and noise sources would be fully blocked by 3m height solid boundary wall. Therefore, adverse fixed noise impact due to the noisy activities to proposed eldering home is anticipated to be minimal.

Hanyang Group (HY)

3.2.1.3 HY is located at 40m from the site boundary. According to the interview with the persons from the nearby companies, the operation of HY is from 0900 to 1800 hours on Monday to Saturday. Based on the site inspection, open storage is consisted of heavy vehicles and warehouse, and no noisy activity such as vehicle movement was identified. As 3m high solid boundary wall is proposed to be erected around the proposed development, the noise sources of the open storage are fully screened by the solid boundary wall. Therefore, no fixed noise impact from the open storage to the proposed development is anticipated.

Sunstar Motor Engineering Ltd. (CR1)

3.2.1.4 CR1 is a car repairing shop located at 20m from the site boundary. Based on the interview with the employee, the operation of CR1 is from 0900 to 1800 on Monday to Saturday. In accordance with interview, car repairing, hammering and tyres pumping are the major noise sources. The noise sources of the CR1 are fully screened by the proposed 3m height solid boundary wall, and no direct line of sight from the proposed development. Hence, no adverse fixed noise impact from SME to the proposed development is anticipated.

Star Power Motor Engineering Ltd. (CR2)

3.2.1.5 CR2 is a car repairing shop located at 25m from the site boundary. Based on the interview with the employee, the operation of CR2 is from 0830 to 1800 on Monday to Saturday. In accordance with interview, car repairing, hammering and tyres pumping are the major noise sources. The noise sources of the CR2 are fully screened by the proposed 3m height solid boundary wall, and no direct line of sight from the proposed development . Hence, no adverse fixed noise impact from SME to the proposed development is anticipated.

Mass Autotech Co. Ltd. (CR3)

3.2.1.6 CR3 is a car repairing shop located at 60m from the site boundary. Based on the interview with the employee, the operation of CR3 is from 0900 to 1800 on Monday to Saturday. In accordance with interview, car repairing, hammering and tyres pumping are the major noise sources. The noise sources of the CR3 are fully screened by the proposed 3m height solid boundary wall, and no direct line of sight from the proposed development . Hence, no adverse fixed noise impact from SME to the proposed development is anticipated.

Car Repairing Workshop (CR4)

3.2.1.7 CR4 is located at 60m from the site boundary. According to the interview with the employee, the operation of HY is from 0800 to 1900 hours on Monday to Saturday. In accordance with interview, car repairing, hammering and tyres pumping are the major noise sources. Based on the site inspection, open storage is consisted of

heavy vehicles, and no vehicle movement was identified. As 3m high solid boundary wall is proposed to be erected around the proposed development , the noise sources of the open storage are fully screened by the solid boundary wall. Therefore, no fixed noise impact from noisy activities to the proposed development is anticipated.

Hung Shing Car Park (CP1)

3.2.1.8 CP1 is located at 165m from the site boundary. Based on the site observation, the only non-frequent vehicles are slow in movement without any tyre noise, skidding noise and braking noise in the car park. As 3m high solid boundary wall is proposed to be erected around the proposed development, the noise sources of the car park are fully screened by the solid boundary wall. As the separation distance from the planned NSR and the proposed development is quite far and the direct line of sight from planned NSRs to the noise source will be blocked by the village houses at Lam Hau Tsuen, no adverse fixed noise impact from the car parks to the proposed development is anticipated.

Planned Pump Room

3.2.1.9 There is a planned pump room which is fully enclosed within the site boundary. The pump room will be operated in 24 hours. The potential fixed noise sources include the ventilation fans and pumps inside the pump room.

Planned Septic Tank/Soakaway Pit System

3.2.1.10 There is a planned septic tank/soak away pit system within the site boundary. This will be operated in 24 hours. The potential fixed noise sources include pumps and ventilation stacks.

3.3 Evaluation of Noise Impact

3.3.1 Existing Fixed Noise Sources

3.3.1.1 A 3m high solid boundary wall is proposed along the north, east, southeast, and south sides of the development. The direct line of sight between the planned NSRs and existing fixed noise sources will be fully screened by the solid boundary wall. As such, no adverse fixed noise impact is anticipated from all existing fixed noise sources on the proposed development.

3.3.2 Planned Fixed Noise Sources

3.3.2.1 The major planned fixed noise sources in the proposed development involve ventilation louvres for pumping room and ventilation stacks for a Septic Tank/Soakaway Pit system.

3.3.2.2 A 3m high solid boundary wall is proposed to be erected along the north, east, southeast and south of the proposed development. The pump room is surrounded by an unexcavated area within site boundary and is fully enclosed. Considering that the surrounding NSRs are low-rise buildings, the 3m high solid boundary wall and the unexcavated area can block the direct line of sight between the planned fixed noise sources of the proposed development and existing NSRs. The representative existing NSRs, planned NSRs, 3m high solid boundary wall and an unexcavated area are shown in **Figure 3.2**.

3.3.2.3 The planned pump room is fully enclosed, so the potential breakout noise impact upon the surrounding and planned NSRs is minimal. To further minimize the noise emissions from the ventilation louvres of pump room, acoustic louvres and silencers are proposed to be installed. In addition, the ventilation louvres will be strategically positioned away from the planned NSRs at north façade of the pump room. By locating ventilation louvres away from the planned NSRs, installing acoustic louvres and silencers, noise emissions from the proposed pump room can be effectively attenuated. Thus, with these mitigation measures in place, the noise impact from the planned pump room on the planned NSRs is expected to be minimal.

3.3.2.4 According to the latest SIA Report, the Septic Tank/Soakaway Pit system is proposed for the sewage treatment, and the septic tank is located underground. The proposed sewerage disposal facilities, including pumps are all located underground and fully enclosed with a building structure. Therefore, the potential breakout noise impact upon the surrounding NSRs is minimal. The silencer will be installed at the ventilation stacks to further minimize the noise emissions during operation. With these mitigation measures in place, the noise impact from the planned Septic Tank/Soakaway Pit system on the planned NSRs is expected to be minimal.

3.4 Summary

3.4.1.1 With an unexcavated area within site boundary and a 3m high solid boundary wall surrounding the proposed development, direct lines of sight between existing fixed noise sources and the proposed development as well as between planned fixed noise sources and nearby NSRs will be effectively screened. In addition, the installation of noise mitigation measures, including acoustic louvres and silencers at fully enclosed pump room, are expected to further reduce noise emissions from the planned fixed noise sources. As a result, no adverse fixed noise impact is anticipated from existing fixed noise sources to the proposed development, from the planned fixed noise sources to the existing NSRs and from planned fixed noise sources to the planned NSRs.

4 Air Quality Impact Assessment

4.1 Introduction

4.1.1.1 This section presents the assessment of potential air quality impacts associated with the construction and operation phase of the proposed development. Exhaust emissions, including particulate matters (PM) and gaseous emissions generated from the construction activities, use of construction machinery and construction vehicles are the primary concern during the construction phase. During operation phase, assessment of potential vehicular emission, industrial emission and odour impact have been conducted with reference to the guideline for environmental considerations in the planning of both public and private development in Chapter 9 of the HKPSG.

4.2 Assessment Criteria

4.2.1 Air Quality Control Ordinance

4.2.1.1 The principal legislation for the management of air quality is the Air Pollution Control Ordinance (APCO). It specifies Air Quality Objective (AQOs) which stipulate the statutory limits of air pollutants and the maximum allowable numbers of exceedance over specific periods. With passage of the Air Pollution Control (Amendment) Ordinance 2025 by the Legislative Council on 27 March 2025, the new AQOs as listed in **Table 4.1** took effect on 11 April 2025.

Table 4.1 New AOQs Effective on 11 April 2025

Pollutant	Averaging Time	AQO concentration[i] (μg/m³)	Allowable exceedances
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	40	3
Respirable Suspended Particulates (PM_{10}) [ii]	24-hour	75	9
	Annual	30	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [iii]	24-hour	37.5	18
	Annual	15	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	24-hour	120	9
	Annual	40	Not Applicable
Ozone (O_3)	8-hour	160	9
	Peak season	100	Not Applicable
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Lead	Annual	0.5	Not Applicable

Note:

[i] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325 kilopascal.

[ii] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.

[iii] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.

4.2.2 Air Pollution Control (Construction Dust) Regulation

4.2.2.1 The Air Pollution Control (Construction Dust) Regulation specifies processes that require special dust control. The Contractors are required to inform the EPD and adopt proper dust suppression measures while carrying out "Notifiable Works" (which requires prior notification by the regulation) and "Regulatory Works" to meet the requirements as defined under the regulation.

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

4.2.3.1 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation comes into operation on 1 June 2015. Under the Regulation, Non-road mobile machinery (NRMMs), except those exempted, are required to comply with the prescribed emission standards. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites. The Contractor is required to ensure the adopted machines or non-road vehicle under the Project could meet the prescribed emission standards and requirement.

4.2.4 Hong Kong Planning Standards and Guidelines (HKPSG)

4.2.4.1 The HKPSG buffer distance to "open space" sites have been adopted as there is no specific requirement for buffer distances to domestic premises.

4.2.4.2 According to Table 3.1 in Chapter of the HKPSG, minimum buffer distance has been recommended for air sensitive uses in relation to vehicle emissions from various road categories and chimney emissions from industrial areas. The relevant minimum buffer distance for open space is given in **Table 4.2**.

Table 4.2 Guideline on Usage of Open Space Site

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	**Type of Road:**		
	Trunk Road and Primary Distributor (PD)	>20m	Active and passive recreation uses
		3 – 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor (DD)	>10m	Active and passive recreation uses
		<10m	Passive recreational uses
	Local Distributor (LD)	>5m	Active and passive recreation uses
		<5m	Passive recreational uses
	Under Flyovers	--	Passive recreational uses
Industrial Areas (Chimney Emission)	**Difference in Height between Industrial Chimney Exit and the Site:**		
	<20m	>200m	Active and passive recreation uses
		5 - 200m	Passive recreation uses
	20 - 30m	>100m	Active and passive recreation uses
		5 - 100m	Passive recreation uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
	30 - 40m	>50m	Active and passive recreation uses
		5 - 50m	Passive recreation uses
	>40m	>10m	Active and passive recreation uses

4.3 Assessment Area

4.3.1.1 The Assessment Area is defined as within 500m of the site boundary for air quality impact assessment. This study area is defined and shown in **Figure 4.1**. The representative air sensitive receivers (ASRs) nearby are identified through desktop review, site survey and approved OZPs and are summarised in **Table 4.3** below:

Table 4.3 Representative Air Sensitive Receivers

ASR ID	Status	Description	Separation Distance (m)
A1	Existing	No. 191, Lam Hau Tsuen	6
A2	Existing	No. 190, Lam Hau Tsuen	16
A3	Existing	No. 1, Lam Hau Tsuen	48
A4	Existing	No. 193, Lam Hau Tsuen	5
A5	Existing	No. 2 Shan Ha Tsuen	122
A6	Existing	No. 195a, Lam Hau Tsuen	41
A7	Existing	Godown, No.193A, Lam Hau Tsuen	12
A8	Planned	Proposed Social Welfare Facility	Within the Site

4.4 Identification of Emission Sources

4.4.1 Construction Activities During Construction Phase

4.4.1.1 The construction of the proposed development has the potential to give rise to air quality impact. Dust including Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) are the key air pollutants during construction. Exhaust emissions from the use of construction machinery and construction vehicles are also the potential sources of construction air quality impact.

4.4.1.2 The key construction activities for the Project are listed below:

- Construction of the proposed development – foundation and piling, building works, installation of electrical and mechanical plant and equipment, testing and commissioning.
- All the associated civil, structural, geotechnical, landscaping, electrical and mechanical works; and
- Soil excavation, materials handling, trucking movements on unpaved roads and wind erosion from open stockpiling of dusty materials within the subject site are identified to be the potential dust generating activities.

4.4.2 Vehicular Emission During Operation Phase

4.4.2.1 The HKPSG buffer distance to "open space" sites have been adopted as there is no specific requirement for buffer distances to domestic premises.

4.4.2.2 According to the Table 3.1 in Chapter 9 of the HKPSG, guidelines of the buffer distance for air sensitive usage on vehicular emissions in relation to different categories of roads have been recommended. The different categories of roads and the respective minimum buffer distance for open space site are given in **Table 4.2**.

4.4.2.3 Roads located around the proposed development are local access roads and Shan Ha Road. As confirmed with traffic consultant and TD, Shan Ha Road and local access roads at southwest and northeast are classified as feeder roads (Please refer to **Appendix H** for more details). Shan Ha Road is 60m away from the site boundary. Therefore, no adverse vehicular air quality impact due to Shan Ha Road is anticipated.

4.4.2.4 According to the Transport Planning & Design Manual (Volume 2), the definition of Feeder Roads and Local Distributor are as follow:

- Feeder Roads – Roads connecting villages or more remote settlements to Rural Roads.
- Local Distributors – Roads within Districts linking developments to the District Distributor Roads

4.4.2.5 Given their largely similar definitions, the minimum buffer distance recommended for local distributor roads is assumed to be applied in feeder roads as a conservative approach[1].

4.4.2.6 Therefore, the minimum buffer distances as stipulated in HKPSG, which is 5m have been adopted in the assessment for local access roads. The separation distances between Shan Ha Road/ local access roads and the proposed development are shown in **Figure 4.2**. The internal road within the proposed development will be served as an EVA and for internal daily activities only so that the buffer distance requirements from HKPSG do not apply to the internal road. As there is no air sensitive use of the proposed development, including openable window, fresh air intake and recreational use in open space, will be located within the buffer zone, the proposed development fully complies with the relevant buffer distance requirements recommended in HKPSG. Therefore, adverse air quality impact due to vehicular emission on the proposed development is not anticipated.

4.4.2.7 Due to the nature and the small-scale of the proposed development, additional traffic induced by the proposed development is expected to be minimal. Also, no public vehicle carpark, public transport interchange and public transport lay-by are proposed within the proposed development. Therefore, additional vehicular emission impact induced from the proposed development to the ASRs in the vicinity is not anticipated.

[1] Similar approach is adopted in recent EA: https://www.tpb.gov.hk/en/plan_application/A_YL-KTN_964/FI_20240130/Response_To_Comments_1.pdf , accessed on 27 June 2025.

4.4.3 Industrial Emission During Operation Phase

4.4.3.1 Based on the site visit conducted on 19 March 2025, no industrial chimney was identified within 500m of the site boundary. Desktop review was also conducted through Google Earth and Hong Kong Environmental Database published by EPD, and no potential industrial chimney and Specified Process (SP) License was identified within 500m of the site boundary. Therefore, adverse air quality impact due to industrial emission on the proposed development is not anticipated.

4.4.4 Odour Emission During Operation Phase

4.4.4.1 An odour survey within 500m from the site boundary was carried on 19 March 2025 to identify any malodour from the surrounding. According to the odour survey, malodour was not detected through our odour survey.

4.4.4.2 As no existing public sewerage system is located in the vicinity of the Site, Septic Tank/Soakaway Pit System has been proposed for the sewage treatment of the proposed development in the separated Sewerage Impact Assessment (SIA). The potential odour emission sources of the proposed development are listed below:

Septic Tank/Soakaway Pit System

4.4.4.3 Septic Tank/Soakaway Pit System is proposed within the proposed development (see **Appendix A**). The design and construction of the Septic Tank/Soakaway Pit System will fulfil the requirements of the Buildings (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations (Cap.123I), ProPECC PN1/23 and other relevant regulations and government guidelines. The estimated overall sewage generated during operation of the development is 23m^3/day. Thus, the septic tank capacity shall be approximately 24m^3. Sufficient separation distance should be provided between the Septic Tank/Soakaway Pit System, as well as the waterbodies and structures. The minimum clearance requirements are specified in Appendix D of ProPECC PN1/23. The odour emissions from the vent pipes of Septic Tank/Soakaway Pit System are the potential odour emission sources of the proposed development.

Cooking fume/odour from the kitchen

4.4.4.4 Relevant cooking fume/odour control guidelines as recommended in the Control of Oily Fume and Cooking Odour from Restaurants and Food Business should be adopted to minimise the air pollution problem.

Positioning of the outlet of the exhaust system

4.4.4.5 The exhaust outlet of the kitchen is positioned to the northwest to avoid direct facing to the nearby ASRs. Also, the location of exhaust outlet should be set away from surrounding ASRs as far as possible to avoid causing odour nuisance.

Control of oily fume and odour emission

4.4.4.6 Oily fume and cooking odour will be emitted via exhaust outlet from the kitchen during the cooking process. Cooker hoods with grease filter will be installed to control oily fume and cooking odour emission to the surrounding. In addition, water curtain scrubber and hydrovent are provided in the ventilation system to collect and further remove the fine oil particles of the oily fume after passing through the grease filter.

Therefore, adverse air quality impacts caused by the cooking process is not anticipated.

4.5 Evaluation and Assessment of Air Quality Impact

4.5.1 Construction Activities During Construction Phase

4.5.1.1 Hoarding will be erected along the site prior to the commencement of the foundation work. Footing foundation with reinforced concrete pile caps will be used for the foundations of the buildings. Reinforced concrete slab will be built for the proposed development. Most excavation materials will be generated during foundation works, site formation works and concreting works.

4.5.1.2 The construction of the Project is expected to be commenced in January 2026 and completed by October 2027. Since the Project is still at the early stage, there is no details of the construction programme, number of construction plants and vehicles available at this stage. Given that the proposed development includes a single floor of RCHDs only, extensive excavation works from foundation, site formation and concreting works are not anticipated. Based on a site area of approximately 0.2945 hectares, it is estimated that the excavation area will be around 1,352 m². Based on the latest information, the excavation depth ranges from 0.5m to 3.2m, a total excavation material of approximately 1,742.6 m³, and using an average dump truck capacity of 7.5 m³ per trip, a total number of dump truck is estimated to be 233 to transport the excavated materials throughout construction period. This means a maximum of 1 dump truck trip per day is anticipated for the whole construction periods with approximately 480 weekdays. Given that the construction activities will be small-scale, the number of construction machinery (including excavators, dump trucks, generators, compactors, rollers, loaders, etc) to be used on site is estimated to be less than 10 per hour. The abovementioned information is preliminary and will be subject to the construction at detailed design stage. Given that the construction works are small in scale and only expected to generate small amounts of excavated materials, with the implementation of the air quality control measures stipulated under the Air Pollution Control (Construction Dust) Regulation and adoption of good site practices, the associated air quality impacts during the construction phase will be controlled.

Cumulative Impacts

4.5.1.3 Public Housing Development at Long Bin Phases 1-3 is currently under construction, potential cumulative impacts during construction phase of the Project are expected. As the site is located away approximately 490m from each other, the Contractor is suggested to have close liaison with the Contractor of this concurrent project to avoid overlapping of heavy or dusty works and allow sufficient buffer for works at project interface due to potential delays in the programme so that the cumulative effects of the environmental impacts could be minimised.

4.5.1.4 Yuen Long South Development Stage 1 Works and Stage 2 Works, Phase 1 is also under construction, potential cumulative impacts during construction phase of the Project are expected. As the site is located away approximately 184m from the nearest road works from each other, the Contractor is suggested to have close liaison with the contractor of this concurrent project to avoid overlapping of heavy works and allow sufficient buffer for works at project interface so that the cumulative effects of the environmental impacts could be minimised. Given the long separation distance between the abovementioned concurrent projects and the Project and given the

mitigation measures or dust and gaseous emission control as mentioned in the reports from concurrent projects and in this report will be strictly followed, adverse cumulative air quality impacts arising from the construction activities of the Project and abovementioned concurrent projects are not anticipated.

4.5.1.5 With the implementation of air quality control measures stipulated under the Air Pollution Control (Construction Dust) Regulation and those recommended **Section 4.6.1**, together with proper site management and good housekeeping, no adverse construction air quality impact is expected from the construction works.

4.5.2 Vehicular Emission During Operation Phase

4.5.2.1 The horizontal separation distances between the kerb of nearby roads and the proposed development are summarised in **Table 4.4**.

Table 4.4 Separation Distance between Nearby Roads and the Proposed Social Welfare Facility

Road	Type of Road	Buffer Distance	Shortest Horizontal Distance to Nearest Air Sensitive Uses
Shan Ha Road	LD	5m	75m (BR 1 (bedroom) from the proposed development)
Local Access Road	LD	5m	8m (BR 10 (bedroom) from the proposed development)

4.5.2.2 The internal road within the proposed development will be served as an EVA and for internal daily activities, so that the buffer distance requirements from HKPSG do not apply to the internal road. No adverse air quality impacts are anticipated from the internal road.

4.5.2.3 According to **Table 4.4** and **Figure 4.3**, as there are no air sensitive uses (including openable window, fresh air intake and recreational use in open space) fall within the recommended minimum buffer distance from nearby road kerbs and the proposed development as stipulated in HKPSG, no adverse air quality impacts on the proposed development due to vehicular emissions are anticipated.

4.5.2.4 Also, no public vehicle carpark, public transport interchange and public transport lay-by are proposed within the proposed development. Therefore, additional vehicular emission impact induced from the proposed development to the ASRs in the vicinity is not anticipated.

4.5.3 Industrial Emission During Operation Phase

4.5.3.1 No industrial chimney was identified within 500m of the site boundary. Therefore, adverse air quality impact due to industrial emission on the proposed development is not anticipated.

4.5.4 Odour Emission During Operation Phase

4.5.4.1 The kitchen exhaust system will be carefully designed to prevent odour nuisance to nearby ASRs. The exhaust outlet should be set away from surrounding ASRs as far as possible to avoid causing odour nuisance. To further control odour emissions, the system will be incorporated multiple layers of filtration and treatment. Grease filters will be installed in cooker hoods to capture oily fumes and cooking odours at the

source. Additionally, a water curtain scrubber and hydrovent are integrated into the ventilation system to remove fine oil particles and residual odours before discharge. With abovementioned mitigation measures in place, no adverse odour impact from kitchen exhausts is anticipated.

4.5.4.2 Details of the design of Septic Tank/Soakaway Pit System will be subject detailed design stage. The septic tank is located underground and enclosed with reinforced concrete. The exhaust shall be installed with a high-efficiency deodorizer which should have removal efficiency of at least 99% to ensure that any emissions will be deodorized before entering the atmosphere. With reference to Section 4.7.2 in Improvement of Yuen Long Town Nullah EIA (Register No.: AEIAR-223/2020), odour removal efficiency of 99% by filter media should be achievable. The exhaust points (i.e. vent pipes) of the septic tank are placed aboveground and proposed directing to the west of the proposed development. A minimum separation distance of at least 26m is between the exhaust of Septic Tank/Soakaway Pit System and the closest existing ASRs (A4) and at least 41m is between the exhaust and the planned ASR (A8) (see **Figure 4.2**).

4.5.4.3 According to the Hung Shui Kiu Effluent Polishing Plant EIA (Register No.: AEIAR-240/2022), the maximum 5-second average odour concentration predicted at the representative ASRs within 500m of the plant was 2.2 OU/m³ at 20mAG, which complied with the EIAO-TM criterion of 5 OU/m³. The height of deodorizer exhaust points for this case ranges from 17.9m to 27.65m above ground, which is close to 20mAG. Given that the Yuen Long South Effluent Polishing Plant has a design capacity of 90,000 m³/d which is significantly greater than the 23m³/d sewage treatment capacity of Septic Tank/Soakaway Pit System, the Septic Tank/Soakaway Pit System is considered very small-scale, and the source strength is expected to be very small. The height of exhaust points of the vent pipes of Septic Tank/Soakaway Pit System are located at 2.5m above ground. With consideration of smaller source strength, the maximum 5-second average odour concentration is expected not higher than 2.2 OU/m³ from Hung Shui Kiu Effluent Polishing Plant EIA. Also, considering that the Septic Tank/Soakaway Pit System will be equipped with a higher efficiency deodorization system with a minimum odour removal efficiency of 99% compared to 95% in Hung Shui Kiu Effluent Polishing Plant EIA, the odour emissions from the vent pipes of Septic Tank/Soakaway Pit System is expected to be further lower. Therefore, given that all abovementioned measures are incorporated, and the proposed Septic Tank/Soakaway Pit System is very small-scale, which will be designed to cater for a small amount of sewage (i.e. 23m³/d), the potential odour nuisance from Septic Tank/Soakaway System to the ASRs is not anticipated.

4.6 Mitigation Measure

4.6.1 Mitigation Measure During Construction Phase

4.6.1.1 The following air quality control measures stipulated in the Air Pollution Control (Construction Dust) Regulations, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and good site practices will be incorporated into the Contract Specifications and implemented throughout the construction period:

- Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings;
- Impervious sheet will be provided for skip hoist for material transport;

- The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable;
- All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation;
- Dropping heights for excavated materials should be controlled to a practical height to minimise the fugitive dust arising from unloading;
- During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport;
- Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable;
- Road sections between vehicle-wash areas and vehicular entrance will be paved;
- Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times;
- Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time;
- Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides;
- All exposed areas will be kept wet always to minimise dust emission;
- Ultra-low sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.001% sulphur by weight as stipulated in the Air Pollution Control (Fuel Restriction) (Amendment) Regulations 2024;
- The engine of the construction equipment during idling will be switched off;
- Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission;
- Site hoarding of not less than 2.5m high from ground level along the site boundary which is next to a road or other public area will be provided;
- Use electrified NRMM as far as practicable; and
- Avoid the use of exempted NRMM.

4.6.1.2 In addition, the relevant requirements of the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will be followed to minimise the emissions from non-road mobile machinery during the construction phase.

4.7 Summary

4.7.1.1 Potential dust generating activities (including excavation and filing, materials handling, truck movements on unpaved roads and wind erosion of temporary stockpile of dusty materials) and exhaust emission (from use of construction machinery and construction vehicles) have the potential to give rise to air quality impact. With the implementation of the recommended air quality control measures and adoption of good construction site practices, no adverse construction air quality impact is anticipated.

4.7.1.2 No adverse air quality impacts due to the vehicular emission are anticipated as the recommended buffer distances stipulated in the HKPSG are in full compliance for the

proposed development. Potential odour impacts from the proposed kitchen and Septic Tank/Soakaway Pit System were also reviewed. The exhausts of kitchen will be positioned as far as practicable from surrounding ASRs. To further mitigate odour emissions, the ventilation system will incorporate multiple layers of filtration and treatment. Grease filters will be installed within the cooker hoods to capture oily fumes and cooking odours at the source, and a scrubber and hydrovent unit will be integrated into the system to remove fine oil particulates and residual odours prior to discharge. The design and construction of the proposed Septic Tank/Soakaway Pit System will fulfil relevant regulations and government guidelines. The septic tank is located underground and exhaust that is placed aboveground shall be installed with a high-efficiency deodorizer. Sufficient separation distance should be provided. With abovementioned measures incorporated, no adverse air quality impacts on the proposed development due to odour emission of the proposed Septic Tank/Soakaway System is anticipated.

5 Land Contamination

5.1 Introduction

5.1.1.1 This section presents the assessment of potential land contamination impacts associated with the proposed development.

5.2 Environmental Legislation, Standards and Guidelines

5.2.1.1 In 2007, Environmental Protection Department (EPD) issued two guidelines for utilising Risk-based Remediation Goals (RBRGs) developed for Hong Kong, namely, "Guidance Note for Contaminated Land Assessment and Remediation" (Guidance Note) and "Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management" (Guidance Manual). The land contamination assessment was carried out in accordance with the Guidance Manual and Guidance Note. In addition, reference was also made to the "Practice Guide for Investigation and Remediation of Contaminated Land" (Practice Guide).

5.3 Assessment Methodology

5.3.1.1 In order to identify and evaluate the potential contamination impacts associated with the Study Site, the following tasks have been undertaken:

- Desktop appraisal to review the current and historical land uses;
- Acquisition of information related to potential land contamination from EPD and Fire Services Department (FSD); and
- Site reconnaissance survey to identify the current land uses in the Study Site and to verify the findings of the desktop study.

5.3.1.2 Relevant information was collected and reviewed as part of the desktop study, including:

- Historical aerial photographs of the Study Site;
- Records of active (current) and inactive (past) registered chemical waste producers (CWPs) in the area of interest from EPD;
- Records of current and past dangerous goods (DG) licences from the FSD in area of interest;
- Records of accidents that involved spillage / leakage of chemical waste or DG from EPD and FSD; and
- Records and photographs from site reconnaissance survey.

5.4 Evaluation of Potential Land Contamination Issue

5.4.1 Review of Aerial Photographs

5.4.1.1 The relevant historical aerial photographs taken between years 1963 to 2023, where available, were collected and reviewed. The aim of the review is to evaluate potential contamination implication associated with any land use changes within the Project

site. The representative historical aerial photographs are shown in **Appendix D**. The development history of Project Site is summarised in **Table 5.1**.

Table 5.1 Summary of Development History and Aerial Photos Review

Year	Description	Height (feet)	Photograph Reference Number
1963	The site area is mainly occupied by a former Wa Fu School.	3900	63_8445
1973	The site area is mainly occupied by a former Wa Fu School with some vegetation and plantation observed.	1700	6048
1983	No significant change in land use was observed.	4000	50367
1993	No significant change in land use was observed.	3000	CN3583
1999	No significant change in land use was observed.	3500	CN24580
2009	No significant change in land use was observed.	6000	CS25756
2014	No significant change in land use was observed.	2000	CW110570
2021	No significant change in land use was observed.	3000	E140637C
2023	No significant change in land use was observed.	6900	E188205C

Source: Survey and Mapping Office, Lands Department

5.4.1.2 According to the historical aerial photo of Year 1963, the site area is covered by a former Wa Fung school. For Year 1973, the site area is mainly covered by former Wa Fu School with some vegetation and plantation observed. For the historical aerial photos from 1983 to 2023, no significant changes in the land use within the site were observed. Thus, no potential land contamination could be identified.

5.4.2 Review of Relevant Information from Government Departments

5.4.3 Environmental Protection Department (EPD)

5.4.3.1 A review of the chemical waste producer (CWP) records had been conducted at the EPD Territory Control Office on 8 April 2025 and no registered CWP was identified within the Project site. According to the information provided by EPD on 24 March 2025 in **Appendix E**, there was no record of chemical spillage / leakage within the Project site.

5.4.4 Fire Services Department (FSD)

5.4.4.1 According to the information provided by FSD on 17 April 2025 in **Appendix E**, there was no record of dangerous good licenses, fire incidents and incidents of spillage / leakage dangerous goods within the Project site.

5.4.5 Site Reconnaissance Survey

5.4.5.1 Site reconnaissance survey was conducted on 19 March 2025 to verify the findings of the desktop appraisal and to identify current land uses within the Project Site. Site photos of present condition of Project Site are provided in **Appendix F**. There is no activity causing potential land contamination could be identified during the site survey.

5.5 Conclusion

5.5.1.1 Having reviewed historical aerial photos and relevant information from government department (i.e. EPD and FSD), no activity causing potential land contamination and spillage / leakage has been identified. According to the site reconnaissance survey, potential land contamination should not be anticipated for the Project Site.

6 Water Quality Impact

6.1 Introduction

6.1.1.1 This section presents an assessment of the potential water quality impacts associated with the construction and operation phases of the Project. Recommendations for mitigation measures have been made where necessary to minimise potential water quality impacts.

6.2 Legislations, Standards and Guidelines

6.2.1.1 The following legislation and associated guidance are applicable for the evaluation of water quality impacts associated with the Project.

- Chapter 9 of Hong Kong Planning Standards and Guideline (HKPSG)
- Water Pollution Control Ordnance (WPCO) (Cap. 358);
- Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Professional Persons Environmental Consultative Committee Practice Notes (ProPECC PNs); and
- Environment, Transport and Works Bureau Technical Circular (ETWB TC)

6.3 Water Quality relevant legislations, standards and guidelines

6.3.1 Chapter 9 of Hong Kong Planning Standards and Guideline (HKPSG)

6.3.1.1 The assessment of potential water quality impacts associated with the construction and operation phases of the Project while planning of this development should make reference to the Chapter 9 of HKPSG. Recommendations for mitigation measures to minimise the water quality impacts being identified should also be provided.

6.3.2 Water Pollution Control Ordinance (Cap. 358)

6.3.2.1 The Water Pollution Control Ordinance (WPCO) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs). Corresponding statements of Water Quality Objectives (WQO) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in the WCZ based on their beneficial uses. The proposed Project is within the Deep Bay Water Control Zone and the corresponding WQO are listed in **Table 6.1**.

Table 6.1 Objectives for Deep Bay Water Control Zone

Parameter	Objectives	Part(s) of Zone
Aesthetic Appearance	(a) Waste discharges shall cause no objectionable odours or discolouration of the water.	Whole zone
	(b) Tarry residues, floating wood, articles made of glass, plastic, rubber or of any other substances should be absent.	
	(c) Mineral oil should not be visible on the surface. Surfactants should not give rise to a lasting foam.	
	(d) There should be no recognisable sewage-derived debris.	
	(e) Floating, submerged and semi-submerged objects of a size likely to interfere with the free movement of vessels, or cause damage to vessels, should be absent.	
	(f) Waste discharges shall not cause the water to contain substances which settle to form objectionable deposits	
Bacteria	(a) The level of Escherichia coli should not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in one calendar year.	Secondary Contact Recreation Subzone and Mariculture Subzone
	(b) The level of Escherichia coli should be zero per 100 mL, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(c) The level of Escherichia coli should not exceed 1 000 per 100 mL, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
	(d) The level of Escherichia coli should not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive in one calendar year. Samples should be taken at least 3 times in a calendar month at intervals of between 3 and 14 days.	Yung Long Bathing Beach Subzone (L.N. 455 of 1991)
Colour	(a) Waste discharges shall not cause the colour of water to exceed 30 Hazen units.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the colour of water to exceed 50 Hazen units.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Dissolved Oxygen	(a) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 milligrams per litre for 90% of the sampling occasions during the year; values should be taken at 1 metre below surface.	Inner Marine Subzone excepting Mariculture Subzone
	(b) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 milligrams per litre for 90% of the sampling occasions during the year; values should be calculated as water column average (arithmetic mean of at least 2 measurements at 1 metre below surface and 1 metre above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 milligrams per litre within 2 metres of the seabed for 90% of the sampling occasions during the year.	Outer Marine Subzone excepting Mariculture Subzone

Parameter	Objectives	Part(s) of Zone
	(c) The dissolved oxygen level should not be less than 5 milligrams per litre for 90% of the sampling occasions during the year; values should be taken at 1 metre below surface.	Mariculture Subzone
	(d) Waste discharges shall not cause the level of dissolved oxygen to be less than 4 milligrams per litre.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone, Water Gathering Ground Subzones and other inland waters of the Zone
pH	(a) The pH of the water should be within the range of 6.5–8.5 units. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.2 units.	Marine waters excepting Yung Long Bathing Beach Subzone
	(b) Waste discharges shall not cause the pH of the water to exceed the range of 6.5–8.5 units.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(c) The pH of the water should be within the range of 6.0–9.0 units.	Other inland waters
	(d) The pH of the water should be within the range of 6.0–9.0 units for 95% of samples. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.5 units.	Yung Long Bathing Beach Subzone
Temperature	Waste discharges shall not cause the natural daily temperature range to change by more than 2.0°C.	Whole zone
Salinity	Waste discharges shall not cause the natural ambient salinity level to change by more than 10%.	Whole zone
Suspended Solids	(a) Waste discharges shall neither cause the natural ambient level to be raised by 30% nor give rise to accumulation of suspended solids which may adversely affect aquatic communities.	Marine waters
	(b) Waste discharges shall not cause the annual median of suspended solids to exceed 20 milligrams per litre.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Ganges Subzone, Indus Subzone, Water Gathering Ground Subzones and other inland waters
Ammonia	The un-ionized ammoniacal nitrogen level should not be more than 0.021 milligram per litre, calculated as the annual average (arithmetic mean).	Whole zone
Nutrients	(a) Nutrients shall not be present in quantities sufficient to cause excessive or nuisance growth of algae or other aquatic plants.	Inner and Outer Marine Subzones
	(b) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.7 milligram per litre, expressed as annual mean.	Inner Marine Subzone
	(c) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.5 milligram per litre, expressed as annual water column average (arithmetic mean of at least 2 measurements at 1 metre below surface and 1 metre above seabed).	Outer Marine Subzone

Parameter	Objectives	Part(s) of Zone
Five-Day Biochemical Oxygen Demand	(a) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 3 milligrams per litre.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 5 milligrams per litre.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Chemical Oxygen Demand	(a) Waste discharges shall not cause the chemical oxygen demand to exceed 15 milligrams per litre.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the chemical oxygen demand to exceed 30 milligrams per litre.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Toxins	Waste discharges shall not cause the toxins in water to attain such levels as to produce significant toxic carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone
	Waste discharges shall not cause a risk to any beneficial uses of the aquatic environment.	Whole Zone
Phenol	Phenols shall not be present in such quantities as to produce a specific odour, or in concentration greater than 0.05 milligrams per litre as C_6H_5OH.	Yung Long Bathing Beach Subzone
Turbidity	Waste discharges shall not reduce light transmission substantially from the normal level.	Yung Long Bathing Beach Subzone

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

6.3.3.1 The "Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters" (TM-DSS) provides a guidance on effluent discharges based on the type of receiving waters (i.e., foul sewers, storm water drains, inland and coastal waters). This standard controls the physical, chemical and microbial quality of effluents. Any sewage generated from the proposed construction and operation activities shall comply with the standards for effluents discharged into the foul sewers, inland waters and coastal waters of Deep Bay WCZ as presented in the TM-DSS.

6.3.4 ProPECC PN 2/24 "Construction Site Drainage"

6.3.4.1 A practice note for professional persons was issued by the EPD to provide guidelines for handling and disposal of construction site discharges. ProPECC PN 2/24 provides good practice guidelines for dealing with various types of discharge from a construction site, which should be followed as far as possible during construction to minimise the water quality impact due to construction site drainage.

6.3.5 ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department"

6.3.5.1 This practice note provides guidance on discharges to storm drains and foul sewers, and recommendations on the design of drainage systems for different locations including open areas, covered areas, slopes, pools, roads and carparks. Reference designs are provided for petrol interceptors, grease traps, septic tanks and soil soakaway systems. This guidance should be followed for preparation of drainage plans submitted to the Buildings Authority under the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations 40(1), 40(2), 41(1) and 90.

6.3.6 Environment, Transport and Works Bureau Technical Circular (ETWB TC)

6.3.6.1 ETWB TC (Works) No. 5/2005 Protection of natural streams / rivers from adverse impacts arising from construction works – It provides an administrative framework to better protect all natural streams/rivers from the impacts of construction works. The procedures promulgated under this Circular aim to clarify and strengthen existing measures for protection of natural streams/rivers from government projects and private developments. The guidelines and precautionary mitigation measures given in the ETWB TC (Works) No. 5/2005 should be followed as far as possible to protect the inland watercourse at or near the Project area during construction phase.

6.4 Assessment Methodology

6.4.1.1 To assess the potential water quality impacts associated with the Project. Pollutants from point discharges and non-point sources such as sewage, storm water and surface water runoff generated from the Project that could affect the quality of surface water runoff and marine waters were identified. All the identified sources of potential water quality impact were then evaluated and their impacts were assessed. The need

for mitigation measures to reduce any identified adverse impacts on water quality to acceptable levels was determined.

6.4.2 Assessment Area

6.4.2.1 The assessment area for the water quality impact assessment shall generally include areas within 500m from the boundary of the Project. This has been identified accordingly and is shown in **Figure 6.1**.

6.4.2.2 The major water quality pollutant sources are identified to be:

- Construction site runoff;
- General construction activities;
- Sewage Effluent from the Construction Workforce; and
- Sewage generated by the staff, visitor during operation phase.

6.5 Baseline Conditions and Sensitive Receivers

6.5.1 Water Sensitive Receiver

6.5.1.1 Water sensitive receivers (WSRs) within the 500m assessment area from the boundary of the Site are identified and listed in **Table 6.2**. The indicative location of WSR is shown in **Figure 6.1**.

Table 6.2 WSRs within Assessment Area

WSR ID	Description and Type	Status	Remarks	Distance from the site
W1	Pond Near Sha Tseng Tsuen*	Active farm pond for irrigation only*	Permanently lost*	449m
W2	Pond Near Sha Tseng Tsuen*	Active farm pond for irrigation only*	Permanently lost*	399m
W3	Pond Near Sha Tseng Tsuen*	Active farm pond for irrigation only*	Permanently lost*	354m
W4	Pond Near Sha Tseng Tsuen*	Active farm pond for irrigation only*	Permanently lost*	302m
W5	Pond Near Sha Tseng Tsuen*	Active farm pond for irrigation only*	Permanently lost*	331m
W6	Watercourse Near Tong Yan San Tsuen*	• Largely natural* • Fragmented*	Retained and rezoned as GB for conservation *	203m
W7	Watercourse Near Yuen Long Nullah*	Channelised *	Retained*	263m
W8	Watercourse Near Yuen Long Highway*	Channelised*	-*	172m
W9	Watercourse Near Lam Yu Road	Channelised	-	238m
W10	Watercourse Near Lam Hau Pok Public Toilet	Channelised	-	397m
W11	Watercourse Near Lam Hau Tsuen Basketball Court	Channelised	-	204m
W12	Watercourse Near Lam Hau Tsuen Basketball Court	Channelised	-	182m
W13	Watercourse Near Lam Hau Tsuen	Channelised	-	56m

*The information is based on approved EIA report of Housing Sites in Yuen Long South (EIA-254/2017) which has been verified by site survey.

6.6 Baseline Water Quality

6.6.1 Marine Water Quality

6.6.1.1 The Deep Bay WCZ is influenced by the discharges from Pearl River during wet season, and receives discharges from Shenzhen river all year around. According to the latest annual marine water quality published by EPD2, the overall WQO compliance rate of the Deep Bay WCZ was 53% in 2023 as compared with a ten-year average of 47% in 2009-2018.

6.6.1.2 EPD conducts regular marine water quality monitoring at 5 locations throughout the Deep Bay WCZ, of which DM1 are nearest to the Project area. Data associated with this monitoring station is summarised in **Table 6.3** below.

Table 6.3 Summary of Water Quality Data for Deep Bay WCZ at Selected Station in Year 2023

Parameter	Inner Deep Bay WCZ Water Quality Monitoring Station DM1
Temperature (°C)	25.6 (19.0 – 31.7)
Salinity (part per thousand, ppt)	18.6 (9.7 – 23.3)
Dissolved Oxygen (mg/L) (Depth Average)	5.2 (3.7 – 7.7)
Dissolved Oxygen (mg/L) (Bottom)	N/A
Dissolved Oxygen (% Saturation) (Depth Average)	70 (54 – 112)
Dissolved Oxygen (% Saturation) (Bottom)	N/A
pH	7.4 (7.1 – 7.8)
Secchi Disc Depth (m)	1.2 (0.9 – 1.6)
Turbidity (NTU)	27.2 (6.0 – 52.2)
Suspended Solids (SS) (mg/L)	28.3 (15.0 – 61.0)
5-day Biochemical Oxygen Demand (BOD5) (mg/L)	1.0 (0.5 – 1.8)
Ammonia Nitrogen (NH3-N) (mg/L)	0.397 (0.170 – 0.810)
Unionized Ammonia (UIA) (mg/L)	0.006 (0.001 – 0.012)
Nitrite Nitrogen (NO2-N) (mg/L)	0.118 (0.043 – 0.350)
Nitrate Nitrogen (NO3-N) (mg/L)	0.883 (0.580 – 1.300)
Total Inorganic Nitrogen (TIN) (mg/L)	1.4

Parameter	Inner Deep Bay WCZ Water Quality Monitoring Station DM1
	(0.83 – 1.82)
Total Kjeldahl Nitrogen (TKN) (mg/L)	0.76 (0.4 0– 0.98)
Total Nitrogen (TN) (mg/L)	1.76 (1.24 – 2.20)
Orthophosphate Phosphorus (PO4) (mg/L)	0.123 (0.069 – 0.170)
Total Phosphorus (TP) (mg/L)	0.2 (0.14 – 0.27)
Silica (as SiO2) (mg/L)	5.38 (1.90 – 10.00)
Chlorophyll-a (µg/L)	3.5 (1.7 – 6.0)
E. coli (count./100mL)	310 (24 – 3300)
Faecal Coliforms (count/100mL)	640 (44 – 10000)

Notes:
1) Data source: EPD Marine Water Quality in Hong Kong in 2023
2) Except as specified, data presented are depth-averaged values calculated by taking the means of three depths: surface, mid-depth and bottom.
3) Data presented are annual arithmetic means of depth-averaged results except for E.coli and faecal coliforms that are annual geometric means.
4) Data in brackets indicate the ranges.
5) N/A indicates data is not available.

6.6.2 River Water Quality

6.6.2.1 The river water quality monitoring results at station nearest to the Project Site in Yuen Long Creek, namely YL1. According to the EPD's publication "River Water Quality in Hong Kong in 2023", the overall WQO compliance rate for Yuen Long Creek was 36%, as compared with 25% in 1993.

Table 6.4 Summary of Water Quality Data for EPD's River Water Quality Monitoring Station in 2023

Parameter	Yuen Long Creek River Water Quality Station YL1
Dissolved oxygen (mg/L)	3.0 (1.6 – 7.7)
pH	7.1 (6.9 – 7.5)
Suspended solids (mg/L)	23 (5.8 – 260.0)
5-day Biochemical Oxygen Demand (mg/L)	17.0 (4.0 – 71.0)
Chemical Oxygen Demand (mg/L)	34 (11 – 150)
Oil & grease (mg/L)	0.7 (<0.5 – 2.6)

Parameter	Yuen Long Creek River Water Quality Station YL1
Faecal coliforms (counts/100mL)	296386 (35000 – 10000000)
E. coli (counts/100mL)	640284 (120000 – 10000000)
Ammonia-nitrogen (mg/L)	4.550 (1.100 – 20.000)
Nitrate-nitrogen (mg/L)	0.031 (<0.002 – 0.870)
Total Kjeldahl Nitrogen (mg/L)	6.95 (2.20 – 31.00)
Ortho-phosphate (mg/L)	0.550 (0.110 – 5.000)
Total phosphorus (mg/L)	1.11 (0.30 – 6.50)
Total sulphide (mg/L)	0.04 (<0.02 – 0.11)
Aluminium (µg/L)	<50 (<50 - <50)
Cadmium (µg/L)	<0.1 (<0.1 - <0.1)
Chromium (µg/L)	<1 (<1 – 2)
Copper (µg/L)	1 (<1 -7)
Lead (µg/L)	<1 (<1 – 2)
Zinc (µg/L)	<10 (<10 – 30)
Flow (m3/s)	0.303 (0.161 – 0.886)

Notes:
1) Data source: EPD River Water Quality in Hong Kong in 2023
2) Data presented are in annual medians of monthly samples; except those for faecal coliforms and E. coli which are in annual geometric means
3) Figures in brackets are annual ranges
4) cfu – colony forming unit
5) Values at or below laboratory reporting limits are presented as laboratory reporting limits
6) Equal values for annual medians (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

6.6.3 Planned Environmental / Future Activities

6.6.3.1 The proposed site involves operations of Residential Care Home for Persons with Disabilities.

6.7 Identification and Evaluation of Water Quality Impacts

6.7.1 Construction Phase

General construction activities

6.7.1.1 Wastewater generated from construction activities, including general cleaning and polishing, wheel washing, dust suppression and utility installation may contain high SS concentrations. It may also contain a certain amount of grease and oil. Potential water quality impacts due to the wastewater discharge can be minimised with the implementation of construction and site management practices to ensure that litter, fuels, and solvents do not enter public drainage systems. It is therefore expected that if the good site practice suggested in Section 5.6 are followed as far as practicable, the potential water quality impacts associated with construction activities would be minimal.

Construction site runoff

6.7.1.2 The surface runoff from construction works areas may contain increased loads of suspended solids (SS) and contaminants. Potential sources of pollution from construction site drainage include:

- Runoff and erosion from site surfaces, drainage channels, earth working areas and stockpiles;
- Release of any bentonite slurries, concrete washings and other grouting activities;
- Wash water from dust suppression spray facilities; and
- Fuel, oil, solvents and lubricants from maintenance of mechanical equipment.

6.7.1.3 Sediment laden runoff particularly from works areas subjected to excavation or earth works, if uncontrolled, may cause increased levels of suspended solids and pollutants entering the stormwater drainage system and into the nearby water bodies.

6.7.1.4 Mitigation measures and good site practices outlined in ProPECC PN 2/23 be implemented to control construction site runoff and drainage from the works area. The Contractor would also be required to apply for a discharge license under the WPCO. With implementation of the recommended mitigation measures along with compliance of the effluent standards set under TM-DSS, construction site runoff can be effectively controlled, and adverse impacts to storm drains or the nearby water bodies is not anticipated.

Construction Works in Close Proximity to Inland Water

6.7.1.5 Construction activities in close vicinity to the inland watercourses may impact water quality due to the potential release of construction waste and wastewater. Construction waste and wastewater are generally characterized by high SS concentration and elevated pH. The implementation of adequate construction site drainage and Best Management Practices as described in Section 6.8 and provision of mitigation measures as specified in ETWB TC (Works) No. 5/2005 "Protection of Natural Streams / Rivers from Adverse Impacts Arising from Construction Works" as detailed in Section 6.8, it is anticipated that water quality impacts would be minimal.

Sewage effluent from the construction workforces

6.7.1.6 Domestic sewage would be generated from the workforce during the construction phase. The portable chemical toilets and sewage holding tanks should be provided for collection of sewage generated by workforce. Also, the Waste Management Plan should document the locations and number of portable chemical toilets. In addition, a licensed contractor should be employed to provide adequate portable toilets to cater 0.23m^3/day generated sewage from each employee and be responsible for appropriate disposal and maintenance. The license collectors should be deployed to

collect the sewage regularly during construction phase. With implementation of mitigation measures suggested in Section 6.8, adverse water quality impact or impact on the identified sensitive receivers are not anticipated.

Accidental spillage of chemicals

6.7.1.7 Chemicals stored on-site during construction such as petroleum, oil and grease, lubricants and solvents have the potential to enter the surface water drainage system through accidental spillage on the construction site and subsequent runoff to stormwater drains. To mitigate the impacts of these contaminants, appropriate site storage and bunding of chemicals should be implemented as part of good site practice.

6.7.2 Operation Phase

Sewage implications from the proposed development

6.7.2.1 The sewage generated from the proposed development is estimated to be around 23m^3/d. There is no existing public sewerage system in the vicinity of the proposed Site. To handle the generated sewage, Septic Tank/Soakaway Pit System is proposed.

6.7.2.2 The design and construction of the Septic Tank/Soakaway Pit System should fulfil the requirements of the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations (Cap.123I) and ProPECC PN1/23. The proposed effective length L, breadth B and depth D of the septic tank are 6.6m, 2.2m and 1.8m respectively producing a tank capacity of 25.4m^3 which is sufficient to treat the daily ADWF of around 23m^3 and meet the dimension requirements of septic tank in Appendix D of.ProPECC PN1/23. Sufficient separation distance should be provided between the Septic Tank/Soakaway Pit System as well as the waterbodies and structures. The minimum clearance requirements are specified in Appendix D of ProPECC PN1/23.

6.7.2.3 Further details of the proposed Septic Tank/Soakaway Pit System for handling the sewage generated from the proposed development, have been included in the separated SIA Report.

Runoff from road surfaces and paved areas

6.7.2.4 The impermeable surfaces within the Site will be increased, thus, surface runoff rate will be increased. The vehicle dust, tyre scraps and oils will be washed away from the road surface to the nearby water courses via surface runoff and road surface cleaning. Also, the stormwater runoff from the paved surfaces within the Site will be directed to drainage system. To minimise debris and silt from entering nearby watercourses via the stormwater drains, silt traps and debris shields / screens should be installed and regularly maintained. For drainage areas covering the car parks, goods loading and unloading areas and the spiral ramp, petrol interceptors should be installed and maintained to prevent fuel / oil from entering the storm drains and nearby water bodies.

6.8 Recommendation of Mitigation Measure

6.8.1 Construction Phase

General construction activities

6.8.1.1 Best Management Practices (BMPs) should be implemented at the construction site, including proper handling, sorting and storage of construction solid waste, debris and refuse generated on-site prior to disposal. General refuse and recyclable materials should be collected separately and stored in appropriately labelled bins and removed regularly to minimise the risk of windblown waste / debris discharging into the nearby water bodies.

Construction site runoff

6.8.1.2 At the start of site establishment, perimeter cut-off drains to direct off-site water around the Site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities.

6.8.1.3 The good site practices outlined in ProPECC PN 2/23 should be followed as far as practicable in order to minimise surface runoff and erosion, and also to retain and reduce any suspended solids prior to discharge. The following measures are recommended:

- Surface run-off from construction sites should be discharged into storm water drains via adequately designed sand/silt removal facilities such as sand, silt traps, sedimentation tanks and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct surface run-off 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 run-off 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.
- Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in the rainy season is necessary, they should be dug and backfilled in short sections of length. Rainwater pumped out from trenches or foundation excavations should be discharged into storm water drains via silt removal facilities.

- Open stockpiles of Construction and Demolition (C&D) 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 C&D 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, C&D materials or debris from getting into the drainage system, and to prevent surface run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.
- Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast and actions to be taken during or after rainstorms

6.8.1.4 Discharge licence issued by the EPD for discharge of effluent from the construction site under the WPCO is needed. The discharge quality and quantity should meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the DSS-TM. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence.

Construction Works in Close Proximity to Inland Water

6.8.1.5 The practices outlined in ETWB TC (Works) No. 5/2005 "Protection of Natural Streams / Rivers from Adverse Impacts Arising from Construction Works" should be adopted where applicable to minimise the water quality impacts on any natural streams or surface water systems. Relevant mitigation measures from the ETWB TC (Works) No. 5/2005 are listed below:

- Use of less or smaller construction plants may be specified in works area close to the inland water bodies as far as practicable;
- Temporary storage of material (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of C&D materials should be located well away from watercourses when carrying out of the construction works;
- Stockpiling of C&D materials and dusty materials should be covered and located away from any watercourses;
- Construction debris and spoil should be covered up and / or disposed of as soon as possible to avoid being washed into the nearby water receivers;
- Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the watercourses, where practicable;
- Construction effluent, site run-off and sewage should be properly collected and / or treated; and
- Proper shoring may need to be erected in order to prevent soil / mud from slipping into the inland water bodies.

Sewage effluent from the construction workforces

6.8.1.6 The Contractor should provide temporary sanitary facilities, such as portable chemical toilets within the construction site to handle sewage from the workforce.

The Contractor has the responsibility to ensure that chemical toilets are used and properly maintained, and that licensed Contractors are employed to collect and dispose of the waste off-site at approved locations.

Accidental spillage of chemicals

6.8.1.7 Any service shop and maintenance facilities should be located on hard standing within a bunded area, and sumps and oil interceptors should be provided. Maintenance of equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. Given that the accidental spillage of chemicals is controlled through good management practices, the potential water quality impact would be low.

6.8.2 Operation Phase

Sewage effluent from the proposed development

6.8.2.1 The sewage generated during the operational phase of the proposed development will be safely managed through the proposed sewage treatment. This will be carefully designed in accordance with the relevant standards and guidelines. With proper maintenance of the internal sewerage system, including associated sewers and sewage storage tanks, no adverse water quality impact is anticipated.

6.8.2.2 Further details for handling the sewage generated from the proposed development, have been included in the separated SIA Report.

Runoff from road surfaces and paved areas

6.8.2.3 The proper drainage system should be installed with silt trap and oil interceptor to trap the miscellaneous sources washed away from the road surface. Regular maintenance and cleaning should be provided to the drainage system to ensure it is in a good condition. The design of road gullies and silt trap should be incorporated with later detailed design.

7 Waste Management

7.1 Introduction

7.1.1.1 This section identifies the potential waste arising from the construction and operation activities of the Project and evaluates the potential environmental impacts that may result from waste generated. Mitigation measures and good site practices, including waste handling, storage and disposal, are recommended with reference to applicable waste legislation and management guidelines to minimise potential waste management impact.

7.2 Legislations, Standards and Guidelines

7.2.1.1 The following legislation relates to the handling, treatment and disposal of wastes in Hong Kong and should be referenced in assessing potential impacts:

- Waste Disposal Ordinance (WDO) (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Public Health and Municipal services Ordinance (Cap. 132) – Public Cleansing and Prevention of Nuisances Regulation; and
- Land (Miscellaneous Provisions) Ordinance (Cap. 28)

7.2.2 Waste Disposal Ordinance (WDO)

7.2.2.1 WDO prohibits the unauthorised disposal of wastes. Construction waste is defined as any substance, matter or thing that is generated from construction work and abandoned, whether or not it has been processed or stockpiled before being abandoned, but does not include any sludge, screenings or matter removed in or generated from any desludging, desilting or dredging works. Under the WDO, wastes can be disposed of only at designated waste disposal facilities.

7.2.3 Waste Disposal (Chemical Waste) (General) Regulation

7.2.3.1 Under the WDO, the Chemical Waste (General) Regulation provides regulations for chemical waste control, and administers the possession, storage, collection, transport and disposal of chemical wastes.

7.2.3.2 According to the Waste Disposal (Chemical Waste) (General) Regulation, all producers of chemical waste must register with the EPD and treat their waste, either utilising on-site plant licensed by EPD, or arranging for a licensed collector to transport the waste to a licensed facility. The Regulation also prescribes the storage facilities to be provided on site, including labelling and warning signs, and requires the preparation of written procedures and training to deal with emergencies such as spillages, leakages or accidents arising from the storage of chemical wastes.

7.2.3.3 EPD has also issued a 'guideline' document, the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes (1992), which details how to comply with the regulations on chemical wastes.

7.2.4 Waste Disposal (Clinical Waste) (General) Regulation

7.2.4.1 Under the WDO, the Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O) provides a regulatory framework for the control of clinical waste in Hong Kong. The Regulation governs the possession, delivery, collection, storage, and disposal of clinical waste to safeguard public health and environmental safety. All producers of clinical waste such as hospitals, clinics, and laboratories must ensure that waste is either treated on-site using facilities authorized by EPD or collected by a licensed waste collector for delivery to a licensed disposal facility. The Regulation also mandates the use of properly labelled containers, the establishment of authorized collection points, and the maintenance of detailed consignment records.

7.2.5 Waste Disposal (Charges for Disposal of Construction Waste) Regulation

7.2.5.1 Under the Waste Disposal (Charges for Disposal of Construction Waste) Regulation, enacted in January 2006, construction waste delivered to a landfill for disposal must not contain more than 50% by weight of inert material. Construction waste delivered to a sorting facility for disposal must contain more than 50% by weight of inert material, and construction waste delivered to a public fill reception facility (PFRF) for disposal must consist entirely of inert material.

7.2.6 Public Health and Municipal Services Ordinance (Cap. 132)

7.2.6.1 The Public Cleansing and Prevention of Nuisances Regulation provides control on illegal tipping of waste on unauthorised (unlicensed) sites.

7.2.7 Land (Miscellaneous Provisions) Ordinance (Cap. 28)

7.2.7.1 The Land (Miscellaneous Provisions) Ordinance requires that dumpling licenses be obtained by individuals or companies who deliver public fill to public filling areas. The CEDD issues the licences under delegated powers from the Director of Lands. The current policy related to dumping of construction and demolition (C&D) material is documented in the Works Branch Technical Circular no. 2/93 – Public Dumps. C&D materials that are wholly inert, namely public fill, should not be disposed to landfill, but taken to fill banks or public filling areas.

7.2.7.2 Individual licences and windscreen stickers are issued for each vehicle involved. Under the licence conditions, public fill reception facilities will only accept soil, sand, rubble, brick, tile, rock, boulder, concrete, asphalt, masonry or used bentonite. In addition, in accordance with paragraph 12 of DEVB Technical Circular (Works) TC(W) No.6/2010, the Public Fill Committee (PFC) will advise on the acceptance criteria. The material will, however, be free from marine mud, household refuse, plastic, metal, industrial and chemical wastes, animal and vegetable matter and any other materials considered unsuitable by the public fill reception facility supervisor.

7.3 Identification, Prediction and Evaluation of Waste Management Implication

7.3.1 Construction Phase

7.3.1.1 The activities to be carried out for construction of the Project would generate a variety of wastes that can be divided into different key categories based on their composition and ultimate method of disposal. The identified waste types include:

- C&D materials;
- Chemical waste; and
- General refuse

7.3.1.2 The types and quantity of waste generated during construction phase are estimated and listed in **Table 7.1**.

Table 7.1 Summary of Waste Generated during Construction Phase

Material Type	Total amount generated (m^3)	Total amount to be reused on site (m^3)	Total amount Disposed (m^3)
Inert C&D materials	1,568.4	1,176.3	392.1
Non-inert C&D materials	174.3	0	174.3
General refuse	< 32.5 kg/day	0	< 32.5 kg/day
Chemical waste	A few dozen litres per month	0	A few dozen litres per month

7.3.1.3 The recommended disposal outlet and transportation routes for each type of the above waste are presented in **Table 7.2**.

Table 7.2 Recommended Disposal Outlets and Transportation Routings for Waste Disposal during Construction Phase

Material Type	Recommended Disposal Outlets	Recommended Transportation Routes
Inert C&D materials	The C&D material that could be reused on-site as fill materials as far as practicable. The surplus is proposed to be delivered to Tuen Mun Area 38 Fill Bank	Via New Territories Circular Road and Wong Chu Road, Lung Fu Road and Lung Mun Road
Non-inert C&D materials	Reuse and recycle as much as possible before disposal to WENT landfill.	Via New Territories Circular Road and Wong Chu Road, Lung Fu Road, Lung Mun Road, Lung Kwu Tan Road and Nim Wan Road
General refuse	On-site segregation and off-site recycling for recyclables before disposal to WENT landfill.	Via New Territories Circular Road and Wong Chu Road, Lung Fu Road, Lung Mun Road, Lung Kwu Tan Road and Nim Wan Road
Chemical waste	Chemical waste will be recycled and collected by licensed facility. The rest will be removal for off-site disposal at the approved Chemical Waste Treatment Centre (CWTC).	Via New Territories Circular Road, Tsing Long Highway, Tsing Sha Highway, and Tsing Yi Road

7.3.1.4 Each type of the above waste arising is described below, together with an evaluation of the potential environmental impacts associated with the waste generation, handling, storage, transport and disposal.

Construction and Demolition (C&D) materials

7.3.1.5 It is anticipated that the majority of C&D materials will be generated from the following key construction activities:

- Site clearance and site formation works; and
- Infrastructure works.

Chemical Waste

7.3.1.6 Materials classified as chemical wastes will require special handling and storage arrangements before removal for off-site disposal at the approved CWTC or recycling by licensed facilities. Mitigation and control requirements for chemical wastes are detailed in the **Section 7.4**. Provided that the handling, storage and disposal of chemical wastes are in accordance with these requirements, adverse environmental impacts are not expected.

7.3.1.7 The maintenance and servicing of construction plant and equipment may generate some chemical wastes such as used solvents, cleaning fluids and waste lubricating oil. It is difficult to quantify the amount of chemical waste that will arise from the construction activities since it will be dependent on the Contractor's on-site maintenance requirements and the amount of plant utilised. However, it is anticipated that the quantity of chemical waste, such as waste lubricating oil and solvents produced from plant maintenance, will be small and in the order of few dozen litres per month.

General Refuse

7.3.1.8 The construction workforce will generate refuse comprising food scraps, waste paper, aluminium cans and plastic bottles during construction period. Release of general refuse into watercourses is not permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site waste would be required to prevent waste materials being blown around by wind, flushed or leached into the stream environment, and odour nuisance. The site may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly.

7.3.1.9 The daily general refuse arising from the construction workforce can be estimated based on a generation rate of 0.65 kg per worker per day. It is estimated that during the construction peak for site formation and infrastructure works, a maximum of 50 workers will be working simultaneously. Therefore, approximately 32.5 kg/day of general refuse will be generated.

7.3.1.10 With the implementation of good waste management practices at the site, adverse environmental impacts are not expected to arise from the storage, handling and transportation of workforce wastes

7.3.2 Operation Phase

7.3.2.1 The following types of wastes would be generated during operation of the Project:

- General refuse;
- Chemical waste; and
- Clinical waste.

7.3.2.2 Each type of the above waste arising is described below, together with an evaluation of the potential environmental impacts associated with the waste generation, handling, storage, transport and disposal.

General Refuse

7.3.2.3 General refuse (such as food scraps, waste paper, empty containers and packaging, etc.) from operation of the Project will mainly be generated from residents within the Project. Such refuse will be properly managed by suitable waste collectors so that intentional or accidental release to the surrounding environment will not occur. The total population of the Project is 103. According to "Monitoring of Solid Waste in Hong Kong – Waste Statistic for 2023" as published by EPD, the per capita disposal rate for domestic waste is 0.89 kg/person/day. Therefore, the total general refuse generated from the Project is approximately 92 kg/day.

Chemical Waste

7.3.2.4 Chemical waste will be generated from maintenance activities such as hazardous waste from cooling towers, emergency generator, paint, etc. It is estimated that only a few litres of chemical waste will be generated monthly from the Project during the operation phase.

Clinical Waste

7.3.2.5 Clinical waste is expected to be generated during the operational phase of the Project, primarily from daily persons with disabilities activities. This waste is anticipated to fall under Group 1 – Used or Contaminated Sharps, as defined in the Clinical Waste Control Scheme. Considering that the total residents of the proposed development is 99, the estimated clinical waste generation is very limited and should be less than 0.1 kg/day.

7.4 Recommendation of Mitigation Measures

7.4.1 Construction Phase

Good Site Practices

7.4.1.1 Adverse impacts related to waste management such as dust, odour, noise and wastewater discharge will not be expected to arise, provided that good site practices will be strictly followed. Recommendations for good site practices during the construction activities include:

- Nomination of an approved person, such as a site manager, 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 of waste;
- Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Stockpiles of C&D materials should be kept covered by impervious sheets to avoid wind-blown dust;

- All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the stockpile areas;
- Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads;
- Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated.
- Drip tray should be provided to chemical waste containers. The drip tray should be clean up regularly. Clean up should be done before foreseeable inclement weather such as typhoon or heavy rain;
- All dump trucks engaged on-site for delivery of inert and non-inert C&D material from the Site to the designated disposal location, including PFRFs, landfill etc., should be equipped with GPS or equivalent system for tracking and monitoring of their travel routings and parking locations by the Contractor to prohibit illegal dumping and landfilling of materials; and
- The data collected by GPS or equivalent system should be recorded properly for checking and analysis the travel routing and parking locations of dump truck engaged on site.

Waste Reduction Measures

7.4.1.2 Good management and control can prevent the generation of a 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:

- Sort non-inert C&D materials to recover any recyclable portions;
- Segregation and storage of different types of waste in different containers or skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force;
- Proper site practices to minimise the potential for damage or contamination of inert C&D materials;
- Plan the use of C&D materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.

7.4.1.3 In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.

Inert and Non-inert C&D Materials

7.4.1.4 In order to minimise impacts resulting from collection and transportation of inert C&D materials for off-site disposal, the inert C&D materials should be reused on-site as fill material as far as practicable. In addition, inert C&D materials generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.

7.4.1.5 The surplus inert C&D materials will be disposed of at the nearest Government's PFRFs, Tuen Mun Area 38 Fill Bank for beneficial use by any other projects in Hong Kong.

7.4.1.6 The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be segregated and recycled with non-recyclable components disposed of at the designated landfill site.

7.4.1.7 In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No. 6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan (WMP) detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site. The WMP shall be submitted to Project Engineer or Architect for approval.

Chemical Waste

7.4.1.8 The amount of chemical waste to be generated will be quantified in the Waste Management Plan to be prepared by the Contractor for the site. For the disposal of chemical wastes, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

7.4.1.9 Chemical wastes arising during the construction phase may pose environmental, health and safety hazards if not stored and disposed of in an appropriate manner as stipulated in the Waste Disposal (Chemical Waste) (General) Regulation.

7.4.1.10 Materials classified as chemical wastes will require special handling and storage arrangements before removal for off-site disposal / treatment at the approved CWTC or licensed chemical waste treatment facilities. Opportunities should be explored to reuse and recycle materials. Provided that the handling, storage and disposal of chemical wastes are in accordance with these requirements, adverse environmental impacts are not expected.

General Refuse

7.4.1.11 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be separated for recycling in order to reduce the amount of general refuse to be disposed of at landfill. Provision and collection of recycling bins for different types of recyclable waste will be set up by the Contractor. Arrangements should be made with the recycling companies to collect the recycle waste in regular basis. Also, adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Reputable licensed collector should be employed to collect the general refuse for disposal at designated landfill sites in daily basis.

7.4.1.12 General refuse will be properly managed so that intentional or accidental release to the surrounding environment will be avoided. Disposal of refuse at sites other than approved waste transfer or disposal facilities will be prohibited. Effective collection of site wastes will be required to prevent waste materials being blown around by wind,

flushed or leached into the aquatic environment, or creating an odour nuisance or pest/ vermin problem. Waste storage areas will be well maintained and cleaned regularly.

7.4.1.13 With the implementation of good waste management practices at the Site, adverse environmental impacts are not expected to arise from the storage, handling and transportation of general refuse generated from the construction workforce.

7.4.2 Operation Phase

General Refuse

7.4.2.1 Effective collection of general wastes will be implemented to prevent waste materials from creating odour nuisance or pest/ vermin problem. Waste storage areas will be well maintained and cleaned regularly. To reduce waste and improve recycling, it is expected that waste such as waste paper, plastics and aluminium can be segregated for off-site recycling.

7.4.2.2 To support waste reduction and recycling, the future developer is encouraged to explore appropriate recycling means of food waste to be generated during operational phase, e.g. delivering food waste generated to Organic Resources Recovery Centre (ORRC) or installation of food waste recycling machines for composting treatment, etc.

Chemical Waste

7.4.2.3 Chemical waste will be generated from various routine maintenance and service activities for air conditioning system, E&M plant and equipment during the operation phase. Chemical waste such as fuels, paints, lubricants, contaminated rags, used solvent and spent chemical and used batteries are expected from these activities. Measures as stipulated in the Waste Disposal (Chemical Waste) (General) Regulation and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes should be strictly followed for the handling and disposal of chemical waste. It is difficult to quantify the amount of chemical waste that will arise from those activities at this stage since it will be dependent on the equipment maintenance requirements and the amount of equipment utilised. Nevertheless, it is anticipated that the quantity of chemical waste, such as lubrication oil and solvent produced from plant and equipment maintenance, would be a few dozen litres per month. Should any chemical waste be generated, the operator should register with EPD as a chemical waste producer. The chemical waste would be readily accepted for disposal of at the CWTC. This chemical waste should be collected periodically in drum-type containers by licensed chemical waste collectors. Provided that the handling, storage and disposal of chemical waste are in accordance with these requirements, adverse waste management implications, including the potential hazards, air and odour emissions, noise, wastewater discharge, ecology and public transport, associated with handling, storage and disposal of chemical waste during the operation phase of the Project are not expected.

Clinical Waste

7.4.2.4 In accordance with the Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O), clinical waste must be segregated at source, clearly labelled, and stored in designated areas prior to collection. A licensed clinical waste collector will be engaged to transport the waste to a licensed disposal facility, such as the CWTC, ensuring compliance with all statutory requirements for safe handling and disposal.

Provided that the handling, storage and disposal of clinical wastes will be in accordance with these requirements, adverse environmental impacts will not be expected.

8 Conclusion

8.1 Overall

8.1.1.1 An Environmental Assessment (EA) has been conducted to support Planning Application for the proposed Residential Care Home for Persons with Disabilities (RCHDs) at part of the Former Wa Fung School and adjoining government land, Lam Hau, Yuen Long. It contains a total of 90 bed spaces. Potential impacts associated with road traffic noise, fixed noise, vehicular emission and industrial emission have been reviewed in this study.

8.2 Noise Impact

8.2.1.1 Given that a 3m high solid boundary wall with a surface density of at least 10kg/m^2 is erected around the site to effectively screen the line of sight between the proposed RCHD and surrounding road links, including the major traffic noise sources at Yuen Long Highway, no adverse road traffic noise impact is anticipated.

8.2.1.2 Based on the review on the potential existing fixed noise sources, including existing car repairing workshops, car parks, open storage areas and logistic company, the noise impacts from these noise sources should be insignificant. This is due to a 3m high solid boundary wall is proposed to be erected along the north, east, southeast and south of the proposed development. The pump room is surrounded by an unexcavated area within site boundary and is fully enclosed. Considering that the surrounding NSRs are low-rise buildings, the 3m high solid boundary wall and the unexcavated area can block the direct line of sight between the planned fixed noise sources of the proposed development and existing NSRs. In addition, the installation of noise mitigation measures, including acoustic louvres and silencers, are expected to further reduce noise emissions from the planned fixed noise sources. As a result, no adverse fixed noise impact is anticipated from existing fixed noise sources to the proposed development, from the planned fixed noise sources to the existing NSRs and from planned fixed noise sources to the planned NSRs.

8.3 Air Quality Impact

8.3.1.1 Potential dust generating activities (including excavation and filling, materials handling, truck movements on unpaved roads and wind erosion from open stockpile of dusty materials) and exhaust emission (use of construction machinery and construction vehicles) have the potential to give rise to air quality impact. With the implementation of the recommended air quality control measures and adoption of good construction site practices, no adverse construction air quality impact is anticipated.

8.3.1.2 Potential air quality impacts due to vehicular emission were reviewed. As the proposed development is in full compliance with the recommended buffer distances stipulated in the HKPSG, adverse air quality impact due to the vehicular emissions is not anticipated. Potential odour impacts from the proposed kitchen and Septic Tank/Soakaway Pit System were also reviewed. The exhausts of kitchen will be positioned as far as practicable from surrounding ASRs. To further mitigate odour emissions, the ventilation system will incorporate multiple layers of filtration and treatment. Grease filters will be installed within the cooker hoods to capture oily

fumes and cooking odours at the source, and a scrubber and hydrovent unit will be integrated into the system to remove fine oil particulates and residual odours prior to discharge. The design and construction of the proposed Septic Tank/Soakaway Pit System will fulfil relevant regulations and government guidelines. The septic tank is located underground and enclosed with reinforced concrete; and exhaust that is placed aboveground shall be installed with a high-efficiency deodorizer. Sufficient separation distance should be provided. With abovementioned measures incorporated, no adverse air quality impacts on the proposed development due to odour emission of the proposed Septic Tank/Soakaway System is anticipated.

8.4 Land Contamination

8.4.1.1 Having reviewed historical aerial photos and relevant information from government department (i.e. EPD and FSD), no activity causing potential land contamination and spillage / leakage has been identified. According to the site reconnaissance survey, potential land contamination should not be anticipated in the Project Site.

8.5 Water Quality

8.5.1.1 The water quality pollutant sources of Project during construction phase involve general construction activities, site run-off, accidental spillage, on-site sewage effluent. With implementation of mitigation measures such as good site practices, drainage system with silt traps, proper sewage collection and disposal of sewage, no adverse water quality impact during construction phase is anticipated.

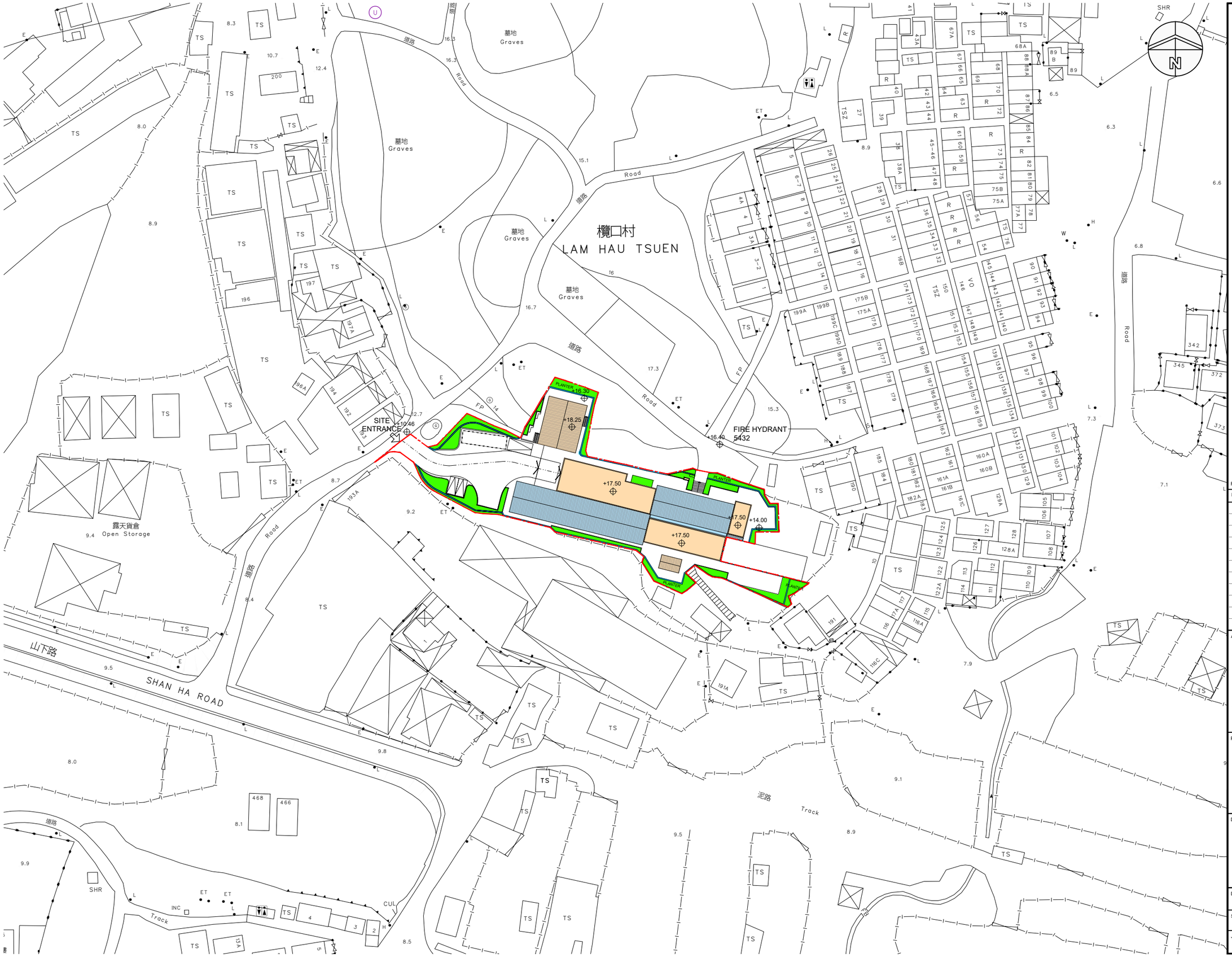
8.5.1.2 During operation phase, the water quality sources of Project involve the sewage generated from the proposed development and surface runoff. With implementation of proposed drainage and sewage treatment, no adverse water quality impact during operation phase is anticipated.

8.6 Waste Management

8.6.1.1 Potential waste management implications from the generation of waste during the construction phase have been evaluated. Measures, including the opportunity for on-site sorting, reusing C&D materials etc, have been explored to minimise the surplus materials to be disposed. Recommendations have been made for implementation by the Contractor during the construction period to minimise waste generation and off-site disposal. The types of waste that would be generated during the operational phase have been identified. Recommendations have been made to ensure proper treatment and disposal of these waste. With the implementation of recommended mitigation measures, the storage, handling, transportation and disposal of waste during construction and operation of the Project is not anticipated to cause adverse environmental impact.

Appendices

Appendix A Layout of Proposed RCHD Development



NOTES:

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS MUST BE VERIFIED AT THE WORK BY THE CONTRACTOR.

ALL PRINTS, SPECIFICATIONS AND THEIR COPYRIGHT ARE THE PROPERTY OF THE ARCHITECTS AND SHALL BE RETURNED AT THE COMPLETION OF THE WORK.

LEGEND:

- SITE BOUNDARY
- SOLID FENCE WALL
- EXISTING BUILDINGS
- NEW EXTENSION
- PLANTER
- PROPOSED AREA FOR SEPTIC TANK & SOAKAWAY PIT SYSTEM (UNDERGROUND)

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 2120-5030
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

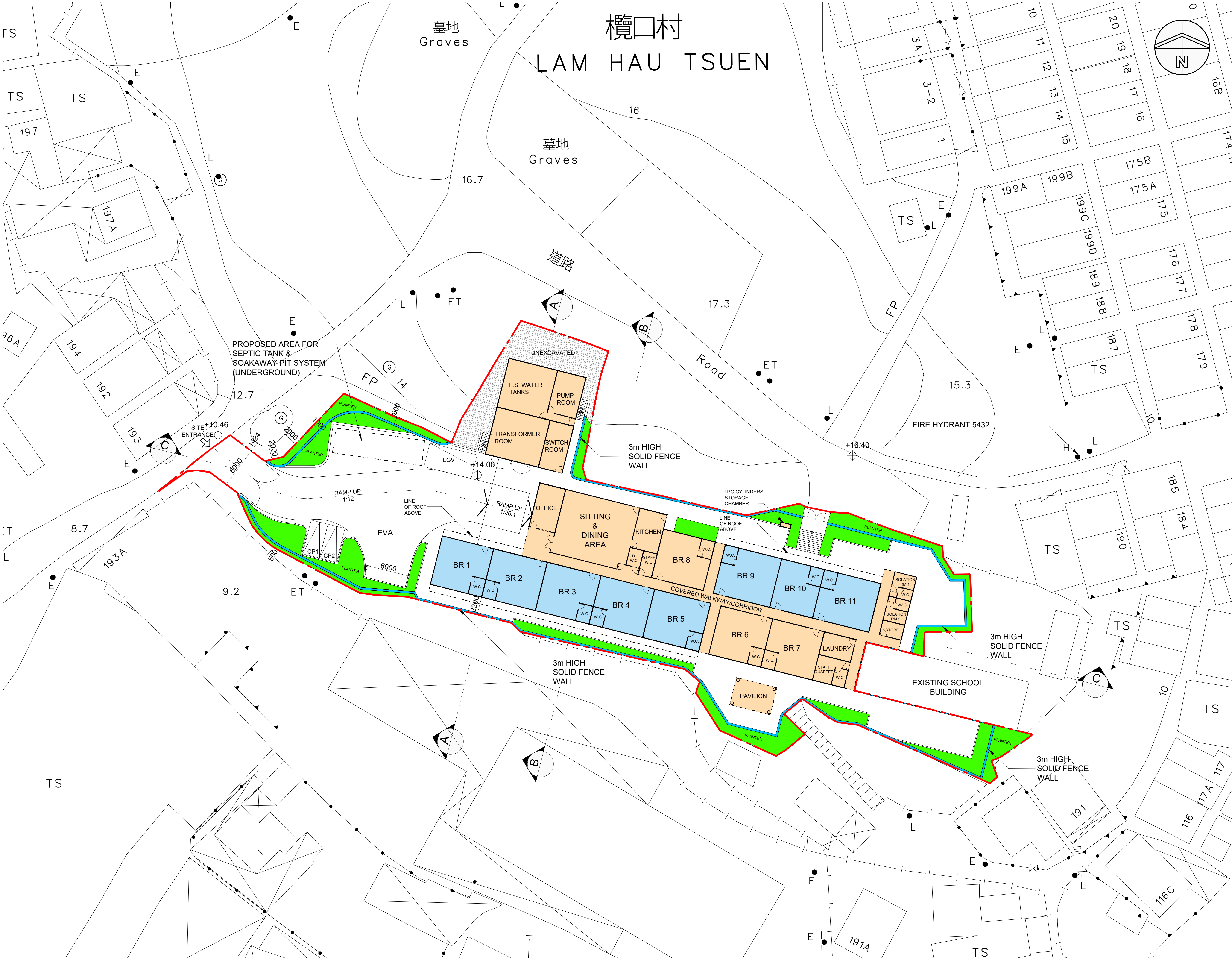
PROJECT NAME

PROPOSED RCHD (RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITIES)
AT FORMER WA FUNG SCHOOL, LAM HAU TSUEN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE

BLOCK PLAN

DRAWN BY: MH	CHECKED BY: RC
SCALE: 1:1000	DATE: 2025.07.30
JOB No.: 2508	DRAWING No.: A-01



NOTES:

DO NOT SCALE DRAWINGS.

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- SITE BOUNDARY
- SOLID FENCE WALL
- EXISTING BUILDINGS
- NEW EXTENSION
- PLANTER
- PROPOSED AREA FOR SEPTIC TANK & SOAKAWAY PIT SYSTEM (UNDERGROUND)

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building 211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 2120-5030
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

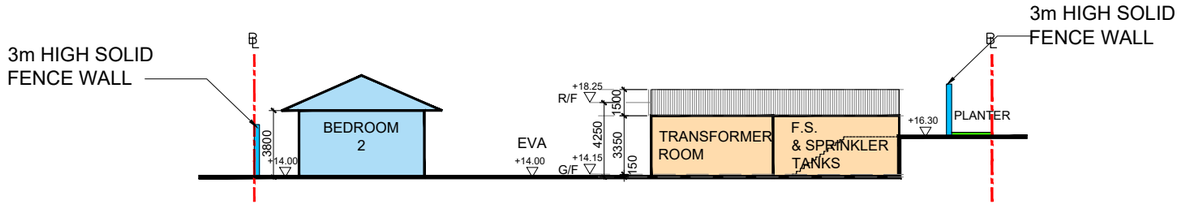
PROJECT NAME

PROPOSED RCHD (RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITIES) AT FORMER WA FUNG SCHOOL, LAM HAU TSUEN, YUEN LONG, NEW TERRITORIES

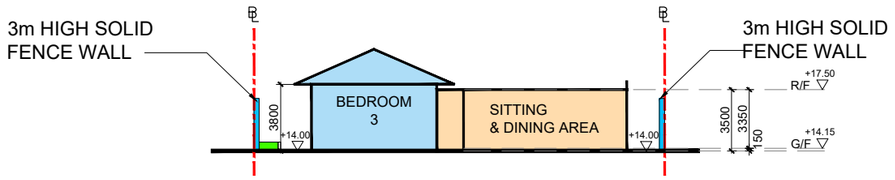
DRAWING TITLE

MASTER LAYOUT PLAN

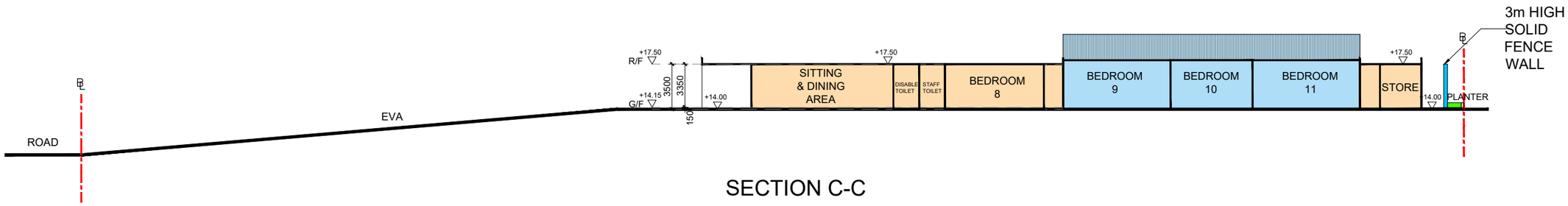
DRAWN BY	CHECKED BY
MH	RC
SCALE 1:500	DATE 2025.07.30
JOB No. 2508	DRAWING No. A-02



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS MUST BE VERIFIED AT THE WORK BY THE CONTRACTOR.

LEGEND:

- SITE BOUNDARY
- SOLID FENCE WALL
- EXISTING BUILDINGS
- NEW EXTENSION
- PLANTER

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 2120-5030
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STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED RCHD (RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITIES)
AT FORMER WA FUNG SCHOOL, LAM HAU TSUEN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE

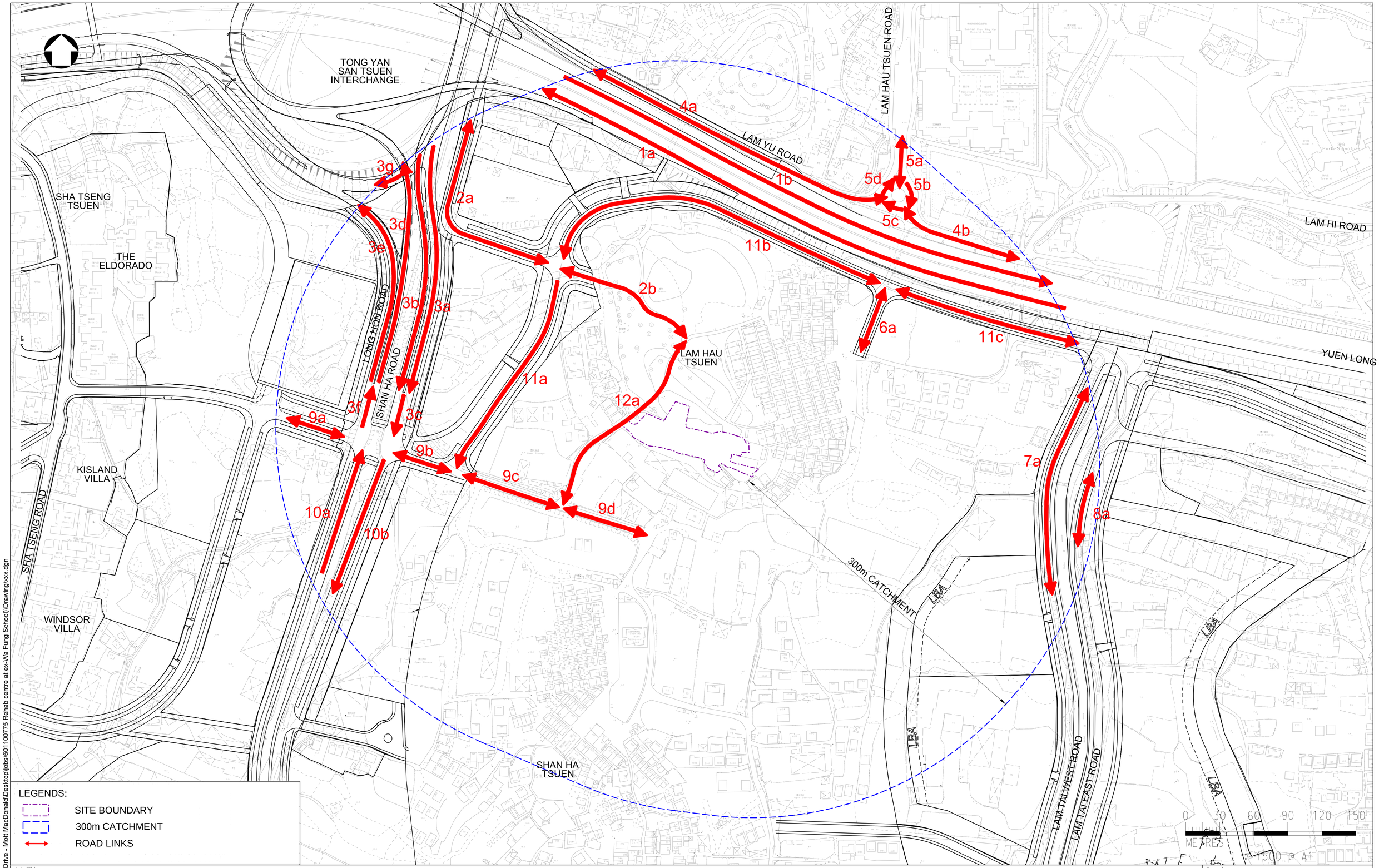
SECTIONS

DRAWN BY	CHECKED BY
MH	RC
SCALE	DATE
1:350	2025.07.30
JOB No.	DRAWING No.
2508	A-03

Appendix B Index Plan for Roads Within 300m Assessment Area

Road name for each road link within 300m assessment area

Index No.	Road Name	Direction
1a	Yuen Long Highway	WB
1b	Yuen Long Highway	EB
2a	Shan Ha Road	NB & SB
2b	Shan Ha Road	EB & WB
3a	Tong Yan San Tsuen Interchange	SB
3b	Tong Yan San Tsuen Interchange	SB
3c	Tong Yan San Tsuen Interchange	SB
3d	Tong Yan San Tsuen Interchange	NB
3e	Tong Yan San Tsuen Interchange	NB
3f	Tong Yan San Tsuen Interchange	NB
3g	Tong Yan San Tsuen Interchange	WB
4a	Lam Yu Road	EB & WB
4b	Lam Yu Road	EB & WB
5a	Lam Hau Tsuen Road	NB & SB
5b	Lam Hau Tsuen Road Roundabou	SB
5c	Lam Hau Tsuen Road Roundabou	WB
5d	Lam Hau Tsuen Road Roundabou	NB
6a	Lam Hi Road	NB & SB
7a	Lam Tai West Road	NB & SB
8a	Lam Tai East Road	NB & SB
9a	Planned Road	EB & WB
9b	Planned Road	EB & WB
9c	Shan Ha Road	EB & WB
9d	Shan Ha Road	EB & WB
10a	Planned Road	NB
10b	Planned Road	SB
11a	Planned Road	NB & SB
11b	Planned Road	EB & WB
11c	Planned Road	EB & WB
12a	Site Access Road	NB & SB



LEGENDS:

- SITE BOUNDARY
- 300m CATCHMENT
- ROAD LINKS

Job Title: PROPOSED RCHD (RESIDENTIAL CARE HOME FOR PERSONS WITH DISABILITIES) AT FORMER WA FUNG SCHOOL, LAM HAU TSUEN, YUEN LONG, NEW TERRITORIES			Drawing no.: Figure 1
Date: MAR 2025	Scale: 1 : 1500 @ A1 1 : 3000 @ A3	Drawing Title: INDEX PLAN FOR ROAD LINKS IN VICINITY OF PROJECT SITE	MOTT MACDONALD
Drawn: WTL	Job No.: 601100675		

C:\Users\LAM10227\OneDrive - Mott MacDonald\Desktop\jobs\601100775 Rehab centre at ex-Wa Fung School\Drawing\xxx.dgn

Appendix C Not In Use

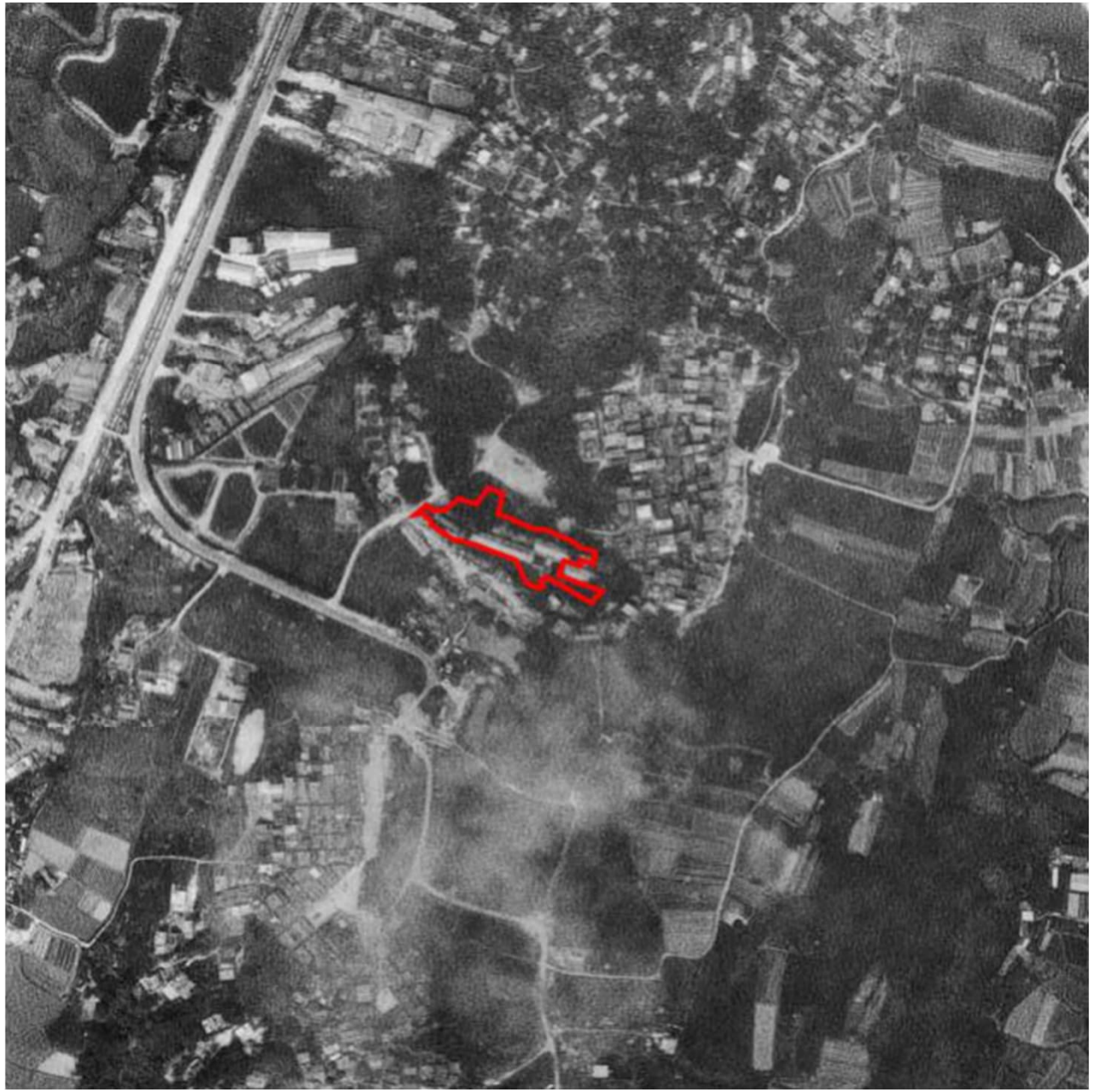
Appendix D Aerial Photographs

MOTT MACDONALD

Appendix D Aerial Photograph 1963

MOTT MACDONALD

Appendix D Aerial Photograph 1973



Appendix D Aerial Photograph 1983

MOTT MACDONALD

Appendix D Aerial Photograph 1993

MOTT MACDONALD

Appendix D Aerial Photograph 1999

MOTT MACDONALD

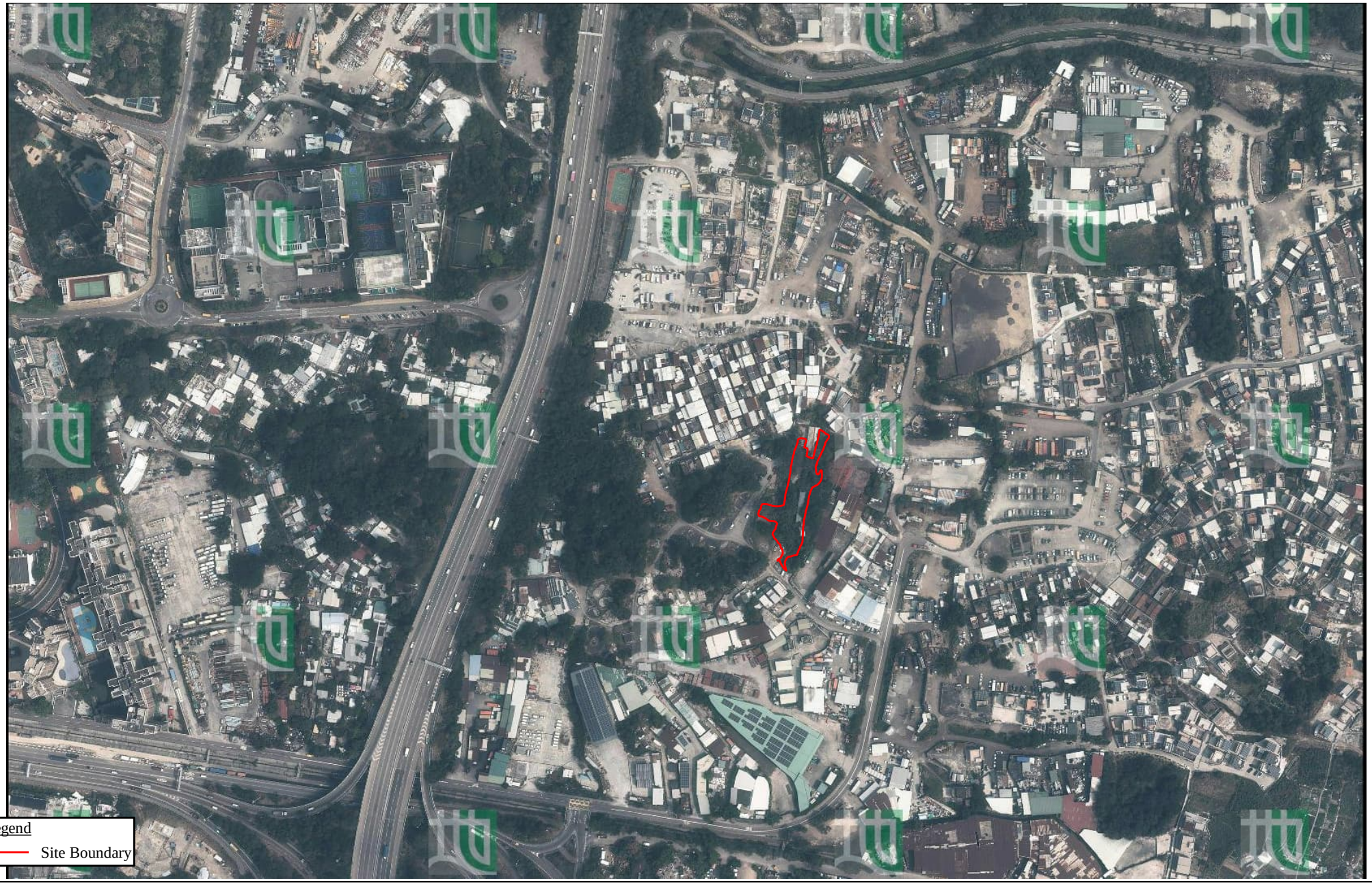
Appendix D Aerial Photograph 2009

MOTT MACDONALD

Appendix D Aerial Photograph 2014

MOTT MACDONALD

Appendix D Aerial Photograph 2021


Legend
Site Boundary

Appendix E Reply from EPD and FSD

(i) Reply from EPD on record of spillage/ leakage of chemical waste or chemicals

Janice Tam

From: Alfred Chan
Sent: 24 March 2025 15:52
To: Janice Tam; Denny Chau
Cc: Dicky Ngai; Ivan Cheng; Steven Tang
Subject: Fw: Planning Application for SWF at Ex-Wa Fung School: Request for Information about Chemical Waste Producers and Spillage/Leakage Incidents
Attachments: L0004 Request for Information about Chemical Waste Producers and Spillage Leakage Incidents.pdf

Dear all,

Please find EPD's reply below for your information. Thank you.

Thanks & Regards,
Alfred Chan
D +852 2585 8461

From: hauyinwong@epd.gov.hk
Sent: Monday, March 24, 2025 10:40
To: Alfred Chan
Cc: "SI[RN]56"@Not_For_Reply_From_Internet.hksarg.hk; "I[RN]56"@Not_For_Reply_From_Internet.hksarg.hk
Subject: Planning Application for SWF at Ex-Wa Fung School: Request for Information about Chemical Waste Producers and Spillage/Leakage Incidents

Dear Alfred Chan,

Planning Application for Proposed 'Social Welfare Facility (Residential Care Home for Disabled)' at Former Wa Fung School
Request for Information about Chemical Waste Producers and Spillage/Leakage Incidents

I refer to your email and the attached letter dated 21 March 2025 about the captioned. Our reply is as below.

(a) For the registration of Chemical Waste Producers, a registry is available at our Territory Control Office at Wan Chai. Please contact our Mr. Gordon KWAN, Senior Environmental Protection Inspector, at Tel: 2835 1027 for details;
(b) This Regional Office has no record of spillage/ leakage of chemical waste or chemicals at the project site specified in your attached letter in the past five years. You may also need to check with other parties / departments for such information as appropriate.

Please contact the undersigned at 2158 5823 should you have any questions. Thank you.

Best regards,
Suki Wong
EPD
24.3.2025

----- Forwarded by Hau Yin WONG/EPD/HKSARG on 24/03/2025 10:01 -----

From: "Alfred Chan" <Alfred.Chan@mottmac.com >
To: "hauyinwong@epd.gov.hk" <hauyinwong@epd.gov.hk>
Cc: "Steven Tang" <Steven.Tang@mottmac.com>, "Dicky Ngai" <Dicky.Ngai@mottmac.com>, "Ivan Cheng" <Ivan.Cheng@mottmac.com>, "Janice Tam" <Janice.Tam@mottmac.com>, "Denny Chau" <Denny.Chau@mottmac.com>
Date: 21/03/2025 16:17
Subject: Planning Application for SWF at Ex-Wa Fung School: Request for Information about Chemical Waste Producers and Spillage/Leakage Incidents

---

Dear Madam,
Planning Application for Proposed 'Social Welfare Facility (Residential Care Home for Disabled)' at Former Wa Fung School

Request for Information about Chemical Waste Producers and Spillage/Leakage Incidents
As part of the Environmental Assessment Study for the captioned Project, we are required to undertake a Land Contamination Assessment in order to identify any potential contaminated sites within the Project site as shown in the drawing **Figure 1** (page 2 of attached document refers) and a desktop review study is thus required. For this, we would like to request for the following information of the existing area:

1. Records of current and past (as early as the records are available) registered Chemical Waste Producer(s) within the Project site (preferably with the registration date, nature and quantity of the chemical waste and storage location); and

2. Any records of spillage / leakage of chemical waste or chemicals at the Project site.

We would be most grateful if you could provide the above information to us at your earliest convenience, preferably by 28 March 2025.

Should you have any queries, please do not hesitate to contact our Miss Janice Tam at +852 2585 8549. Thank you for your kind attention and assistance.

Best Regards,

Alfred Chan
D +852 2585 8461

alfred.chan@mottmac.com

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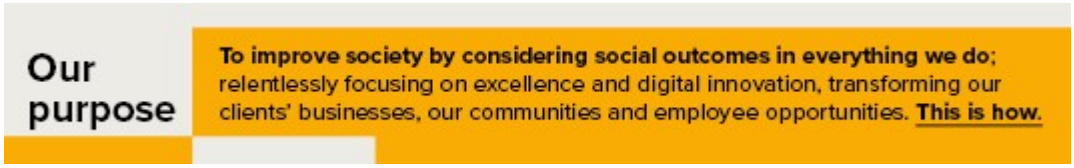
Website | **Twitter** | **LinkedIn** | **Facebook** | **Instagram** | **YouTube**



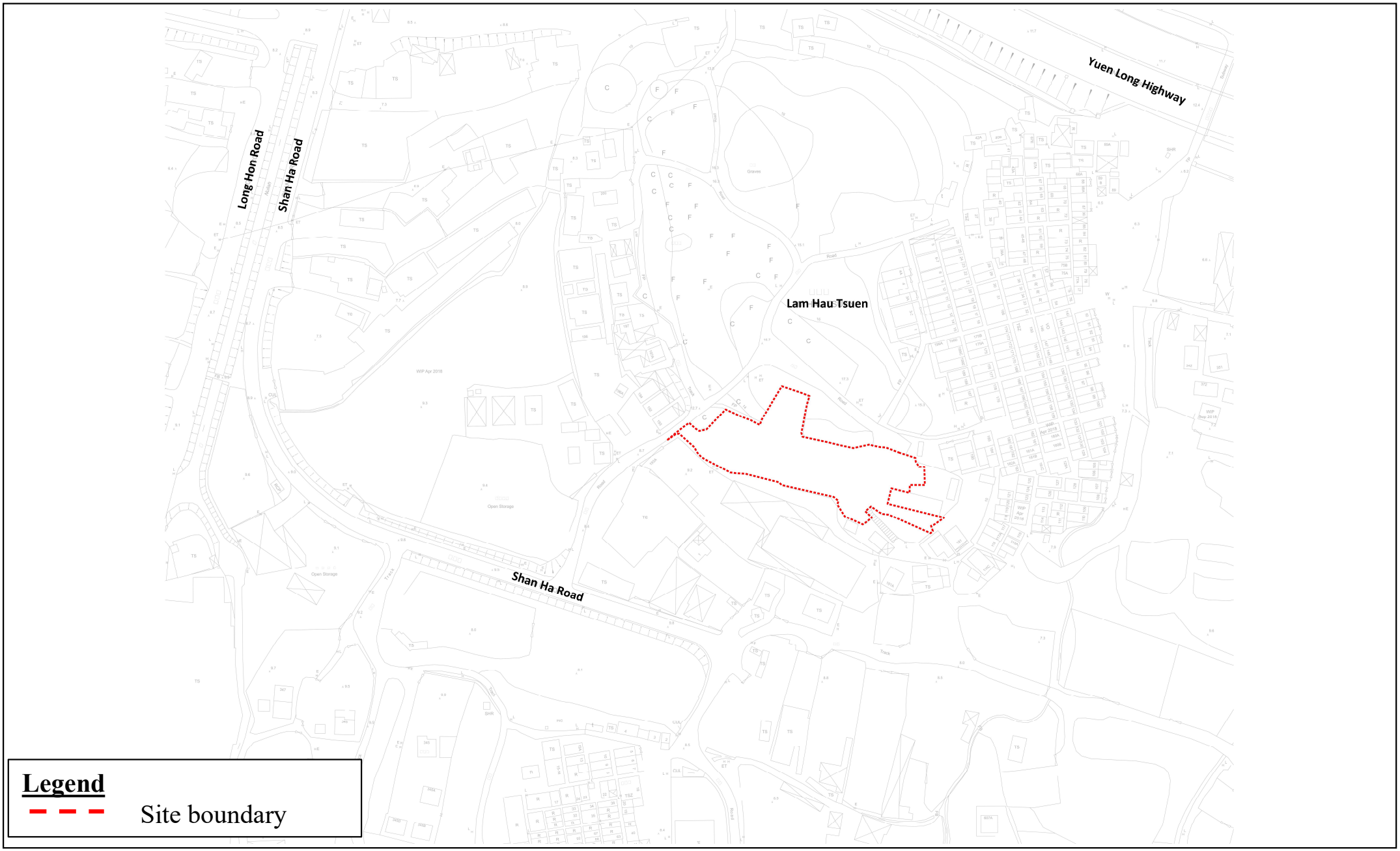


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Figure 1 Layout of Proposed Development

(ii) Reply from FSD on record of dangerous goods & incident records

☐ Urgent ☐ Return Receipt Requested ☐ Sig ☐ Encry ☐ Mark Subject Re ☐ Expand personal&public groups ☒ Mark attachment position

Re: Fw: Planning Application for SWF at Ex-Wa Fung School: Request for Information about Dangerous Goods Storage and Spillage /Leakage Incidents

2025/04/17 上午 11:30

From: ADO LEA CS/FSD/HKSARG
To: Dicky.Ngai@mottmac.com
Cc: "OE8 CS/FSD" <oe_cs_8@hkfsd.gov.hk>

Our reference: (2) in FSD GR 6-5/4 R Pt. 58
Your reference: DN/IC/TP24-0221/L0005

Dear Mr. NGAI,

Planning Application for Proposed "Social Welfare Facility (Residential Care Home for Disabled)" at Former Wa Fung School
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 21.3.2025 regarding the captioned request and reply below in response to your questions:-

Please be advised that neither records of dangerous goods license, fire incidents nor incidents of spillage / leakage of dangerous goods were found in connection with the given conditions of your request at the subject location.

If you have further questions, please feel free to contact the undersigned.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division
Fire Services Department

Tel.: 2733 7896

Remark:
Lift incidents are excluded unless otherwise required.

From: yin_hei CHOW <yin_hei_chow@hkfsd.gov.hk> on behalf of ADO LEA CS <ado_lea_cs@hkfsd.gov.hk>
Sent: Tuesday, April 1, 2025 11:21
To: Dicky.Ngai@mottmac.com
Cc: OE8 CS/FSD; Alfred Chan
Subject: Re: Planning Application for SWF at Ex-Wa Fung School: Request for Information about Dangerous Goods Storage and Spillage/Leakage Incidents

Our reference: (2) in FSD GR 6-5/4 R Pt. 58
Your reference: DN/IC/TP24-0221/L0005

Dear Mr. NGAI,

Planning Application for Proposed "Social Welfare Facility (Residential Care Home for Disabled)" at Former Wa Fung School
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 21.3.2025 regarding the captioned subject.

Your case is being handled, and a reply will be furnished to you as soon as possible. Please be advised that due to time lapse, this Department can only provide the following information for your requested information:

(i) Dangerous Goods Licence Record: from the year of 1990 to present moment.

(ii) Incident Record: Past three years of fire and special services incidents. Lift trapping incidents will be excluded unless otherwise required.

Should you have further questions, please feel free to contact the undersigned.

Please feel free to contact me for any further information.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division
Fire Services Department

Tel.: 2733 7896

Planning Application for SWF at Ex-Wa Fung School: Request for Information about Dangerous Goods Storage and Spillage/Leakage Incidents

21/03/2025 17:32

From: "Alfred Chan" <Alfred.Chan@mottmac.com>

To: "hkfsdenq@hkfsd.gov.hk" <hkfsdenq@hkfsd.gov.hk>

Cc: "Steven Tang" <Steven.Tang@mottmac.com>, "Dicky Ngai" <Dicky.Ngai@mottmac.com>, "Ivan Cheng" <Ivan.Cheng@mottmac.com>, "Janice Tam" <Janice.Tam@mottmac.com>, "Denny Chau" <Denny.Chau@mottmac.com>

Dear Sir/Madam,

Planning Application for Proposed 'Social Welfare Facility (Residential Care Home for Disabled)' at Former Wa Fung School

Request for Information about Dangerous Goods Storage and Spillage/Leakage Incidents

We have been commissioned by Joyful House (Rehabilitation Dormitory) Ltd. to undertake impact assessment studies for the captioned Project.

To facilitate the Environmental Assessment Study of this project, we are required to undertake a Land Contamination Assessment in order to identify any potential contaminated sites within the Project Area (as shown in the attached **Figure 1,** page 2 of attached document refers). The Project Area is located at Lam Hau Tsuen with a site area of approximately 0.295 hectare. It is bounded by existing village houses, open storage and vehicle repair workshops. For the purposes of a desktop review study, we would be grateful if you could furnish us with the following information regarding the Project Area:

1. Records of current and past (as early as the records are available) registered storage of dangerous goods within the Project Area (with type of dangerous goods, storage method, quantity, license No./date of issue, and location of storage); and
2. Any records of spillage / leakage of dangerous goods at the Project Area.

Due to the tight programme of this study, we shall be much grateful if you could return to us by 28 March 2025. Should you find any queries, please feel free to contact our Ms. Janice Tam (Tel: 2585-8549, email: Janice.Tam@mottmac.com). Thank you for your kind attention and assistance.

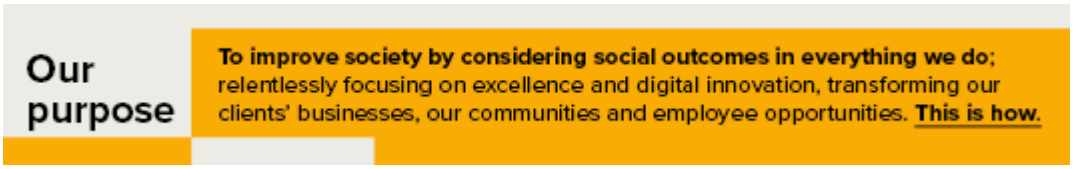
Best Regards,

Alfred Chan
D +852 2585 8461

alfred.chan@mottmac.com

[redacted]
Mott MacDonald
3/F Manulife Place
348 Kwun Tong
Road
Kwun Tong
Kowloon
Hong Kong

Website | **Twitter** | **LinkedIn** | **Facebook** | **Instagram** | **YouTube**



Mott MacDonald Restricted [attachment "L0005 Request for Information about Dangerous Goods Storage and Spillage Leakage Incidents.pdf" deleted by yin_hei CHOW/FSD/HKSARG]

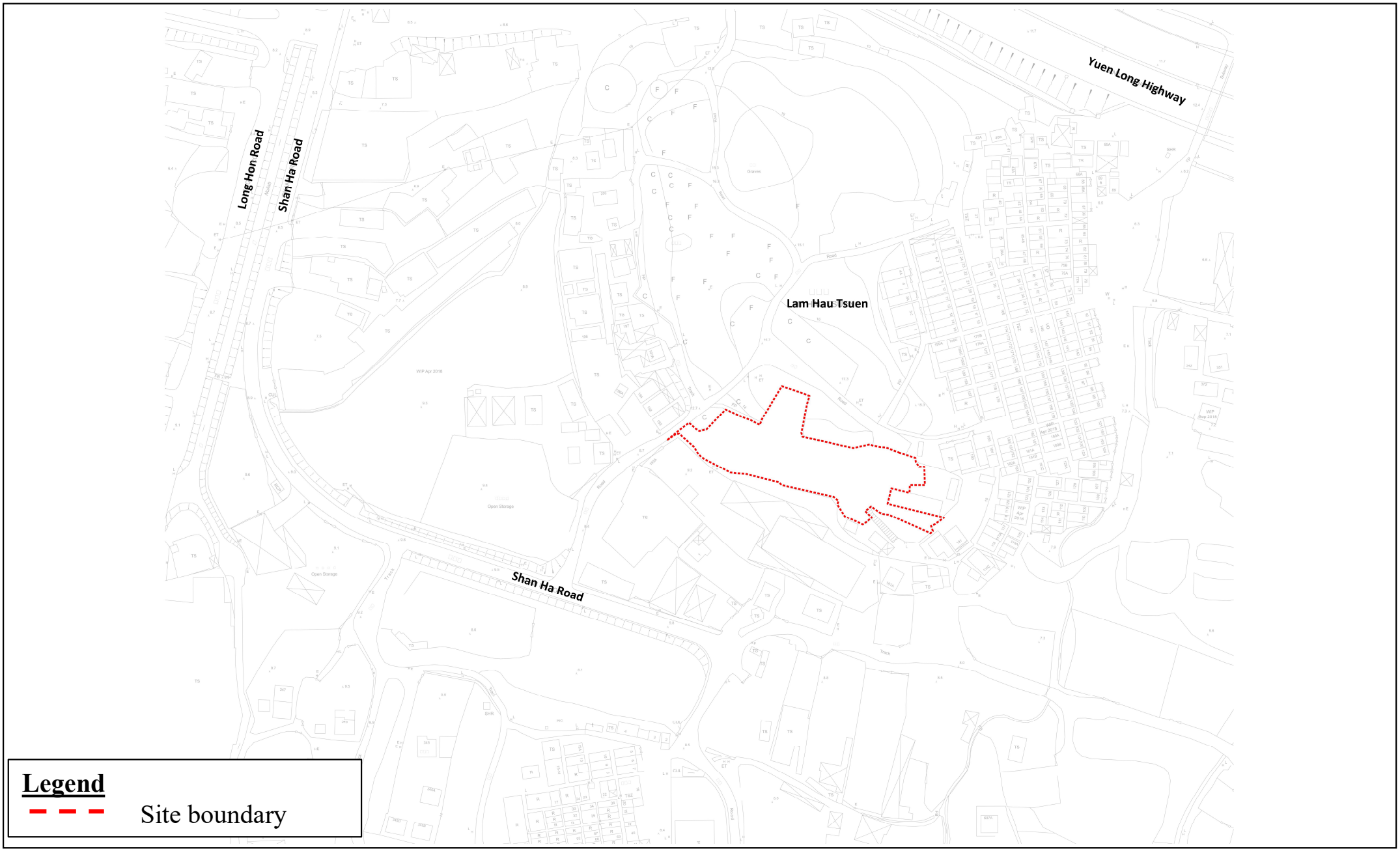


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Figure 1 Layout of Proposed Development

Appendix F Photo Records during Site Reconnaissance Survey

Planned Application for Proposed Lam Hau Residential Care Home for Persons with Disabilities (RCHD) by Conversion of Former Wa Fung School

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Appendix F Photos Records During Site Reconnaissance

P-01 – Abandoned School, trees and vegetations

P-02 – Abandoned School, trees and vegetations

P-03 – Abandoned School, trees and vegetations

P-04 – Car Parking Space and Site Office

P-05 – Abandoned School, trees and vegetations

P-06 – Abandoned School, trees and vegetations

P-07 – Trees and vegetations

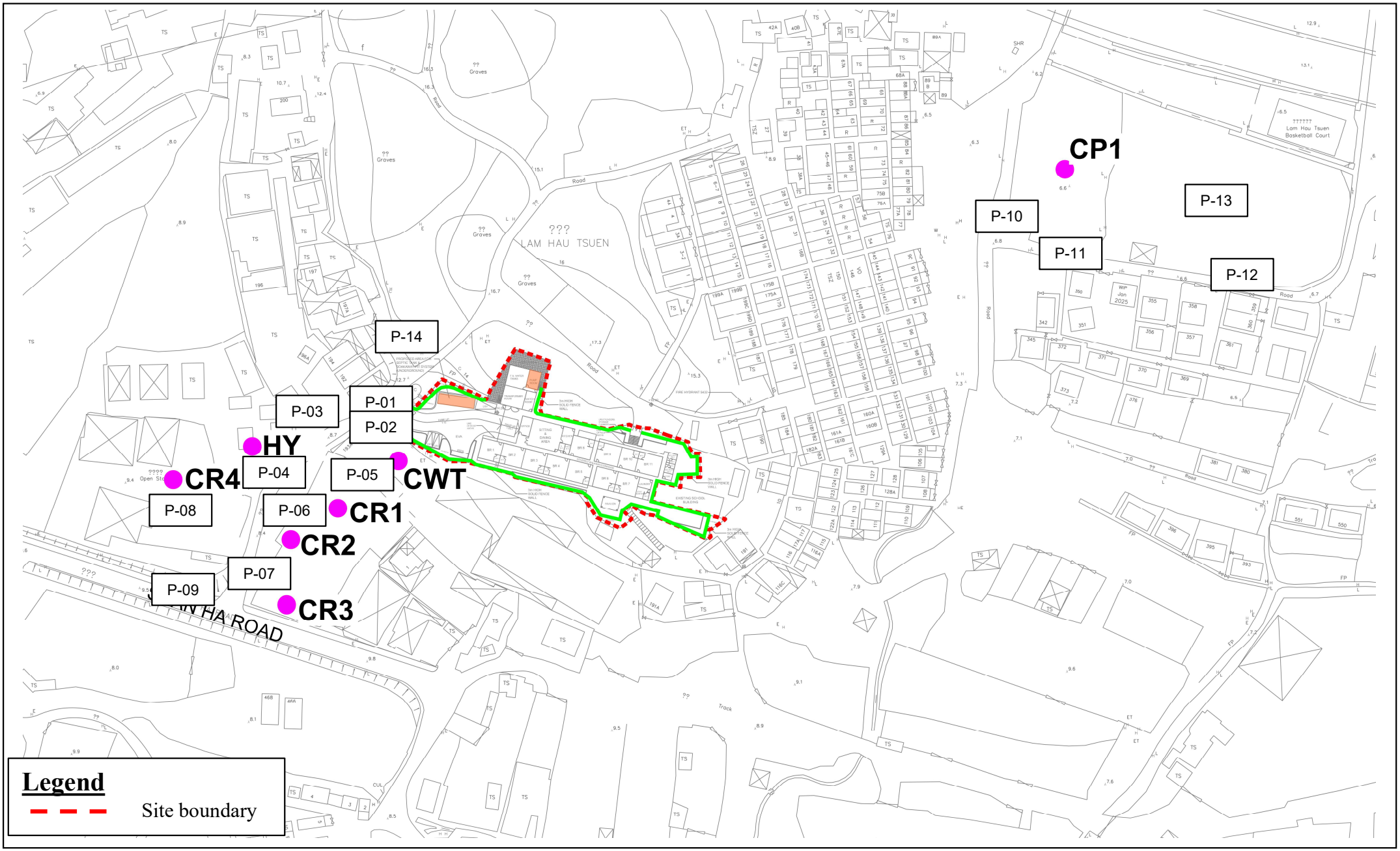
P-08 – Trees and vegetations

P-09 – Abandoned School, trees and vegetations

P-10 – Well, Trees and vegetation

Appendix G Photo Records during Noise Survey

Planned Application for Proposed Lam Hau Residential Care Home for Persons with Disabilities (RCHD) by Conversion of Former Wa Fung School



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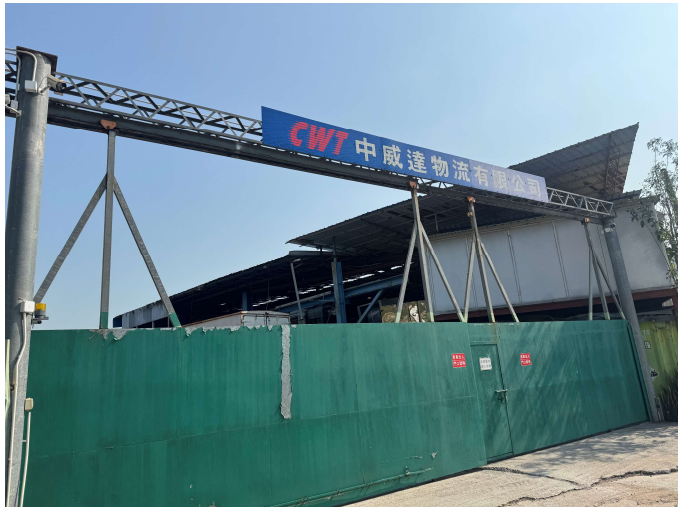
Appendix G Photos Records During Noise Survey



P-01 – Chung Wai Tat Logistics Ltd. (CWT)

P-02 – Chung Wai Tat Logistics Ltd. (CWT)

P-03 – Hanyang Group (HY)

P-04 – Hanyang Group (HY)

P-05 – Sunstar Motor Engineering Ltd. (CR1)

P-06 – Star Power Motor Engineering Ltd. (CR2)

P-07 – Mass Autotech Co. Ltd. (CR3)

P-08 – Car Repairing Workshop (CR4)

P-09 – Car Repairing Workshop (CR4)

P-10 – Hung Shing Car Park (CP1)

P-11 – Hung Shing Car Park (CP1)

P-12 – Hung Shing Car Park (CP1)

P-13 – Hung Shing Car Park (CP1)

Appendix H TD Endorsement Letter on Shan Ha Road and Local Access Road

Janice Tam

From: Terry Chui
Sent: 29 September 2025 11:55
To: Janice Tam
Subject: FW: Inquiry of Road Type – Shan Ha Road & Local Access Road - Application No. A/YL-TYST/1331 for Proposed Social Welfare Facility (Residential Care Home for Persons with Disabilities) and Associated Excavation of Land at Government Land in D.D. 120, La...

Hi Janice,

Just got the reply from TD. They have no comments on our proposed road type. Thanks very much.

Terry Chui
+852 2585 8417

terry.chui@mottmac.com

From: Chi Wai IP <chiwaiip@td.gov.hk>
Sent: 29 September 2025 11:45
To: Terry Chui <Terry.Chui@mottmac.com>
Cc: Ivan Cheng <Ivan.Cheng@mottmac.com>
Subject: Re: Inquiry of Road Type – Shan Ha Road & Local Access Road - Application No. A/YL-TYST/1331 for Proposed Social Welfare Facility (Residential Care Home for Persons with Disabilities) and Associated Excavation of Land at Government Land in D.D. 120, La...

Dear Terry,

We refer to your letter dated 23 August 2023. We have no comments on your proposed road type, i.e. the road section Shan Ha Road as Local Distributor for your environmental assessment.

Besides, the local access road connecting from Shan Ha Road to the Application Site is not managed by this department. We have no comments on your proposed road type for the concerned local assess road as Local Distributor for your environmental assessment.

Regards,
Louis IP
E/YLS, TE(NTW), TD
Tel: 2399 2565

From: "Terry Chui" <Terry.Chui@mottmac.com>
To: "chiwaiip@td.gov.hk" <chiwaiip@td.gov.hk>
Cc: "Ivan Cheng" <Ivan.Cheng@mottmac.com>
Date: 2025/09/26 下午 05:38
Subject: Inquiry of Road Type – Shan Ha Road & Local Access Road - Application No. A/YL-TYST/1331 for Proposed Social Welfare Facility (Residential Care Home for Persons with Disabilities) and Associated Excavation of Land at Government Land in

Dear Mr. Ip,

Application No. A/YL-TYST/1331 for Proposed Social Welfare Facility (Residential Care Home for Persons with Disabilities) and Associated Excavation of Land at Government Land in D.D. 120, Lam Hau Tsuen, Yuen Long, New Territories (Former Wa Fung School (Part))

Inquiry of Road Type – Shan Ha Road & Local Access Road

We have been commissioned by Joyful House (Rehabilitation Dormitory) Limited to undertake the captioned consultancy.
To facilitate the preliminary environmental review, we would like to seek your confirmation on the road type of Yuen Ching Road – a 2-lane single carriageway and Local Access Road (see *Attachment*):

Road	Road Type
Shan Ha Road	Local Distributor
Local Access Road	Local Distributor

Due to the tight programme of this Study, your prompt response on or before 10 October 2025 would be much appreciated.
Should you have any queries, please feel free to contact our Mr. Ivan Cheng (Tel: 2828 5881, email: Ivan.Cheng@mottmac.com).

Regards,
Terry Chui

+852 2585 8417

terry.chui@mottmac.com

Figures

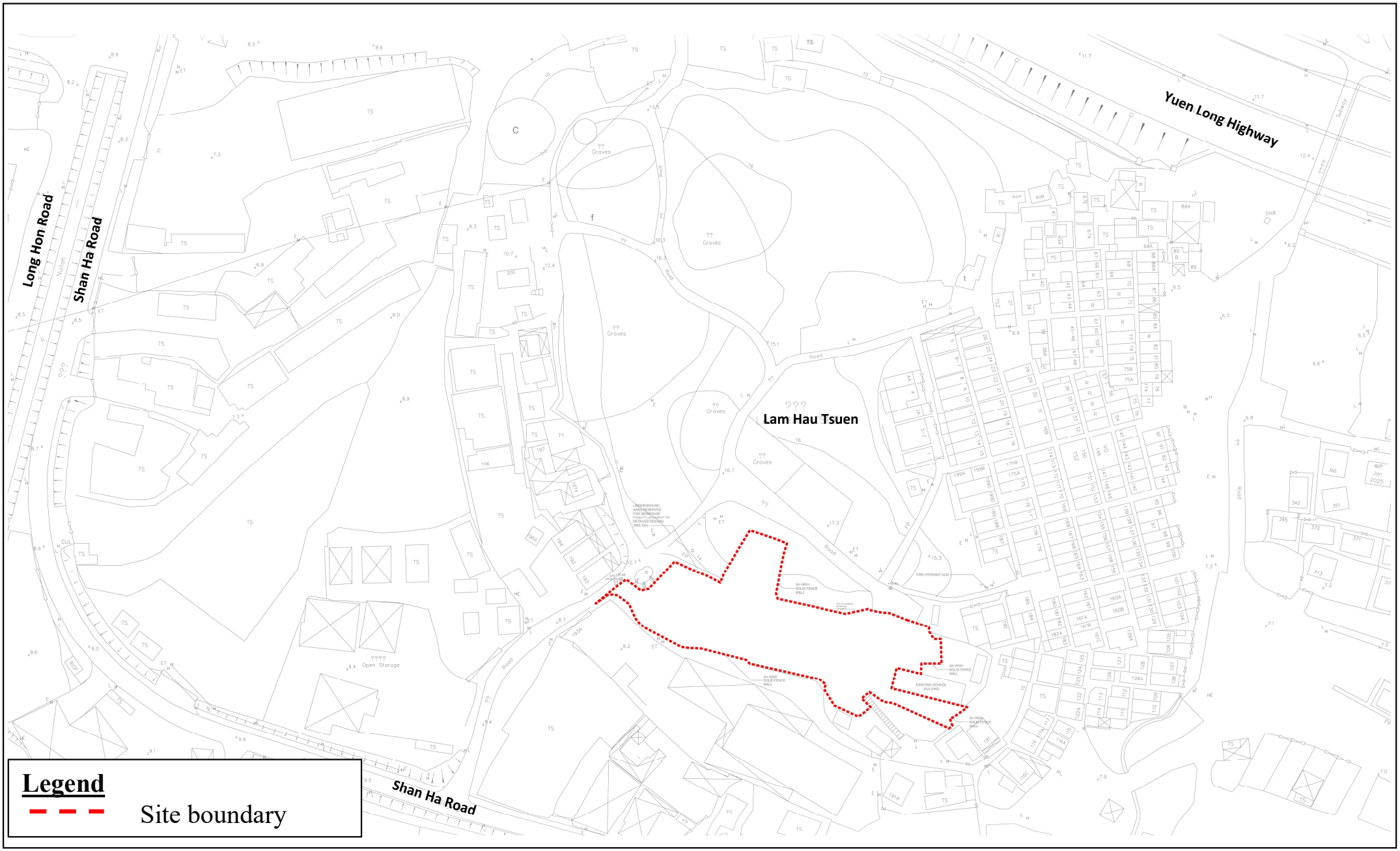


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Figure 1.1 Layout of Proposed Development

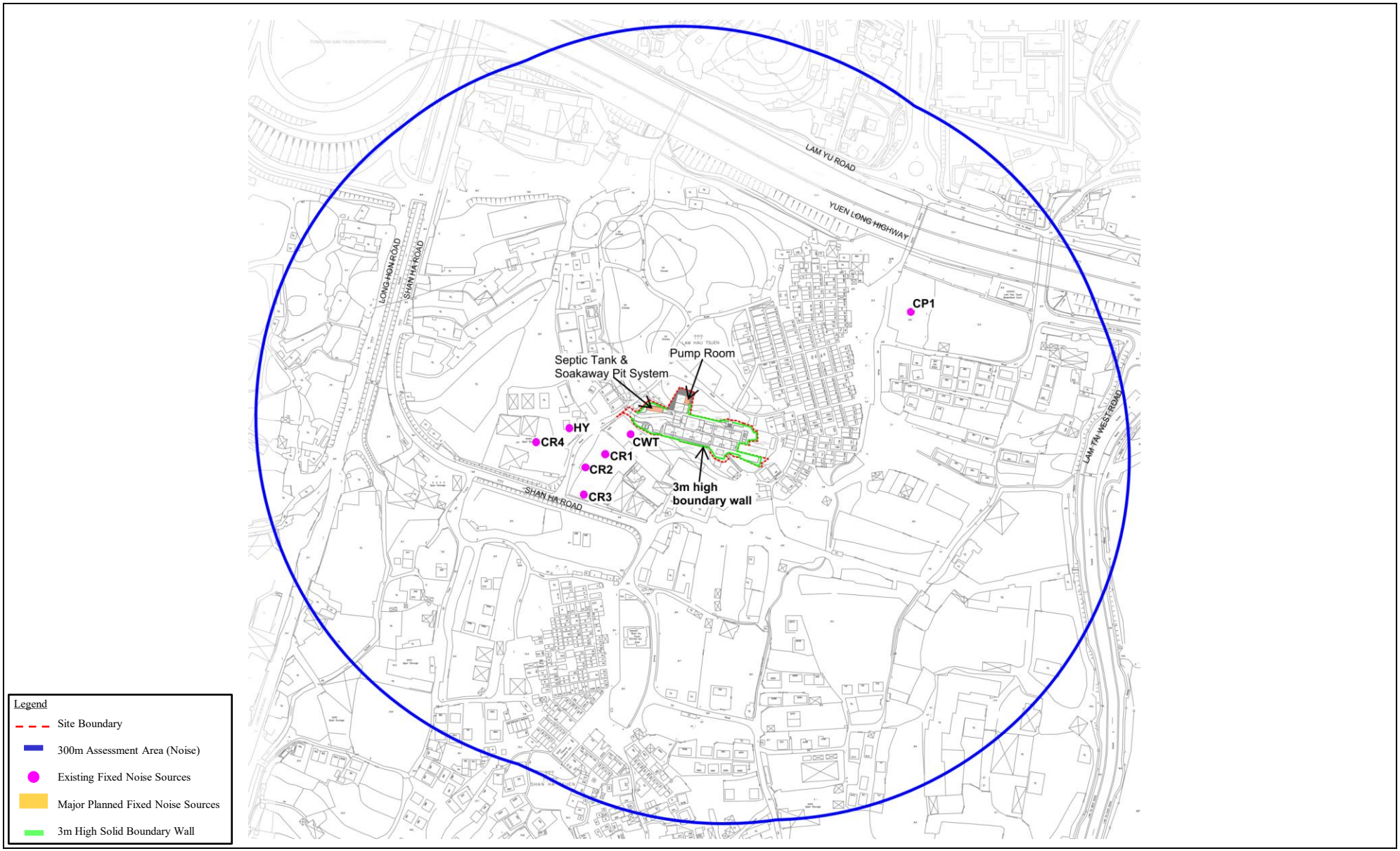

Figure 3.1 Locations of Fixed Noise Sources

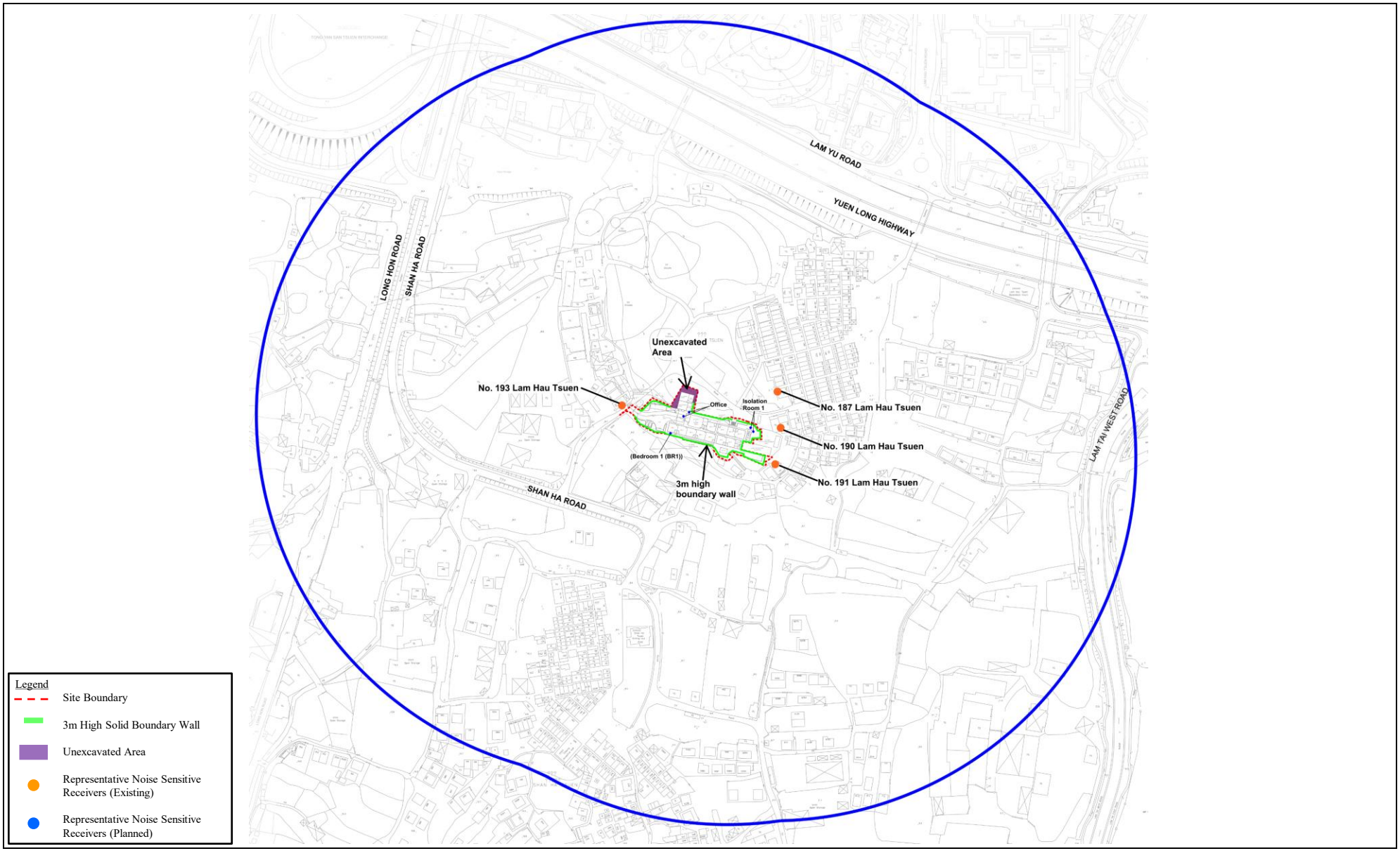

Figure 3.2 Locations of Representative Noise Sensitive Receivers for Fixed Noise

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Figure 4.1 Location of Air Sensitive Receivers

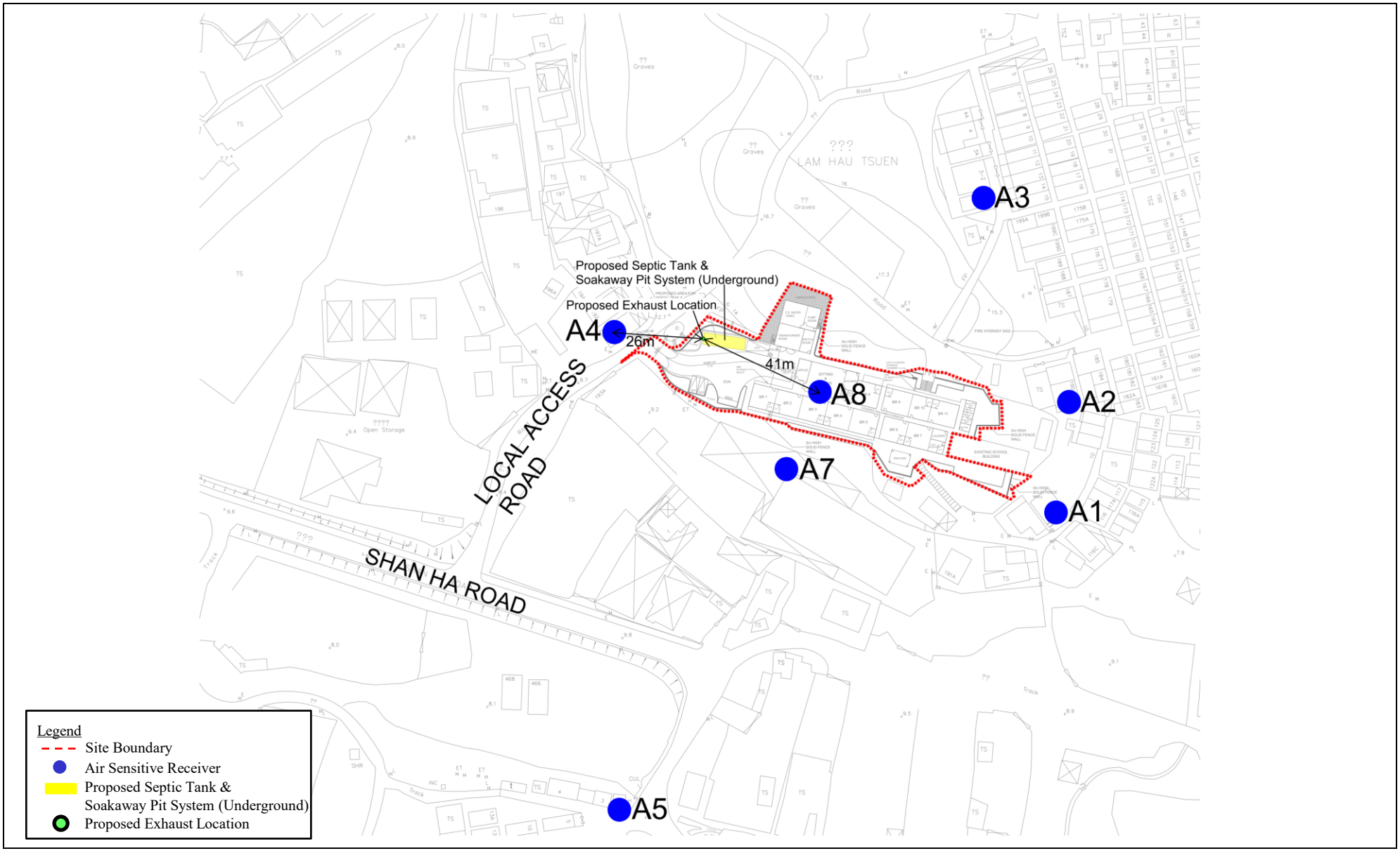

Figure 4.2 Location of Proposed Se[toc Tank/Soakaway Pit System

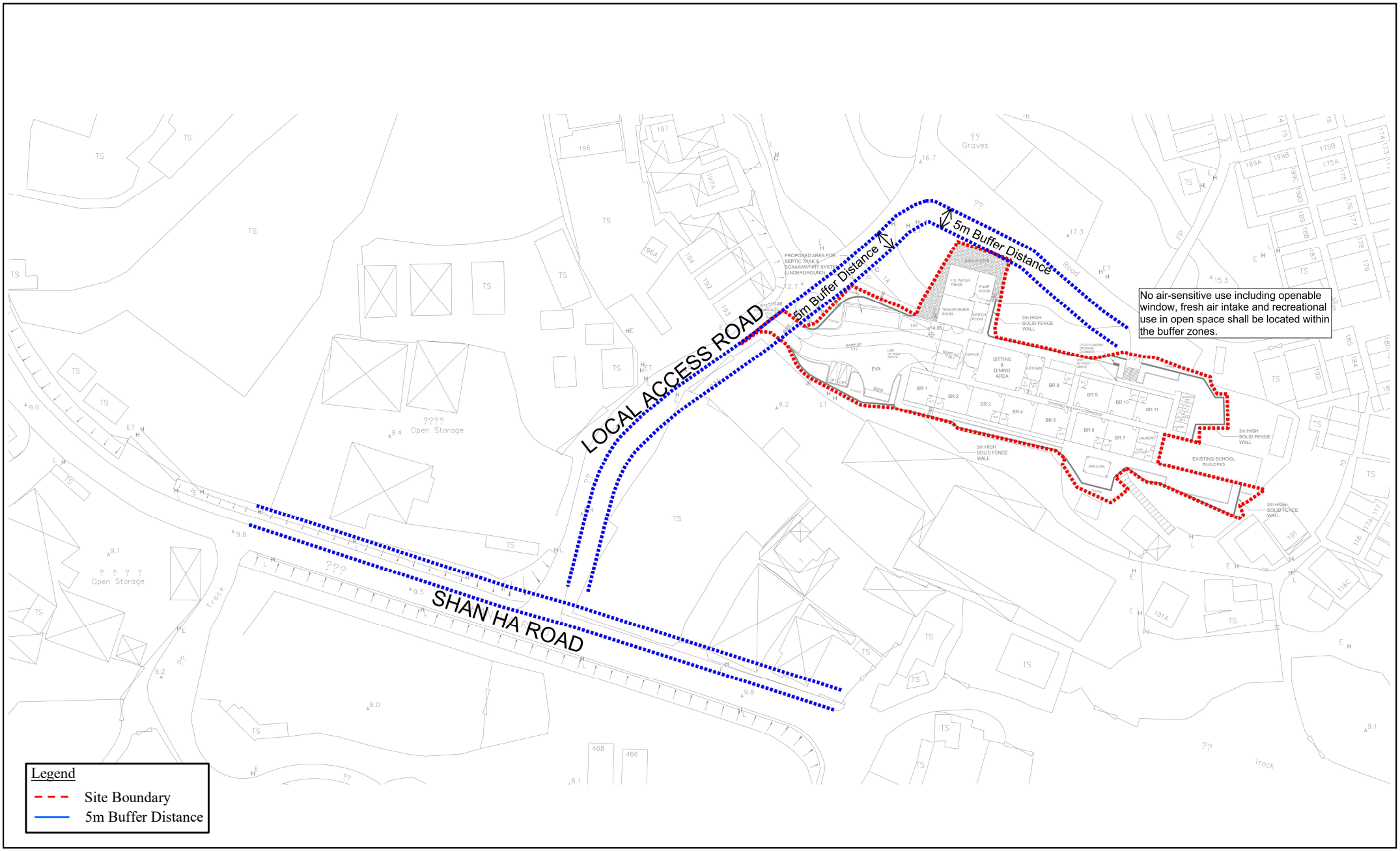

Figure 4.3 Separation Between Proposed Development and Nearby Road

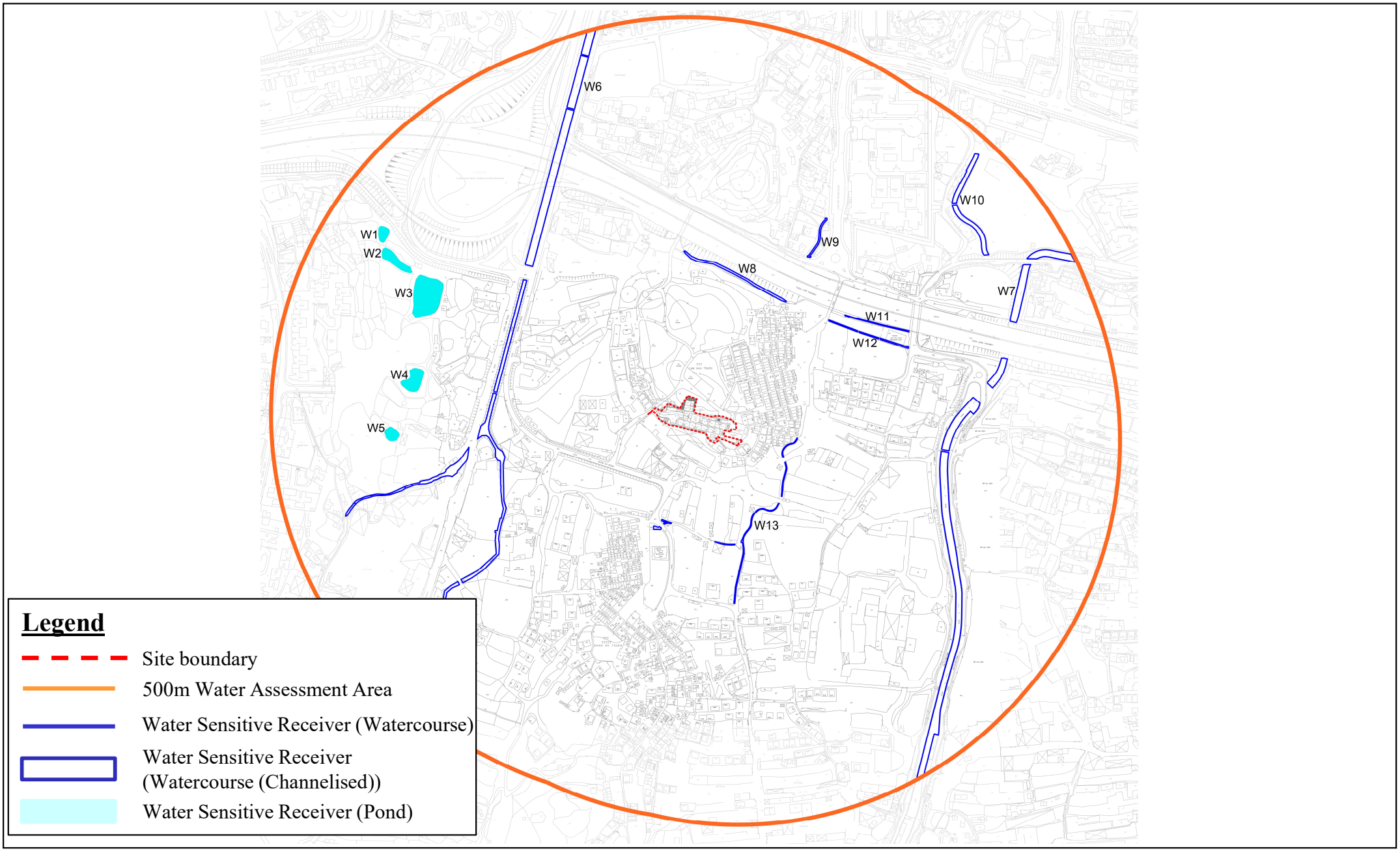

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Figure 6.1 Layout of Water Sensitive Receivers