Appendix G

Revised Environmental Assessment

Prepared by

Ramboll Hong Kong Limited

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE SHA TIN OUTLINE ZONING PLAN IN SUPPORT OF PROPOSED HOTEL DEVELOPMENT AT VARIOUS LOTS IN D.D. 184 AND ADJOINING GOVERNMENT LAND, SHA TIN, NEW TERRITORIES

ENVIRONMENTAL ASSESSMENT

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1. INTRODUCTION

1.1 Project Background

1.1.1 The Application Site is located at various lots in D.D. 184 and adjoining government land, Sha Tin. It falls within an area zoned "Open Space" ("O") on the Approved Sha Tin Outline Zoning Plan (OZP) No. S/ST/40.

1.1.2 The current planning application proposes to rezone the Application Site to facilitate a proposed hotel development (the Proposed Development) with an active public realm that contains retail/ F&B and recreational elements and the preserved Ng Yuen.

1.1.3 To support this planning application, Ramboll Hong Kong Limited has been commissioned by the Applicant to conduct the Environmental Assessment (EA). Architectural drawings and technical information of the developments are provided by the Project Architect.

1.2 Project Location and Scope

1.2.1 **Figure 1** shows the location of the Application Site and the surrounding environs.

1.2.2 The Application Site is located by the riverside of Shing Mun River. It has remained idle for years and is currently fenced off and occupied by a Grade 3 Historic Building – "Ng Yuen" and some temporary structures only. The site is located in the "Open Space" zone, where Shing Mun River Promenade Garden No. 1 is found to the east. Immediately to the west is the Hong Kong Bible Research and Education Centre, which consists of three low-rise buildings and some temporary structures. To the south, across Tai Chung Kiu Road, lies Tsang Tai Uk Playground.

1.3 Proposed Development

1.3.1 The Proposed Development is a hotel development supported by ancillary commercial uses with a total non-domestic GFA of about 18,246m^2. The Proposed Development consists of 2 blocks, which are (i) a new hotel block of 14 storeys and a maximum BH of 68 mPD (up to the main roof) and (ii) the preserved Ng Yuen, which is a two-storeys building that will be adaptively re-used under the Proposed Development.

1.3.2 The Proposed Development, including the adaptive re-use of Ng Yuen, includes about 17,446m^2 GFA for hotel use and its ancillary clubhouse facilities, as well as about 800m^2 GFA for commercial uses (including retail, F&B, entertainment and recreational uses). The hotel development will provide about 443 nos. of hotel rooms.

1.3.3 According to the project architect, the proposed hotel would be equipped with central air conditioning system, and therefore, the proposed hotel would not rely on openable window for ventilation.

1.3.4 The indicative master layout plan and section plan of the Proposed Development are shown in **Appendix 1**. The tentative completion year of the project is 2030. Anticipated time for construction commencement is 2028.

2. AIR QUALITY IMPACT

2.1 Introduction

2.1.1 This section examines the potential air quality impacts that could arise from the construction phase and operation phase of the Project.

2.2 Environmental Legislation and Guidelines

2.2.1 The following legislation and regulations provide the standards and guidelines for evaluation of air quality impacts and the type of works that are subject to air pollution control:

- Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO)
- Air Pollution Control (Construction Dust) Regulation
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
- Air Pollution Control (Fuel Restriction) Regulations
- Control of Air Pollution in Car Parks (ProPECC PN 2/96)

Air Pollution Control Ordinance (CAP 311)

2.2.2 A set of Air Quality Objectives (AQOs) is established under the Air Pollution Control Ordinance (Cap. 311). The current AQOs that came into effect on 11 April 2025 is presented in **Table 2.1**.

Table 2.1 Hong Kong Air Quality Objectives (AQOs)

Pollutant	Averaging time	Concentration limit [i] (μg/m³)	Number of exceedances allowed per year
SO_2	10-minute	500	3
	24-hour	40	3
RSP (PM_{10}) [ii]	24-hour	75	9
	Annual	30	Not applicable
FSP ($PM_{2.5}$) [iii]	24-hour	37.5	18
	Annual	15	Not applicable
NO_2	1-hour	200	18
	24-hour	120	9
	Annual	40	Not applicable
O_3	8-hour	160	9
	Peak season	100	Not applicable
CO	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Lead	Annual	0.5	Not applicable

Notes:

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

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

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

2.2.3 In accordance with the EIAO-TM, odour predicted at all ASRs should meet 5 odour units (OUs) based on an averaging time of 5 seconds.

Air Pollution Control (Construction Dust) Regulation

2.2.4 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors 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.

2.2.5 The proposed construction works for the proposed Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of fugitive dust emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

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

2.2.6 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.7 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Air Pollution Control (Fuel Restriction) Regulations

2.2.8 The Air Pollution Control (Fuel Restriction) Regulation was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide (SO_2) emissions. The Air Pollution Control (Fuel Restriction) (Amendment) Regulation 2024 commenced on 1 April 2025. The sulphur content of liquid fuel is tightened to 0.001% by weight. The Regulation does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

ProPECC PN2/96 - Control of Air Pollution in Car Parks

2.2.9 This practice notes include 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. The limits for air pollutants as recommended by the practice notes are summarised in **Table 2.2**.

Table 2.2 Limits of Air Pollutant Concentrations Inside Car Parks

Air Pollutant	Average Time	Maximum Concentration (µg/m3) [i]	Parts Per Million (ppm)
CO	5 minutes	115,000	100
NO_2	5 minutes	1,800	1

Notes:
[i] All limits are expressed as at reference conditions of 298K and 101.325kPa.

2.3 Representative Air Sensitive Receivers (ASRs)

2.3.1 There are a number of residential, recreational, government, and institution uses within 500m of the Proposed Development. The representative ASRs for the construction phase and operational phase were identified as given in **Table 2.3**. The relative location and distance between the representative ASRs and the Application Site can be referred to **Figure 2**.

Table 2.3 Representative ASRs

ASR ID	Name of Development	Type	Land Use	Distance from the Project Boundary
A1	Proposed Residential Development (Application No. Y/ST/63)	Planned	Residential	7m
A2	The Riverpark	Existing	Residential	170m
A3	Jat Min Chuen	Existing	Residential	99m
A4	Sha Tin Wai Dr. Catherine F. Woo Memorial School	Existing	Institution	200m
A5	Immaculate Heart of Mary College	Existing	Institution	263m
A6	Tsang Tai Uk New Village	Existing	Residential	263m
A7	Tsang Tai Uk	Existing	Residential	278m
A8	Sha Tin Tau	Existing	Residential	188m
A9	Stewards High Rock Centre	Existing	Institution	220m
A10	Chun Shek Estate	Existing	Residential	269m
A11	Heritage Museum	Existing	Government	333m
A12	Sha Tin Government Secondary School	Existing	Government	369m
A13	Sha Tin Assembly of God Church	Existing	Institution	403m
A14	New Town Plaza	Existing	Residential	272m
A15	Hilton Plaza	Existing	Residential	318m
A16	Tsang Tai Uk Recreation Ground	Existing	Recreation	87m

ASR ID	Name of Development	Type	Land Use	Distance from the Project Boundary
A17	Shing Mun River Promenade Garden No. 1	Existing	Recreation	30m
A18	Sha Tin Park	Existing	Recreation	125m
A19	Pok Hong Estate	Existing	Residential	285m
A20	SRACP Teen Guard Valley Crime Prevention Education	Existing	Institution	343m
A21	Fung Shing Court	Existing	Residential	365m
A22	Garden Villa A	Existing	Residential	4m

2.4 Existing Air Quality in Shatin District

2.4.1 The nearest air quality monitoring station (AQMS) to the Proposed Development is the Shatin AQMS. The five most recent years of air quality monitoring data, 2020 to 2024, from this station are summarized in **Table 2.4**. According to the AQMS monitoring data, exceedance in FSP and O_3 is recorded.

Table 2.4 Air Quality Monitoring Data at Shatin AQMS

Pollutant	Averaging Time	AQO	Pollutant Concentration (µg/m³)				
			2020	2021	2022	2023	2024
RSP	10th Highest 24-hour	75 (9)	54	58	46	51	53
	Annual	30	25	25	21	22	21
FSP	19th Highest 24-hour	37.5 (18)	28	31	30	26	31
	Annual	15	**15**	14	13	13	13
NO_2	19th Highest 1-hour	200 (18)	136	159	112	133	122
	10th Highest 24-hour	120 (9)	58	74	55	62	53
	Annual	40	28	32	26	27	26
SO_2	4th Highest 10-Min	500 (3)	31	33	23	57	21
	4th Highest 24-hour	40 (3)	13	11	11	8	6
O_3	10th Highest 8-hour	160 (9)	153	157	**177**	159	**167**
	Peak season	100	99	94	**103**	**101**	**109**
CO	1st Highest 1-hour	30000 (0)	-	-	-	-	-
	1st Highest 8-hour	10000 (0)	-	-	-	-	-

	1st Highest 24-hour	4000 (0)	-	-	-	-	-

Notes:

(a) *Bolded values exceed the relevant AQO.*

(b) *Data extracted from EPD's Smart Air Modelling Platform (SAMP v2.1).*

2.4.2 Apart from the air quality monitoring data, a set of background levels from PATH v3.0 ("Pollutants in the Atmosphere and their Transport over Hong Kong") is also reviewed. As the tentative year of the completion of the Proposed Development is 2030, the background air quality predicted by PATH v3.0 for Year 2030 in Grid 41,39 and 42,39 are summarized in **Table 2.5**. With respect to the future background air quality predicted by PATH v3.0 in **Table 2.5**, all values are below the relevant AQOs except O_3.

Table 2.5 Year 2030 Background Annual Average Concentrations of the Air Pollutants from PATH v3.0

Pollutant	Averaging Time	AQO	Data Summary	PATH v3.0 Grid in Year 2030	
				42,39	41,39
RSP	24-hour	75 (9)	10th	49	48
			Exceedance	0	0
	Annual	30	-	19	19
FSP	24-hour	37.5 (18)	19th	29	29
			Exceedance	2	2
	Annual	15	-	12	12
NO_2	1-hour	200 (18)	19th	64	70
			Exceedance	0	0
	24-hour	120 (9)	10th	29	31
			Exceedance	0	0
	Annual	40	-	13	15
SO_2	10-Min	500 (3)	4th	23	23
			Exceedance	0	0
	24-hour	40 (3)	4th	7	7
			Exceedance	0	0
O_3	8-Hour	160 (9)	10th	**165**	**168**
			Exceedance	15	17
	Peak Season	100	-	118	118
CO	1-Hour	30000 (0)	1st	532	532
			Exceedance	0	0
	8-Hour	10000 (0)	1st	481	488
			Exceedance	0	0
	24-Hour	4000 (0)	1st	456	463
			Exceedance	0	0

Notes:

(a) *Numbers in brackets is the number of exceedances allowed per year.*

(b) *Bolded values exceed the relevant AQO.*

(c) *Data extracted from EPD's Smart Air Modelling Platform (SAMP v2.1).*

2.5 Construction Phase

Impact Brought during Construction Phase

2.5.1 Construction activities will bring potential temporary air quality impact to the surrounding area. Significant emissions are not anticipated from other criteria air pollutants - NO_2, SO_2, and CO, etc. as the number of on-site diesel/petroleum fuelled machinery (5-6 machineries) to be used for construction works is limited owing to the small size of the work site with an area of 4,561.5 m^2 (with 1m depth site formation). However, electric power supply shall be provided for on-site machinery as far as practicable and diesel generators shall be avoided to minimize the gaseous and PM emissions. Travelling of the dump trucks is another potential source of construction dust. As this planning application stage, there is no detailed information on the construction program; however, with reference to other similar scale projects, there is likely to be around three dump trucks per trip during the site formation stage of the Proposed Development. This assumes 90 working days per year for the site formation and foundation work and a capacity of 15 tons per dump truck. Watering the haul road and the site once per hour would be implemented to minimize the potential dust emission during the traveling of the dump trucks within the site.

2.5.2 Furthermore, there are potential concurrent projects "Trunk Road T4 and Associated Works", "Planning Application No. Y/ST/63" within the 500m study area from the site boundary which would contribute to the cumulative impact during the construction phase. According to the available public information, the construction work of the Truck Road T4 commenced in August 2024 for completion in 6 years. The tentative completion year of this potential concurrent project would be 2030, while the tentative completion year of the Planning Application No. Y/ST/63 is 2032 according to their submission documents.

2.5.3 Nevertheless, with the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level. In addition, the applicant will liaise with the relevant parties of the concurrent project, if any, to avoid any heavy dusty activities to be conducted at the same time to minimize the cumulative dust impact at the area. The location of the potential concurrent project is shown in **Figure 3**.

General Requirements during Construction Phase

2.5.4 The assessment criteria for aerial emission is based on the Hong Kong Air Quality Objectives (AQO) for air pollutants under *APCO* and the AQOs for the pollutants relevant to the construction phase air quality impact are listed in **Table 2.1**.

Control Measures Recommended during Construction Phase

2.5.5 Appropriate dust reduction measures should be adopted as required under the Air Pollution Control (Construction Dust) Regulation. Essential dust mitigation measures must be implemented to minimize the potential dust impact. Dust impact could be effectively mitigated by inclusion of appropriate contract clauses for dust minimisation in the work contracts. Mitigation measures may include:

- dump trucks for material transport should be totally enclosed using impervious sheeting;
- any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;
- the stockpiled malodorous materials should be removed from Application Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;
- dusty materials remaining after a stockpile is removed should be wetted with water;

- the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar;
- stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- all dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- vehicle speed to be limited to 10 kph except on completed access roads;
- the portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;
- the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials would not leak from the vehicle;
- the working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet; and
- use of effective dust screens, sheeting or netting to be provided to enclose dry scaffolding which may be provided from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level (maximum four floors for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction.

2.5.6 In addition to the dust control measures described above, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:

- Plan site layout so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from receptors as far as possible;
- Consider connecting construction plant and equipment to mains electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable;
- 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;
- Implement phasing of the excavation work to avoid large scale excavation at the same time in vicinity of nearby ASRs; and
- Erect solid screens or barriers around dusty activities, etc.

For the proximity of ASRs close to the Project site (i.e.<15m)

- Adopt site hoarding at sufficient height close to those concerned ASRs;
- Locate the haul road away from those concerned ASRs;
- Avoid dusty works or placing stockpiles near to those concerned ASRs;
- Minimization of unpaved, exposed earth by immediate covering/ permanent paving as soon as the works have been completed.

2.5.7 A monitoring programme (i.e. biweekly site audit) could also be instigated to monitor the construction process in order to enforce dust controls and modify methods of works to reduce the dust emission down to an acceptable level.

2.5.8 Good site management is important for reducing potential air quality impact down to an acceptable level. As a general guidance, the contractor shall maintain high standard of site management to prevent potential emission of fugitive dust emission. Loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should also be carried out in a manner so as to minimise the release of visible dust emission.

2.5.9 A high standard of site management shall be maintained. Any piles of materials accumulated on or around the work areas shall be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas shall be carried out in a manner without generating fugitive dust emissions. The material shall be handled properly to prevent fugitive dust emission before cleaning.

2.5.10 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. It contains the recommended air pollution control measures to be implemented by the contractor during the construction stage.

2.6 Operation Phase

Review on Odour Impact

2.6.1 It was also confirmed during the site visit that there are no other emission sources (such as vessels and power plants) in the vicinity of the Application Site.

Review on Industrial Emission Impact

2.6.2 Onsite surveys were conducted in June 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial emission impact.

Review on Vehicular Emission Impact

2.6.3 The existing roads surrounding the Application Site are Tai Chung Kiu Road and Lion Rock Tunnel Road; and their road type is primary distributor. According to the Table 3.1 of Chapter 9 – Environment of HKPSG, the recommended buffer distance for primary distributor is >20m.

2.6.4 As shown in **Figure 4**, the buffer distance of the Proposed Development would comply with the relevant recommended buffer distance. As such, it is anticipated that the Proposed Development would not be subjected to unacceptable vehicular emission impact.

2.6.5 According to the Environmental Impact Assessment for the Revised Trunk Road T4 in Sha Tin, there will be a new strategic road network connecting Sha Tin Road with Tsing Sha Highway (TSH) and Shing Mun Tunnel Road (SMTR).

Table 2.6 Buffer Distances between Kerb Side of Concerned Road Links and Proposed Air Sensitive Uses

Road Name	Road Type	Recommended Buffer Distance (m)	Shortest Horizontal Distances Between Kerb Side of Concerned Road Links and the Application Site (m)
Tai Chung Kiu Road	Primary Distributor	>20m	~27m
Lion Rock Tunnel Road	Primary Distributor	>20m	~69m
Existing Vehicle Access	Local Distributor	>5m	~11m
Trunk Road T4	Trunk Road	>20m	~109m

2.6.6 As shown in **Table 2.6** and **Figure 4,** the recommended buffer distance requirement for Tai Chung Kiu Road, Lion Rock Tunnel Road, existing vehicle access and Trunk Road T4 in the HKPSG would be complied. There would be no air sensitive uses within the above-mentioned buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.

3. NOISE IMPACT ASSESSMENT

3.1 Introduction

3.1.1 This noise impact assessment is prepared to address potential noise impact on the Proposed Development and to recommend mitigation measures where practicable to attenuate the impact.

3.2 Construction phase – Noise impact

Introduction

3.2.1 During the construction phase of the Proposed Development, major noise impacts would arise from piling works, operation of Powered Mechanical Equipment (PME), and construction-related traffic.

Construction Noise Criteria

3.2.2 Construction noise is controlled under the Noise Control Ordinance (NCO) which prohibits the use of powered mechanical equipment (PME) during the restricted hours (7 p.m. to 7 a.m. on normal weekdays and any time on a public holiday, including Sunday) without a valid Construction Noise Permit (CNP) from the Authority. The criteria and procedures for issuing such a permit are specified in the "Technical Memorandum on Noise from Construction Works Other than Percussive Piling" (TM1). While there is no planned construction works to be carried out during the restricted hours, TM1 should be followed in case there is any need to carry out works in such time period in future.

3.2.3 With effect from 1 November 1996, the use of specified powered mechanical equipment (SPME) for carrying out construction work other than percussive piling and/ or the carrying out of prescribed construction work (PCW) within a designated area are also brought under control. The relevant technical details are provided in the "Technical Memorandum on Noise from Construction Work in Designated Areas" (TM2).

3.2.4 Percussive pilling is controlled similarly by a construction noise permit system and described in the NCO and the "Technical Memorandum on Noise from Percussive Piling" (TM3) which restrict the number of hours during which piling can be conducted. Percussive piling is prohibited between 7 p.m. and 7 a.m. and on holidays (including Sundays). Percussive piling during the daytime (i.e. between 7 a.m. and 7 p.m. on any day not being a holiday) may be carried out in accordance with the permitted hours and other conditions under a valid construction noise permit.

3.2.5 For construction works other than percussive piling, although TM1 does not provide control over daytime construction activities, noise limits as shown in below are set out in the "Practice Note for Professional Persons Environmental Consultative Committee" (ProPECC) PN 1/24.

Table 3.1 Noise Limit for Daytime Construction Activities

NSR	0700 to 1900 Hours on Any Day Not Being a Sunday or General Holiday, Leq (30min), dB(A)
Dwelling	75
School	70 65 (During Examination)

Notes:

(i) The above standards apply to uses which rely on opened windows for ventilation.

(ii) The above standards shall be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

Recommended Mitigation Measures for Construction Noise

3.2.6 Noise mitigation measures should be introduced in the Proposed Development to alleviate potential noise impacts on nearby NSRs if any. The Contractor(s) will be required under the contract to ensure regular maintenance of all plant and equipment, and that noise generation at source would be minimized and practicable noise mitigation measures would be in use. The Contractor(s) will be required to adopt quiet type construction plants (e.g. EPD's quality powered mechanical equipment (QPME) inventory), wherever practicable. Similarly, quieter method other than percussive piling will be adopted as far as practicable for any piling works subject to ground investigation result (which usually dictates the piling method). Movable noise barriers will also be erected around noisy plants in order to minimize noise generation at source. With these measures in place noise generation due to construction activities would be minimized.

3.2.7 The following general noise mitigation measures could be considered:

- Application of properly designed silencers, mufflers, acoustically dampened panels and acoustic sheds or shields, etc.;
- Use of electric-powered equipment where applicable instead of diesel-powered or pneumatic-powered equipment;
- Erecting noise enclosures/ movable noise barriers around noisy plants;
- Only well-maintained plants should be operated on-site;
- Plants should be serviced regularly during the construction programme;
- Noisy activities can be scheduled to minimize exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background noise;
- Noisy equipment such as emergency generators shall always be sited as far away as possible from noise sensitive receivers;
- Location of noise emitting plants at maximum possible distances from sensitive receivers;
- Contractual clauses for construction works; and
- Schedule of noisy operations during non-restricted hours where possible.

3.2.8 The above-mentioned noise mitigation measures will be included in the contractual clauses for implementation by the contractor(s) during the construction stage. With these measures in place, construction noise due to the Proposed Development can be minimized, and no significant noise impact is anticipated.

3.2.9 Requirements in relevant pollution control ordinances/regulations and the guideline document "Recommended Pollution Control Clause for Construction Contracts" also are relevant for construction noise control.

3.3 Operational Noise Impact Review

3.3.1 Since the proposed hotel would be equipped with central ventilation system and will not rely on openable window for ventilation, the future occupants would not be subject to any potential noise impact.

3.4 Potential Fixed Noise Sources within Proposed Development

3.4.1 In order to ensure that the fixed sources noise generated by the Proposed Hotel would not cause excessive impact to the neighbouring noise sensitive uses, the ventilation and air conditioning systems for the central ventilation system, carpark, and plant room etc. will be carefully designed and installed to comply with relevant fixed source noise standards under Chapter 9 of HKPSG. Necessary protective measures, such as silencer, noise enclosure, etc, would be provided when necessary, during the detailed design stage.

Statutory requirements – Noise Control Ordinance

3.4.2 Fixed noise sources impacting on existing uses are regulated under the *Noise Control Ordinance* ("NCO"), which requires that impacts shall comply with the Acceptable Noise Levels ("ANL") laid down in Table 2 of the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites* ("IND-TM").

3.4.3 In setting the ANL, reference has been made to the *Area Sensitive Rating* ("ASR") in Table 1 of *IND-TM* (as reproduced in **Table 3.2**) corresponding to the nature of area where noise sensitive receivers ("NSR") are located.

Table 3.2 Area Sensitivity Ratings (ASRs)

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

3.4.4 Hong Kong Bible Research and Education Centre, The Riverpark, Sha Tin Tau Village, Tsang Tai Uk New Village, Jat Min Cheun, New Town Plaza Phase III and Garden Villa A are considered as Noise Sensitive Receivers (NSRs) in this assessment. As observed during site inspections, dominant noise climate of the Site as well as the NSRs are traffic noise at nearby road network. Summary of NSRs and their Area Sensitivity Rating (ASR) are provided in **Table 3.3** below as well as **Figure 6**.

3.4.5 An ASR of "B" and "C" are considered representative of NSRs in the vicinity of the Project as shaded in **Table 3.3**. N1, N2, N3, N4 and N7 are indirectly affected by Tai Chung Kiu Road While N5 is directly affected by Tai Chung Kiu Road– an Influencing Factors ("IF") with an Annual Average Daily Traffic ("AADT") of 30,280 which exceeds 30,000. The corresponding ANLs are given in **Table 3.4**.

Table 3.3 Summary of Noise Sensitive Receivers (NSRs)

NSR ID	Description	Type of Area	Influencing Factor	ASR
N1	Proposed Residential Development (Application No. Y/ST/63)	(iv) Others	Indirectly Affected	B
N2	The Riverpark (incl. Zenith Kindergarten)	(iv) Others	Indirectly Affected	B

NSR ID	Description	Type of Area	Influencing Factor	ASR
N3	Sha Tin Tau Village	(ii)Low-rise residential area	Indirectly Affected	B
N4	Tsang Tai Uk New Village	(ii)Low-rise residential area	Indirectly Affected	B
N5	Jat Min Cheun	(iv) Others	Directly Affected	C
N6	New Town Plaza Phase III	(iv) Others	Not Affected	B
N7	Garden Villa A	(ii)Low-rise residential area	Indirectly Affected	B

Table 3.4 Acceptable Noise Levels (ANLs), dB(A)

Area Sensitivity Ratings in relevant Time Periods	ANLs		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

Non-statutory Requirements for Planning Purposes

3.4.6 According to Table 4.1 of the *Hong Kong Planning Standards & Guidelines* ("HKPSG"), noise impact due to planned fixed noise sources shall meet the following criteria:

- 5 dB(A) below the appropriate ANL given in Table 2 of the *Technical Memorandum for the Assessment of Noise from Places Other than Domestic Premises, Public Places or Construction Sites* ("IND-TM"); or
- The prevailing background noise levels (lower than the ANL by more than 5dB(A))

Establishment of Noise Assessment Criteria

3.4.7 The fixed noise source criteria are determined with respect to ASR and prevailing background noise level of NSR in accordance with the HKPSG. Prevailing background noise survey has been carried out on 6 March 2026 at Noise Measurement Positions (NMP) as shown in **Figure 6**. Since N1 and N7 are the closest NSRs to the Application Site and N5 is also close and has a direct line of sight, prevailing background measurement are only taken for N1, N7 and N5. 30-minutes measurement was carried out at the NMPs and recorded sound pressure level in terms of LAF90 is adopted for determination of prevailing background noise level. The settings for prevailing background assessment are illustrated in **Appendix 4.2**. The assessment criteria are as determined and presented in **Table 3.5** below.

Table 3.5 Assessment Criteria for Fixed Noise Impact Assessment

Identified NSRs		ASR	Background Noise Level, $L_{90,30min}$ in dB(A)		ANL-5, $L_{eq,30min}$ in dB(A)	Assessment Criteria, $L_{eq,30min}$ in dB(A)	Maximum Permissible Sound Power Level of the Proposed Development in dB(A)
			Measured Noise Level [1]	Background Noise Corrected Background Noise Level dB(A)			
Nighttime							
N1	Proposed Residential Development (Application No. Y/ST/63)	B	48.2	51.2	50	50	81
N5	Jat Min Cheun	C	52.9	55.9	55	55	94
N7	Garden Villa A	B	48.2	51.2	50	50	87
Daytime							
N1	Proposed Residential Development (Application No. Y/ST/63)	B	NA		60	60	91
N5	Jat Min Cheun	C	NA		65	65	104
N7	Garden Villa A	B	NA		60	60	97

Notes;

[1] Background noise level measured under free-field condition

Assessment Methodology

3.4.8 Noise impact from the potential noise sources were determined based on standard acoustic principle and practice.

$SWL = NC + C_{dist} - C_{fac} - C_{tonality} - C_{im/inter} + C_{barr}$

Where

- SWL is the maximum permissible sound power level in dB(A)
- NC is ANL-5, $L_{eq,30min}$ in dB(A) or the prevailing background noise levels, which is lower
- C_{dist} is the distance correction in dB(A) Distance Attenuation Correction, dB(A) = -20log(Dist) - 8, where Dist = shortest distance measured from noise source to NSR
- C_{fac} is façade correction, +3dB(A)
- $C_{tonality}$ is tonality as the worst-case scenario in IND-TM, +6dB(A)
- $C_{im/inter}$ is correction for impulsive and intermittency in IND-TM, not applicable for the cooling towers and other source as there is no such operation mode in these noise sources, i.e. 0dB(A)

- C_{barr} is correction the barrier correction in dB(A), 10 dB(A) when the line of sight is blocked

Assessment Results

3.4.9 Based on the Section 3.4 above, the total maximum permissible sound power level (SWL) for the outdoor equipment is 81 dB(A) for night-time period and 91 dB(A) for day and evening time period. Detailed calculation is presented in **Appendix 4.1**.

3.4.10 Notwithstanding the above deliberations, the Area Sensitivity Rating assumed in this report is only indicative and is intended for assessment only. Fixed noise sources are controlled under Section 13 of the NCO. At the time of investigation, the Noise Control Authority shall determine noise impact from concerned noise sources based on prevailing legislation and practices in force and taking into account of contemporary conditions/ situations of adjoining land uses.

3.4.11 The following good practices for fixed plant noise control are recommended:

- Locate fixed plant/louver away from any NSRs as far as practicable,
- Locate fixed plant in walled plant rooms or in specially designed enclosures,
- Develop and implement a regularly scheduled plant maintenance program to maintain a controlled level of noise.

3.4.12 Mitigation measures, such as acoustic silencers, noise enclosures, etc, would be provided when necessary, during the detailed design stage.

4. WATER QUALITY IMPACT

4.1 Introduction

4.1.1 This section presents the management and mitigation strategy of the wastewater generated from the construction work for the Proposed Development. Potential impacts have been identified and their significance on the Water Sensitive Receivers (WSRs) has been evaluated. The location of these WSRs can be referred to **Figure 5**. Where appropriate, environmental control measures for avoiding and minimising the potential impacts are recommended. Any effluent discharged during construction and operation phases shall comply with WPCO requirements. Details of the WSR are summarised in **Table 4.1**.

Table 4.1 Details of the WSR

WSR ID	Description	Type	Status	Estimated Distance (m)
1	Shing Mun River	Channelised watercourse	Active	~10m
2	Sha Tin Park	Pond	Active	~135m
3	Sha Tin Park	Pond	Active	~217m
4	Sha Tin Park	Pond	Active	~406m
5	Nullah near Sha Tin Tau Village	Modified watercourse	Active	~152m

4.1.2 According to Marine Water Quality in Hong Kong in 2024 and River Water Quality in Hong Kong in 2024 prepared by EPD, the water quality data for the Tolo Harbour and Channel WCZ in 2024 is extracted in **Appendix 2**.

4.2 Legislation

4.2.1 Construction activities may induce potential water quality impact due to the discharge of the effluent generated from the construction site. Effluent discharges from construction site are subject to control under the Water Pollution Control Ordinance and the Technical Memorandum Standards for Effluents Discharged in Drainage and Sewerage Systems, Inland and Coastal Water issued by EPD. Information in the ProPECC PN 2/24 Construction Site Drainage, ProPECC PN 1/23 and ETWB TC(W) No. 5/2005 will also be considered to provide some basic environmental guidelines for handling and disposal of construction site discharges.

4.3 Construction Site Wastewater Impacts

4.3.1 Site construction activities will inevitably have the potential to generate wastewater. Such works should be carried out in such a manner to minimise potential impacts on the water quality. Pollution sources could include:

- Construction runoff and drainage;
- Sewage effluent from the site; and

- Liquid spillage, e.g. oil, diesel and solvents etc.

4.3.2 Construction runoff contains increased loads of sediments, other suspended solids and contaminants. Potential sources of pollution include runoff and erosion from the site surfaces, drainage channels; bentonite slurries and other grouting materials, concrete washout and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.3.3 Sufficient silt removal facilities should be installed to settle out sediment prior to discharge. Such facilities shall be properly designed in accordance with guidelines from the Civil Engineering and Development Department (CEDD) to achieve the desired mitigating effect. Typically, a detention time not less than 5 minutes for maximum design flow of inlet should achieve adequate sediment removal. Channels or earth berm or sandbag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Sediment traps, channels and manholes should be maintained, and the deposited silt and grit should be removed on regular basis.

4.3.4 To prevent spillage of fuel oils or other polluting fluids at sources, it is recommended that all the stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by berms.

4.3.5 "Recommended Pollution Control Clauses for Construction Contracts" (RPCC) also recommends appropriate wastewater control measures to be implemented at the construction site by the contractor. The RPCC is available on EPD website.

4.3.6 The discharge from the Application Site would likely go into Tolo Harbour & Channel, hence the quality of the discharge wastewater should meet the standards specified in the Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. The above proposed mitigation measures and control measures should be implemented, and an environmental monitoring and audit should be carried out to ensure the effectiveness of the proposed mitigation measures and subsequently ensure the water quality of the nearby water sensitive receivers (WSR) would not be adversely affected by the construction of the project.

4.4 Water Impact during Construction Phase

Construction Site Runoff

Construction of Residential Portion

4.4.1 Site formation stage during construction will involve fill/ excavation materials and may result in significant water quality impact if it is not controlled. Excavation and filling may also be required during the foundation; utilities and road works. If not properly controlled, the stormwater runoff carrying sediment laden may bring along other pollutants so as to pollute the nearby water bodies depending upon the topography. Superstructure works are typical of many buildings' construction works, which would generate insignificant degree of wastewater impact.

4.4.2 Particulates as well as effluent, fuels and lubricants from machinery, liquid spillage and the like may be generated on-site during the construction phase. Pollutants can flow into nearby water bodies as non-point source discharge which has to be properly controlled.

4.4.3 Appropriate site drainage comprising precast concrete u-channels, sedimentation basins, sand traps and similar facilities together with those good site practices stipulated in ProPECC Note PN 2/24 will be adopted in order to avoid any uncontrolled discharge and potential impacts on the nearby WSRs.

4.4.4 With regard to the above, sedimentation basin and sand trap designed in accordance with the requirements of ProPECC Note PN 2/24 should be installed at the construction site for collecting surface runoff. In addition, the discharge from construction site will also need to comply with the terms and conditions of the discharge licence under the WPCO. With the adoption of the above-mentioned devices and good practices, large particle size settleable solids and pollutants bound or adsorbed onto the particles, can be removed effectively and no significant water quality impact will be anticipated.

Alternation of Water Systems Arising from the Project

4.4.5 There will be no alternation of any natural watercourse required for implementation of the Project.

4.4.6 Appropriate drainage system will be constructed within the Project Site to collect surface runoff instead. Thus, no significant water quality impact is expected.

4.5 Recommended Mitigation Measures During Construction Phase

4.5.1 Control of potential water quality impact arising from the construction works shall be achieved based on the following principles:

- Minimisation of runoff;
- Prevention or minimisation of the likelihood of the identified pollutants being in contact with rain or runoff; and
- Measures to abate pollutants in the stormwater runoff.

4.5.2 The Contractor shall apply for a discharge licence under the WPCO and the discharge shall comply with the terms and conditions of the licence.

4.5.3 Contractor(s) of this Project will be required to submit a Construction Phase Drainage Management Plan with details of the design of the temporary site drainage system for the approval of the Engineers Representative (RE) and the Environmental Team in order to ensure that the above mitigation measures are in place.

4.5.4 Regular inspection (weekly) of the site drainage system and the implementation of the Plan shall be carried out by the Contractor(s), RE, and ET in order to ensure no off-site spillage of runoff and that the mitigation measures are effectively implemented. Any deficiencies identified shall be rectified by the Contractor(s).

4.6 General Requirements

Best Management Practices (BMPs)

4.6.1 The BMPs given in the ProPECC PN 2/24 shall be implemented in controlling water pollution during the whole construction phase. The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be implemented by the contractor during the construction phase, where practicable:

- High loading of suspended solids (SS) in construction site runoff will be prevented through proper site management by the contractor;
- The boundary of critical work areas will be surrounded by ditches or embankment. Accidental release of soil or refuse into the adjoining lands should be prevented by the provision of site hoarding or earth bunds, etc. at the site boundary. These facilities should be constructed in advance of the site formation works and roadworks;
- Consideration will be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimize uncontrolled non-point discharge of construction runoff;

- Temporary ditches, earth bunds should be provided to facilitate controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps and sedimentation basins. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;
- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 2/23 should be installed at the construction site for collecting surface runoff;
- Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly;
- Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering the temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;
- Haul roads should be protected by crushed rock, gravel or other granular materials (i.e. hard paved) to minimize discharge of contaminated runoff;
- Slow down water run-off flowing across exposed soil surfaces;
- Plant workshop/ maintenance areas should be bonded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;
- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system;
- Construction works should be programmed to minimize soil excavation works where practicable during the rainy days;
- Chemical stores will be contained (bonded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface;
- Chemical waste arising from the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation;
- Drainage facilities must be adequate for the controlled release of storm flows.
- Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. attached to the vehicle wheels or body can be washed off before the vehicle leaves the work site;
- Section of the road between the wheel washing bay and the public road will be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.
- Bentonite slurries, if any to be generated, shall be reconditioned and reused as far as practicable. Spent bentonite should be kept in a separate slurry collection system for disposal at a marine spoil ground subject to obtaining a marine dumping licence from EPD. If used bentonite slurry is to be disposed of through public drainage system, it should be treated to meet the respective applicable effluent standards for discharges into sewers, storm drains or the receiving waters.

Sewage from Workforce

4.6.2 Water pollution due to temporary site facilities e.g. toilets could be source of pollution if appropriate measures are not implemented properly in respect of storage and discharge. Sewage generated from the construction workforce should be contained in chemical toilets and be tanked away. Chemical toilets should be provided at a minimum rate of about 1 per 10 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals.

4.6.3 Since portable chemical toilets will be provided, no significant water quality impact is anticipated. Licensed contractor shall be employed to regularly collect and dispose the sewage from chemical toilets on-site.

Oils and Solvents

4.6.4 Spillage of fuel oils or other polluting fluids will be prevented at source. All stocks will be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

4.7 Site Specific Measures

4.7.1 In addition to the above and during construction of residential portion, temporary drains, peripheral site drainage comprising precast concrete u-channels, sedimentation basins, sand traps and similar facilities in accordance with the requirements of ProPECC Note PN 2/24 will be provided within the residential portion and along the edge of its boundary as per good practices in order to divert surface runoff away from nearby sensitive receivers.

4.8 Water Quality during Operational Stage

4.8.1 As the sewage generated from the Proposed Development will be discharged to the public sewer, there is a public sewer manhole (FMH4039860) on the existing vehicle access to the east of the Site, and the sewerage facilities will be commissioned before occupation, no adverse water quality impact is anticipated.

4.9 Potential Operation Phase Water Quality Impacts

4.9.1 According to the major operation phase activities in the Proposed Development, the key potential water quality impact is due to the surface runoff and treated effluent discharge from the Proposed Development.

4.9.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

4.9.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage outlets provided in open areas and areas subjected to a substantial amount of wind-blown rain, including open carparks, balconies, podiums, yards, roofs, etc., should be connected to storm water drains.
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed.
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

4.10 Surface Runoff Discharge/ Stormwater Discharge

4.10.1 During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may be the cause potential water quality impact. Fallen leaves, particles, litter from open areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. Pollutants, contributed by non-point source are often bound or adsorbed onto particles, thus an effective stormwater management system will be required for the removal of pollution sources prior to rainstorm, and the provision of degritting/screening facilities will be required for sediment collection. As the particles settle out, the associated pollutants will also settle out and removed from stormwater.

4.10.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

5. WASTE MANAGEMENT

5.1 Introduction

5.1.1 This section examines the type, quantity and the timing of potential sources of waste that will arise during the construction stage as well as address the waste impact during operation phase. It identifies potential environmental impacts associated with their handling and disposal. Options for avoidance, minimization, reuse, recycling, treatment, storage, collection, transport and disposal of such wastes are examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimizing the potential impacts are recommended.

5.2 Legislation

5.2.1 References have been made to the following relevant Hong Kong legislation governing waste management and disposal. Directly relevant legislations include:

- The Waste Disposal Ordinance (Cap. 354) and subsidiary legislations, such as the Waste Disposal (Chemical Waste) (General) Regulation, set out requirements for the storage, handling and transportation of all types of wastes;
- Land (Miscellaneous Provisions) Ordinance (Cap 28);
- Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisance Regulation – control of disposal of general refuse;
- DEVB TCW No. 9/2011, Enhanced Control Measures for Management of Public Fill;
- Monitoring of Solid Waste in Hong Kong 2021;
- Practice Note for Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (PNAP ADV – 19) issued by the Buildings Department;
- Code of Practices and Guidelines for Asbestos Control and Handling; and
- ProPECC PN2/97 Handling of Asbestos Containing Materials in Building

5.2.2 Other relevant documents and guidelines that are applicable to waste management and disposal include:

- Development Bureau Technical Circular (Works) No. 8/2010 - Enhanced Specification for Site Cleanliness and Tidiness;
- ETWB TCW No. 22/2003A - Additional Measures to Improve Site Cleanliness and Control Mosquito Breeding on Construction Sites;
- Development Bureau Technical Circular (Works) No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Materials;
- WBTC No. 19/2001 - Metallic Site Hoardings and Signboards;
- Works Bureau Technical Circular No. 12/2000 - Fill Management;
- Works Branch Technical Circular No. 2/93 - Public Dumps;
- Works Branch Technical Circular No. 2/93B - Public Filling Facilities; and
- Project Administration Handbook for Civil Engineering Works.

5.3 Identification and Evaluation of Potential Impact

Construction Phase

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

- Construction and Demolition (C&D) materials;
- General refuse; and
- Chemical waste

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

- Site formation works;
- Building construction and superstructure works

5.3.3 The nature of each type of waste arising is described in the following section, together with an evaluation of the potential environmental impacts associated with these waste arisings.

C&D Materials

5.3.4 C&D materials comprise mainly of unwanted materials, including surplus materials arising from excavations that are generated from the works (e.g. site clearance, site formation works). There is no basement in the proposed development. Inert soft C&D materials comprise of soil, sand, clay, slurry, etc., while hard C&D materials comprise of crushed concrete, asphalt, rock, etc. The amount of non-inert C&D materials generated during site clearance would be minor (as there is little vegetation at the Application Site). C&D materials may comprise different types of materials, including:

- Inert C&D materials (also known as public fill, including soil, rock debris, rubble earth, concrete, etc.) do not decompose and are suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be delivered to Public Fill Reception Facilities.
- Non-inert C&D materials (also known as C&D waste, including bamboo, timber, paper, metal, glass, plastic, packaging wastes, etc.). Non-inert C&D materials should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.3.5 The general waste management strategy is to avoid waste generation in the first place. Should it be unavoidable, reduction and segregation at-source should be exercised as far as practicable, and recycling and reuse should be adopted at the same time to salvage all the recyclable and reusable materials as much as possible.

5.3.6 Inert C&D materials should be re-used on-site (e.g. for backfilling) if it is practical or delivered to CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled should be sent to designated landfill sites as last resort.

5.3.7 The contractors should be responsible for ensuring that waste is collected by approved waste collectors and appropriate measures are taken to minimize adverse impacts to the surrounding environment, such as dust generation. The contractors must also ensure that all necessary waste disposal permits are obtained.

5.3.8 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals be separated for re-use and/or recycling and inert C&D materials

utilized as fill materials to minimize the quantity of waste to be disposed of to the landfill.

General Refuse

5.3.9 The amount of general site wastes to be generated will depend on the contractor's operating procedure and practices. The estimated quantity of general refuse generated would be about 52 kg/day, which is based on the 0.65 kg/person/day of generation rate with 80 workers per day. In addition, during the construction phase, the workforce would generate general refuse, comprising food scraps, paper, empty containers etc. Rapid and effective collection of site wastes will be required to prevent waste materials being blown around by wind, flushed or leached into the environment and odour nuisance.

5.3.10 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be collected separately for recycling, in order to reduce the amount of general refuse to be disposed into the landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags and stored in enclosed containers, the disposed of on a daily basis to the designated landfill. With the implementation of the recommended waste management practices at the site, adverse environmental impacts would not arise from the storage, handling and transportation of refuse.

5.3.11 Food waste is the main source of generating unpleasant odour and causing environmental hygiene concerns. In order to reduce the amount of general refuse to be disposed into the landfill, the food waste would be collected separately for recycling and the recycling bins should be placed in prominent places to promote waste separation at-source.

Chemical Waste

5.3.12 Apart from above, construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Facility Centre (CWTC) in Tsing Yi.

5.3.13 The amount of chemical waste would be depended on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilised at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be less than hundred litres per month. The quantity of chemical waste to be generated would be quantified in the Waste Management Plan as part of the Environmental Management Plan to be prepared by the contractor.

5.3.14 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.3.15 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for

Construction Contracts" available in EPD website mentioned the handling, storage, transportation and disposal of chemical wastes. With good management and site practices, adverse environmental impacts should not result.

5.3.16 Preliminary quantity estimation of construction waste involved, and disposal method is summarised in the **Table 6.1** below.

Table 5.1 Summary of Estimated Construction Waste and Disposal Method

Waste Material Type		Estimated Quantity Generated[(a)]	Disposal Method
Inert C&D materials (Soil, rock debris, rubble earth, concrete etc.)	Site Formation	4,140 m^3	~0.5% (i.e.30m^3) would be reused or recycled on site or in other projects; and the remaining (i.e., 99.5%, ~5,820m^3) would be delivered to Public Fill Reception Facilities for another beneficial reuse. [(b)]
	Construction of New Buildings/Structures	1,710 m^3	
Non-inert C&D materials (Bamboo, timber, paper, metal, glass, plastic, packaging wastes etc.)	Site Formation	460 m^3	Disposed to landfill. [(c)]
	Construction of New Buildings/Structures	190 m^3	
Chemical Waste	-	Less than hundred litres /month (preliminary estimate)	To be collected by licensed chemical waste collector and delivered to CWTC
General Refuse	-	52kg/day (Preliminary estimate, assuming there are 80 workers at any one time with generation rate of 0.65kg per worker per day)	Recyclables to recyclers; non-recyclables to landfill

Note:

(a) The above estimated quantities are subject to detailed design.

(b) Assuming the density of inert C&D materials is 1.8 tones/m^3. With total ~10,530 tonnes inert C&D material, the number of dump truck is anticipated to be around 3 trucks/day (assuming each truck can carry 15 tones and there is around 270 working day per year)

(c) Assuming the density of non-inert C&D materials is 1.0 tones/m^3. With total ~650 tonnes non-inert C&D material, the number of dump truck is anticipated to be around 1 trucks/day (assuming each truck can carry 15 tones and there is around 270 working day per year)

Operation Phase

General Refuse

5.3.17 General refuse will be generated by users/visitors and staff during the operation of the Project. General refuse refers to municipal solid waste from households, commercial and industrial sources. Based on the projected disposal rate of domestic waste predicted in the Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2023, the domestic waste disposed per capita per day was reported to be 0.89 kg/person/day. The Proposed Development consists of about 443 visitors and 183 staffs, i.e. 626 persons. By applying this figure to the projected population from the site after full occupation, approximately 557 kg/day of domestic waste would be disposed of during the operation phase from the Proposed Development.

5.3.18 Such waste will be properly managed by suitable waste collectors so that intentional or accidental release to the surrounding environment will not occur. Effective collection of domestic wastes will be implemented to prevent waste materials from creating odour nuisance or pest/vermin problem. Waste storage areas will be well maintained and cleaned regularly to avoid adverse impact to the surroundings. Collected general refuse will be transferred by the licensed waste collectors to the Sha Tin Transfer Station (STTS) for compaction and onward delivery to the North East New Territories (NENT) Landfill for final disposal as appropriate. To reduce waste and facilitate the recycling, sufficient properly labelled recycling bins for food waste, paper, plastic and aluminium should be provided at appropriate locations of the site to collect recyclables for off-site recycling. Regular (e.g. daily) waste removal and recyclables collecting should be arranged to avoid odour nuisance or pest/vermin problem. These waste management practices and good site practises should be properly implemented to ensure adverse environmental impacts from handling and disposal of general refuse would not arise.

Chemical Waste

5.3.19 It is anticipated for the proposed hotel development, chemical waste may be generated from cleaning agents, air conditioning and refrigeration systems, pest control and laundry services, etc. Nevertheless, the amount of chemical waste generated will be quantified in the Waste Management Plan, as part of the Environmental Management Plan (EMP) to be prepared by the Contractor. Similar to the construction phase, as described in Section 5.4.13, occupants which would regularly produce chemical waste, if any, shall register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The operator shall use a licensed chemical collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

5.4 Waste Management Measures

Construction Phase

Good Site Practices

5.4.1 Appropriate waste handling, transportation and disposal methods for all waste arising generated during the construction works should be implemented to ensure that construction wastes do not enter the nearby water bodies.

5.4.2 It is expected that adverse impacts from waste management would not arise, provided that good site practices are strictly followed. Recommendations for good site practices during construction include:

- nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility;
- training of site personnel in proper waste management and chemical waste handling procedures;
- provision of sufficient waste disposal points and regular collection for disposal;
- appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;
- an Environmental Management Plan (EMP) which includes a Waste Management Plan (WMP) should be prepared by the Contractor in accordance with PNAP 243 ACV-19 – Construction and Demolition Waste and should be submitted to the Engineer and/or Architect for approval before construction; and
- a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be updated on monthly basis and submitted to the Engineer for approval and record.

5.4.3 In order to monitor the disposal of C&D material at landfills and public fill reception facilities, as appropriate, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements to be implemented by the Contractor. One may make reference to DEVB TCW No. 6/2010 for details.

Waste Reduction Measures

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

- segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- separate labelled bins shall be provided to segregate recyclables including but not limited to aluminum cans, wastepaper, and plastic bottles from other general refuse generated by the work force, and to encourage collection for recycling by individual collectors;
- any unused chemicals or those with remaining functional capacity shall be recycled;
- maximizing the use of reusable steel formwork to reduce the amount of C&D material;
- prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimize the quantity of waste to be disposed of to landfill;
- proper storage and site practices to minimize the potential for damage or contamination of construction materials;
- plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; and
- minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering.

5.4.5 In addition to the above good site practices and waste reduction measures, specific mitigation measures are recommended for the identified waste to minimise environmental impacts during handling, transportation and disposal of these wastes.

General Refuse

5.4.6 General refuse should be stored in enclosed bins or compaction units separated from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of windblown light material. Adequate recycling containers are recommended to be provided at suitable locations of the Project to encourage recycling of waste such as aluminium cans, plastics and wastepaper.

Construction and Demolition Material

5.4.7 The C&D material generated from the site formation should be sorted on-site into inert C&D material (that is, public fill) and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material as far as practicable. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill.

5.4.8 A suitable area should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. Within stockpile areas, the following measures should be taken to control potential environmental impacts or nuisance:

- covering material during heavy rainfall;
- locating stockpiles to minimize potential air quality, water quality and visual impacts; and
- minimizing land intake of stockpile areas as far as possible.

5.4.9 When delivering C&D material to a public fill reception facility, it shall be noted that the material should only consist of soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt. The material should be free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor.

5.4.10 With the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would be minimal.

Chemical Wastes

5.4.11 If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*.

5.4.12 With these waste managements in place, waste generated from the construction works of the Proposed Development is anticipated to be properly controlled and adverse waste disposal impact is not anticipated.

5.4.13 The Waste Management Plan would be prepared and submitted to the Project Engineer/Architect for approval prior to construction works according to ADV-19.

Operation Phase

General Refuse

5.4.14 General refuse should be collected on a daily basis and delivered to the refuse collection point accordingly. A reputable waste collector should be employed to remove general refuse on a daily basis to avoid odour nuisance or pest/vermin problem. Adequate recycling containers are recommended to be provided at suitable locations of the Project to encourage recycling of waste such as aluminium cans, plastics and wastepaper.

Chemical Wastes

5.4.15 Similar to the construction phase, as described in **Section 5.4.11**, occupants which would regularly produce chemical waste, if any, shall register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The operator shall use a licensed collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*.

5.5 Conclusion

5.5.1 Waste generated during construction works and operation phase have been qualitatively evaluated. With the implementation of the waste management measures, the waste generated from the construction work and operation of the Proposed Development would be properly controlled and no adverse waste management impact is anticipated.

6. LAND CONTAMINATION

6.1 Scope of Work

6.1.1 The aim of this study is to assess the potential land contamination impact under the Proposed Development due to the previous land uses and/ or the existing operations.

6.2 Assessment Criteria

6.2.1 The following guidelines published by EPD have been followed:

- Guidance Manual for Use of Risk-based Remediation Goals (RBRGs) for Contaminated Land Management (Guidance Manual), EPD, Revised in April 2023;
- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note), EPD, Revised in April 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide), EPD, Revised in April 2023.

6.2.2 As the RBRGs and the Practice Guide are the latest guidelines promulgated for use in April 2023, the RBRGs criteria and the requirements stated in the Practice Guide will be adopted in this Land Contamination Review.

6.3 Review of Historical and Current Available Information

6.3.1 The Application Site is a natural terrain and currently zoned as "Open Space" under the Approved Sha Tin Outline Zoning Plan (OZP) No. S/ST/40.

6.3.2 Historical aerial photos of the Application Site have been reviewed to identify if any possible land contamination related activities or uses have been carried out. **Table 6.1** shows the description of each aerial photo. Besides, the original version of each aerial photo is presented in **Appendix 3.1**.

Table 6.1 Land use Summary of Proposed Development

Period/ Year	Description
1985	The whole Application Site was mainly a vacant land with a residential building Ng Yuen, located at the southern portion of the Site.
2005	The Site included Ng Yuen, Garden Villa B and some carparking areas.
2024	The Site included Ng Yuen, Garden Villa B, farmland and some temporary structures.

6.3.3 From the landuse summary and aerial photos, the Application Site has been mainly a vacant land with Ng Yuen at the southern portion since 1985. However, subsequent years show the introduction of additional uses. By 2005, Garden Villa B and carparking areas were present alongside Ng Yuen. By 2024, farmland and temporary structures were also observed within the Site. To confirm whether land contamination issues were involved, site inspections are further discussed in **Section 6.4**.

6.4 Site Inspections

6.4.1 Site inspection was carried out on 6th March 2026 to identify current land uses within the Application Site to verify the findings of the desktop appraisal.

6.4.2 The photo records are presented in **Appendix 3.** Temporary structures observed from the aerial photos were considered as potential land contamination activities. However, during the site inspection and advised by the project proponent, the temporary structures are used for site office and religious activities. In addition, other land uses

were observed, including farmland, recreational facilities such as playground and garden, and residential buildings such as Ng Yuen and Garden Villa B. It can be deduced that no chemicals are stored in the storing containers and hence land contamination potential is not anticipated for the temporary structures.

7. CONCLUSION

7.1.1 The key environmental issues associated with both operation and construction phase of the Proposed Development are qualitatively discussed in this report.

7.1.2 With sufficient buffer distance from the network of surrounding roads and no industrial activities identified in the vicinity (i.e. 200m) of the Application Site, the Proposed Development will not be subject to unacceptable air quality impacts.

7.1.3 As the Proposed Development will be equipped with a central ventilation system, the project would not rely on openable window for ventilation. The future occupants would not be subject to any significant noise impact.

7.1.4 In order to ensure that the fixed sources noise generated by the Proposed Development would not cause excessive impact to the neighbouring noise sensitive uses, the ventilation and air conditioning systems for the central ventilation system, carpark, and plant room etc. will be carefully designed and installed to comply with relevant fixed source noise standards under Chapter 9 of HKPSG.

7.1.5 During construction, the project proponent would control noise, dust and site run-off nuisances to within established standard and guidelines through the implementation of relevant mitigation measures. In addition, the "Recommended Pollution Control Clauses for Construction Contracts", should also be implemented where necessary.

7.1.6 Waste generated during construction works and operation phase have been qualitatively evaluated. With the implementation of the waste management measures, the waste generated from the construction work and operation of the Proposed Development would be properly controlled and no significant waste management impact is anticipated.

7.1.7 The Application Site has been a vacant land with residential building; Ng Yuen located at the southern portion of the Site since 1985. Subsequent years show the introduction of additional uses. By 2005, Garden Villa B and carparking areas were present alongside Ng Yuen. By 2024, farmland and temporary structures were also observed within the Site. Temporary structures were identified in aerial photos in Year 2024 and during the site visit. Based on site inspection and information provided by the project proponent, the temporary structures are used for site office and religious activities. Other land uses including farmland, recreational facilities such as playground and garden, and residential buildings such as Ng Yuen and Garden Villa B. Therefore, land contamination issue within the Application Site is not anticipated.

7.1.8 It confirms the feasibility of the subject S12A Rezoning Application for proposed hotel development is acceptable in environmental terms.

Figures

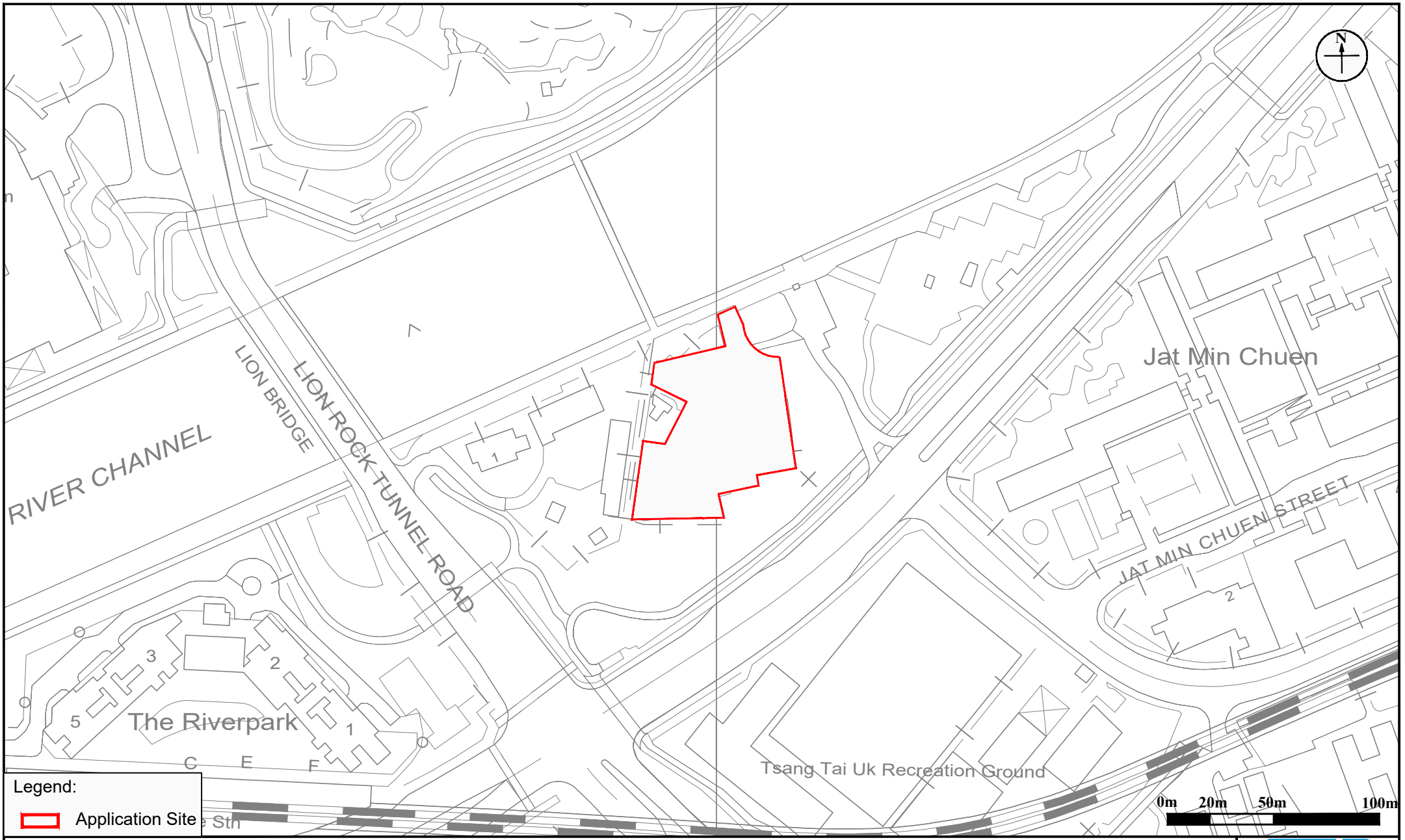


Figure: 1

Title: Location of the Application Site and its Environs

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan n Support of Proposed Hotel Development at iVarious Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

Drawn by: EC

Checked by: TC

Rev.: 1.0

Date: Aug-25

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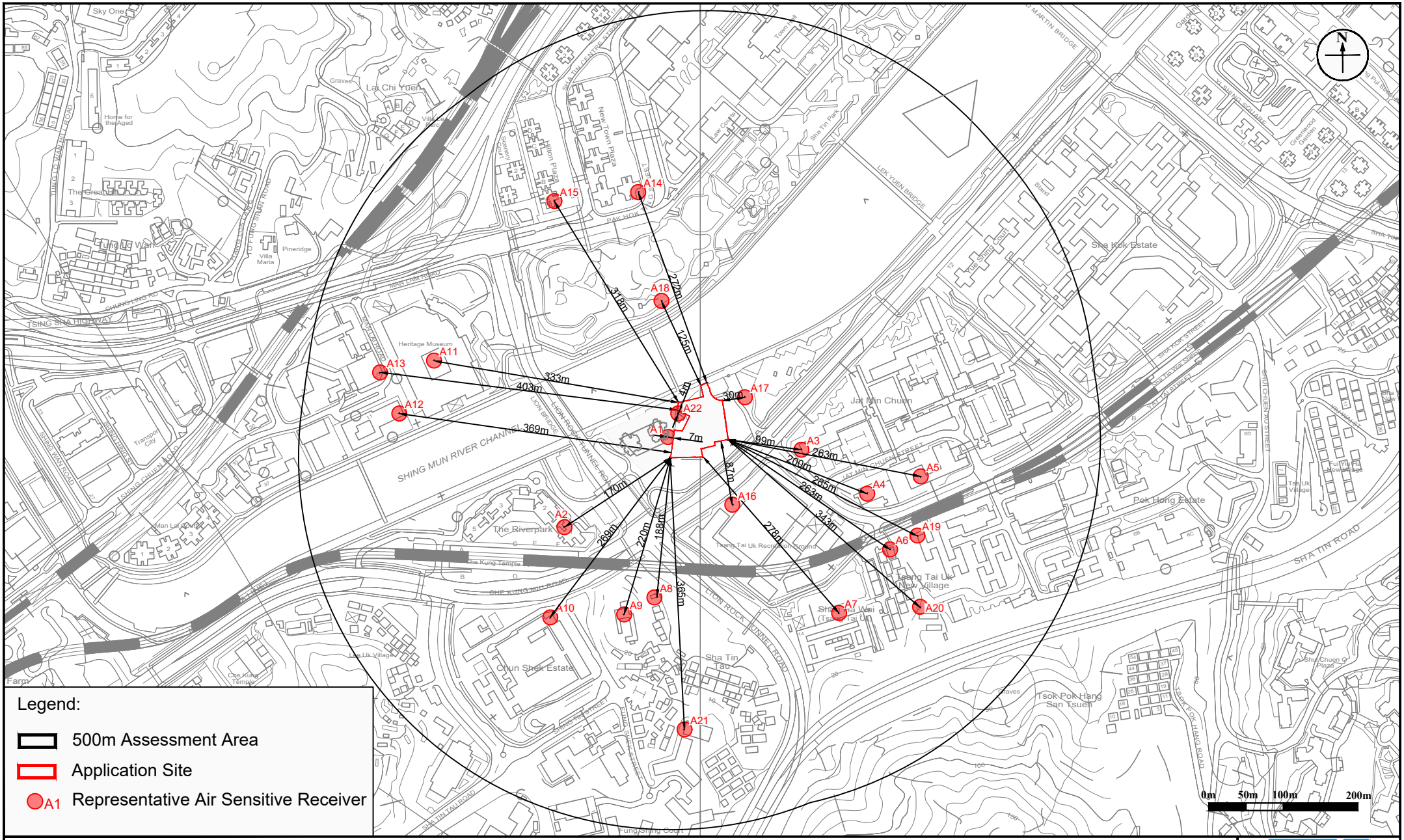


Figure: 2

Title: Location of Representative Air Sensitive Receivers

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan n Support of Proposed Hotel Development at iVarious Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

Drawn by:	EC
Checked by:	TC
Rev.:	2.0
Date:	Aug-26

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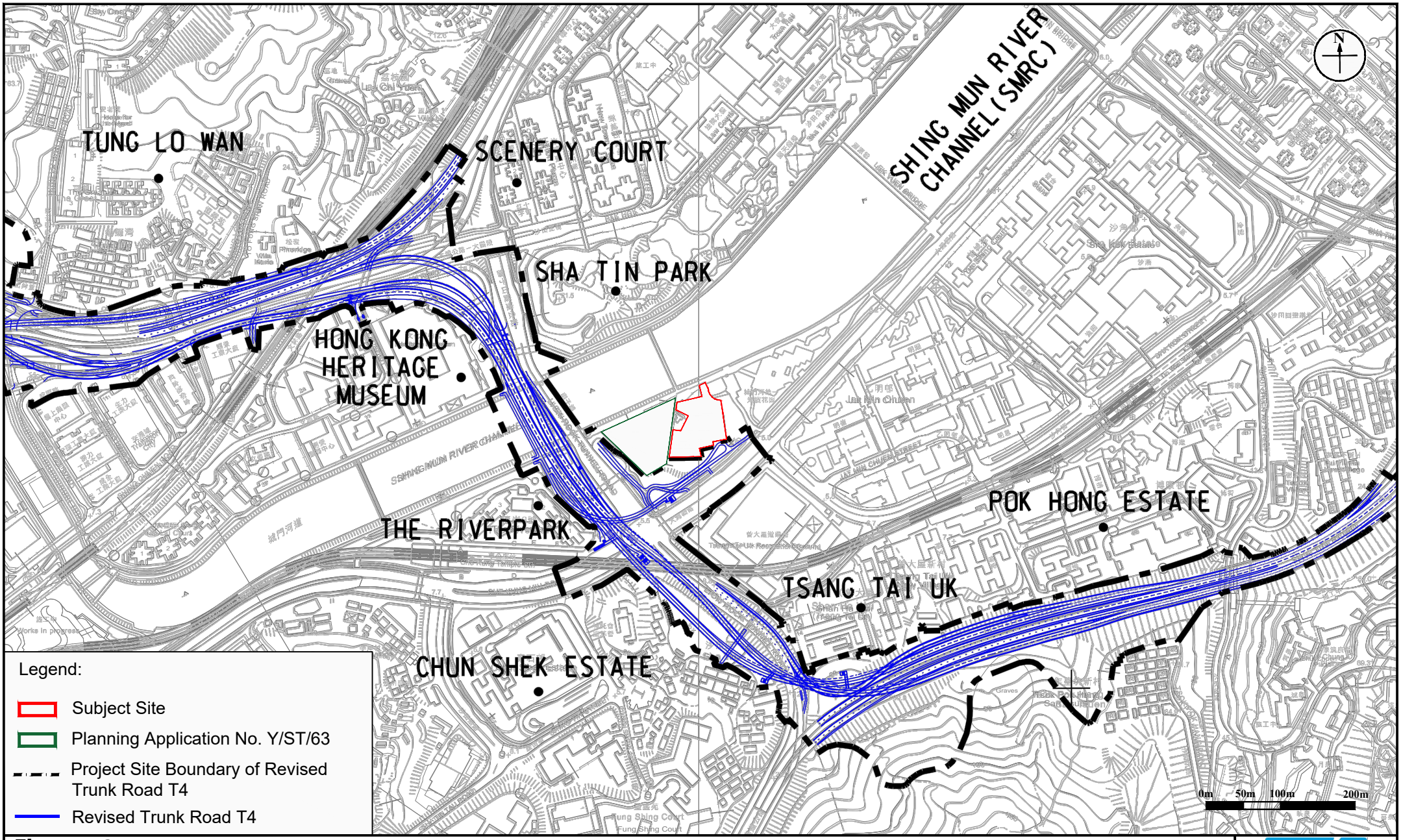


Figure: 3

Title: Location Plan of the Concurrent Project Related to the Study

RAMBOLL

Drawn by: EC

Checked by: TC

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

Rev.: 2.0

Date: Aug-26

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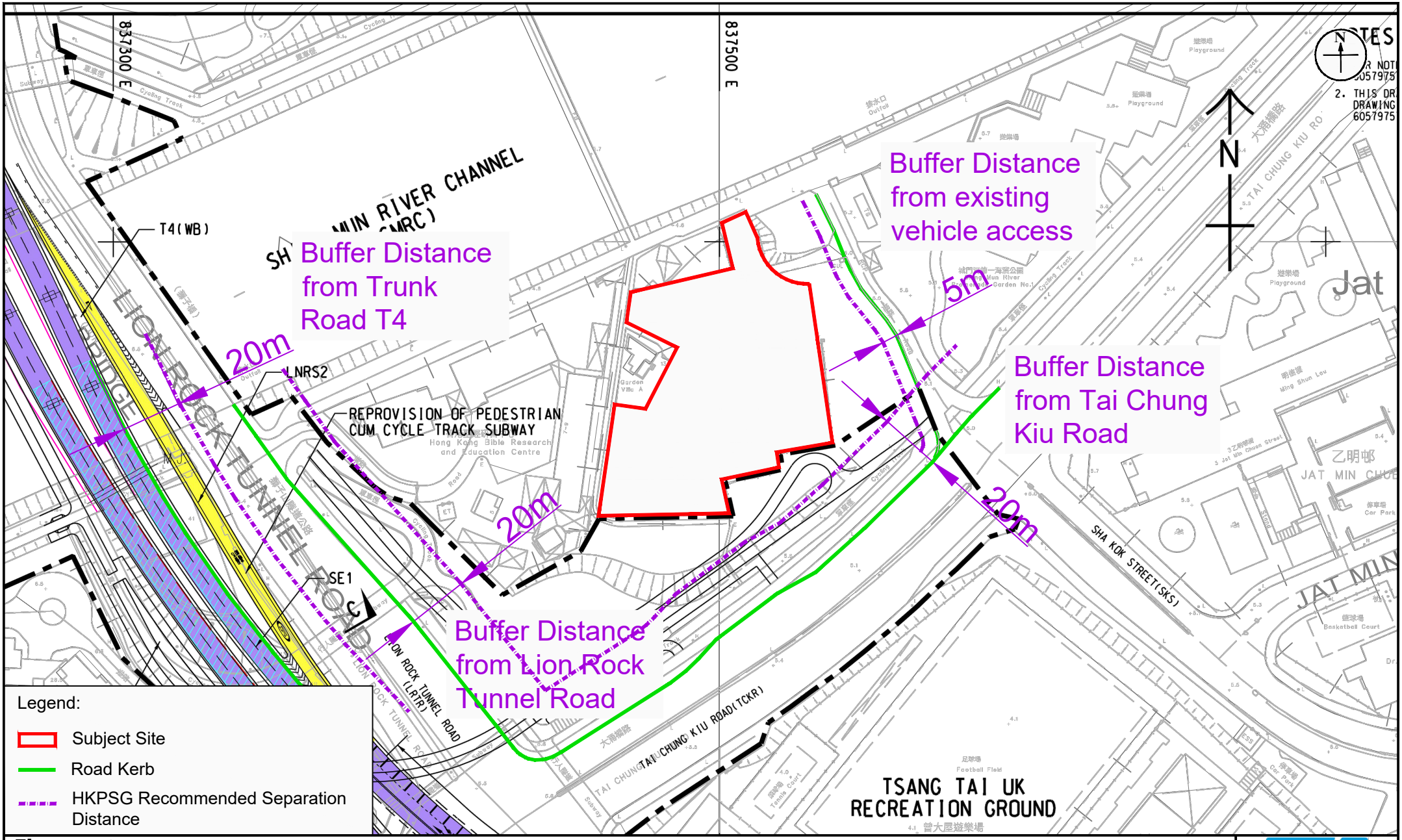


Figure: 4

Title: Buffer Distance between Proposed Development and the Kerb Side of Nearest Carriageways

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

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Rev.:	1.1
Date:	Oct-25

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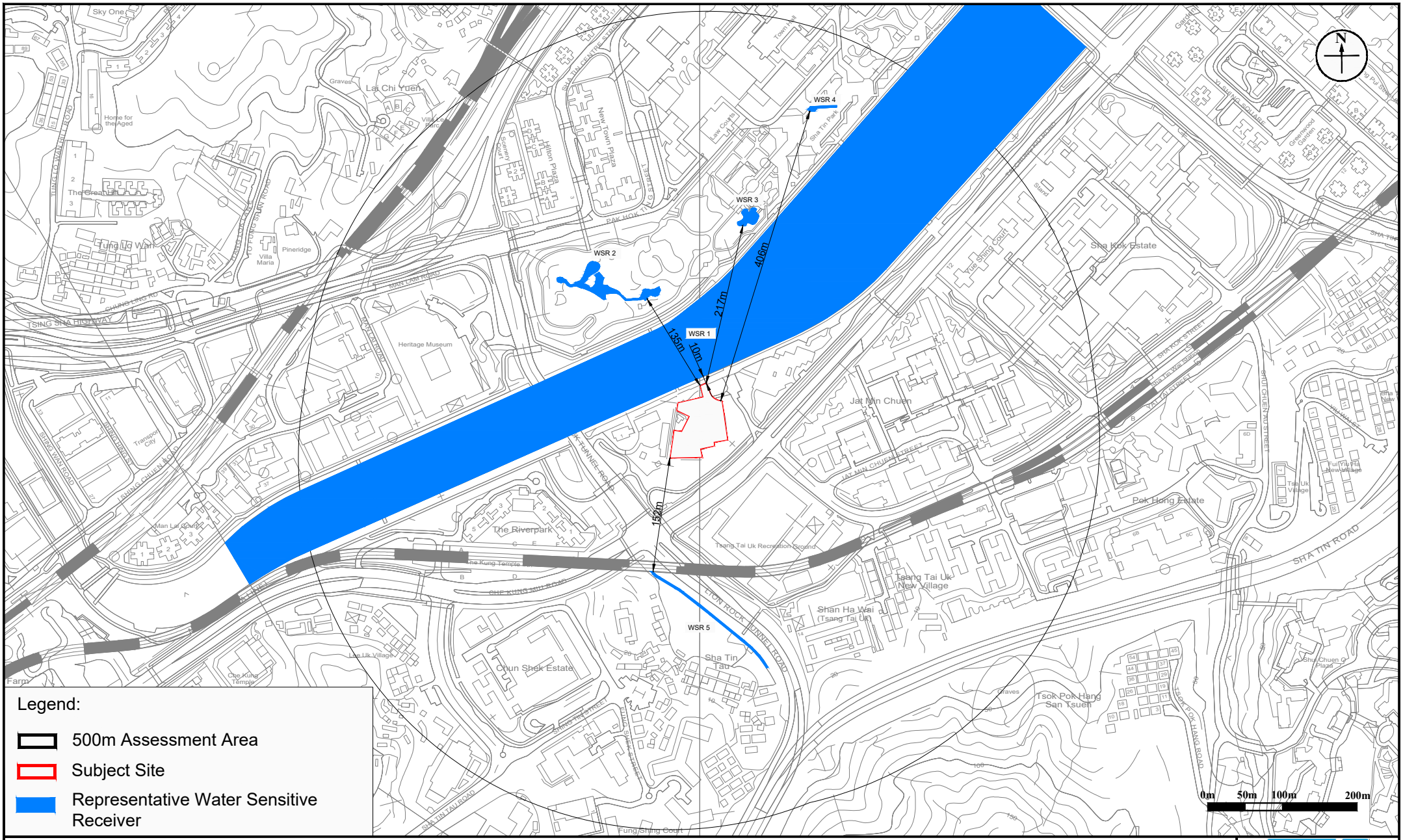


Figure: 5

Title: Location of Representative Water Sensitive Receivers

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan in Support of Proposed Hotel Development at Various in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

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Drawn by:	EC
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Rev.:	1.1
Date:	Oct-25

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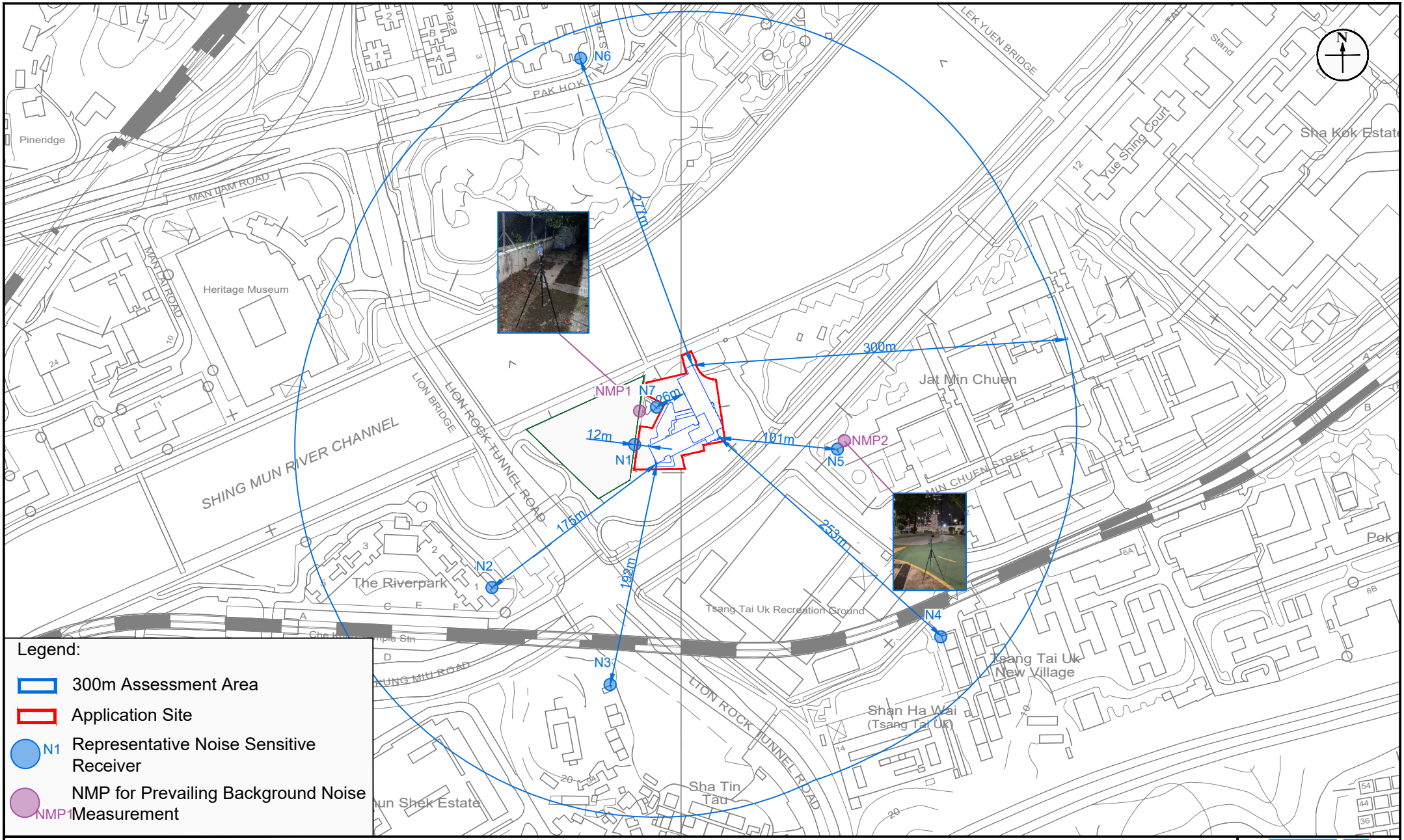


Figure: 6

Title: Location of Representative Noise Sensitive Receivers

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

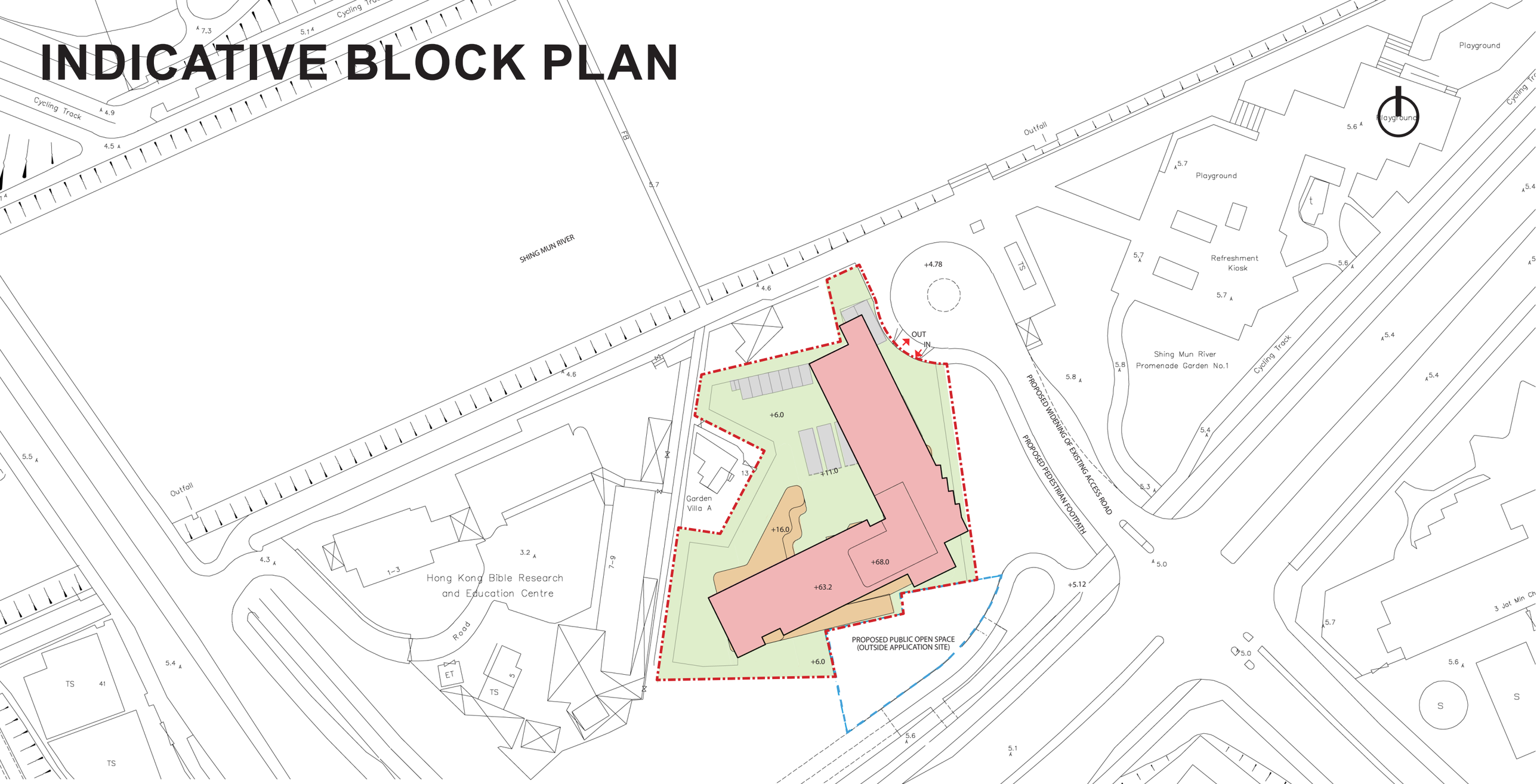
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Rev.:	2.0
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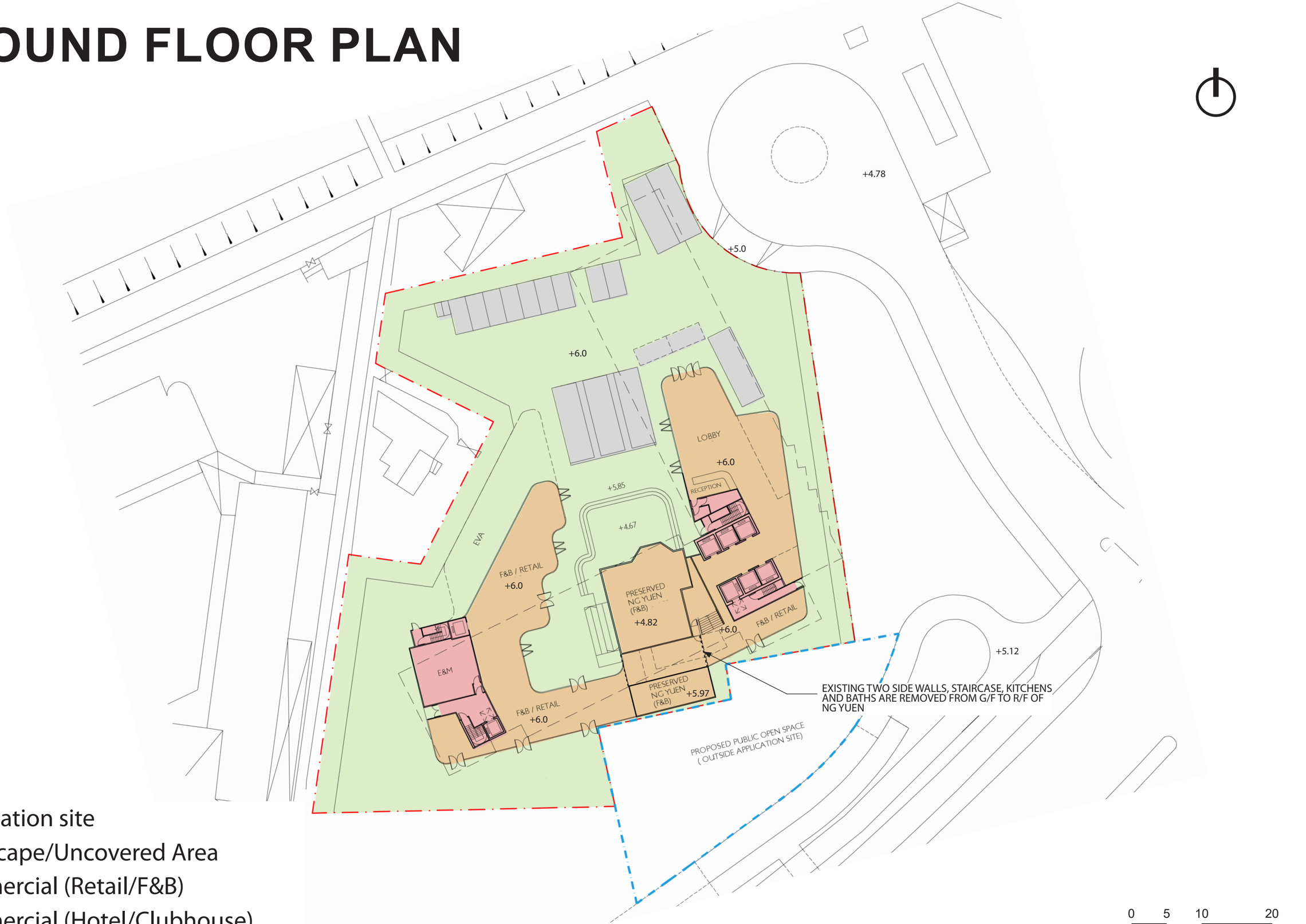
Appendix 1 **Indicative Block Plan and Section Plan of The Proposed Development**

INDICATIVE BLOCK PLAN



- Application site
- Proposed public open space (outside application site)
- Landscape/Uncovered Area
- Commercial (Retail/F&B)
- Commercial (Hotel/Clubhouse)
- EVA/Uncovered Driveway /Uncovered L&UL and Car Parking Spaces
- IN OUT Vehicular access point

GROUND FLOOR PLAN

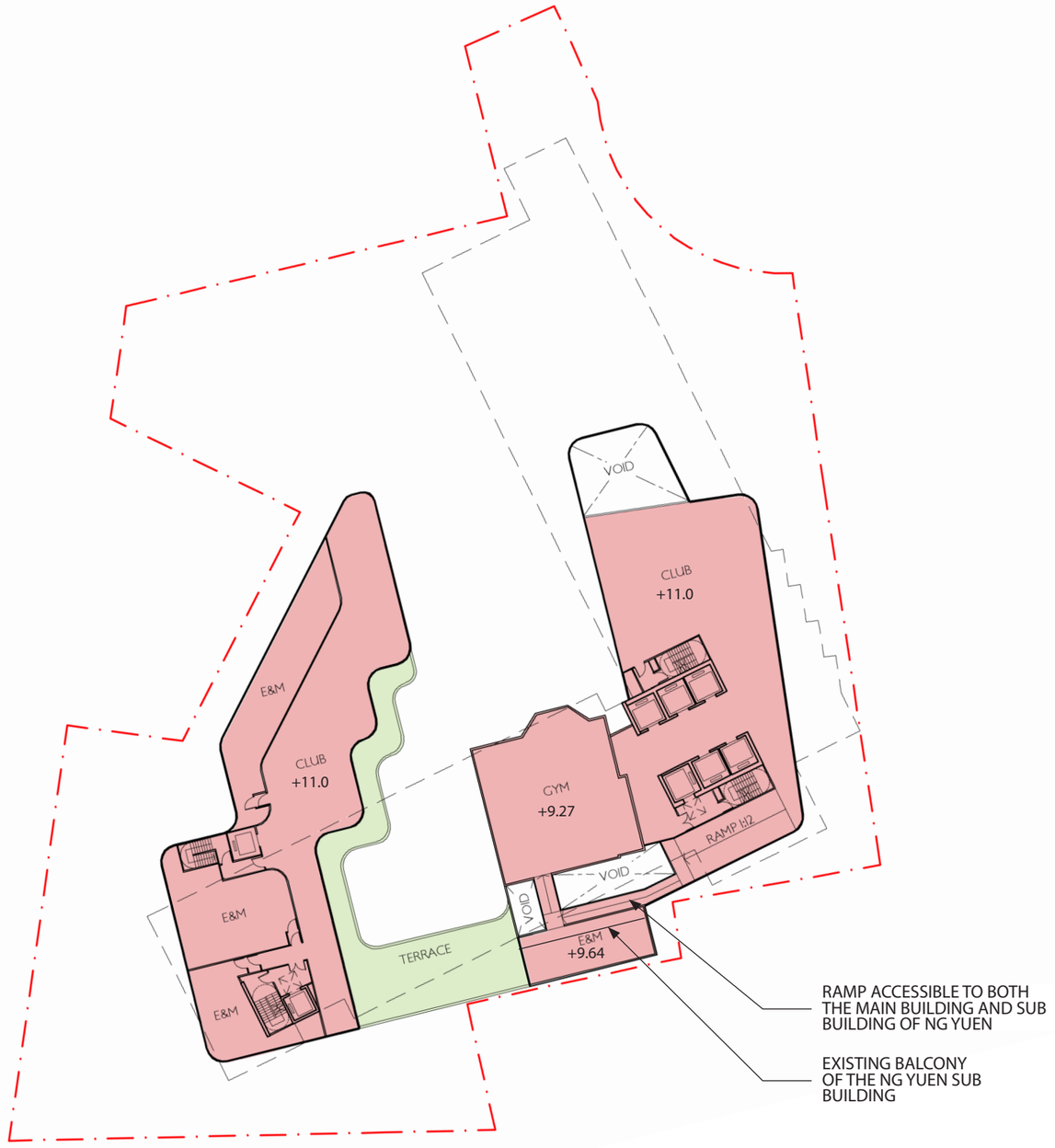


- Application site
- Landscape/Uncovered Area
- Commercial (Retail/F&B)
- Commercial (Hotel/Clubhouse)
- EVA/Uncovered Driveway /Uncovered L&UL and Car Parking Spaces

0 5 10 20 m

Aedas

FIRST FLOOR PLAN

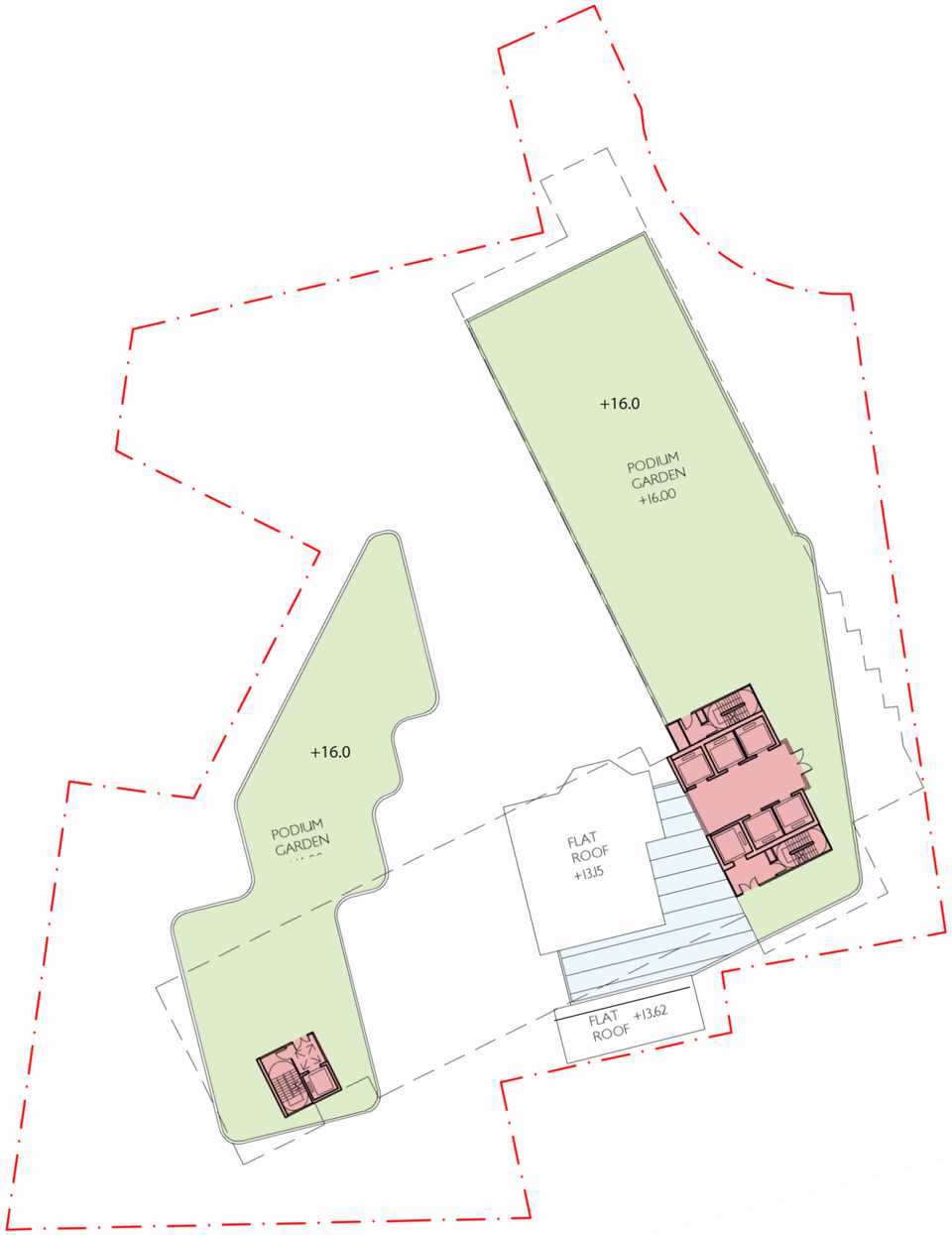


Application site
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

0 5 10 20 m

Aedas

SECOND FLOOR PLAN

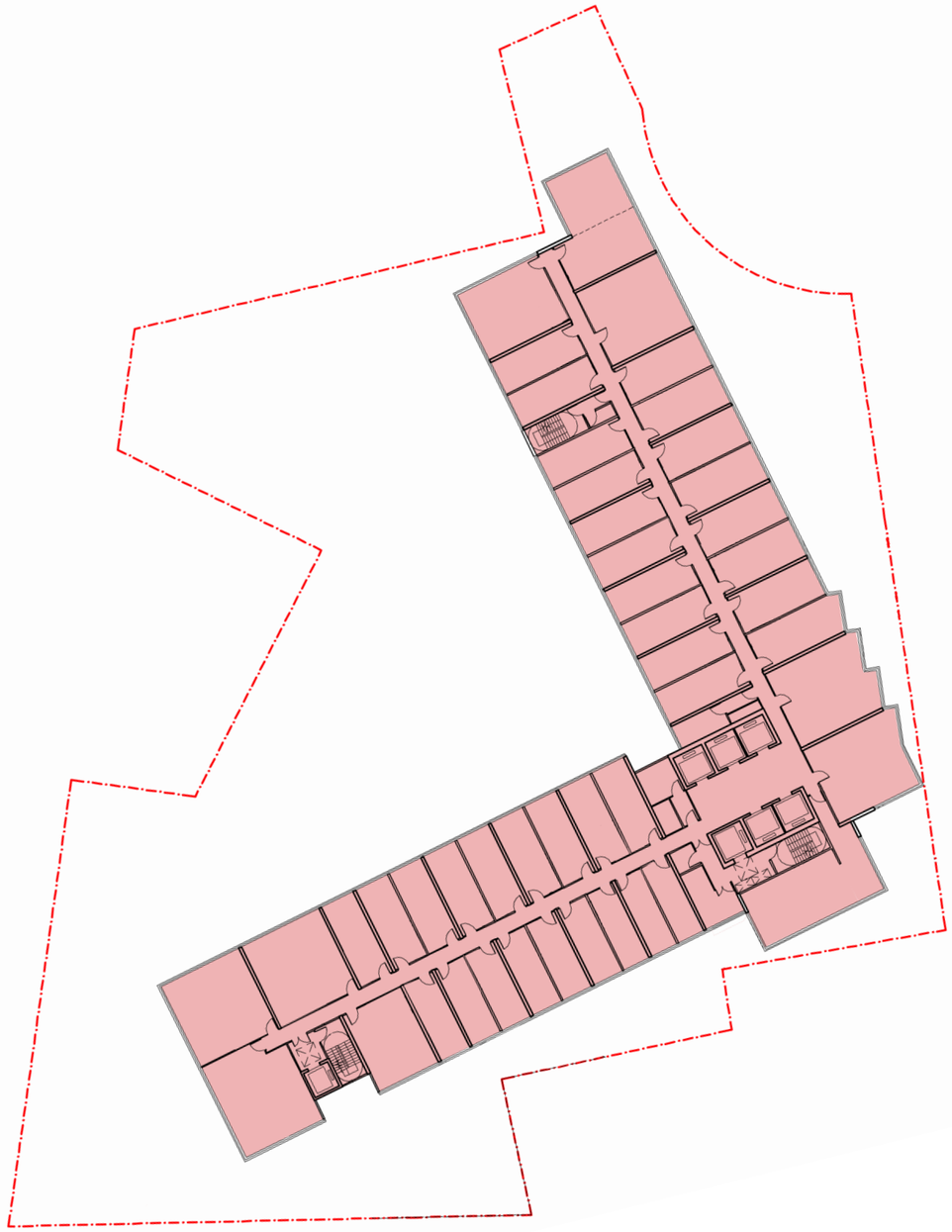


Application site
Skylight
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

0 5 10 20
m

Aedas

TYPICAL FLOOR PLAN

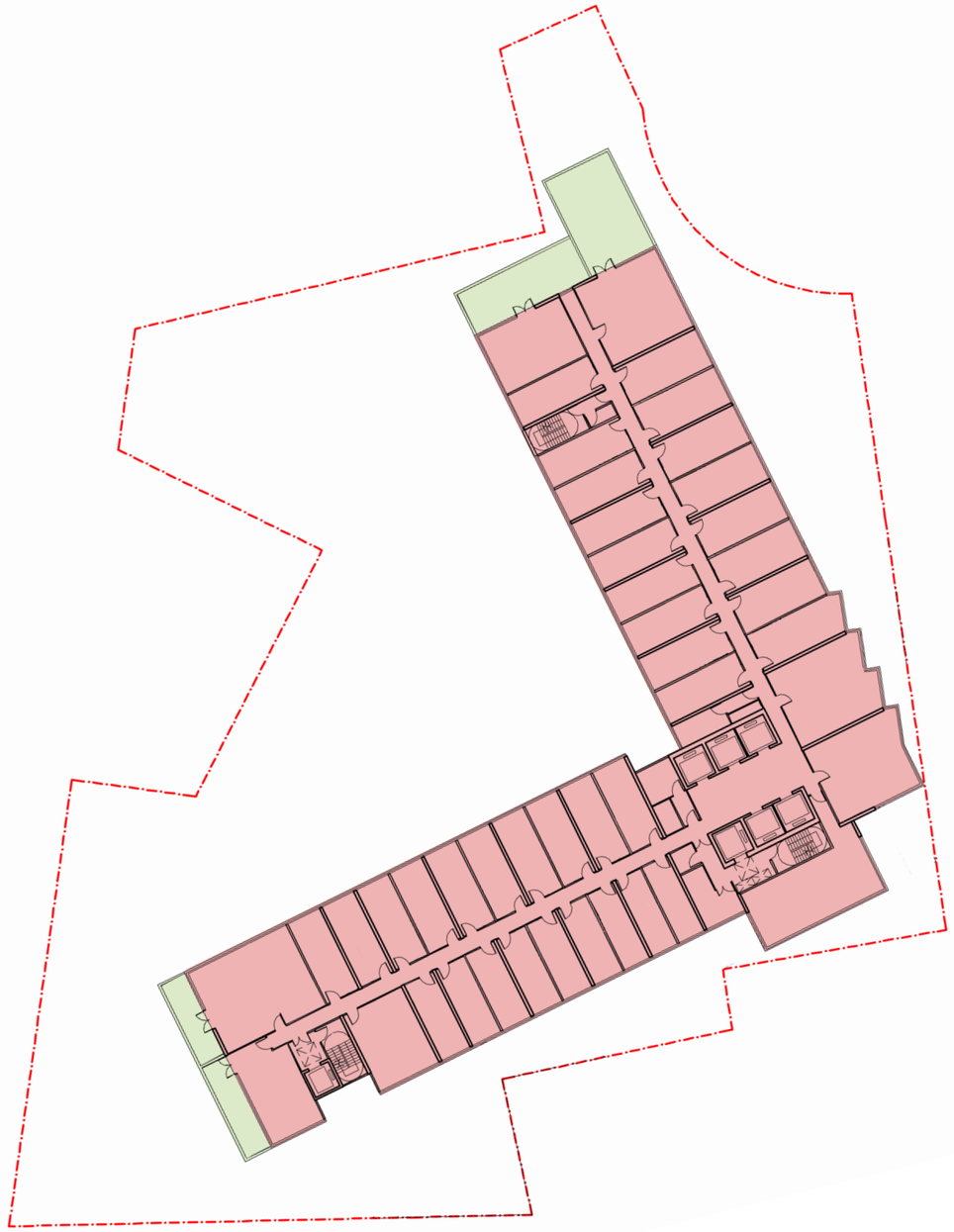


0 5 10 20 m

Application site
Commercial (Hotel/Clubhouse)

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TENTH FLOOR PLAN

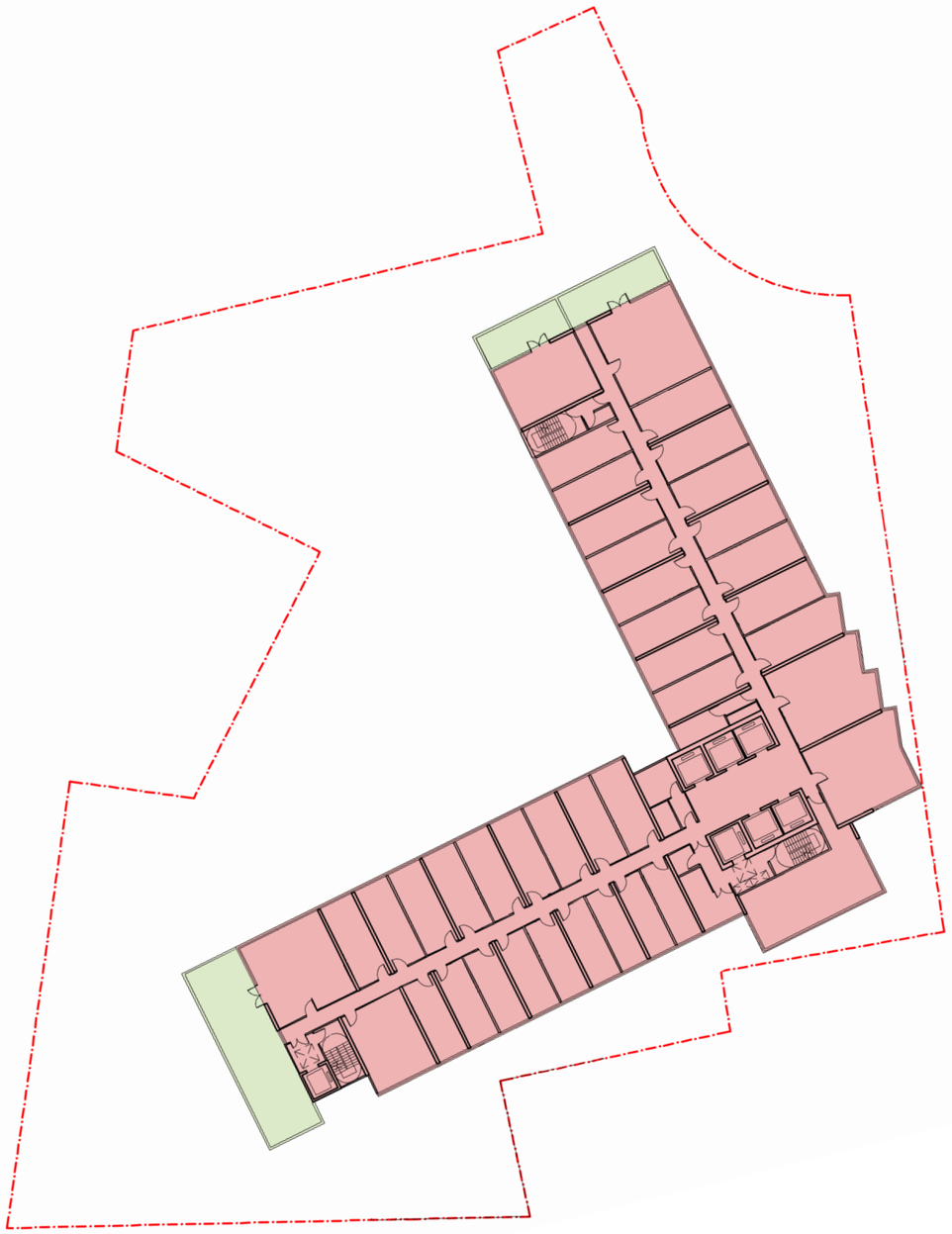


Application site
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

0 5 10 20 m

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ELEVENTH FLOOR PLAN

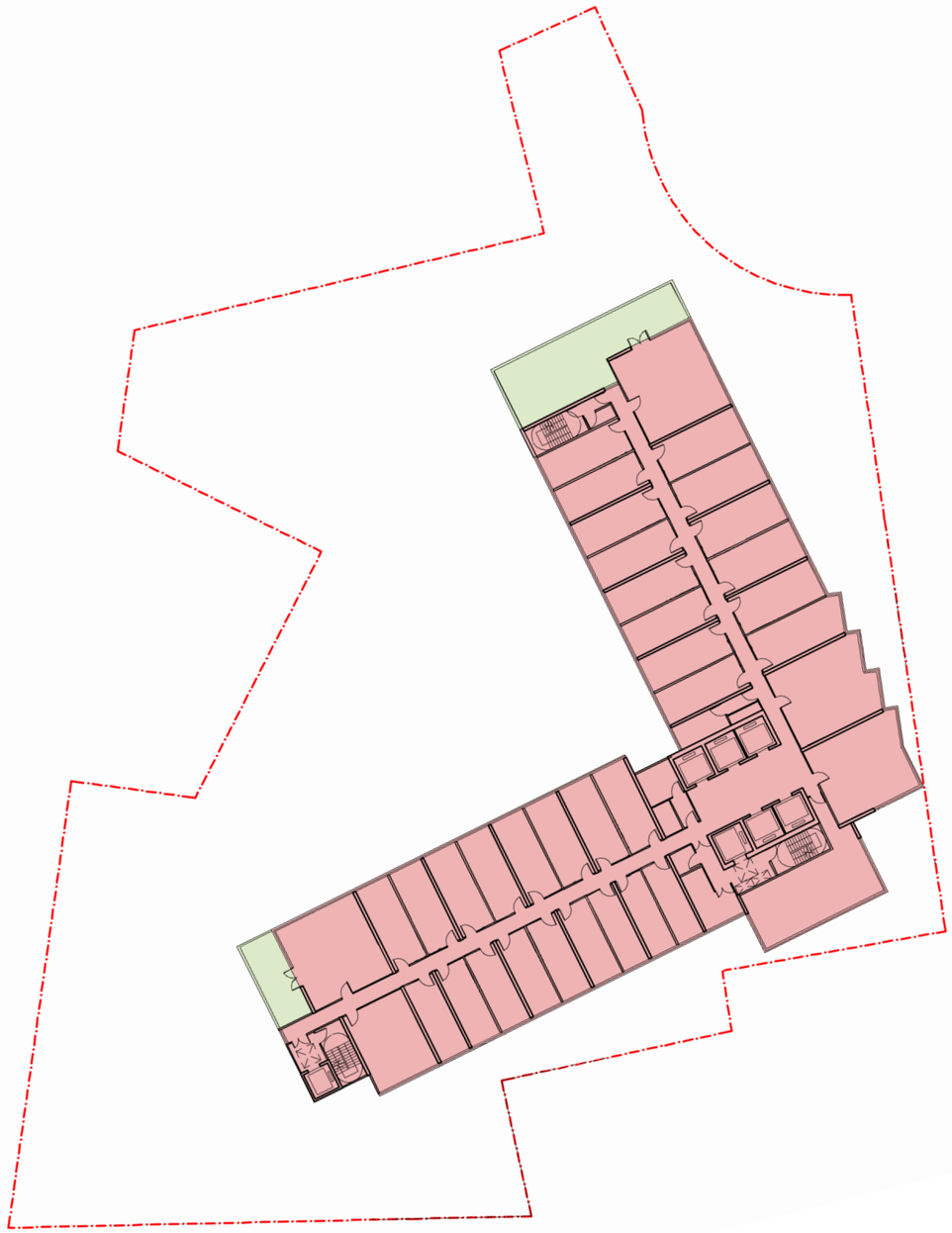


Application site
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

0 5 10 20 m

Aedas

TWELFTH FLOOR PLAN

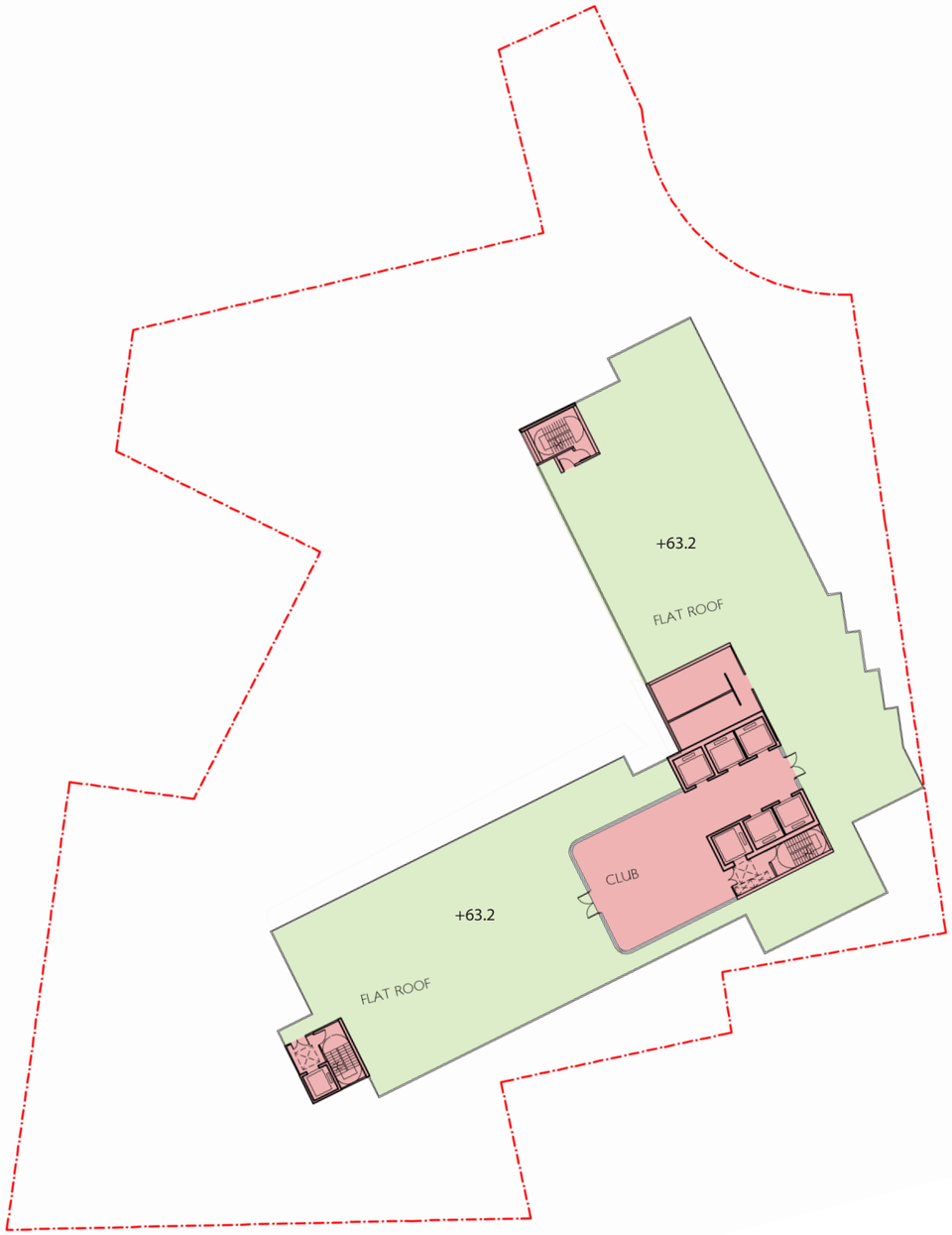


Application site
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

0 5 10 20 m

Aedas

THIRTEEN FLOOR PLAN

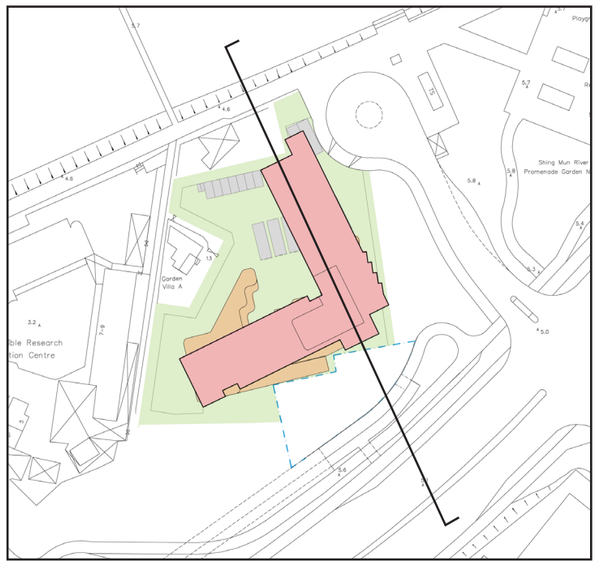


Application site
Landscape/Uncovered Area
Commercial (Hotel/Clubhouse)

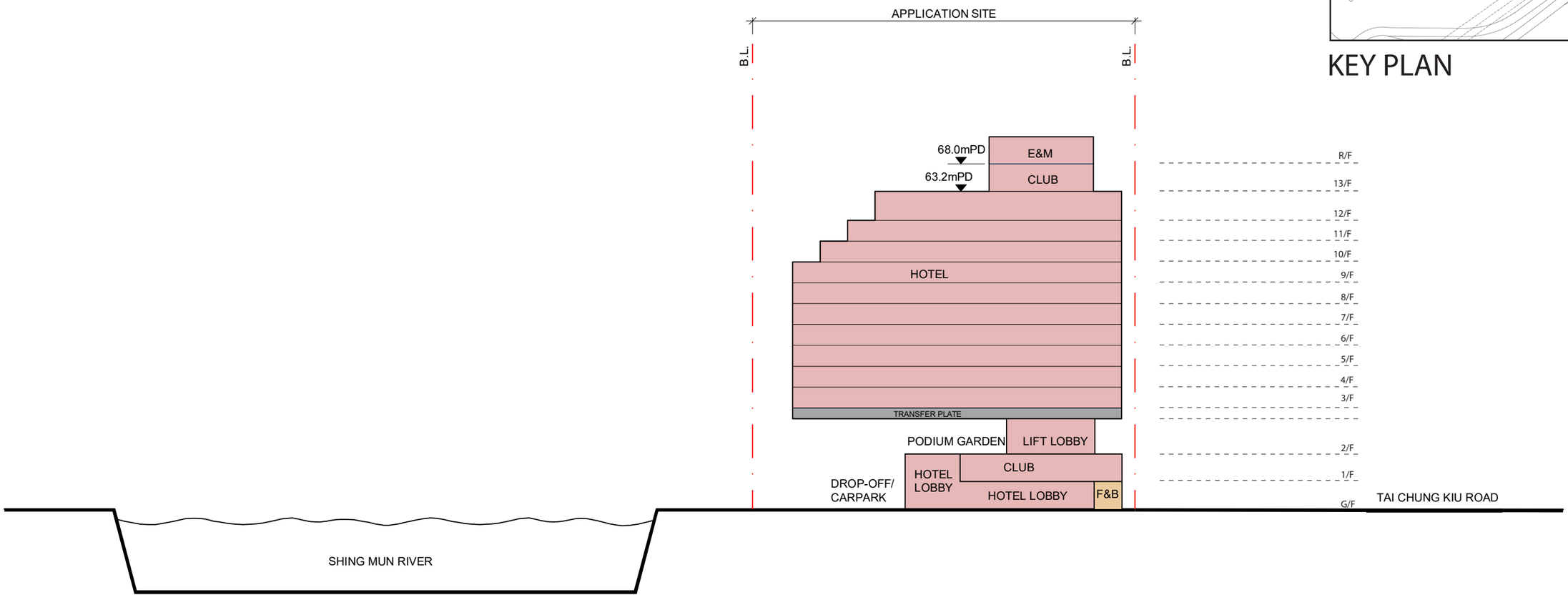
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SECTION



KEY PLAN



Application site

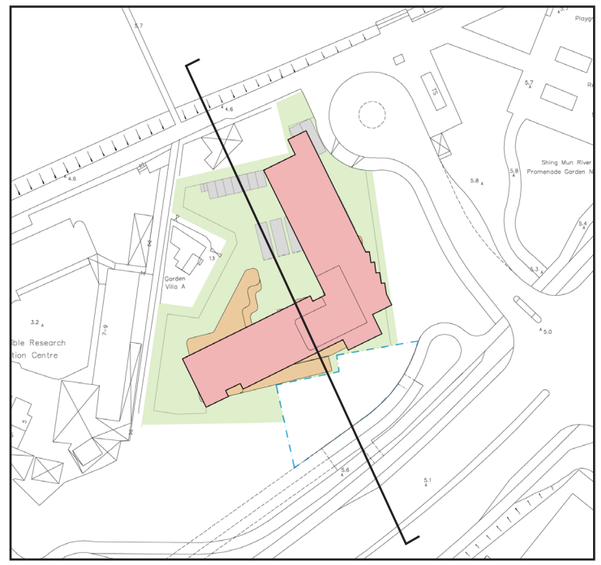
Landscape/Uncovered Area

Commercial (Retail/F&B)

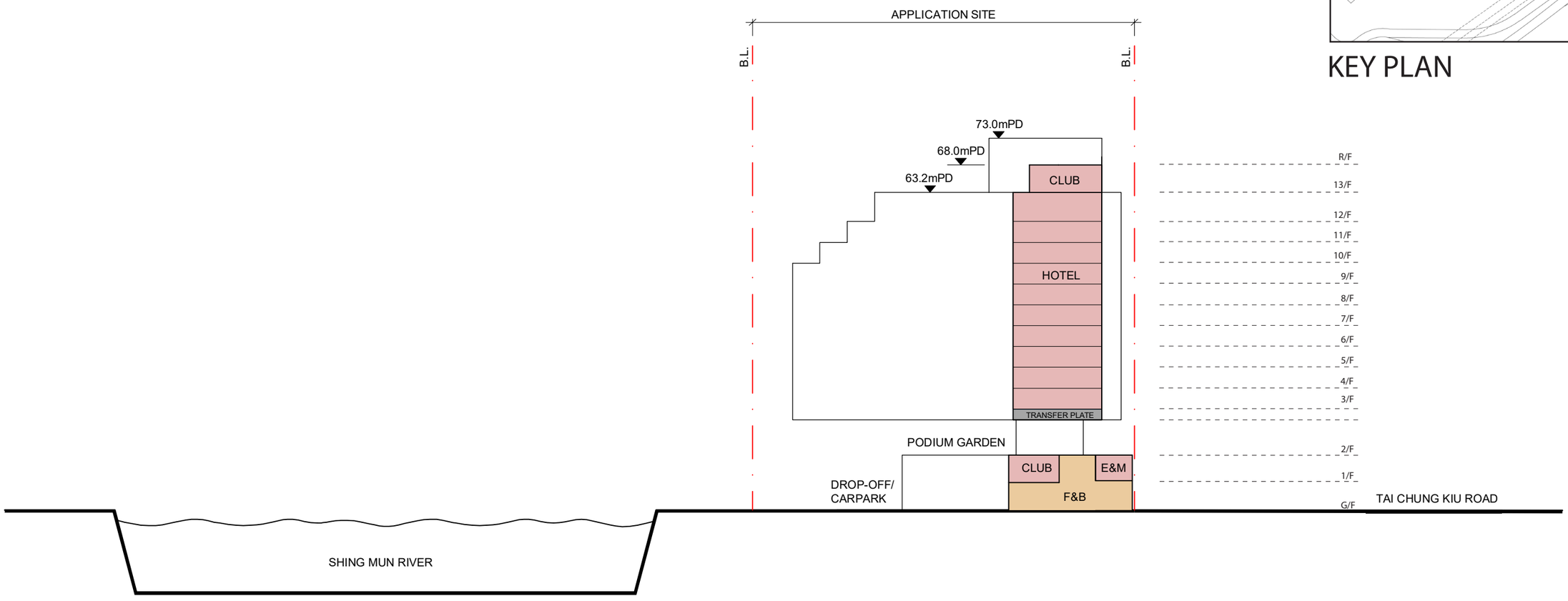
Commercial (Hotel/Clubhouse)

Aedas

SECTION



KEY PLAN



Application site

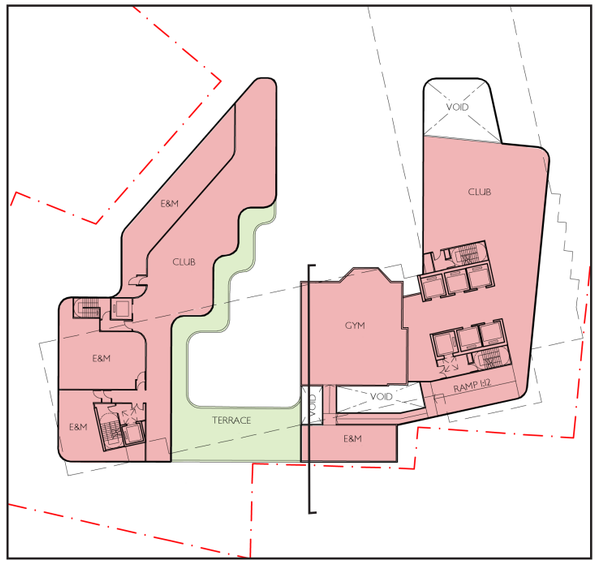
Landscape/Uncovered Area

Commercial (Retail/F&B)

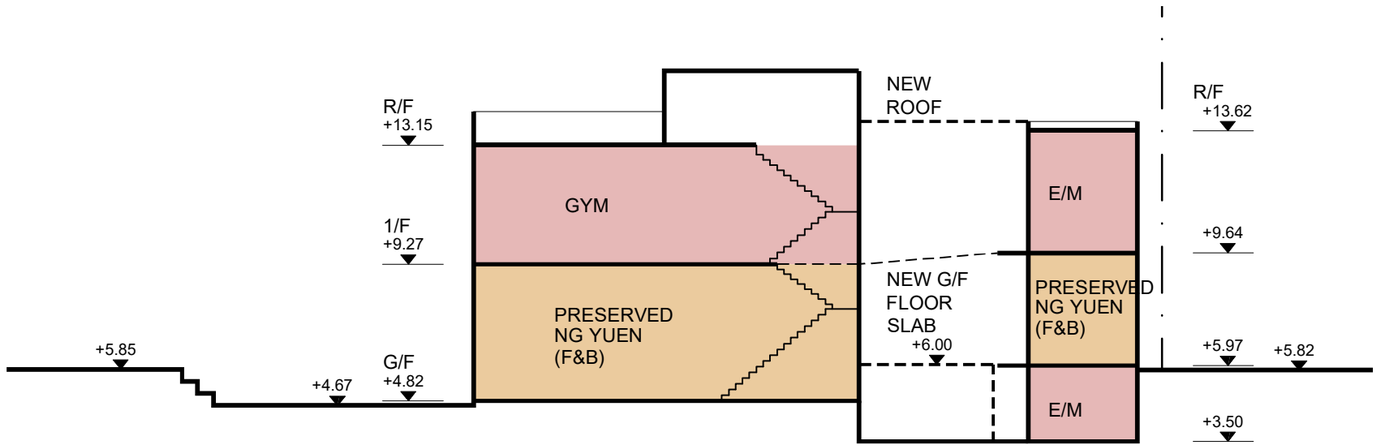
Commercial (Hotel/Clubhouse)

Aedas

SECTION



KEY PLAN



Application site

Landscape/Uncovered Area

Commercial (Retail/F&B)

Commercial (Hotel/Clubhouse)

Aedas

Appendix 2 Water Quality Data for the Tolo Harbour and Channel WCZ in 2024

Summary of water quality data for the Tolo Harbour and Channel WCZ in 2024

Parameter		Harbour Subzone			Buffer Subzone		Channel Subzone	
		TM2	TM3	TM4	TM5	TM6	TM7	TM8
Number of samples		**12**	**12**	**12**	**12**	**12**	**12**	**12**
Temperature (°C)		25.5 (20.0 - 31.6)	25.4 (20.1 - 31.2)	25.1 (19.9 - 30.9)	25.4 (20.2 - 31.2)	24.7 (19.3 - 30.7)	24.8 (19.2 - 30.4)	24.5 (19.0 - 29.9)
Salinity		30.1 (26.7 - 32.7)	30.8 (25.9 - 33.3)	31.1 (27.3 - 33.4)	30.5 (25.5 - 33.3)	31.1 (26.5 - 33.9)	31.6 (27.0 - 33.8)	32.0 (27.6 - 34.1)
Dissolved Oxygen (mg/L)		6.7 (4.6 - 8.6)	6.6 (5.6 - 8.9)	6.3 (5.4 - 7.7)	6.4 (5.0 - 8.1)	6.1 (5.2 - 7.3)	6.1 (4.6 - 7.6)	5.6 (4.7 - 6.7)
	Bottom	6.8 (4.8 - 8.8)	6.0 (4.6 - 8.6)	6.0 (5.1 - 8.0)	6.6 (5.3 - 8.5)	5.4 (4.4 - 6.7)	5.7 (4.3 - 7.2)	5.1 (3.5 - 6.8)
Dissolved Oxygen (% Saturation)		97 (67 - 115)	95 (82 - 119)	91 (81 - 103)	93 (75 - 108)	87 (77 - 97)	87 (69 - 101)	81 (69 - 89)
	Bottom	97 (71 - 117)	86 (67 - 115)	85 (74 - 105)	96 (79 - 117)	77 (64 - 89)	80 (64 - 95)	72 (51 - 90)
pH		8.0 (7.6 - 8.3)	8.1 (7.8 - 8.4)	8.0 (7.7 - 8.4)	8.1 (7.6 - 8.3)	8.0 (7.6 - 8.3)	8.0 (7.8 - 8.3)	8.0 (7.7 - 8.2)
Secchi Disc Depth (m)		2.1 (1.4 - 3.2)	2.4 (1.8 - 2.9)	2.3 (1.7 - 3.9)	2.8 (1.8 - 3.8)	2.8 (2.0 - 4.5)	2.9 (1.6 - 4.9)	3.0 (1.8 - 5.0)
Turbidity (NTU)		2.5 (0.3 - 10.9)	1.9 (0.4 - 8.5)	1.3 (0.3 - 2.8)	1.3 (0.2 - 2.9)	1.5 (0.5 - 2.6)	1.2 (0.2 - 2.3)	1.9 (0.3 - 3.2)
Suspended Solids (mg/L)		3.5 (2.4 - 5.2)	4.0 (2.7 - 6.3)	3.3 (1.3 - 4.5)	3.4 (1.7 - 7.5)	3.3 (1.1 - 6.5)	3.3 (2.0 - 4.3)	4.1 (2.4 - 6.2)
5-day Biochemical Oxygen Demand (mg/L)		1.6 (0.8 - 2.6)	1.6 (0.6 - 2.5)	1.5 (0.8 - 3.0)	1.1 (<0.1 - 2.3)	1.2 (0.6 - 2.9)	1.2 (0.4 - 2.0)	0.8 (0.3 - 1.5)
Ammonia Nitrogen (mg/L)		0.030 (0.010 - 0.068)	0.021 (0.006 - 0.040)	0.017 (<0.005 - 0.045)	0.017 (<0.005 - 0.044)	0.018 (<0.005 - 0.042)	0.015 (<0.005 - 0.027)	0.021 (0.005 - 0.079)
Unionised Ammonia (mg/L)		0.002 (<0.001 - 0.009)	0.001 (<0.001 - 0.004)	0.001 (<0.001 - 0.003)	0.001 (<0.001 - 0.003)	0.001 (<0.001 - 0.004)	<0.001 (<0.001 - 0.003)	<0.001 (<0.001 - 0.002)
Nitrite Nitrogen (mg/L)		0.011 (<0.002 - 0.070)	0.004 (<0.002 - 0.013)	0.007 (<0.002 - 0.041)	0.003 (<0.002 - 0.009)	0.007 (<0.002 - 0.029)	0.005 (<0.002 - 0.023)	0.005 (<0.002 - 0.020)
Nitrate Nitrogen (mg/L)		0.073 (0.008 - 0.260)	0.036 (0.006 - 0.089)	0.032 (0.007 - 0.076)	0.027 (0.006 - 0.060)	0.031 (0.005 - 0.107)	0.033 (0.007 - 0.143)	0.032 (0.007 - 0.133)
Total Inorganic Nitrogen (mg/L)		0.11 (0.02 - 0.35)	0.06 (0.02 - 0.12)	0.06 (0.02 - 0.11)	0.05 (0.02 - 0.10)	0.06 (0.02 - 0.14)	0.05 (0.01 - 0.17)	0.06 (0.02 - 0.17)
Total Kjeldahl Nitrogen (mg/L)		0.30 (0.21 - 0.40)	0.27 (0.18 - 0.43)	0.24 (0.17 - 0.33)	0.20 (0.10 - 0.31)	0.24 (0.15 - 0.39)	0.21 (0.12 - 0.31)	0.19 (0.10 - 0.30)
Total Nitrogen (mg/L)		0.38 (0.22 - 0.67)	0.31 (0.19 - 0.44)	0.28 (0.18 - 0.37)	0.23 (0.11 - 0.32)	0.28 (0.16 - 0.40)	0.25 (0.13 - 0.38)	0.23 (0.11 - 0.36)
Orthophosphate Phosphorus (mg/L)		0.004 (<0.002 - 0.010)	0.003 (<0.002 - 0.011)	0.003 (<0.002 - 0.010)	0.005 (<0.002 - 0.012)	0.004 (<0.002 - 0.012)	0.004 (<0.002 - 0.010)	0.005 (<0.002 - 0.017)
Total Phosphorus (mg/L)		0.07 (0.03 - 0.16)	0.07 (0.03 - 0.15)	0.07 (0.03 - 0.15)	0.07 (0.03 - 0.19)	0.07 (0.03 - 0.15)	0.07 (0.03 - 0.15)	0.07 (0.03 - 0.16)
Silica (as SiO_2) (mg/L)		1.02 (0.08 - 2.10)	0.52 (0.08 - 1.30)	0.55 (0.09 - 1.50)	0.46 (0.18 - 1.30)	0.50 (0.11 - 1.23)	0.42 (0.09 - 1.06)	0.53 (0.18 - 1.19)
Chlorophyll-*a* (µg/L)		8.8 (3.9 - 17.0)	6.0 (3.3 - 11.9)	5.5 (2.7 - 11.1)	4.3 (1.7 - 10.4)	4.0 (2.4 - 9.8)	3.8 (1.3 - 7.8)	2.4 (1.1 - 5.4)
E.coli (count/100mL)		29 (<1 - 270)	11 (<1 - 370)	5 (<1 - 29)	2 (<1 - 35)	4 (<1 - 86)	2 (<1 - 14)	2 (<1 - 15)
Faecal Coliforms (count/100mL)		210 (2 - 4100)	56 (3 - 2200)	25 (1 - 120)	6 (1 - 110)	7 (<1 - 690)	4 (<1 - 72)	2 (<1 - 56)

Note : 1. Unless otherwise specified, data presented are depth-averaged (A) values calculated by taking the means of three depths: Surface (S), Mid-depth (M), Bottom (B).

2. Data presented are annual arithmetic means of the depth-averaged results except for *E. coli* and faecal coliforms which are annual geometric means.

3. Data in brackets indicate the ranges.

Location of river water monitoring stations

Water Control Zone	Watercourse	Station	Location	
			Latitude	Longitude
Tolo Harbour and Channel	Shing Mun River	KY1	22° 21' 39.8" N	114° 12' 32.0" E
		TR17	22° 23' 47.5" N	114° 11' 41.4" E
		TR17L	22° 23' 31.5" N	114° 12' 00.0" E
		TR19	22° 22' 30.3" N	114° 10' 50.0" E
		TR19A	22° 22' 38.0" N	114° 10' 18.8" E
		TR19C	22° 22' 39.4" N	114° 10' 45.3" E
		TR19I	22° 23' 15.7" N	114° 11' 57.3" E
		TR20B	22° 21' 42.8" N	114° 10' 10.4" E
		TR23A	22° 23' 02.1" N	114° 12' 36.9" E
		TR23L	22° 22' 50.1" N	114° 12' 39.7" E
	Lam Tsuen River	TR12	22° 27' 01.9" N	114° 09' 27.9" E
		TR12B	22° 27' 41.0" N	114° 08' 49.6" E
		TR12C	22° 27' 33.8" N	114° 08' 45.6" E
		TR12D	22° 26' 42.8" N	114° 07' 50.3" E
		TR12E	22° 26' 58.3" N	114° 09' 20.7" E
		TR12F	22° 26' 58.7" N	114° 08' 35.7" E
		TR12G	22° 26' 46.0" N	114° 08' 18.0" E
		TR12H	22° 26' 45.0" N	114° 07' 43.4" E
		TR12I	22° 27' 02.3" N	114° 10' 19.4" E
	Tai Po River	TR13	22° 26' 24.7" N	114° 09' 58.8" E
	Tai Po Kau Stream	TR14	22° 26' 10.7" N	114° 11' 15.5" E
	Shan Liu Stream	TR4	22° 28' 17.7" N	114° 13' 18.4" E
	Tung Tze Stream	TR6	22° 27' 55.1" N	114° 12' 30.0" E
Port Shelter	Ho Chung River	PR1	22° 21' 16.8" N	114° 15' 02.0" E
		PR2	22° 21' 17.8" N	114° 14' 49.3" E
	Sha Kok Mei Stream	PR5	22° 23' 04.1" N	114° 16' 16.9" E
		PR6	22° 23' 10.4" N	114° 16' 10.8" E
	Tai Chung Hau Stream	PR7	22° 22' 11.4" N	114° 15' 32.9" E
		PR8	22° 22' 24.8" N	114° 15' 35.8" E
Junk Bay	Tseng Lan Shue Stream	JR3	22° 20' 00.3" N	114° 14' 23.7" E
		JR6	22° 20' 09.6" N	114° 14' 36.9" E
		JR11	22° 19' 44.8" N	114° 15' 00.1" E
Deep Bay	River Indus	IN1	22° 31' 03.6" N	114° 06' 54.3" E
		IN2	22° 30' 27.3" N	114° 08' 07.1" E
		IN3	22° 31' 11.3" N	114° 10' 33.5" E
	River Beas	RB1	22° 29' 07.7" N	114° 06' 10.3" E
		RB2	22° 30' 12.2" N	114° 06' 19.2" E
		RB3	22° 30' 38.3" N	114° 06' 40.1" E
	River Ganges	GR1	22° 32' 20.4" N	114° 08' 42.8" E
		GR2	22° 31' 41.0" N	114° 09' 16.0" E
		GR3	22° 32' 13.0" N	114° 10' 05.7" E
	Yuen Long Nullah	YL1	22° 26' 19.6" N	114° 01' 33.0" E
		YL2	22° 26' 20.1" N	114° 01' 34.3" E
		YL3	22° 26' 55.3" N	114° 01' 33.1" E
		YL4	22° 26' 55.3" N	114° 01' 33.6" E
	Kam Tin River	KT1	22° 26' 24.3" N	114° 03' 29.0" E
		KT2	22° 26' 33.2" N	114° 03' 39.0" E
	Tin Shui Wai Nullah	TSR1	22° 26' 47.2" N	113° 59' 50.4" E
		TSR2	22° 25' 46.0" N	113° 59' 43.6" E
	Fairview Park Nullah	FVR1	22° 28' 57.4" N	114° 02' 44.8" E
	Ha Pak Nai Stream	DB1	22° 25' 24.8" N	113° 56' 33.3" E
	Tai Shui Hang Stream	DB2	22° 25' 11.1" N	113° 56' 19.7" E
	Pak Nai Stream	DB3	22° 26' 15.1" N	113° 56' 57.9" E
	Sheung Pak Nai Stream	DB5	22° 26' 46.7" N	113° 57' 28.1" E
	Ngau Hom Sha Stream	DB6	22° 27' 02.2" N	113° 57' 51.4" E
	Tsang Kok Stream	DB8	22° 25' 07.5" N	113° 55' 38.1" E
Southern	Mui Wo River	MW1	22° 15' 58.1" N	113° 59' 37.1" E
		MW2	22° 15' 58.5" N	113° 59' 38.9" E
		MW3	22° 15' 58.6" N	113° 59' 25.1" E
		MW4	22° 15' 54.3" N	113° 59' 37.8" E
		MW5	22° 16' 10.8" N	113° 59' 49.6" E
North Western	Tung Chung River	TC1	22° 16' 37.8" N	113° 55' 47.7" E
		TC2	22° 16' 22.1" N	113° 55' 57.2" E
		TC3	22° 16' 45.3" N	113° 56' 19.1" E
	Tuen Mun River	TN1	22° 24' 50.9" N	113° 58' 47.5" E
		TN2	22° 24' 52.7" N	113° 59' 03.6" E
		TN3	22° 23' 39.7" N	113° 58' 21.0" E
		TN4	22° 23' 59.2" N	113° 58' 29.1" E
		TN5	22° 23' 49.4" N	113° 58' 23.8" E
		TN6	22° 23' 16.0" N	113° 58' 15.8" E
Western Buffer	Pai Min Kok (Anglers') Stream	AN1	22° 21' 53.5" N	114° 03' 17.6" E
		AN2	22° 21' 56.2" N	114° 03' 17.5" E
Victoria Harbour	Sam Dip Tam Stream	TW1	22° 23' 01.7" N	114° 07' 26.4" E
		TW2	22° 22' 45.6" N	114° 07' 27.3" E
		TW3	22° 22' 36.1" N	114° 07' 24.0" E
	Kau Wa Keng Stream	KW3	22° 20' 38.2" N	114° 08' 08.5" E
	Kai Tak River	KN1	22° 19' 19.1" N	114° 12' 05.2" E
		KN2	22° 19' 35.2" N	114° 12' 04.2" E
		KN3	22° 19' 43.9" N	114° 11' 55.6" E
		KN4	22° 19' 51.3" N	114° 11' 47.6" E
		KN5	22° 20' 00.2" N	114° 11' 39.8" E
		KN7	22° 20' 21.8" N	114° 11' 51.1" E

Notes: All locations are based on WGS84 datum

Summary of water quality monitoring data for Shing Mun River (Main Channel and Siu Lek Yuen Nullah) in 2024

Parameter	Unit	Shing Mun Main Channel	Siu Lek Yuen Nullah	
		TR19I	TR23L	TR23A
Dissolved Oxygen	mg/L	7.5 (6.5 - 8.2)	8.5 (7.7 - 9.4)	6.9 (6.5 - 7.7)
pH		8.0 (7.7 - 8.5)	8.6 (7.8 - 9.0)	7.9 (7.6 - 8.2)
Suspended Solids	mg/L	4.1 (1.7 - 7.6)	2.1 (0.5 - 39.0)	2.7 (0.5 - 6.5)
5-Day Biochemical Oxygen Demand	mg/L	2.7 (0.8 - 8.2)	0.3 (<0.1 - 7.6)	1.2 (0.4 - 8.2)
Chemical Oxygen Demand	mg/L	37 (27 - 82)	6 (2 - 33)	26 (16 - 94)
Oil & Grease	mg/L	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)
E. coli	counts/ 100mL	<346 (<10 - 14 000)	<336 (<10 - 850 000)	1 031 (140 - 5 500)
Faecal Coliforms	counts/ 100mL	3 070 (70 - 160 000)	<4 185 (<420 - 990 000)	6 531 (600 - 50 000)
Ammonia-Nitrogen	mg/L	0.083 (0.042 - 0.260)	0.012 (<0.008 - 2.800)	0.095 (0.036 - 0.320)
Nitrate-Nitrogen	mg/L	0.245 (0.026 - 0.570)	0.245 (0.170 - 0.560)	0.315 (0.170 - 0.450)
Total Kjeldahl Nitrogen	mg/L	0.34 (0.12 - 0.61)	0.10 (<0.05 - 3.90)	0.26 (0.12 - 0.41)
Orthophosphate Phosphorus	mg/L	0.018 (<0.002 - 0.050)	0.036 (0.019 - 0.280)	0.049 (<0.002 - 0.099)
Total Phosphorus	mg/L	0.10 (0.03 - 0.17)	0.05 (<0.02 - 0.37)	0.09 (0.02 - 0.15)
Sulphide	mg/L	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.02)
Aluminium	µg/L	<50 (<50 - <50)	<50 (<50 - 50)	<50 (<50 - 50)
Cadmium	µg/L	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)
Chromium	µg/L	2 (<1 - 2)	<1 (<1 - 2)	1 (<1 - 2)
Copper	µg/L	4 (<3 - 5)	<1 (<1 - 6)	4 (1 - 5)
Lead	µg/L	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)
Zinc	µg/L	<10 (<10 - 20)	<10 (<10 - 740)	10 (<10 - 20)
Flow	m^3/s	NM	0.066 (0.011 - 0.312)	NM)

Notes:
1. Data presented are in annual medians of monthly samples; except those for faecal coliforms and *E. coli* which are in annual geometric means.
2. Figures in brackets are annual ranges.
3. NM indicates no measurement taken.
4. Values at or below laboratory reporting limits are presented as laboratory reporting limits (see Appendix B).
5. Equal values for annual medians (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

Summary of water quality monitoring data for Shing Mun River (Fo Tan Nullah and Kwun Yam Shan Stream) in 2024

Parameter	Unit	Fo Tan Nullah		Kwun Yam Shan Stream
		TR17	TR17L	KY1
Dissolved Oxygen	mg/L	9.1 (7.8 - 13.9)	6.4 (5.7 - 8.0)	8.3 (7.8 - 9.3)
pH	mg/L	9.0 (8.3 - 9.9)	7.8 (7.6 - 8.3)	8.2 (8.0 - 8.6)
Suspended Solids	mg/L	2.7 (0.5 - 17.0)	2.5 (0.6 - 4.2)	3.7 (1.8 - 8.9)
5-Day Biochemical Oxygen Demand	mg/L	4.0 (<0.1 - 9.7)	1.7 (0.5 - 3.3)	0.2 (<0.1 - 2.6)
Chemical Oxygen Demand	mg/L	19 (3 - 46)	35 (9 - 94)	5 (<2 - 11)
Oil & Grease	mg/L	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)
E. coli	counts/ 100mL	8 389 (1 600 - 32 000)	1 113 (40 - 33 000)	330 (18 - 2 400)
Faecal Coliforms	counts/ 100mL	68 117 (5 300 - 2 700 000)	7 065 (350 - 120 000)	2 154 (330 - 7 900)
Ammonia-Nitrogen	mg/L	0.077 (0.027 - 0.290)	0.255 (0.120 - 0.380)	0.026 (<0.005 - 0.061)
Nitrate-Nitrogen	mg/L	0.605 (0.290 - 1.500)	0.395 (0.170 - 0.590)	0.555 (0.420 - 0.710)
Total Kjeldahl Nitrogen	mg/L	0.43 (0.13 - 0.89)	0.40 (0.22 - 0.54)	0.10 (<0.05 - 0.18)
Orthophosphate Phosphorus	mg/L	0.034 (0.010 - 0.063)	0.041 (<0.004 - 0.073)	0.110 (0.064 - 0.160)
Total Phosphorus	mg/L	0.06 (0.04 - 0.24)	0.08 (0.03 - 0.14)	0.14 (0.08 - 0.22)
Sulphide	mg/L	<0.02 (<0.02 - 0.06)	<0.02 (<0.02 - 0.02)	<0.02 (<0.02 - <0.02)
Aluminium	µg/L	<50 (<50 - <50)	<50 (<50 - <50)	<50 (<50 - 70)
Cadmium	µg/L	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)
Chromium	µg/L	<1 (<1 - 2)	1 (<1 - 3)	<1 (<1 - <1)
Copper	µg/L	3 (<1 - 5)	4 (<2 - 5)	<1 (<1 - 2)
Lead	µg/L	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)
Zinc	µg/L	<10 (<10 - 20)	10 (<10 - 20)	<10 (<10 - 10)
Flow	m^3/s	0.052 (0.005 - 0.260)	NM	0.009 (0.000 - 0.101)

Notes:
1. Data presented are in annual medians of monthly samples; except those for faecal coliforms and *E. coli* which are in annual geometric means.
2. Figures in brackets are annual ranges.
3. NM indicates no measurement taken.
4. Values at or below laboratory reporting limits are presented as laboratory reporting limits (see Appendix B).
5. Equal values for annual medians (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

Summary of water quality monitoring data for Shing Mun River (Tai Wai Nullah and Tin Sum Nullah) in 2024

Parameter	Unit	Tai Wai Nullah			Tin Sum Nullah
		TR19A	TR19C	TR19	TR20B
Dissolved Oxygen	mg/L	9.3 (8.3 - 11.0)	8.7 (8.2 - 9.8)	8.7 (7.7 - 10.8)	8.4 (7.7 - 9.4)
pH		7.9 (7.7 - 8.6)	7.6 (7.3 - 8.5)	7.6 (7.3 - 8.1)	8.7 (7.2 - 11.0)
Suspended Solids	mg/L	2.4 (1.2 - 25.0)	2.5 (0.9 - 100.0)	2.6 (0.5 - 30.0)	10.0 (<0.7 - 34.0)
5-Day Biochemical Oxygen Demand	mg/L	0.6 (<0.1 - 1.6)	1.1 (0.3 - 10.0)	2.6 (0.6 - 5.9)	<0.1 (<0.1 - 1.0)
Chemical Oxygen Demand	mg/L	11 (2 - 44)	8 (3 - 53)	8 (2 - 58)	6 (2 - 7)
Oil & Grease	mg/L	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.7)	<0.5 (<0.5 - <0.5)
E. coli	counts/ 100mL	<2 817 (<1 - 300 000)	3 704 (16 - 200 000)	7 277 (720 - 66 000)	<2 (<1 - 170)
Faecal Coliforms	counts/ 100mL	<4 941 (<1 - 340 000)	15 271 (90 - 230 000)	83 799 (16 000 - 340 000)	<2 (<1 - 770)
Ammonia-Nitrogen	mg/L	0.079 (0.040 - 0.470)	0.069 (0.014 - 0.270)	0.054 (0.010 - 0.430)	0.036 (0.005 - 0.150)
Nitrate-Nitrogen	mg/L	0.715 (0.510 - 0.910)	0.595 (0.560 - 1.400)	0.585 (0.500 - 1.300)	0.850 (0.430 - 1.600)
Total Kjeldahl Nitrogen	mg/L	0.24 (0.07 - 0.73)	0.22 (0.05 - 1.80)	0.28 (0.05 - 1.50)	0.16 (0.05 - 0.40)
Orthophosphate Phosphorus	mg/L	0.043 (<0.021 - 0.076)	0.044 (0.017 - 0.110)	0.029 (0.012 - 0.081)	0.044 (0.012 - 0.120)
Total Phosphorus	mg/L	0.06 (0.02 - 0.21)	0.08 (<0.04 - 0.27)	0.06 (0.04 - 0.12)	0.08 (<0.02 - 0.16)
Sulphide	mg/L	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.24)	<0.02 (<0.02 - 0.02)	<0.02 (<0.02 - <0.02)
Aluminium	µg/L	<50 (<50 - <60)	<50 (<50 - <50)	<50 (<50 - <110)	105 (<50 - 960)
Cadmium	µg/L	<0.1 (<0.1 - 0.1)	<0.1 (<0.1 - 0.2)	<0.1 (<0.1 - 0.2)	<0.1 (<0.1 - <0.1)
Chromium	µg/L	1 (<1 - 2)	<1 (<1 - 2)	<1 (<1 - 2)	1 (<1 - 6)
Copper	µg/L	2 (<1 - 3)	2 (<1 - 3)	2 (<1 - 4)	<1 (<1 - 2)
Lead	µg/L	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)
Zinc	µg/L	10 (<10 - 10)	<10 (<10 - 10)	10 (<10 - 70)	<10 (<10 - 10)
Flow	m^3/s	0.028 (0.009 - 0.169)	0.130 (0.033 - 0.395)	0.104 (0.026 - 0.289)	0.052 (0.018 - 0.210)

Notes:
1. Data presented are in annual medians of monthly samples; except those for faecal coliforms and *E. coli* which are in annual geometric means.
2. Figures in brackets are annual ranges.
3. NM indicates no measurement taken.
4. Values at or below laboratory reporting limits are presented as laboratory reporting limits (see Appendix B).
5. Equal values for annual medians (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

Appendix 3 Areial Photos of the Application Site



Appendix: 3.1

Title: Aerial Photo - Year 1985 (Ref. A02407)

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan to Rezone "Open Space" Zone to "Other Specified Use (Hotel Development)" Zone in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

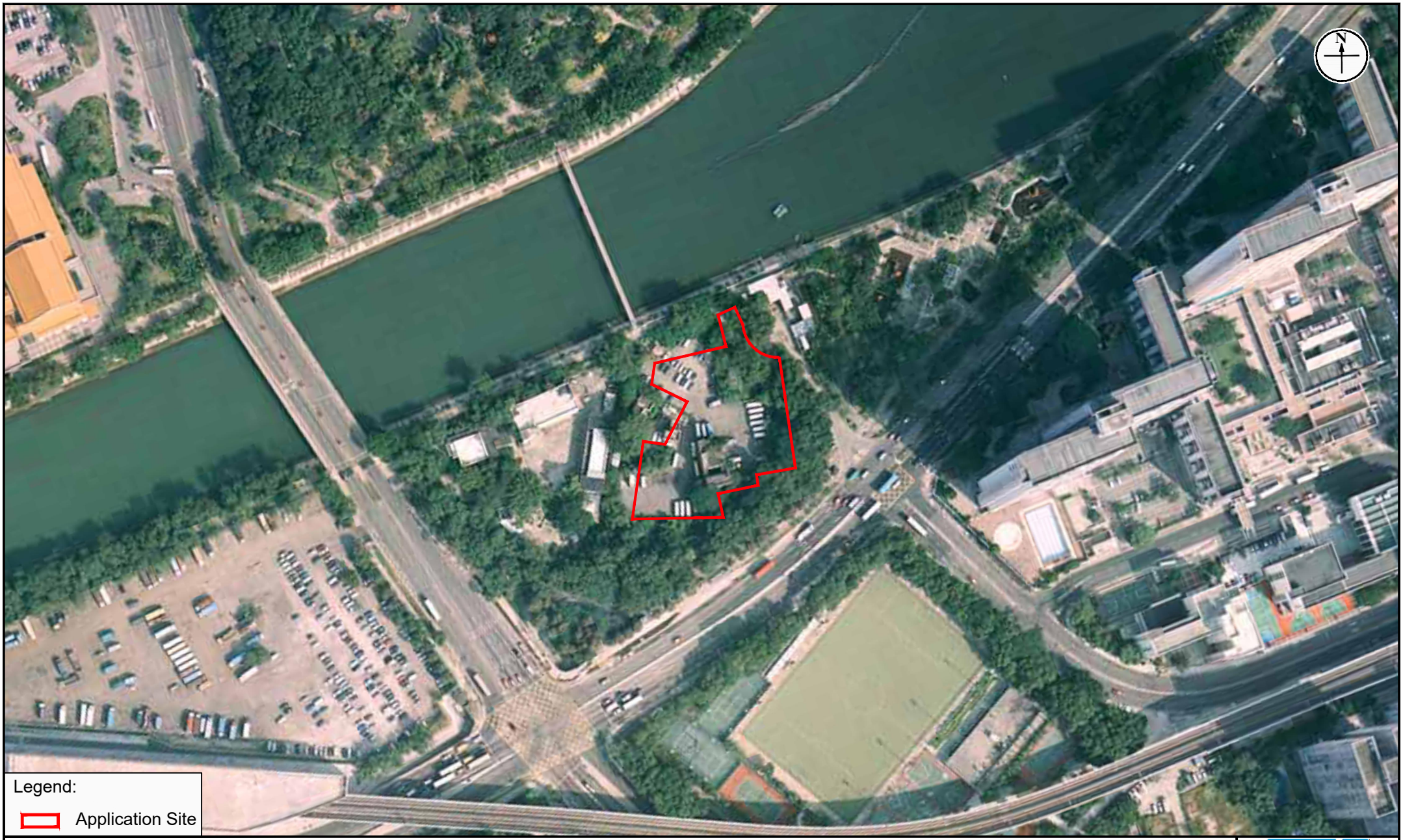
Drawn by: EC

Checked by: TC

Rev.: 1.0

Date: Oct-25

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Appendix: 3.2

Title: Aerial Photo - Year 2005 (Ref. CW65642)

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan to Rezone "Open Space" Zone to "Other Specified Use (Hotel Development)" Zone in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

Drawn by: EC

Checked by: TC

Rev.: 1.0

Date: Oct-25

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Appendix: 3.3

Title: Aerial Photo - Year 2024 (Ref. E231807C)

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan to Rezone "Open Space" Zone to "Other Specified Use (Hotel Development)" Zone in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

Drawn by: EC

Checked by: TC

Rev.: 1.0

Date: Oct-25

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Appendix: 3.4

Title: Site Photo Record

Project: Section 12A Planning Application for Proposed Amendments to the Sha Tin Outline Zoning Plan to Rezone "Open Space" Zone to "Other Specified Use (Hotel Development)" Zone in Support of Proposed Hotel Development at Various Lots in D.D. 184 and Adjoining Government Land, Sha Tin, New Territories

RAMBOLL

Drawn by:	EC
Checked by:	TC
Rev.:	1.2
Date:	Mar-26

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Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

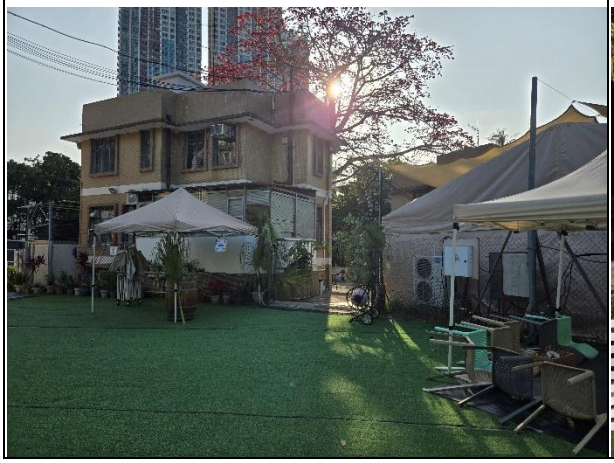


Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

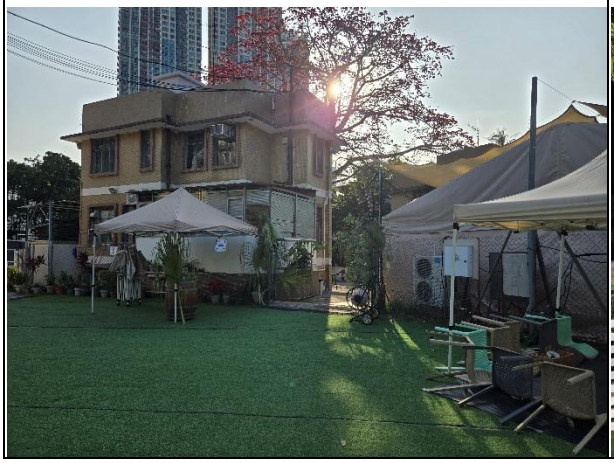


Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Appendix 4 Detailed Calculation of Total Maximum Permissible Sound Power Level (SWL)

Calculation of Maximum Permissible Sound Power Level of Planned Noise Souces

SWL = NC + Cdist - Cfac – Ctonality -Cim/inter + Cbarrier

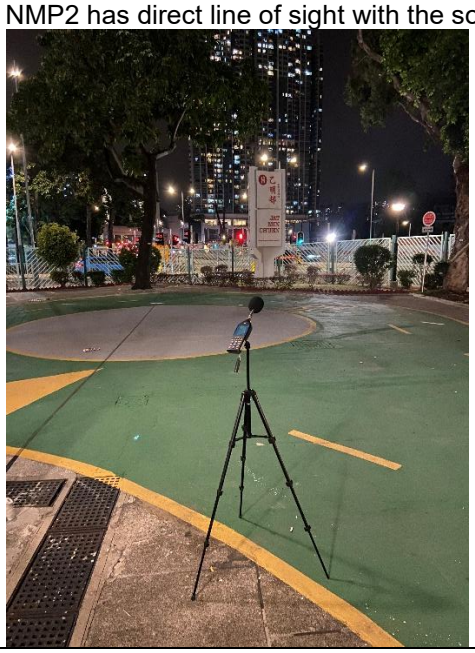
Daytime

Noise Sensitive Receivers		Noise Criteria (ANL-5, or prevailing background nosie, which is lower) , dB(A)	Horizontal Distance between Site Boundary and NSR, (m)	Distance Correction, dB(A)	Facade Correction, dB(A)	Tonal Correction, dB(A)[1]	Barrier Correction, dB(A)	Maximum Permissible Sound Power Level of the Proposed Development, dB(A)
N1	Proposed Residential Development (Application No. Y/ST/63)	60	12	30	3	6	10	91
N2	The Riverpark	60	175	53	3	6	0	104
N3	Sha Tin Tau Village	60	192	54	3	6	0	105
N4	Tsang Tai Uk New Village	60	253	56	3	6	0	107
N5	Jat Min Cheun	65	101	48	3	6	0	104
N6	New Town Plaza Phase III	60	277	57	3	6	0	108
N7	Garden Villa A	60	26	36	3	6	10	97

Night-time

Noise Sensitive Receivers		Noise Criteria (ANL-5, or prevailing background nosie, which is lower) , dB(A)	Horizontal Distance between Site Boundary and NSR, (m)	Distance Correction, dB(A)	Facade Correction, dB(A)	Tonal Correction, dB(A)	Barrier Correction, dB(A)	Maximum Permissible Sound Power Level of the Proposed Development, dB(A)
N1	Proposed Residential Development (Application No. Y/ST/63)	50	12	30	3	6	10	81
N2	The Riverpark	50	175	53	3	6	0	94
N3	Sha Tin Tau Village	50	192	54	3	6	0	95
N4	Tsang Tai Uk New Village	50	253	56	3	6	0	97
N5	Jat Min Cheun	55	101	48	3	6	0	94
N6	New Town Plaza Phase III	50	277	57	3	6	0	98
N7	Garden Villa A	50	26	36	3	6	10	87

Note:
[1] 6dB(A) tonality correction is applied for conservative approach.

Measurement Date: 6 March 2026 (Friday) 2300 – 2330 Weather Condition: Sunny Noise Measurement Positions: NMP1	NMP1 has no direct line of sight with the source. 
Measurement Date: 6 March 2026 (Friday) 2345 – 0015 Weather Condition: Sunny Noise Measurement Positions: NMP2	NMP2 has direct line of sight with the source 

Sound Level meter: Norsonic 139	Sound Calibrator: Norsonic 1256