

Enclosure | 4

Appendix 6 of Planning Statement - Environmental Assessment



D01 Environmental Assessment

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 With reference to the latest policy address in developing the Northern Metropolis, it is aimed to optimise the use of land resources, adopt a higher development intensity and increase high-quality housing supply. In order to address the aforementioned needs, it is planned to redevelop a land with an area of approximately 22,445m² comprising various lots in D.D. 83, and the adjoining government land with an area of about 1,358m², Lung Yeuk Tau, New Territories, into proposed flat, shop and services and eating place (“the Site” or “the Proposed Development”).
- 1.1.2 The Site is currently zoned “Residential (Group C)” (“R(C)”) and “Agriculture” (“AGR”) under the Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan (“OZP”). It is planned to develop a commercial complex for shop and services and eating place, and Residential Development comprising five blocks for domestic use.
- 1.1.3 In this regard, a rezoning application under Section 12A of the *Town Planning Ordinance* (“TPO”) to rezone the Site from “R(C)” and “AGR” zones to “Residential (Group A)2” (“R(A)2”) zone under Column 1 shall be required. SMEC Asia Ltd (“SMEC”) has been commissioned to conduct this Environmental Assessment (“EA”) to support the application.

1.2 Site Description

- 1.2.1 The Site is located in a developed area in Lung Yeuk Tau, New Territories, which is a flat land used for workshop, storage and warehouses. Its northern part is currently occupied by a permanent domestic structure, temporary structures for open storage yards, storage of construction materials and workshops, open carparks and vacant land. The southern part is currently occupied by the Applicant for warehouse storage.
- 1.2.2 As shown on **Figure 1-1**, Sha Tau Kok Road (Lung Yeuk Tau) Section is located to the immediate north of the Site that runs along the northeast-southwest direction. Across the opposite site of Sha Tau Kok Road (Lung Yeuk Tau) Section, there are San Wai Barracks, a recycling centre and some warehouses. The Site is mainly surrounded by Tung Chun Soy Sauce factory place and some vegetated land to the east, Queen’s Hill Estate to the south, village houses and warehouses to the west, intermixed with temporary structures, scattered vegetated and abandoned land.

1.3 Project Description

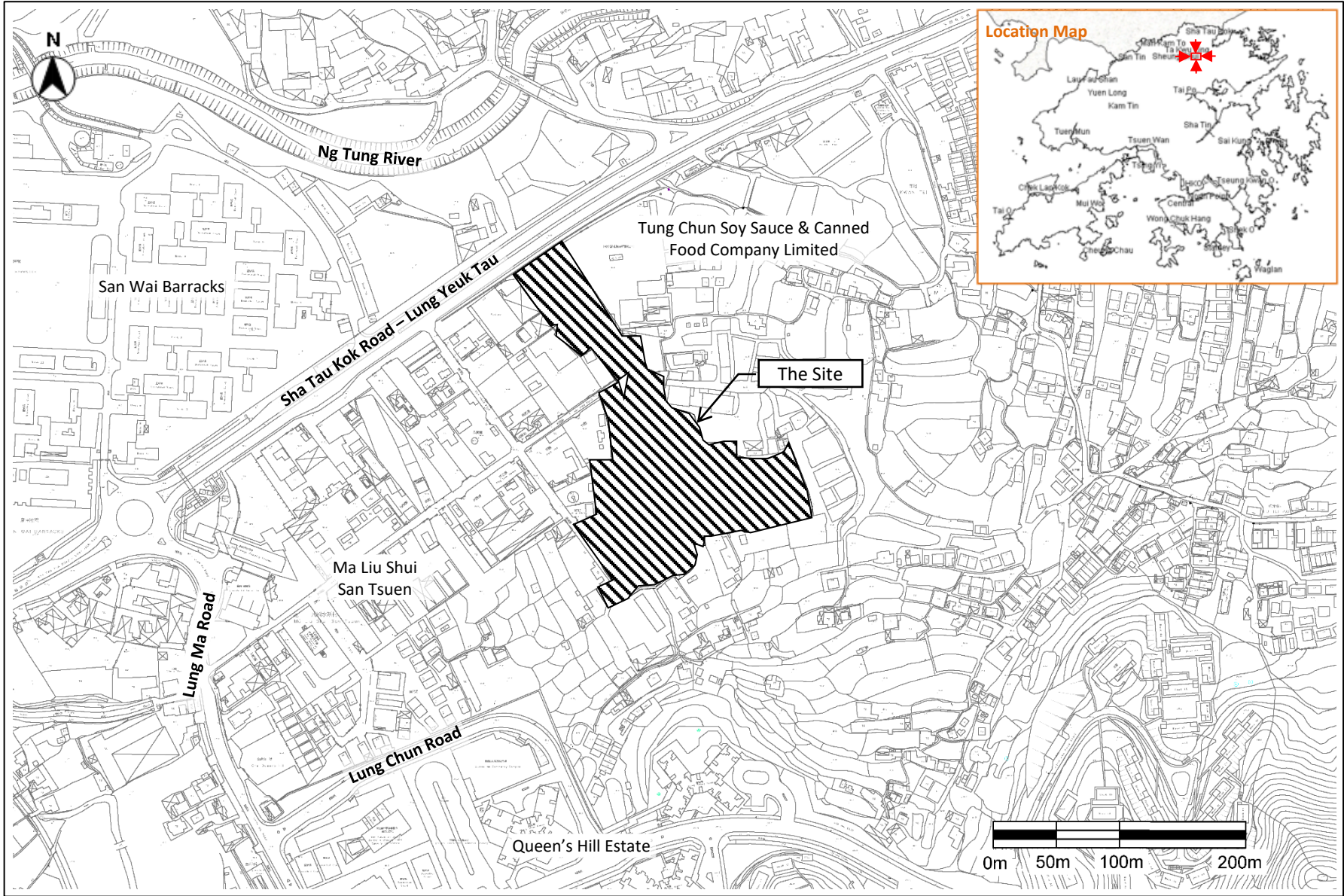
- 1.3.1 The Proposed Development will tentatively comprise a commercial complex and a Residential Development with the following components:
- Five Residential Blocks
 - One Clubhouse
 - One Swimming Pool
 - One Commercial Complex

1.4 Objective of the Report

- 1.4.1 The objectives of this EA are to:
- Identify and qualitatively assess potential environmental impacts arising from surrounding emissions to the Site, as well as that arising from the operation of the Project Site to the nearby sensitive uses, in terms of air quality, noise, water quality and waste management.

- Mitigation measures have been recommended, where appropriate, to alleviate any identified environmental impacts or constraints during the operation of the Project. Potential environmental impacts during construction phase, though transient, have also been reviewed and mitigation measures have been recommended to reduce any identified environmental impacts to acceptable levels.

Figure 1-1 Site Location and its Environs



2 AIR QUALITY REVIEW

2.1 Introduction

2.1.1 This section assesses the potential air quality impacts that will be generated by the Project during the construction and its operation. On the other hand, potential air pollution problem arising from the surrounding of the Site is also evaluated. Mitigation measures are recommended, where necessary, as part of the assessment.

2.2 Environmental Legislation and Standards

Air Quality Objectives

2.2.1 The Air Quality Objectives (“AQOs”) established under the *Air Pollution Control Ordinance* (“APCO”) (Cap.3.11) enacted from 1 January 2022 are given in **Table 2-1**.

Table 2-1: Hong Kong Air Quality Objectives

POLLUTANT	AVERAGING TIME	PREVAILING AQOs	
		CONCENTRATION LIMIT ^[1] ($\mu\text{g}/\text{m}^3$)	NO. OF EXCEEDANCE ALLOWED
Sulphur Dioxide (“SO ₂ ”)	10-minutes	500	3
	24-hour	50	3
Respirable Suspended Particulates (“RSP” or “PM ₁₀ ”) ^[2]	24-hour	100	9
	Annual	50	N/A
Fine Suspended Particulates (“FSP” or “PM _{2.5} ”) ^[3]	24-hour	50	35
	Annual	25	N/A
Nitrogen Dioxide (NO ₂)	1-hour	200	18
	Annual	40	N/A
Ozone (“O ₃ ”)	8-Hour	160	9
Carbon Monoxide (“CO”) ^[4]	1-hour	30,000	0
	8-Hour	10,000	0
Lead (“Pb”)	Annual	0.5	N/A

Notes:

- 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 293 Kelvin and a reference pressure of 101.325 kilopascal.
- RSP or PM₁₀ means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.
- FSP or PM_{2.5} means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.
- The 8-hour mean of CO concentration is calculated based on Item 9 of Schedule 5 of APCO. The maximum daily 8-hour mean concentration of CO in air is selected by examining 8-hour running averages, calculated from CO hourly data and updated each hour, that is:
 - the first calculation period for a day is the period from 5pm on previous day to 1am on that day.
 - the last calculation period for a day is the period from 4pm to 12 midnight on that day.

Air Pollution Control (Construction Dust) Regulation

2.2.2 Enacted under Section 43 of the APCO, the *Air Pollution Control (Construction Dust) Regulation* defines notifiable and regulatory works to ensure effective dust abatement measures have been properly implemented to reduce dust emissions for a number of construction activities.

- 2.2.3 The Regulation requires that any notifiable work ^[Ref. #1] shall give advance notice to the Environmental Protection Department (“EPD”), and the contractor shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations

- 2.2.4 Enacted under Section 43 of the APCO, the *Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations* stipulate that a prior approval from EPD will be required if the total fuel consumption capacity of any fuel-burning equipment or its chimney on premises to be installed or altered exceeds (a) 25 litres (“L”) of conventional liquid fuel per hour; or (b) 35 kilograms (kg) of conventional solid fuel per hour; or (c) 1,150 megajoules (“MJ”) of any gaseous fuel per hour.

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

- 2.2.5 This Regulation requires Non-road Mobile Machinery (“NRMM”), except those exempted, to comply with the prescribed emission standards. 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. Only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes.

Hong Kong Planning Standards and Guidelines (HKPSG)

- 2.2.6 The minimum buffer distances required between the relevant class of roads and active open spaces are recommended in Chapter 9 of the Environment of *Hong Kong Planning Standards and Guidelines* (“HKPSG”). The relevant buffer distances of HKPSG are summarised in **Table 2-2** for ease of reference.

Table 2-2: HKPSG Minimum Setback Distances

POLLUTANT	TYPE OF ROAD	BUFFER DISTANCE	PERMITTED USES
Road and Highways	Trunk Road and Primary Distributor	>20m	Active and passive recreation use
		3 – 20m	Passive recreational use
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational use
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational use
		<5m	Passive recreational use
Under Flyovers	-	Passive recreational use	

Source: Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

- 2.2.7 The minimum buffer distances required between industrial chimneys and active open spaces are recommended in HKPSG as well. The relevant buffer distances of HKPSG are summarised in **Table 2-3** for ease of reference.

¹ Notifiable works include site formation, reclamation, demolition of a building, work carried out in any part of a tunnel that is within 100m of any exit to the open air, construction of the foundation of a building, construction of the superstructure of a building and road construction work.

Table 2-3: HKPSG Recommended Setback Distances from Industrial Chimneys

Pollution Source	Difference in Height between Industrial Chimney Exit and the Site	Buffer Distance	Permitted Uses
Industrial Chimneys	< 20m	> 200m	Active and passive recreation use
		5 – 200m	Passive recreational use
	20 – 30m	> 100m	Active and passive recreational use
		5 – 100m	Passive recreational uses
	30 – 40m	> 50m	Active and passive recreational use
		5 – 50m	Passive recreational use
> 40m	> 10m	Active and passive recreational use	

Source: Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

2.3 Background Air Quality

- 2.3.1 The surrounding areas of the Site is generally located at a developed area in Lung Yeuk Tau, which are surrounded by warehouses, open storages, factories, a number of low-rise residential blocks located at its west and high-rise public estates to the south of the Site.
- 2.3.2 The major road networks at the surrounding of the Site include Sha Tau Kok Road (Lung Yeuk Tau) Section located to its north, Dao Yang Road and Hai Wing Road to the west of the Site.
- 2.3.3 To evaluate the background air quality of the Site, EPD air quality monitoring data from monitoring station at Northern District (latest available data at the time of review: 2022 hourly and daily data, 2021 yearly data) and future air quality data from PATH model (year 2022 to 2025 at Level 1 of Grid cells (38,54) and (39,54)) were reviewed.
- 2.3.4 For the reviewed air quality monitoring data from monitoring station at Northern District, all the pollutant concentrations were compiled with the AQOs. For the future air quality data from PATH model, all pollutant data are lower than the AQOs except ozone with the number of exceedances more than that allowed. Nevertheless, it is considered that the Site is not located in a severely polluted urban centre.

2.4 Assessment and Mitigation

Identification of Air Sensitive Receivers (“ASRs”)

- 2.4.1 Based on the site visits conducted on 6 December 2022 and 18 January 2023, and the information on the survey map, several representative ASRs in the vicinity of the Site are identified, which are listed in **Table 2-4** and shown on **Figure 2-1**. In addition, the Proposed Development itself is also identified as an ASR during the operation phase.

Table 2-4: Representative ASRs surrounding/ within the Site

ASR ID	DESCRIPTION	LAND USE	APPROX. SHORTEST DISTANCE TO SITE BOUNDARY (m)
A1	Tung Chun Soy Sauce & Canned Food Company Limited	Industrial	2
A2	Shun Cheong Electrical Products Factory Limited	Industrial	17
A3	No. 4 Dao Yang Road (恩基廬)	Residential	61

ASR ID	DESCRIPTION	LAND USE	APPROX. SHORTEST DISTANCE TO SITE BOUNDARY (m)
A4	No. 26 Hai Wing Road (英豪苑)	Residential	61
A5	Park Villa	Residential	3
A6	No. 31 Hai Wing Road (竹園)	Residential	1
A7	King Chong	Residential	1
A8	Domestic blocks within the Proposed Development	Residential	-

Construction Phase

- 2.4.2 Fugitive dust is the major impact that will be generated during construction activities, such as excavation, stockpiling, earth moving, transferring or handling of dusty materials, site formation, foundation and superstructure of the Proposed Development. Two-storey basement carpark and plant rooms will be constructed. Therefore, excavation works and stockpiling are expected in the construction stage. With the implementation of mitigation measures mentioned in **paragraphs 2.4.3 and 2.4.4**, no adverse air quality including dust impact due to construction stage is anticipated.
- 2.4.3 With the implementation of mitigation measures that are recommended in the *Air Pollution Control (Construction Dust) Regulation*, dust generation can be controlled and significant fugitive dust impact is therefore not anticipated.
- 2.4.4 To avoid adverse dust impact on the air sensitive uses nearby, good practice and dust control measures to be implemented during the construction phase are as follows:
- Provide hard paving on open area, regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.
 - The working area of any excavation or earth moving operation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet.
 - Frequent watering for particularly dusty areas and areas close to ASRs.
 - Any stockpile of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides, or sprayed with water so as to maintain the entire surface wet.
 - Where possible, dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.
 - The working area for the uprooting of trees, shrubs, or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet.
 - All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition.
 - Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.
 - Vehicle washing facilities including a high-pressure water jet shall be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point shall be paved with concrete, bituminous materials or hardcore.

- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.
- Spray water on the surface of façade before and during grinding work.
- Equip vacuum cleaner on grinder for façade grinding work as far as practicable.
- Main haul road shall be sprayed with water so as to maintain the entire road surface wet. Imposition of speed controls for vehicles on site haul roads and confine haulage and delivery vehicles to designated roadways inside the site.
- The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit shall be kept clear of dusty materials.
- Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.
- Every stock of more than 20 bags of cement or dry Pulverised Fuel Ash (“PFA”) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and three sides.
- Plan the site layout to locate machinery and dust causing activities, including haul roads and stockpiling areas away from receptor as far as possible.
- Erect solid screens or barriers around dusty activities as far as practicable.
- Where possible, connect the construction plant and equipment to mains electricity supply and avoid use of diesel generator and diesel-powered equipment to minimize air quality impact arising from the equipment.

2.4.5 The construction contractors shall also provide regular maintenance of any plant and equipment so as to minimise gaseous emissions.

2.4.6 With proper dust control measures as described above, significant fugitive dust impacts during the construction phase are not anticipated.

Operation Phase

Industrial Emissions

2.4.7 A site visit was conducted on 18 January 2023 to identify the potential air pollution sources in the vicinity of the Site. Based on the site visit, no active chimney or dusty use was identified within 200m from the Site. Therefore, the buffer distance between industrial chimneys and air sensitive uses recommended in Table 3.1 of Chapter 9 in HKPSG has been satisfied. No adverse air quality impact from industrial emissions is therefore anticipated.

Vehicular Emission from Open Road

2.4.8 Sha Tau Kok Road (Lung Yeuk Tau) is the major public road in the vicinity of the Site as shown on **Figure 2-2**. With reference to *The Annual Traffic Census (ATC) 2021* published by the Transport Department (“TD”) in September 2022, Sha Tau Kok Road between On Kui Street and Ping Che Road is classified as a Rural Road (“RR”) (Station No. 5660). As a conservative approach, a buffer distance of 5m recommended by the HKPSG should be adopted for Sha Tau Kok Road (Lung Yeuk Tau).

2.4.9 The buffer distance requirements between air sensitive uses and the major road in the vicinity of the Site are summarised in **Table 2-5**.

Table 2-5: The Buffer Distance Requirements between Air Sensitive Uses and Roads in the Vicinity of the Site

ROAD NAME	ROAD TYPE	BUFFER DISTANCE REQUIREMENTS (m)	COMPLY WITH BUFFER DISTANCE REQUIREMENTS?
Sha Tau Kok Road	Rural Road	5	Yes

2.4.10 As illustrated on **Figure 2-2**, the entire site area could satisfy the buffer distance summarised in **Table 2-5**. As such, no adverse air quality impact arising from vehicle emissions on the air sensitive uses of the development is anticipated.

Odour

2.4.11 Tung Chun Soy Sauce & Canned Food Company Limited (“Tung Chun Soy Sauce Factory”) is located to the adjacent north-east of the Site, at approximately 57m to the nearest residential block of the Proposed Development. Site visits conducted on 6 December 2022 and 18 January 2023 confirmed that no odour is noticeable at the boundary of the Site. No active chimney was identified at the factory. As such, odour impact from the Tung Chun Soy Sauce Factory upon the Proposed Development is not anticipated.

2.4.12 Nevertheless, the fresh air intake for the ventilation system of the proposed Shopping Arcade shall be located away from the Tung Chun Soy Sauce Factory, and they shall also be located at high elevation to enhance quality of the air to be extracted for indoor air flushing. Activated carbon filters are recommended to be installed at fresh air intakes of the mechanical ventilation system to alleviate any potential odour impact at the Proposed Development.

Underground Carpark

2.4.13 The *Environmental Protection Department Practice Note for Professional Persons - Control of Air Pollution in Car Parks* (ProPECC PN 2/96) provides guidance on the control of air pollution in car parks including air quality guidelines required for the protection of public health; and factors that should be considered in the design and operation of car parks in order to achieve the required air quality.

2.4.14 The proposed 2-storey carpark of the Proposed Development with 485 spaces for private car will be located at basement. To minimize the air quality impact on the nearby ASRs, the exhaust/opening/ingress/egress of the carpark will be faced and located away from the nearby ASRs as far as practicable. The proposed carpark will be designed and built in accordance with the requirements and appropriate mitigation measures stipulated in ProPECC PN 2/96. No major air quality impact from the Proposed Development on nearby sensitive uses during operational phase is expected.

2.5 Conclusion

2.5.1 With the implementation of the recommended mitigation measures and good site practice, adverse air quality impacts during the construction phases are not anticipated.

2.5.2 No adverse air quality impact on the Proposed Development from industrial emission and vehicular emissions is anticipated with the implementation of the proposed mitigation measures during the operation phase. Meanwhile, the operation of the Proposed Development will not cause any adverse air quality impact on the surrounding air sensitive uses.

2.5.3 Overall, therefore, no adverse air quality impacts are anticipated during the construction and operation phases of the Site.

Figure 2-1: Locations of Representative Air Sensitive Receivers

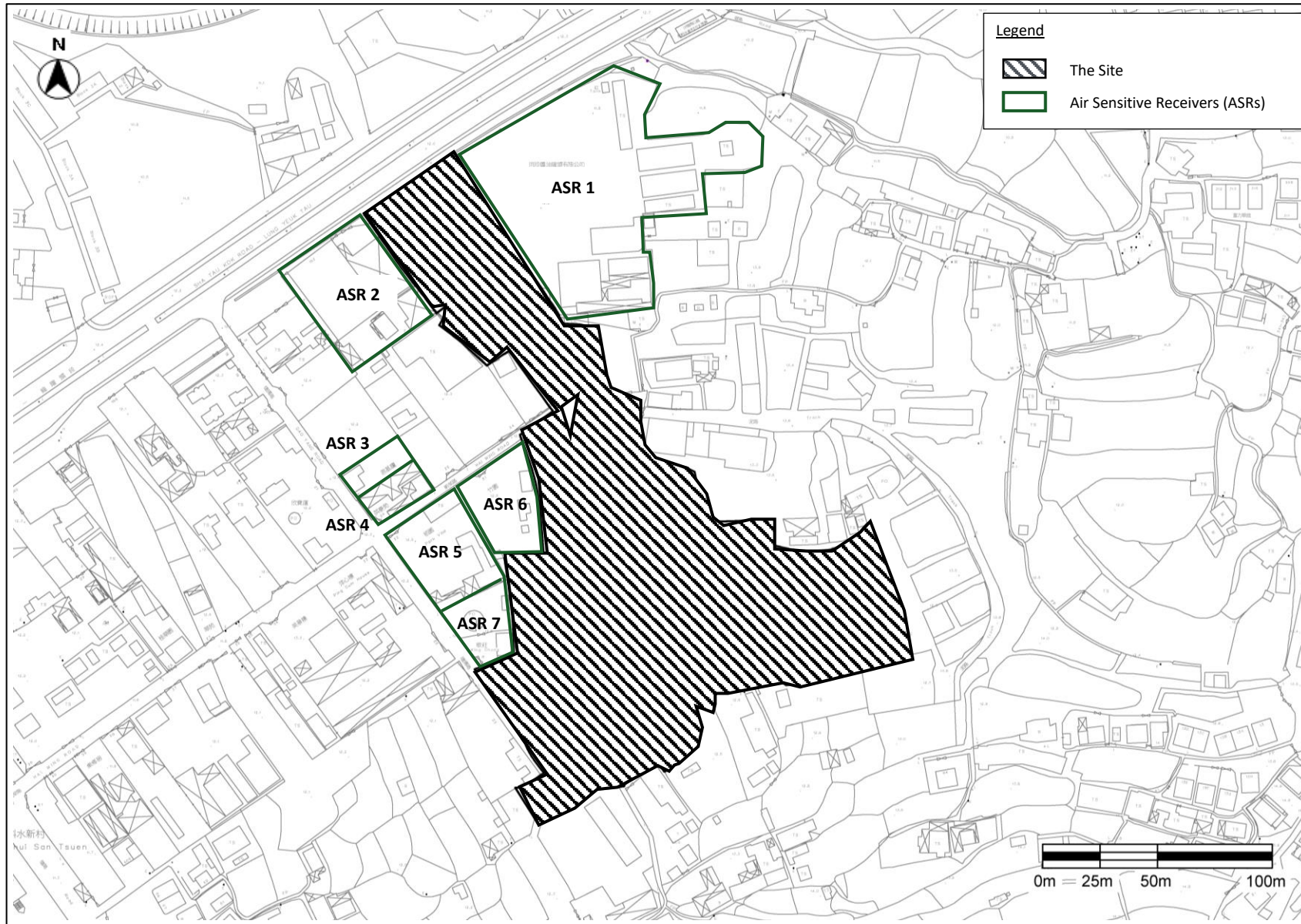
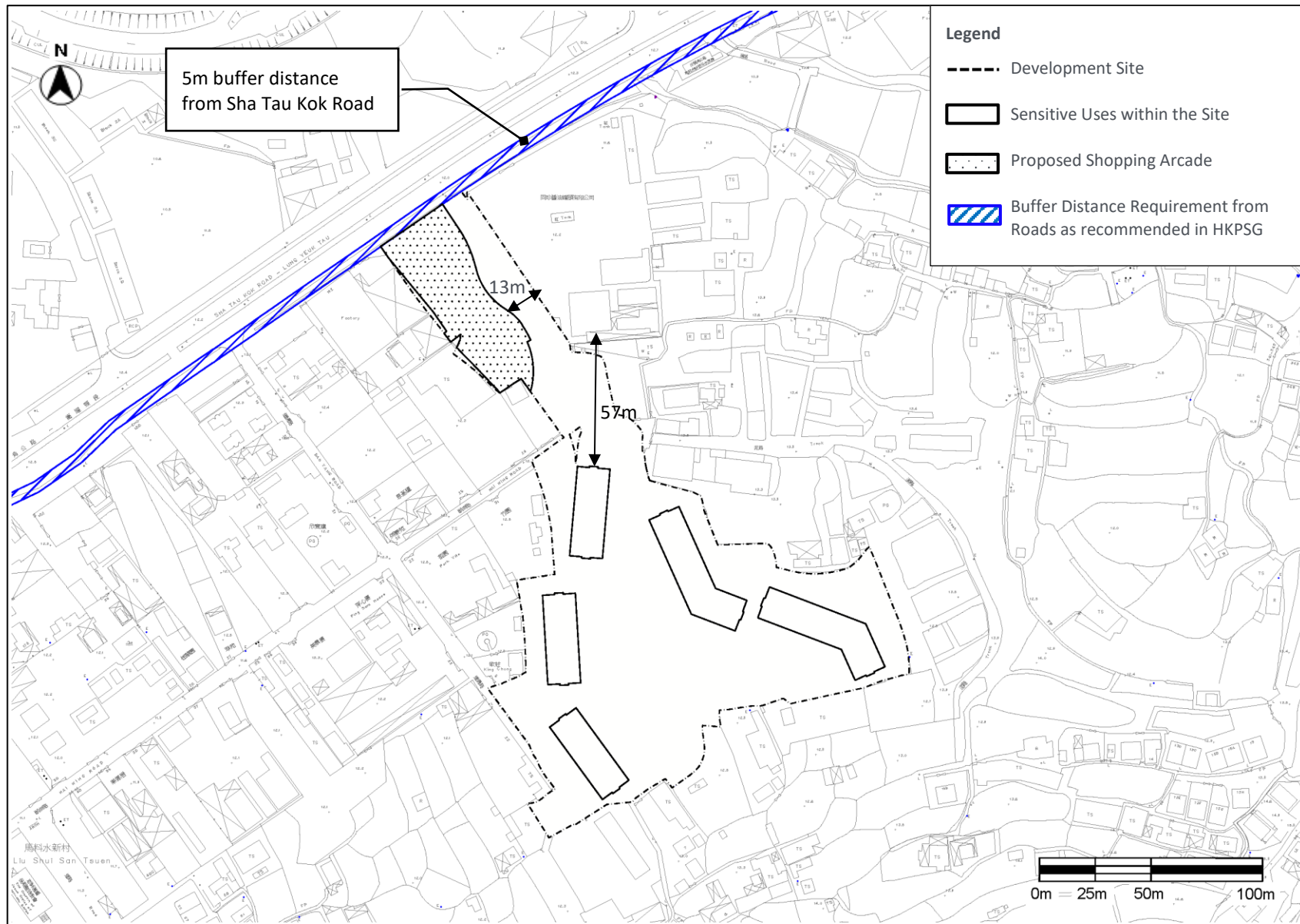


Figure 2-2: Shortest Horizontal Distances Between Nearby Roads and Site Boundary



3 NOISE IMPACT

3.1 Introduction

- 3.1.1 The potential noise impacts associated with the Project during the construction and operation phases are assessed in this section. Mitigation measures are recommended where required.
- 3.1.2 Construction noise is considered to be the major source of potential noise impact during the construction stage of the Project and is assessed in the following sections with relevant standards and criteria.
- 3.1.3 The Proposed Development is a potential noise sensitive receiver of traffic noise impact during the operational phase. Road traffic noise impact on the Proposed Development has been quantitatively assessed with a study area of 300m from the Proposed Development. Mitigation measures are proposed to mitigate any adverse noise impact.
- 3.1.4 Apart from traffic noise impact, potential fixed plant noise during the operation phase has also been assessed in the following sections with relevant standards and criteria.

3.2 Environmental Legislation and Standards

Noise Control Ordinance (Cap. 400)

- 3.2.1 The main piece of legislation controlling environmental noise nuisance is the *Noise Control Ordinance* (“NCO”). The NCO enables regulations and Technical Memoranda (“TMs”) to be made, which introduce detailed control criteria, measurement procedures and other technical matters. The relevant TMs include:
- Technical Memorandum on Noise from Percussive Piling (“PP-TM”).
 - Technical Memorandum on Noise from Construction Work other than Percussive Piling (“GW-TM”).
 - Technical Memorandum on Noise from Construction Work in Designated Areas (“DA-TM”).
 - Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (“IND-TM”).
- 3.2.2 According to EPD’s Plan No. EPD/AN/NT-02 for Tai Po, Fanling, Sheung Shui and Sha Tau Kok, the Site is entirely located within a Designated Area (DA) and so the DA-TM is applicable.
- 3.2.3 A Construction Noise Permit (“CNP”) must be obtained by the contractor for any percussive piling at any time. CNP must also be obtained for the use of any Powered Mechanical Equipment (“PME”) within restricted hours as defined in the NCO (for all days 7pm to 7am the next day and at all times on general holidays or Sundays).
- 3.2.4 In addition to a CNP, hand-held breakers having a mass of above 10kg and any air compressor capable of supplying compressed air at 500kPa or above for carrying out construction work must be fitted with a Noise Emission Label (“NEL”) issued under the *Noise Control (Hand Held Percussive Breakers) Regulations and the Noise Control (Air Compressors) Regulations* of the NCO.
- 3.2.5 There is no statutory control for noise arising from construction activities (other than percussive piling) during normal working hours (7am to 7pm from Monday to Saturday, not including general holidays). Nevertheless, *Professional Persons Environmental Consultative Committee* (“ProPECC”) *Practice Note PN2/93 Noise from Construction Activities – Non-statutory Controls*

(“ProPECC PN2/93”) recommends the noise criteria as shown in **Table 3-1** and guideline to minimise the potential construction noise impact during normal working hours.

Table 3-1: Construction Noise Criteria for Non-Restricted Hours

NOISE SENSITIVE USE	Leq (30 MIN) NOISE CRITERIA BETWEEN 0700 AND 1900 ON ANY DAY NOT BEING A SUNDAY OR GENERAL HOLIDAY
Dwellings	75 dB(A)
School	70 dB(A) (or 65 dB(A) during examination)

- 3.2.6 For fixed plant noise during operation phase, the requirements of IND-TM shall be complied with. Table 2 of IND-TM stipulates the day, evening and night time Acceptable Noise Levels (“ANLs”) for Noise Sensitive Receivers (“NSRs”) according to the corresponding Area Sensitive Rating (“ASR”), which is determined by Influencing Factors (“IFs”) in accordance with the IND-TM. These are summarised in **Table 3-2**.

Table 3-2: Acceptable Noise Levels for Fixed Noise Source

TIME PERIOD	ANL, dB(A)		
	ASR “A”	ASR “B”	ASR “C”
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

- 3.2.7 The Site is located in a low-density residential area consisting of some low-density residential developments in the vicinity, the site should be classified as “Type (ii) Low density residential area” according to the IND-TM. The Site is not affected by any IFs, ASR “A” shall be considered.

Hong Kong Planning Standards & Guidelines (“HKPSG”)

Planned Fixed Noise Source

- 3.2.8 The noise criteria for planned fixed noise source shall follow the requirements of Table 4.1 of Chapter 9 of HKPSG:
- 5dB(A) below the appropriate ANLs shown in Table 2 of IND-TM, or
 - the prevailing background noise levels.
- 3.2.9 According to the site visit, the prevailing background noise is dominated by road traffic noise of Sha Tau Kok Road (Lung Yeuk Tau), which is very likely higher than 55dB(A). As such, noise criteria 5 dB(A) below ANLs of ASR “A” are adopted for assessment of planned fixed noise sources, as summarised in **Table 3-3**.

Table 3-3: Noise Criteria for Planned Fixed Noise Sources

TIME PERIOD	ANL FROM IND-TM, dB(A)	HKPSG NOISE CRITERIA [i.e. ANL – 5 dB(A)], dB(A)
Day (0700 to 1900 hours)	60	55
Evening (1900 to 2300 hours)		
Night (2300 to 0700 hours)	50	45

Road Traffic Noise

- 3.2.10 As recommended in Table 4.1 of Chapter 9 Environment of HKPSG, standards for road traffic noise in terms of $L_{10(1-hr)}$ for the following uses relying on opened windows for ventilation are shown in **Table 3-4**:

Table 3-4: Summary of Road Traffic Noise Standards

USES	NOISE CRITERIA $L_{10(1-hr)}$, dB(A)
All domestic premises including temporary housing accommodation	70
Hotels and hostels	70
Offices	70
Educational institutions including kindergartens, child care centres and all others where unaided voice communication is required	65
Places of public worship and courts of law	65
Diagnostic rooms and wards of hospitals, clinics, convalescences and residential care homes for the elderly	55

- 3.2.11 All the office uses of the Proposed Development will not rely on prescribed window for natural ventilation and so the above traffic noise standard of 70dB(A) does not apply to the office uses.

3.3 Construction Noise Impact

- 3.3.1 Various construction activities will be the key noise sources generated during the construction phase. In particular, the use of PME and the vehicle movement within the Site are the major potential noise sources.
- 3.3.2 Construction shall be carried out during non-restricted hours as far as practicable. The mitigation measures recommended in ProPECC PN2/93 should be implemented where applicable. In addition, the following measures and on-site practice are recommended in order to minimise the potential construction noise impacts during daytime:
- Quiet PME and construction method should be adopted if possible.
 - The Contractor shall devise and execute working methods to minimise the noise impacts on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented.
 - Switch off idling equipment.
 - Regular maintenance of equipment.
 - Fit muffler or silencer for equipment.
 - Noisy equipment and noisy activities should be located as far away from the NSRs as is practical.
 - Use quiet construction method, e.g. use saw-cut or hydraulic crusher instead of excavator-mounted percussive breaker.
 - PME should be kept to a minimum and the parallel use of noisy equipment / machineries should be avoided.
 - Erect noise barriers or noise enclosure for the PME if appropriate.
 - Implement good house-keeping and provide regular maintenance to the PME.
 - Spot check resultant noise levels at nearby NSRs.

- 3.3.3 If construction work involving the use of PME will be required during restricted hours, a CNP shall be applied for under the NCO. The noise criteria and assessment procedures for obtaining a CNP are specified in GW-TM.
- 3.3.4 With the provision, implementation and maintenance of the abovementioned mitigation measures, adverse construction noise impact is not anticipated.

3.4 Fixed Noise Impacts during Operation

- 3.4.1 The Proposed Development is located at a low-density residential area, which is surrounded by village houses, such as Park Villa and King Chong, and some temporary dwellings, etc. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to three storeys. During the site visit on 18 January 2023, some warehouses and workshops were found in the vicinity of the Site. These warehouses and workshops were enclosed with steel structures. Moreover, no noticeable operational noise from these warehouses and workshops was observed during the site visit. As such, no adverse fixed source noise impact from the operation of these warehouses and workshops on the Proposed Development is anticipated.
- 3.4.2 For the fixed plant noise impacts that will be generated within the Proposed development, most of Electrical and Mechanical (“E&M”) equipment such as emergency generators, water pumps including Fire Services (“FS”) pumps and transformer of the Proposed Development will be enclosed or located within the building structures. It is anticipated that the noise impacts from these noise sources to the off-site NSRs will be relatively low and insignificant.
- 3.4.3 For the Heating, Ventilation and Air Conditioning (“HVAC”) system, split-type air conditioners and/or window-type air conditioners will be selected and installed at the residential units. The power ratings of these systems are considered as small and the potential noise impact to the offsite NSRs shall be minimal. Besides, central air conditioning will be provided for the club house and shopping arcade of the Proposed Development. The chillers for central air conditioning will be installed at roof tops of the buildings in the Site. Considering that the nearby NSRs, especially the village houses and temporary dwellings in the vicinity of the Site, are located at much lower elevation, the building structure itself would serve as a noise screen for the fixed noise generated from the fixed mechanical equipment, thus, there is no direct line-of-sight. Therefore, no adverse noise impact arising from the aforementioned HVAC system is anticipated.
- 3.4.4 The guidance of “*Good Practices on Ventilation System Noise Control*” and “*Good Practices on Pumping System Noise Control*” issued by the Environmental Protection Department (“EPD”) shall be referred to. The fixed noise sources within the Proposed Development will be designed to comply with the HKPSG standards as stipulated in **paragraph 3.2.8**.

3.5 Traffic Noise Impacts during Operation

- 3.5.1 A quantitative road traffic noise impact assessment has been carried out to demonstrate the feasibility of the proposed design of the Project in terms of road traffic noise impact.

Assessment Methodology

Noise Prediction Methodology

- 3.5.2 The peak hour road traffic noise levels have been predicted using a computer noise model, RoadNoise, which mainly follows the prediction procedures of the UK Department of Transport’s *Calculation of Road Traffic Noise* (“CRTN”), as recommended in Chapter 9 Environment of HKPSG.

Noise Source

3.5.3 The assessment was carried out based on the projected peak hourly traffic flows in 2046, which corresponds to the maximum projected traffic conditions within 15 years of occupancy of the Proposed Development, anticipated to be commenced in 2031. All road sections with free flow traffic situated within 300m of the Proposed Development have been considered. Traffic forecasts provided by the Project Traffic Consultant were adopted to assess the traffic noise impact at the Site. Detailed peak hour traffic forecasts for the assessment year of 2046 is provided in **Appendix A**.

Noise Sensitive Receivers (“NSRs”)

3.5.4 The noise sensitive uses e.g. living rooms and bedrooms of the residential blocks are considered to be NSRs of road traffic noise impact. All noise sensitive uses other than the residential units (e.g. management office) will be equipped with air conditioning system and will not rely on opened window for ventilation.

3.5.5 These NSRs will be provided with prescribed windows for natural ventilation complying with the *Building (Planning) Regulations, Cap 123 (“B(P)R”)*. The noise standards stipulated in the HKPSG are applicable to noise sensitive uses which rely on opened windows for ventilation. Thus, assessment points (“APs”) for NSRs are assigned to these prescribed windows.

3.5.6 The APs were all taken to be 1m from the exterior façade of opened windows and 1.2m above the floor of the APs as shown on **Figure 3-1** to **Figure 3-3**.

Proposed Traffic Noise Mitigation for the Proposed Development

3.5.7 In order to alleviate traffic noise impact, traffic noise mitigation measures recommended in Section 4.3 of Chapter 9 of HKPSG have been referred to. The traffic noise mitigation measures in terms of self-protecting building design and arrangement have been considered and incorporated into the layouts as follows:

- i. For the domestic blocks, building setback of about 130m from Sha Tau Kok Road (Lung Yeuk Tau) has been made to minimize the potential noise impact.
- ii. For the commercial complex, which is classified as noise tolerant use, has been arranged and located near the Sha Tau Kok Road (Lung Yeuk Tau) to shield noise sources.

Assessment Results

3.5.8 The predicted road traffic noise levels are detailed in **Appendix B** and summarised in **Table 3-5**. With the mitigation measures proposed in **Section 3.5.7**, the traffic noise levels at all APs of the Proposed Development are predicted to comply with the criterion of 70 dB(A) recommended in Chapter 9 of HKPSG.

Table 3-5: Summary of Traffic Noise Assessment Results

PROPOSED DEVELOPMENT	NO. OF UNITS WITH NOISE EXCEEDANCE	NOISE LEVEL (L ₁₀ (1-hr), dB(A))	NOISE CRITERIA (L ₁₀ (1-hr), dB(A))	NOISE COMPLIANCE (%)
Domestic Blocks	0	44-69	70	100

3.6 Conclusion

3.6.1 During the construction phase of the Proposed Development, with the implementation of the noise mitigation measures recommended in **Section 3.3**, no adverse noise impact is anticipated.

- 3.6.2 The Proposed Development is located at a low-density residential area, which is surrounded by village houses, such as Park Villa and King Chong, and some temporary dwellings, etc. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to three storeys. Moreover, no existing fixed source is identified. As such, no adverse fixed source noise impact on the Proposed Development is anticipated.
- 3.6.3 Most of the E&M equipment of the Proposed Development will be installed inside plant rooms. Potential noise sources have been identified as fixed mechanical equipment, such as chillers for central air conditioning. The chillers will be installed at roof top, which provided greatest separation from the identified NSRs and they will be shielded by the on-site building structure itself. With the implementation of good practices as mentioned in **paragraph 3.4.4**, adverse fixed noise impact arising from the operation of the Proposed Development on the off-site NSRs is not anticipated.
- 3.6.4 For road traffic noise, the noise impact on the Proposed Development is predicted to comply with the standards as recommended in Chapter 9 Environment of the HKPSG with the building setback of about 130m to Sha Tau Kok Road (Lung Yeuk Tau).
- 3.6.5 Overall, therefore, no adverse noise impact during the construction and operation phases of the Proposed Development is expected.

Figure 3-2: Location of Assessment Points for Noise Sensitive Receivers on Typical Floor A

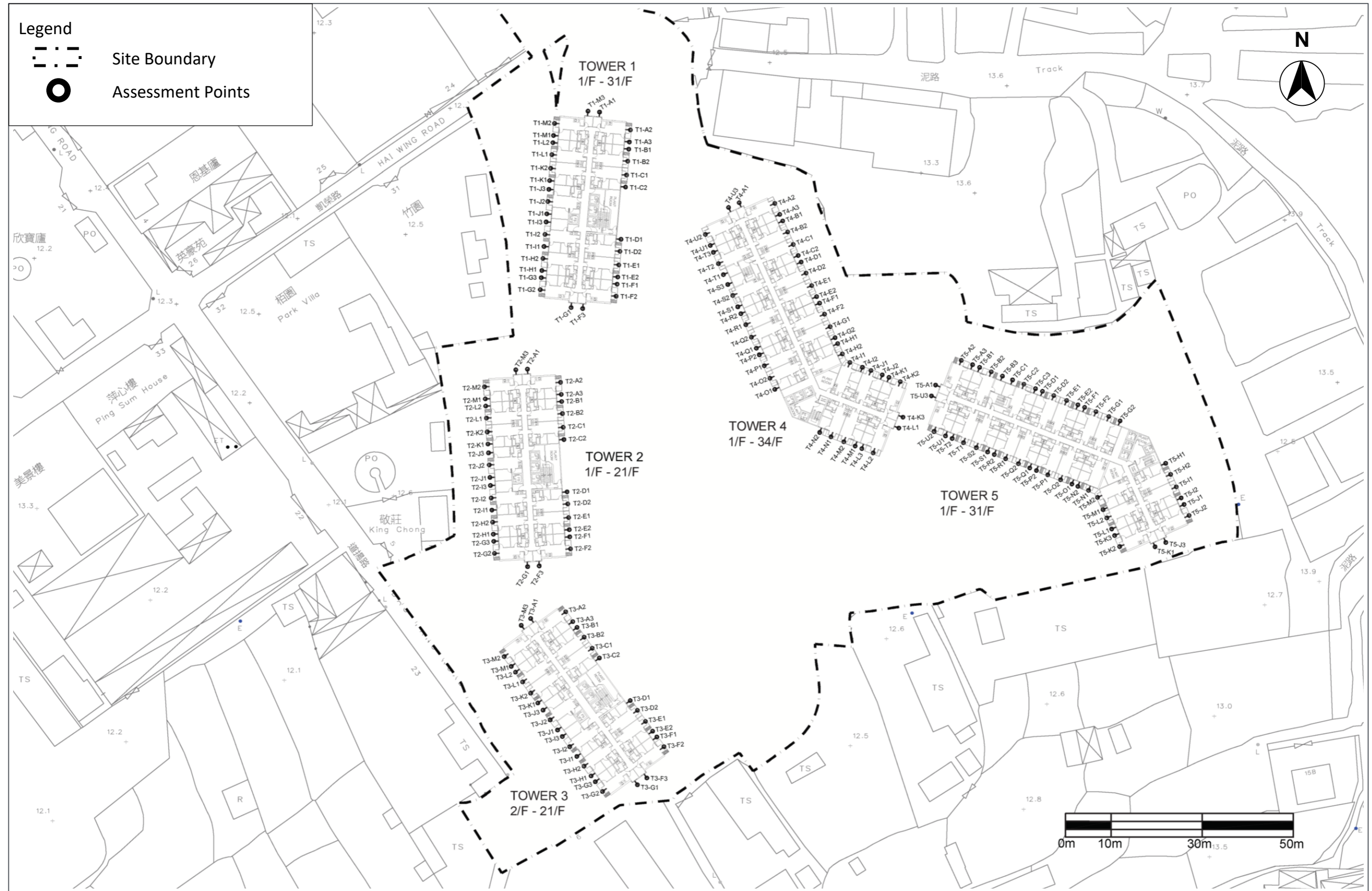
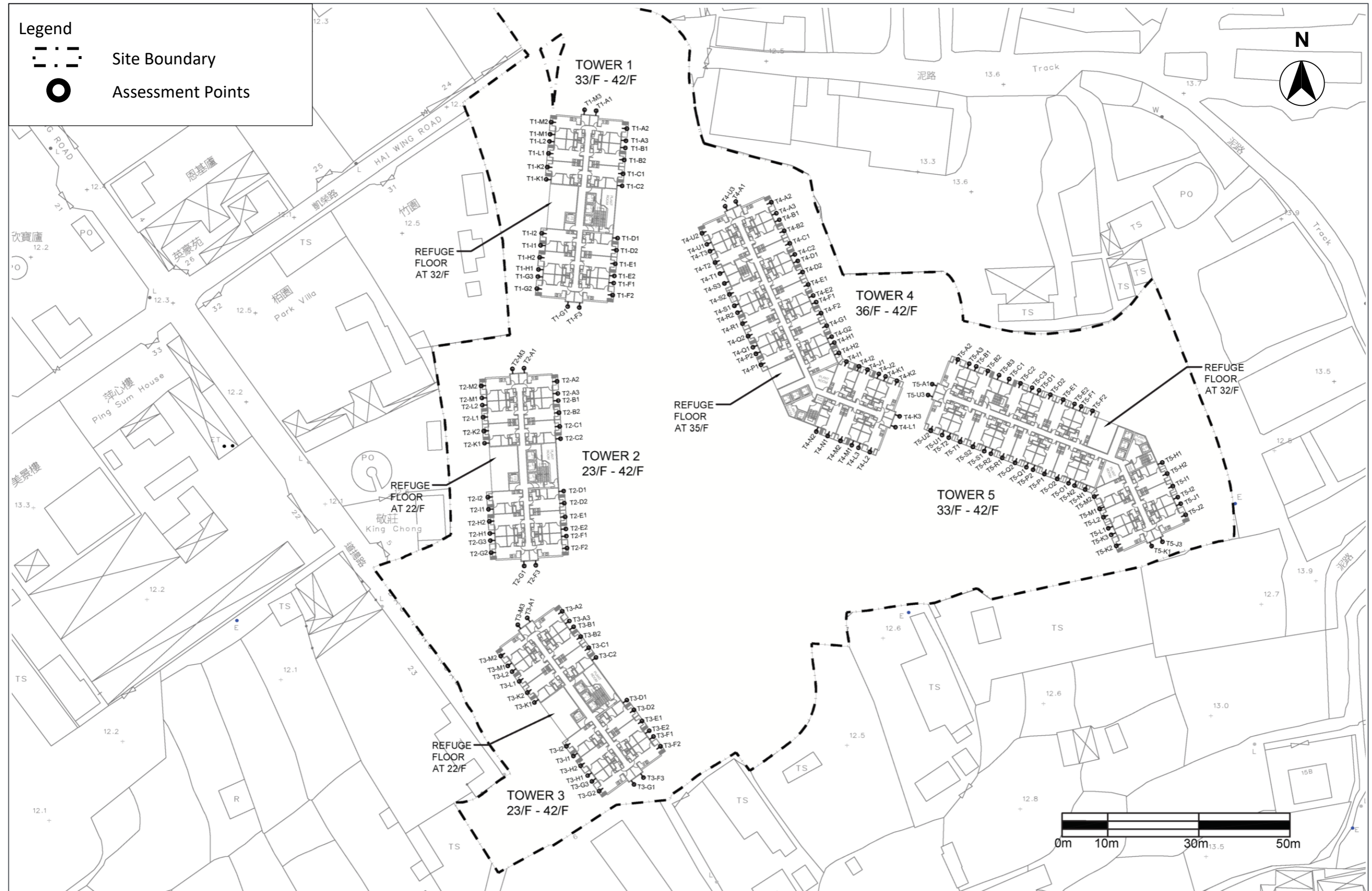


Figure 3-3: Location of Assessment Points for Noise Sensitive Receivers on Typical Floor B



4 WATER QUALITY

4.1 Introduction

4.1.1 This section assesses the potential water quality impact arising from the Proposed Development during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

4.2 Environmental Legislation and Standards

Water Pollution Control Ordinance (Cap. 358)

4.2.1 An amendment to the *Water Pollution Control Ordinance* (“WPCO”) was enacted in 1990 and provides a mechanism for setting effluent standards. These are included in the *Technical Memorandum Standards for Effluents Discharged in to Drainage and Sewerage Systems, Inland and Coastal Waters* (WPCO Cap 358, S.21). All discharges into government sewerage systems, marine and inland waters are required to comply with the standards stipulated in the Technical Memorandum.

Construction Site Drainage, ProPECC PN1/94

4.2.2 Under ProPECC Practice Note PN1/94 Construction Site Drainage (ProPECC PN1/94), various guidelines for the handling and disposal of construction site discharges are included. The guidelines include the use of sediment traps, wheel washing facilities for vehicles leaving the Site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment, and comprehensive waste management (collection, handling, transportation, and disposal) procedures.

Drainage Plans subject to Comment by the Environmental Protection Department, ProPECC PN5/93

4.2.3 Under ProPECC Practice Note PN5/93, drainage plans submitted to the Building Authority are referred to the Environmental Protection Department (“EPD”) for comment whenever there is a concern for pollution control. The EPD has, based on the experience of the common problems found in the drainage submissions, prepared this practice note for reference by Authorised Persons (“APs”) in preparing drainage plans. Although the guidelines contained in this practice note are not meant to be exhaustive, it is hoped that they will help secure early approval of drainage plans.

4.3 Potential Water Quality Impacts

Water Sensitive Receiver (“WSR”)

4.3.1 In accordance with the *Technical Memorandum on Environmental Impact Assessment Ordinance* (“EIAO-TM”), WSR is defined as existing or potential beneficial uses that are sensitive to water pollution, which include, but are not limited to, the following:

- Areas of ecological or conservation values including marine conservation areas, existing or gazetted proposed marine parks and marine reserves, Sites of Special Scientific Interest (“SSSI”), existing or gazetted proposed country parks and special areas, wetlands, mangroves and important freshwater habitats;
- Area for abstraction of water for potable water supply;
- Water abstraction for irrigation and aquaculture;

- Fish spawning grounds, fish culture zones, shellfish harvesting/culture site and brackish/freshwater fish ponds;
- Beaches or other recreational areas;
- Water abstraction for cooling, flushing and other industrial purposes;
- Areas for navigation/shipping including typhoon shelters, marinas and boat parks.

4.3.2 In order to identify the WSRs, a desktop study on the OZP, topographic map and aerial photographs has been conducted together with site visits. The WSRs in the vicinity of the Site are summarised in **Table 4-1** and shown on **Figure 4-1**.

Table 4-1: Water Sensitive Receivers

WSR ID	Description	Type
W1	Ng Tung River	Natural river
W2	Kwan Tei River	Natural river
W3	Fish Pond in Kwan Tei	Freshwater fish pond
W4	Watercourse to the northeast of the Site	Nullah
W5	Watercourse to the southwest of the Site	Nullah

Construction Phase

- 4.3.3 Muddy runoff from the Site may be generated during the construction phase, especially during the rainy season. If the muddy water is not properly controlled, it would lead to increased amounts of suspended solids in the drainage system.
- 4.3.4 Wash water from vehicles and equipment; silt from any on-site stockpiles of soil, cement and grouting materials; and spillage of fuels, oil and lubricants from construction vehicles and plant may generate water quality impacts. If these pollution sources are not properly controlled, it would lead to increased amounts of suspended solids, grease and oil, pH, Biochemical Oxygen Demand (“BOD”), etc. in the drainage system.
- 4.3.5 There is also the issue of sewage generated by construction workers on-site. The sewage may result in high levels of NH₃-N, BOD and *E.coli* if it is not disposed of properly before discharging into drainage system.

Operation Phase

- 4.3.6 Sewage to be generated during operation comprising sewage from toilets, grey water from bathroom showers and sinks and grey water from kitchen sinks, which will be the major sources of wastewater generation arising from the Proposed development. All such wastewater needs to be properly collected and discharged to existing public foul sewers.
- 4.3.7 There is existing public sewerage connection available adjacent to the Site. The sewerage connection and any necessary infrastructure will be re-designed to allow sewage from the Proposed Development flow into the existing public sewerage system.
- 4.3.8 The sewerage impact on the municipal sewerage system has been assessed in a separate Sewerage Impact Assessment (“SIA”) Report supporting this planning application. The SIA concluded that no unacceptable sewerage impact arising from the Proposed Development is anticipated.

4.4 Mitigation Measures

- 4.4.1 During the Site visits on 6 December 2022 and 18 January 2023, no watercourse was observed within the Site boundary. In order to avoid muddy surface runoff from entering the existing watercourse/storm water drainage system outside the Site, channels along the site boundary shall be provided to collect and direct the muddy runoff to the wastewater treatment facilities for treatment prior to being discharged. The design of the construction site drainage system shall be independent from the existing watercourse. The details of wastewater treatment arrangement shall be submitted to EPD for review during the application of the wastewater discharge licence before commencement of the construction activities.
- 4.4.2 During construction, it is recommended that portable toilets should be provided for construction workers. These will be supplied, maintained and emptied (at a sewage treatment facility) by a special contractor.
- 4.4.3 The construction contractor shall also follow good site practice and be responsible for the design construction, operation and maintenance of all the mitigation measures as specified in ProPECC PN 1/94 for construction site drainage:
- Surface run-off from construction sites shall be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels or earth bunds or sand bag barriers shall be provided on site to properly direct storm water to such silt removal facilities. Perimeter channels at site boundaries shall be provided where necessary to intercept storm run-off from outside the Site so that it will not wash across the Site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.
 - Silt removal facilities, channels and manholes shall 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.
 - 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 storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.
 - Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels shall be provided where necessary.
 - Measures shall be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they shall be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.
 - Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
 - Manholes shall always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.

- Discharge of surface run-off into foul sewers shall always be prevented in order not to unduly overload the foul sewerage system.

4.4.4 During operation, sewage arising from the Proposed Development will be discharged to the municipal sewerage system, no adverse water quality impact due to the Proposed Development is therefore anticipated.

4.5 Conclusion

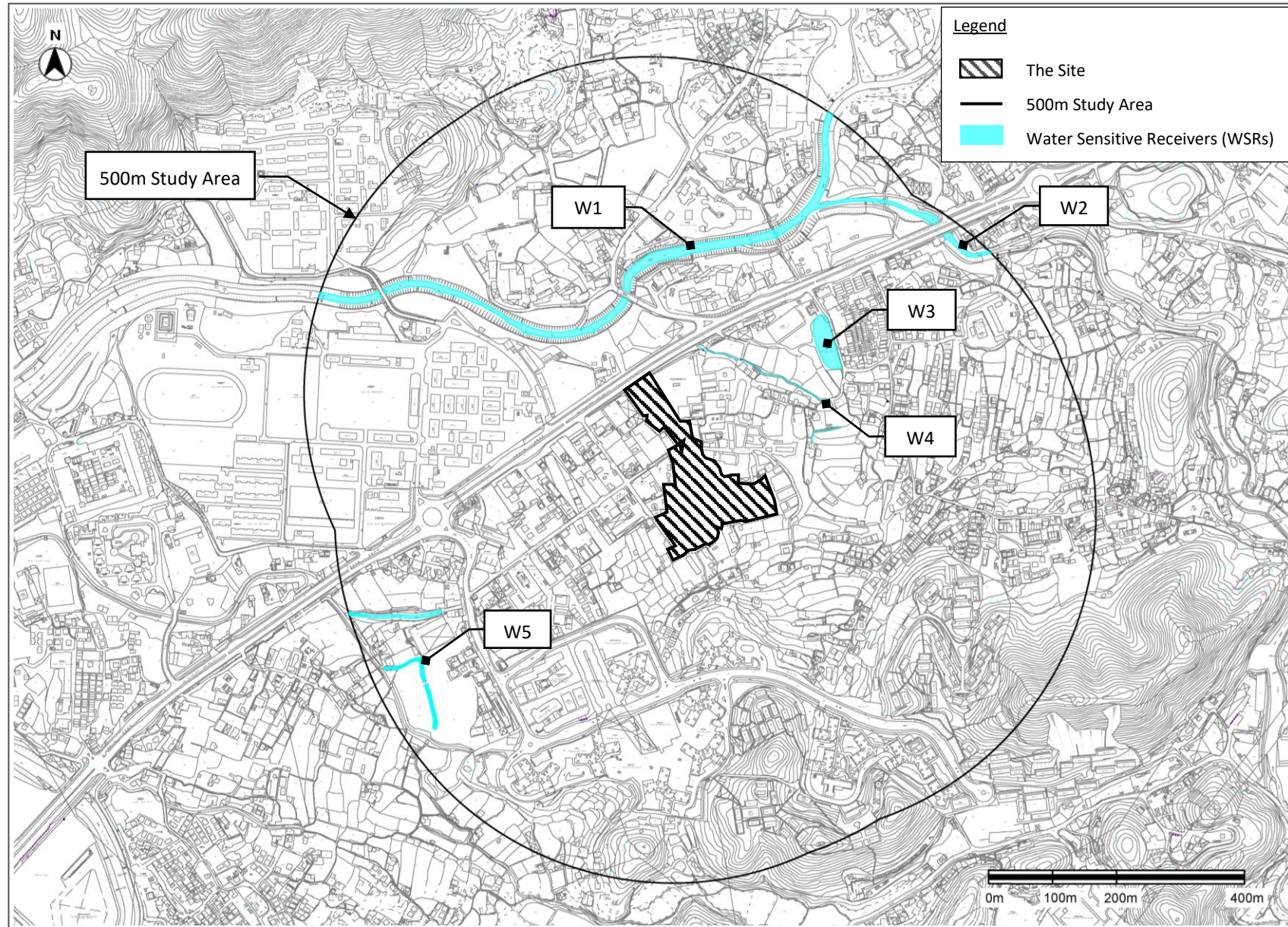
4.5.1 During construction, water quality impacts can be properly controlled with the implementation of good site practice, as stated in **paragraph 4.4.3**. Portable toilets will be provided for constructions workers on-site. Provided these measures are implemented, it is unlikely that any adverse water quality impacts from the Site will be generated during the construction phase.

4.5.2 The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges shall be treated in accordance with the terms and conditions of the Discharge Licence.

4.5.3 The wastewater generated from the Proposed Development will be discharged into the municipal sewerage system and a separate SIA result indicated that the capacity of the existing sewerage system is sufficient for conveying the sewage generated from the Site to the downstream areas. During operation, no adverse water quality impact is anticipated arising from the wastewater / sewage generated by the residents and employees of the Site.

4.5.4 Overall, therefore, no adverse water quality impacts are anticipated during the construction or operational phases of the Proposed Development.

Figure 4-1: Location of Identified Water Sensitive Receiver (WSR)



5 WASTE MANAGEMENT

5.1 Environmental Legislation and Standards

5.1.1 In carrying out the assessment, references have been made to the following relevant legislation, documents and guidelines that are applicable to waste management and disposal in Hong Kong:

- The *Waste Disposal Ordinance* (Cap. 354) (“WDO”) setting out requirements for storage, handling and transportation of all types of wastes, and subsidiary legislation such as the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation* (Cap. 354N), the *Waste Disposal (Charges for Disposal of Chemical Waste) Regulation* (Cap. 354J) and the *Waste Disposal (Chemical Waste) (General) Regulation* (Cap. 354C).
- *Land (Miscellaneous Provisions) Ordinance* (Cap. 28).
- *Public Health and Municipal Services Ordinance – Public Cleansing and Prevention of Nuisances Regulation* (Cap.132BK).
- *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*.
- *Code of Practice on the Handling, Transportation and Disposal of Asbestos Wastes*
- *Environmental, Transport and Works Bureau (“ETWB”) Technical Circular (Works) No. 19/2005, Environmental Management on Construction Sites*.
- *ETWB Technical Circular (Works) No. 22/2003A, Additional Measures to improve Site Cleanliness and Control Mosquito Breeding on Construction Sites*.
- *Development Bureau (“DevB”) Technical Circular (Works) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials*.
- *Civil Engineering and Development Department (“CEDD”) Technical Circular No. 11/2019, Management of Construction and Demolition Materials*.
- *Building Department Practice Notes for Registered Contractors (PNRC 17), Control of Environmental Nuisance from Construction*.
- *CEDD Project Administration Handbook for Civil Engineering Works (“PAH”)*.

5.2 Potential Waste Management Impacts

Construction Phase

5.2.1 Demolition of existing temporary structures and construction of new building will be included in the construction phase. The key potential waste sources during the construction phase are:

- Inert Construction and Demolition (“C&D”) materials (e.g. waste concrete, surplus soil, waste asphalt, etc.).
- Non-inert C&D Waste (e.g. wood and plastics).
- Chemical wastes (e.g. waste battery and waste lubricating oil from vehicles / plant maintenance)
- General refuse, i.e. Municipal Solid Waste (“MSW”), generated by site workers.

Inert C&D Materials

5.2.2 Inert C&D materials are those which do not decompose, such as debris, rubble, earth and concrete, and which are suitable for land reclamation and site formation.

- 5.2.3 The major source of inert C&D materials during construction will be re-profiling for the Proposed Development. As the existing structure within the site are some temporary structures, there will be no other demolition material.
- 5.2.4 Assuming the 95% of the Site area i.e. about 21,323m² is paved with a slab thickness of 0.2m, about 4,265m³ of paving waste will therefore be required to be disposed of.
- 5.2.5 The current elevation of the Site ranges from 12.2mPD to 13.3mPD of the ground level. After re-profiling, the ground level will maintain at around 13mPD, which is higher than the current elevation. According to the indicative layout and sectional plans shown in **Appendix 1** of the Supporting Planning Statement, deep excavation shall be required for partial area. Excavated materials will be generated from the Site.
- 5.2.6 In addition to construction waste from site formation works, building waste will also be generated during construction. This includes inert C&D materials, such as concrete waste, waste from blockwork and brickwork, waste from screening and plastering; and non-inert C&D materials from timber formwork, packaging waste and other wastes.
- 5.2.7 Section 3.2 of *A Guide for Managing and Minimizing Building and Demolition Waste (“the Guide”)* published by The Hong Kong Polytechnic University in May 2001 provides a “waste index” for building waste generation in Hong Kong based on the GFA of three different building types:
- Private Housing Projects 0.250m³/m² GFA
 - Government Housing Projects 0.174m³/m² GFA
 - Commercial Office Projects 0.200m³/m² GFA
- 5.2.8 To provide a conservative estimate of building waste from the Proposed Development, the “waste index” for private housing projects is the most appropriate index to use. However, as noted above, in addition to inert C&D materials, this “waste index” also includes non-inert C&D materials, such as timber formwork, packaging waste and other wastes, and *The Guide* does not identify what proportion of building waste is inert C&D materials and what proportion is non-inert C&D materials.
- 5.2.9 Plate 2.12 of EPD’s *Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2021* identifies that in 2021, 93% of construction waste was either reused on-site or off-site or was sent to public fill reception facilities, meaning it must be inert C&D materials. The proportion of inert C&D materials in the “waste index” can therefore be estimated by applying the Hong Kong-wide proportion of inert C&D materials in construction waste, i.e. 93%, to the “waste index” as follows:
- $$\begin{aligned} \text{Waste Index INERT C\&D MATERIALS} &= 0.93 \times \text{“waste index” for private housing projects} \\ &= 0.95 \times 0.250\text{m}^3/\text{m}^2 \text{ GFA} \\ &= 0.23\text{m}^3/\text{m}^2 \text{ GFA} \end{aligned}$$
- 5.2.10 The inert C&D materials component of building waste from the Proposed Development, which has a GFA of about 151,451m² (145,881m² of domestic GFA + 5,770 m² of non-domestic GFA), can therefore be estimated as follows:
- $$\begin{aligned} \text{Building Waste} &= \text{Waste Index}_{\text{INERT C\&D MATERIALS}} \times \text{GFA} \\ &= 0.23\text{m}^3/\text{m}^2 \text{ GFA} \times 151,451\text{m}^2 \\ &= 35,970\text{m}^3 \end{aligned}$$

- 5.2.11 The total estimated inert C&D material generated during construction is summarised in **Table 5-1: Total Estimated Inert C&D Materials Generated During Construction.**

Table 5-1: Total Estimated Inert C&D Materials Generated During Construction

INERT C&D MATERIALS TYPE	ESTIMATED INERT C&D MATERIAL GENERATION	
	VOLUME (m ³)	WEIGHT (tonnes)*
Stage: Site Formation		
Paving	4,265	7,677
Soil Excavation	157,550	283,590
Stage: Infrastructural Works		
Building Waste	35,970	64,746
Total	197,785	356,013

Note(*): The assumed density of paving, soil excavation and building waste is 1.8 tonnes/m³.

- 5.2.12 As such, the inert C&D materials may be generated from the site formation works which is expected to last for about 6 months. An estimated 161,815m³ (or 291,267 tonnes) of inert C&D materials may be generated throughout the 6 months period, equivalent to around 1,037m³ per day (or 1,867 tpd) on average for 26 working days per month. The inert C&D materials may be generated are dominantly from the infrastructural and building works which is expected to last for about 18 months. An estimated 35,970m³ (or 64,746 tonnes) of inert C&D materials may be generated throughout the 18 months period, equivalent to around 77m³ per day (or 138 tpd) on average for 26 working days per month.
- 5.2.13 Inert C&D materials should be reused on-site as far as practicable. The inert C&D materials will be used for site re-profiling from 12.2mPD to 13.3mPD. Assuming the inert C&D materials from site formation works will be used for backfilling, the quantity of inert C&D materials to be on-site reused/recycled should be about 100% of inert C&D materials generated. Good site practice and mitigation measures should be implemented, as recommended in **Section 5.3**.
- 5.2.14 Given the above, no adverse waste impact from the handling, transportation or disposal of inert C&D materials during construction of the Proposed Development is anticipated. Control measures are proposed in **Section 5.3** for the identified waste management implications.

Non-inert C&D Materials

- 5.2.15 Non-inert C&D materials, are those which can decompose or generate odour, such as bamboo, timber, vegetation, metal, packaging waste and other organic material, and which are therefore unsuitable for land reclamation.
- 5.2.16 Existing temporary houses which are mainly composed of metal plates will be removed. In demolition stage, reference has been made to the USEPA's *Characterization of Building-Related Construction and Demolition Debris in the United States*, since there is absence of any local GFA-based estimation method. The typical demolition generation rates for residential buildings of 561kg/m² GFA is adopted for demolition of existing temporary structures at the Site. Therefore, it is estimated that 3,017,619kg (3,018 tonnes) of non-inert C&D material will be generated from the demolition of existing single storey temporary structures with the GFA about 5379m². The demolition is included in the 6 months site formation works, equivalent to around 19.3 tpd on average for 26 working days per month.
- 5.2.17 Plate 2.12 of *Waste Statistics for 2021* identifies that 6% of construction and demolition waste was disposed of in landfills, meaning it must be non-inert C&D materials. The proportion of non-inert C&D materials in the "waste index" can therefore be estimated by applying the Hong Kong-

wide proportion of non-inert C&D materials in construction waste, i.e. 6%, to the “waste index” as follows:

$$\begin{aligned}\text{Waste Index}_{\text{NON-INERT C\&D MATERIALS}} &= 0.06 \times \text{“waste index”} \\ &= 0.06 \times 0.250\text{m}^3/\text{m}^2 \text{ GFA} \\ &= 0.015\text{m}^3/\text{m}^2 \text{ GFA}\end{aligned}$$

5.2.18 The non-inert C&D materials components in building waste can therefore be estimated as follows:

$$\begin{aligned}\text{Building Waste} &= \text{Waste Index}_{\text{NON-INERT C\&D MATERIALS}} \times \text{GFA} \\ &= 0.015\text{m}^3/\text{m}^2 \times 151,451\text{m}^2 \\ &= 2,272\text{m}^3\end{aligned}$$

5.2.19 Assuming a density of 1.0 tonnes/m³, an estimated 2,272 tonnes of non-inert C&D materials may be generated dominantly throughout the 18 months construction period of infrastructural and building works, equivalent to around 4.85 tpd on average for 26 working days per month.

5.2.20 A total of 5,290 tonnes will be generated during the demolition and construction stage, equivalent to around 8.48 tpd on average for 26 working days per month. On-site sorting should be carried out for non-inert C&D materials generated from the works. Recyclable materials, such as metal, paper product, timber and plastic, should be collected by local recyclers for recycling. All non-inert C&D materials should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is North East New Territories (NENT) Landfill, which is around 4km from the Site.

5.2.21 The quantity of the generated non-inert C&D materials could be recycled/reused is expected to be no more than 10% of the generated amount in view of the scale of the Project. As such, it is estimated that the quantity of non-inert C&D materials to be reused/recycled is 529m³ (or 529 tonnes). It is estimated that half of the quantity (i.e. 264.5 tonnes) would be reused/recycled on-site and the other half would be reused/recycled off-site.

5.2.22 Given the above, no adverse waste impact from the handling, transportation or disposal of non-inert C&D materials during construction of the Proposed Development is anticipated. Control measures are proposed in **Section 5.3** for the identified waste management implications.

General Refuse

5.2.23 General refuse from workers is similar to domestic waste and includes packaging and organic material.

5.2.24 Based on industry experience, we estimate the number of construction workers for a project of this size would average around 100 per day over the 24 months construction period.

5.2.25 Each construction worker will generate general refuse, which is similar to domestic waste. Plate 2.7 of *Waste Statistics for 2021* identifies that the 5-year average (Year 2012 to 2021) per capita domestic waste disposal rate was 0.94kg/person/day, although the per worker generation rate of general refuse will likely be less than this. However, to be conservative, the per capita domestic waste disposal rate has been adopted for general refuse generation by construction workers. On this basis:

$$\begin{aligned}\text{General Refuse/day} &= \text{No. workers/day} \times \text{per capita generation rate} \\ &= 100 \text{ workers} \times 0.94\text{kg/worker/day}\end{aligned}$$

= 94kg/day

Total General Refuse = General Refuse/day x duration of construction contract
 = 94kg/day x (26 days/month x 24 months)
 = 58,656kg= 58.7 tonnes assuming a density of 1.0 tonnes/m³

- 5.2.26 An estimated 58.7 tonnes of general refuse may be generated throughout the entire 24 months construction period, equivalent to around 0.09 tpd on average.
- 5.2.27 On-site sorting should be carried out general refuse generated from the works. Recyclable materials, such as metal, paper and plastic, should be collected by local recyclers for recycling. All general refuse should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is NENT Landfill, which is around 4km from the Site.
- 5.2.28 Given the above, no adverse waste impact from the handling, transportation or disposal of non-inert C&D materials and general refuse during construction of the Proposed Development is anticipated. Control measures are proposed in **Section 5.3** for the identified waste management implications.

Chemical Waste

- 5.2.29 ACMs are suspected present in the existing temporary structures to be demolished. Under the APCO, asbestos investigation shall be conducted by Registered Asbestos Consultant (“RAC”) before demolition work potentially involving ACMs. If any ACMs is identified, an Asbestos Investigation Report (“AIR”) and an Asbestos Abatement Plan (“AAP”) shall be submitted to EPD. A Registered Asbestos Contractor (“RACont”) shall be engaged to carry out asbestos abatement work according to the approved AIR and AAP before demolition. The owner of the premises must notify the Labour Department and the EPD at least 28 days before the commencement of the asbestos abatement works in accordance with the regulatory requirement.
- 5.2.30 The RAC shall request the RAC to conduct a visual inspection upon the completion of asbestos removal for each working area identified in the AAP. If additional ACMs is discovered during the work, demolition shall be suspended and inform the RAC immediately, the RAC shall submit the modified AAP to the EPD after the investigation. An air sampling test shall be conducted by a Registered Asbestos Laboratory (“RAL”) at the working area when all ACMs has been removed, in order to verify there is no asbestos fibre left suspended in the air.
- 5.2.31 The asbestos waste labelling, handling and packaging depends on the type of ACMs. All the handling, collection and transportation and disposal of asbestos waste shall be carried out according to EPD’s Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste. The quantity of the asbestos to be generated depends on the investigation and asbestos abatement plan carried out by RAC.
- 5.2.32 In addition to asbestos, several hundred kilograms of chemical waste, such as spent lubricants or waste batteries, may be generated given the small scale of the works. As a conservative approach, 1 tonne of chemical waste is assumed to be generated during the construction phase for assessment purpose. A licensed collector shall be employed to handle and dispose of all chemical wastes, including asbestos. Furthermore, the chemical waste should be handled in accordance with EPD’s Code of Practice on the Packaging, Labelling and Storage Chemical Waste. Disposal of chemical waste shall be at an appropriate licensed facility as directed by the Authority, such as landfill, the Chemical Waste Treatment Centre (“CWTC”), a licensed chemical waste recycler, etc.

- 5.2.33 With the implementation of the good site practice and recommended mitigation measures, no adverse waste impact from the handling, transportation or disposal of chemical waste during the construction of the Proposed Redevelopment is anticipated.

Summary

- 5.2.34 Based on the above assessments, **Table 5-2** summarises the generation of waste during the construction phase and identifies the appropriate management options for treatment and disposal of each waste type.

Table 5-2: Summary of Waste Generation and Management Options During Construction

WASTE TYPE	ESTIMATED WASTE QUANTITY		MANAGEMENT OPTIONS	
	CUBIC METRES	TONNES	TREATMENT	DISPOSAL
Inert C&D Materials	197,785	356,013	On-site Reuse	Surplus is not expected
			Estimated quantity = 356,013 tonnes	Estimated quantity = 0 tonnes
Non-inert C&D Materials	5,290	5,290	Segregation + Off-site Recycling by Local Recyclers	Residual C&D Waste to NENT Landfill
			Estimated quantity = 264.5 tonnes (on site) and 264.5 tonnes (off site)	Estimated quantity = 4,761 tonnes
General Refuse	58.7	58.7	Segregation + Off-site Recycling by Local Recyclers	Residual General Refuse to NENT Landfill
Chemical Waste	1	1	All to be collected by the licensed chemical waste collector and treated in CWTC.	
ACMs	Depends on the asbestos investigation and asbestos abatement plan		Supervision of the asbestos waste handling and packaging for disposal by RAC and follow the relevant legislation, guidelines and Code of Practice on Asbestos Control. All to be collected by the licensed chemical waste collector and treated in CWTC.	
Total	203,135	203,135		

- 5.2.35 In total, therefore, an estimated 203,135 tonnes of waste may be generated throughout the 24 months construction period.
- 5.2.36 Overall, provided that good site practices as recommended in **Section 5.3** are followed, there should be no adverse waste impact from the handling, transportation or disposal of inert C&D materials, non-inert C&D materials, general refuse or chemical waste during the construction of the Proposed Development.

Operation Phase

- 5.2.37 During the operation phase, the major type of waste will be domestic waste from the residents. According to the EPD's *Waste Statistics for 2021* published in December 2022, the most recent per domestic waste disposal rate waste disposal is 0.94 kg/person/day. The estimated maximum number of residents of the Domestic (Flat) is 3,305 and so the quantity of domestic waste disposed of is expected to be 3.1 tpd.
- 5.2.38 The nearest disposal point for domestic waste is NENT landfill, which is around 4km from the Site.
- 5.2.39 Since domestic waste will be collected on a regular basis by private waste collectors, and since domestic waste will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated. Nevertheless, to minimise domestic waste generation mitigation measures proposed in **Section 5.3** should be implemented.
- 5.2.40 Overall, there should be no adverse waste impact from the handling, transportation or disposal of domestic waste during the operation of the Proposed Development.

5.3 Mitigation Measures

Construction Phase

- 5.3.1 Waste management shall be controlled through contractual requirements as well as through statutory requirements.
- 5.3.2 A Waste Management Plan ("WMP"), which is part of the Environmental Management Plan under ETWB TC(W) 19/2005, should be developed by the Contractor and submitted to Engineer/Architect for approval before the commencement of any construction works. The objectives of the WMP will be to identify any potential environmental impact from the generation of waste at the Site; to recommend appropriate waste handling, collection, sorting, disposal and recycling measures in accordance with requirements of the current regulations; and to categorize and permit segregation of C&D materials where practicable (i.e. inert material / non-inert material) for disposal considerations i.e. public fill / landfill.
- 5.3.3 The Contractors should adopt good housekeeping practices with reference to the WMP such as waste segregation prior to disposal. Besides the provision of stockpiling and segregating areas at site, effective collection of site wastes is required to prevent waste materials being blown around by wind, flushed or leached into nearby waters, or creating odour nuisance or pest and vermin problems. Waste storage areas should be well maintained and cleaned regularly.
- 5.3.4 A trip-ticket system should be established in accordance with DevB TC(W) No. 6/2010 and the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation* to monitor the disposal of public fill and solid wastes at public filling facilities and landfills, and to control fly-tipping. A trip-ticket system should be included as one of the contractual requirements for the contractor to strictly implement.
- 5.3.5 Whenever there are excess recyclable construction materials, including bricks, plastics and metals, reuse and recycling should be carried out as far as practicable to minimize the amount of waste disposal. Other inert non-recyclable materials such as concrete, asphalt, etc. should be treated as public fill. Non-inert and non-recyclable wastes should be disposed at designated landfill sites.
- 5.3.6 General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the construction contractor to remove general refuse from the Site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of "wind-blown" materials.

- 5.3.7 For chemical waste, the Contractor should follow the “trip-ticket” system of which the arrangement of production, collection and disposal in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*. If any ACMs is identified, the project proponent would strictly follow the relevant legislations, guidelines and Code of Practice on Asbestos Control for the labelling, handing, transporting and disposal of ACMs.
- 5.3.8 In addition, the EPD’s RPCC for Construction Contract should be incorporated in the relevant works contract. The RPCC are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers. The general requirements as summarised as follows:
- The Contractor shall observe and comply with WDO and its subsidiary.
 - The Contractor shall submit the Engineer for approval a waste management plan with appropriate mitigation measures including allocation of an area for waste segregation and shall ensure that the day-to-day site operations comply with the approved waste management plan.
 - The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
 - The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse / recycling of waste and, as the last resort, disposal at different outlets as appropriate.
 - The reuse and recycling of waste shall be practised as far as possible. The recycled materials shall include paper / cardboard, timber and metal etc.
 - The Contractor shall ensure that Construction and Demolition (“C&D”) materials are sorted into public fill (inert portion) and C&D waste (non-inert portion). The public fill which comprises soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt shall be reused in earth filling, reclamation or site formation works, The C&D waste which comprises metal, timber, paper, glass, junk and general refuse shall be reused and recycled and, as the last resort, disposed of at landfills.
 - The Contractor shall record the amount of waste generated, recycled and disposed of (including the disposal sites).
 - The Contractor shall use a trip-ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill.
 - Training shall be provided for workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.
 - The Contractor shall not permit any sewage, wastewater or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the Site onto any adjoining land or allow any waste matter (or refuse) which is not part of the final product from waste processing plants to be deposited anywhere within the Site (or onto any adjoining land). He shall arrange removal of such matter from the site (or any building erected or to be erected thereon) in a proper manner to the satisfaction of the Engineer in consultation with the Director of Environmental Protection.
 - The Contractor shall observe and comply with the *Waste Disposal (Chemical Waste) (General) Regulation*.
 - The Contractor shall apply for registration as chemical waste producer under the *Waste Disposal (Chemical Waste) (General) Regulation* when chemical waste is produced. All

chemical waste shall be properly stored, labelled, packaged and collected in accordance with the Regulation.

5.3.9 When inclement weather (e.g. heavy rain, typhoon, etc.) is forecast, additional control measures should be adopted as follows:

- Construction material, stockpiles, chemical and waste storage / recycling facilities should be immediately moved to secured area.
- Construction material, stockpiles and waste storage / recycling facilities should be covered by an impermeable sheeting, if necessary.
- Intercepting channels will be provided at the edge of the excavated area to prevent storm runoff from washing across the exposed surface.
- Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly.

Operation Phase

5.3.10 The building management shall encourage proper waste management in line with the government policy. The waste management hierarchy shall be adopted by the building management to manage waste in a sustainable manner. The waste management hierarchy is a concept which shows the desirability of various waste management methods and comprises the following in order of preference:

- Avoidance
- Minimisation
- Recycling / reuse

5.3.11 The waste generated during the operation of the Proposed Development will mainly be general refuse comprising recyclable waste, such as paper, aluminium cans, plastic bottles, etc., and non-recyclable waste such as food waste. Waste shall be segregated, collected and stored in appropriate waste receptacles, each with a proper cover to minimize odour and hygiene issues. Different kinds of waste shall be regularly collected by private waste collectors and taken off-site for proper recycling or disposal, respectively.

5.4 Land Contamination

5.4.1 Site appraisal was conducted in order to identify any potential contamination sources generated by the past and present land-use activities within the Site and the associated causes for land contamination.

Historical Use of the Site

5.4.2 Aerial photographic records obtained from the Survey and Mapping Office (“SMO”) of Lands Department between Year 1963 and Year 2022 were reviewed. These photographic records revealed that the Site was an agricultural land on or before Year 1963. In Year 1973 to Year 1982, the aerial photo indicated that much of the farmlands within the Site were abandoned and became vacant with vegetations, while only the middle part of the Site remained as agricultural land. In Year 1993, the Site was partly paved and building structures were identified at the southern part of the Site, several temporary structures and a village house were also found at the northern part of the Site. The same conditions last from 1993 up to present (i.e. Year 2022). The northern part of the Site was further paved and the building structures at the southern part of the Site remained the same. As the previous and existing land uses of the Site are mainly

agricultural activities and open storage uses, there are no evidence of any past land uses within the Site that could have resulted in contamination. The historical land uses of the Site based on the aerial photographic records is summarized in **Table 5-3** and aerial photographs are provided in **Appendix C**.

Table 5-3: Historical Land Uses of the Site based on the Aerial Photographical Records

Photo Date	Land Use
1963	Agricultural land
1973 – 1982	Mainly abandoned farmland / vacant land covered with vegetations, small part of agricultural land could be found in the middle of the Site
1993 – 2002	Site clearance and formation was carried out. The Site was partly paved with several building structures at the south, and some temporary structures and a village house at the north.
2013 – 2022	The Site was almost entirely paved with similar conditions since 1993. Building structures remained the same as before.

Site Walkover

- 5.4.3 A site walk was carried out on 18 January 2023. The Site is entirely paved with concrete and it is currently used as warehouses and open storage. One village house, Tin Wah Building, was found at the northern tip of the Site. As observed, no underground diesel tank and dangerous goods store present in the Site and no existing development with potential land contamination activities was found on the Site. During site visit, a crawler crane and several forklifts were observed in the Site. Nevertheless, no maintenance works or chemical storages were anticipated from the use of the equipment. Hence, no land contamination issue is anticipated due to the existing uses. The photos of the existing site are shown on **Appendix D**.

Dangerous Goods & Incident Records

- 5.4.4 Regional Office (North) of EPD has been contacted to review if any record of registered Chemical Waste Producers or accident spillage / leakage of dangerous or chemical is kept by the office. Email reply confirmed that they do not have any record of accident spillage / leakage of dangerous or chemical. No record of valid / invalid chemical waste producers were found at the Site according to the register of chemical waste producers. In addition, Fire Services Department (“FSD”) has also been contacted to review any current / past licences for storage of Dangerous Goods (“DG”), registration of DG licence, fire incidents, spillage / leakage of DG, etc. relating to the Site. FSD replied and confirmed that there was no record of DG licence or incidents of spillage / leakage of DG within the Site. The information request letters and replies from EPD and FSD are attached in **Appendix E**.

5.5 Conclusion

- 5.5.1 With the development of WMP and to implement the good site practices recommended therein, the waste generated during construction phase can be greatly reduced. Provided that good site practices recommended are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.
- 5.5.2 During the operation phase, the major type of waste generated will be MSW. Since these kinds of waste will be collected on a regular basis by waste collectors and will be disposed of at landfill, and domestic waste will be collected on a regular basis by licenced collector, and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.

- 5.5.3 With the implementation of the recommended mitigation measures, adverse waste impacts generated during the construction and operational phases of the Proposed Development are not anticipated.

6 CONCLUSION

6.1.1 The potential environmental impacts arising from the Proposed Development on the nearby sensitive uses, have been assessed. Mitigation measures have been recommended, where appropriate, to alleviate any identified adverse environmental impacts during the construction and operation of the Project. This EA has indicated that the Proposed Development will not generate any unacceptable environmental impacts during construction and operation phases, provided that all the recommended mitigation measures and good site practice are strictly implemented.

6.1.2 The conclusions of the different aspects of environmental impact assessments are as follows:

Air Quality

6.1.3 With the implementation of the recommended mitigation measures and good site practice, adverse impacts during the construction phases are not anticipated.

6.1.4 No existing chimney was identified within 200m from the Site. Therefore, no adverse air quality impact from industrial emissions on the Proposed Development is anticipated.

6.1.5 No adverse air quality impact on the Proposed Development from the vehicular emissions is anticipated with the sufficient buffer distance provided between these air pollution sources and the Proposed Development. No adverse air quality from the Proposed Development on the surrounding air sensitive uses is also anticipated.

6.1.6 Overall, therefore, no adverse air quality impact is anticipated during the construction or operation phases of the Proposed Development.

Noise

6.1.7 During the construction phase of the Proposed Development, with the implementation of the noise mitigation measures recommended in **Section 3.3**, no adverse noise impact is anticipated.

6.1.8 The Proposed Development is located at a low-density residential area, which is surrounded by village houses, such as Park Villa and King Chong, and some temporary dwellings, etc. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to three storeys. Moreover, no existing fixed source is identified. As such, no adverse fixed source noise impact on the Proposed Development is anticipated.

6.1.9 Most of the E&M equipment of the Proposed Development will be installed inside plant rooms. Potential noise sources have been identified as fixed mechanical equipment, such as chillers for central air conditioning. The chillers will be installed at roof top, which provided greatest separation from the identified NSRs and they will be shielded by the on-site building structure itself. With the implementation of good practices as mentioned in **paragraph 3.4.4**, adverse fixed noise impact arising from the operation of the Proposed Development on the off-site NSRs is not anticipated.

6.1.10 For road traffic noise, the noise impact on the Proposed Development is predicted to comply with the standards as recommended in Chapter 9 Environment of the HKPSG with the building setback of about 130m to Sha Tau Kok Road (Lung Yeuk Tau).

6.1.11 Overall, therefore, no adverse noise impact during the construction and operation phases of the Proposed Development is expected.

Water Quality

- 6.1.12 During construction, water quality impacts will be properly controlled with the implementation of good site practice. Portable or Container toilets, when necessary, will be provided for constructions workers on-site. Provided these measures are implemented, adverse water quality impact is not anticipated during the construction phase. The Contractor shall apply for a Discharge Licence under the WPCO and the effluent discharged from the construction site shall comply with the terms and conditions of the Discharge Licence.
- 6.1.13 During operation, no adverse water quality impact is anticipated from the wastewater / sewage generated by the Proposed Development. The separate SIA Report has concluded that there will be no adverse sewerage impact from the Proposed Development.
- 6.1.14 Overall, therefore, no adverse water quality impacts are anticipated during the construction or operational phases of the Proposed Development.

Waste Management and Land Contamination

- 6.1.15 With the development of WMP and to implement the good site practices recommended therein, the waste generated during construction phase can be greatly reduced. Provided that good site practices recommended are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.
- 6.1.16 During the operation phase, the major type of waste generated will be domestic wastes generated from residents and staff of the Proposed Development. Since these kinds of waste will be collected on a regular basis by waste collectors and will be disposed of at landfill, and domestic waste will be collected on a regular basis by licenced collector, and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.
- 6.1.17 No potential land contamination sources and issues were identified, further land contamination investigation is considered not necessary.
- 6.1.18 With the implementation of recommended mitigation measures, adverse waste impacts generated during the construction and operation phase of the Proposed Development are not anticipated.

Appendix A **TRAFFIC FORECAST FOR YEAR 2046**

Traffic Forecast – Year 2046

TABLE 1 – PEAK HOUR TRAFFIC FLOW AND VEHICLE COMPOSITION**YEAR 2046 TRAFFIC FORECAST**

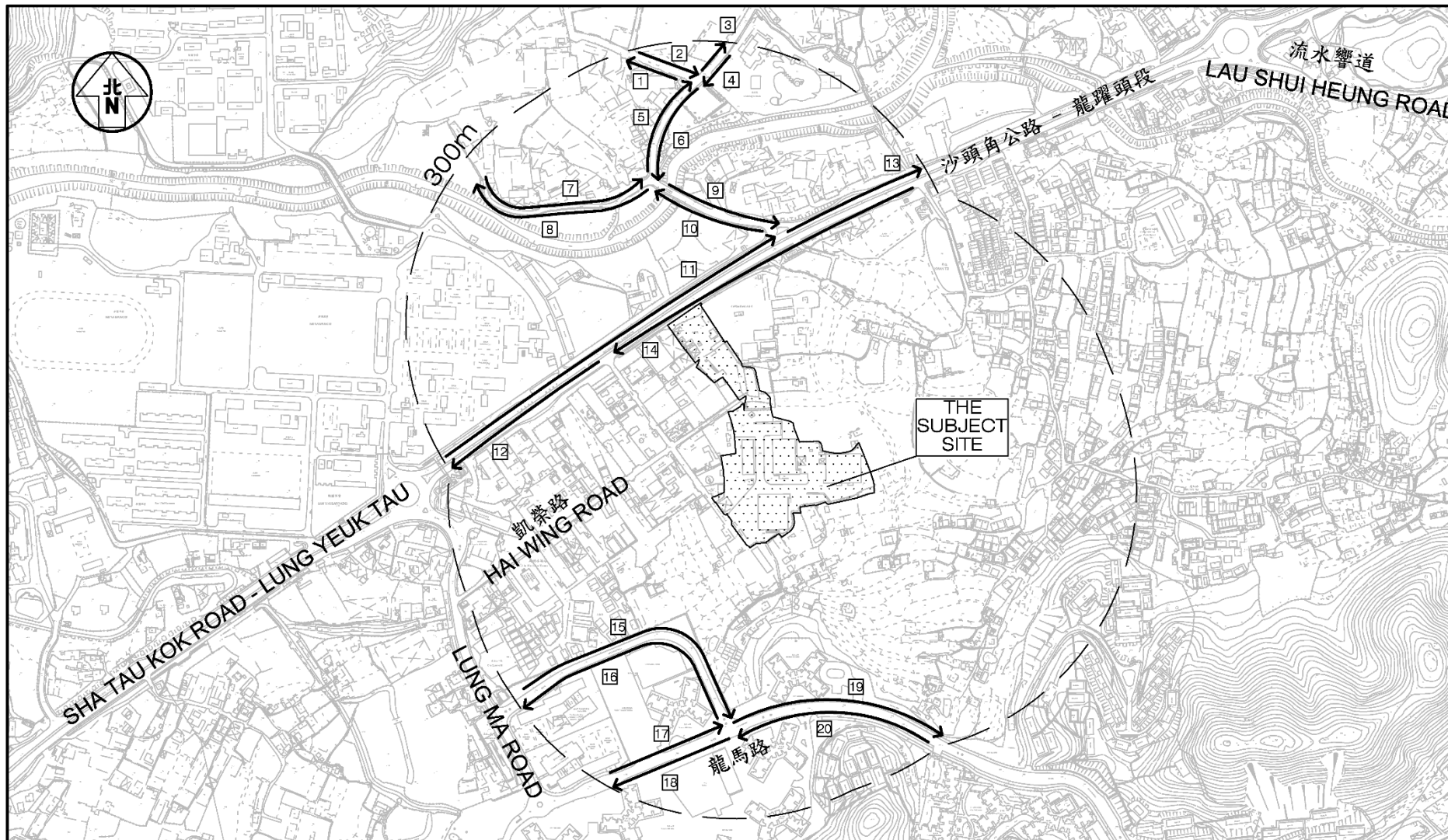
Date: 10 February 2023

Job No.: J7204

Link ID	Road Section	From Road	To Road	Peak Hour		
				Traffic Flows (veh/hr)	Vehicle Composition	
					LV	HV
L001	Unnamed Access Road (L001/L002)	Access Road to Kwai Tei (North)	Unnamed Site Access	50	42.9%	57.1%
L002	Unnamed Access Road (L001/L002)	Unnamed Site Access	Access Road to Kwai Tei (North)	50	42.9%	57.1%
L003	Access Road to Kwai Tei (North)	Unnamed Access Road (L001/L002)	Kwan Tei North	100	47.7%	52.3%
L004	Access Road to Kwai Tei (North)	Kwan Tei North	Unnamed Access Road (L001/L002)	200	66.0%	34.0%
L005	Access Road to Kwai Tei (North)	Unnamed Access Road (L007/L008)	Unnamed Access Road (L001/L002)	100	47.4%	52.6%
L006	Access Road to Kwai Tei (North)	Unnamed Access Road (L001/L002)	Unnamed Access Road (L007/L008)	200	65.4%	34.6%
L007	Unnamed Access Road (L007/L008)	Cul-de-sac	Unnamed Access Road (L001/L002)	50	40.0%	60.0%
L008	Unnamed Access Road (L007/L008)	Unnamed Access Road (L001/L002)	Cul-de-sac	50	40.0%	60.0%
L009	Access Road to Kwai Tei (North)	Unnamed Access Road (L007/L008)	Sha Tau Kok Road - Lung Yeuk Tau	200	63.6%	36.4%
L010	Access Road to Kwai Tei (North)	Sha Tau Kok Road - Lung Yeuk Tau	Unnamed Access Road (L007/L008)	150	46.2%	53.8%
L011	Sha Tau Kok Road - Lung Yeuk Tau	Lung Ma Road	Unnamed Access Road (L001/L002)	1,150	69.6%	30.4%
L012	Sha Tau Kok Road - Lung Yeuk Tau	Dao Yang Road	Lung Ma Road	1,300	71.1%	28.9%
L013	Sha Tau Kok Road - Lung Yeuk Tau	Unnamed Access Road (L001/L002)	Lau Shui Heung Road	1,200	70.8%	29.2%
L014	Sha Tau Kok Road - Lung Yeuk Tau	Lau Shui Heung Road	Dao Yang Road	1,250	70.4%	29.6%
L015	Lung Chun Road	Lung Ma Road	Lung Ma Road	150	75.5%	24.5%
L016	Lung Chun Road	Lung Ma Road	Lung Ma Road	100	63.4%	36.6%
L017	Lung Ma Road	Mini Roundabout at Lung Ma Road	Lung Chun Road	400	73.2%	26.8%
L018	Lung Ma Road	Lung Chun Road	Mini Roundabout at Lung Ma Road	350	73.0%	27.0%
L019	Lung Ma Road	Lung Chun Road	Access Road (Shan Lai Court)	400	74.7%	25.3%
L020	Lung Ma Road	Access Road (Shan Lai Court)	Lung Chun Road	300	72.5%	27.5%

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

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



Project Title PROPOSED DEVELOPMENT AT VARIOUS LOTS IN DD83 LUNG YEUK TAU, FANLING, N.T.	Figure No. NIA1	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title LOCATION OF SUBJECT SITE AND ROAD LINKS WITH TRAFFIC DATA WITHIN THE 300M STUDY AREA	Designed by N C L	Drawn by S C Y	Checked by K C
Scale in M 1 : 6,000		Date 10 FEB 2023	

T:\JOB\J200~J249\J204\2023 02\Fig NIA1 RevA.dwg

TD's Endorsement (Pending)

Appendix B PREDICTED ROAD TRAFFIC NOISE LEVELS

Predicted Road Traffic Noise Levels for Tower 1

Tower 1

Floor	mPD	T1-A1	T1-A2	T1-A3	T1-B1	T1-B2	T1-C1	T1-C2	T1-D1	T1-D2	T1-E1	T1-E2	T1-F1	T1-F2	T1-F3	T1-G1	T1-G2	T1-G3	T1-H1	T1-H2
G	13.2	62	60	56	56	55	55	55	-	-	54	54	54	54	47	47	59	59	60	60
1	18.2	64	62	60	59	59	59	58	58	58	58	57	57	57	52	52	61	61	61	61
2	21.3	65	64	62	62	61	61	60	60	59	59	59	59	59	53	53	62	62	62	62
3	24.5	66	65	63	63	62	62	61	61	61	60	60	60	60	53	54	62	62	62	63
4	27.6	66	65	64	63	63	62	62	61	61	61	61	61	61	54	54	63	63	63	63
5	30.8	67	66	64	63	63	63	62	62	62	62	61	61	61	54	55	63	63	63	63
6	33.9	67	66	64	64	63	63	63	62	62	62	62	62	62	55	56	64	64	64	64
7	37.1	67	66	64	64	63	63	63	62	62	62	62	62	62	55	57	64	64	64	64
8	40.2	67	66	64	64	63	63	63	62	62	62	62	62	62	56	57	64	64	64	65
9	43.4	68	66	64	64	63	63	63	62	62	62	62	62	62	56	58	65	65	65	65
10	46.5	68	66	64	64	63	63	63	62	62	62	62	62	62	57	59	65	65	65	65
11	49.7	68	66	64	64	63	63	63	62	62	62	62	62	62	58	59	65	65	65	66
12	52.8	68	66	64	64	63	63	63	62	62	62	62	62	62	58	59	66	66	66	66
13	56.0	68	66	64	64	63	63	63	62	62	62	62	62	62	58	60	66	66	66	66
14	59.1	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	66	66	66
15	62.3	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	66	66	66
16	65.4	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	66	66	66
17	68.6	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	66	66	67
18	71.7	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	66	66	67
19	74.9	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	67	67	67
20	78.0	68	66	64	64	63	63	63	62	62	62	62	62	62	59	60	66	67	67	67
21	81.2	68	66	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
22	84.3	68	65	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
23	87.5	68	65	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
24	90.6	68	65	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
25	93.8	68	65	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
26	96.9	68	65	64	64	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
27	100.1	68	65	64	63	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
28	103.2	68	65	64	63	63	63	63	62	62	62	62	62	62	60	61	67	67	67	67
29	106.4	68	65	64	63	63	63	62	62	62	62	62	62	62	60	61	66	67	67	67
30	109.5	68	65	64	63	63	63	62	62	62	62	62	62	62	60	61	66	66	67	67
31	112.7	68	65	64	63	63	63	62	62	62	62	62	62	62	60	61	66	67	67	67
32	115.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	119.0	68	65	64	63	63	63	62	62	62	62	62	62	61	60	61	66	66	67	67
34	122.1	68	65	64	63	63	63	62	62	62	62	62	62	61	60	61	66	66	66	67
35	125.3	68	65	64	63	63	63	62	62	62	62	62	61	61	60	60	66	66	66	67
36	128.4	68	65	64	63	63	62	62	62	62	62	61	61	61	60	60	66	66	66	67
37	131.6	68	65	64	63	63	62	62	62	62	62	61	61	61	59	60	66	66	66	66
38	134.7	68	65	64	63	63	62	62	62	62	62	61	61	61	59	60	66	66	66	66
39	137.9	68	65	64	63	63	62	62	62	62	62	61	61	61	59	60	66	66	66	66
40	141.0	68	65	64	63	63	62	62	62	62	61	61	61	61	59	60	66	66	66	66
41	144.2	68	65	63	63	63	62	62	62	61	61	61	61	61	59	60	66	66	66	66
42	147.3	68	65	63	63	63	62	62	62	61	61	61	61	61	59	60	66	66	66	66

Floor	mPD	T1-I1	T1-I2	T1-I3	T1-J1	T1-J2	T1-J3	T1-K1	T1-K2	T1-L1	T1-L2	T1-M1	T1-M2	T1-M3
G	13.2	61	61	62	62	62	62	62	62	62	62	63	63	60
1	18.2	62	62	62	62	63	63	63	63	63	62	64	64	64
2	21.3	62	63	63	63	63	63	63	63	64	62	64	65	65
3	24.5	63	63	63	63	63	64	64	64	64	62	65	66	66
4	27.6	63	63	64	64	64	64	64	64	64	62	65	66	66
5	30.8	64	64	64	64	64	64	64	65	65	62	65	67	67
6	33.9	64	64	64	64	65	65	65	65	65	63	66	67	67
7	37.1	64	64	65	65	65	65	65	65	66	63	66	67	67
8	40.2	65	65	65	65	65	65	66	66	66	64	67	67	68
9	43.4	65	65	65	66	66	66	66	66	66	64	67	68	68
10	46.5	65	66	66	66	66	66	66	66	67	65	67	68	68
11	49.7	66	66	66	66	66	66	66	67	67	65	67	68	68
12	52.8	66	66	66	66	66	67	67	67	67	66	67	68	68
13	56.0	66	66	66	66	67	67	67	67	67	66	68	68	68
14	59.1	66	66	67	67	67	67	67	67	67	66	68	68	68
15	62.3	66	67	67	67	67	67	67	67	67	67	68	68	68
16	65.4	67	67	67	67	67	67	67	67	67	67	68	69	69
17	68.6	67	67	67	67	67	67	67	67	67	67	68	69	69
18	71.7	67	67	67	67	67	67	67	67	68	67	68	69	69
19	74.9	67	67	67	67	67	67	67	67	68	67	68	69	69
20	78.0	67	67	67	67	67	67	67	67	68	67	68	69	69
21	81.2	67	67	67	67	67	67	67	67	68	68	68	69	69
22	84.3	67	67	67	67	67	67	67	67	68	68	68	69	69
23	87.5	67	67	67	67	67	67	67	67	68	68	68	69	69
24	90.6	67	67	67	67	67	67	67	67	68	68	68	68	68
25	93.8	67	67	67	67	67	67	67	67	68	68	68	68	68
26	96.9	67	67	67	67	67	67	67	67	68	68	68	68	68
27	100.1	67	67	67	67	67	67	67	67	68	68	68	68	68
28	103.2	67	67	67	67	67	67	67	67	68	68	68	68	68
29	106.4	67	67	67	67	67	67	67	67	68	68	68	68	68
30	109.5	67	67	67	67	67	67	67	67	68	68	68	68	68
31	112.7	67	67	67	67	67	67	67	67	68	68	68	68	68
32	115.8	-	-	-	-	-	-	-	-	-	-	-	-	-
33	119.0	67	67	-	-	-	-	67	67	67	68	68	68	68
34	122.1	67	67	-	-	-	-	67	67	67	68	68	68	68
35	125.3	67	67	-	-	-	-	67	67	67	68	68	68	68
36	128.4	67	67	-	-	-	-	67	67	67	68	68	68	68
37	131.6	67	67	-	-	-	-	67	67	67	68	68	68	68
38	134.7	67	67	-	-	-	-	67	67	67	68	68	68	68
39	137.9	67	67	-	-	-	-	67	67	67	68	67	68	68
40	141.0	66	67	-	-	-	-	67	67	67	67	67	68	68
41	144.2	66	67	-	-	-	-	67	67	67	67	67	68	68
42	147.3	66	66	-	-	-	-	67	67	67	67	67	68	68

Predicted Road Traffic Noise Levels for Tower 2

Tower 2

Floor	mPD	T2-A1	T2-A2	T2-A3	T2-B1	T2-B2	T2-C1	T2-C2	T2-D1	T2-D2	T2-E1	T2-E2	T2-F1	T2-F2	T2-F3	T2-G1	T2-G2	T2-G3
G	13.2	58	47	46	50	50	48	48	-	-	49	49	48	48	44	47	53	53
1	18.2	60	53	51	52	53	52	52	52	52	51	52	51	51	50	52	57	57
2	21.3	61	54	53	54	55	55	55	55	54	54	54	54	53	52	53	58	58
3	24.5	61	55	55	56	57	57	57	57	57	57	57	56	56	54	54	59	59
4	27.6	62	55	55	56	57	57	58	58	58	57	57	57	57	54	55	60	60
5	30.8	62	55	55	56	57	58	58	58	58	58	58	58	57	54	55	61	61
6	33.9	63	55	55	57	58	58	58	58	58	58	58	58	58	54	55	61	61
7	37.1	63	55	56	57	58	58	58	59	58	58	58	58	58	54	55	62	62
8	40.2	63	56	56	57	58	58	58	59	59	58	58	58	58	54	56	62	62
9	43.4	64	56	56	57	58	58	58	59	59	58	58	58	58	54	56	62	62
10	46.5	64	56	56	57	58	58	58	59	59	58	58	58	58	54	56	63	63
11	49.7	65	56	56	57	58	58	58	59	59	58	59	58	58	54	56	63	63
12	52.8	65	57	56	57	58	58	58	59	59	58	58	58	58	54	56	63	63
13	56.0	65	57	56	57	58	58	58	59	59	58	59	58	58	54	56	64	64
14	59.1	65	57	57	57	58	58	58	59	59	58	58	58	58	54	56	64	64
15	62.3	66	57	57	57	58	58	58	59	59	58	59	58	58	54	56	64	64
16	65.4	66	58	57	57	58	58	58	59	59	58	58	58	58	54	56	64	64
17	68.6	66	58	57	57	58	58	58	59	59	58	58	58	58	55	56	65	65
18	71.7	66	58	58	58	58	58	58	59	59	58	58	58	58	55	56	65	65
19	74.9	66	58	58	58	58	58	58	59	59	58	58	58	58	55	56	65	65
20	78.0	66	58	58	58	58	58	58	59	59	58	58	58	58	55	56	65	65
21	81.2	66	58	58	58	58	58	58	59	59	58	58	58	58	55	57	65	65
22	84.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	87.5	66	59	58	58	58	58	58	59	58	58	58	58	58	55	57	65	65
24	90.6	66	59	58	58	58	58	58	59	58	58	58	58	58	55	57	65	65
25	93.8	66	59	58	57	58	58	58	59	58	58	58	58	58	55	57	65	65
26	96.9	66	59	58	57	58	58	58	58	58	58	58	58	58	55	57	65	65
27	100.1	66	59	58	57	58	58	58	58	58	58	58	58	58	55	57	65	65
28	103.2	66	59	58	57	57	58	58	58	58	58	58	58	58	54	57	65	65
29	106.4	66	59	58	57	57	58	58	58	58	58	58	58	58	54	57	65	65
30	109.5	66	59	58	57	57	58	58	58	58	58	58	58	58	54	56	65	65
31	112.7	66	59	58	57	57	58	58	58	58	58	58	58	58	54	56	65	65
32	115.8	66	59	58	57	57	58	58	58	58	58	58	58	58	54	56	65	65
33	119.0	66	59	58	57	57	58	58	58	58	58	58	58	58	54	56	65	65
34	122.1	66	59	58	57	57	58	58	58	58	58	58	58	58	54	56	65	65
35	125.3	66	59	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
36	128.4	66	59	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
37	131.6	66	59	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
38	134.7	66	59	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
39	137.9	66	59	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
40	141.0	66	60	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
41	144.2	66	60	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65
42	147.3	66	60	58	57	57	57	58	58	58	58	58	58	58	54	56	65	65

Floor	mPD	T2-H1	T2-H2	T2-I1	T2-I2	T2-I3	T2-J1	T2-J2	T2-J3	T2-K1	T2-K2	T2-L1	T2-L2	T2-M1	T2-M2	T2-M3
G	13.2	53	53	54	55	55	55	55	55	55	56	57	58	58	58	56
1	18.2	57	57	58	58	58	58	58	58	58	59	59	60	60	60	60
2	21.3	58	59	59	59	59	59	59	60	60	60	60	61	61	61	61
3	24.5	59	59	59	60	60	60	60	60	61	61	61	61	62	62	61
4	27.6	60	60	60	60	60	60	61	61	61	61	61	62	62	63	62
5	30.8	61	61	61	61	61	61	61	61	62	62	62	62	63	63	62
6	33.9	61	61	61	61	61	62	62	62	62	62	62	63	63	63	64
7	37.1	62	62	62	62	62	62	62	62	63	63	63	63	64	64	63
8	40.2	62	62	62	62	62	62	63	63	63	63	63	63	64	64	64
9	43.4	62	62	63	63	63	63	63	63	63	63	63	64	64	64	65
10	46.5	63	63	63	63	63	63	63	64	64	64	64	64	65	65	64
11	49.7	63	63	63	63	63	64	64	64	64	64	64	64	65	65	65
12	52.8	63	63	64	64	64	64	64	64	64	64	64	65	65	65	65
13	56.0	64	64	64	64	64	64	64	64	65	65	65	65	65	66	65
14	59.1	64	64	64	64	64	64	65	65	65	65	65	65	65	66	65
15	62.3	64	64	64	65	65	65	65	65	65	65	65	65	66	66	66
16	65.4	64	65	65	65	65	65	65	65	65	65	65	65	66	66	66
17	68.6	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66
18	71.7	65	65	65	65	65	65	65	65	65	66	66	66	66	67	66
19	74.9	65	65	65	65	65	65	65	65	66	66	66	66	66	67	66
20	78.0	65	65	65	65	65	65	65	66	66	66	66	66	66	67	66
21	81.2	65	65	65	65	65	65	66	66	66	66	66	66	66	67	66
22	84.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	87.5	65	65	65	65	-	-	-	-	66	66	66	66	67	67	66
24	90.6	65	65	66	66	-	-	-	-	66	66	66	66	67	67	66
25	93.8	65	65	65	66	-	-	-	-	66	66	66	66	66	67	66
26	96.9	65	65	65	66	-	-	-	-	66	66	66	66	67	67	66
27	100.1	65	65	65	66	-	-	-	-	66	66	66	66	67	67	66
28	103.2	65	65	65	66	-	-	-	-	66	66	66	66	66	67	66
29	106.4	65	65	65	66	-	-	-	-	66	66	66	66	66	67	66
30	109.5	65	65	65	66	-	-	-	-	66	66	66	66	66	67	66
31	112.7	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
32	115.8	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
33	119.0	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
34	122.1	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
35	125.3	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
36	128.4	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
37	131.6	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
38	134.7	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
39	137.9	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
40	141.0	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
41	144.2	65	65	65	65	-	-	-	-	66	66	66	66	66	67	66
42	147.3	65	65	65	65	-	-	-	-	66	66	66	66	66	66	66

Predicted Road Traffic Noise Levels for Tower 3

Tower 3

Floor	mPD	T3-A1	T3-A2	T3-A3	T3-B1	T3-B2	T3-C1	T3-C2	T3-D1	T3-D2	T3-E1	T3-E2	T3-F1	T3-F2	T3-F3	T3-G1	T3-G2	T3-G3
G	13.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	21.3	55	56	54	54	54	54	54	54	54	55	56	56	56	60	60	61	61
3	24.5	56	57	55	55	55	55	55	55	55	56	56	56	56	60	60	61	61
4	27.6	57	57	56	56	56	55	55	55	55	56	56	56	56	60	60	62	62
5	30.8	58	58	56	56	56	56	56	56	56	56	57	57	57	60	60	62	62
6	33.9	59	58	56	56	56	56	56	56	56	56	57	57	57	60	60	62	62
7	37.1	60	59	57	57	57	56	56	56	56	57	57	57	57	60	60	62	62
8	40.2	60	59	57	57	57	57	57	56	56	57	57	57	57	60	60	62	62
9	43.4	60	59	57	57	57	57	57	56	57	57	57	57	57	60	60	62	62
10	46.5	61	60	57	57	57	57	57	57	57	57	57	57	57	60	60	62	62
11	49.7	61	60	57	57	57	57	57	57	57	57	57	57	57	60	60	62	63
12	52.8	61	60	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
13	56.0	61	60	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
14	59.1	62	60	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
15	62.3	62	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
16	65.4	62	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
17	68.6	62	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
18	71.7	62	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
19	74.9	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
20	78.0	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
21	81.2	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
22	84.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	87.5	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
24	90.6	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
25	93.8	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
26	96.9	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
27	100.1	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
28	103.2	63	61	57	57	57	57	57	57	57	57	57	57	57	60	60	63	63
29	106.4	63	61	57	57	57	57	57	57	57	57	57	57	57	59	60	63	63
30	109.5	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
31	112.7	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
32	115.8	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
33	119.0	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
34	122.1	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
35	125.3	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
36	128.4	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
37	131.6	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
38	134.7	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
39	137.9	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
40	141.0	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
41	144.2	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63
42	147.3	63	61	57	57	57	57	57	57	57	57	57	57	57	59	59	63	63

Floor	mPD	T3-H1	T3-H2	T3-I1	T3-I2	T3-I3	T3-J1	T3-J2	T3-J3	T3-K1	T3-K2	T3-L1	T3-L2	T3-M1	T3-M2	T3-M3
G	13.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	21.3	61	61	61	61	61	60	60	60	60	60	60	60	60	61	56
3	24.5	61	61	61	61	61	61	61	61	61	61	61	61	61	61	57
4	27.6	62	61	61	61	61	61	61	61	61	61	61	61	61	62	58
5	30.8	62	62	62	62	61	61	61	61	61	61	62	62	62	62	59
6	33.9	62	62	62	62	62	62	62	62	62	62	62	62	62	62	60
7	37.1	62	62	62	62	62	62	62	62	62	62	62	62	62	62	60
8	40.2	62	62	62	62	62	62	62	62	62	62	62	62	62	63	61
9	43.4	62	62	62	62	62	62	62	62	62	62	62	63	63	63	61
10	46.5	62	62	62	62	62	62	62	62	62	62	63	63	63	63	61
11	49.7	63	62	62	62	62	62	62	62	62	63	63	63	63	63	61
12	52.8	63	63	63	62	62	62	62	62	63	63	63	63	63	63	62
13	56.0	63	63	63	63	63	62	63	63	63	63	63	63	63	64	62
14	59.1	63	63	63	63	63	63	63	63	63	63	63	63	63	64	62
15	62.3	63	63	63	63	63	63	63	63	63	63	63	63	64	64	62
16	65.4	63	63	63	63	63	63	63	63	63	63	63	64	64	64	63
17	68.6	63	63	63	63	63	63	63	63	63	63	64	64	64	64	63
18	71.7	63	63	63	63	63	63	63	63	63	63	64	64	64	65	63
19	74.9	63	63	63	63	63	63	63	63	64	64	64	64	64	65	63
20	78.0	63	63	63	63	63	63	63	63	64	64	64	64	64	65	63
21	81.2	63	63	63	63	63	63	63	63	64	64	64	64	64	65	63
22	84.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	87.5	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
24	90.6	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
25	93.8	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
26	96.9	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
27	100.1	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
28	103.2	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
29	106.4	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
30	109.5	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
31	112.7	63	63	63	63	-	-	-	-	64	64	64	64	64	65	64
32	115.8	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
33	119.0	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
34	122.1	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
35	125.3	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
36	128.4	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
37	131.6	63	63	63	63	-	-	-	-	64	64	64	64	64	65	63
38	134.7	63	63	63	63	-	-	-	-	63	64	64	64	64	65	63
39	137.9	63	63	63	63	-	-	-	-	63	64	64	64	64	65	63
40	141.0	63	63	63	63	-	-	-	-	63	63	64	64	64	65	63
41	144.2	63	63	63	63	-	-	-	-	63	63	64	64	64	65	63
42	147.3	63	63	63	63	-	-	-	-	63	63	64	64	64	65	63

Predicted Road Traffic Noise Levels for Tower 4

Tower 4

Floor	mPD	T4-A1	T4-A2	T4-A3	T4-B1	T4-B2	T4-C1	T4-C2	T4-D1	T4-D2	T4-E1	T4-E2	T4-F1	T4-F2	T4-G1	T4-G2	T4-H1	T4-H2	T4-I1	T4-I2	T4-J1	T4-J2	T4-K1	T4-K2	T4-K3
G	13.2	60	59	59	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	57	56	56	55	55	54
1	18.2	62	62	61	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	58
2	21.3	63	63	63	62	62	62	62	62	62	61	61	61	61	61	61	61	61	61	61	61	61	61	61	59
3	24.5	64	64	64	64	63	63	63	63	63	62	62	62	62	62	62	62	62	62	62	62	62	62	62	60
4	27.6	65	65	65	64	64	64	64	63	63	63	63	63	63	63	62	62	62	62	62	63	63	63	63	60
5	30.8	65	65	65	65	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	60
6	33.9	65	65	65	65	65	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	60
7	37.1	65	65	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	64	64	64	60
8	40.2	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	63	64	64	64	64	60
9	43.4	66	66	65	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
10	46.5	66	66	65	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
11	49.7	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
12	52.8	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
13	56.0	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
14	59.1	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
15	62.3	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
16	65.4	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
17	68.6	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
18	71.7	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
19	74.9	66	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
20	78.0	66	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
21	81.2	66	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	64	64	64	64	64	60
22	84.3	66	66	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
23	87.5	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
24	90.6	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
25	93.8	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
26	96.9	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
27	100.1	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
28	103.2	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
29	106.4	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	64	64	64	64	64	60
30	109.5	66	65	65	65	65	64	64	64	64	64	64	64	64	63	63	63	63	63	63	64	64	64	64	60
31	112.7	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	64	64	64	64	60
32	115.8	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	64	64	64	64	60
33	119.0	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	64	64	64	64	60
34	122.1	66	65	65	65	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	63	64	64	64	60
35	125.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	128.4	65	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	64	64	64	60
37	131.6	65	65	65	65	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	64	64	64	60
38	134.7	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	64	64	60
39	137.9	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	64	60
40	141.0	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	64	60
41	144.2	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	64	60
42	147.3	65	65	65	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	64	60

Floor	mPD	T4-L1	T4-L2	T4-L3	T4-M1	T4-M2	T4-N1	T4-N2	T4-O1	T4-O2	T4-P1	T4-P2	T4-Q1	T4-Q2	T4-R1	T4-R2	T4-S1	T4-S2	T4-S3	T4-T1	T4-T2	T4-T3	T4-U1	T4-U2	T4-U3
G	13.2	54	53	53	52	52	52	53	-	-	57	57	57	57	57	57	58	58	58	58	58	-	59	60	60
1	18.2	58	55	55	55	55	55	56	58	58	58	58	58	58	58	58	58	58	58	58	59	59	60	61	62
2	21.3	59	56	56	56	56	56	57	58	58	58	58	58	58	58	58	58	58	58	59	59	60	61	62	63
3	24.5	59	57	57	56	56	56	57	58	58	58	58	58	58	58	58	58	58	58	59	59	60	61	62	63
4	27.6	59	57	57	57	57	57	57	58	58	58	58	58	58	58	58	58	58	58	59	59	60	61	62	63
5	30.8	59	57	57	57	57	57	58	59	59	59	59	59	59	59	59	59	59	59	59	60	61	62	63	65
6	33.9	59	57	57	57	57	57	58	59	59	59	59	59	59	59	59	59	59	59	59	60	61	62	63	65
7	37.1	59	57	57	57	57	57	58	59	59	59	59	59	59	59	59	59	59	59	59	60	61	62	64	65
8	40.2	59	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59	59	60	61	62	64	65
9	43.4	60	58	58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59	59	60	61	62	64	66
10	46.5	60	58	58	58	58	58	59	60	60	60	60	60	60	60	60	60	60	60	60	60	61	62	64	66
11	49.7	60	58	58	58	58	58	59	60	60	60	60	60	60	60	60	60	60	60	60	60	61	62	64	66
12	52.8	60	58	58	58	58	59	60	60	60	60	60	60	60	60	60	60	60	60	60	60	61	62	64	66
13	56.0	59	58	59	59	59	59	60	60	60	60	60	60	60	60	60	60	60	60	60	60	61	62	64	66
14	59.1	59	59	59	59	59	59	60	61	60	60	60	60	60	60	60	60	60	60	60	60	61	62	64	66
15	62.3	59	59	59	59	59	59	60	61	61	61	60	60	60	60	60	60	60	60	60	60	61	62	64	66
16	65.4	59	59	59	59	59	59	60	61	61	61	60	60	60	60	60	60	60	60	60	60	61	62	64	66
17	68.6	59	59	59	59	59	59	60	61	61	61	60	60	60	60	60	60	60	60	60	60	61	62	64	66
18	71.7	59	59	59	59	59	60	60	61	61	61	61	60	60	60	60	60	60	60	60	60	61	62	64	66
19	74.9	59																							

Predicted Road Traffic Noise Levels for Tower 5

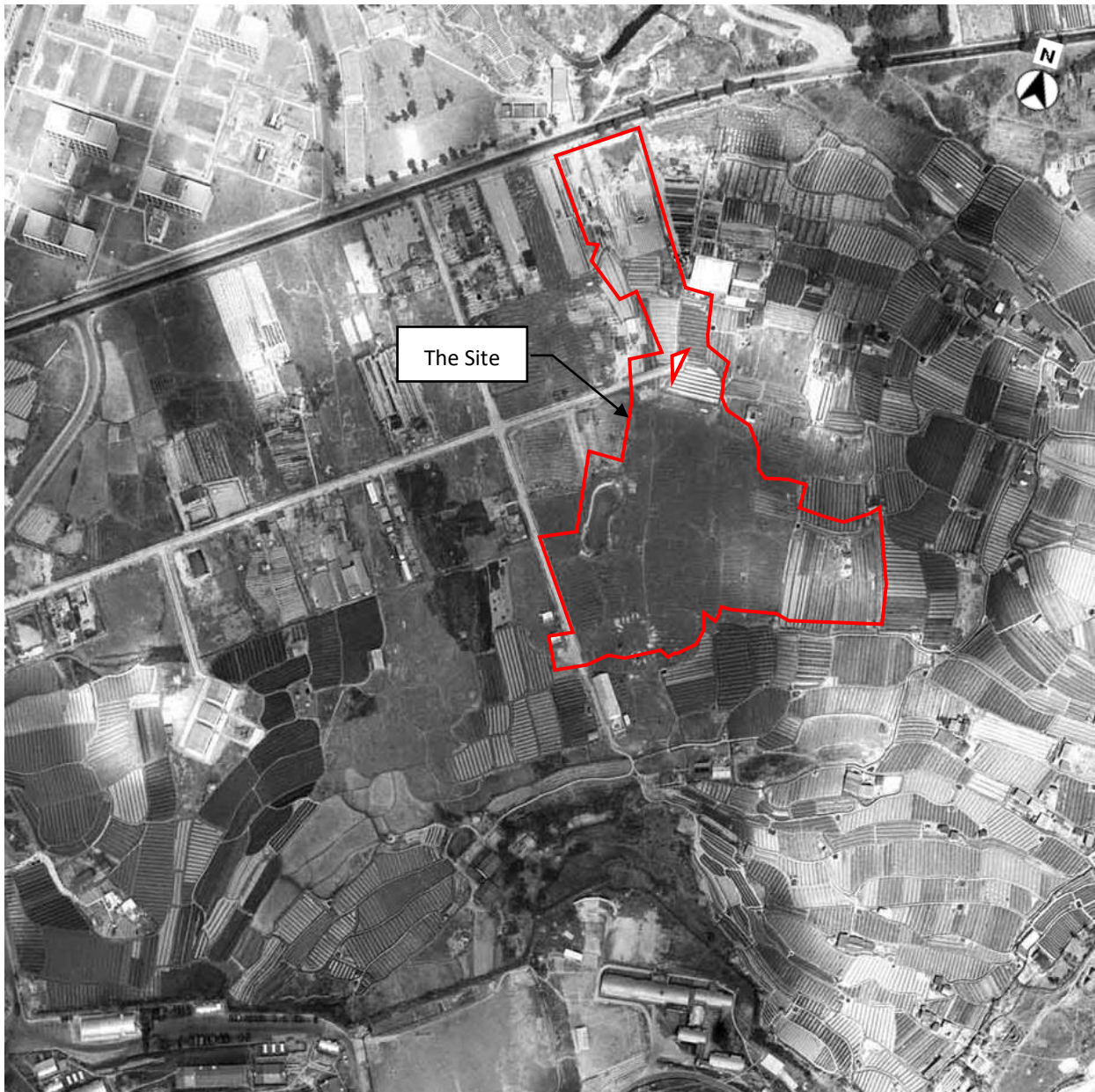
Tower 5

Floor	mPD	T5-A1	T5-A2	T5-A3	T5-B1	T5-B2	T5-C1	T5-C2	T5-C3	T5-D1	T5-D2	T5-E1	T5-E2	T5-F1	T5-F2	T5-G1	T5-G2	T5-H1	T5-H2	T5-I1	T5-I2	T5-J1	T5-J2	T5-J3	T5-K1
G	13.2	58	58	59	58	57	54	54	54	55	57	57	58	57	57	56	56	53	53	52	52	53	56	56	56
1	18.2	61	61	61	61	61	61	61	61	60	60	60	60	60	60	60	60	59	58	58	58	58	59	57	57
2	21.3	62	62	62	62	62	62	62	62	61	61	61	61	61	61	61	61	60	59	59	59	59	60	57	57
3	24.5	63	63	63	63	62	62	62	62	62	62	62	62	62	62	62	62	61	60	60	60	60	60	57	58
4	27.6	63	63	63	63	63	63	63	63	63	63	63	63	62	62	62	62	61	61	60	60	60	61	58	58
5	30.8	64	64	64	63	63	63	63	63	63	63	63	63	63	63	63	63	61	61	60	61	61	61	58	58
6	33.9	64	64	64	64	64	63	63	63	63	63	63	63	63	63	63	63	62	61	61	61	61	61	58	58
7	37.1	64	64	64	64	64	64	64	64	63	63	63	63	63	63	63	63	62	61	61	61	61	61	58	58
8	40.2	64	64	64	64	64	64	64	64	64	64	63	63	63	63	63	63	62	61	61	61	61	61	58	58
9	43.4	64	64	65	64	64	64	64	64	64	64	64	64	63	63	63	63	62	62	61	61	61	62	58	58
10	46.5	64	64	65	64	64	64	64	64	64	64	64	64	64	64	63	63	62	62	61	61	61	62	58	58
11	49.7	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	63	62	62	61	61	61	62	58	58
12	52.8	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	63	62	62	61	61	61	62	58	58
13	56.0	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
14	59.1	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
15	62.3	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
16	65.4	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
17	68.6	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	58	58
18	71.7	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	58	58
19	74.9	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
20	78.0	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	58	58
21	81.2	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	58	58
22	84.3	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	57	58
23	87.5	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	57	58
24	90.6	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	62	61	62	57	57
25	93.8	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
26	96.9	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
27	100.1	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
28	103.2	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
29	106.4	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
30	109.5	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
31	112.7	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	62	62	61	61	61	62	57	57
32	115.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	119.0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
34	122.1	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
35	125.3	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
36	128.4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
37	131.6	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
38	134.7	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
39	137.9	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
40	141.0	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
41	144.2	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57
42	147.3	64	64	64	64	64	64	64	64	64	64	64	64	64	64	-	-	62	62	61	61	61	62	57	57

Floor	mPD	T5-K2	T5-K3	T5-L1	T5-L2	T5-M1	T5-M2	T5-N1	T5-N2	T5-O1	T5-O2	T5-P1	T5-P2	T5-Q1	T5-Q2	T5-R1	T5-R2	T5-S1	T5-S2	T5-T1	T5-T2	T5-U1	T5-U2	T5-U3
G	13.2	55	55	55	57	-	-	54	54	54	54	54	54	53	53	53	53	53	54	55	53	53	53	58
1	18.2	57	57	57	58	58	57	57	57	57	57	57	56	56	56	56	56	56	57	56	56	56	56	61
2	21.3	58	57	57	59	58	58	57	57	57	57	57	57	57	57	57	57	57	57	56	56	56	56	62
3	24.5	58	58	58	59	58	58	58	57	57	57	57	57	57	57	57	57	57	58	57	57	57	57	63
4	27.6	58	58	58	59	59	58	58	58	58	58	58	57	58	57	57	57	57	58	57	57	57	57	63
5	30.8	58	58	58	59	59	58	58	58	58	58	58	57	58	57	57	57	58	58	57	57	57	57	64
6	33.9	58	58	58	59	59	58	58	58	58	58	58	58	58	57	57	57	58	58	57	57	57	57	64
7	37.1	58	58	58	59	59	58	58	58	58	58	58	58	58	57	57	57	58	58	57	57	57	57	64
8	40.2	58	58	58	59	59	58	58	58	58	58	58	58	58	57	57	57	58	58	57	57	57	57	64
9	43.4	58	58	58	59	59	58	58	58	58	58	58	58	58	57	57	57	58	59	57	57	57	57	64
10	46.5	58	58	58	60	59	59	58	58	58	58	58	58	58	57	57	57	58	59	57	57	57	57	64
11	49.7	59	58	58	60	59	59	58	58	58	58	58	58	58	57	57	57	58	59	57	57	57	57	64
12	52.8	59	58	58	60	59	59	58	58	58	58	59	58	58	57	57	57	59	59	57	57	57	57	64
13	56.0	59	58	58	60	59	59	58	58	58	58	59	58	59	57	57	57	59	59	57	57	57	57	64
14	59.1	59	59	58	60	60	59	59	59	59	59	59	58	59	57	57	57	59	59	57	57	57	57	64
15	62.3	59	59	58	60	60	59	59	59	59	59	59	58	59	57	57	57	59	60	57	57	57	57	64
16	65.4	59	59	59	60	60	59	59	59	59	59	59	58	59	57	57	57	59	60	57	57	57	57	64
17	68.6	59	59	59	60	60	59	59	59	59	59	59	58	59	57	57	57	59	60	57	57	57	57	64
18	71.7	59	59	59	60	60	59	59	59	59	59	59	58	59	57	57	57	59	60	57	57	57	57	64
19	74.9	59	59	59	60	60	59	59	59	59	59	59	58	59	57	57	57	59	60	57	57	57	57	64
20	78.0	59	5																					

Appendix C AERIAL PHOTOS

Figure C-1: Aerial Photo in Year 1963



Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Figure C-2: Aerial Photo in Year 1973



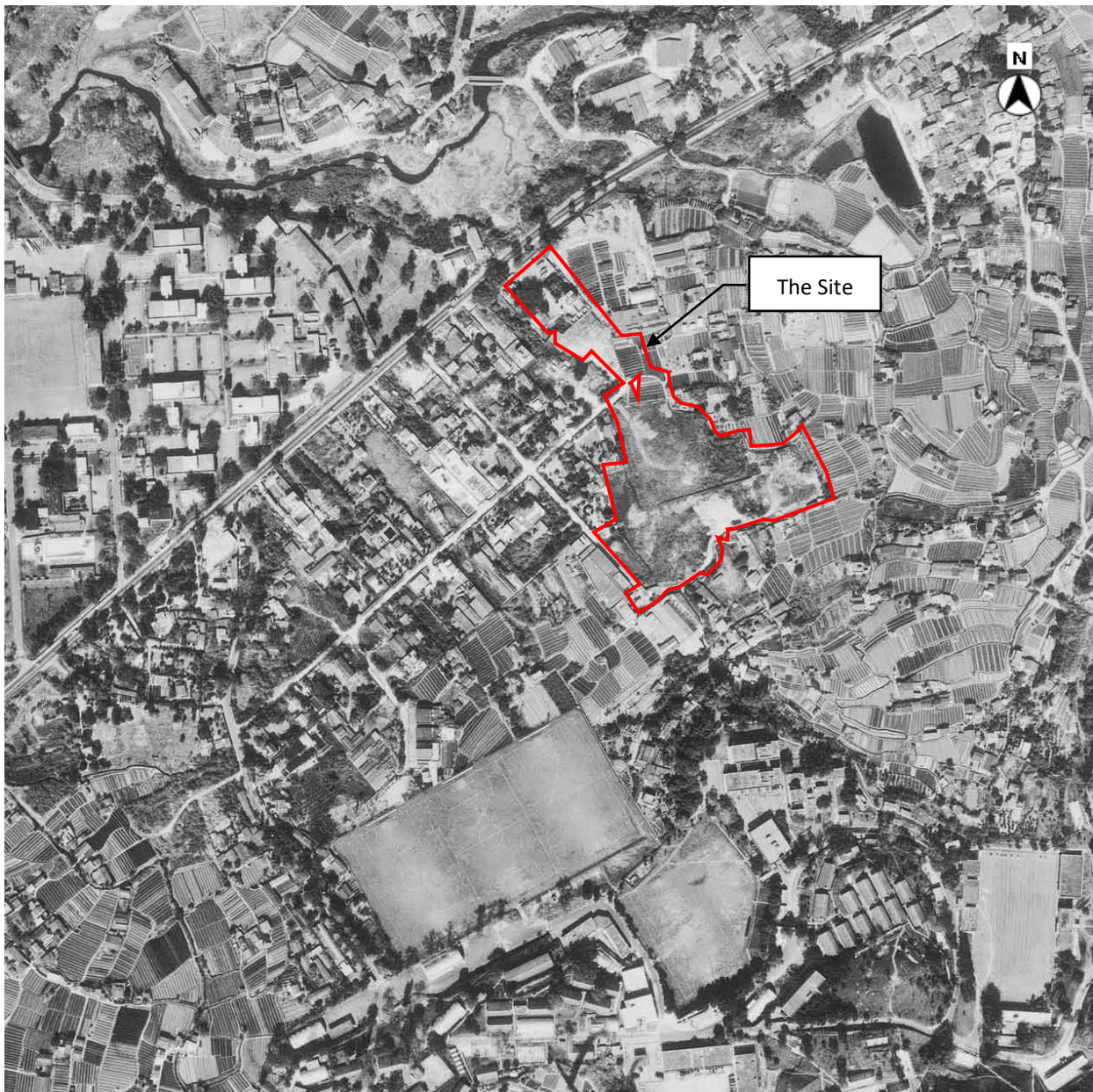
Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Figure C-3: Aerial Photo in Year 1982



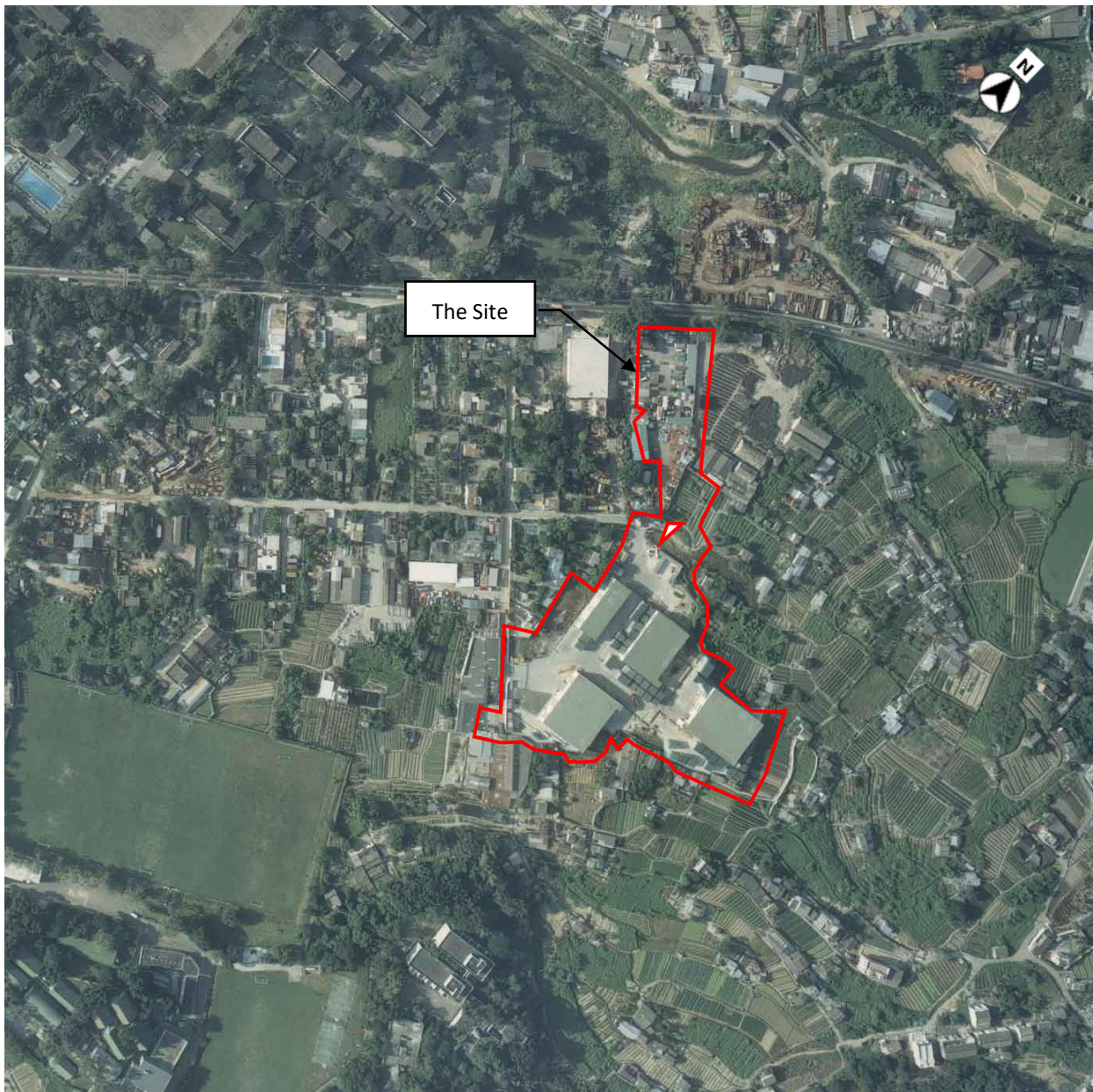
Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
 Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
 D01/01
 4 April 2023

Figure C-4: Aerial Photo in Year 1993



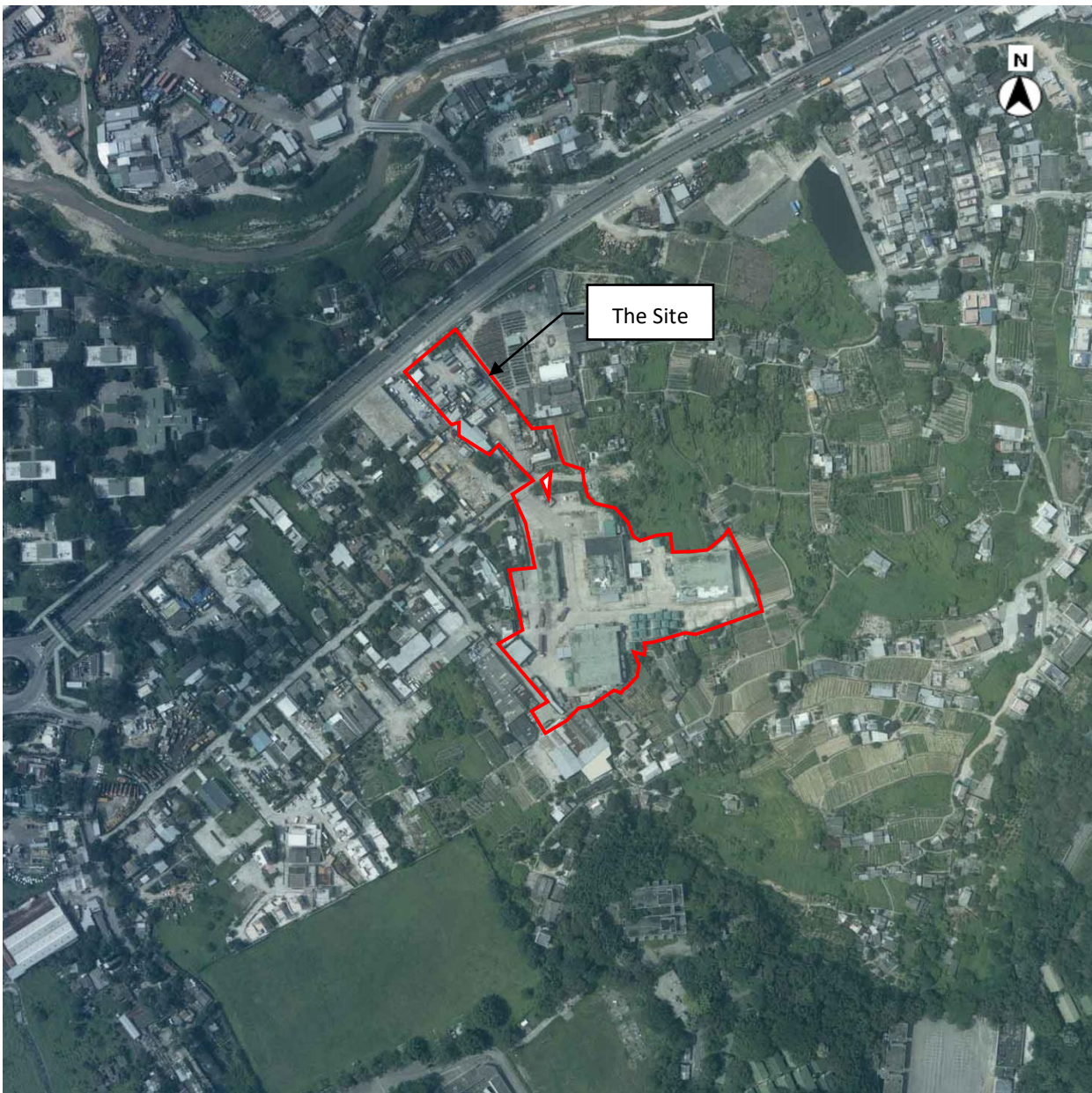
Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Figure C-5: Aerial Photo in Year 2002



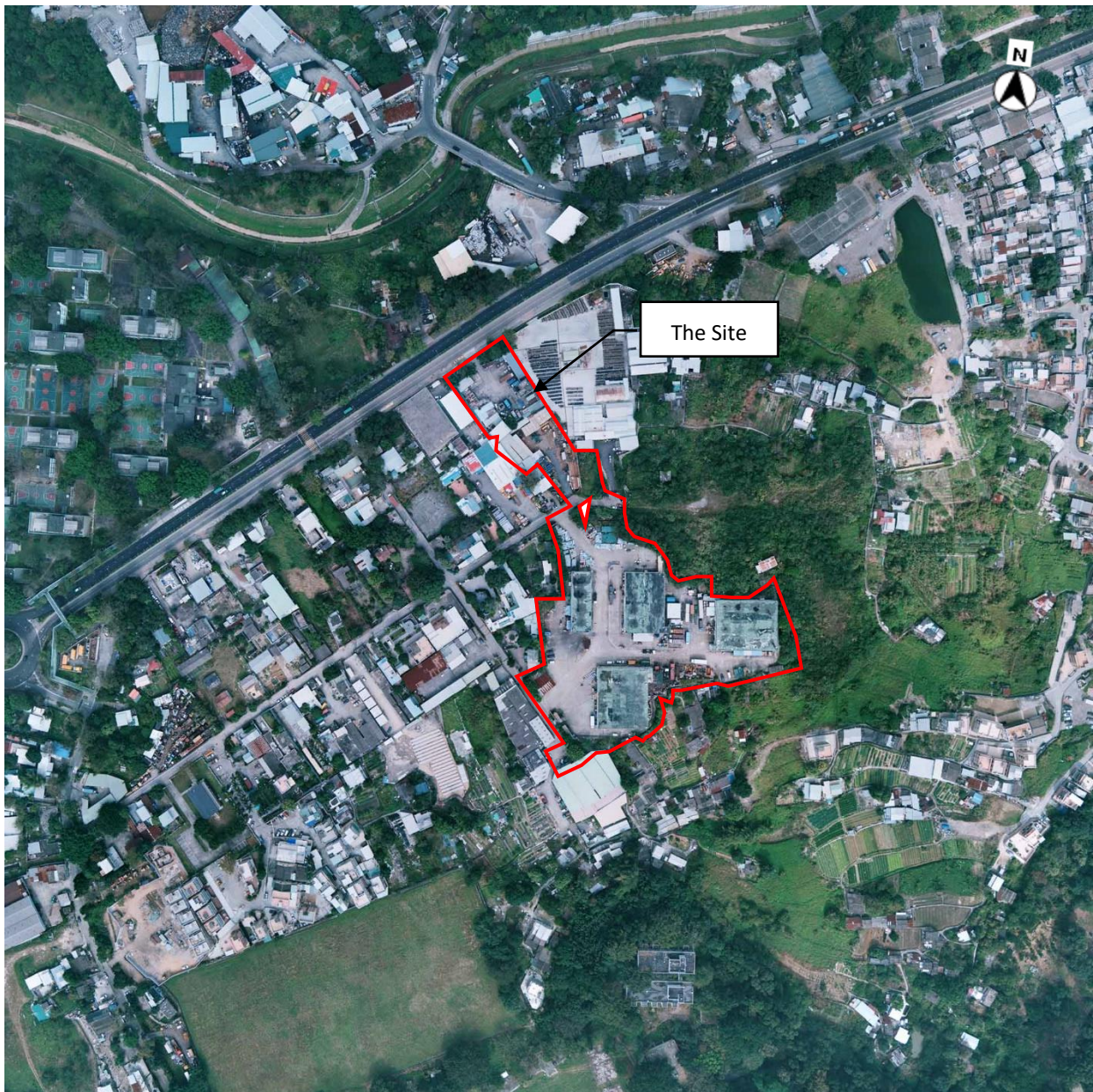
Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
 Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
 D01/01
 4 April 2023

Figure C-6: Aerial Photo in Year 2013



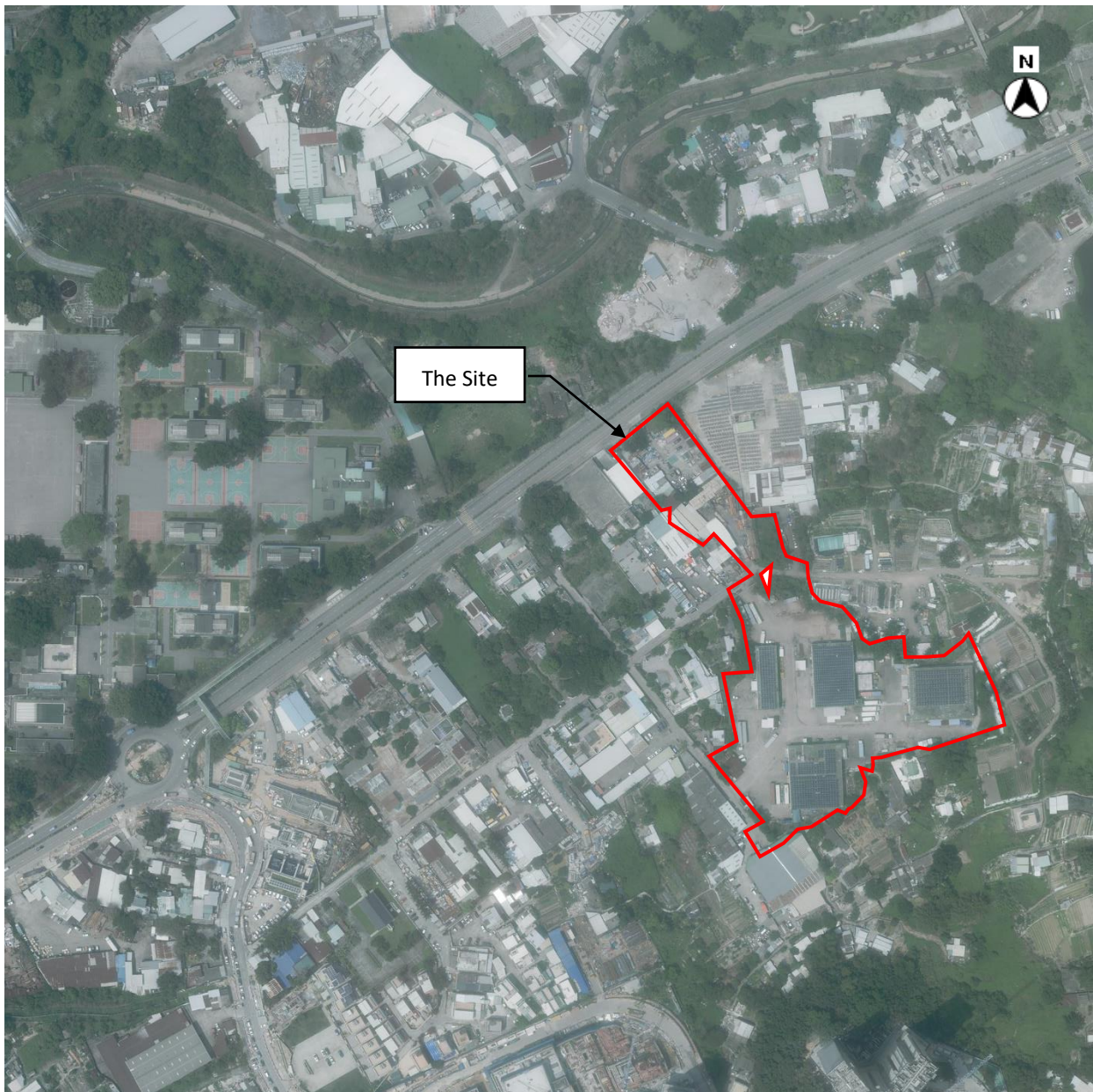
Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Figure C-7: Aerial Photo in Year 2020



Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Figure C-8: Aerial Photo in Year 2022



Source: Lands Department

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

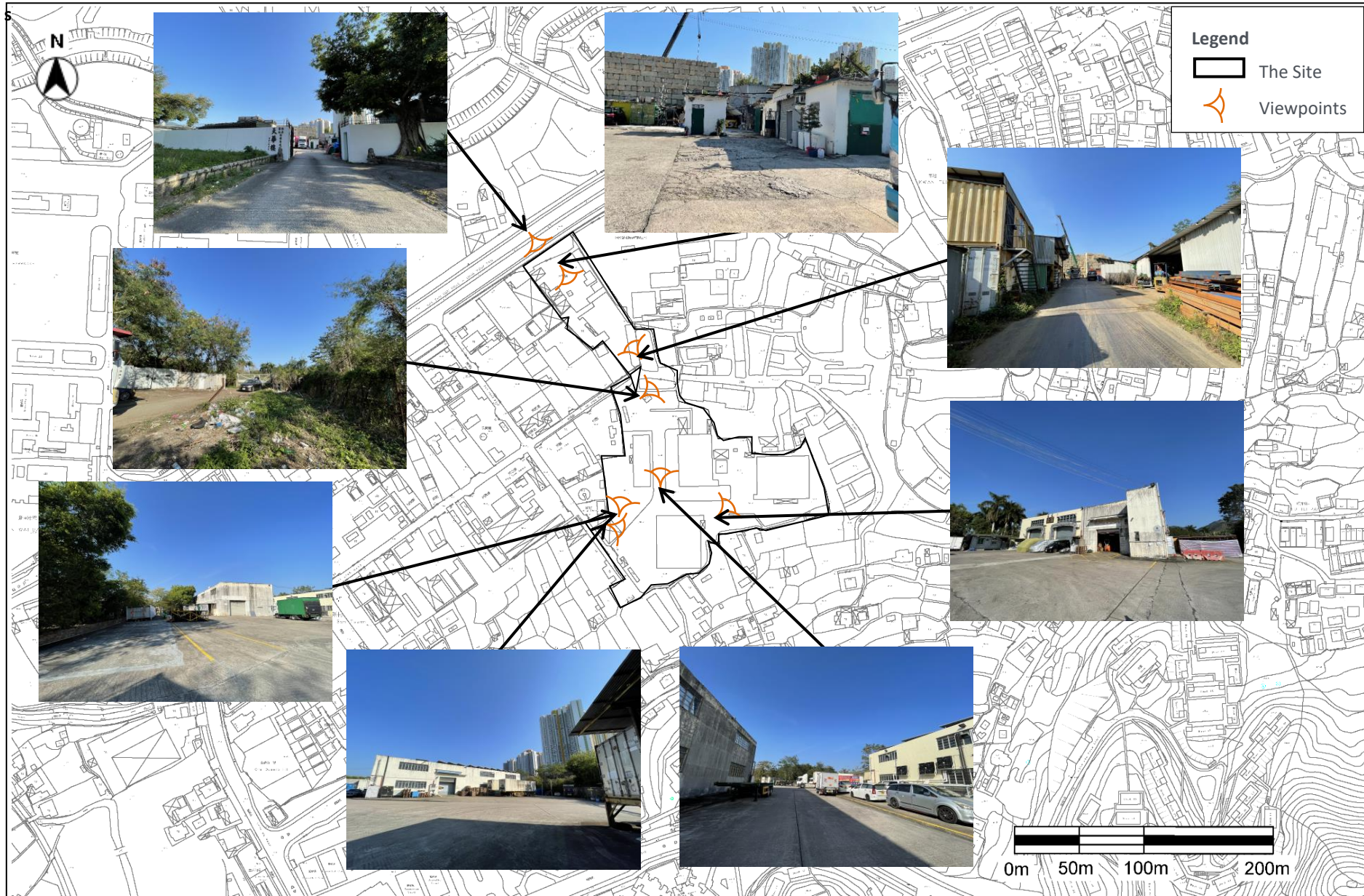
SMEC Internal Ref. 7076933 |
D01/01
4 April 2023

Appendix D SITE SURVEY PHOTOS IN JANUARY 2023

D01 ENVIRONMENTAL ASSESSMENT

S12A Rezoning Application – Request for Amendment to the Lung Yeuk Tau and Kwan Tei South OZP from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone at Various Lots in D.D. 83 and Adjoining Government Land, Lung Yeuk Tau, N.T.
Prepared for Carlton Woodcraft Manufacturing Ltd

SMEC Internal Ref. 7076933 |
D01/01
4 April 2023



Appendix E **INFORMATION REQUEST LETTERS AND REPLIES FROM EPD AND FSD**

Information Request Letter to EPD



local people
global experience

Our ref: 7076933/L29461/AW/TSC/CL/rw

20 January 2023

Environmental Protection Department
Environmental Compliance Division
Regional Office (North)
10/F Shatin Government Offices
No.1 Sheung Wo Che Road, Sha Tin
N.T., Hong Kong

By Email (shchu@epd.gov.hk)
& Fax (2685 1133)

Attention: Mr. CHU Shun Hang

Dear Sir

**Section 12A Rezoning Application – Request for Amendment to the approved Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan No. S/NE-LYT/19 from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A) 2” Zone
Request for Information - Land Contamination Review**

We have been appointed by Carlton Woodcraft Manufacturing Ltd as the Environmental Consultant to undertake an Environmental Assessment (“EA”) for the captioned project. A copy of appointment letter (ref: 17601076-0785/L29290/AB/AW/FN/rw) dated 7 December 2022 regarding the appointment of the captioned Agreement is enclosed for your information. The Subject Site is in Lung Yeuk Tau, Fanling, and its location is shown on the attached figure.

In order to review potential land contamination issue, we would be most grateful if you could provide us with a list of records of Chemical Waste Producers Registration or incidents of chemical spillage/leakage, etc. relating to the Site, if any.

Should you have any enquiries regarding the above, please do not hesitate to contact the undersigned on tel. 3995 8124 or to cindy.chung@smec.com or our Mr. Charls LIANG on tel. 3995 8128 or to charls.liang@smec.com.

Yours faithfully

Cindy CHUNG
Senior Environmental Consultant

Encl.

SMC ASIA LIMITED
27/F Ford Glory Plaza, 37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
T +852 3995 8100
F +852 3995 8101
E hongkong@smec.com
W www.smec.com



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Information Request Letter to EPD

Appointment Letter



SMEC
Member of the Surbana Jurong Group

local people
global experience

Our ref: 17601076-0785/L29290/AB/AW/FN/rw

7 December 2022

Carlton Woodcraft Manufacturing Ltd
15/F VIP Commercial Centre
116-120 Canton Road
Tsim Sha Tsui
Kowloon
Hong Kong

By Hand

Attn: Mr Joseph S.P. Fu

Dear Sir

12A Rezoning Application from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone under the Draft Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan No. S/NE-LYT/18 Technical and Fee Proposal

Thank you for your invitation. We are pleased to provide this Scope of Works and Fee Proposal including our scope of services and the fees, as appended to this letter, for your consideration.

We look forward to receiving your formal instruction to proceed by providing a signed copy of this letter, a works order/purchase order, or a letter confirming your acceptance of the attached proposal.

Should you have any queries regarding this proposal, please do not hesitate to contact our Mr Antony WONG, on 3995 8120 or at antony.wong@smec.com.

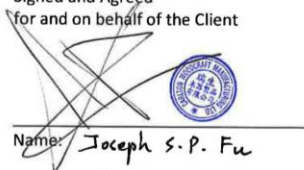
Yours faithfully
for and on behalf of
SMEC Asia Ltd



Ir Alexi BHANJA
Managing Director

Encl.

Signed and Agreed
for and on behalf of the Client



Name: *Joseph S. P. Fu*
Position: *Chairman*

SMEC ASIA LIMITED
27/F Ford Glory Plaza, 37-39 Wing Hong Street
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W www.smec.com

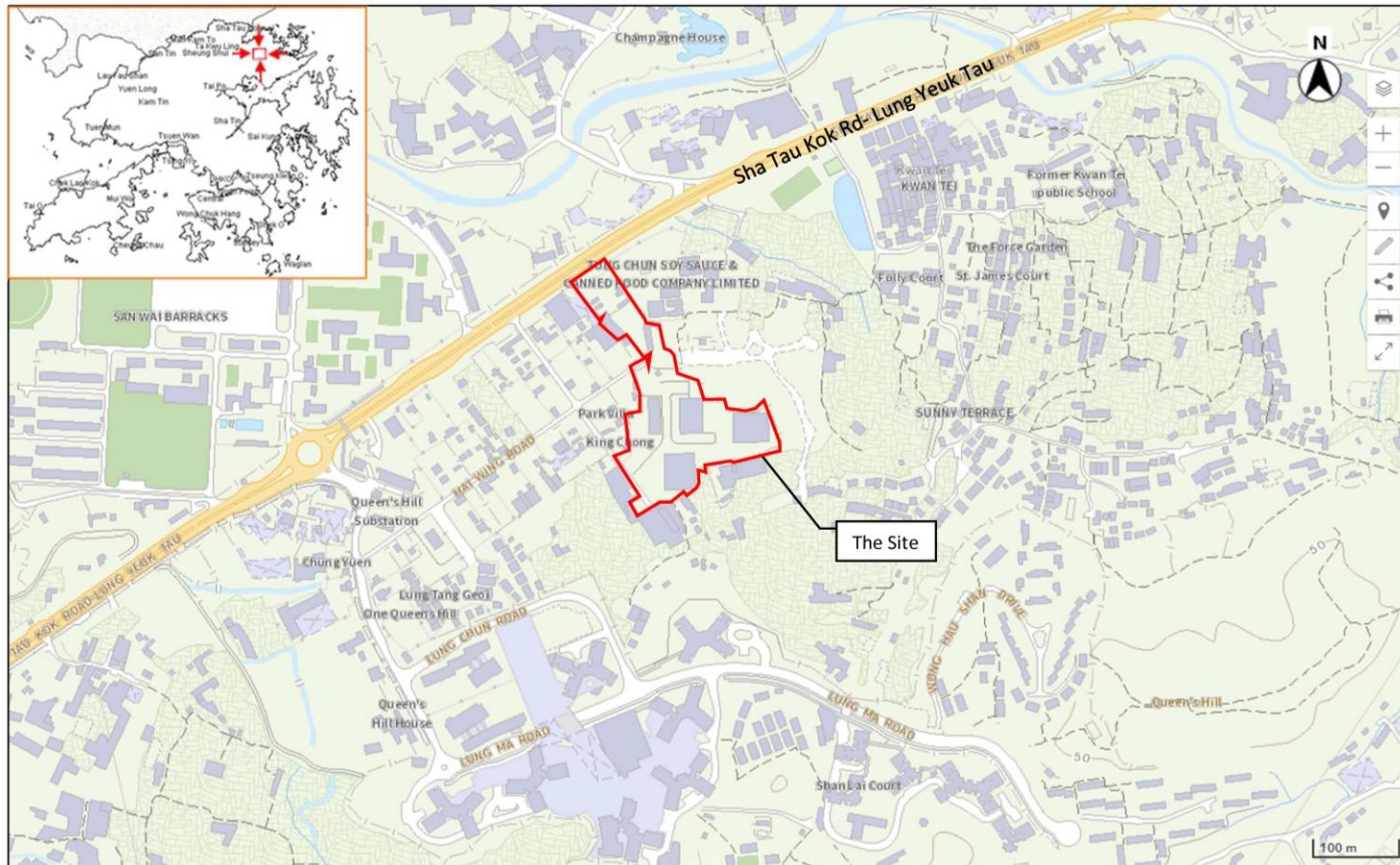




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Information Request Letter to EPD

Site Location Plan



(Source: Processed from GeoInfo Map)

Z:\Jobs\7076933 - Carlton - S12A Lung YeuK Tau\02 Out\230120_EP_D_Info Request_29461.docx
Attachment Page 2 of 2

Email Reply from EPD**Charls LIANG**

From: Cindy CHUNG
Sent: Monday, 30 January 2023 12:31 pm
To: Charls LIANG
Subject: FW: 7076933 Section 12A Rezoning Application at Lung Yeuk Tau - Land Contamination Review
Attachments: 230120_EPD_Info Request_29461.pdf

From: herrickho@epd.gov.hk <herrickho@epd.gov.hk>
Sent: Thursday, January 26, 2023 10:17 AM
To: Cindy CHUNG <Cindy.Chung@smec.com>
Cc: shchu@epd.gov.hk
Subject: Re: 7076933 Section 12A Rezoning Application at Lung Yeuk Tau - Land Contamination Review

Dear Cindy,

According to our records, there is no incident of chemical spillage/leakage in relevant location in last 5 years .

Thanks & Regards,
 Herrick HO / EPD
 2158 5831

From: SH CHU/EPD/HKSARG
 To: C[[\[RN\]](#)]32
 Cc: S[[\[RN\]](#)]34, D[[\[RN\]](#)]1, I[[\[RN\]](#)]34
 Date: 20/01/2023 17:18
 Subject: 7076933 Section 12A Rezoning Application at Lung Yeuk Tau - Land Contamination Review

Dear Herrick,

Would you please provide the records as requested and reply to the Cindy Chung.

Regards,
 CHU Shun-hang
 AE(RN)33 / EPD
 2158 5832

----- Forwarded by SH CHU/EPD/HKSARG on 20/01/2023 17:11 -----

From: Cindy CHUNG <Cindy.Chung@smec.com>
 To: "shchu@epd.gov.hk" <shchu@epd.gov.hk>
 Cc: Antony WONG <Antony.Wong@smec.com>, Charls LIANG <Charls.Liang@smec.com>, Isa Yuen <iyuen@aikon.hk>, Thomas Luk <tluk@aikon.hk>, "jlee@carltonwood.com.hk" <jlee@carltonwood.com.hk>
 Date: 20/01/2023 17:06
 Subject: 7076933 Section 12A Rezoning Application at Lung Yeuk Tau - Land Contamination Review

Dear Mr. CHU,

Email Reply from EPD**Section 12A Rezoning Application – Request for Amendment to the approved Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan No. S/NE-LYT/19 from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A) 2” Zone****Request for Information - Land Contamination Review**

We have been appointed by Carlton Woodcraft Manufacturing Ltd as the Environmental Consultant to undertake an Environmental Assessment (“EA”) for the captioned project. In order to review potential land contamination issue, we would be most grateful if you could provide us with a list of records of Chemical Waste Producers Registration or incidents of chemical spillage/leakage, etc. relating to the Site, if any. Please refer to the attached letter for details of the project and requested information.

Should you have any enquiries regarding the above, please do not hesitate to contact the undersigned. Thank you.

Regards,

Cindy CHUNG

Senior Environmental Consultant

D +852 3995 8124 **T** +852 3995 8100 **F** +852 3995 8101 **E** cindy.chung@smec.com

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27/F Ford Glory Plaza, 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

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(File-Checksum-d4f3669a)

Information Request Letter to FSD



local people
global experience

Our ref: 7076933/L29462/AW/TSC/CL/rw

20 January 2023

Fire Services Department
Corporate Strategy Command
Management Group
9/F, Fire Services Headquarters Building
1 Hong Chong Road, Tsim Sha Tsui East
Kowloon, Hong Kong

By Email (hkfsdenq@hkfsd.gov.hk)
& Fax (2739 5879)

Attention: Mr. NG Wing Chit

Dear Sir

**Section 12A Rezoning Application – Request for Amendment to the approved Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan No. S/NE-LYT/19 from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A) 2” Zone
Request for Information - Land Contamination Review**

We have been appointed by Carlton Woodcraft Manufacturing Ltd as the Environmental Consultant to undertake an Environmental Assessment (“EA”) for the captioned project. A copy of appointment letter (ref: 17601076-0785/L29290/AB/AW/FN/rw) dated 7 December 2022 regarding the appointment of the captioned Agreement is enclosed for your information. The Subject Site is in Lung Yeuk Tau, Fanling, and its location is shown on the attached figure.

In order to review potential land contamination issue, we would be most grateful if you could provide us with a list of records of fire incidents or incidents of spillage/leakage of dangerous goods, etc. relating to the Site, if any.

Should you have any enquiries regarding the above, please do not hesitate to contact the undersigned on tel. 3995 8124 or to cindy.chung@smec.com or our Mr. Charls LIANG on tel. 3995 8128 or to charls.liang@smec.com.

Yours faithfully

Cindy CHUNG
Senior Environmental Consultant

Encl.

SMC ASIA LIMITED
27/F Ford Glory Plaza, 37-39 Wing Hong Street
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F +852 3995 8101
E hongkong@smec.com
W www.sme.com



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Information Request Letter to FSD

Appointment Letter



SMEC
Member of the Surbana Jurong Group

local people
global experience

Our ref: 17601076-0785/L29290/AB/AW/FN/rw

7 December 2022

Carlton Woodcraft Manufacturing Ltd
15/F VIP Commercial Centre
116-120 Canton Road
Tsim Sha Tsui
Kowloon
Hong Kong

By Hand

Attn: Mr Joseph S.P. Fu

Dear Sir

12A Rezoning Application from “Residential (Group C)” Zone and “Agriculture” Zone to “Residential (Group A)2” Zone under the Draft Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan No. S/NE-LYT/18 Technical and Fee Proposal

Thank you for your invitation. We are pleased to provide this Scope of Works and Fee Proposal including our scope of services and the fees, as appended to this letter, for your consideration.

We look forward to receiving your formal instruction to proceed by providing a signed copy of this letter, a works order/purchase order, or a letter confirming your acceptance of the attached proposal.

Should you have any queries regarding this proposal, please do not hesitate to contact our Mr Antony WONG, on 3995 8120 or at antony.wong@smec.com.

Yours faithfully
for and on behalf of
SMEC Asia Ltd



Ir Alexi BHANJA
Managing Director

Encl.

Signed and Agreed
for and on behalf of the Client



Name: Joseph S.P. Fu
Position: Chairman

SMEC ASIA LIMITED
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W www.smecc.com

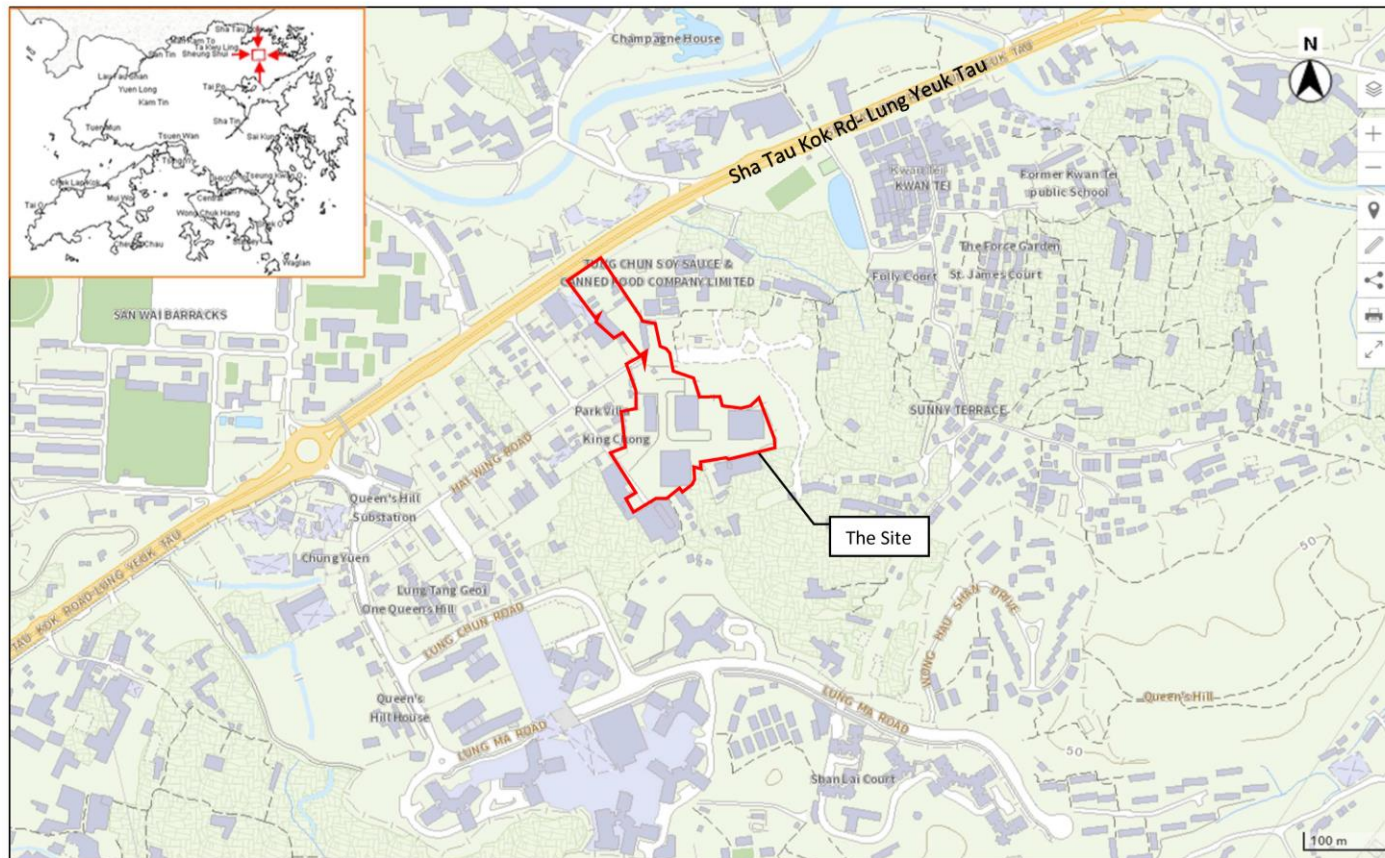



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Attachment Page 1 of 2

Information Request Letter to FSD

Site Location Plan



(Source: Processed from GeoInfo Map)

Z:\Jobs\7076933 - Carlton - S12A Lung Yeuk Tau\02 Out\230120_FSD_Info Request_129462.docx
Attachment Page 2 of 2

Reply from FSD

消防處
香港九龍尖沙咀東部康莊道1號
消防處總部大廈



FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 **OUR REF.** : (91) in FSD GR 6-5/4 R Pt. 45
來函檔號 **YOUR REF.** : 7076933/L29462/AW/TSC/CL/rw
電子郵件 **E-mail** : hkfsdenq@hkfsd.gov.hk
圖文傳真 **FAX NO.** : 2739 5879
電話 **TEL NO.** : 2733 7741

24 February 2023

SMEC Asia Limited
27/F Ford Glory Plaza,
37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon, Hong Kong.
(Attn: Ms. Cindy CHUNG, Senior Environmental Consultant)

Dear Ms. CHUNG,

**Section 12A Rezoning Application – Request for Amendment to
the approved Lung Yeuk Tau and Kwan Tei South Outline Zoning Plan
No. S/NE-LYT/19 from “Residential (Group C)” Zone
and “Agriculture” Zone to “Residential (Group A) 2” Zone
Request for Information of Dangerous Goods & Incident Records**

I refer to your letter of 20.1.2023 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.

Yours sincerely,

(NG Wing-chit)
for Director of Fire Services

Ref. number and date should be quoted in reference to this letter
凡提及本信時請引述編號及日期

local people
global experience

SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.