

Annex E - Environmental Review ("ER")

JOINT-USER COMPLEX AND JOINT-USER GENERAL OFFICE BUILDING
AT AREA 29, KWU TUNG NORTH

JOINT-USER COMPLEX AND JOINT-USER GENERAL OFFICE BUILDING AT AREA 29, KWU TUNG NORTH

ENVIRONMENTAL REVIEW

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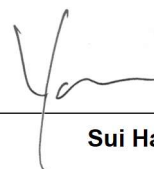
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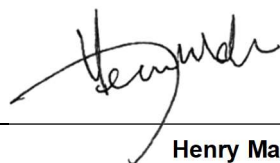
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TABLE OF CONTENT

1.	INTRODUCTION.....	1
1.1.	PROJECT SCOPE AND DESCRIPTION	1
1.2.	SITE DESCRIPTION	1
1.3.	SCOPE OF THE ENVIRONMENTAL ASSESSMENT	2
1.4.	STRUCTURE OF THE REPORT	2
2.	AIR QUALITY IMPACT	3
2.1.	INTRODUCTION	3
2.2.	RELEVANT LEGISLATION, STANDARDS AND GUIDELINES	3
2.3.	AIR SENSITIVE RECEIVERS.....	5
2.4.	CONSTRUCTION PHASE IMPACT REVIEW	6
2.5.	OPERATION PHASE IMPACT REVIEW	8
2.6.	CONCLUSION.....	9
3.	NOISE IMPACT	10
3.1.	INTRODUCTION	10
3.2.	RELEVANT LEGISLATION, STANDARDS AND GUIDELINES	10
3.3.	CONSTRUCTION PHASE IMPACT REVIEW	11
3.4.	OPERATION PHASE.....	13
3.5.	CONCLUSION.....	16
4.	WATER QUALITY IMPACT	18
4.1.	INTRODUCTION	18
4.2.	RELEVANT LEGISLATION, STANDARDS AND GUIDELINES	18
4.3.	WATER SENSITIVE RECEIVERS	18
4.4.	CONSTRUCTION PHASE IMPACT REVIEW	19
4.5.	OPERATION PHASE IMPACT REVIEW	22
4.6.	CONCLUSION.....	23
5.	WASTE MANAGEMENT	24
5.1.	INTRODUCTION	24
5.2.	RELEVANT LEGISLATION, STANDARDS AND GUIDELINES	24
5.3.	CONSTRUCTION PHASE IMPACT REVIEW	24
5.4.	OPERATION PHASE IMPACT REVIEW	26
5.5.	WASTE MANAGEMENT STRATEGIES.....	27
5.6.	CONCLUSION.....	27
6.	CONCLUSION	28

FIGURES

Figure 1.1	Location of Project Site
Figure 2.1	Location of Representative Air Sensitive Receivers
Figure 3.1	Location of Representative Noise Sensitive Receivers
Figure 4.1	Location of Water Sensitive Receiver

APPENDICES

Appendix 1.1	Indicative Building Plan
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1. INTRODUCTION

1.1. PROJECT SCOPE AND DESCRIPTION

- 1.1.1. The proposed Joint-user Complex (“JUC”) and Joint-user General Office Building (“JUB”) project is one of the projects under the “single site, multiple use” (“SSMU”) initiative as selected by Development Bureau (DEVB) to be taken forward expeditiously at Area 29, Kwu Tung North. The proposed JUC and JUB would provide postal facilities, a sports center, indoor heated swimming pools, a district library, a community hall, a 6-classroom kindergarten, welfare facilities, healthcare facilities and government offices. The indicative Building Plan is enclosed in **Appendix 1.1**.
- 1.1.2. The policy objectives of constructing a JUC are to provide more community and public services to residents of the nearby residential developments to be completed in phases starting from 2026 as well as to optimize the use of limited land resources under the SSMU initiative. Apart from that, a JUB is to provide suitable government accommodation to enable efficient delivery of public services. This involves, among others, “meeting Government’s needs for general use accommodation through planning and construction of new government office buildings”. The JUB would also accommodate government offices to be relocated from the Central Business Districts (“CBDs”) and other areas in the territory, thus releasing floor space and land elsewhere for alternative use(s).
- 1.1.3. BeeXergy Consulting Limited was commissioned by UDP International to undertake a Environmental Review in support of its planning application under Section 16 of the Town Planning Ordinance (TPO) for the Proposed Scheme. The study and conclusion from the Environmental Review will be used as design guides/specifications for the Proposed Scheme.

1.2. SITE DESCRIPTION

- 1.2.1. The site for the proposed project is located at Area 29, Kwu Tung North New Development Area (“NDA”) with a site area of about 2.1 hectares (The Site). The Site is close to the future Mass Transit Railway Kwu Tung Station which is under construction with target completion date of 2027.
- 1.2.2. The Site was mostly occupied by the Dill’s Corner Garden which has been handed over to CEDD to commence site clearance works since the fourth quarter of 2023, and bounded by the existing Castle Peak Road to the south and would be bounded by the future Road L1 to be constructed by CEDD to the north. **Figure 1.1** shows the location of Project Site and its environs.

1.3. SCOPE OF THE ENVIRONMENTAL ASSESSMENT

1.3.1. This PER Report covers the following key issues arising from the construction and operation of the Proposed Scheme:

- Air Quality Impact;
- Noise Impact;
- Water Quality Impact;
- Waste Management Impact;

1.4. STRUCTURE OF THE REPORT

1.4.1. This PER Report includes the following sections:

- Section 1 introduces the project background and outlines the scope of this PER;
- Section 2 evaluates the air quality impact;
- Section 3 presents the noise impact assessment;
- Section 4 evaluates the water quality impact;
- Section 5 evaluates the waste management impact;
- Section 6 summarizes the findings of this PER study.

2. AIR QUALITY IMPACT

2.1. INTRODUCTION

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

2.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

2.2.1. The relevant legislation, standards and guidelines applicable to the present review of air quality impact include:

- Air Pollution Control Ordinance (APCO) (Cap. 311);
- Air Pollution Control (Smoke) Regulations (Cap. 311C);
- Air Pollution Control (Fuel Restriction) Regulations (Cap. 311I);
- Air Pollution Control (Construction Dust) Regulation (Cap. 311R);
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (Cap. 311Z);
- Hong Kong Planning Standards and Guidelines (HKPSG); and
- EPD's Guidelines on "Control of Oily Fume and Cooking Odour from Restaurants and Food Business".

Air Quality Objectives

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

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging Time	Concentration Limit ^[i] ($\mu\text{g}/\text{m}^3$)	Number of Exceedances Allowed
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) ^[ii]	24-hour	100	9
	Annual	50	N/A
Fine Suspended Particulates ($\text{PM}_{2.5}$) ^[iii]	24-hour	50	35
	Annual	25	N/A

Pollutant	Averaging Time	Concentration Limit ^[i] (µg/m ³)	Number of Exceedances Allowed
Nitrogen Dioxide (NO ₂)	1-hour	200	18
	Annual	40	N/A
Ozone (O ₃)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead	Annual	0.5	N/A
Notes: [i] All measurements of the concentration of gaseous air pollutants, i.e., SO ₂ , NO ₂ , O ₃ and CO, are to be adjusted to a reference temperature of 293 K and a reference pressure of 101.325 kPa. [ii] PM ₁₀ means suspended particles in air with a nominal aerodynamic diameter of 10µm or less. [iii] PM _{2.5} means suspended particles in air with a nominal aerodynamic diameter of 2.5µm or less.			

Hong Kong Planning Standards and Guidelines

2.2.3. Environmental requirements to be considered in land use planning are outlined in Chapter 9 of the HKPSG. The standards and guidelines provide recommendation on suitable locations for developments and sensitive users, provision of environmental facilities and design, layout, phasing and operational controls to minimize adverse environmental impacts. It also lists out environmental factors influencing the land use planning and recommends buffer distances for land uses.

2.2.4. Buffer distances on usage of open space site for active and passive recreational uses are also recommended. Evaluation of potential air quality impact on the Proposed Scheme due to the open road emissions and industrial emissions shall make reference to the guidelines as stipulated in the HKPSG. The buffer distance requirements in HKPSG are extracted below in **Table 2.2**.

Table 2.2 HKPSG Recommended Buffer Distance

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

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Roads and Highways	District Distributor	< 10m	Passive Recreational Uses
	Local Distributor	> 5m	Active and Passive Recreational Uses
		< 5m	Passive Recreational Uses
	Under Flyover	N/A	Passive Recreational Uses
Industrial Areas	<i>Difference in Height between Industrial Chimney Exit and the Site</i>		
	< 20m	> 200m	Active and Passive Recreational Uses
		5 – 200m	Passive Recreational Uses
	20 – 30m (*)	> 100m	Active and Passive Recreational Uses
		5 – 100m	Passive Recreational Uses
	30 – 40m	> 50m	Active and Passive Recreational Uses
		5 – 50m	Passive Recreational Uses
	> 40m	> 10m	Active and Passive Recreational Uses
Remarks: a) In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available. b) The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites. c) The guidelines are generally applicable to major industrial areas but not individual large industrial establishments which are likely to be significant air pollution sources. Consult EPD when planning open space sites close to such establishments. d) Amenity areas are permitted in any situation.			

2.3. AIR SENSITIVE RECEIVERS

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

their locations are shown in **Figure 2.1**.

Table 2.3 Representative Air Sensitive Receivers

ASR ID	Description	Use	Existing/Planned	Approximate Shortest Distance from Project Site, m
A01	Europa Garden	Residential	Existing	83
A02	Valais	Residential	Existing	84
A03	Planned Residential Area	Residential	Planned	33
A04	Planned Residential Area	Residential	Planned	30
A05	Planned Residential Area	Residential	Planned	193
A06	Planned Residential Area	Residential	Planned	242

2.4. CONSTRUCTION PHASE IMPACT REVIEW

Impact Identification and Evaluation

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

Recommended Mitigation Measures

- 2.4.3. To ensure that dust and gaseous emissions are minimized during the construction phase of the Project, relevant dust control requirements stipulated in Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations should be implemented. The proposed suppression measures are listed below.
 - The designated haul road should be hard paved to minimize fugitive dust emission;
 - During the site formation works, the active works areas should be water sprayed with water browser or sprayed manually hourly during construction period. The Contractor should ensure that the amount of water spraying is just enough to dampen the exposed surfaces without over-watering which could

result in surface water runoff;

- Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated as soon as possible;
- Dusty materials remaining after a stockpile is removed should be wetted with water;
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore or similar;
- The Contractor(s) shall only transport adequate amount of fill materials to the Project Site to minimize stockpiling of fill materials on-site, thus reducing fugitive dust emission due to wind erosion;
- Should temporary stockpiling of dusty materials be required, it shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- Vehicle speed to be limited to 10 kph except on completed access roads;
- The portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving the construction site;
- The load of dusty materials carried by vehicle leaving the construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
- The working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet;
- Restricting height from which materials are to be dropped as far as practicable to minimize the fugitive dust arising from loading/unloading activities;
- Every stock of more than 20 bags of cement or dry pulverized fuel ash shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;
- Cement, pulverized fuel ash or any other dusty materials collected by fabric

filters or other air pollution control system or equipment shall be disposed of in totally enclosed containers;

- Electric power supply shall be provided for on-site machinery as far as practicable;
- Regular maintenance of construction equipment deployed on-site should be conducted to minimize gaseous and prevent black smoke emission;
- Hoarding of not less than 2.4m high from ground level shall be provided along the site boundary except for a site entrance or exit to minimise dust nuisance to the nearby sensitive receivers. For locations with ASRs in immediate proximity to the Project Site, higher hoarding shall be erected; and
- Regular site audit shall be conducted to ensure all the mitigation measures are properly implemented.

2.4.4. With the implementation of above mitigation measures, no adverse construction phase air quality impact is anticipated.

2.5. OPERATION PHASE IMPACT REVIEW

Impact Identification and Evaluation

Vehicular Emission

2.5.1. Vehicular emission from existing open roads is the potential air pollution source to the Proposed Scheme during operation phase.

2.5.2. The Project Site is surrounded by Fanling Highway and Castle Peak Road - Kwu Tung. The distances from Fanling Highway and Castle Peak Road - Kwu Tung to the Site boundary will be greater than the buffer distances recommended in Chapter 9 of HKPSG as shown in **Table 2.4**. No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Table 2.4 Relevant Buffer Distance Requirements

Road Name	Road Type	Recommended Buffer Distance in HKPSG	Buffer Distance allowed for the Proposed Scheme
Fanling Highway	Expressway	20m	>20m
Castle Peak Road - Kwu Tung	Local Distributor	5m	>5m

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

Proposed Scheme is anticipated.

Recommended Mitigation Measures

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

2.6. CONCLUSION

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

3. NOISE IMPACT

3.1. INTRODUCTION

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

3.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

3.2.1. The relevant legislation, standards and guidelines applicable to the present noise impact assessment include:

- Noise Control Ordinance (NCO) (Cap. 400);
- Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Technical Memorandum on Noise from Construction Work Other Than Percussive Piling (GW-TM);
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM);
- Technical Memorandum on Noise from Percussive Piling (PP-TM);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN 1/24 "Minimizing Noise from Construction Activities";
- Good Practices on Pumping System Noise Control; and
- Good Practices on Ventilation System Noise Control

3.3. CONSTRUCTION PHASE IMPACT REVIEW

Noise Standards for Construction Works during Non-restricted Hours

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

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

Uses	L _{eq} (30 mins), dB(A)
All domestic premises Temporary housing accommodation Hostels Convalescences homes Homes for the aged	75
Places of public worship Courts of law Hospitals and medical clinics	70
Educational institutions (including kindergartens and nurseries)	70 (65 during examination)
Note: The above standards apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.	

Noise Standards for Construction Works during Restricted Hours

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

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

Noise Standards for Percussive Piling

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

Impact Identification and Evaluation

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

Recommended Mitigation Measures

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

noise (such as during peak traffic hours);

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

3.4. OPERATION PHASE

Noise Standards for Fixed Noise Impact Assessment

3.4.1. IND-TM stipulates the appropriate Acceptable Noise Level (ANL) for fixed noise sources. The ANL is dependent on the area sensitivity rating of a noise sensitive receivers (NSR), as defined in Table 1 of the IND-TM (reproduced in **Table 3.2**). The area sensitivity rating of a NSR is determined by the type of area where the NSR is located and the presence of any influencing factors (IFs) such as major roads and industrial areas.

Table 3.2 Area Sensitivity Ratings

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

Area other than those above	B	B	C
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- 3.4.2. The HKPSG also states that in order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the façade of the nearest existing sensitive use should be at least 5 dB(A) below the appropriate ANL shown in Table 2 of IND-TM or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background. The ANLs stipulated in the IND-TM are provided in **Table 3.3**.

Table 3.3 Acceptable Noise Levels

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

Noise Standards for Road Traffic Noise Impact Assessment

- 3.4.3. Table 4.1 of Chapter 9 of the HKPSG provides the assessment criteria for road traffic noise impact at noise sensitive uses which rely on opened windows for ventilation. **Table 3.4** summarizes the adopted road traffic noise criteria for noise sensitive uses with openable windows at the Proposed Scheme.

Table 3.4 Road Traffic Noise Criteria for Noise Sensitive Uses

Location	Use	L ₁₀ (1 hour), dB(A)
G/F	Kindergarten	65
G/F	General Outpatient Clinic	55
1/F	Child Care Centre (CCC)/ Integrated Children and Youth Services Centre (ICYSC)	65
7-33/F	Office	70
Notes: [1] The above standards apply to noise sensitive uses which rely on opened windows for ventilation and should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.		

Noise sensitive receivers

- 3.4.4. Existing NSRs and planned/committed noise sensitive uses identified on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development

applications approved by the Town Planning Board have been identified. The first layer of representative NSRs within the 300m assessment area are listed in **Table 3.5** below and their locations are illustrated in **Figure 3.1**.

Table 3.5 Representative Noise Sensitive Receivers

NSR ID	Description	Nature of Use	Existing/Planned	Approximate Shortest Distance from Project Site, m
N01	Europa Garden	Residential	Existing	83
N02	Valais	Residential	Existing	84
N03	Planned Residential Area	Residential	Planned	33
N04	Planned Residential Area	Residential	Planned	30
N05	Planned Residential Area	Residential	Planned	193
N06	Planned Residential Area	Residential	Planned	242

Fixed Noise Impact on the Proposed Scheme

- 3.4.5. In accordance with the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), offices that are provided with air conditioning and acoustic insulation are not considered to be noise sensitive uses. However, if the offices will rely on openable window for natural ventilation, then these offices would be considered as noise sensitive uses. The Proposed Scheme will be provided with air conditioning and not relied on openable window for ventilation. Therefore, no adverse fixed noise impact on the Proposed Scheme from existing or planned fixed noise sources is anticipated.

Fixed Noise Impact from the Proposed Scheme

Impact Identification and Evaluation

- 3.4.6. According to the latest development scheme, potential fixed noise sources within the Proposed Scheme include the standby generators, transformer room, lift machine room, pump rooms, E&M rooms, and ventilation systems of carpark. During the operation phase, potential fixed noise sources will be fully enclosed and located inside the building structure. Noise impact arising from fixed plants is expected to be minimal.
- 3.4.7. To ensure the fixed plant noise generated by the Proposed Scheme would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG.
- 3.4.8. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it

is anticipated that the fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Scheme will not exceed the relevant noise criteria under the HKPSG and NCO.

Recommended Mitigation Measures

3.4.9. The following noise mitigation measures are recommended to control noise emissions from planned fixed plant noise sources within the Proposed Scheme:

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

Road Traffic Noise Impact on the Proposed Scheme

3.4.10. Traffic from Fanling Highway and Castle Peak Road - Kwu Tung are the major potential noise sources to the Proposed Scheme during operation phase. Central air-conditioning is provided for the entire building of Proposed Scheme including sensitive uses such as kindergarten, clinic, social welfare facilities, and not relied on openable window for ventilation. Therefore, no adverse road traffic noise impact on the Proposed Scheme is anticipated. According to Chapter 9 of the HKPSG, effort should be made to ensure the noise impact will be minimized. The following noise design considerations has been considered and incorporated into the Proposed Scheme to minimise the noise at noise sensitive uses:

Recommended Design Considerations

- Setback of general office building (JUB) from major road traffic noise sources is allowed as buffer distance;
- Noise tolerant building and podium (JUC) is located closer to the traffic sources

for noise screening, and;

- Noise tolerant uses such as swimming pool areas and sports centre are arranged to face the traffic noise sources.

3.5. CONCLUSION

Construction Phase

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

Operation Phase

- 3.5.2. Air conditioning will be provided for the Proposed Scheme and not relied on openable window for ventilation, no adverse fixed noise impact and road traffic impact to the Proposed Scheme is expected.
- 3.5.3. To ensure the fixed plant noise generated by the Proposed Scheme would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, no adverse fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Scheme is expected.

4. WATER QUALITY IMPACT

4.1. INTRODUCTION

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

4.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

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

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

4.2.2. Under the WPCO, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary water control zones. Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in each of the WCZ based on their beneficial uses. The Project Site falls within the Deep Bay WCZ and the respective WQOs shall be followed.

4.3. WATER SENSITIVE RECEIVERS

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

Table 4.1 Water Sensitive Receiver

WSR ID	Description
WSR1	Kwu Tung watercourse

WSR2	Tung Fong/Shek Tsai Ling watercourse
WSR3	Pak Shek Au watercourse

4.4. CONSTRUCTION PHASE IMPACT REVIEW

Impact Identification and Evaluation

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

Recommended Mitigation Measures

- 4.4.5. To mitigate the water quality impact during construction phase, construction practices

outlined in the ProPECC PN 2/23, where applicable, shall be implemented. Typical relevant wastewater control measures include:

- Surface runoff from construction sites should be discharged into storm water drains via adequately designed sand/silt removal facilities such as sand traps, silt traps, sedimentation tanks and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept surface run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks;
- Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times;
- Construction works should be programmed to minimize soil excavation works in rainy seasons (generally from April to September). If soil excavation works could not be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered (e.g. by tarpaulin), and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of excavation) to prevent surface runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm;
- Earthworks final surfaces should be well compacted and the subsequent permanent works or surface protection works should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary;
- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar impermeable fabric during rainstorms. Measures should be taken to prevent washing away construction materials, soil, silt or debris into any drainage system;
- Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent surface runoff from getting into foul sewers. Discharge of surface runoff into foul sewers must

always be prevented in order not to unduly overload the foul sewerage system;

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

4.4.6. By adopting the above mitigation measures with best management practices, the impacts arisen during the construction phase would be reduced to an acceptable level

and adverse water quality impacts would not be anticipated.

4.5. OPERATION PHASE IMPACT REVIEW

Impact Identification and Evaluation

- 4.5.1. During operation phase, stormwater runoff from paved surfaces within the Project Site would be directed to a managed stormwater drainage system following the requirements in the ProPECC PN 1/23. Runoff from the roofs of buildings and road surfaces within the Project Site may carry suspended solids and other pollutants such as fuel, oils and heavy metals that could enter nearby surface water bodies or storm drains if uncontrolled. With implementation of stormwater best management practices including provision of trapped gullies and catchpits, adverse impact to the water quality is not anticipated.
- 4.5.2. Effluent discharge from the kitchen within the Proposed Scheme during operation phase is also governed by the WPCO. All restaurants and food processing factories are required to install grease traps so that greasy materials will be separated from wastewater before passing to communal sewers. The operator shall ensure that the grease traps are properly designed, constructed and maintained so as to effectively remove greasy materials from wastewater before discharge to the sewerage system. Materials removed from a grease trap shall be handled and disposed of properly in order to maintain kitchen hygiene and protect Hong Kong's environment. "Grease Traps for Restaurants and Food Processors" published by the EPD detailed the requirements of such discharge.
- 4.5.3. Sewage discharge would be the major water pollution source throughout the operation phase of the Proposed Scheme. Sewage generated from the Proposed Scheme would be collected and conveyed to the nearest public sewerage system, which is the Long Ping Sewage Pumping Station and Yuen Long Sewage Treatment Works, via proper connections. No sewage will be released to the environment without treatment.

Recommended Mitigation Measures

- 4.5.4. The following mitigation measures are recommended to avoid causing any water quality impacts during the operation phase:
- Grease traps should be properly designed and constructed so as to effectively remove greasy materials from the kitchen wastewater before discharge to the sewerage system;
 - Grease traps should be properly maintained so that it can continue to function as an effective grease removal device; and
 - Materials removed from a grease trap should be handled and disposed of

properly.

4.6. CONCLUSION

Construction Phase

- 4.6.1. During construction, water quality impacts can be properly controlled with the implementation of good site practices, provision of sufficient chemical toilets on-site with regular maintenance, and proper handling and disposal of waste materials. The effluent shall be pre-treated to comply with WPCO requirements before any discharge. Effluent discharge shall be sited away from natural water courses. Provided these measures are properly implemented, it is unlikely that any adverse water quality impact will be induced during the construction of the Proposed Scheme.

Operation Phase

- 4.6.2. During operation phase, stormwater runoff from paved surfaces within the Project Site would be directed to a managed stormwater drainage system following the requirements in the ProPECC PN 1/23. With implementation of stormwater best management practices including provision of trapped gullies and catchpits, adverse impact to the water quality is not anticipated.
- 4.6.3. Effluent discharge from the kitchen within the Proposed Scheme is governed by the WPCO. Grease traps shall be installed to separate greasy materials from wastewater prior to discharge. Provided that the grease traps are properly designed, constructed and maintained, no adverse water quality impact is anticipated due to the operation of the kitchen.
- 4.6.4. Sewage generated from the Proposed Scheme would be collected and conveyed to the nearest public sewerage system, which is the Long Ping Sewage Pumping Station and Yuen Long Sewage Treatment Works, via proper connections. No sewage will be released to the environment without treatment.

5. WASTE MANAGEMENT

5.1. INTRODUCTION

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

5.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

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

- Waste Disposal Ordinance (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O);
- Land (Miscellaneous Provisions) Ordinance (Cap. 28);
- Public Health and Municipal Services Ordinance (Cap. 132);
- Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK);
- Dumping at Sea Ordinance (Cap. 466);
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; and
- Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers.

5.3. CONSTRUCTION PHASE IMPACT REVIEW

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

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

comply with legislation requirements including:

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

Construction and Demolition Materials

5.3.3. C&D materials would be generated from the demolition and construction activities. All C&D materials generated shall be sorted into inert and non-inert C&D materials. Where practicable, inert C&D material reused on-site shall be encouraged to minimize material volumes requiring off-site transport/ disposal. Disposal outlets such as public fill reception facilities shall be identified for inert materials if no on-site reuse opportunities exist. Non-inert C&D materials should be reused or recycled as far as possible. Landfill disposal should be considered as the last resort for waste handling.

Chemical Waste

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

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

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

5.3.6. Materials classified as chemical waste will require special handling and storage arrangement before removal for appropriate treatment at the Chemical Waste Treatment Centre (CWTC) or other licensed facilities. Wherever possible opportunities should be taken to reuse and recycle materials.

5.3.7. Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. A trip-ticket system should be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) to monitor all movements of chemical wastes which would be collected by

licensed chemical waste collectors to a licensed facility for final treatment and disposal.

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

General Refuse

- 5.3.9. The construction workforce would generate refuse comprising food scraps, paper waste, empty containers, etc. Such refuse will be properly stored in a designated area prior to collection and disposal. Disposal of refuse at site other than approved waste transfer or disposal facilities is prohibited. Effective collection of the on-site waste will prevent waste materials being blown around by wind, or creating an odour nuisance or pest and vermin problems. Waste storage areas will be well maintained and cleaned regularly.
- 5.3.10. The daily generation of general refuse during the construction phase would be minimal and those waste generated could be effectively controlled by normal measures. With the implementation of good waste management practices on-site, adverse environmental impacts are not expected to arise from the storage, handling and transportation of general refuse.

5.4. OPERATION PHASE IMPACT REVIEW

General Refuse

- 5.4.1. General refuse is anticipated during the operation of the Proposed Scheme. It would be generated from the daily activities of elders, staff and visitors. General refuse would include food waste, paper waste and domestic waste. The storage of general refuse has potential to give rise to adverse environmental impacts. These include odour if waste is not collected frequently, windblown litter and visual impact. The Proposed Scheme may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly.
- 5.4.2. General refuse generated during the operation phase will be collected at the refuse collection point provided within the Proposed Scheme for further collection. The waste management practice will comply with the statutory requirements.
- 5.4.3. With the implementation of good waste management practices on-site, the environmental impacts caused by storage, handling, transportation and disposal of general refuse are expected to be minimal.

Other Waste

- 5.4.4. Small amount of chemical waste (e.g. lubricant generated from maintenance of equipment) and clinical waste (e.g. cartridges, ampoules, surgical dressings, swabs) may be generated during operation when the need arises. The handling, storage,

transportation and disposal of chemical and clinical waste shall comply with the requirements stipulated in the following legislation and code of practice:

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

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

5.5. WASTE MANAGEMENT STRATEGIES

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

5.6. CONCLUSION

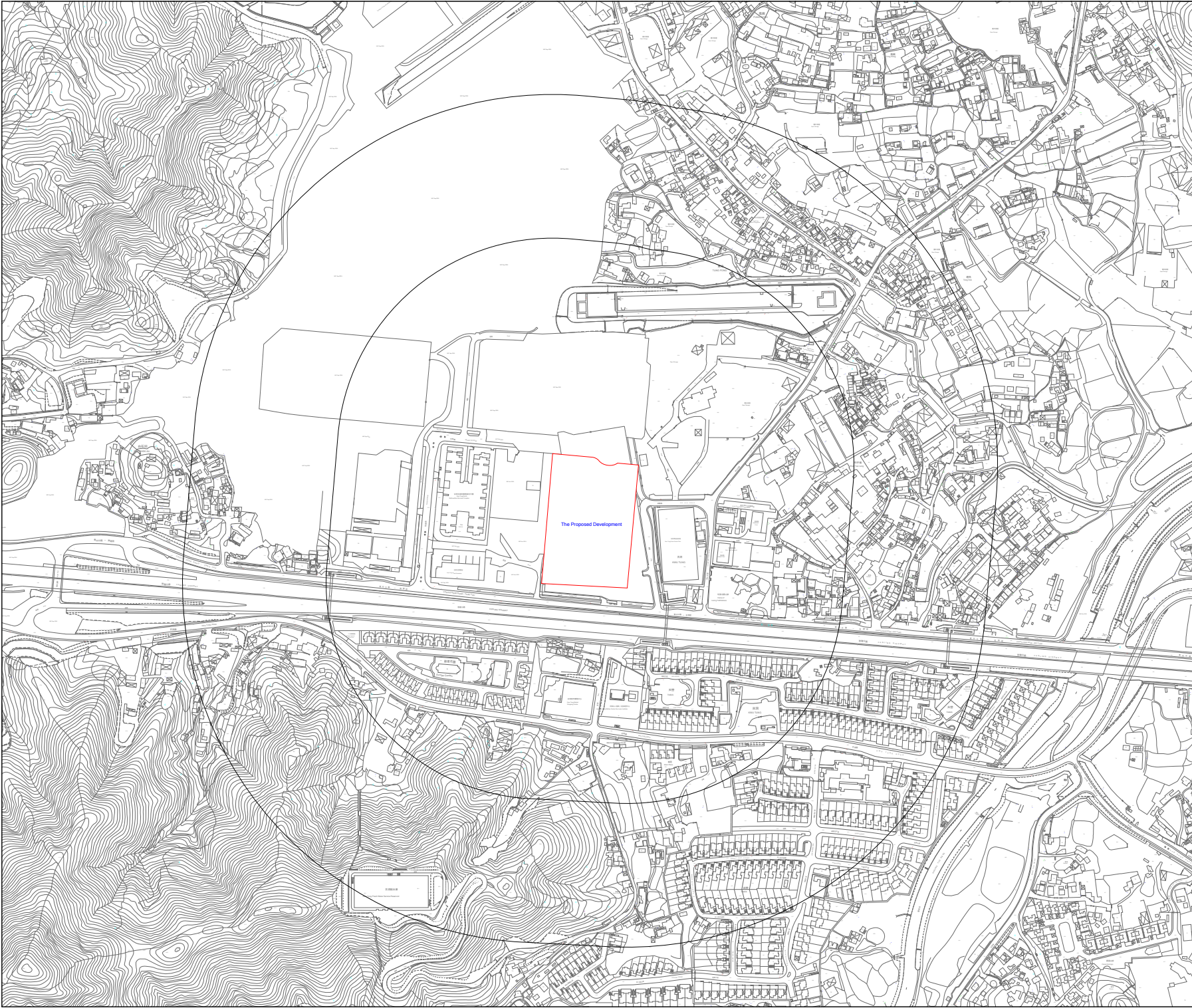
5.6.1. The potential impacts of wastes arising from construction and operation of the Proposed Scheme have been assessed. With the recommended procedures/ measures in place, the wastes generated/ disposed of during the construction and operation phases should not be result in any adverse environmental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

6. CONCLUSION

- 6.1.1. The Project is to construct a 33-storey composite tower comprising department offices, ancillary facilities including sports centre, indoor swimming pools, library, kindergarden, car parking spaces, shops and restaurant facilities. This EA Report addressed the potential environmental issues arising from the construction and operation of the Proposed Scheme, which include the air quality, noise, water quality and waste.
- 6.1.2. With the recommended environmental mitigation measures in place, no unacceptable environmental impact on or arising from the Proposed Scheme is anticipated.

FIGURE 1.1

LOCATION OF PROJECT SITE



LEGEND:

- Site Boundary
- 300/500m Assessment Area

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250213	20250213	20250213

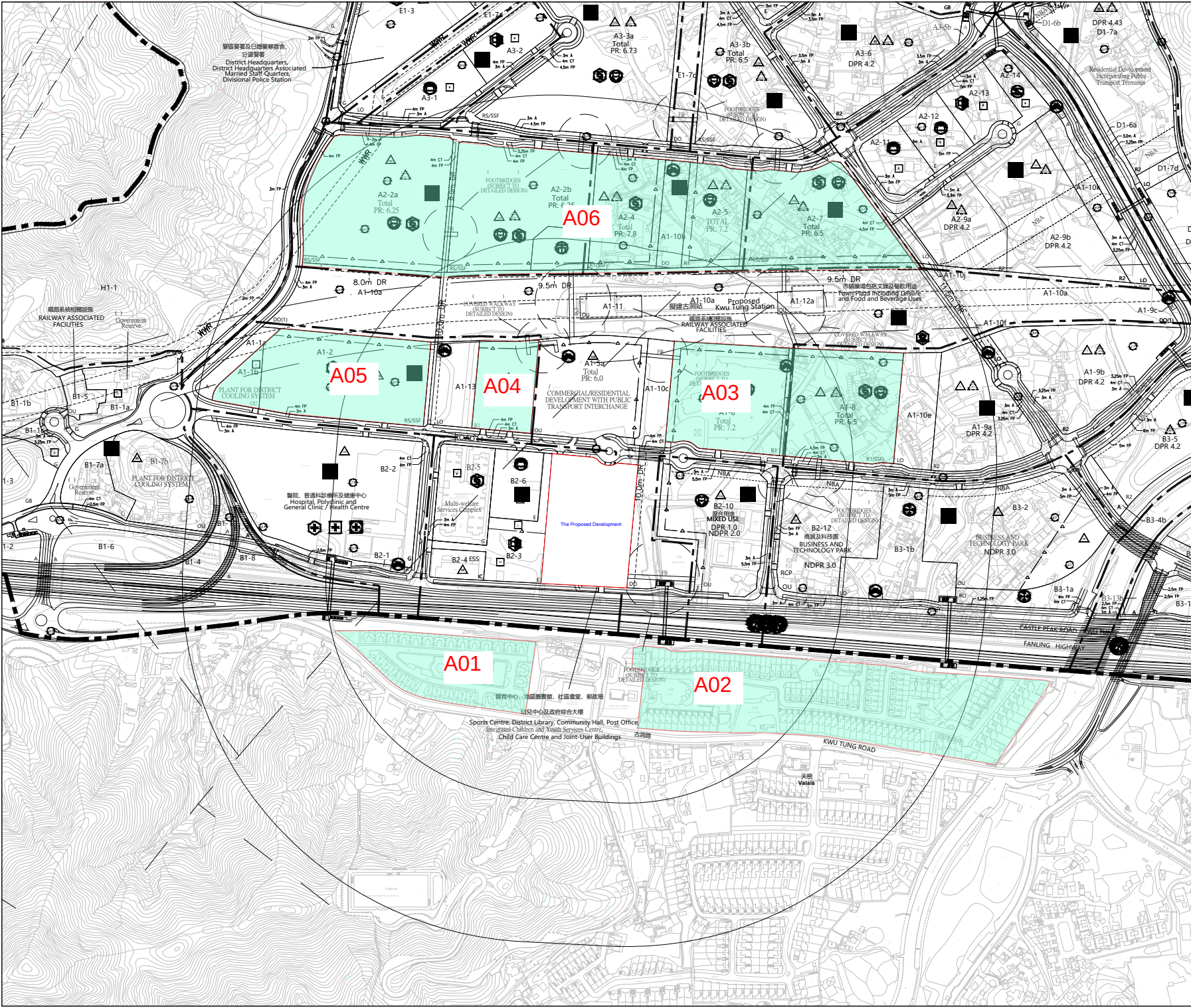
Project Title
JOINT-USER COMPLEX AND JOINT-USER
GENERAL OFFICE BUILDING AT AREA 29, KWU
TUNG NORTH

DrawingTitle
PROPOSED DEVELOPMENT LOCATION

Drawing No. FIGURE 1.1	Rev. 0
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Scale:
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FIGURE 2.1
LOCATION OF REPRESENTATIVE AIR
SENSITIVE RECEIVERS



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LEGEND:

Site Boundary

300/500m Assessment Area

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250213	20250213	20250213

Project Title

JOINT-USER COMPLEX AND JOINT-USER
GENERAL OFFICE BUILDING AT AREA 29, KWU
TUNG NORTH

DrawingTitle

LOCATION OF REPRESENTATIVE AIR
SENSITIVE RECEIVERS

Drawing No.	Rev.
FIGURE 2.1	0

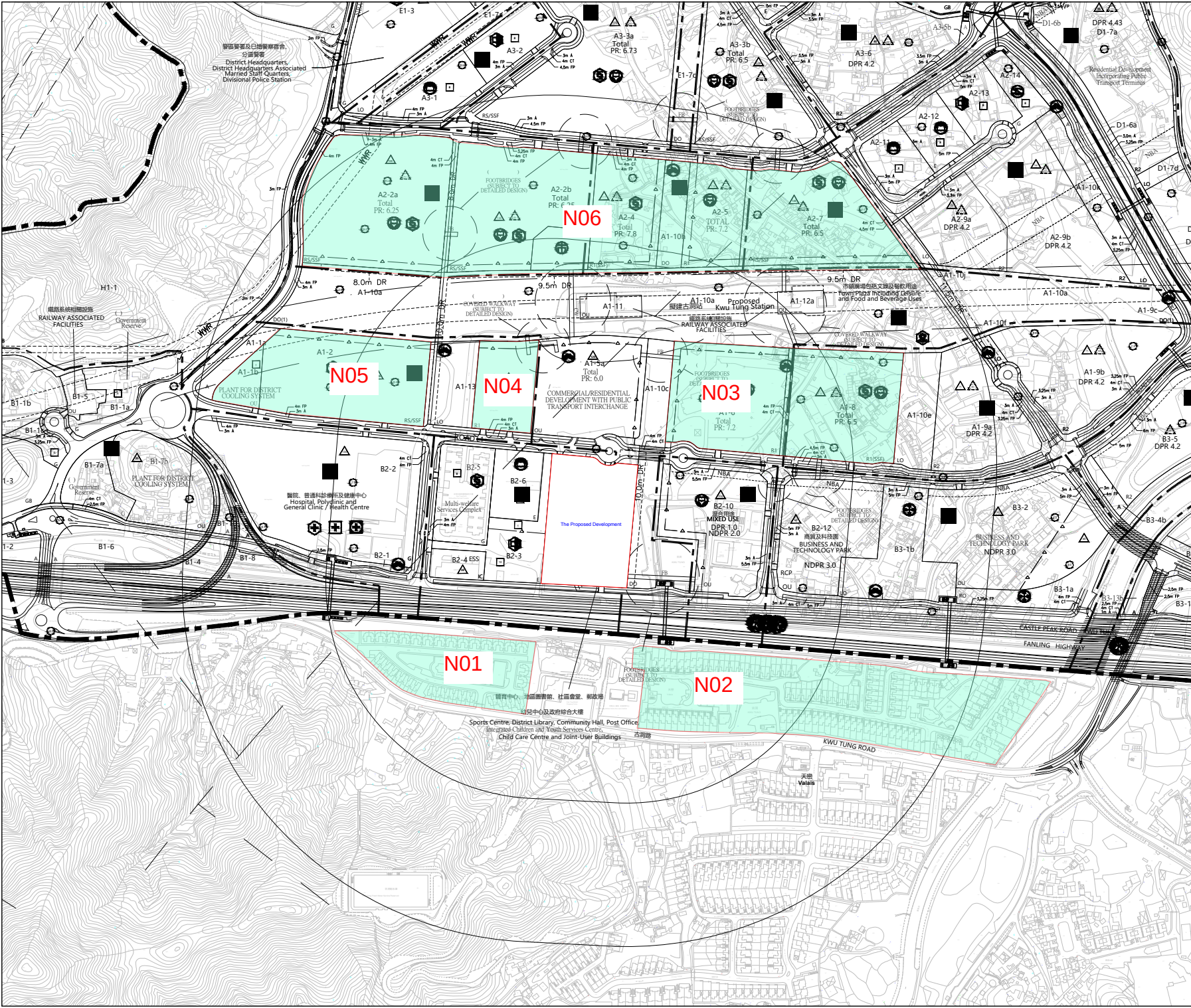
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BXG

BeeXergy Consulting Limited

FIGURE 3.1
LOCATION OF REPRESENTATIVE NOISE
SENSITIVE RECEIVERS



Copyright by BeeXergy Consulting Limited

LEGEND:

Site Boundary

300/500m Assessment Area

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250213	20250213	20250213

Project Title

JOINT-USER COMPLEX AND JOINT-USER GENERAL OFFICE BUILDING AT AREA 29, KWU TUNG NORTH

DrawingTitle

LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

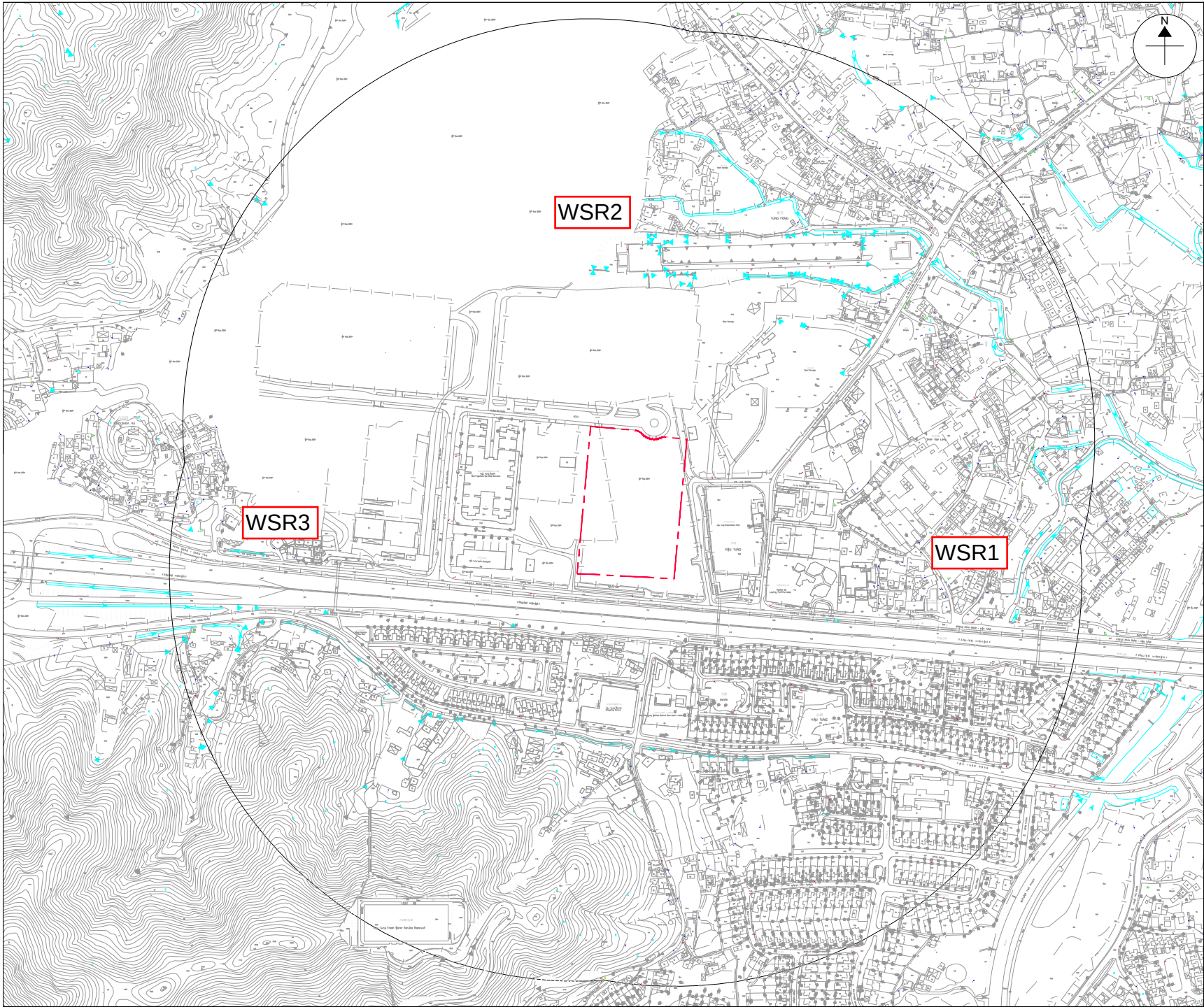
Drawing No.	Rev.
FIGURE 3.1	0

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BeeXergy Consulting Limited

FIGURE 4.1
LOCATION OF REPRESENTATIVE WATER
SENSITIVE RECEIVERS



LEGEND:

-  Project Site
-  500m Assessment Area for Water Quality
-  Water Sensitive Receiver

	Prepared	Checked	Approved
Initial	TL	YS	HM
Date	20250221	20250221	20250221

Project Title
JOINT-USER COMPLEX AND
JOINT-USER GENERAL OFFICE
BUILDING AT AREA 29, KWU TUNG
NORTH

Figure Title
Location of Water Sensitive Receiver

Figure No. Figure 4.1	Rev. 0
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APPENDIX 1.1

INDICATIVE BUILDING PLAN

(ROOF)
+166.90mPD

+166.90mPD
+162.60mPD
+158.30mPD
+154.00mPD
+149.70mPD
+145.40mPD
+141.10mPD
+136.80mPD
+132.50mPD
+128.20mPD
+123.90mPD
+119.60mPD
+115.30mPD
+111.00mPD
+106.70mPD
+102.40mPD
+98.10mPD
+93.80mPD
+89.50mPD
+85.20mPD
+81.00mPD
+77.40mPD
+73.10mPD
+68.80mPD
+64.50mPD
+60.20mPD
+55.90mPD
+51.60mPD
+46.80mPD
+42.00mPD
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+27.00mPD
+22.00mPD
+17.00mPD
+11.00mPD
+4.00mPD
B/F

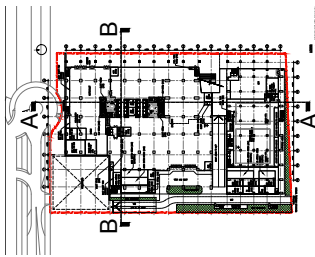
SITE BOUNDARY

SITE BOUNDARY

JUC

UPPER ROOF
+63.00mPD
ROOF
+57.00mPD
BALL COURT
+42.50mPD
ACTIVITY ROOM
+36.50mPD
SWIMMING POOL
+17.00mPD
LG/F
+11.00mPD
B/F
+4.00mPD

10m 0 20m

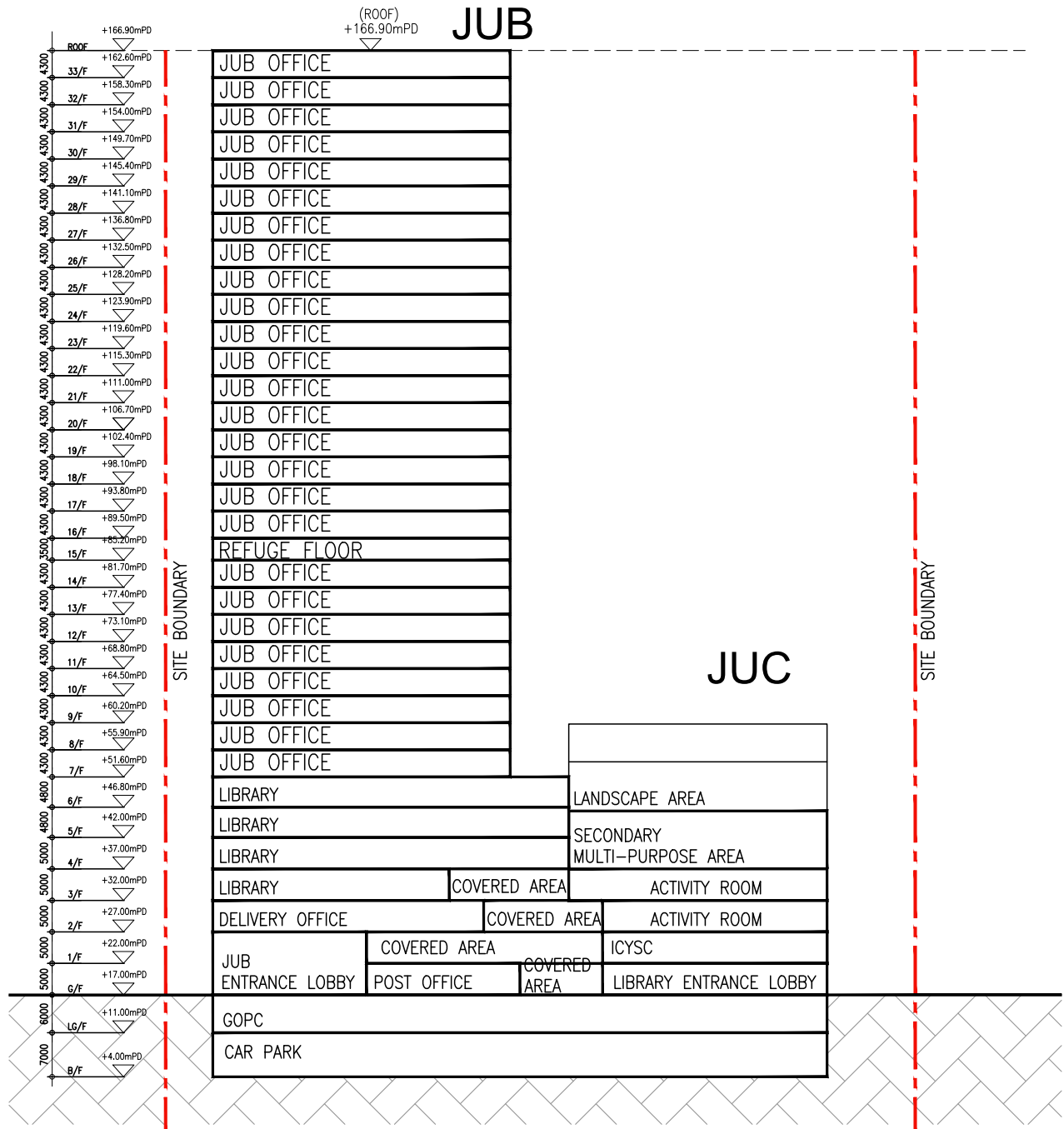
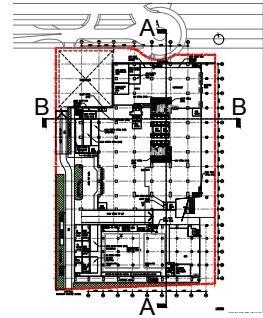


SECTION A-A

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DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL

SECTION A-A



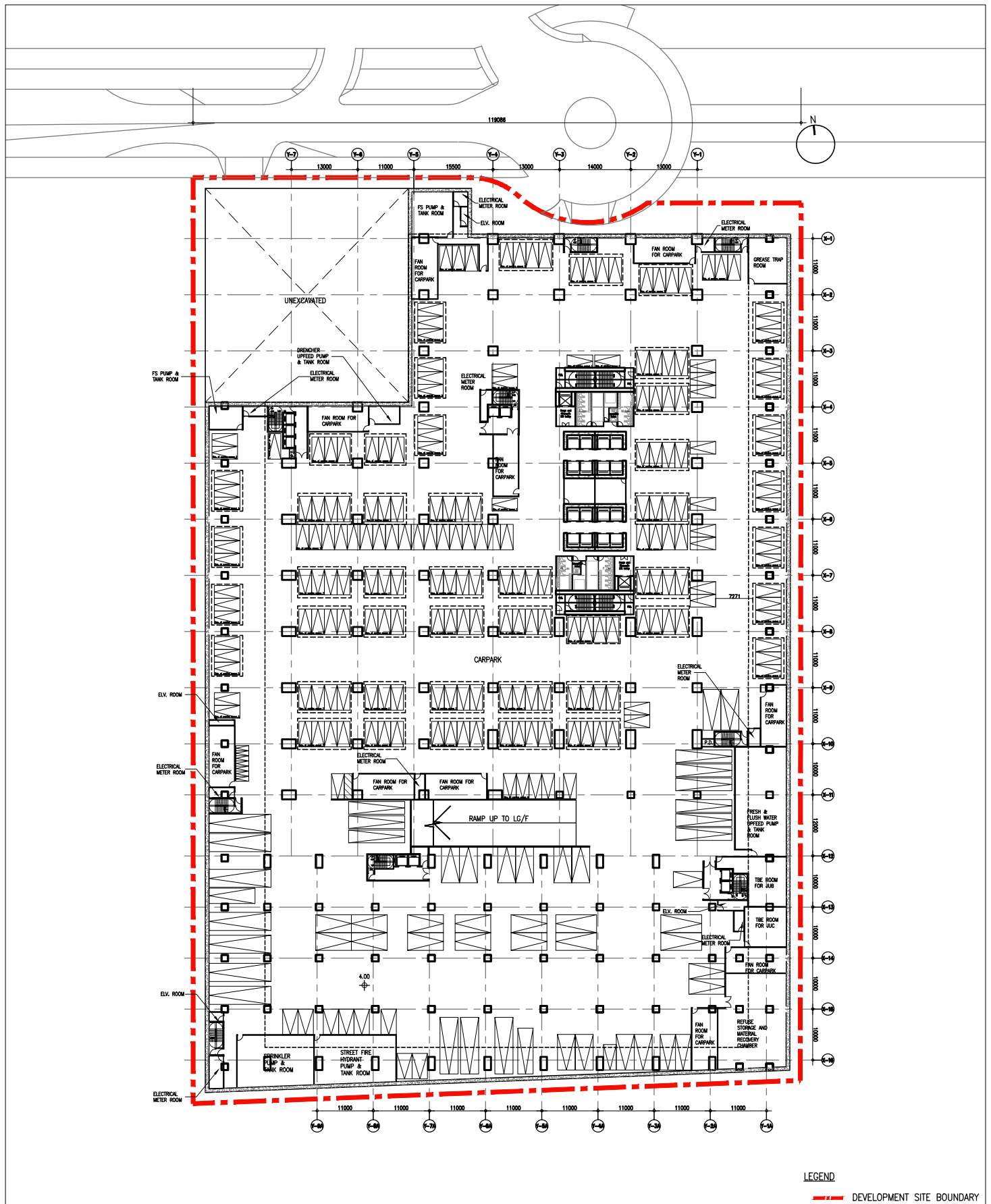
SECTION B-B



SECTION B-B

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DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

FANLING HIGHWAY

10m 0 20m

B/F PLAN

1:1000 @ A4

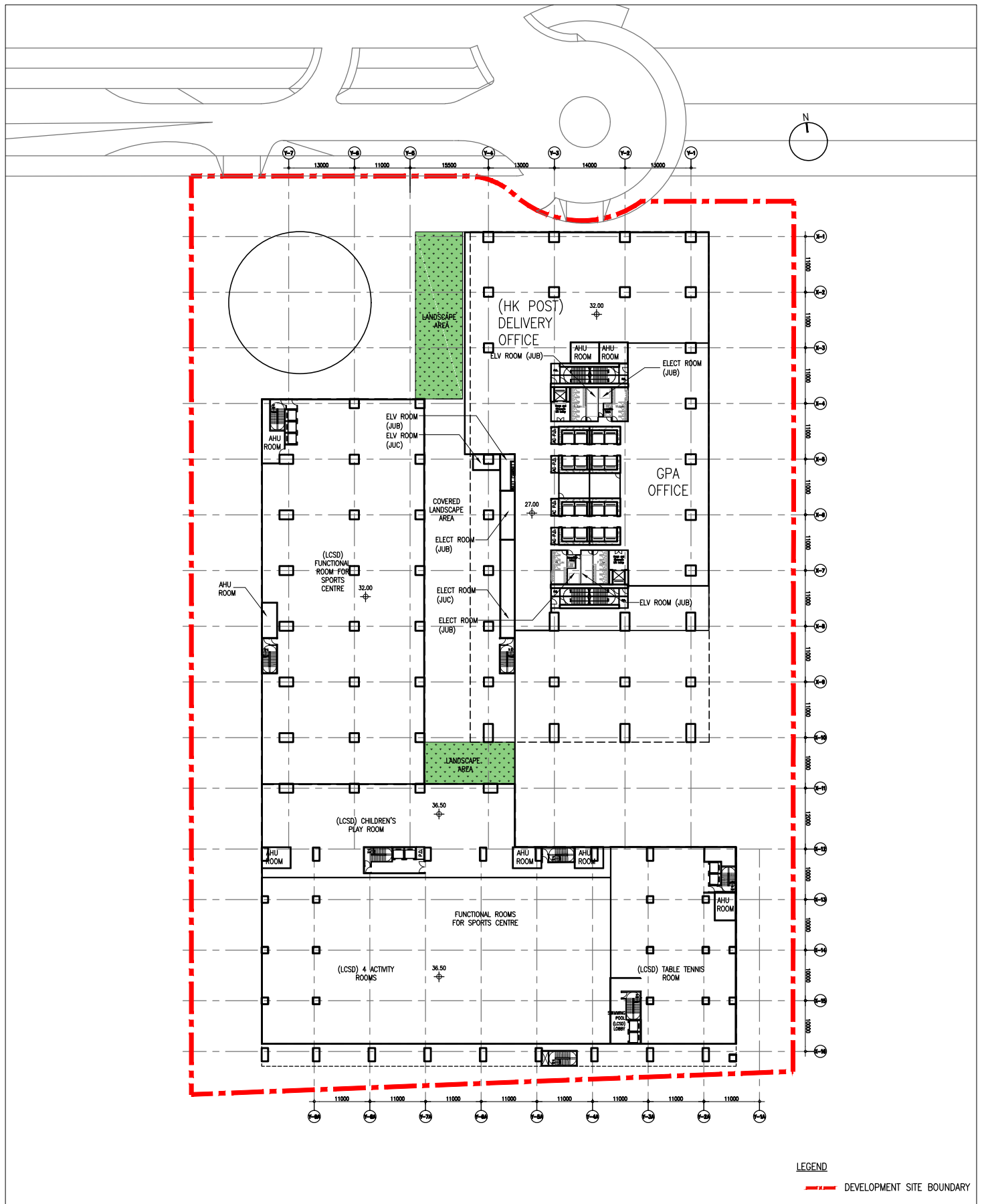
DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



CASTLE PEAK ROAD – CHAU TAU

10m 0 20m

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青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

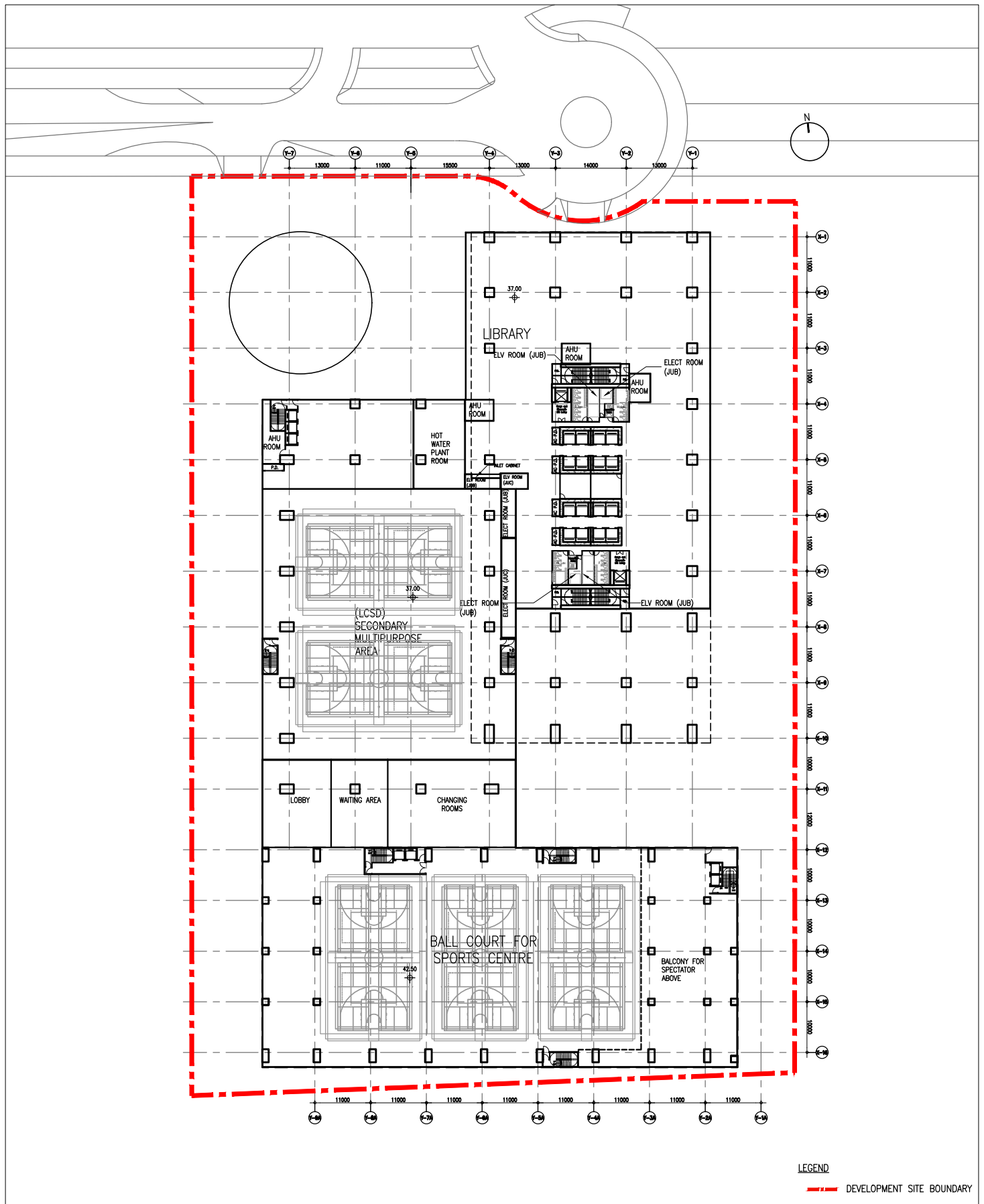
FANLING HIGHWAY

10m 0 20m

2/F PLAN

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL

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青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

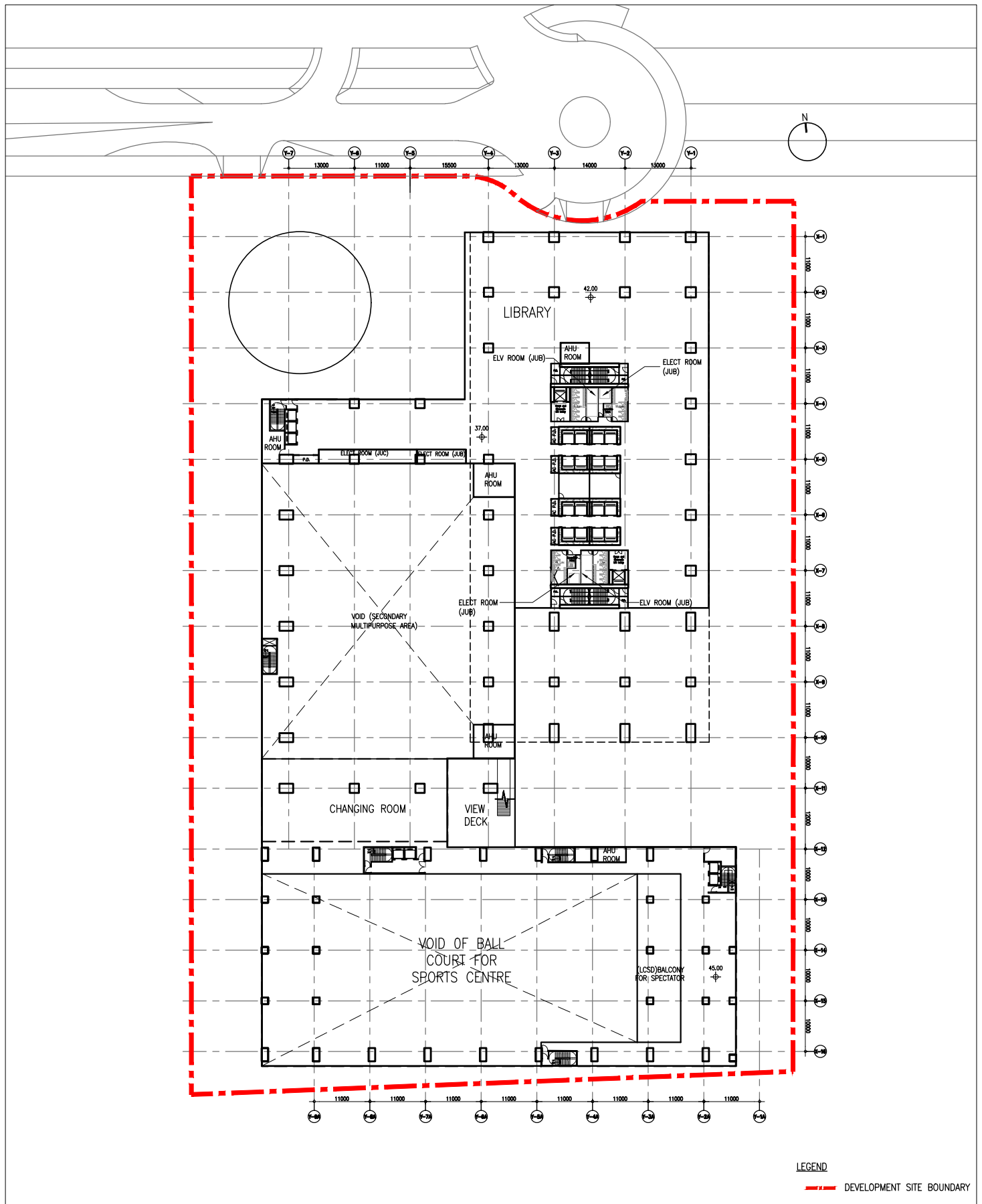
FANLING HIGHWAY

10m 0 20m

3/F PLAN

1:1000 @ A4

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

FANLING HIGHWAY

10m 0 20m

4/F PLAN

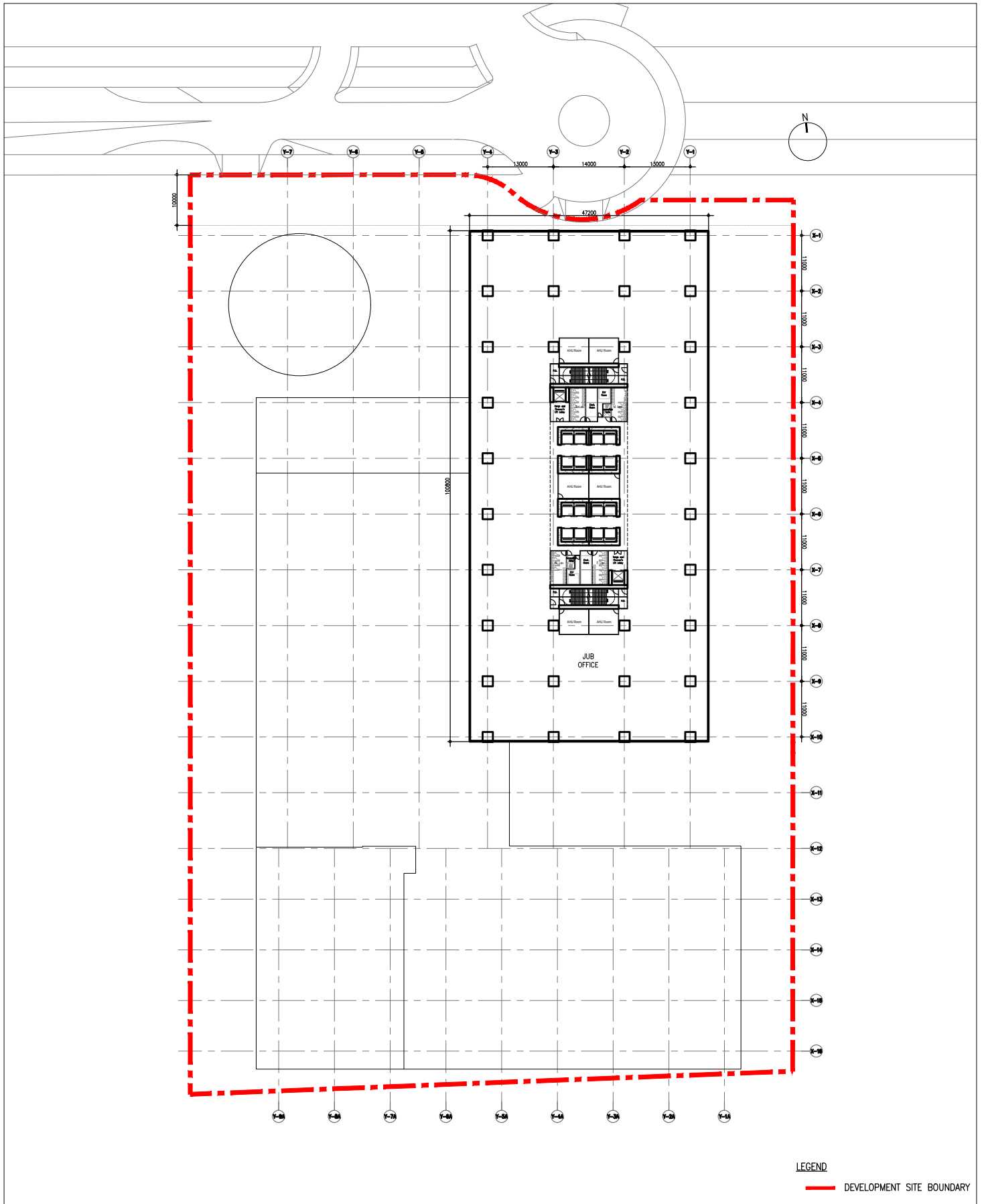
1:1000 @ A4

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



10m 0 20m

1:1000 @ A4



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

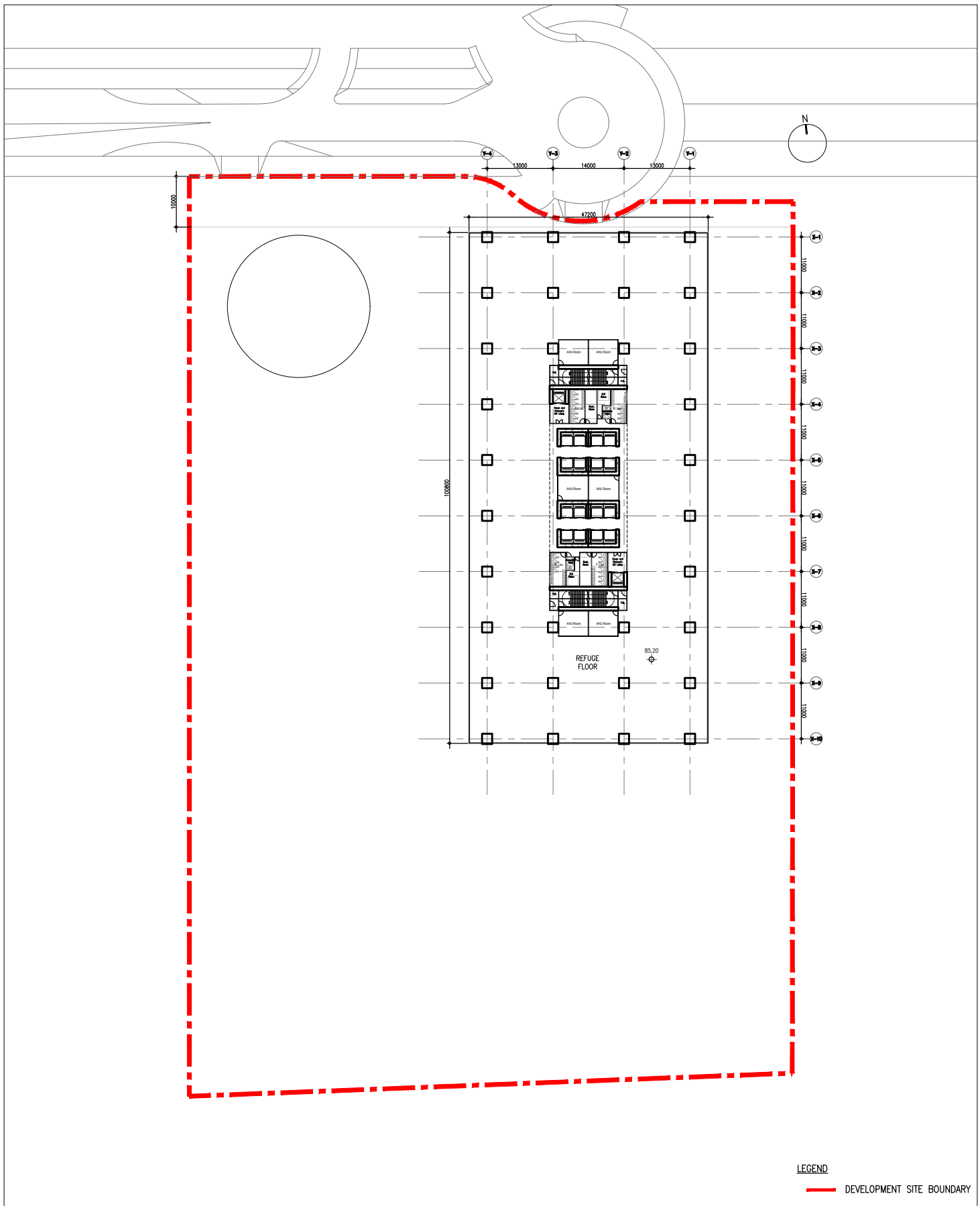
FANLING HIGHWAY



7-14/F PLAN

1:1000 @ A4

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

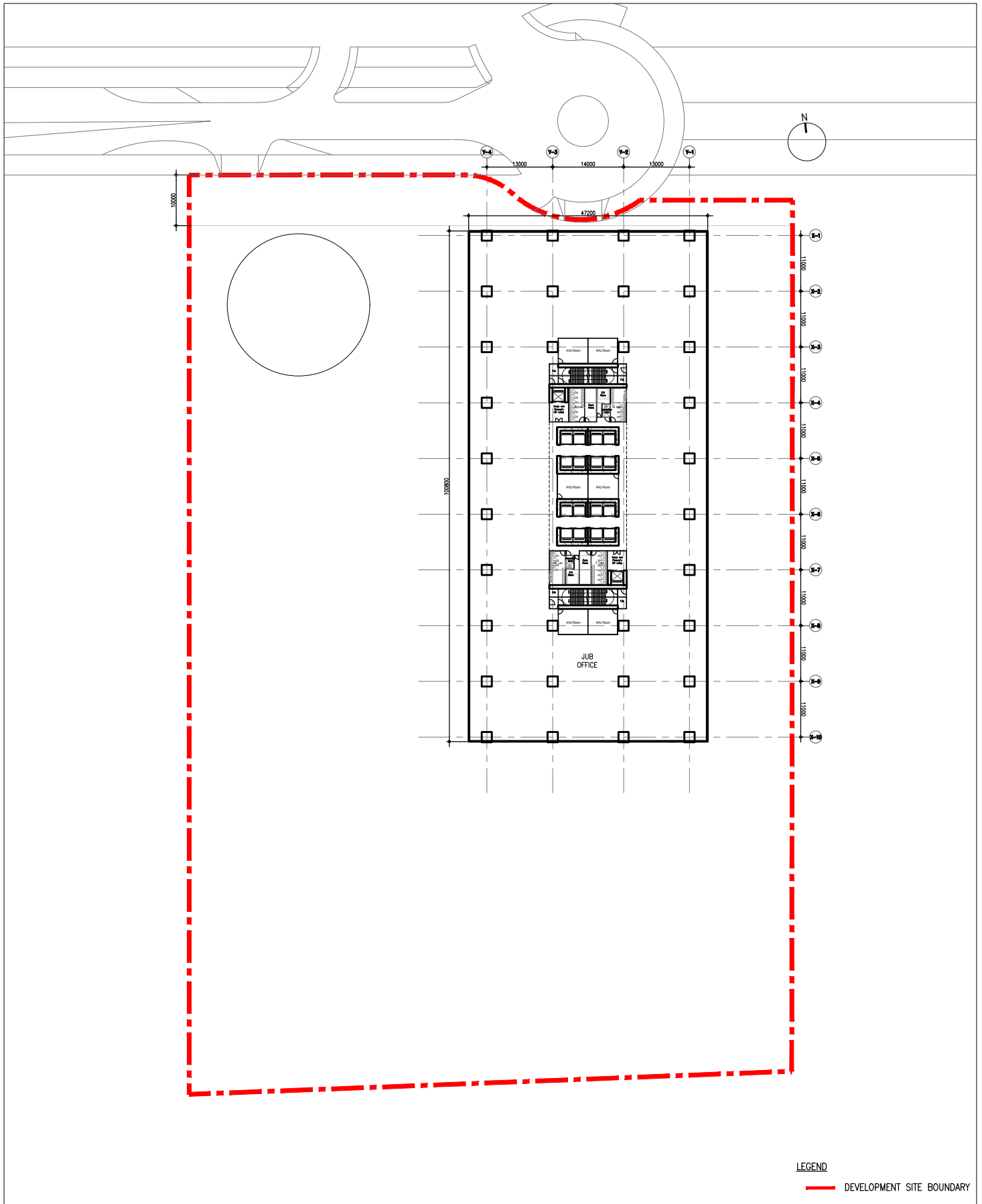
FANLING HIGHWAY



15/F PLAN

1:1000 @ A4

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

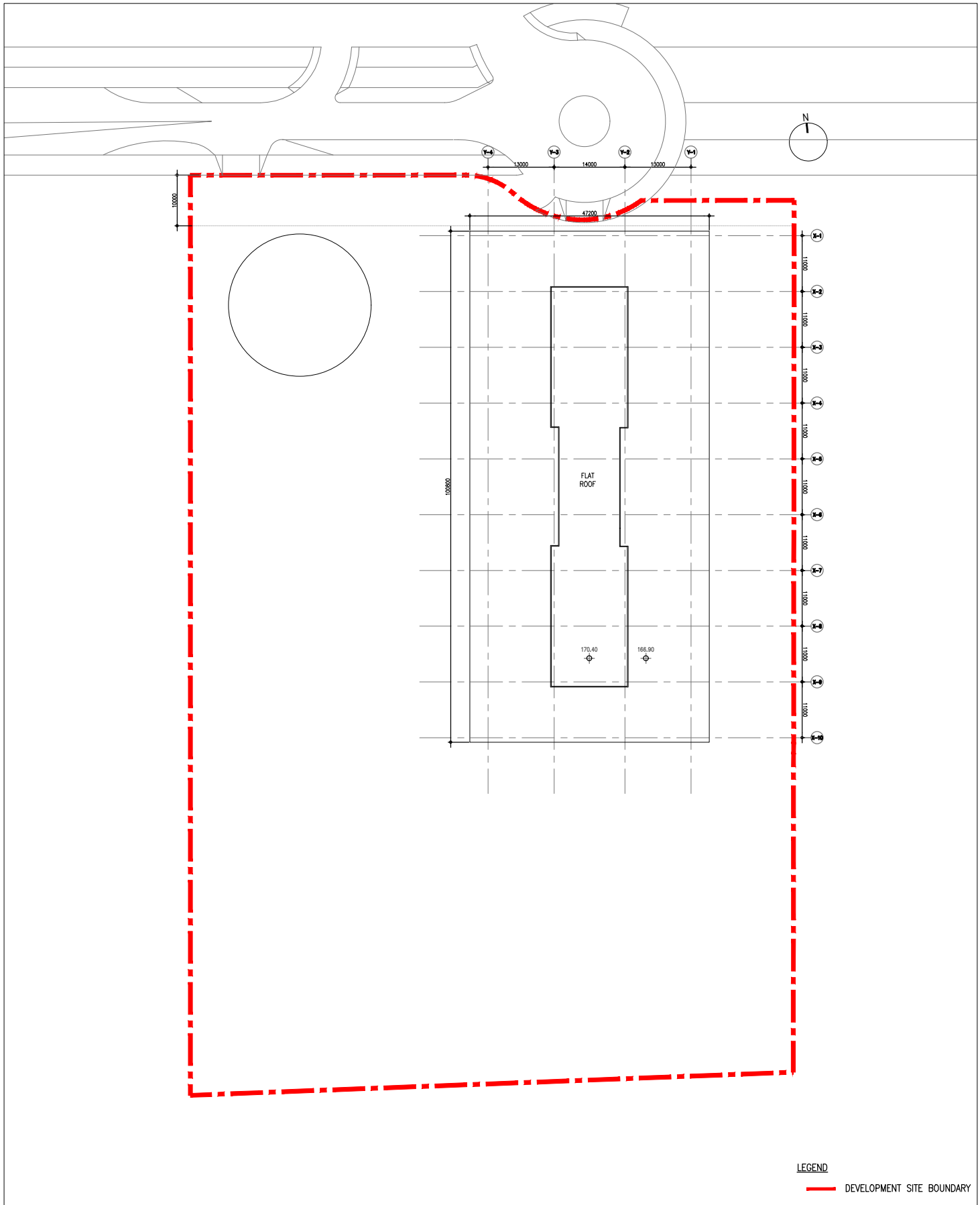
FANLING HIGHWAY



16-33/F PLAN

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL

1:1000 @ A4



青山公路 — 洲頭段

CASTLE PEAK ROAD — CHAU TAU

粉嶺公路

FANLING HIGHWAY



UR/F PLAN

1:1000 @ A4

DEVELOPMENT OF KWU TUNG
NORTH AREA 29, GIC SITE
PLANNING PROPOSAL