ATKINS

Member of the SNC-Lavalin Group

Light Public Housing at Yau Pok Road, Yuen Long
Project Profile

Architectural Services Department

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1. Basic Information

1.1. Project Title

1.1.1. This Project is known as “Light Public Housing at Yau Pok Road, Yuen Long” (hereafter named “the Project”).

1.2. Purpose and Nature of the Project

1.2.1. The Project is to construct and operate temporary domestic use buildings and ancillary facilities for a Light Public Housing (LPH) development at Yau Pok Road, Yuen Long.

1.3. Name of Project Proponent

1.3.1. The Government of the Hong Kong Special Administrative Region acting through the Architectural Services Department (ArchSD) is the Project Proponent of the Project.

1.4. Location and Scale of Project and Site History

1.4.1. The Project has a site area of approximately 89,774 m^2. It is bounded by Yau Pok Road to the east, Fairview Park to the west and north, farmland to the north-east, and Fairview Park Boulevard to the south. The Project Site is located next to large-scaled low-rise residential developments, namely Fairview Park, located to the west of the Project Site, and Palm Springs, located further to the north of the Project Site. The Project location plan is shown in **Figure 1.1**.

1.4.2. The Project Site (PS) is generally divided into the Southern Portion and Northern Portion. Historically, the Northern Portion of the PS was occupied by agricultural use. Subsequently, most of the farmland was abandoned. The Southern Portion had been used for golf driving range and related uses; thus, this part of the PS has been paved to make way for such uses. The PS falls mainly within “Recreation” (“REC”) zone, with a small area in the Southern Portion falls within “Residential (Group C)” (“R(C)”) zone under the approved Mai Po and Fairview Park Outline Zoning Plan No. S/YL-MP/6 (“OZP”). The Project Site is located within the Deep Bay Buffer Zone 2 defined by Environmental Protection Department (EPD).

1.4.3. The Project is to support Government Housing Policy by providing 2,150 housing units in the short term for needy families and individuals, many of whom are currently living in substandard conditions. Such living conditions will bring increased risk of disease and decreased mental health to families and individuals who live there. This supply will contribute to the Government’s target of 30,000 LPH units as mentioned by the Chief Executive’s 2022 Policy Address (***Para 64(i) of The Chief Executive’s 2022 Policy Address*** refers).

1.4.4. The LPH development will comprise the following:

- 3-storey domestic blocks adopting Modular Integrated Construction (MiC) with total domestic units around 2,150 numbers;
- Ancillary facilities including retail, community facilities, offices/guard rooms, store rooms, function rooms, plant rooms, sewage pumping station (SPS), Refuse Collection Points (RCP) and public transport termini;
- External leisure space including landscaped areas and children playgrounds; and
- Provision of landscaping features.

1.4.5. The draft Layout Plan (Block Plan) of the proposed LPH development is shown in **Appendix 1.1**. The Technical Schedule (**Table 1.1)** summarizes the major development parameters of the Project.

Table 1.1 Technical Schedule

Project Site Area	Approx, 89,774 m^{2*1}
Maximum Plot Ratio	Approx. 0.64*2
Total GFA	Approx. 55,510m^2
Domestic GFA	Approx. 54,435m^2
Non-Domestic GFA (including Retail and Community Facilities)	Approx. 1,075m^2 *(Non-Domestic GFA excludes GFA of Building Services Blocks, which are exempted from GFA calculation)*
Total Site Coverage	Approx. 25%
No. of Blocks	17 Residential Blocks 2 Amenity Blocks 1 Sewage Pumping Station ("SPS") 2 Guardhouse 9 Building Services ("BS") Blocks (including E&M and 2 Refuse Collection Points ("RCP"))
No. of Storeys	Domestic/Residential Blocks: 3 storeys Amenity Blocks, SPS, Guardhouse, BS Blocks: 1 storey
Building Height: main roof	Approx. 10.65m
Building Height (mPD)	Not more than 16.8mPD
No. of Flats	Approx. 2,150 units
Design Population	Not more than 5,500
Open Space Provision	Not less than 1m^2 per person
At-grade greenery	Not less than 20%
Transport Facilities	2 Public Terminus with Bus/minibus Laybys 6 Loading / Unloading Bays Not less than 71 Bicycle Parking Space

**1 The Proposed Development will be located within Development Site boundary while related Site Works (e.g. site formation, slope modification) will be carried out within the Project Site boundary.*

**2 Maximum Plot Ratio based on Development Site Area of 86,854m^2*

1.4.6. The proposed LPH development has considered beyond the conventional interim housing standard to create an environment that supports community interactions and sense of place. To increase ventilation of each residential block, corridors are naturally ventilated, enabling daylight penetration and visual connections from the building to outdoor open spaces, improving the perception of security in the residential blocks. The Modular Units are arranged in blocks that will encourage interactions between the residents and that can develop a sense of community among them. The composition of the building blocks creates a series of open spaces (i.e. courtyards and pocket gardens) to enhance privacy and security for residents while providing an interactive open space. The Multi-purpose Amenity Blocks will provide additional space for communal activities and shared services and small shops to serve residents and the local neighbourhood.

1.4.7. Architectural elements, namely, colourful array of cladding panels on the facades will break up and soften the bulkiness of the building blocks. The application of nature colours will be compatible and harmonious with the surrounding setting/ context adjacent to areas of natural environment. Wall graphics can be included to enhance visual interest where practical. The proposed LPH development has adopted a pragmatic approach in its design intent.

1.4.8. To maintain a people-oriented living atmosphere and ensure compatibility with surrounding developments, the LPH has adopted a Building Height ("BH") of not more than 3 storeys (approx. 10.65m). Furthermore, significant foundation works are not required given the adoption of a BH of not more than 3 storeys, which enables the development to be implemented expeditiously and reduces the need for complicated post-development site reinstatement works.

1.4.9. To expedite implementation and dismantling of the proposed LPH development, MiC technology will be adopted, which follows the concept of "factory assembly followed by on-site installation". This allows freestanding modules to be assembled, dismantled and re-assembled in various locations. It involves housing modules that are prefabricated in a factory, complete with finishes, fixtures and fittings, before being installed on site. Not only will the technology significantly reduce on-site construction process, the use of prefabrication also contributes to sustainable development by using cleaner and more resources saving production process. MiC technology also contributes to sustainability and environmental friendliness by reducing dust and noise nuisance to the surrounding environment during construction, minimises construction waste and improves construction waste management. The effectiveness of the MiC approach has been proven in enhancing building productivity and safety, construction quality and sustainability.

1.4.10. The objective of the landscape design is to provide synthesis between the proposed LPH development and the surrounding site context. The landscape design concept is to design spaces for the future community that encourages social interaction, provides flexible and fixed recreational opportunities and also provides areas of tranquillity and a visually attractive setting for the proposed housing blocks. Approximately 20% total greenery coverage). No less than $1m^2$ per person of open space will be provided for recreation, which includes Community Plaza, Children's Play Area, Activity Area, and landscaped sitting out areas.

1.4.11. The proposed layout has adopted peripheral greenery / planting treatment along the site boundary to screen the proposed LPH development from the adjacent residential development(s). The proposed structures will setback from the site boundary where greenery e.g. tree / shrub planting or greenery coverage are provided. The setback area has also considered to preserve the major existing tree groups within the PS.

1.4.12. Approximately 94 nos. of existing trees within the PS will be retained while approximately 245 nos. are recommended for removal, of which 133 nos. of proposed felled tree are *Leucaena leucocephala*. Due to the temporary nature of LPH for just 5 years operational period, 1:1 offsite compensatory planting will be provided as stipulated in DEVB TC(W) No. 4/2020. Nevertheless, in order to improve the site's ecological value and provide effective screening, planting of new small trees along the site boundary is proposed as far as practicable. The selected species will be of high ecological value to ensure a positive contribution to the local environment.

1.5. Number and Types of Designated Projects to be Covered by the Project Profile

1.5.1. The Project is a Designated Project (DP) under Item P1, Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO), Cap. 499, "A residential or recreational development, other than New Territories exempted houses, within Deep Bay Buffer Zone 1 or 2".

1.6. Name and Telephone Number of Contact Person(s)

1.6.1. All enquiries regarding this Project can be addressed to:

Name:	Ms. LAM Yue Wai, Mandy
Position:	Senior Architect / 34
Address:	Unit 1204, 12/F, 14 Taikoo Wan Road, Taikoo Shing, Hong Kong
Telephone:	2154 3145
Email:	lamyw2@archsd.gov.hk

2. Outline of Planning and Implementation Programme

2.1. Project Planning and Implementation

2.1.1. The Project Proponent, ArchSD, has engaged Consultants to undertake the application for approval for direct application of EP for the Project under Section 5(1)(b) and Section 5(9) of the EIAO. The construction works will be carried out by qualified contractor(s) to be appointed at subsequent stage.

2.2. Project Programme

2.2.1. The construction works will tentatively commence in late 2023 whilst for completion around 2025. The LPH is planned to operate for five years.

2.3. Interfaces with Other Projects

2.3.1. There are several private residential development proposals around the PS, for which Environmental Permit and/or approval on the planning application have been obtained. These proposed developments include the following. Their locations are shown in **Figure 2.1**.

- Comprehensive Development and Wetland Protection near Yau Mei San Tsuen (EIA Report: EIAO Register No. AEIAR-189/2015; Environmental Permit No. EP-500/2015)
- Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long. N.T. (EIA Report: EIAO Register No. AEIAR-205/2017; Environmental Permit No. EP-515/2017)
- Rezoning from “Residential (Group D)” to “Residential (Group C)1” Zone for a Proposed Residential Development at various Lots in D.D. 104 and the Adjoining Government Land in Yuen Long. N.T (Planning Application No. A/YL-MP/205-1)

2.3.2. For first and third projects, currently there is no committed development programme/ information available. It is therefore considered that the programme of the construction works for the projects will not overlap with lifespan of this Project, and they are not considered further in the cumulative impact assessment of this Project Profile (PP).

2.3.3. The construction works for the proposed residential development at East of Kam Pok Road, Mai Po (under environmental permit no. EP-515/2017) is scheduled to commence in May 2023, which would overlap with the construction of the LPH. The site of the proposed development at East of Kam Pok Road has been largely urbanised already. Most areas of the site consist of paved ground for parking cars or heavy vehicles. Although a pond is present, it is isolated and disturbed heavily by surrounding human activities. According to the approved EIA Report (AEIAR-205/2017), the ecological value of this site was considered to be very low. Both of this site and the LPH Site are fragmented from the larger Deep Bay area by the presence of Fairview Park, Kam Pok Road, Yau Pok Road, other villages and residential areas and Castle Peak Road etc. In view of their relatively low habitat quality, isolated nature and the existing disturbance, these two sites are unlikely to provide habitats that could support significant populations of species of conservation concern.

2.3.4. For the other environmental aspects including but not limited to air, noise and waste management etc., both projects have been or will be required to meet the requirements under the EIAO process and other relevant statutory process to ensure all the potential environmental impacts are fully addressed by the successful implementation of mitigation measures (e.g. good site practices during construction phase). EM&A programmes will be implemented for these two concurrent projects during the construction phase to check the effectiveness of the recommended mitigation measures and compliance with relevant statutory criteria. Hence, the cumulative impact to be caused by these two projects would not be significant.

3. Use of Previously Approved EIA Reports

3.1. Previously Approved EIA Report and Its Relevance

3.1.1. An Environmental Impact Assessment of Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T. was approved under the Environmental Impact Assessment Ordinance (EIAO) on 15 July 2014 (EIAO Register No. AEIAR-182/2014, Environmental Permit No. EP-484/2014). The location of the residential development covered by this approved EIA is identical to the current Project Site.

3.1.2. The development assessed in the approved EIA Report (EIAO Register No. AEIAR-182/2014) comprised a residential development in the Southern Portion, a landscaped open area, landscape pond and some passive recreational and supporting uses in the Northern Portion. In the Southern Portion, 106 Nos. 2-storey houses (approximately 6.6m above ground level), basement carpark, a residents' club house and ancillary facilities were proposed. The construction works intended to involve foundation (piling) works, site formation works, superstructure works, underground services and utilities, roadworks. While the residential houses were limited in the Southern Portion, site clearance, foundation and site formation works were required for both the Southern and Northern Portions. Sewage generated from the development will be conveyed to public sewerage system for downstream treatment.

3.1.3. The approved EIA Report (EIAO Register No. AEIAR-182/2014) assessed the potential environmental impacts associated with the construction and operation of the proposed residential development project. The environmental aspects assessed in the approved EIA Report included air quality, noise, water quality, sewerage and sewage treatment implications, waste management, ecology, fisheries, cultural heritage, and landscape and visual impacts. The findings of the approved EIA Report indicated that there would be no unacceptable environmental impact arising from the construction and operation of that proposed residential development with the implementation of the identified mitigation measures to ensure compliance with environmental legislation and standards. Environmental monitoring and audit (EM&A) programme was proposed to ensure that impacts would be minimised and the relevant standards would be complied with at all times.

3.1.4. The current LPH development broadly consists of 17 nos. 3-storey residential blocks, ancillary facilities such as community facilities, offices/ guard rooms, one sewage pumping station, two Refuse Collection Points and two public transport termini, external leisure space and landscaping areas in the Northern and Southern Portions. The development as a whole is considered compatible with the existing or planned residential developments on adjacent sites. The residential blocks will be constructed using MiC method. As only shallow foundation will be required, the construction will not involve piling works. Construction activities will include site clearance (including tree felling and transplanting), levelling/ excavation works and reinforced concrete (RC) construction works. Sewage from the LPH will be collected and conveyed to the on-site sewage pumping station and to be subsequently discharged to the public sewerage system.

3.1.5. In view of the same location, similar project nature and scale, the scope of the approved residential development project and this LPH development are considered comparable. Since the approval of the EIA Report for that residential development project (EIAO Register No. AEIAR-182/2014) in 2014, no developments that would cause significant change in the land use in the PS and its surroundings have taken place. It is therefore considered that the information and findings of approved EIA Report are still relevant and valid.

3.1.6. In terms of fisheries, no fishponds have been observed within the PS from recent site visits. The PS is not located within or in the vicinity of any designated or recognized site of fisheries importance. Neither any fishpond within the PS nor aquaculture practices (drying, liming, re-profiling, and fish fry releasing etc.) in any ponds within at least 500m from the PS are present in recent years. Fisheries impact arising from the construction and operation of this LPH development is therefore not envisaged and no further assessment will be undertaken in this PP.

3.1.7. Regarding sewerage and sewage treatment implications, an on-site SPS will be provided to collect the sewage from the future LPH during operation and conveyed to the public sewerage system. A control system will be incorporated into the design of the on-site SPS to control the discharge flowrate as appropriate to suit the design capacity of downstream treatment. Therefore, no adverse sewerage impact due to the LPH development is anticipated. No further assessment will be undertaken in this PP.

3.1.8. The proposed LPH development is temporary in nature and will be constructed with all necessary measures to avoid causing any significant environmental impacts; the environmental performance of this LPH development is considered comparable to that of the previously approved residential development project. The environmental impacts associated with the residential development project have been adequately assessed in the approved EIA Report (AEIAR-182/2014), and it is considered that the assessment findings of AEIAR-182/2014 are still relevant to this LPH development, while fisheries and sewerage implications would not be considered as significant issues in the current LPH. The findings of the approved EIA Report (AEIAR-182/2014) have been therefore made reference to in this PP, when the potential environmental impacts of air quality, noise, water quality, ecology, landscape and visual, cultural heritage, waste and land contamination are assessed in the following sections. The relevant environmental mitigation measures recommended in the approved EIA Report (AEIAR-182/2014) have also been referred to and are included wherever applicable.

3.2. Other Relevant Approved EIA Reports/ Direct EP Applications

3.2.1. There are other approved EIA Reports / Project Profiles (PP) of projects that are of relevant to this LPH Project and are listed in **Table 3.1**. Due to their close vicinity to the PS, wherever application, information in these EIA Reports / PP have been made reference to as part of the literature review during the assessment of various potential environmental impacts associated with the current LPH.

Table 3.1 Other Previously Approved EIA Reports/ Project Profile Relevant to the Project

EIAO Register No.	Project Title	Aspect of Relevance	Date of Approval
AEIAR-205/2017	Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long. N.T. (hereafter called “Kam Pok Road East EIA” in this PP)	Low-rise residential development of the same project nature, close vicinity in locality	10 Jan 2017
AEIAR-189/2015	Comprehensive Development and Wetland Protection near Yau Mei San Tsuen (hereafter called “YMST EIA”)		6 Jul 2015
AEIAR-133/2009	Construction of Cycle Tracks and the associated Supporting Facilities from Sha Po Tsuen to Shek Sheung River (hereafter called “Cycle Track EIA”)	Partially close vicinity in locality	12 Dec 2009

4. Major Elements of the Surrounding Environment

4.1. General

4.1.1. The PS has an area of approximately 89,774 m^2, bounded by Yau Pok Road to the east, Fairview Park to the west and north, farmland to the north-east, and Fairview Park Boulevard to the south. It involves various lots and the adjoining Government land in D.D. 104, Yuen Long. The existing ground level varies approximately from about +2mPD to about +5mPD. It is currently vacant; grass spreads most areas of the PS.

4.1.2. The adjacent areas of the PS comprise long-established residential estates such as Fairview Park and Palm Springs. A cycle track connecting the existing cycle track networks of Yuen Long to Sheung Shui runs between the eastern boundary of the PS and Yau Pok Road. Ngau Tam Mei Drainage Channel (NTMDC) is to the east of Yau Pok Road. A large cluster of village-type developments including Tai Yuen, Chuk Yuen Tsuen, Hang Fook Gardens, Sheung San Wai Tsuen and Ha San Wai Tsuen are located further to the east of NTMDC. A few scattered industrial workshops, open storage, and car parks are present in this village area.

4.2. Existing and Planned Sensitive Receivers and Sensitive Parts of the Natural Environment

Air Quality

4.2.1. The nearest EPD Air Quality Monitoring Station (AQMS) general station to the Project site is the Yuen Long General Station AQMS located at Yuen Long District Office, 269 Castle Peak Road, which is approximately 4km southwest to the Project Site. The recent five years (2017-2021) annual average concentrations of the key air pollutants relevant to the Project at Yuen Long General Station AQMS are summarised in **Table 4.1**, which depicts the trend in air quality.

Table 4.1 Air Quality Monitoring Data at Yuen Long General Station AQMS (2017–2021)

Pollutant	Averaging time	Concentration (µg/m³)					Prevailing AQOs (µg/m³) [2]
		2017	2018	2019	2020	2021	
NO_2	1-hour (19th highest)	156	150	161	135	148	200 (18)
	Annual	**41**	**43**	**44**	32	40	40
RSP (PM_{10})	24-hour (10th highest)	87	75	83	77	73	100 (9)
	Annual	40	37	37	30	30	50
FSP ($PM_{2.5}$)	24-hour (19th highest) [1]	47	41	39	33	36	50 (18)
	Annual	22	20	20	16	17	25

Notes:
[1] 18 exceedances of 24-hour FSP allowed for new government projects.
[2] Number in blanket denotes no. of exceedances allowance per year.

4.2.2. As shown in **Table 4.1**, the monitored air quality concentrations from 2017 to 2021 could comply with prevailing AQOs except annual NO_2 in year 2017 to year 2019.

4.2.3. Apart from the EPD AQMS monitored data, EPD also provide a set of regional background concentrations for key pollutants in the "Pollutants in the Atmosphere and their Transport over Hong Kong" (PATH) model v2.1. Given that the proposed Project would begin construction in late Year 2023 and is planned for completion by Year 2025, the background air quality predicted by PATHv2.1 for Year 2023 and 2025 will be presented as future background air quality during the construction and

operational phases.

4.2.4. As shown in **Figure 4.1**, the 500m assessment area for this Project is covered by the PATH grids (28,50), (28,51), (27,50), (27,51). The predicted Year 2023 background concentrations at these grids are summarized in **Table 4.2** and compared against the prevailing AQOs.

Table 4.2 Background Air Pollutant Concentrations Predicted by the PATH v2.1 Model in Years 2023 and 2025

Pollutant	Averaging time	Concentration (μg/m³)				Prevailing AQOs (μg/m³)
		(28,50)	(28,51)	(27,50)	(27,51)	
Construction Phase - Predicted Background Air Quality for Year 2023						
NO_2	1-hour (19th highest)	128	135	121	129	200 (18)
	Annual	19	19	18	18	40
RSP (PM_{10})	24-hour (10th highest)	70	71	70	70	100 (9)
	Annual	28	28	28	28	50
FSP ($PM_{2.5}$)	24-hour (19th highest) [1]	39	38	38	37	50 (18)
	Annual	16	16	16	16	25
Operational Phase - Predicted Background Air Quality for Year 2025						
NO_2	1-hour (19th highest)	123	126	117	122	200 (18)
	Annual	18	18	17	17	40
RSP (PM_{10})	24-hour (10th highest)	69	69	68	69	100 (9)
	Annual	28	28	27	28	50
FSP ($PM_{2.5}$)	24-hour (19th highest) [1]	39	37	37	36	50 (18)
	Annual	16	16	16	16	25

Notes:
[1] 18 exceedances of 24-hour FSP allowed for new government projects.
[2] Number in blanket denotes no. of exceedances allowance per year.

4.2.5. With reference to the approved EIA Report (AEIAR-182/2014), representative air sensitive receivers (ASRs) within the 500m assessment area that may be affected by the Project have been reviewed via field survey in January 2023 and desktop review.

4.2.6. Details of the identified representative existing and planned ASRs as same as the approved EIA Report (AEIAR-182/2014) are summarised in **Table 4.3** and their locations are shown in **Figure 4.1**.

Table 4.3 Representative Air Sensitive Receivers

ASR ID	Description	Use	Approximate Horizontal Distance from the Nearest Site Boundary (m)
Existing ASRs			
A01	Fairview Park	Residential	16
A01A	Fairview Park	Residential	33
A02	Fairview Park	Residential	13
A02A	Fairview Park	Residential	13
A03	Fairview Park	Residential	17
A04	Fairview Park	Residential	15
A05	Fairview Park	Residential	20
A05A	Fairview Park	Residential	26
A05B	Fairview Park	Residential	14

ASR ID	Description	Use	Approximate Horizontal Distance from the Nearest Site Boundary (m)
A06	Fairview Park	Residential	15
A06A	Fairview Park	Residential	24
A07	Yau Mei San Tsuen Village House	Residential	220
A08	Chuk Yuen Tsuen Village House	Residential	216
A09	Chuk Yuen Tsuen Village House	Residential	237
A10	Bethel High School	Educational Institution	18
A10A	Bethel High School	Educational Institution	21
A11	Helene Terrace	Residential	126
A12	Villa Camellia	Residential	247
A13	Fairview Park	Residential	32
A14	Hong Kong and Macau Lutheran Church Wong Chan Sook Ying Memorial School	Educational Institution	94
A15	Man Yuen Chuen Village House	Residential	141
A16	Fairview Park	Residential	46
A16A	Fairview Park	Residential	10
A17	Palm Springs	Residential	290
A18	Yau Mei San Tsuen Village House	Residential	283
A19	Chuk Yuen Tsuen Village House	Residential	332
A20	Hang Fook Gardens	Residential	424
A21	Ha San Wai Village House	Residential	409
A22	Ha San Wai Village House	Residential	358
A23	Yau Mei San Tsuen Village House	Residential	344
A24	Christian Ministry Institute	Educational Institution	368
A25	Royal Palms	Residential	351
A26	Hong Chi Morninglight School Yuen Long	Educational Institution	346
A27	Village House at Ha San Wai Road	Commercial	172
A28	Fairview Park	Residential	15

ASR ID	Description	Use	Approximate Horizontal Distance from the Nearest Site Boundary (m)
A29	Fairview Park	Residential	15
A30	Fairview Park	Residential	22
A31	Fairview Park	Residential	92
A32	A Restaurant near Helene Terrace	Commercial	86
A33	Fairview Park	Residential	60
A34	Palm Springs	Residential	269
A35	Palm Springs	Residential	322
A36	Yau Mei San Tsuen Village House	Residential	210
Planned ASRs			
A1P	Planned Yau Mei Site	Residential	11
A2P	Planned Kam Pok Road Site	Residential	70
A3P	Planned Kam Pok Road Site	Residential	78
A4P	Planned RD Site	Residential	73
A5P	Planned RD Site	Residential	107
V01	Planned NT exempted houses	Residential	258
V02	Planned “V” zone	Residential	181
V03	Planned “V” zone	Residential	207
V04	Planned “RD” zone	Residential	91

Noise

4.2.7. With reference to the approved EIA Report (AEIAR-182/2014), representative noise sensitive receivers (NSRs) within the 300m assessment area have been reviewed.

4.2.8. Details of the identified representative NSRs are summarised in **Table 4.4** and their locations are shown in **Figure 4.2**.

Table 4.4 Representative Noise Sensitive Receivers

NSR ID	Description	Use	Existing/ Planned	Approximate Horizontal Distance from the Nearest Site Boundary (m)
N1	Fairview Park	Residential	Existing	15
N2	Fairview Park	Residential	Existing	13
N3	Fairview Park	Residential	Existing	12
N4	Fairview Park	Residential	Existing	16
N5	Fairview Park	Residential	Existing	19

NSR ID	Description	Use	Existing/ Planned	Approximate Horizontal Distance from the Nearest Site Boundary (m)
N6	Fairview Park	Residential	Existing	14
N7	Yau Mei San Tsuen	Residential	Existing	222
N8	Chuk Yuen Tsuen	Residential	Existing	216
N9	Chuk Yuen Tsuen	Residential	Existing	241
N10	Bethel High School	Educational Institution	Existing	17
N11	Helene Terrace	Residential	Existing	125
N12	Villa Camellia	Residential	Existing	250
N13	Fairview Park	Residential	Existing	31
N14	Hong Kong and Macau Lutheran Church Wong Chan Sook Ying Memorial School	Educational Institution	Existing	94
N15	Man Yuen Chuen	Residential	Existing	142
N16	Fairview Park	Residential	Existing	50
N17	Palm Springs	Residential	Existing	288
N18	Temporary House at Yau Mei San Tsuen	Residential	Existing	259
N19	Existing Village House	Residential	Existing	171
N20	Fairview Park	Residential	Existing	10
N1P	Planned Yau Mei Site	Residential	Planned	11
N2P	Planned Kam Pok Road Site	Residential	Planned	70
N3P	Planned Kam Pok Road Site	Residential	Planned	81
N4P	Planned R(D) Site	Residential	Planned	73
N5P	Planned R(D) Site	Residential	Planned	107

Water Quality

4.2.9. With reference to the approved EIA Report (AEIAR-182/2014), identified water sensitive receivers (WSRs) include NTMDC, Fairview Park Nullah and others such as the ponds between Fairview Park and Palm Springs, DSD's water storage pond for Chuk Yuen Stormwater Pumping Station and minor watercourses/ ditches within the 500m assessment area. Based on the result of baseline water quality survey in the approved EIA Report, the water quality at NTMDC and most other sampling locations was generally poor. All these previous findings are considered still relevant and valid.

4.2.10. With referent to the recent water quality data collected by EPD at Fairview Park Nullah (published in River Water Quality in Hong Kong 2021), the level of compliance of relevant river water quality objectives at the nullah was 55% (station at Fairview Park Nullah FVR1) in 2021. However, the river water quality in the Fairview Park Nullah is gradually improving over the years. There has not been any land use that would have significant potential to pollute the WSRs taking place since the approval of EIA Report (AEIAR-182/2014) in 2014. Currently surface runoff from the Project Site will be

discharged into the nearby existing drainage channels.

Ecology

4.2.11. A number of previous studies were conducted within and in vicinity of the Project Site. In addition to the approved EIAs mentioned in **Section 3**, the Ecological Impact Assessments (EcoIAs) in support of the Planning Application Nos. Y/YL-MP/6, Y/YL-MP/7 and Y/YL-MP/8 are also of high relevance to the Project Site. Locations of the ecological survey for these previous/ on-going projects are illustrated in **Figure 4.3**. The surveys carried out under these projects have cumulated a large amount of biodiversity data of the PS and its surrounding areas in recent years since approval of the EIA Report AEIAR-182/2014. These reviewed studies include particularly a recent 18-month ecological survey conducted in 2019/20, which covered habitats, vegetation, major wildlife groups and bird flightlines. A reconnaissance survey also was also carried out for the current LPH Development in December 2022 (including daytime and night-time) to verify the up-to-date ecological conditions against the ecological baseline established from the literature review.

4.2.12. During the reconnaissance survey, habitat types within the Project Site and its vicinity were verified on foot based on a habitat map of the Project Site and areas within 500m distance from the boundary of the Project Site (i.e., the Study Area, the SA), which was generated by review of literature and recent aerial photos. Plant species of each habitat and all mammal, bird, herpetofauna, odonate and butterfly, and aquatic fauna species encountered were recorded, with special attention paid to species of conservation importance (i.e., species protected by local legislation, endemic to Hong Kong or South China, listed in international conventions for conservation of habitat/wildlife, listed in IUCN Red Data Book or those of the South China region and considered as rare in the territory or having special conservation importance by scientific studies).

Project Site (PS)

4.2.13. With reference to the approved EIA Report (AEIAR-182/2014) and other previous studies, identified habitats in the PS include grassland/shrubland, pond, seasonally wet grassland, agricultural land, reed, watercourse/ abandoned irrigation ditch and urbanised/ disturbed area. **Table 4.5** summarises the details of these reviewed studies and their evaluation of habitats identified within the PS. Evaluation of the habitats in the current PS ranged from low-negligible to low-to-moderate previously.

Table 4.5 Ecological Values of the Current Project Site Assessed in Previous Studies

	EcoIA for Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8	EcoIA for Planning Application Nos. Y/YL-MP/6	REC Zone EIA (AEIAR-182/2014)	Kam Pok Road East EIA (AEIAR-205/2017)	YMST EIA (AEIAR-189/2015)	Cycle Track EIA (AEIAR-133/2009)
Distance from Current PS	Y/YL-MP/7 overlaps largely with the southern part of the current PS; Y/YL-MP/8 overlaps largely with the northern part of the current PS.	Approx. 60m, Y/YL-MP/6 is opposite to the current PS, on the other side of Ngau Tam Mei Drainage Channel (NTMDC).	Overlaps largely with the current PS.	Approx. 60m, just across Ngau Tam Mei Drainage Channel (NTMDC).	Abutting the current PS to the north.	Adjacent to the current PS to the east.
Survey Period	Mar 2019 – Oct 2020.	2015/16, 2019/20 (24 months).	Jan – Jul 2009, Aug – Dec 2010.	Jul 2009 – Jun 2010, Feb – Mar 2011, Jul	Sep 2007 – Aug 2008.	Nov 2006 – Apr 2007.

	EcoIA for Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8	EcoIA for Planning Application Nos. Y/YL-MP/6	REC Zone EIA (AEIAR-182/2014)	Kam Pok Road East EIA (AEIAR-205/2017)	YMST EIA (AEIAR-189/2015)	Cycle Track EIA (AEIAR-133/2009)
	Flightline survey: Jan – Oct 2020.	Flightline survey: a total of 20 times in 2015, 2016, 2018 and 2019.	Flightline survey: Mar and Jul 2009.	2014, Nov 2015 – Jan 2016 (incl. flightline survey).	Flightline survey: Oct - Nov 2009, and Apr - Jun 2011.	
Habitat Type(s) and Ecological Value of Current PS Identified in Previous Study	Grassland/ shrubland: Low to Moderate; Agricultural land: Low; Seasonally wet grassland: Low; Reed: Low to Moderate; Watercourse/ abandoned irrigation ditch: Very Low; Urbanised area: Very Low.		Pond: Low; Grassland/ shrubland: Low for southern portion, Low to Moderate for northern portion; Agricultural land: Low; Seasonally wet grassland: Very Low; Reed: Low; Abandoned irrigation ditch: Very Low; Urbanised area: Very Low.	Abandoned fishpond: Low to Moderate; Grassland/ shrubland: Low to Moderate; Agricultural land: Low to Moderate; Urbanised/ disturbed: Very Low.	Grassland/ shrubland: Low; Reedbed: Low to Moderate; Agricultural land: Low to Moderate.	Wasteland and built areas/ developed land: Low-Negligible.

4.2.14. Grassland/ shrubland is the dominant habitat within the PS. This is a widespread lowland habitat type in the New Territories. Its balance between grass and shrubs varies as a result of periodic vegetation management on site. Exotic invasive species (e.g. grass *Brachiaria mutica* and *Panicum maximum*, and weedy climbers *Mikania mirantha* and *Ipomoea cairica*) are common in the area, as they can easily germinate and spread. This habitat has been reported present in the PS as early as 2007 by the YMST EIA. Before that, the majority of the PS was classified as wasteland by the Cycle Track EIA.

4.2.15. On the north-eastern corner of the northern portion is a small piece of agricultural land, which has been reported to be inactive since 2009 by AEIAR-182/2014. There are a few low-laying areas in the PS that are flooded in the wet season but could be dry in the dry season, therefore classified as seasonally wet grassland. These include a patch in the north-western corner of the northern portion, which used to be an abandoned fishpond in previous studies but has been identified as seasonally wet grassland in the most recent Planning Applications Nos. Y/YL-MP/7 and Y/YL-MP/8, probably as a result of natural succession. Vegetation colonised to this habitat is dominated by species adaptable to variable water levels, including exotic herbs *Kyllinga polyphylla* and *Lindernia rotundifolia* and other exotic herbaceous creepers such as *Ipomoea aquatica*, *Mikania micrantha* and *Wedelia trilobata*.

4.2.16. A small and isolated reedbed was reported by Planning Application No. Y/YL-MP/8 in a waterlogged depression on the northern fringe of the northern portion. *Phragmites australis* is the dominant vegetation in this habitat, which is surrounded by exotic grass species such as *Brachiaria mutica* and weedy climber *Mikania micrantha*.

4.2.17. The other habitats identified within the PS include watercourses (some in the form of abandoned irrigation ditch) and urbanised ground that is concrete-paved. Vegetation directly associated with these habitats are limited. Due to their polluted or highly disturbed nature, the habitats are not favoured by wildlife according to the reviewed literature. No flora species of conservation importance were reported within the PS in the reviewed literature.

4.2.18. The reconnaissance survey was conducted in December 2022 to obtain the latest habitat and vegetation baseline. Within the PS, the north-western corner, which was reported to be agricultural land previously, is now seasonally wet grassland dominated by *Brachiaria mutica*, *Imperata cylindrica* var. *major* and *Bidens alba*. The south-eastern corner has been encroached onto by ruderal grass and creeper plants (e.g. *Imperata cylindrica* var. *major*, *Bidens alba*, *Mikania micrantha* and *Wedelia trilobata*) and seedlings of *Macaranga tanarius* var. *tomentosa* and *Leucaena leucocephala* in the adjacent area, and therefore classified as grassland/ shrubland.

4.2.19. Other than the above, no significant change in habitat conditions of the PS was found when compared to that in AEIAR-182/2014. A habitat map, which made reference to the previous habitat map in AEIAR-182/2014 and was then updated based on the reviewed studies listed in **Table 4.5** and findings of the recent reconnaissance survey, is shown in **Figure 4.4**, and the habitat photos are provided in **Appendix 4.1.** The plant list generated based on the reconnaissance survey is in **Appendix 4.2A**. All the recorded species are common and/or widespread in the New Territories. No flora species of conservation importance were identified during the survey, same findings as in AEIAR-182/2014.

Study Area (SA)

4.2.20. Habitats that were reported to occur in the SA include urbanised area, grassland/ shrubland, pond, drainage channel, plantation, agricultural land, seasonally wet grassland, marsh, reed, waste ground, and watercourse/ abandoned irrigation ditch etc.

4.2.21. Urbanised area in the SA is extensive. It comprises long-established residential estates, villages, industrial workshops, open storage, as well as highways, roads and cycle tracks for a variety of passengers. As these areas are largely covered by concrete paving, diversity in microhabitats for wildlife is almost impoverished. Fairview Park and Palm Springs are the largest low-rise residential complexes situated in the SA and also the Deep Bay Area where they result in some fragmentation and disturbance in adjacent habitats. Villages such as Yau Mei San Tsuen and Chuk Yuen Tsuen are also subject to constant human activities. Vegetation in these areas include ornamental plants such as *Allamanda schottii*, *Calliandra haematocephala*, *Duranta erecta*, shrubs and trees common in village environment such as *Aglaia odorata*, *Hibiscus rosa-sinensis* and *Citrus* spp., self-seeded trees such as *Bridelia tomentosa* and *Ficus hispida*, as well as ruderal herbs and grasses such as *Bidens alba*, *Boehmeria nivea*, *Miscanthus floridulus* and *Stachytarpheta jamaicensis*.

4.2.22. The plantation habitat within the SA is mainly along roads (e.g. Ha Chuk yuen Road and San Tin Highway), providing the functions of landscaping beautification and noise reduction. These plantations comprise relatively diverse landscaping plants, including *Lagerstroemia speciosa*, *Khaya senegalensis*, *Liquidambar formosana* and *Melia azedarach*. A patch of plantation has been recently reported in the EcoIA for Planning Application No. Y/YL-MP/8; previously the area was a piece of reedbed/ marsh as identified in the YMST EIA.

4.2.23. A large area of grassland/ shrubland is sandwiched between Yau Pok Road and Ha Chuk Yuen Road. Similar to the PS, this and other small pockets of grassland/ shrubland on both sides of NTMDC are resulted from vegetation colonization and succession in areas of abandoned agricultural land, pond, or newly disturbed areas, and are under vegetation management regime.

4.2.24. The habitats at Yau Mei Sun Tsuen (YMST) are quite diverse and dynamic, which is a result of the active habitat management following the approved YMST EIA and EM&A in 2015. The most recent

study (i.e. EcoIA for Planning Applications No. Y/YL-MP/8) reported a combination of dry and wet habitats including agricultural land, pond, marsh, reed, seasonally wet grassland, and plantation etc. in the area. The hydrological linkage among these habitats varies, as a result of habitat management. It is expected that the habitat types and their distribution would further change, as, according to the approved YMST EIA, more than half of the area will be developed for residential purpose.

4.2.25. Two main pond areas are present within the SA. One is to the northwest where the ponds are ecologically connected to the Deep Bay wetland system. Many of these ponds fall in Wetland Conservation Area (WCA) or Wetland Buffer Area (WBA), either inactive or having been abandoned for decades. Vegetative encroachment by reed *Phragmites australis* and other exotics such as *Bidens alba*, *Brachiaria mutica*, *Ipomoea aquatica* on them are apparent. Due to increased human disturbance from the adjacent areas and their location on the landward side of the Deep Bay wetland system, these ponds generally support a lower abundance and diversity of wildlife than some of the other ponds in Deep Bay. Bunds surrounding these ponds support trees/shrubs such as *Macaranga tanarius*, *Leucaena leucocephala* and fruit trees such as *Dimocarpus longan*. The other area is in the southern part near Man Yuen Chuen where the ponds have also been abandoned for a long time. Exotic herbaceous species such as *Ipomoea aquatica* and Typha angustifolia have substantially colonised the ponds. Other than the two areas, there are a few ponds scattered to the east within Yau Mei San Tsuen. Also, to the north of Fung Chuk Road is a water storage pond of the Drainage Services Department.

4.2.26. The Fairview Park Nullah, which is tidal and highly polluted, and the tidal NTMDC are the two near the PS. There are also several small, scattered and concrete-lined drainage channels including the one along Ha Chuk Yuen Road. While most drainage channels are entirely or partly concreted, therefore providing limited habitats for plants and animals, tidal drainage channels may provide foraging opportunities for water birds during favourable tides. This is especially the case for NTMDC. The cellular concrete blocks on the banks of NTMDC allow vegetation establishment (subject to periodic management) where grass such as *Cynodon dactylon*, *Imperata koenigii* and *Digitaria ciliaris* grow.

4.2.27. Other minor habitats previously identified within the SA also include the waste ground adjacent to Ha Chuk Yuen Road formed by dumping of waste materials, agricultural land between Yau Pok Road and Ha Chuk Yuen Road, and the watercourse/ditch running through Palm Springs and other developed areas for drainage purpose. No flora species of conservation importance were reported within the SA in the reviewed literature.

4.2.28. The reconnaissance survey found most changes in habitat in the SA are around YMST. The size and distribution of habitats such as pond, marsh, reed, agricultural land alter. In addition, reed *Phragmites australis* has colonised the cluster of ponds between Fairview Park and Palm Springs increasingly, which has resulted in a larger area of reed. Other changes in habitat type and distribution are minor and the overall habitat conditions do not deviate from those reported in the approved AEIAR-182/2014 and recent Planning Applications Nos. Y/YL-MP/7 and Y/YL-MP/8.

Wildlife

4.2.29. Previous studies revealed that no bird species of conservation importance were recorded regularly within the PS, as the recorded numbers are insignificant to their Deep Bay population. Among the habitats within the PS, a higher diversity of birds was recorded in the grassland/shrubland, but these comprised mainly common and widespread species. According to AEIAR-182/2014, the Northern Portion of the PS had slightly more records of ardeids such as Grey Heron, Great Egret, Intermediate Egret, Little Egret and Chinese Pond Heron. Most of these birds were observed either perching on the overhead wire/trees or in a previous pond, which used to be in the north-western corner but now has been succeeded to seasonally wet grassland and reed. Some of these ardeids would have been disturbed either from NTMDC or the adjacent agricultural land in YMST.

4.2.30. Due to the presence of NTMDC and the Wetland Restoration Area (WRA) for YMST project, bird community recorded within the SA was comparatively more diverse. However, most species were common and widespread, of low conservation importance. NTMDC were found to support a moderate number of foraging ardeids, particularly in the wintering season when many ardeids such as Little Egret and Chinese Pond Heron forage for food (e.g. fish) that are brought in by tides. The temporary ponds

adjacent to the north-eastern boundary of the PS, which functions as mitigation during the construction of the WRA for YMST project, also had relatively more records of bird species of conservation importance and/or wetland-dependent species occasionally, with a notable record of 46 Black-faced Spoonbills in November 2019. It should be however noted that these temporary ponds will be filled up to the proposed site formation level once the WRA starts to its operation.

4.2.31. According to the most recent bird flightline surveys in the dry and wet seasons in 2019-20 for Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8, the main flightline through the area lies along NTMDC, which is in line with the findings of other earlier studies including the residential development project at this same site. It was found in the two planning applications that more than 50% of observed large waterbirds (a total of 558 individuals over 18 months' survey, incl. Black-faced Spoonbill, Chinese Pond Heron, Great Egret, Grey Heron, Intermediate Egret, Little Egret, Black-crowned Night Heron, and Great Cormorant) used this primary flightline. Other than this, the number of birds flying over the PS and SA using other identified flightlines were very low in comparison with their Deep Bay populations at the time. No bird flightlines were identified passing through the core development area of the PS. For the northern portion of the PS, approximately 5.1% (0.8 birds/ hour recorded on average) and 8.8% (1.4 birds/ hour) of observed birds flew along the western boundary and the eastern tip, respectively. For the southern portion of the PS, approximately 2.2% (0.3 birds/ hour) of observed birds flew across the northern tip. The level of usage of the PS by birds in flight was considered very low or occasional.

4.2.32. The ecological baseline survey for AEIAR-182/2014 also covered mammals, herpetofauna, butterflies and dragonflies, while no freshwater survey was conducted. The survey findings were echoed by those of more recent surveys under Planning Application Nos. Y/YL-MP/6, Y/YL-MP/7 and Y/YL-MP/8, which included freshwater survey as well. The reconnaissance survey in December 2022 further confirmed the validity of these existing data. It is confirmed that non-bird species diversity and abundance in the PS and SA are low or very low. Most species are common and widespread in Hong Kong. All fauna species recorded during the reconnaissance survey are presented in **Appendix 4.2B**.

4.2.33. The flora and fauna species of conservation importance from literature and the current reconnaissance survey are summarised in **Appendix 4.3**. Only the species with an explicit presentation of their locations mapped in the report are listed in the appendix. Habitats where the species were previously recorded are not specified in the table as the classification/ distribution of habitats in each study varies, except for NTMDC as some studies discussed the bird species of conservation importance utilising this drainage channel specifically.

4.2.34. Literature review and the reconnaissance survey confirmed that the ecological baseline conditions established by the AEIAR-182/2014 is still valid in large. Habitats in the PS are of low or very low ecological value, except the small-sized (approx. 0.46ha) reed of low to moderate value. Within the SA, NTMDC and the temporary ponds of YMST project are considered of moderate ecological value in view of their relatively higher level of usage by wintering birds. Reed and ponds between Fairview Park and Palm Springs are considered as of low to moderate ecological value. The other habitats within the SA are evaluated to be of low or very low ecological value. Evaluation of each habitat within the PS and SA and their ecological value evaluated based on the latest information are in **Table 4.6** and **Table 4.7** respectively.

Table 4.6 Evaluation of Habitats within Project Site

Habitat	Area (Ha) on Updated Habitat Map	REC Zone EIA (AEIAR-182/2014)	Y/YL-MP/7 (Southern Portion of the PS)	Y/YL-MP/8 (Northern Portion of the PS)	Updated Baseline Conditions based on Reconnaissance Survey	Updated Ecological Value
Grassland/ Shrubland	7.10	Low for Southern Portion; Low to Moderate for Northern Portion	Low to Moderate	Low to Moderate	Increased in area due to colonisation of common ruderal grass and seedings of invasive species such as *Leucaena leucocephala*. Vegetation management to cut the tall grass and shrubs was	**Low**

Habitat	Area (Ha) on Updated Habitat Map	REC Zone EIA (AEIAR-182/2014)	Y/YL-MP/7 (Southern Portion of the PS)	Y/YL-MP/8 (Northern Portion of the PS)	Updated Baseline Conditions based on Reconnaissance Survey	Updated Ecological Value
					observed on site, which would be the reason for a generally low level of wildlife usage of the habitat. Species of conservation importance recorded during reconnaissance survey: Chinese Pond Heron and Little Egret.	
Seasonally Wet Grassland (SWG)	0.47	Very Low	Low	Low	Part of the north-western patch has been colonised by reed. A new area has been identified in the previous agricultural land habitat adjacent to the YMST project area. No species of conservation importance recorded during reconnaissance survey.	**Low**
Reed	0.26	Low	-	Low to Moderate	Slightly increased in size along the norther and north-western fringes. No species of conservation importance recorded during reconnaissance survey.	**Low to Moderate**
Watercourse	0.09	-	Very Low	Very Low	No species of conservation importance recorded during reconnaissance survey.	**Very Low**
Abandoned Irrigation Ditch	0.03	Very Low	-	Very Low	Observed to be entirely dried up in December 2022. No species of conservation importance recorded during reconnaissance survey.	**Very Low**
Developed Area	1.03	Very Low (for habitat urbanised area)	Very Low (for habitat urbanised area)	-	No species of conservation importance recorded during reconnaissance survey.	**Very Low**

Table 4.7 Evaluation of Habitats within Study Area (excluding PS)

Habitat on Updated Habitat Map	Area (Ha) on Updated Habitat Map	REC Zone EIA (AEIAR-182/2014)	Y/YL-MP/7 (Southern Portion of the PS)	Y/YL-MP/8 (Northern Portion of the PS)	Updated Baseline Conditions based on Reconnaissance Survey	Updated Ecological Value
Grassland/ Shrubland	7.19	Low to Moderate	Low	Low	No significant change identified.	**Low**

Habitat on Updated Habitat Map	Area (Ha) on Updated Habitat Map	REC Zone EIA (AEIAR-182/2014)	Y/YL-MP/7 (Southern Portion of the PS)	Y/YL-MP/8 (Northern Portion of the PS)	Updated Baseline Conditions based on Reconnaissance Survey	Updated Ecological Value
Grassland	3.10	-	-	-	Derived from previous agricultural land in YMST area. No farming activities were observed in this area during the survey, and *Imperata cylindrica* var. *major* and *Bidens alba* are the dominant plant species. Species of conservation importance recorded during reconnaissance survey: Greater Coucal.	**Low**
Marsh	1.04	Low	-	Low	Changed in size and location as a result of natural succession, habitat management and anthropogenic disturbance. No species of conservation importance recorded during reconnaissance survey.	**Low**
Reed	11.45	Reed in between Fairview Park and Palm Springs: low to moderate; Others: low.			Increased in area in the pond area between Fairview Park and Palm Springs. No species of conservation importance recorded during reconnaissance survey.	Reed in between Fairview Park and Palm Springs: **Low to Moderate**; Others: **Low**.
Pond	13.59	Ponds in between Palm Springs and Fairview Park: moderate; Temporary ponds of YMST project: Moderate; Ponds east of NTMDC: Low.			Reduced in size due to natural succession and anthropogenic disturbance. Species of conservation importance recorded during reconnaissance survey: Common Greenshank and Grey Heron.	Ponds between Palm Springs and Fairview Park: **Low to Moderate**; Temp. ponds in YMST project area: **Moderate**; Others: **Low**.
Drainage Channel	7.24	NTMDC: Moderate; Others: Low.			No significant change identified. Species of conservation importance recorded during reconnaissance survey: Northern Shoveler, Chinese Pond Heron, Grey Heron, Eurasian Teal, Great Egret, Little Egret and Collared Crow.	NTMDC: **Moderate**; Others: **Low**.

Habitat on Updated Habitat Map	Area (Ha) on Updated Habitat Map	REC Zone EIA (AEIAR-182/2014)	Y/YL-MP/7 (Southern Portion of the PS)	Y/YL-MP/8 (Northern Portion of the PS)	Updated Baseline Conditions based on Reconnaissance Survey	Updated Ecological Value
Watercourse	0.38	Very Low			No significant change identified. No species of conservation importance recorded during reconnaissance survey.	**Very Low**
Agricultural Land	2.01	Low to Moderate			Reduced in size significantly. No species of conservation importance recorded during reconnaissance survey.	**Low**
Plantation	4.16	Very Low			No significant change identified. No species of conservation importance recorded during reconnaissance survey.	**Very Low**
Waste Ground	3.05	-	Very Low	Very Low	No significant change identified. No species of conservation importance recorded during reconnaissance survey.	**Very Low**
Developed Area	132.25	Very Low (for habitat urbanised area)			No significant change identified. No species of conservation importance recorded during reconnaissance survey.	**Very Low**

Landscape and Visual

Landscape

4.2.35. The assessment area for Landscape Impact Assessment (LIA) covers all areas within 500m from the Project Site. The baseline survey involved a baseline survey of the existing landscape resources (LRs) and landscape character areas (LCAs) and comprised a desktop study of relevant background reports, topographical maps, information databases and photographs verified through comprehensive field study. The LRs and LCA's within the assessment area were described within the approved EIA Report (AEIAR-182/2014) and the descriptions therein remain an adequate description of these aspects of the landscape context. LRs and LCAs within the assessment area, which may be specifically affected by the Project, are further described below.

4.2.36. Within the Project Site, a total of 339 nos. trees were identified, which is an increase on the findings of the broad-brush survey undertaken for the approved LIA (under AEIAR-182/2014), likely as a result of new tree growth in the intervening period. The existing tree growth is found within a series of isolated clumps and belts of trees along the periphery of the Project Site. The majority of the existing trees are common exotic and native tree species. The most numerous of the existing trees is the weed species *Leucaena leucocephala.* There are no rare or protected tree species (based on Forests and Countryside Ordinance, Cap. 96, "Rare and Precious Plants in Hong Kong" under AFCD and / or listed under the IUCN Red List of Threatened Species, Protection of Endangered Species of Animals and Plants Ordinance, Cap. 586). One large specimen of *Ficus microcarpa* (T239) within the site has one of the characteristics (i.e. DBH>1.0m) to meet the requirements of a potential Old and Valuable Tree (POVT) (Development Bureau Technical Circular (Works) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and is considered a potential tree of particular interest in accordance with Guidelines for Tree Risk Assessment and Management Arrangement (9th edition (rev. 3), 26 January 2022).

4.2.37. As illustrated on **Figures 4.5** and **4.6**, eleven LRs are found within the assessment area, with four LRs found within the Project Site, as described below.

4.2.38. Shrubland/ Grassland (LR6) covers an area of approximately 20ha within the assessment area and over 73% of the Project Site, which represents a high proportion of the site area. The LR is characterised by abandoned agricultural landscape, which has become colonised by shrubs, some trees and areas of coarse grassland. The balance between grass and shrubs / scrub woodland varies as a result of periodic vegetation management on site. At three areas of this LR there are low-lying topography, which may be flooded for parts of the year and are therefore classified as seasonally wet grassland. In the approved LIA (under AEIAR-182/2014), such areas were referred to as Pond / Pond edges; however, owing to succession of the vegetation in the intervening period, it is now re-classified and included within the Shrubland/Grassland Landscape Resource.

4.2.39. LR4 (Open Storage/ Vacant Lots) at the Southern Portion of the Project Site is currently being utilised for container offices and a vehicular parking hardstand and covers approximately 17% of the site area. This area also contains some isolated clumps of existing trees, including the *Ficus microcarpa* (T239), which as noted above is a Potential Tree of Particular Interest (TPI). The extent of this LR is commensurate with the approved LIA (under AEIAR-182/2014). This area is characterised by an internal access road network of compacted hard core, areas of concrete hard standing and temporary buildings and structures. Vegetation directly associated with this LR is limited, although there are some existing trees located along the southern boundary.

4.2.40. A LR of more minor extent identified within the Project Site is Modified Watercourses (LR9), which covers approximately 2% of the site area. This LR typically takes the form of abandoned irrigation ditches. Vegetation directly associated with this LR is limited due to the polluted or disturbed nature of the channels. These modified watercourses remain substantially the same as described in the baseline conditions under the approved LIA (under AEIAR-182/2014). Small and isolated areas of reedbed (LR11) are also located in waterlogged depressions on the northern fringe of the site and covers approximately 3% of the site area. *Phragmites australis* is the dominant vegetation of this LR.

4.2.41. There has not been any significant development undertaken within the assessment area in recent years. As such the six LCAs identified are broadly consistent with the approved Landscape Character Area Plan under AEIAR-182/2014. As illustrated on **Figures 4.7** and **4.8**, only one of these correspond within the Project Site. This LCA1, Rural Open Landscape, occupies a total area of approximately 55ha and is characterized by a combination of active and inactive agricultural lands, including cultivated fields and fishponds. Crops, ponds, grasses, trees, and a few temporary structures/ shelters are found on flat, open areas. Some long-abandoned areas have been heavily invaded by tall grass, shrubs and weeds, concealing much of the traces of previous agricultural activities. This rural landscape character is relatively common in the New Territories.

Visual

4.2.42. The Project Site is located near Fairview Park in Yuen Long. It is bounded by Yau Pok Road and the Ngau Tam Mei Drainage Channel to the southeast, Fairview Park to the northwest, Fairview Park Boulevard to the southwest and existing agricultural land / ponds to the northeast.

4.2.43. The Project Site is located within a rural setting predominantly surrounded by low-rise village and residential developments, temporary workshops and fishponds. Key visual elements surrounding the Site are summarised below:

- The immediate west of the Site is Fairview Park, a low-rise residential development of approx. 2-3 storeys. There are some neighbourhood commercial centre. Bethel High School is located to the immediate west to the Southern Portion of the Site. The Fishponds of Tai Sang Wai is located to the further west.

- To the immediate north are existing agricultural land / fishponds which are approved for low-rise residential development under planning application no. A/YL-MP/247 (approx. 1-3 storeys). Palm

Springs and Royal Palms (max. 3 storeys), and various low-rise residential development under "Residential (Group C)" zone (max. 3 storeys) are located to the further northeast.

- To the immediate east is an existing public cycle track, Yau Pok Road, the Ngau Tam Mei Drainage Channel ("NTMDC"), and Kam Pok Road. Two planned residential development (Application No. A/YL-MP/205, A/YL-MP/287) (2-3 storeys) that are currently vacant with grass and tree cover are located on the other side of NTMDC. To the east of the Site, a rezoning application (Application No. Y/YL-MP/6) for low-to-medium- rise residential development (3 – 19 storeys) is also under TPB processing. Villages such as Chuk Yuen Tsuen, San Wai Tsuen, Wai Tsai Tsuen, Yau Mei Sun Tsuen ("YMST"), and various temporary workshops are located to the west / northwest near San Tin Highway.

- To the south are low-rise Commercial / Residential development (max. 3 storeys) locating along Fairview Park Boulevard. Man Yuen Chuen (max. 2 storeys) and various open storage are located to the further south.

4.2.44. In general, there is no significant change in the surrounding visual context when compared to 2014 (approved year of the approved EIA report). As a result, the types and sensitivity of the key visually sensitive receivers (VSRs) identified in the approved EIA report (AEIAR-182/2014) remain the same.

Cultural Heritage

4.2.45. A Cultural Heritage Impact Assessment (CHIA) was undertaken under AEIAR-182/2014 for the residential development project following the criteria and guidelines for CHIA as set out in Annexes 10 and 19 of the EIAO-TM. Based on the findings of desktop review and field scanning, the assessment area of the CHIA (including the PS) was concluded to contain no archaeological potential, and there are no sites of archaeological interest, declared monuments/ historic buildings within or in the vicinity of the PS. Such findings are still valid. Furthermore, no sites, buildings / structures in the new list of proposed grading items, or Government historic sites identified by the Antiquities and Monuments Office (AMO) are located in the vicinity of the PS.

5. Potential Impacts on the Environment

5.1. Air Quality

Construction Phase

5.1.1. With reference to Section 3.6 of the approved EIA Report (AEIAR-182/2014), the approved residential development project comprised a 2-storey residential development in the Southern Portion, and a landscaped open area, landscape pond and some passive recreational and supporting uses in the Northern Portion. The potential sources of air quality impact during the construction phase would be fugitive dust generated from foundation (piling) works, site formation works, vehicle movements, etc.

5.1.2. As the nature and scale of the current LPH and the residential development under the approved EIA study (AEIAR-182/2014) are similar (i.e. both are low rise residential development with the same project site boundary), this approved EIA Report (AEIAR-182/2014) could be used as reference for evaluation of the dust impact arising from this LPH Project. The site formation and construction of infrastructural works of this LPH Project would also involve site clearance, site formation, filling and excavation, foundation and superstructure.

5.1.3. However, only essential excavation is required at the existing berm up area at the Northern Portion for site levelling, the material handling (excavation, filing and foundation works) for entire construction works would be approximately 36,000m^3, which is less than the material handling of 114,000m^3 in the approved EIA Report (AEIAR-182/2014). It was assumed that majority of the material handling would be carried out during the excavation and filing works, hence it is worst-case estimated around 360m^3 of material to be handled daily assuming 4 months of excavation and filing works and 25 working days per month. Although the total amount of material handling by this Project is smaller than the one in the approved EIA Report, as the construction period for this Project is shorter, it is unclear if the number of dump truck over the site per time would be smaller compared to the approved EIA project. However, since the amount of excavated material to be handled per day is small, emission from dump trucks is not significant with mitigation measures in place. The loaded materials of the dump trucks would be covered entirely to ensure dusty material would not be leaked from the dump trucks according to the requirement of Air Pollution Control Ordinance (APCO). In case temporary stockpiling of small amount of material is required, the stockpiling location will be covered by tarpaulin sheets and backfilled as soon as possible.

5.1.4. In addition, shallow foundation (approximately 1.5m to 2m) for small building structures would be adopted to replace the traditional piling works that would minimise the excavation depth as compared to the approved EIA Report (AEIAR-182/2014), in which a basement for carpark was proposed. Furthermore, modern construction method of Modular Integrated Construction (MiC) would be adopted in this LPH development, significant construction dust impact is not anticipated. There would be no other major dust generation activities including rock crushing and concrete batching plant proposed during construction phase.

5.1.5. Mitigation measures will be implemented to mitigate the construction dust impact. With the implementation of the hourly watering on site and dust suppression measures stipulated in the *Air Pollution Control (Construction Dust) Regulation*, good site practices and the mitigation measures proposed in **Section 6.2**, no adverse fugitive dust impacts during the construction phase are anticipated. Wherever possible, connection to the main power supply should be considered to minimize the need for use of diesel fuel generator. As such, the air quality impacts due to exhaust emissions from the proposed construction activities are anticipated to be minor.

5.1.6. According to the information obtained from EPD, the construction works for the proposed residential development at East of Kam Pok Road, Mai Po (under environmental permit no. EP-515/2017) is scheduled to commence in May 2023, which would overlap with the construction of this LPH. This concurrent project is located at the east of Ngau Tam Mei Drainage Channel, i.e. with a separation distance of approximate 60m from this LPH Project. Similar to this LPH development, the concurrent project is also a low-rise residential development of about 3.8ha, where site formation works would be

the major sources of construction dust during construction phase. This concurrent project would be constructed in stages according to its EIA Report to minimise the dust impact. The implementation of hourly watering and dust suppression measures under the APCO, the fugitive dust would be minimised. An EM&A programme would also be implemented for this concurrent project during its construction phase, to check the effectiveness of the recommended mitigation measures and compliance with relevant statutory criteria. In addition, the contractor for this Project should closely liaise with the contractor of any concurrent project to avoid any dusty activities to take place at the same time to minimise the dust impact. Although the approved EIA Report (AEIAR-182/2014) has not taken into account any concurrent projects for constructional air quality impact assessment, the Proposed Residential Development in D.D. 104, East of Kam Pok Road EIA Study (AEIAR-205/2017) has assessed the cumulative constructional air quality impact with the presence of proposed residential developments at the subject site, which concluded that there is no adverse cumulative air quality impact during the constructional stage on any nearby ASRs.

5.1.7. Based on the PATHv2.1 data as shown in **Table 4.2**, the background annual average concentrations of RSP and FSP for Year 2023 within the 500m assessment area of the Project Site are predicted to be 28 $\mu g/m^3$ and 16 $\mu g/m^3$ respectively, which are well below the respective AQO by about 44% margin (for RSP) and 36% margin (for FSP). In view of the lower background pollutant levels and the implementation of the dust control measures under APCO, dust emissions from the LPH development would be well controlled.

5.1.8. In view of the similar nature of construction activities, reduced scope of dusty activities (such as using MiC construction method and shallow foundation, etc. and a lower background concentration for RSP and FSP within the 500m assessment area as compared with the approved EIA Report (AEIAR-182/2014), the air quality impact associated with the construction phase of the Project at the identified ASRs (same as those identified in the approved EIA Report (AEIAR-182/2014) and no additional ASR is found) is expected to be similar or less than that of the approved EIA Report (AEIAR-182/2014). Hence, no adverse air quality impact is anticipated during the construction stage.

5.1.9. No dredging or pond filling activities would be involved with the proposed development construction activities. Hence, odour emission due to excavation of pond sediment or bio-gas emission due to pond filling would not be a concern of this Project.

5.1.10. Finally, an EM&A programme and Event and Action Plan for this LPH development will be implemented to monitor the construction process to facilitate the enforcement of dust controls in order to reduce the dust emission to an acceptable level. The monitoring and auditing requirement could refer to **Section 6.9**.

Operational Phase

5.1.11. The approved EIA Report (AEIAR-182/2014) identified major potential sources of air pollution/ odour emission sources during the operational phase as follows:

- Vehicular emission from nearby roads;
- Potential chimney emission;
- Potential odour impact from planned Ngau Tam Mei Sewage Pumping Station (NTMSPS);
- Potential odour impact from the sewage generated from the development; and
- Potential odour nuisance from refuse collection point (RCP).

5.1.12. The approved EIA Report (AEIAR-182/2014) concluded that adequate buffer distance provided could fulfil the HKPSG's requirement on vehicular emission and no industrial emission sources were found within the assessment area. The sewage generated from the proposed development would be discharged to the planned public sewers and the planned NTMSPS is located at 345m away from the development, the odour impact is insignificant. The proposed RCP would also be located away from the residential area as far as possible. Hence, no specific mitigation measures for air quality and odour impact were considered necessary.

5.1.13. As the nature and scale of the current LPH and the residential development under the approved EIA study (AEIAR-182/2014) are similar (i.e. both are low rise residential development with the same project site boundary), this approved EIA Report can be used as reference for evaluation of the operational phase air quality and odour impacts of this LPH project.

5.1.14. Based on the latest site survey carried out in January 2023, the road networks remain unchanged as compared to the approved EIA Report (AEIAR-182/2014) and no industrial emission sources and other odourous emission sources were also found within the 500m assessment area. A site survey for odour sources within 500m has been carried out, it is confirmed during site survey that there are no other existing odorous emission sources found within 500m from the site and no odour is detected from Ngai Tam Mei Drainage Channel, Fairview Nullah and nullah along Ha Chuk Yuen Road.

5.1.15. Two potential air pollution/ odour emission sources, on-site sewerage pumping station and two Public Transport Termini are proposed within the LPH development. **Figure 5.1** shows the locations of the PTTs and SPS. The following paragraphs evaluate the air quality and odour impacts based on the latest LPH development.

Vehicular Emission

Open Road Emissions

5.1.16. Based on the latest site survey carried out in January 2023, the road networks remain unchanged as compared to the approved EIA Report (AEIAR-182/2014) and hence the buffer distance requirement as stated in the approved EIA Report (AEIAR-182/2014) would remain valid. As shown in **Figure 5.2**, a separation distance between the nearest sensitive uses of the Project Site and the road kerb is larger than the 5m which complies with Hong Kong Planning Standard and Guideline (HKPSG) for Yau Pok Road and Fairview Park Bouldevard. The proposed internal roads within the development serve as both private access roads and emergency vehicular access (EVA) and are not classified under the roads hierarchy by TD. Furthermore, given the private access roads with entry restrictions, which are not free-flowing public roads, and the fact that no public car parking will be provided within the Site. Hence, the traffic volume for those internal roads is minimal and the traffic from the LPH development would be much less than the residential development in the approved EIA Report (AEIAR-182/2014). Hence, the air quality impact from the private access roads is considered negligible. Further evaluation has been conducted in a separate technical statement to support that adverse vehicular emission impact on the LPH development is not anticipated with the given buffer distance.

Public Transport Termini

5.1.17. For the two proposed public transport termini (PTTs) located at Northern and Southern Portions of the Project Site respectively, they are expected to be small in scale with only 1 bus route and 1 green minibus route provided in each Northern and Southern Portion of the PS. It is estimated that 5 nos. of bus and 5 nos. of pubic light bus service would be required during peak hours. The PTTs are located away from the sensitive receivers as far as practicable (approximate 15m away from the air sensitive receivers for both portions) and are located at the main entrance of the PS instead of locating the PTTs inside the LPH development. The PTTs are also located in relatively open and uncovered areas, such that there would be sufficient ventilation for the dispersion and dilution of vehicular emissions from the termini.

5.1.18. Given the very low contribution of vehicular emissions to the cumulative air quality impact as discussed above, the vehicular emission burden emitted by the proposed PTTs is not anticipated to be a major contributor to the cumulative air quality impact at nearby ASRs. Therefore, in view of the above, the air quality from the PTTs is considered insignificant.

Industrial Emissions

5.1.19. Further desktop study and site survey in January 2023 were conducted to review whether there is any update on the potential sources of industrial emissions within the 500m of the Project Site, no new active chimneys were identified.

5.1.20. As such, adverse air quality impact from chimney emission sources on the Project Site is not anticipated given that there are no chimneys identified within the assessment area.

Odour Emissions

Planned Ngau Tam Mei Sewage Pumping Station

5.1.21. According to the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKTSSD) EIA (EIA-094/2004), a planned Ngau Tam Mei Sewage Pumping Station (NTMSPS) was proposed to be located at the south of existing Yam Mei San Tsuen and next to Castle Peak Road – Tam Mi, which is about 350m from this LPH development. Odour removal filtering system with not less than 99.5% H_2S removal efficient would be included as a control measure in the SPS and based on the EIA (EIA-094/2004) assessment results, the maximum odour concentration at nearby sensitive receivers (approximately 50m separation distance from SPS) would comply with the odour level criterion of 5 Odour Unit. Given the LPH development is located at approximate 350m from this planned NTMSPS, odour impact from this NTMSPS is considered insignificant.

On Site Sewage Pumping Station

5.1.22. The sewage generated from the proposed LPH development would be pumped to the onsite Sewage Pumping Station (SPS) and eventually discharged to public sewer. This onsite SPS is proposed to be located in the Southern Portion of the Project Site. The separation distance of this SPS to the nearby sensitive receiver is shown in **Figure 5.3**. The proposed SPS, which has a proposed design capacity of 1,056 m^3/day Average Dry Weather Flow (ADWF) which is not a Designated Project, will be installed with suitable mitigation measures in accordance with the EPD's Environmental Guidance Note for Sewage Pumping Stations, such as providing enclosure and activated carbon filter with H_2S removal efficiency of 99.5% in line with other recently approved SPS EIAs. The exhaust vent of the SPS will also be directed away from the nearby sensitive uses.

5.1.23. A desktop review was conducted to compare the odour impact of other SPS with the proposed on-site SPS. As stated in the project profile of "Sewage Pumping Station for Public Housing Development at Long Bin (PP -618/2021)", an odour survey was conducted for the Ting Kok Road No. 5 SPS and Tai Po Tai Wo Road SPS (with 11,520 and 12,100 m^3/day ADWF respectively and odour removal efficiency of 99.5%), it was found that no noticeable odour was identified at the periphery of the two SPSs. In addition, with reference to "Public Housing Development at Lin Cheung Road Site – Temporary Sewage Pumping Station and Associated Sewer Pipes (DIR-239/2014)", an odour survey was also conducted at the Cheung Sha Wan Sewage Pumping Station (operating ADWF of 349,386m^3/day and 95% odour removal efficiency), no odour was also detected at a location over 10m away from the exhaust vent of that SPS. Since the proposed SPS has a much smaller ADWF than the above mentioned SPSs while its nearest ASR is further away, with the same/better odour removal efficiency, it is anticipated that no adverse odour impact on any nearby ASRs including the LPH development will be anticipated..

5.1.24. It is concluded that potential odour impact from SPS can be effectively mitigated with proper mitigation measures taken during the design, construction and operation stages. Therefore, with an adequate separation distance and provision of suitable design and mitigation measures, adverse odour impact from the proposed SPS is unlikely to occur.

Refuse Collection Points (RCPs)

5.1.25. There are also two proposed Refuse Collection Points located at the Northern and Southern Portions of the Project Site respectively. As indicated in the layout plan, the two collection points are designed to locate away from the residential area as far as practicable whilst being close to nearby access roads. The RCPs are also located in an open area which no restriction in local air circulation according to the HKPSG. The RCP has cover and enclosing walls and would be designed to visually pleasant and equipped with water scrubber systems, vehicular exhaust extraction systems and high pressure water jet cleaners. In view of the above, the RPCs are not considered significant odour emission sources. The refuse collection vehicle would be fully enclosed equipped with metal tailgate cover and waste water tank/ sump tank following the Code of Practice on the Operation of Refuse Collection Vehicles.

Other Odorous Sources

5.1.26. During the site visit in January 2023, no particular odour was detected, and no odour from the nearby nullahs, including Ngau Tam Mei Drainage Channel, Fairview Park Nullah, and the nullah along Ha Chuk Yuen Road, as well as the flood storage pond of Chuk Yuen Stormwater Pumping Station was detected. There is also no odour detected during our field survey from the nearby workshops, godowns and storage areas that will impose any air quality impact on the proposed LPH development.

5.2. Noise

Construction Phase

5.2.1. The potential source of noise impact during the construction phase would be the use of Powered Mechanical Equipment (PME) for various construction activities. With reference to Sections 4.7.1 and 4.8 of the approved EIA Report (AEIAR-182/2014), adverse construction noise impact was not anticipated with proper implementation of noise mitigation measures and good site practices.

5.2.2. For the proposed LPH development, the major construction works are of similar nature and scale to those mentioned in the approved EIA Report (AEIAR-182/2014), except that no piling works would be carried out as shallow foundation shall be used and Modular Integrated Construction (MiC) would be adopted for the construction of domestic blocks. With the use of shallow foundation in place of piling works as well as adoption of the MiC, the construction noise impacts would be reduced.

5.2.3. In view of the similar nature of construction activities and use of quieter construction methods, the noise impact associated with the construction of the Project is expected to be similar or less than that predicted in the approved EIA Report (AEIAR-182/2014). Therefore, with the implementation of appropriate mitigation measures, no adverse construction noise impact is anticipated.

5.2.4. An EM&A programme and Event and Action Plan for this LPH development would be implemented to monitor the construction process to facilitate the enforcement of construction noise controls in order to reduce the construction noise to an acceptable level. The monitoring and auditing requirement could refer to **Section 6.9**.

Operational Phase

5.2.5. The approved EIA Report (AEIAR-182/2014) identified major potential sources of noise impact during the operational phase as follows:

- Road traffic noise from nearby road networks;
- Existing Chuk Yuen Stormwater Pumping Station;
- Open storage site for precast units with associated warehouse (Fan Keung Kee);
- Totally enclosed godown (Tai Sang Hong); and
- Petrol Filling Station within Fairview Park.

The location of these operational phase noise sources are shown in **Figure 5.4**.

5.2.6. Operational phase noise mitigation measures in form of fixed glazing or blank façade is proposed for two residential buildings located southern side of the development and also a 2.5m to 4.5m tall noise barrier was proposed along portion of the southern and southeastern site boundary in order to alleviate road traffic noise impact and fixed plant noise impact. The operational phase noise mitigation measures extracted from the approved EIA Report (AEIAR-182/2014) is shown in **Appendix 5.1**.

5.2.7. Based on the latest site survey carried out in January 2023, these identified major noise sources still exist and are valid for the current LPH development. The current LPH development has provided a further setback from the nearby Fairview Park Road South and the petrol filling station within Fairview Park as compared to the approved EIA Report (AEIAR-182/2014). Hence, the 2.5m to 4.5m tall noise

barrier proposed in the approved EIA Report (AEIAR-182/2014) could still be applicable in this 3-storey LPH project. Nevertheless, an Operational Phase Noise Mitigation Measures Plan (OPNMMP) would be prepared by the Project Proponent to incorporate the latest LPH development for EPD's approval.

5.2.8. An on-site sewage pumping station (SPS) is proposed between the Northern and Southern Portions (**Figure 5.4**). The operation of the electrical and mechanical equipment inside the proposed SPS including sewage pumps, air exhaust fans, etc. is the major fixed noise source during operational phase. According to the current plant design, all the facilities will be housed within reinforced concrete structure with soundproof doors. Noise impacts from this SPS could be effectively mitigated by implementing good design and noise mitigation measures at source, e.g. acoustics silencer and acoustics louvre etc., during the detailed design stage. The Contractor should design and select equipment that could comply with the Hong Kong Planning Standard and Guideline as required in the contract.

5.3. Water Quality

Construction Phase

5.3.1. The approved EIA for the residential development project identified major potential sources of water pollution during the construction as follows:

- Runoff of sediment laden from exposed soil surface;
- Runoff from stockpiling area;
- Fuels and lubricants from machinery and trucks;
- Liquid spillage such as chemical, oil, diesel, and solvent;
- General waste material; and
- site facilities such as toilets (if appropriate measures are not implemented properly in terms of storage and discharge.

5.3.2. These identified major pollution sources are still valid for the current LPH development. Potential sources of water quality impacts associated with the Project are mainly the construction site runoff and drainage during the construction phase.

Operational Phase

5.3.3. No adverse impact on WSRs due to operation of the residential development project would be anticipated as reported in the approved EIA Report (AEIAR-182/2014).

5.3.4. Appropriate drainage system will be provided for the LPH Project to collect surface runoff from the PS before discharging it into the nearby existing stormwater drains, via which run into the NTMDC after passing through sand traps. Also, sewage generated from the LPH development will be properly collected and subsequently discharged to public sewerage system for downstream treatment. Therefore, water quality impact to WSRs during operational phase is not expected.

5.3.5. The proposed on-site SPS is designed to collect sewage to be generated from the proposed LPH development. The collected sewage would be pumped to public sewer, no adverse water quality impact during operational phase is anticipated.

5.4. Ecology

Direct Habitat Loss

5.4.1. The residential development in AEIAR-182/2014 had a site area of about 9.1ha. Seven habitats identified in the then site comprised agricultural land, pond, reed, grassland/shrubland, seasonally wet

grassland, abandoned irrigation ditch and urbanised area. The habitats supported low number and diversity of wildlife and were predominately dry and unlikely to provide feeding and breeding habitat for wetland species. Based on the survey findings and experience and knowledge of the PS, the approved EIA Report concluded that direct impact to these habitats were anticipated to be of low to very low significance.

5.4.2. The proposed LPH development will take place within the PS with an area of about 8.98ha. No direct habitat loss will occur in the broader SA outside of the PS. Six habitats identified in the PS include grassland/shrubland, seasonally wet grassland, reed, watercourse, abandoned irrigation ditch and developed area. During the construction phase, these habitats will be lost due to site formation works.

5.4.3. The majority of the PS is dominated by grassland/shrubland which is found to support low level of usage. As the habitat is predominately dry, it is unlikely to provide feeding and/or breeding habitats for wetland species. The small numbers of wetland dependant birds recorded at this habitat were loafing at the time of observation. Although reed and seasonally wet grassland can provide important habitat for wetland dependent species elsewhere in Hong Kong, the two habitats on-site are small and fragmented. During the reconnaissance survey, the abandoned irrigation ditch in the Northern Portion of the PS was completely dry; the EcoIA for planning application no. Y/YL-MP/8 mentioned that the ditch only retains a little precipitation occasionally. The watercourse is polluted, and the developed area is hard paved with a little flora and fauna species recorded. Based on the reviewed literature and survey findings, the habitats that will be directly affected by the development are considered to have very low to low value in terms of wildlife usage.

5.4.4. **I**n the absence of mitigation measures, direct habitat loss caused by the Project is considered to be of **Low** significance for grassland/ shrubland, seasonally wet grassland and reed, and **Very Low** significance for abandoned irrigation ditch, watercourse and developed area, considering the existing level of disturbance received by the PS and majority of the recorded flora and fauna species being common and not using the PS as their critical habitats. The respective impact assessment in AEIAR-182/2014 is still valid.

Direct Impacts on Species Conservation Importance

5.4.5. In AEIAR-182/2014, no flora species of conservation importance was found in the site. None of the fauna species of conservation importance (especially birds) were recorded in significant numbers (i.e. in relation to the Deep Bay population). In view of the small size of the habitats in the then development site (as compared with similar habitats elsewhere in Hong Kong), the abundance of these species observed and the disturbance in surroundings, the impacts on these species of concern were not considered to be significant.

5.4.6. Since approval of AEIAR-182/2014, no flora species of conservation importance has been recorded within the PS in the following studies including the recent reconnaissance survey. Therefore, no direct ecological impact of the Project on flora species of conservation importance is anticipated.

5.4.7. In terms of fauna species of conservation importance, at least two mammal species, ten bird species and one reptile species were recorded within the PS from reviewed literature and the reconnaissance survey (**Appendix 4.3**). None of the bird species of conservation importance were recorded in significant numbers in comparison to their Deep Bay populations, while the two mammal species (i.e. Small Asian Mongoose and Japanese Pipistrelle) and one reptile species (i.e. Chinese Cobra) are actually common and widespread in the territories. No foraging or breeding behaviours were observed, indicating that the PS is an irregular loafing site for only a small number of wetland-dependent birds and other species. It is concluded that, in the absence of mitigation measures, potential direct ecological impact of the Project on fauna species of conservation importance is considered to be of **Low significance**. The respective impact assessment in AEIAR-182/2014 is still valid.

Impact on Bird Flightlines and Bird Collision

5.4.8. AEIAR-182/2014 did not observe birds using the then development site as their main flight path. Birds were found to fly over Fairview Park and other developed areas like Palm Springs, Royal Palms, and

nearby village house developments. As the then proposed structures with heights (i.e. 6.6m) lower than existing buildings in the vicinity (i.e. about 8.23m - 9m), no significant impact on bird flight lines was expected in the approved EIA Report. Significant bird collision impact was not predicted in the approved EIA either, considering disturbed nature of the area, the relative low height and extent of various proposed structure, as well as the design and landscape measures. The previous assessment is considered still valid and relevant to the current LPH proposal.

5.4.9. According to the most recent bird flightline surveys in the dry and wet seasons in 2019-20 for Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8, majority of the observed waterbirds flew along the NTMDC. Only a very small portion of observed waterbirds in flight passed the fringes of the PS. All these indicate again that the PS does not lie on a major flightline for waterbirds. The residential houses in Fairview Park and Palm Springs are 2-3 storeys, the LPH residential blocks (of 3 storeys) would be of approximately the same height to these two long-established residential developments (**Figure 5.5**). Therefore, birds flying over the two existing large scaled residential developments do fly over the PS. Hence, building blocks within the PS would not have a significant impact if they fly at a similar height to the nearby existing buildings. Potential ecological impact of the Project on bird flightlines is considered of **Low significance**.

5.4.10. In terms of bird collision, in view of the generally low bird diversity and abundance recorded on site, the PS is unlikely to be an important habitat for birds. Due to the project nature (i.e. temporary light public housing), it is also unlikely that there will be extensive use of transparent or reflective glasses and/or façades. While no night-time works are scheduled during the construction phase, night-time lighting would only occur when the Project is in operation. However, in view of the small scale of the Project and the long-term existence of the well-established residential developments in its close vicinity, the potential impact of bird collisions arising from the proposed LPH development is still anticipated to be of **Low significance** in the absence of mitigation measures.

Indirect Impact of the Project due to Increased Disturbance

5.4.11. AEIAR-182/2014 assessed the indirect habitat loss through disturbance caused by the construction activities. The predicted disturbance to the surrounding habitats were all of very low significance except for NTMDC and the adjacent agricultural land (now are the temporary ponds in YMST). Due to a higher level of bird usage, construction activities (piling involved) of the proposed residential development in AEIAR-182/2014 was considered to have disturbance impact to NTMDC of moderate significance in the absence of mitigation. The disturbance of the construction to the then agricultural land in YMST would be of moderate significance because of the adjacency. Significance of the potential indirect impact to all nearby habitats during the operational phase was predicted to be low in AEIAR-182/2014. The assessment is considered still valid.

5.4.12. The proposed LPH development is temporary in nature and planned to be operated for five years. Within the PS, majority of the building blocks are setback at least 7-10m from site boundaries for tree planting / greenery as a screening and buffer zone. Modular-In-Construction (MiC) system will be adopted to minimise on-site construction activities, shorten construction period and reduce potential disturbances. Potential sources of disturbance accrued from the proposed LPH development include construction activities (e.g. site clearance, levelling/ excavation works and reinforced concrete construction works), increased human activities, noise and dust to adjacent habitats during the construction phase and the impact arising from glare and noise during the operational phase.

5.4.13. Due to the small scale of this Project, only open habitats that are adjacent to the PS would potentially be subject to the increased disturbance from the development. This is because the presence of certain anthropogenic features has provided a barrier between the source of disturbance and the receptor sites; these features include large residential areas, San Tin Highway and other significant roads (Kam Pok Road, Yau Pok Road and Castle Peak Road). Potential areas where received disturbance would rise as a result of the proposed LPH development include NTMDC and the various wetlands being actively managed under the YMST project.

5.4.14. Potential ecological impact on NTMDC is of concern due to its function of providing foraging ground to ardeids particularly during the dry season. However, it should be noted that the channel lies more than 10m away to the southeast of the PS and is separated from the latter by a cycle track and Yau

Pok Road (**Figure 5.5**). The cycle track and Yau Pok Road are 1-2 meters higher than the PS in terms of existing ground level and already disturbed by frequent passenger and vehicle uses including heavy vehicles commuting between Yau Pok Road and the open storage areas close to Fairview Park. While the current and previous survey findings revealed some bird species, e.g. Grey Heron, Great Egret, Little Egret and Black-faced Spoonbill, in the sections of the channel within the SA, their numbers are not considered significant in a Deep Bay context. Currently, there are trees growing densely on both banks of the channel, which function as an effect screen for the birds in channel. During the construction phase, no night-time works are anticipated to be conducted. Indirect disturbance impact of the Project to NTMDC during the construction phase would be of **Low to Moderate significance** in the absence of mitigation measures. Considering that and the traffic peak hours in the operational phase usually do not coincide with peak waterbird activities (i.e. very early morning), the increased traffic flow caused by the proposed LPH development would not have significant additional impact on waterbirds using NTMDC. As the building block will be set back from the site boundary for at least 7-10m, in the absence of mitigation measures, indirect disturbance impact of the Project to NTMDC during the operation phase would be of **Low significance**.

5.4.15. Among the wetland habitats being managed in the YMST project site, the temporary ponds abutting the north-eastern boundary of the PS would be particularly affected by the Project due to their adjacency to the PS and a relatively higher number of waterbirds and/or wetland dependent species recorded in this habitat. The 18-month ecological survey conducted for the Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8 recorded a total of 27 waterbird and/or wetland dependent species in these ponds, including a single count of 46 Black-faced Spoonbills in November 2019. However, these observations were all occasional and in low abundance for most of time. Moreover, the ponds are ephemeral and will cease operation before the construction of YMST project. During the construction phase of the LPH Project, no piling works are anticipated to be conducted as only shallow foundations will be required for the building blocks. After site formation, north-eastern part of the PS will be having at 1-2m level difference from the adjacent ponds, which means the level difference itself could function as a kind of visual screen. The following construction activities in this area (construction of a few one-storey high plant rooms and bus terminus etc.) would have comparatively less disturbance. Given the temporary nature of the ponds and small-scaled construction works, in the absence of mitigation measures, indirect disturbance impact of the Project to these temporary ponds and other wetlands in YMST project boundary during the construction phase would be of **Low to Moderate significance**. During operation, the main buildings are away from this area and the north-eastern corner is mainly for access road and a few one-storey plant rooms. Due to the level difference between the two areas, the disturbance to the wetlands in YMST is therefore considered of **Low significance** in the absence of mitigation.

Indirect Impact on Species of Conservation Importance

5.4.16. In AEIAR-182/2014, potential indirect impact caused by the construction of the proposed residential development on bird, butterfly and dragonfly species of conservation importance within the assessment area was assessed in connection with the indirect habitat loss (Section 5.4.11 refers). During its operational phase, such impact was assessed to be of low significance due to the generally small numbers of species recorded and the existing level of disturbance in the area.

5.4.17. Regarding potential indirect (disturbance) impact, only the bird species recorded at adjacent habitats, in particular NTMDC and the wetlands in YMST project area, would be potentially affected by the proposed development. Waterbirds are sensitive disturbance, for which the impacts from within the PS are anticipated to be greatest during the construction phase. However, due to the small numbers of bird species of conservation significance recorded in the SA, in the absence of mitigation measures, the disturbance impact on waterbirds using NTMDC and the surrounding wetland habitats during construction is predicted to be of **Low to Moderate**.

5.4.18. Compared to the construction phase, noise impacts during the operation of the development would be considerably reduced. The main source of disturbance would be from the increased glare as a result of lighting during the nighttime and the increased human population in the area, potentially leading to increased disturbance to nearby habitats. However, as discussed previously, waterbirds in NTMDC and other wetlands in SA are already habituated to the relatively high levels of human activity compared to other wetlands in Hong Kong. In addition, since the PS is situated closed to existing

residential developments and extensive existing artificial lighting (such as road lights along Kam Pok Road and in nearby villages), nocturnal species would have already adapted to the environment or otherwise avoided the area. No significant additional glare impact is predicted. In the absence of mitigation measures, the disturbance impact on bird species of conservation significance during the operational phase is predicted to be of **Low to Moderate** Significance.

5.4.19. In terms of indirect impact on other species of conservation importance, three butterfly species (i.e. Danaid Eggfly, Swallowtail, and Plain Hedge) and three dragonfly specie (Ruby Darter, Scarlet Basker, and Coastal Glider) of conservation importance were reported to occur in the SA, all in very low numbers. In view of their high mobility and the availability of habitats similar to where they were recorded in the area, potential disturbance to these species during the construction and operation of the Project is considered to be of **Low** significance.

Indirect Impacts on Off-site Wetlands Near Mai Po and Deep Bay

5.4.20. AEIAR-182/2014 stated that the then proposed development was unlikely to result in any indirect habitat loss on habitats close to Mai Po and Deep Bay, in view of the development scale and nature and most development in the southern part.

5.4.21. The current LPH developed proposed MiC blocks on both the Southern and Northern Portions. While the PS is outside WCA, its Northern Portion falls within the WBA. The entire PS is separated from the continuous and contiguous pond system in the Deep Bay area by the existing, land-extensive suburban estates (e.g. Fairview Park, Palm Springs and Royal Palms), which act as ecological barriers. In the light of this relatively weak ecological linkage, the proposed LPH development is not expected to impose any significant impacts on existing wetlands near Mai Po and Deep Bay. The impact would be **Negligible**.

Indirect Impact (Pollution) on Watercourses Connected to Deep Bay

5.4.22. AEIAR-182/2014 proposed to convey the sewage generated from the residential development to public sewerage; thus, no sewerage pollution during operational phase is envisaged. Increased water flow as a result of increased surface runoff after heavy rainfall during operational phase was envisaged, which, however, would be small in amount in view of the small scale of the proposed developments (i.e. residential houses, a landscape pond, landscaped open area and some passive recreational uses and supporting facilities). In addition, the existing watercourse near the site was moderately polluted. Major pollution on the Deep Bay system was not envisaged from the then proposed development.

5.4.23. During the construction phase of the current LPH, potential sources of pollution from the PS primarily include site runoff, which may involve sediments released during site excavation, chemical waste from mechanical equipment, especially oils and lubricants, and domestic discharge, including sewerage. If this polluted water is discharged into nearby watercourses/ channels, Deep Bay may eventually be impacted as they are connected to each other. These impacts will be of **Low to Moderate** significance and need to be mitigated.

5.4.24. During the operational phase, sewage generated from the proposed LPH Project will be collected by an on-site pumping station, which will then convey it to the public sewerage system. No sewage pollution from the PS during operational phase is therefore envisaged. However, increased water flow as a result of increased surface runoff after heavy rainfall during operational phases is envisaged, and it may potentially impact these downstream habitats. But, considering that the proposed development is unlikely to create severe *in-situ* pollution (i.e. residential use rather than industrial) and that Deep Bay is rather remote from the PS (therefore buffered from any pollution events to some extent), indirect impact on the watercourses downstream of the PS and ultimately the Deep Bay system in terms of water pollution would be of **Low significance**.

5.5. Landscape and Visual

Landscape

5.5.1. The potential impacts on the LRs and LCAs within the landscape assessment area were assessed with reference to the approved EIA Report (AEIAR-182/2014) and in broad accordance with the criteria and guidelines identified in Annexes 10, 11, 18, 20 and 21 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

Construction Phase

5.5.2. The LPH Development has taken note of the locations of existing tree groups and configured the proposals to retain such trees where possible. Given that the development covers the majority of the Project Site, some 94 nos. of existing trees within the site are recommended for retention including the potential TPI - *Ficus microcarpa* (T239) (i.e. DBH>1.0m) in the proposed landscape buffer area. Some 245 nos. are recommended for removal. None of the trees affected make good candidates for transplantation. Nevertheless, as a result of these works, a high proportion of the existing land cover of the site will be changed.

5.5.3. The presence of construction site and construction activities (e.g. site clearance, removal of existing vegetation, site formation works, machinery and plant, temporary storage of construction materials etc.), temporary noise barrier etc. will inevitably create landscape impact during construction phase on the existing LRs, with the clearance of trees that conflict with the site formation works and the removal of the majority of the land coverage within the site to facilitate the works.

5.5.4. Similar to the findings of the approved LIA, within the Project Site LCA1 (Rural Open Landscape) will experience Slight impacts during construction. All other LCAs lie outside the Project Site and will experience insubstantial residual impacts during construction.

Operational Phase

5.5.5. Impacts on LRs are assessed as broadly in accordance with the findings of the approved EIA. Approximately 95% of the Shrubland/Grassland (LR 6) will be affected by the LPH development, including all of the seasonally wet grassland which is a component of the LR. However, given the disturbed nature of the existing landscape, it is considered that the impact will not be significant, also noting that the 5% untouched areas also contain preserved trees. The proposed planting scheme includes retention of several existing groups of trees around the site and the use of bamboos and larger shrubs to create massed vegetation at the site periphery as a compensatory greening treatment.

5.5.6. The LPH Development will also lead to the loss of the Reedbed (LR11) and the Modified Watercourses (LR9). However, given that these LRs comprises a small part of the site area (approximately 5%) and that there are more extensive tracts of these LRs within the assessment area, the impacts are not considered to be significant.

5.5.7. For the areas of open storage / vacant lots (LR4), approximately 91% of this LR will be affected by the Project. However, given the disturbed nature of the existing landscape, it is considered that the impact will not be significant. The untouched areas contain preserved trees. All other LRs lie entirely outside the Project Site and will experience Insubstantial residual impacts.

5.5.8. Within the Project Site LCA1 (Rural Open Landscape) will experience insubstantial residual impacts during operation. Both the current scheme and the approved scheme under AEIAR-182/2014 are low rise and therefore relatively compatible with the existing character of this LCA by virtue of the scale of the buildings. It is also considered that there are some improvements under the current temporary scheme such as preservation of a greater quantity of existing trees (including a potential TPI) and the provision of a wider boundary buffer planting area, which leads to the current conclusion.

5.5.9. All other LCAs lie outside the Project Site and will also experience insubstantial residual impacts during the operational Phase.

Visual

Construction Phase

5.5.10. The presence of construction site and construction activities (e.g. site clearance, removal of existing vegetation, site formation works, machinery and plant, temporary storage of construction materials etc.), temporary site fencing / noise barrier will inevitably create visual impact during construction phase. Only VSRs at the immediate surroundings will be affected while other VSRs shall not be affected due to presence of existing trees along NTMDC sheltering the construction site. When compared to the residential development project in the approved EIA report, the construction scale is reduced with the adoption of shallow foundation and MiC method. The reduction in heavy machinery and plant on site will induce less visual impact. Moreover, the construction period is also shortened accordingly which reduces the duration of impacts.

Operational Phase

5.5.11. During the operation phase, the presence of new building structures remains as the major source of potential visual impact. Although the BH of the LPH Development is somewhat higher than the residential development project under the approved EIA report by 1 storey or by 4.65m, the BH profile within the Project Site remain low-rise and is not incompatible with the surrounding context. Noting the residential development project in the approved EIA report did not propose any major building structures in the Northern Portion of the Project Site, the building structures of the LPH Development in the Northern Portion will be a new source of potential visual impact. However, the development scale and intensity of the LPH Development in the Northern Portion is not incompatible with Fairview Park to the immediate northwest. Overall, the massing, BH and development intensity of the LPH Development are considered compatible with the surrounding rural settlement and will not form an out-of-context development that induce significant adverse visual impact. Furthermore, the LPH Development is to be provided on a temporary basis and the duration of visual impact as a result of the LPH Development will be temporary.

5.6. Cultural Heritage

5.6.1. Since no heritage sites (i.e. sites of archaeological interest, declared monuments, proposed monuments, graded historic sites/buildings / structure, , all sites, buildings / structures in the new list of proposed grading items, or Government historic sites identified by AMO) are located in the vicinity of the PS, impact of the Project on these sites is not anticipated. No direct or indirect impacts on any terrestrial archaeology or built heritage resources are anticipated to arise from the construction and operation of this LPH Project. Such conclusion is consistent to the approved EIA Report AEIAR-182/2014.

5.7. Waste Management

5.7.1. The approved EIA Report (AEIAR-182/2014) has been reviewed and found still relevant to this LPH Project due the similar development scale and nature of the two projects. Under this Project, since MiC method will be adopted, and the materials on site will be reused and recycled wherever practicable, the volume of construction and demolition (C&D) materials is expected to be reduced in comparison with the previous EIA in 2014. Identification and evaluation on the waste management impacts during construction and operation phases of the Project is summarized below.

Construction Phase

5.7.2. During the construction phase, the main activities that will potentially result in the generation of wastes include site formation works, construction of the temporary domestic buildings and ancillary facilities. The typical waste type associated with these activities include:

- Construction and demolition (C&D) materials;
- Chemical waste; and

- General refuse.

Construction and demolition (C&D) materials

5.7.3. Major waste arising from the construction phase would include inert and non-inert C&D materials from the site formation works. C&D materials include excavated spoil (soil and rock), waste concrete and grout, timber, steel and packaging materials. Considered MiC method will be adopted under the Project and the materials on site will be reused and recycled wherever practicable, the volume of construction waste would be insignificant. The estimated quantity of C&D materials during construction phase of the LPH Project is summarized in **Table 5.1**.

Table 5.1 Summary of C&D Materials Generation during Construction Phase

Construction Waste Type	Estimated Quantity			Proposed Handling/ Disposal Method
	Generated	Re-use	Disposal	
Inert C&D Materials (e.g. fill, rock, concrete)	35,590 m^3	5,340 m^3	30,250 m^3	Tuen Mun Area 38 or Tseung Kwan O Area 137 Fill Bank
Non-Inert C&D Materials (e.g. timber, papers, plastics)	4,150 m^3	Recycled as far as practicable	4,150 m^3	Metal, Paper & Plastic will be recycled as far as possible, the non-inert C&D materials will be disposed of at landfill site as last resort (subject to confirmation by contractor in later stage).

Chemical waste

5.7.4. Small amount of chemical waste in the order of less than few cubic meters/month is expected to be generated from the maintenance of construction plants / equipment, and it should be collected by licensed collectors and disposed of at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi.

General refuse

5.7.5. General refuse comprising of food scraps, wastepaper, empty containers, etc. are expected to be generated from construction workers working on-site. As no information regarding the number of workers on-site is available at this stage, it has been assumed that about 200 workers in average will work on the Site. Based on a generation rate of 0.65 kg per worker per day, the daily arising of general refuse from the Project would be approximately 130 kg/ day. General refuse generated during the construction phase will be collected properly by a licensed contractor using refuse collection vehicles (RCV) and disposed of at landfill site (subject to confirmation by contractor in later stage). The non-recyclable refuse will be delivered to refuse transfer station for compaction and containerisation and then disposed of at landfill site.

Operational Phase

5.7.6. In the approved EIA Report (AEIAR-182/2014), waste to be generated during operation of the then residential development included municipal waste from residential and commercial uses, which would also be the main type of waste for the current LPH.

5.7.7. In view of the small-scale and temporary nature of the proposed residential development, limited amount of domestic waste will be generated during the operational phase. Based on the information from ArchSD, the proposed residential development will accommodate a residential population of about 5,500 after full occupation. With reference to the EPD's Monitoring in Solid Waste in Hong Kong Waste Statistics 2021, the disposal rate of domestic waste is 0.94 kg/person/day in 2021. Based on the above assumptions, the estimated quantity of wastes to be generated from this Development during the operation will be about 5,170 kg/day. There will also be waste generation (mainly by visitors and employees) from the passive recreational and ancillary facilities of the Project Site. However, the quantity of waste generated will not be significant. Standard approach that is widely adopted in other parts of Hong Kong shall be adopted for the handling and disposal of this small quantity of waste. Waste generated will be collected properly by a FEHD or licensed contractor using refuse collection vehicles (RCV) and disposed of at landfill site (subject to confirmation with HB / FEHD in later stage).

The municipal solid waste from residential and commercial uses will be recycled as far as possible. Then the non-recyclable refuse will be delivered to refuse transfer station for compaction and containerisation and disposed of at landfill site.

5.7.8. With proper mitigation and control requirements presented in **Section 6**, adverse environmental impacts would not be anticipated during operational phase.

5.7.9. An on-site SPS will be provided for the LPH. Whilst no screening waste will be generated at the temporary SPS under normal operation, it will generate chemical waste from its maintenance. Generation of chemical waste (mainly spent activated carbon) would be negligible (approximately 0.4 m^3/year) during the maintenance of the SPS.

5.8. Potential Land Contamination

5.8.1. As stated in the approved EIA Report (AEIAR-182/2014), there is no historic and/or existing land uses at the PS that would result in potential contamination of soil and underground water, thus land contamination at the Project Site was not expected.

5.8.2. To confirm that there is no land potential land contamination issue at the PS after the approval of the previous EIA Report, a review of 2016, 2018, 2020 and 2022 historical aerial photographs has been undertaken to evaluate the likelihood of potential contamination associated with past land uses in the period from July 2014 until now within the PS. The reviewed aerial photographs are provided in **Appendix 5.2**.

5.8.3. Based on the review of historical aerial photographs, the Project Site has been vacant or covered with vegetation without further uses since 2014. No significant changes in land use were observed. Thus, no potential sources of on-site contamination were identified. Potential land contamination at the PS is not expected.

5.8.4. Southeast part of the site may partially fall within the area of high natural background level of Arsenic (i.e. 306 - 1080 ppm) in soil. However, only shallow foundation (i.e. 1.5m to 2m deep footings) will be required for the LPH development, and no piling works are anticipated to be conducted under this project. Additionally, to avoid disturbance / excavation of the soil originally in place, elevated site level (approx. +6.0 level) by means of filling is proposed to accommodate the footings of building structures and other major utility facilities and site formation works. The very small area of excavation is out of the area with arsenic concern. Therefore, potential health risk of arsenic through inhalation of arsenic-containing soil for workers during the construction phase is not anticipated.

6. Environmental Protection Measures to be Incorporated

6.1. Introduction

6.1.1. The environmental protection measures presented in this section have made reference to the relevant mitigation and precautionary measures proposed in the approved EIA Report (AEIAR-182/2014).

6.2. Air Quality

Construction Phase

6.2.1. 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) Regulation* should be implemented. The proposed dust 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(s) 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;
- Dump trucks for transporting dusty materials 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 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 e.g. 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 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 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;
- 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 three floors high for this

Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction; and

- Electric power supply shall be provided for on-site machinery as far as practicable.

Operational Phase

6.2.2. All facilities and areas associated with the proposed temporary SPS with potential odour emission such as wet wells be housed in by full enclosure, and the exhausted air shall be treated by the deodourization (DO) unit before being discharged. Before commissioning the DO unit, performance/compliance test of the DO unit should be included as one of the requirements in the construction contract, whilst continuous monitoring of removal efficiency could be achieved by installation of monitoring system at the inlet and exhaust vent of the DO unit. The exhaust outlet of the DO unit is also recommended to face away from the nearby air sensitive receivers as far as practicable. In case the design odour removal efficiency could not be fulfilled, investigation should be carried out to identify the source/ reason and undertaken maintenance of the deodourization unit if necessary.

6.3. Noise

Construction Phase

6.3.1. Standard noise control measures such as the adoption of quieter construction method, use of quality PMEs (QPMEs) with lower SWL, use of movable noise barriers and noise enclosure to screen noise from PMEs, and implementation of good site practices to limit noise emissions at source.

6.3.2. The use of movable noise barriers will be an effective means to mitigate the noise impact arising from the construction works. The noise barriers shall have a minimum surface density of 10 kg/m^2 and fitted with appropriate absorptive material to minimize multiple reflections of noise due to confined space of the surroundings and the barriers. The Contractor shall be responsible for the design and actual position of the movable noise barriers with due consideration given to the position and size of the PME, and the requirement of intercepting the line of sight from the NSRs to the PME, as well as ensuring that the barriers have no gaps and openings.

6.3.3. Noise enclosure with a sufficient surface density of no less than 10 kg/m^2 is proposed to surround certain PMEs. The internal wall of the enclosure should be lined with 50 mm sound-absorbent material, or with 25 mm of similar material if mounted on battens.

6.3.4. Good site practice and noise management can further minimise the potential construction noise impact. The following good site practices are recommended for incorporation into the contractual requirements:

- Before the commencement of any works, the Contractor shall submit the method statement, equipment to be used and the proposed noise mitigation measures to the Manager for approval;
- Contractor shall devise and execute working methods that will minimise 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. The Contractor should closely liaise with the schools so that noisy activities are not undertaken during the examination periods;
- 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 utilised 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 utilised in screening noise from on-site construction activities.

Operational Phase

Road Traffic Noise and Existing Fixed Noise Sources

6.3.5. As mentioned in **Section 5.2.7**, the 2.5m to 4.5m tall noise barrier proposed in the approved EIA Report (AEIAR-182/2014) could still be applicable in this 3-storey LPH project. Nevertheless, an OPNMMP should be prepared by the Project Proponent to incorporate the latest LPH development for EPD's approval.

Planned Fixed Noise Source

6.3.6. With the fixed plant of the proposed temporary SPS properly selected and designed to meet the Hong Kong Planning Standard and Guideline, no adverse operational fixed noise impact on the nearby NSRs is envisaged. The following noise reduction measures are recommended for the detailed design of the temporary SPS:

- Quieter plant should be chosen as far as practicable;
- Include noise levels specifications when ordering new plant items;
- All openings, including louvres for ventilation and machine room doors should be oriented away from the NSRs as far as practicable;
- Silencers, acoustic louvres or acoustic doors should be used where necessary; and
- Develop and implement a regularly scheduled plant maintenance programme so that plant items are properly operated and serviced in order to maintain controlled level of noise. The programme should be implemented by properly trained personnel.

6.4. Water Quality

Construction Phase

6.4.1. To minimize impact on water quality, temporary drains, sedimentation basins, sand traps and similar facilities will be provided during the construction works in accordance with the Practice Notes for Professional Persons on "Construction Site Drainage" (ProPECC PN 1/94). The EIA Report (AEIAR-182/2014) proposed the following main practices to be implemented by the Contractor during the execution of the site formation and road works, where practicable. These measures are also applicable to this LPH Project.

- Mitigation measures against runoff from construction site
  - High loading of suspended solids (SS) in construction site runoff shall be prevented through proper site management;
  - The boundary of critical work areas shall be surrounded by ditches or embankment;
  - Accidental release of soil or refuse into the adjoining land should be prevented by the provision of site earth bunds, etc. at the site boundary. These facilities should be constructed in advance of site formation works and roadworks;

- Consideration should be given to plan construction activities to allow the use of natural topography of the PS as a barrier to minimize uncontrolled non-point source discharge of construction site runoff;
- Temporary ditches, earth bunds should be provided to facilitate directed and controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps, silt traps and sediment retention basin. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;
- Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, and at the onset of and after each rainstorm to ensure that these facilities area functioning properly;
- Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;
- Haul roads should be protected by crushed rock, gravel or other granular materials to minimize discharge of contaminated runoff;
- Slow down water run-off flowing across exposed soil surfaces;
- Plant workshop/ maintenance areas should be bunded 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 rainy conditions;
- Chemical stores should be contained (bunded) 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;
- Appropriate peripheral drainage system shall be constructed along the Project Site boundary to divert away surface runoff in accordance with requirements stipulated in ProPECC PN 1/94 to collect surface runoff and discharge it into the nearby existing stormwater drains nearby roadside of Yau Pok Road, and via which into the existing NTMDC;
- Temporary drains, sedimentation basins, sand traps and similar facilities shall be provided during the construction works in accordance with the ProPECC PN 1/94; and
- The Contractor shall apply for a discharge licence under the WPCO and the discharge shall comply with the terms and conditions of the licence.

- Mitigation measures against wastewater from construction site
  - Sewage generated from the construction workforce should be contained in chemical toilets before connection to public foul sewer becomes available. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals;
  - Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles are leaving the site area; and

    Section of the road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.

- Mitigation measures for oils and solvents
  - Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

6.4.2. In addition to the above water quality control measures, construction phase water quality monitoring will also be implemented following the requirements stated in the Environmental Monitoring and Manual (EM&A) of the approved EIA Report (AEIAR-182/2014) (see **Section 6.9**). The monitoring details will be presented into an Updated EM&A Manual to be prepared and submitted by the Contractor prior to commencement of the construction works. Such requirement will be incorporated to the contract documents of the Project requiring the Contractor to carry out their works in full compliance with the Water Pollution Control Ordinance and its subsidiary regulations.

Operational Phase

6.4.3. Under emergency situation (e.g. pump failure, electricity cut off, pipe bursting, etc) where overflow of the proposed on-site SPS occur, the following mitigation measures/ design would be applied to minimize the chances of emergency discharge as far as practicable.

- A standby pump will be provided to cater for breakdown and maintenance of the duty pump;
- Backup power supply in the form of dual/ ring circuit power supply by CLP will be provided to secure electrical power supply;
- Regular maintenance and checking of plant equipment to prevent equipment failure;
- A wet well with effective volume of approximately 18.51m^3; and
- Sewage will be tanked away to minimise the change of emergency overflow.

6.4.4. With standard provisions for SPS including dual power supply, standby pumps, wet well and provision of tanker away arrangement, the proposed on-site SPS is considered to be equipped with high reliability and the risk of emergency discharges is considered low.

6.4.5. The SPS design has adopted the latest standard design and management practice adopted by DSD. Any incident of emergency overflows from the proposed SPS will strictly follow EPD's "A Guide on Reporting Sewage Bypass Incidents in Sewage Pumping Stations and Sewers" and DSD's "Contingency Plan for Incidents Possibly Encountered in Sewage Treatment Facilities having a Potential of Generating an Environmental Nuisance" (Contingency Plan). It is laid out in the Contingency Plan that before taking the need of sewage overflows, all steps, as outlined in the Standard Checklist for Considering Various Options to Mitigate/Avoid Sewage Discharge Prior to Bypass for the Purpose of Maintenance or Minor Modifications in Existing Sewage Treatment Facilities (Appendix II(h) of Contingency Plan), should be carefully considered. All emergency sewage overflows to sensitive waters nearby should also be reported to EPD except during the case of sewage bypass/overflow due to prolonged and very heavy rainfall (e.g. during black rainstorm warning). The Contingency Plan details the procedures to promptly notify relevant Government Departments such as WSD, AFCD, Environmental Protection Department (EPD), Leisure and Cultural Services Department (LCSD) and Home Affairs Department (HAD) in the event of emergency overflow that may pollute water sensitive receivers close to the proposed SPS or cause other environmental nuisance as soon as possible within 24 hours of the incident and to conduct joint investigation with EPD to assess the impacts as well as to work out mitigation measures to reduce impact to the environment and public health and to interact with the community if necessary.

6.5. Ecology

Mitigation Measures to Potential Disturbances to Surrounding Habitats and Associated Fauna

Construction Phase

6.5.1. To mitigate the disturbance arising from the construction activities, the construction sequence will be carefully planned to minimise site formation in the north-eastern corner of the PS where it abuts the temporary ponds in YMST in peak wintering season for migratory birds (i.e. October - March). In addition, screening / barriers will be provided along the site boundary where it is close to NTMDC and the temporary ponds in YMST to further reduce the disturbances (**Figure 6.1**). Such mitigation measures are considered sufficient, because (1) the current LPH would generate less disturbances such as increased noise and dust due to the adoption of MiC method and much shorter construction period etc., and (2) only substructure construction (e.g. backfilling and shallow foundation) are anticipated to take place before March 2024, while the superstructure works (which would generally be noisier) are planned after March when the wintering season for migratory birds ends.

6.5.2. Besides, by referring to the mitigation measures proposed in the approved EIA Report (AEIAR-182/2014) and considering the potential ecological impacts assessed in **Section 5**. The following construction phase mitigation measures are also proposed to reduce the predicted disturbance impacts to the surrounding habitats (esp. the NTMDC and wetlands in YMST) and associated wildlife to an acceptable level.

- Demarcate the construction site clearly and regularly check the boundaries to ensure that they are not breached and that no damage is caused to surrounding ecologically sensitive habitats. Any works beyond the boundary would be strictly prohibited;
- Brief site workers and other staff the sensitivity of the surrounding areas before commencement of the works, and instruct them not to disturb any areas nearby;
- Use quiet Powered Mechanical Equipment (PME) and movable noise barriers wherever necessary;
- Phasing of construction activities to minimise concurrent operation of PME;
- Use only well-maintained plant on-site. Ensure the plant to be serviced regularly during the construction program;
- Machines and plant (such as trucks) that may be in intermittent use to be shut down between work periods or to be throttled down to a minimum;
- Plant known to emit noise strongly in one direction to be, wherever possible, orientated so that the noise is directed away from the NTMDC and the wetlands in YMST project;
- Material stockpiles and other structures to be effectively utilized, wherever practicable, in screening noise from on-site construction activities.
- Comply with the Noise Control Ordinance (NCO) and implement general good site practices; and
- Implement dust control measures e.g. hard paving of the haul road, frequent watering, covering dusty materials, careful site formation scheduling etc.

6.5.3. Compared to the 3-4 years' duration of construction works for the approved EIA Report (AEIAR-182/2014), construction of the current LPH, which involves no pilling works and adopts the environmentally friendly MiC method, would last for a much shorter period of time (i.e. 18 months tentatively). With the effective implementation of the above proposed ecological mitigation measures, ecological monitoring during construction phase is not considered necessary.

Operational Phase

6.5.4. During the operational phase, the boundary where the PS interfaces with the YMST project should be non-transparent. Vegetation and shrubs will be planted densely along this boundary section, so as to screen out the visual and noise disturbances potentially arising from the increased human activities in the current LPH Project.

6.5.5. Night-time light sources will be minimised during the operational phase to further reduce the potential glare impact slightly increased from the Project. Through careful positioning and angling, lighting of the proposed LPH development will be designed to minimise directing it towards adjacent disturbance-sensitive wetland areas, in particular the NTMDC and those in YMST.

6.5.6. Since no unacceptable ecological impact is anticipated with the implementation of the mitigation measures discussed in the above two paragraphs, no operational phase ecological monitoring will be required.

Mitigation Measures to Potential Water Pollution

6.5.7. As discussed in the approved EIA Report (AEIAR-182/2014) and **Section 5** of this PP, potential water pollution caused by the Project would occur during the construction stage only. Therefore, the mitigation measures discussed below focus on regulating construction works. In addition, other mitigation measures proposed for potential impacts on water quality for this Project should also be implemented.

- Controlled wastewater discharge to nearby water bodies will be implemented in accordance with the guidelines stipulated in EPD's Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN1/94) during the construction works to properly control site run-off and drainage and to minimise the potential water quality impact;
- Provision of a properly designed temporary drainage system within the construction site to direct discharge away from the watercourses downstream to nearby drainage channel. The drainage system will- be equipped with sand/silt removal facilities to treat the surface runoff;
- Provision of portable chemical toilets for site workers. The Contractor should be responsible to ensure that chemical toilets are used and properly maintained, and that licensed contractors are employed to collect and dispose of the waste off-site at approved locations;
- Implementation of measures to minimise magnitude of construction runoff and to avoid/ minimise the potential impact of spillage events, if any; and
- Excavated materials will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies.

6.6. Landscape and Visual

6.6.1. Good site practice during construction phase should be adopted to minimize landscape and visual impacts, for example to adopt suitable height and design of temporary barriers / noise barriers to help blend in with the surrounding environment, retention of existing trees as screen planting, Control of night-time lighting by hooding all lights, and reduction of construction period to practical minimum.

6.6.2. During operation, the predicted impacts on the existing LRs within the Project Site boundary will be mitigated to an extent through the provision of not less than 20% of site coverage of greenery, comprising approximately 90% of shrubs and 10% of new lawn areas, forming green spaces within the site and boundary buffer planting around the margins of the Project Site. An area of marsh/reedbed adjoining the cultivation pond to the north is retained. Space is also allowed adjacent to this area for expansion of marsh / reedbed through natural colonisation, which is combination with the retained areas of LR11 and will compensate for the loss of marsh/reedbed area within the Project Site. The existing disturbed landscape will be replaced with a well-designed architectural scheme and its associated landscape that emphasises the importance of maximising green coverage and creating a landscape buffer between the proposals and the surround residential and roadside areas. It should also be noted that the LHP is temporary use of the landscape and will be replaced in the future by a permanent development. Comparing the current LPH with the approved scheme under AEIAR-182/2014, there are some beneficial features of the current proposal. The setback of the LPH development creates a wider boundary buffer planting area and the LPH development also preserves a greater quantity of existing trees in such setback areas. Due to the temporary nature of LPH for just 5 years operational period, 1:1 offsite compensatory planting will be provided as stipulated in DEVB TC(W) No. 4/2020. Nevertheless, in order to improve the site's ecological value and provide effective screening, new small tree plantings along the site boundary are proposed as far as practicable. The

selected species will be of high ecological value to ensure a positive contribution to the local environment.

6.6.3. In terms of mitigating the potential visual impact at the operation phase, the visual mitigation measures identified in the approved EIA report, including use of appropriate colours in built structures to help blend in the LPH Development to the surroundings, sensitive design of streetscape elements and suitable design and landscape treatment along boundary are still applicable, subject to further refinements in future. The proposed landscape and visual mitigation measures plan are illustrated in the **Figure 6.2**.

6.7. Cultural Heritage

6.7.1. As there are no significant potential impacts on any terrestrial archaeology or built heritage resources identified during both construction and operational phases, no mitigation measures are therefore required.

6.7.2. As a precautionary measure, the Antiquities and Monuments Office (AMO) should be informed immediately in case of discovery of antiquities or supposed antiquities in the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO.

6.8. Waste Management

Construction Phase

6.8.1. Waste management will be planned prior to the commencement of construction works. Avoidance of waste generation, the reuse of materials, and quantity minimisation will be implemented wherever practicable. Disposal will be undertaken in compliance with statutory requirements.

6.8.2. All C&D materials generated should be sorted by the contractor into different categories on-site for recycling and reuse as fill materials using a balanced cut-and-fill approach as far as practicable prior to disposal at public filling reception facilities and landfills. Disposal of C&D materials should be managed in accordance with the Development Bureau *Technical Circular (Works) DEVB TC(W)) no.6/2010 "Trip Ticket System for Disposal of Construction & Demolition Materials"*. To prohibit illegal dumping and landfilling of C&D materials, the dump trucks engaged on site should be equipped with GPS or equivalent automatic system for real time tracking and monitoring of their travel routings, parking locations and disposal activities.

6.8.3. Chemical wastes from equipment maintenance should be handled, stored and disposed of properly and in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*. It will be collected by licensed collectors and disposed of at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi.

6.8.4. General refuse should be stored in enclosed bins or compaction units, separated from C&D materials and chemical wastes. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D materials and chemical wastes, on a daily basis or every other day to minimise odour, pest and litter impacts.

6.8.5. The Contractor will ensure that all the necessary waste disposal permits or licences are obtained prior to the commencement of the construction works. With the implementation of the mitigation measures, adverse environmental impacts arising from the storage, handling, and transportation of C&D materials, chemical waste and general refuse would not be anticipated.

Operational Phase

6.8.6. Domestic waste generated from the proposed development should be collected with lidded bins and delivered to a refuse storage and material recovery chamber and stored in enclosed containers to prevent windblown, vermin, water pollution and visual impact. At least daily collection should be

arranged by the waste collector. To facilitate recycling, a 4-bin recycling system for paper, metals, plastics and glass should be adopted together with a general refuse bin. They should be placed in prominent places to promote waste separation at source. All recyclable materials should be collected by recyclers.

6.8.7. The mall amount of chemical and oily wastes to be generated from the maintenance activities should be disposed of as chemical waste in strict compliance with the *Waste Disposal (Chemical Waste) (General) Regulations*.

6.9. Environmental Monitoring and Audit

Construction Phase

6.9.1. The potential impacts of air quality, noise, water quality, ecology, landscape and visual, cultural heritage, waste management and land contamination have been assessed in the relevant sections. With effective implementation of the proposed mitigation measures, adverse and unacceptable environmental impacts are not anticipated from the Project. Nevertheless, the Project Proponent has taken the initiative to implement a monitoring and audit programme during the construction phase to check the implementation of the proposed mitigation/ control measures to closely monitor the environmental performance of the construction works.

6.9.2. The required environmental monitoring and audits are summarised in **Table 6.1** below.

Table 6.1 Environmental Monitoring and Audit (EM&A) Requirements for Construction Phase

Environmental Aspect	Inspection/ Audit	Monitoring
Air Quality	✓	✓
Noise	✓	✓
Water Quality	✓	✓
Ecology	✓	-
Landscape and Visual	✓	-
Waste Management	✓	-

6.9.3. The environmental monitoring and audit (EM&A) requirements shall follow the relevant EM&A requirements proposed in the approved EIA Report (AEIAR-182/2014) wherever necessary. The proposed locations of construction dust, construction noise and water quality monitoring stations are indicated in **Figure 6.3** and **Table** 6.2.

Table 6.2 Proposed Monitoring Locations

ID	ASR/NSR ID	Description
Construction Dust		
AM1	A30	Fairview Park
AM2	A01A, A13	Fairview Park
AM3	A05A, A05B	Fairview Park
AM4	A06, A28	Fairview Park
Construction Noise		
NM1	N1	Fairview Park
NM2	N10	Bethel High School
NM3	N4	Fairview Park
NM4	N5	Fairview Park
NM5	N6 / N20	Fairview Park

ID	ASR/NSR ID	Description
Water Quality		
C1	-	Fairview Park Nullah (as control station at upstream location of construction site and impact station W1)
W1	-	Fairview Park Nullah (as impact station at downstream location of construction site and control station C1)
C2	-	Fairview Park Nullah (as control station at upstream location of construction site and impact station W2)
W2	-	Fairview Park Nullah (as impact station at downstream location of construction site and control station C2)
C3	-	Ngau Tam Mei Drainage Channel (as control station at upstream location of construction site and impact station W3)
W3	-	Ngau Tam Mei Drainage Channel (as impact station at downstream location of construction site and control station C3)

6.9.4. An Environmental Team (ET) led and managed by an Environmental Team Leader (ETL), who shall possess at least 7 years of experience in EM&A or environmental management, shall be established and shall not be in any way an associated body of the Contractor or the Independent Environmental Checker (IEC) for the Project. The ET will be responsible for conducting site inspections/ audit at least once per week to ensure the Contractor has implemented proper mitigation measures to compliance with the Project's environmental requirements during the construction phase as specified in this Project Profile. The ET should also prepare an Updated Environmental Monitoring & Audit Manual (EM&A Manual) to outline the updated/ alternative monitoring locations (if any), monitoring frequency and programme, the Event and Action plan, environmental auditing requirement, complaint handling procedure and reporting requirements. In addition, the ET should carry out baseline and impact dust, noise and water quality monitoring following the Updated EM&A Manual.

6.9.5. The IEC should be employed by the Permit Holder and IEC shall not be in any way an associated body of the Contractor or the ET for the Project. The IEC shall be a person who has at least 7 years of experience in EM&A or environmental management. The IEC shall be responsible for duties defined in the Updated EM&A Manual, and shall audit the overall EM&A performance, including the implementation of all environmental mitigation measures, submissions required in the Updated EM&A Manual, and any other submissions required by the Environmental Permit.

Operational Phase

6.9.6. With effective implementation of mitigation measures, adverse impacts during operational phase are not anticipated and environmental monitoring are not necessary.

6.10. Severity, Distribution and Duration of Environmental Effects

6.10.1. In view of the nature of the Project, the associated environmental impacts would be small scale, localised and temporary. With the implementation of the recommended mitigation measures, no adverse residual impacts would be anticipated from this Project.

7. Summary of Potential Environmental Impacts and Mitigation Measures

7.1.1. The potential environmental impacts arising from the construction and operation of the LPH development and proposed mitigation measures to be incorporated to the Project are summarised in **Table 7.1** below. These measures will be included in the construction contract document and the Project Proponent will supervise and monitor their implementation by the Contractor.

Table 7.1 Summary of Potential Environmental Impacts and Mitigation Measures

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
Construction Phase			
Air Quality	• Dust and gaseous emissions mitigation measures as stipulated in the Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulation; • 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(s) 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; • Dump trucks for transporting dusty materials 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 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 e.g. 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	6.2.1	Contractor

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	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 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 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; • 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 three floors high for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction; and • Electric power supply shall be provided for on-site machinery as far as practicable.		
Noise	• Adoption of quieter construction method; • Use of QPMEs; • Use of movable noise barriers and noise enclosure; • Scheduling of works; and • Implementation of good site practices and noise management.	6.3.1 – 6.3.4	Contractor
Water Quality	• High loading of suspended solids (SS) in construction site runoff shall be prevented through proper site management;	6.4.1 – 6.4.2	Contractor

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	• The boundary of critical work areas shall be surrounded by ditches or embankment; • Accidental release of soil or refuse into the adjoining land should be prevented by the provision of site earth bunds, etc. at the site boundary. These facilities should be constructed in advance of site formation works and roadworks; • Consideration should be given to plan construction activities to allow the use of natural topography of the PS as a barrier to minimize uncontrolled non-point source discharge of construction site runoff; • Temporary ditches, earth bunds should be provided to facilitate directed and controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps, silt traps and sediment retention basin. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas; • Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, and at the onset of and after each rainstorm to ensure that these facilities area functioning properly; • Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering temporarily exposed slope surfaces or stockpiles with tarpaulin or the like; • Haul roads should be protected by crushed rock, gravel or other granular materials to minimize discharge of contaminated runoff; • Slow down water run-off flowing across exposed soil surfaces; • Plant workshop/ maintenance areas should be bunded 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 rainy conditions;		

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	• Chemical stores should be contained (bunded) 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; • Appropriate peripheral drainage system shall be constructed along the Project Site boundary to divert away surface runoff in accordance with requirements stipulated in ProPECC PN 1/94 to collect surface runoff and discharge it into the nearby existing stormwater drains nearby roadside of Yau Pok Road, and via which into the existing NTMDC; • Temporary drains, sedimentation basins, sand traps and similar facilities shall be provided during the construction works in accordance with the ProPECC PN 1/94; and • The Contractor shall apply for a discharge licence under the WPCO and the discharge shall comply with the terms and conditions of the licence; • Sewage generated from the construction workforce should be contained in chemical toilets before connection to public foul sewer becomes available. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals; • Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles are leaving the site area; • Section of the road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; • Although use of bentonite in diaphragm wall and bore-pile construction is not expected, in case bentonite slurries is generated it should be reconditioned and reused as far as practicable;		

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	• Spent bentonite should be kept in a separate slurry collection system for disposal at a marine spoil grounds 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; and • Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.		
Ecology	• Plan construction sequence carefully to minimise site formation in the northeastern corner of the PS where it abuts the temporary ponds in YMST in peak wintering season for migratory birds (i.e. October - March); • Provide screening / barriers along the site boundary to reduce the visual disturbance arising from the construction activities to nearby habitats such as NTMDC and the temporary ponds in YMST; • Demarcate the construction site clearly and regularly check the boundaries to ensure that they are not breached; • Brief site workers and other staff the sensitivity of the surrounding areas before commencement of the works, and instruct them not to disturb any areas nearby; • Use quiet PME and movable noise barriers wherever necessary; • Phasing of construction activities to minimise concurrent operation of PME; • Use only well-maintained plant on-site. Ensure the plant to be serviced regularly during the construction program; • Machines and plant (such as trucks) that may be in intermittent use to be shut down between work periods or to be throttled down to a minimum; • Plant known to emit noise strongly in one direction to be, wherever possible, orientated so that the noise is directed away from the NTMDC and the wetlands in YMST project; • Material stockpiles and other structures to be effectively utilized, wherever practicable, in screening noise from on-site construction activities;	6.5.1 – 6.5.3	Contractor

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	• Comply with NCO and implement general good site practices; • Implement dust control measures e.g. hard paving of the haul road, frequent watering, covering dusty materials, careful site formation scheduling etc.; • Controlled wastewater discharge to the nearby water bodies in accordance with the guidelines stipulated in EPD's ProPECC PN1/94 to properly control site run-off and drainage and to minimise the potential water quality impact; • Provide a properly designed temporary drainage system within the construction site to direct discharge away from the watercourses downstream to nearby drainage channel. The drainage system will be equipped with sand/silt removal facilities to treat the surface runoff; • Provide portable chemical toilets for site workers. Ensure that chemical toilets are used and properly maintained, and that licensed contractors are employed to collect and dispose of the waste off-site at approved locations; • Implementation of measures to minimise magnitude of construction runoff and to avoid/ minimise the potential impact of spillage events, if any; • Excavated materials will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies; and • Other mitigation measures proposed for potential impacts on water quality for this Project.		
Landscape and Visual	• Proper protection of existing trees designated to retained in-situ; • Optimisations of construction areas and providing temporary landscape on temporary construction; • Preservation of marsh and reedbed; • Define works area and temporary works area to minimise the extent of construction works area and its residual impacts during construction; • Protection of watercourse/ channels of higher ecological value; • Good site practice should be adopted to minimize landscape and visual impact, for example to adopt suitable height and design	6.6.1	Contractor

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	of temporary barriers / noise barrier to help blend in with the surrounding environment, retention of existing trees as screen planting, control of night-time lighting by hooding all lights, and reduction of construction period to practical minimum.		
Cultural Heritage (no significant impact predicted)	• As a precautionary measure, AMO should be informed immediately in case of discovery of antiquities or supposed antiquities in the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO.	6.7.2	Contractor
Waste Management	• All C&D materials generated should be sorted into different categories on-site for recycling and reuse as fill materials as far as practicable prior to disposal at public filling reception facilities and landfills. To prohibit illegal dumping and landfilling of C&D materials, the dump trucks engaged on site should be equipped with GPS or equivalent automatic system for real time tracking and monitoring of their travel routings, parking locations and disposal activities. • Chemical wastes e should be handled, stored and disposed of properly and in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. • General refuse should be stored in enclosed bins or compaction units. A reputable waste collector should be employed by the contractor to remove general refuse from the site on a daily basis or every other day to minimise odour, pest and litter impacts.	6.8.1.-.6.8.5	Contractor
Operational Phase			
Air Quality	• Fully enclose areas and facilities of the SPS. • Convey SPS exhaust air to DO unit with sufficient odour removal efficiency of 99.5% for treatment before being discharged. • Conduct performance or compliance test for the DO unit before commissioning. • Install continuous monitoring system of the DO removal efficiency. • Locate DO exhaust outlet away from nearest ASRs. • Regular removal of screening wastes with proper disposal. • In case the design odour removal efficiency could not be fulfilled, investigation should be carried out to identify the source/ reason and	6.2.2	Project Proponent

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	undertaken maintenance of the deodourization unit if necessary.		
Noise	• Provision of 2.5m to 4.5m tall noise barrier along the southern boundary of the Southern Portion of the Project Site and subject to the OPNMMP submission by Project Proponent; • Confine the fixed plant inside the reinforced concrete structure of the SPS; • SPS should be properly designed to meet the Hong Kong Planning Standard and Guideline, which should be specified as the design criteria in the contract documents; • Quieter plant should be chosen as far as practicable; • Include noise levels specifications when ordering new plant items; • All openings, including louvres for ventilation and machine room doors should be oriented away from the NSRs as far as practicable; • Silencers, acoustic louvres or acoustic doors should be used where necessary; and • Develop and implement a regularly scheduled plant maintenance programme so that plant items are properly operated and serviced in order to maintain controlled level of noise. The programme should be implemented by properly trained personnel.	6.3.5 – 6.3.6	Project Proponent Contractor
Water Quality	• A standby pump will be provided to cater for breakdown and maintenance of the duty pump; • Backup power supply in the form of dual/ ring circuit power supply by CLP will be provided to secure electrical power supply; • Regular maintenance and checking of plant equipment to prevent equipment failure; • A wet well with effective volume of approximately 18.51m^3; and • Sewage will be tanked away to minimise the change of emergency overflow.	6.4.3 – 6.4.5	Project Proponent
Ecology	• The boundary where the PS interfaces with the YMST project should be non-transparent. Vegetation and shrubs will be planted densely along this boundary section; • Night-time light sources will be minimised during the operational phase to further reduce the potential glare impact slightly increased from the Project. • Careful positioning and angling, lighting of the proposed LPH development will be designed to minimise directing it towards	6.5.4 - 6.5.7	Project Proponent Project Proponent (via property management office)

Potential Environmental Impact	Mitigation Measures	Relevant Section in PP	Implementation Agent
	adjacent disturbance-sensitive wetland areas, in particular the NTMDC and those in YMST.		
Landscape and Visual	• Maximisation of tree preservation effort (i.e. Proposed preservation of potential Tree of Particular Interest); • Suitable design for leisure area (i.e. propose Elderly Leisure Area and Recreational Lawn adopting a naturalistic approach suited to the rural location and the existing landscape character); • Use of appropriate building materials and colours in built structures to help blend in the LPH Development to the surroundings to mitigate the landscape and visual impacts; • Provision of landscape buffer and new small tree plantings along the site boundary are proposed as far as practicable to provide effective screening; • Sensitive design of streetscape elements and suitable design and landscape treatment of along boundary; and • A minimum of 20% green coverage shall be provided comprising layered shrubs and lawn areas. Offsite tree compensation shall also be provided at a minimum of 1:1 ratio (trees felled: trees compensated).	6.6.2 – 6.6.3	Project Proponent
Cultural Heritage (no significant impact predicted)	-	-	-
Waste Management	• General refuse should be collected with lidded bins and delivered to a refuse storage and material recovery chamber and stored in enclosed containers. A 4-bin recycling system for paper, metals, plastics and glass should be adopted together with a general refuse bin. • Chemical and oily wastes generated from the maintenance activities, which should be disposed of as chemical waste in compliance with the Waste Disposal (Chemical Waste) (General) Regulations.	6.8.6 – 6.8.7	Project Proponent (via property management office)

7.1.2. Based on the findings of the assessments in this PP, the environmental impacts potentially arising from the Project are considered to be minor and/or transient. With the implementation of appropriate mitigation measures discussed above, no adverse residual environmental impacts are anticipated.

7.1.3. The predicted environmental impacts from the LPH Project are unlikely to be adverse with proper implementation of mitigation measures described in this PP. Given that the effectiveness of the required mitigation measures, it would be beyond doubt that the environmental impact of the Project

falls well within the guidelines and criteria laid down in the Technical Memorandum on Environmental Impact Assessment Ordinance (TM-EIAO). An approved EIA Report (AEIAR-182/2014) was approved in 2014. Further to the review under this PP, it is considered that the information and findings of the approved EIA Report (AEIAR-182/2014) are relevant and valid.

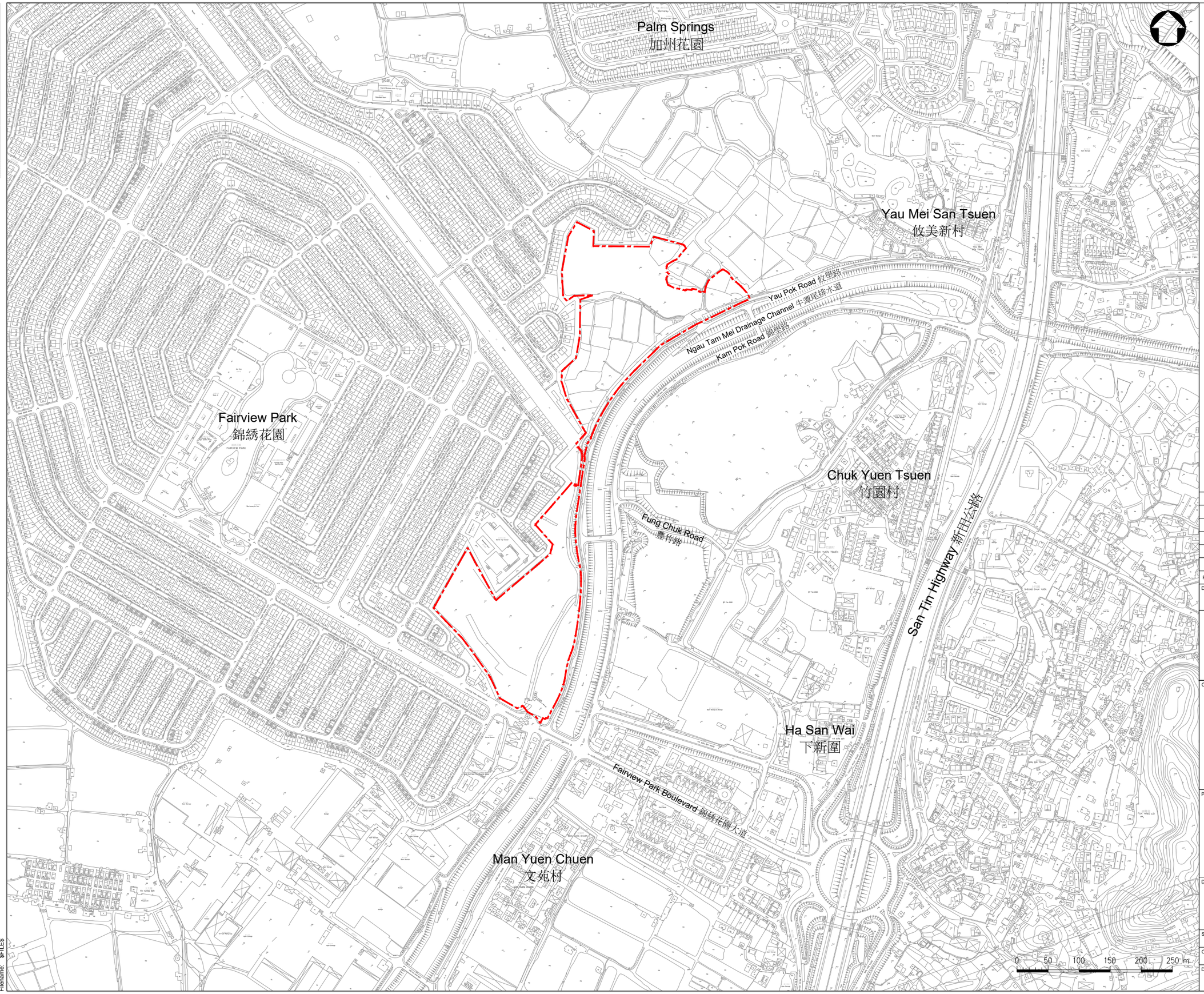
8. Conclusion

8.1.1. The EIA Report (AEIAR-182/2014) for a Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T. was approved under the Environmental Impact Assessment Ordinance (EIAO) on 15 July 2014. The location of the residential development covered by the approved EIA is identical to the current LPH Project Site. The potential environmental impacts of the previous were adequately assessed in the approved EIA Report; and the information and findings of are still relevant and valid.

8.1.2. In view of the small scale and temporary nature of the proposed LPH development, no adverse residual impact would be anticipated from this Project, if the recommended mitigation measures are well implemented.

8.1.3. By making reference to the approved EIA Report (AEIAR-182/2014), this PP has been prepared to seek permission from the Director of Environmental Protection under Section 5(1)(b) and Section 5(9) of the EIAO to apply directly for an Environmental Permit (DIR).

Figures



LEGEND 圖例:

PROJECT SITE 項目地點

Rev.	Date	Description	By	Chk'd	App'd
A	FEB 2023	FIRST ISSUE	RW	GY	WW

Drawing Status: -

Suitability: -

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建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title

LOCATION OF PROJECT SITE
工程項目位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	GY	WW
Original Size	**Date**	**Date**	**Date**	**Date**
A3	FEB 2023	FEB 2023	FEB 2023	FEB 2023

Drawing Number: FIGURE 1.1 圖1.1

Revision: A

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User name: $USERNAME$ Filename: $FILE$ Date:$DATE$ Time: $TIME$

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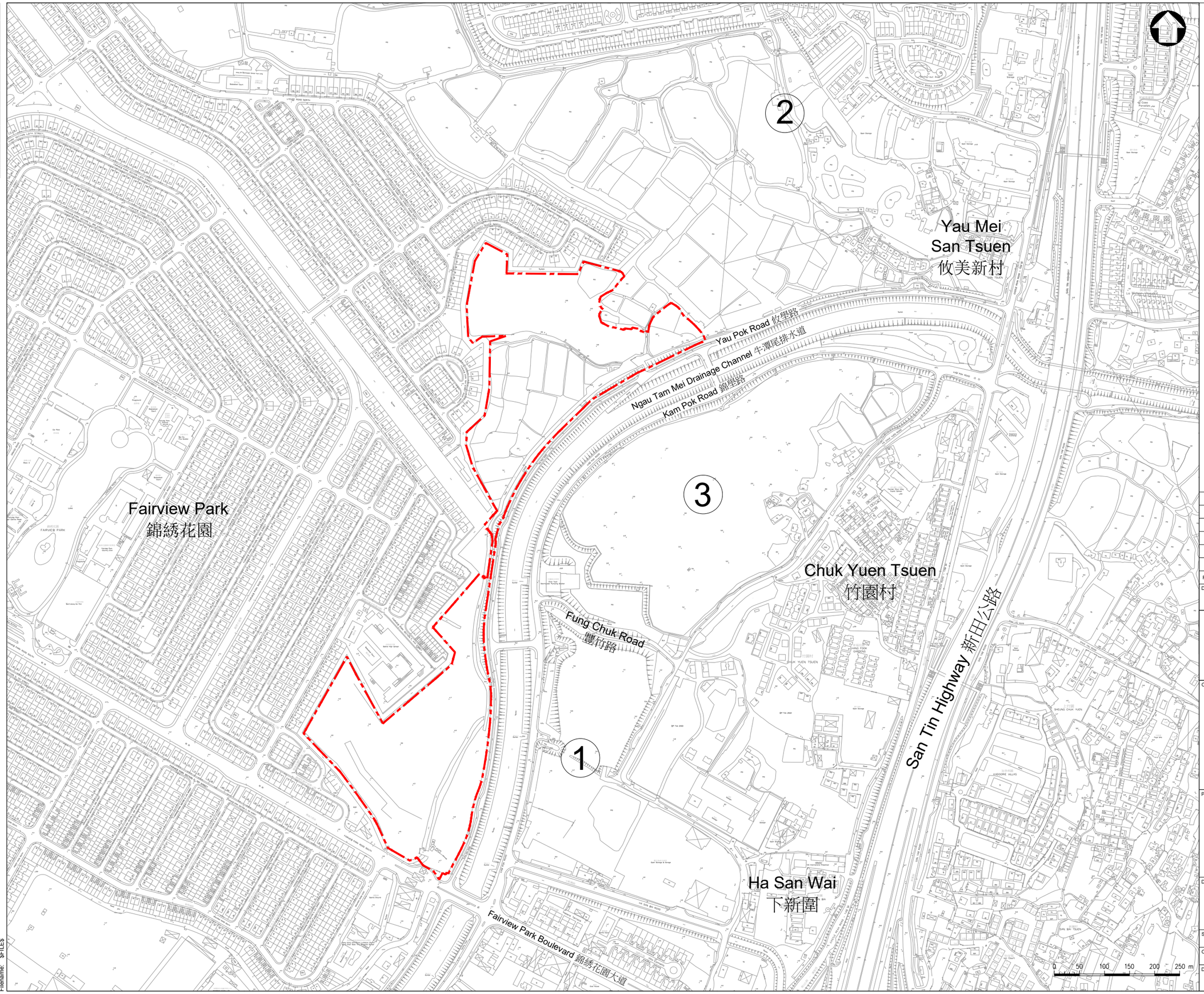

LEGEND 圖例:

PROJECT SITE 項目地點

1 Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long N.T.
新界元朗米埔錦堅路以東丈量約份第104約多個地段和鄰近政府土地的低層數和低密度住宅發展項目

2 Comprehensive Development and Wetland Protection near Yau Mei San Tsuen
毗鄰攸美新村綜合發展及濕地保護計劃

3 Proposed Residential Development at various Lots in D.D. 104 and the Adjoining Government Land in Yuen Long N.T.
擬建住宅發展由「住宅（丁類）」改劃至「住宅（丙類）1」區，以興建位於丈量約份第104多個地段及毗鄰近新界元朗政府土地

Rev.	Date	Description	By	Chk'd	App'd
B	FEB 2023	SECOND ISSUE	RW	GY	WW
A	DEC 2022	FIRST ISSUE	RW	GY	WW

Drawing Status: -
Suitability: -

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Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title
LOCATIONS OF POTENTIAL CONCURRENT PROJECTS
同期進行的其他工程項目位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	GY	WW
Original Size: A3	Date: FEB 2023	Date: FEB 2023	Date: FEB 2023	Date: FEB 2023

Drawing Number: FIGURE 2.1 圖2.1
Revision: B

Millimetres 0 10 100

User name: $USERNAME$ Date:$DATE$ Time: $TIME$
Filename: $FILE$

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Millimetres 100 0 10

Palm Springs
加州花園

A34 A17 A35 A26 A25 A18 A36 A31 A33 A16 A06A A06 A16A A28 A29 A1P A24 A23 A07

Yau Mei San Tsuen
攸美新村

Yau Pok Road 攸樂路
Ngau Tam Mei Drainage Channel 牛潭尾排水道
Kam Pok Road 錦樂路

A05B A05 A05A A5P V02 A08 A09 A4P A30 A04

(27,51) (27,50) (28,51) (28,50)

Fairview Park
錦綉花園

Chuk Yuen Tsuen
竹園村

Castle Peak Road 青山公路

A10A A03 A10 A02A A02 A3P V01 A19 A20 A01 A01A A21 V03

Kam Pok Road East Project Site
錦樂路以東
項目地點

61m

A2P A13 V04 A32 A27 A22 A14 A11 A12

Ha San Wai
下新圍

Fairview Park Road South 錦綉大道南

Fairview Park Boulevard 錦綉花園大道

San Tin Highway 新田公路

A15

Man Yuen Chuen
文苑村

0 50 100 150 200 250 m

LEGEND 圖例:

- PROJECT SITE 項目地點
- 500m AIR QUALITY ASSESSMENT AREA 500米空氣質素評估範圍
- REPRESENTATIVE AIR SENSITIVE RECEIVER 具代表性空氣敏感受體
- (X,X) PATH GRID 香港大氣污染物及其擴散模型網格
- PROPOSED RESIDENTIAL DEVELOPMENT AT EAST OF KAM POK ROAD, MAI PO (UNDER EP-515/2017) 擬議米埔錦樂路以東住宅發展項目 (涵蓋的環境許可證編號 EP-515/2017)

Rev.	Date	Description	By	Chk'd	App'd
B	APR 2023	SECOND ISSUE	RW	BT	WW
A	FEB 2023	FIRST ISSUE	RW	BT	WW

Drawing Status: -
Suitability: -

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Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title
LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS DURING CONSTRUCTION PHASE
施工階段具代表性的空氣敏感受體位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	BT	RW	BT	WW
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.1 圖4.1
Revision: B

User name: $USERNAME$ Date:$DATE$ Time: $TIME$
Filename: $FILE$

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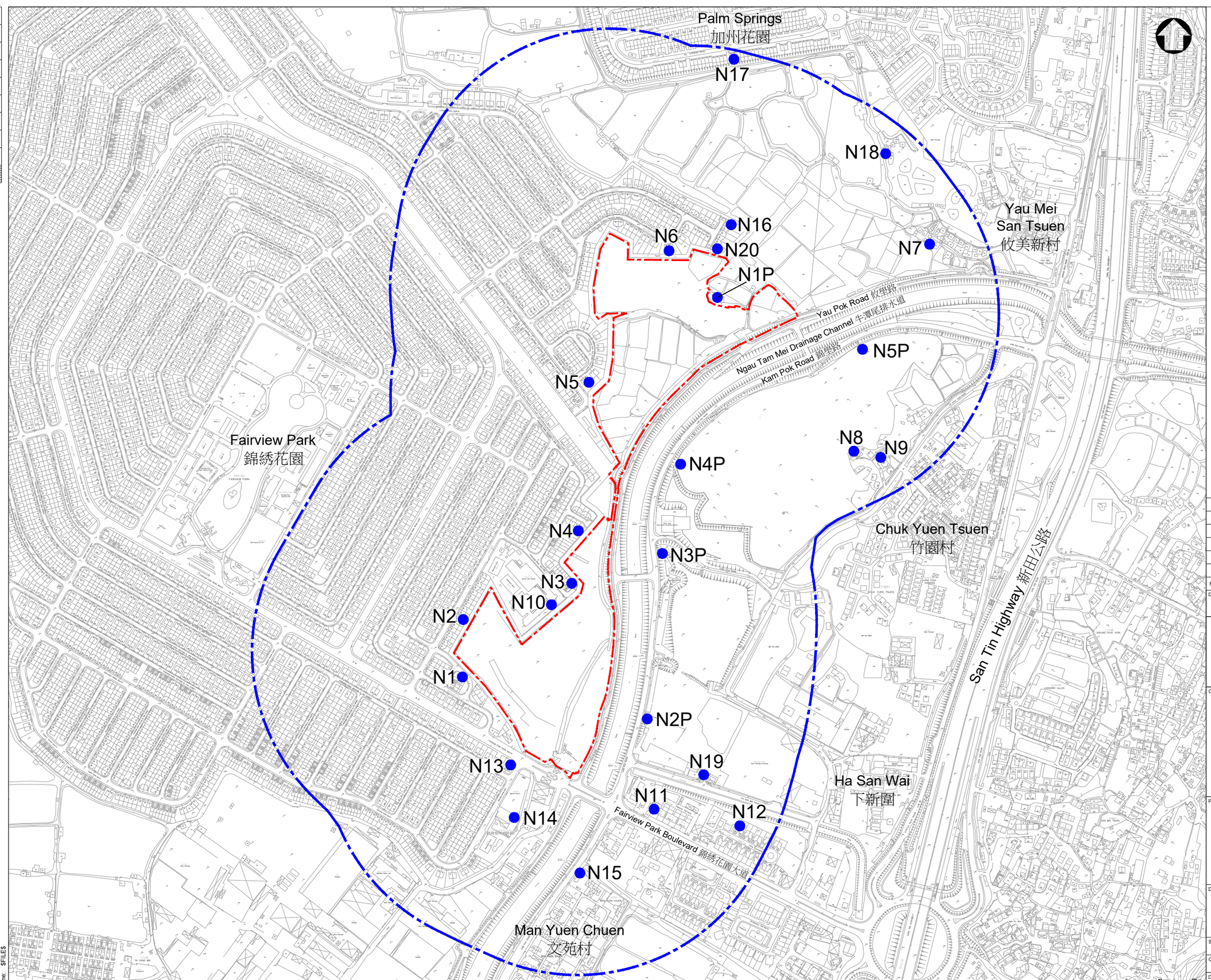

LEGEND 圖例:

- PROJECT SITE 項目地點
- 300m NOISE ASSESSMENT AREA 300米噪音評估範圍
- REPRESENTATIVE NOISE SENSITIVE RECEIVERS 具化表性的噪音敏感受體

Rev.	Date	Description	By	Chk'd	App'd
B	APR 2023	SECOND ISSUE	RW	WKC	WW
A	FEB 2023	FIRST ISSUE	RW	WKC	WW

Drawing Status: -
Suitability: -

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Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸堲路簡約公屋

Drawing Title
LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS
具代表性的噪音敏感受體位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	WKC	WW
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.2 圖 4.2
Revision: B

Millimetres 0 10 100

User name: $USERNAME$ Filename: $FILE$ Date:$DATE$ Time: $TIME$

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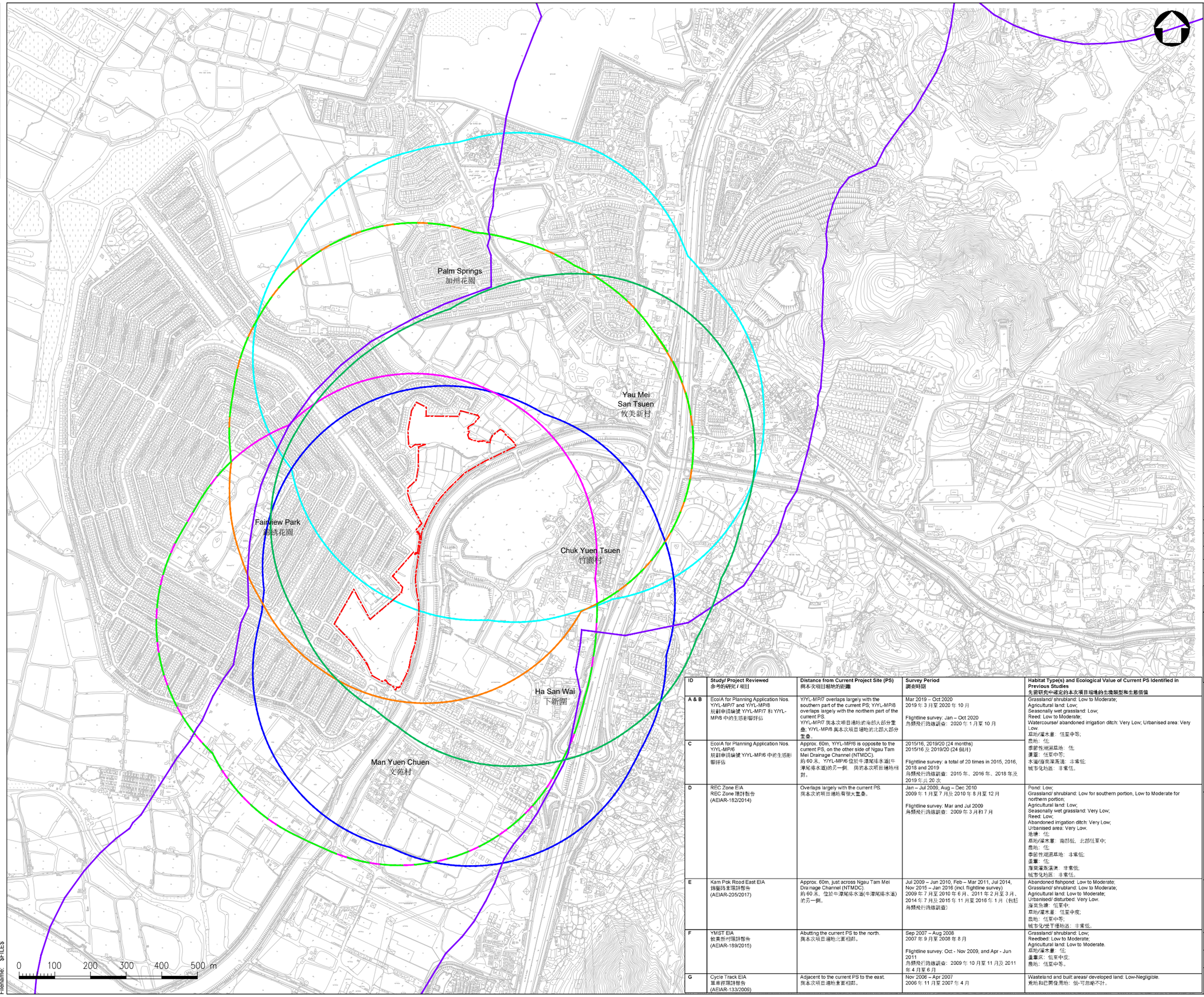

LEGEND 圖例:

- PROJECT SITE 項目地點
- A — Ecological Impact Assessment in support of the Planning Application No. Y/YL-MP/7 (Survey Period: Mar 2019- Oct 2020) 規劃申請編號 Y/YL-MP/7 中的生態影響評估 (調查時期: 2019年3月至2020年10月)
- B — Ecological Impact Assessment in support of the Planning Application No. Y/YL-MP/8 (Survey Period: Mar 2019-Oct 2020) 規劃申請編號 Y/YL-MP/8 中的生態影響評估 (調查時期: 2019年3月至2020年10月)
- C — Ecological Impact Assessment in support of the Planning Application No. Y/YL-MP/6 (Survey Period: 12 months in 2015 and 2016, and 12 months in 2019 and 2020) 規劃申請編號 Y/YL-MP/6 中的生態影響評估 (調查時期: 2015-2016年(12個月)及2019-2020年(12個月))
- D — Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T. (EIA-220/2014) (Survey Period: Jan-Jul 2009, and Aug-Dec 2010) REC Zone環評報告 (EIA-220/2014) (調查時期: 2009年1月至7月及2010年8月至12月)
- E — Proposed Low-rise and Low-density Residential Development at Various Lots and their Adjoining Government Land in D.D. 104, East of Kam Pok Road, Mai Po, Yuen Long. N.T. (EIA-242/2016) (Survey Period: Jul 2009-Jun 2010, Feb-Mar 2011, Jul 2014 and Nov 2015-Jan 2016) 錦堡路東環評報告 (EIA-242/2016) (調查時期: 2009年7月至2010年6月、2011年2月至3月、2014年7月及2015年11月至2016年1月)
- F — Comprehensive Development and Wetland Protection near Yau Mei San Tsuen (EIA-227/2015) (Survey Period: Sep 2007-Aug 2008, Oct-Nov 2009 and Apr-Jun 2011) 攸美新村環評報告(EIA-227/2015) (調查時期: 2007年9月至2008年8月、2009年10月至11月及2011年4月至6月)
- G — Construction of Cycle Tracks and the associated Supporting Facilities from Sha Po Tsuen to Shek Sheung River (EIA-159/2008) (Survey Period: Nov 2006-Apr 2007) 單車徑環評報告 (EIA-159/2008) (調查時期: 2006年11月至2007年4月)

ID	Study/ Project Reviewed 參考的研究 / 項目	Distance from Current Project Site (PS) 與本次項目場地的距離	Survey Period 調查時期	Habitat Type(s) and Ecological Value of Current PS identified in Previous Studies 先前研究中確定的本次項目場地的生境類型和生態價值
A & B	EcoIA for Planning Application Nos. Y/YL-MP/7 and Y/YL-MP/8 規劃申請編號 Y/YL-MP/7 和 Y/YL-MP/8 中的生態影響評估	Y/YL-MP/7 overlaps largely with the southern part of the current PS; Y/YL-MP/8 overlaps largely with the northern part of the current PS. Y/YL-MP/7 與本次項目場地的南部大部分重叠; Y/YL-MP/8 與本次項目場地的北部大部分重叠。	Mar 2019 – Oct 2020 2019 年 3 月至 2020 年 10 月 Flightline survey: Jan – Oct 2020 鳥類飛行路線調查: 2020 年 1 月至 10 月	Grassland/ shrubland: Low to Moderate; Agricultural land: Low; Seasonally wet grassland: Low; Reed: Low to Moderate; Watercourse/ abandoned irrigation ditch: Very Low; Urbanised area: Very Low. 草地/灌木叢：低至中等; 農地：低; 季節性潮濕草地：低; 蘆葦：低至中等; 水道/廢棄灌溉渠道：非常低; 城市化地區：非常低。
C	EcoIA for Planning Application Nos. Y/YL-MP/6 規劃申請編號 Y/YL-MP/6 中的生態影響評估	Approx. 60m, Y/YL-MP/6 is opposite to the current PS, on the other side of Ngau Tam Mei Drainage Channel (NTMDC). 約 60 米，Y/YL-MP/6 位於牛潭尾排水道(牛潭尾排水道)的另一側，與本次項目場地相對。	2015/16, 2019/20 (24 months) 2015/16 及 2019/20 (24 個月) Flightline survey: a total of 20 times in 2015, 2016, 2018 and 2019 鳥類飛行路線調查：2015 年、2016 年、2018 年及 2019 年共 20 次	
D	REC Zone EIA REC Zone 環評報告 (AEIAR-182/2014)	Overlaps largely with the current PS. 與本次的項目場地有很大重叠。	Jan – Jul 2009, Aug – Dec 2010 2009 年 1 月至 7 月及 2010 年 8 月至 12 月 Flightline survey: Mar and Jul 2009 鳥類飛行路線調查：2009 年 3 月和 7 月	Pond: Low; Grassland/ shrubland: Low for southern portion, Low to Moderate for northern portion; Agricultural land: Low; Seasonally wet grassland: Very Low; Reed: Low; Abandoned irrigation ditch: Very Low; Urbanised area: Very Low. 池塘：低; 草地/灌木叢：南部低，北部低至中; 農地：低; 季節性潮濕草地：非常低; 蘆葦：低; 廢棄灌溉渠：非常低; 城市化地區：非常低。
E	Kam Pok Road East EIA 錦堡路東環評報告 (AEIAR-205/2017)	Approx. 60m, just across Ngau Tam Mei Drainage Channel (NTMDC). 約 60 米，位於牛潭尾排水道(牛潭尾排水道)的另一側。	Jul 2009 – Jun 2010, Feb – Mar 2011, Jul 2014, Nov 2015 – Jan 2016 (incl. flightline survey) 2009 年 7 月至 2010 年 6 月、2011 年 2 月至 3 月、2014 年 7 月及 2015 年 11 月至 2016 年 1 月（包括鳥類飛行路線調查）	Abandoned fishpond: Low to Moderate; Grassland/ shrubland: Low to Moderate; Agricultural land: Low to Moderate; Urbanised/ disturbed: Very Low. 廢棄魚塘：低至中; 草地/灌木叢：低至中度; 農地：低至中等; 城市化/受干擾地區：非常低。
F	YMST EIA 攸美新村環評報告 (AEIAR-199/2015)	Abutting the current PS to the north. 與本次項目場地北面相鄰。	Sep 2007 – Aug 2008 2007 年 9 月至 2008 年 8 月 Flightline survey: Oct - Nov 2009, and Apr - Jun 2011 鳥類飛行路線調查：2009 年 10 月至 11 月及 2011 年 4 月至 6 月	Grassland/ shrubland: Low; Reedbed: Low to Moderate; Agricultural land: Low to Moderate. 草地/灌木叢：低; 蘆葦床：低至中度; 農地：低至中等。
G	Cycle Track EIA 單車徑環評報告 (AEIAR-133/2009)	Adjacent to the current PS to the east. 與本次項目場地東面相鄰。	Nov 2006 – Apr 2007 2006 年 11 月至 2007 年 4 月	Wasteland and built areas/ developed land: Low-Negligible. 荒地和已開發用地：低-可忽略不計。

Rev.	Date	Description	By	Chk'd	App'd
B	MAR 2023	SECOND ISSUE	RW	GY	WW
A	DEC 2022	FIRST ISSUE	RW	GY	WW

Drawing Status: -
Suitability: -

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Client: 建築署 Architectural Services Department

Project Title: LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG 元朗攸壆路簡約公屋

Drawing Title: LOCATION OF PREVIOUS STUDIES (ECOLOGY) 早前相關研究(生態)

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	GY	WW
Original Size: A3	Date: MAR 2023	Date: MAR 2023	Date: MAR 2023	Date: MAR 2023

Drawing Number: FIGURE 4.3 圖4.3
Revision: B

User name: $USERNAME$
Filename: $FILE$
Date:$DATE$
Time: $TIME$

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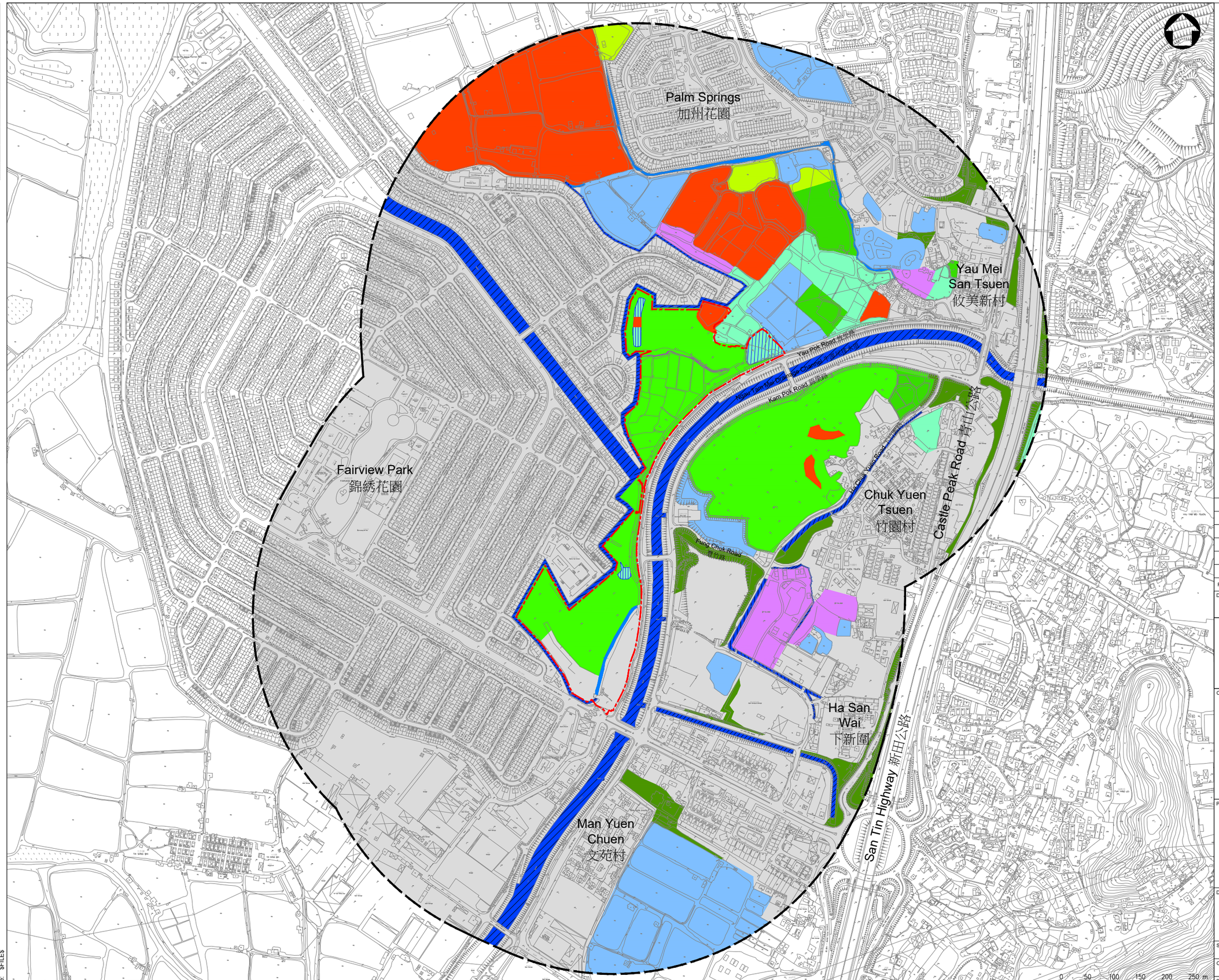

Rev.	Date	Description	By	Chk'd	App'd
A	Jan 2023	FIRST ISSUE	RW	GY	WW

Drawing Status: -

Suitability: -

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建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title

HABITAT MAP (DECEMBER 2022)
生境地圖(2022年12月)

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	GY	RW	GY	WW
Original Size	**Date**	**Date**	**Date**	**Date**
A3	JAN 2023	JAN 2023	JAN 2023	JAN 2023

Drawing Number: FIGURE 4.4 圖4.4

Revision: A

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User name: $USERNAME$ Date:$DATE$ Time: $TIME$
Filename: $FILE$

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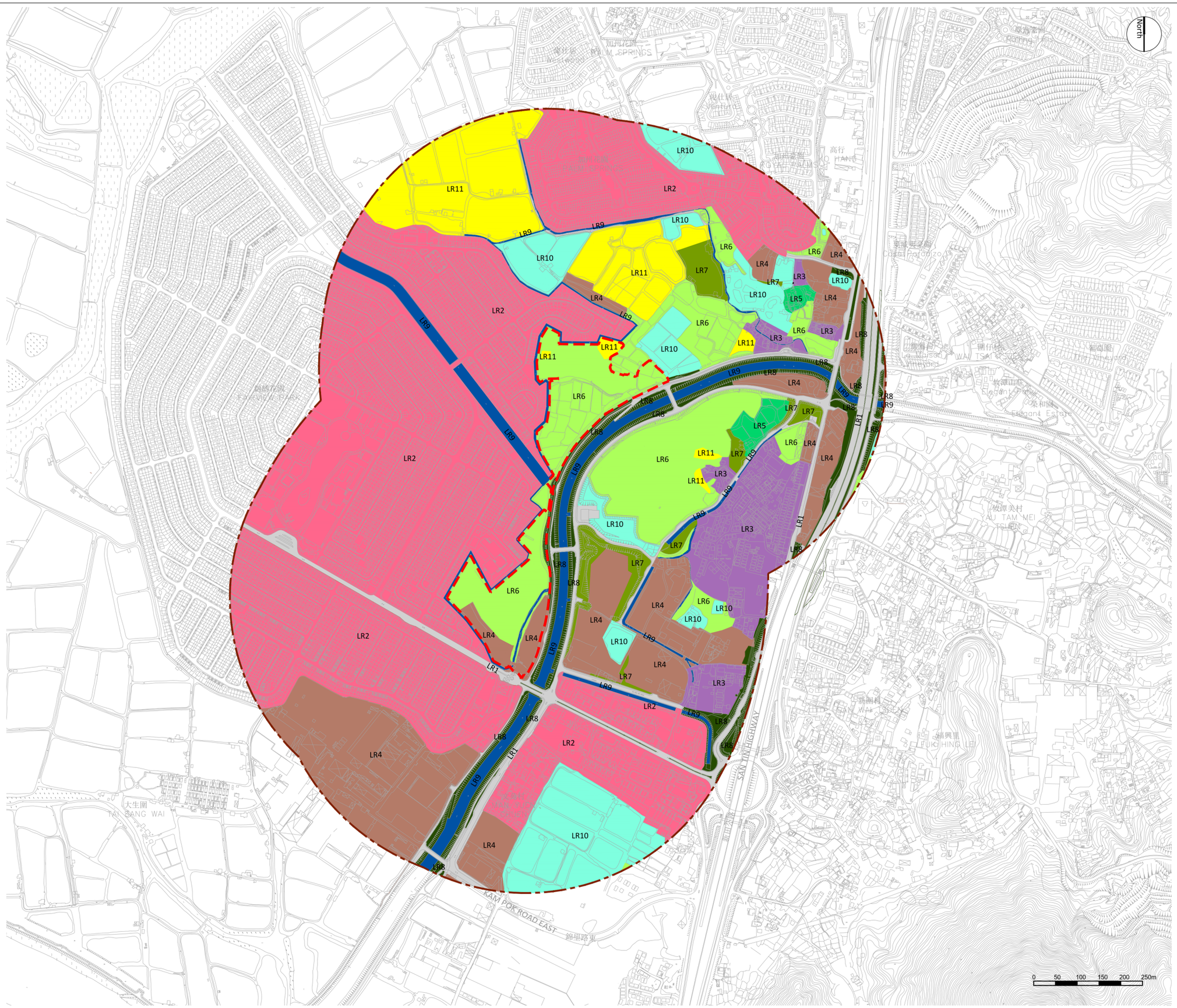

圖例 Legend

- 發展項目邊界 Application Site Boundary
- 500m評估區 500m Assessment Area
- LR1: 主要道路和高速公路 Major Roads and Highways (167727.6m²)
- LR2: 綜合住宅區 Comprehensive Residential Settlements (818138.3m²)
- LR3: 鄉村式住宅區 Village Settlements (94569.0m²)
- LR4: 露天貯物地 Open Storage / Vacant Lots (253619.0m²)
- LR5: 農田 Agricultural Fields (11900.1m²)
- LR6: 草地／灌木叢 Grassland / Shrubland (203628.0m²)
- LR7: 林地 Plantation (33257.5m²)
- LR8: 路邊綠化帶 Roadside and Amenity planting (74315.3m²)
- LR9: 明渠 Modified Water Courses (77623.4m²)
- LR10: 池塘 Ponds (81600.3m²)
- LR11: 沼澤／蘆葦叢 Marsh / Reedbed (127343.8m²)

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -
Suitability: -

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Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title
LANDSCAPE RESOURCES
景觀資源

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.5 圖4.5
Revision: A

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User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: Drawing1.dwg

LR1
主要道路和高速公路
MAJOR ROAD AND HIGHWAYS

LR2
綜合住宅區
COMPREHENSIVE RESIDENTIAL SETTLEMENTS

LR3
鄉村式住宅區
VILLAGE SETTLEMENTS

LR4
露天貯物地
OPEN STORAGE OR VACANT LOTS

LR5
農田
AGRICULTURAL FIELDS

LR6
草地/灌木叢
GRASSLAND / SHRUBLAND

LR7
林地
PLANTATION

LR8
路邊綠化帶
ROADSIDE AND AMENITY PLANTING

LR9
明渠
MODIFIED WATER COURSES

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -
Suitability: -

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Client
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Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
LANDSCAPE RESOURCE PHOTOGRAPHS
景觀資源照片
(1 OF 2)

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.6 圖4.6
Revision: A

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Filename: Drawing1.dwg
Date:Wednesday, March 22, 2023 11:15:19 AM

LR10
池塘
PONDS

LR11
沼澤/蘆葦叢
MASH / REEDBED

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -
Suitability: -

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Client
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Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
LANDSCAPE RESOURCE PHOTOGRAPHS
景觀資源照片
(2 OF 2)

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.6 圖4.6
Revision: A

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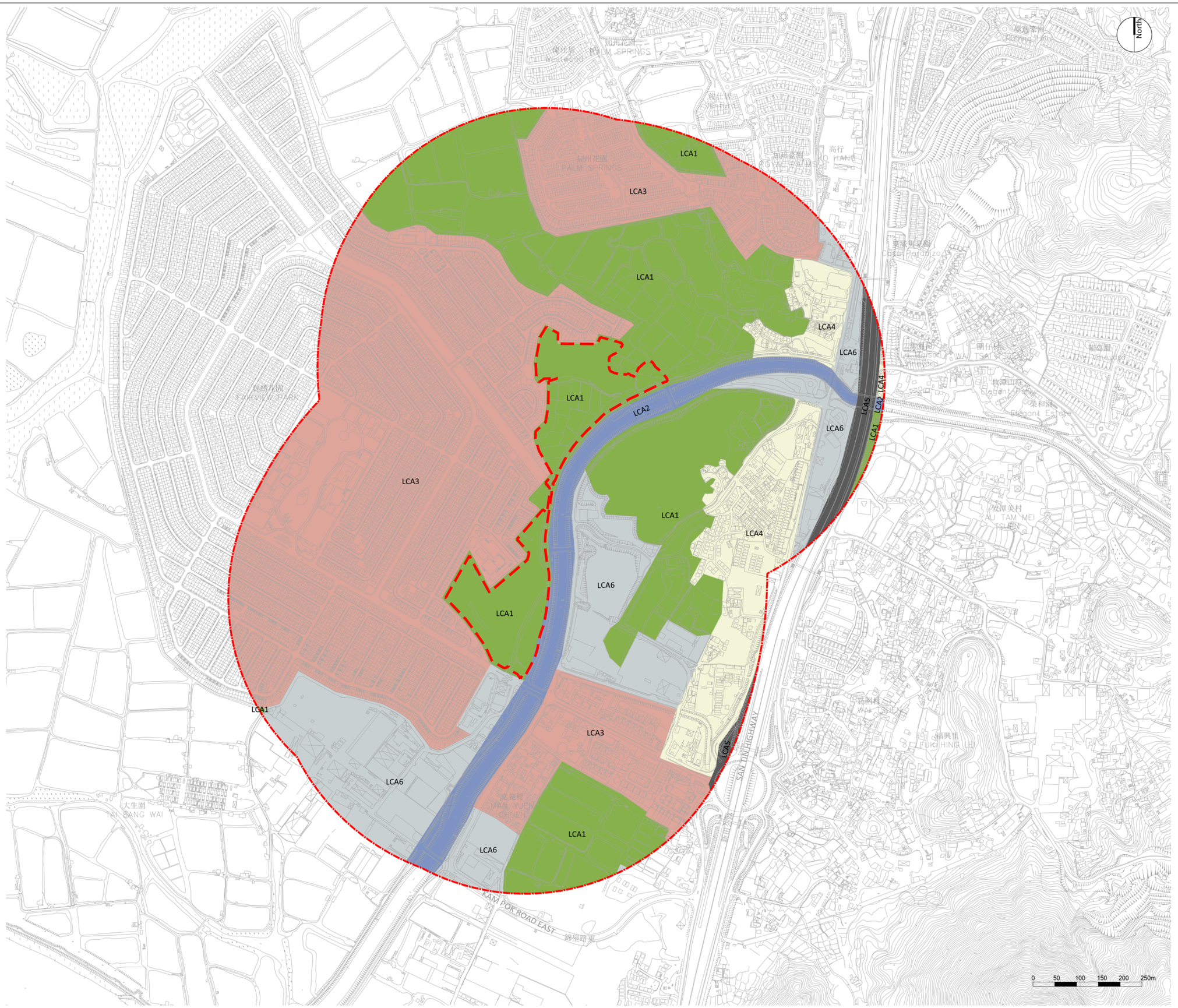
User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: Drawing1.dwg



Millimetres 0 10 100

圖例 Legend

- 發展項目邊界 Application Site Boundary
- 500m評估區 500m Assessment Area
- LCA1: 鄉村開放景觀 Rural Open Landscape
- LCA2: 人造水道畔近郊景觀 Semi Rural Landscape Along Man Made Water Channels
- LCA3: 低密度住宅 Low Density Residential
- LCA4: 鄉村式住宅 Village Housing
- LCA5: 主要交通走廊 Major Transport Corridor
- LCA6: 露天貯物地及工場 Open Storage and Workshops

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -

Suitability: -

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Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樸路簡約公屋

Drawing Title

LANDSCAPE CHARACTER AREAS
景觀特色區

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.7 圖4.7

Revision: A

User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: Drawing1.dwg

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LCA1
鄉村開放景觀
RURAL OPEN LANDSCAPE

LCA2
人造水道畔近郊景觀
SEMI RURAL LANDSCAPE ALONG MAN MADE WATER CHANNELS

LCA3
低密度住宅
LOW DENSITY RESIDENTIAL

LCA4
鄉村式住宅
VILLAGE HOUSING

LCA5
主要交通走廊
MAJOR TRANSPORT CORRIDOR

LCA6
露天貯物地及工場
OPEN STORAGE AND WORKSHOPS

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -
Suitability: -

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Client
建築署
Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
LANDSCAPE CHARACTER AREA PHOTOGRAPHS
景觀特色區照片

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 4.8 圖4.8
Revision: A

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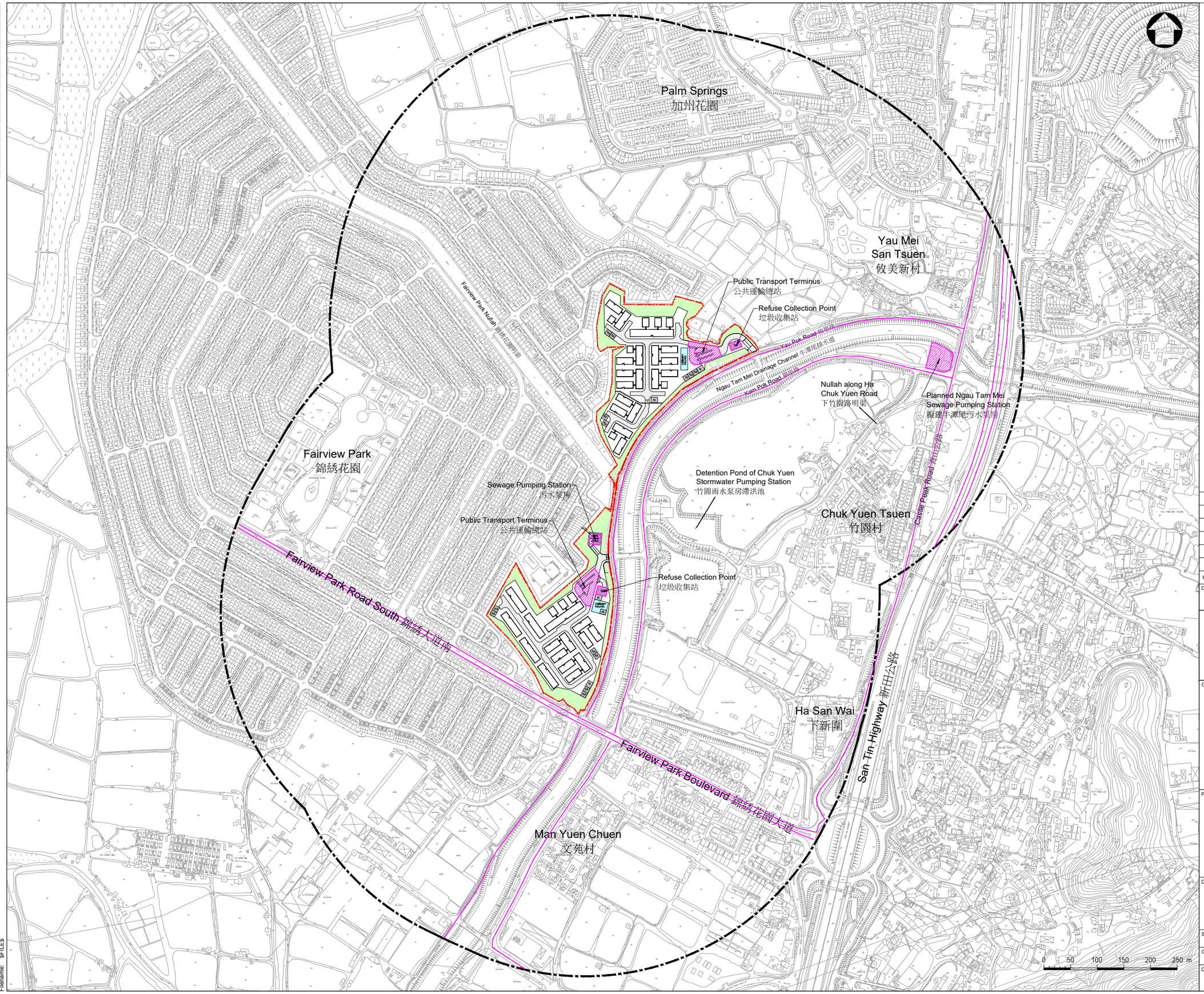
User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: Drawing1.dwg



LEGEND 圖例:

- PROJECT SITE 項目地點
- 500m AIR QUALITY ASSESSMENT AREA 500米空氣質素評估範圍
- AIR POLLUTION/ ODOUR EMISSION SOURCES 空氣污染/臭味排放源頭
- MAJOR VEHICULAR EMISSION SOURCES 車輛排放源頭

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	RW	WKC	WW

Drawing Status: -
Suitability: -

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Client
建築署
Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
LOCATIONS OF AIR POLLUTION/ ODOUR EMISSION SOURCES
空氣污染/臭味排放源頭位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	WKC	WW
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 5.1 圖5.1
Revision: A

Millimetres 0 10 100

User name: $USERNAME$ Filename: $FILE$ Date:$DATE$ Time: $TIME$

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Millimetres 100 10 0

Fairview Park
錦綉花園

Yau Pok Road 攸樂路

Kam Pok Road 錦樂路

Fairview Park Road South 錦綉大道南

Chuk Yuen Tsuen
竹園村

Ha San Wai
下新圍

50 100 m

LEGEND 圖例:

PROJECT SITE 項目地點

5m BUFFER DISTANCE
5米緩衝距離

Rev.	Date	Description	By	Chk'd	App'd
A	FEB 2023	FIRST ISSUE	RW	BT	WW

Drawing Status: -

Suitability: -

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Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT
YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title

BUFFER DISTANCE BETWEEN THE PROPOSED DEVELOPMENT AND THE NEARBY ROAD NETWORK
項目與附近道路網絡的緩衝距離

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	BT	RW	BT	WW
Original Size: A3	Date: FEB 2023	Date: FEB 2023	Date: FEB 2023	Date: FEB 2023

Drawing Number: FIGURE 5.2 圖5.2

Revision: A

User name: $USERNAME$ Time: $TIME$
Filename: $FILE$ Date:$DATE$

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Millimetres 0 10 100

Fairview Park
錦綉花園

Yau Pok Road 攸壆路

Kam Pok Road 錦壆路

153m

119m

95m

SEWAGE PUMPING STATION

RCP

TX

COMMUNITY FACILITIES

竹園雨水泵房
Chuk Yuen Stormwater Pumping Station

排水口
Outfall

伯特利中學
Bethel High School

Basketball Court
籃球場

FAIRVIEW PARK SECTION G, 1ST STREET

FAIRVIEW PARK SECTION G, 2ND STREET

GOLDEN BAMBOO ROAD EAST

FAIRVIEW PARK SECTION F, 8TH STREET

FAIRVIEW PARK SECTION F, 4TH STREET

錦綉花園F段第九街

錦綉花園F段第七街

錦綉花園F段第四街

金竹東路

Nullah

0 5 10 15 20 25 m

LEGEND 圖例:

PROJECT SITE 項目地點

REPRESENTATIVE EXISTING AIR SENSITIVE RECEIVER
具代表性的現存空氣敏感受體

REPRESENTATIVE PLANNED AIR SENSITIVE RECEIVER
具代表性的規劃中空氣敏感受體

Rev.	Date	Description	By	Chk'd	App'd
B	APR 2023	SECOND ISSUE	RW	BT	WW
A	FEB 2023	FIRST ISSUE	RW	BT	WW

Drawing Status: -

Suitability: -

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Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title

BUFFER DISTANCE BETWEEN THE PROPOSED SEWAGE PUMPING STATION AND THE NEARBY SENSITIVE USES
擬建污水泵房與附近敏感受體的緩衝距離

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	BT	RW	BT	WW
Original Size	Date	Date	Date	Date
A3	APR 2023	APR 2023	APR 2023	APR 2023

Drawing Number: FIGURE 5.3 圖5.3

Revision: B

User name: $USERNAME$ Date:$DATE$ Time: $TIME$
Filename: $FILE$

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Millimetres 0 10 100

Palm Springs
加州花園

Yau Mei San Tsuen
攸美新村

Yau Pok Road 攸樂路

Ngau Tam Mei Drainage Channel 牛潭尾排水道

Kam Pok Road 錦樂路

Fairview Park
錦綉花園

Chuk Yuen Stormwater Pumping Station
竹園雨水泵房

Proposed Sewage Pumping Station
擬建污水泵房

Chuk Yuen Tsuen
竹園村

San Tin Highway 新田公路

Totally Enclosed Godown (Tai Sang Hong)
完全密封倉庫 (大生行)

Ha San Wai
下新圍

Petrol Filling Station within Fairview Park
錦綉花園內加油站

Fairview Park Boulevard 錦綉花園大道

Open Storage Site for precast units with associated warehouse (Fan Keung Kee)
露天預製組件儲物場及相聯倉庫 (范強記)

Man Yuen Chuen
文苑村

0 50 100 m

LEGEND 圖例:

- PROJECT SITE 項目地點
- 300m NOISE ASSESSMENT AREA 300米噪音評估範圍
- EXISTING FIXED NOISE SOURCES 現存固定噪音源
- PROPOSED SEWAGE PUMPING STATION 擬建污水泵房
- ROAD TRAFFIC NOISE FROM NEARBY ROAD NETWORK 來自附近道路網絡的道路交通噪音

Rev.	Date	Description	By	Chk'd	App'd
B	APR 2023	SECOND ISSUE	RW	WKC	WW
A	FEB 2023	FIRST ISSUE	RW	WKC	WW

Drawing Status: -
Suitability: -

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Client
建築署
Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
LOCATION OF OPERATIONAL PHASE NOISE SOURCES
營運階段噪音源位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	WKC	WW
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 5.4 圖5.4
Revision: B

User name: $USERNAME$ Filename: $FILE$ Date:$DATE$ Time: $TIME$

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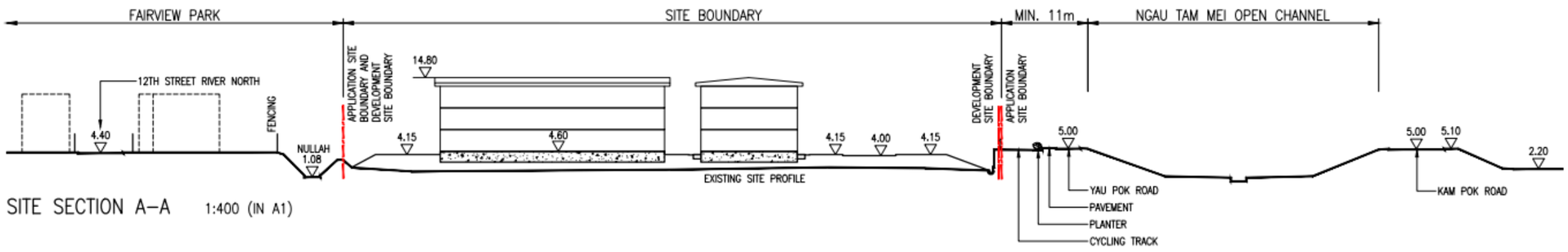
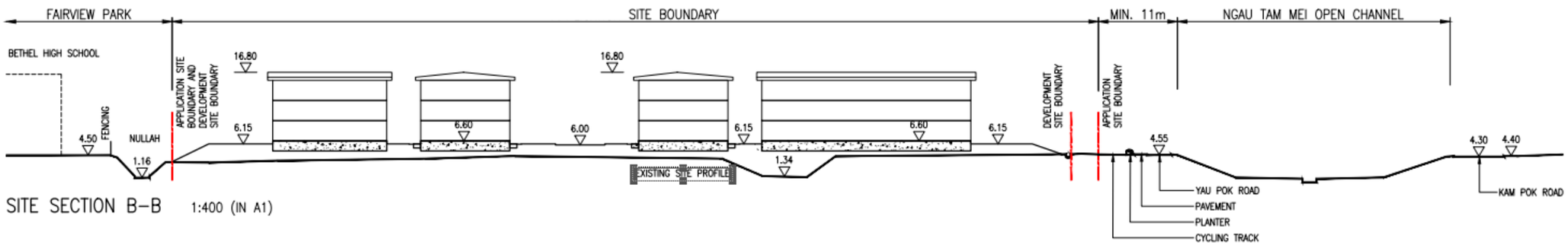
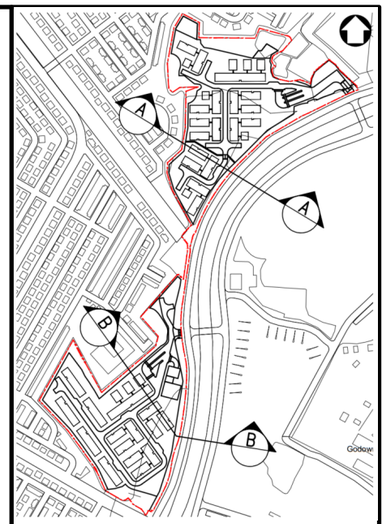


SITE SECTION A–A 1:400 (IN A1)



SITE SECTION B–B 1:400 (IN A1)



Rev.	Date	Description	By	Chk'd	App'd
B	MAR 2023	SECOND ISSUE	IT	GY	WW
A	DEC 2022	FIRST ISSUE	RW	GY	WW

Drawing Status: –

Suitability: –

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Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT
YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title

Site Sections
項目地盤剖面圖

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	IT	IT	GY	WW
Original Size	Date	Date	Date	Date
A3	MAR 2023	MAR 2023	MAR 2023	MAR 2023

Drawing Number: FIGURE 5.5
圖5.5

Revision: B

User name: $USERNAME$ Date:$DATE$ Time: $TIME$
Filename: $FILE$

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Millimetres 0 10 100

Fairview Park
錦綉花園

Yau Mei
San Tsuen
攸美新村

Yau Pok Road 攸樂路

Ngau Tam Mei Drainage Channel 牛潭尾排水道

Kam Pok Road 錦樂路

Chuk Yuen Tsuen
竹園村

San Tin Highway 新田公路

Ha San Wai
下新圍

Fairview Park Boulevard 錦綉花園大道

0 50 100 m

LEGEND 圖例:

PROJECT SITE 項目地點

LOCATION OF THE PROPOSED SCREENING/ BARRIERS (INDICATIVE)
擬議的屏蔽/屏障位置(指示性的)

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	RW	GY	WW

Drawing Status —

Suitability —

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Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING
AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title

LOCATION PLAN OF
PROPOSED SCREENING / BARRIERS
擬議屏蔽/屏障位置圖

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	GY	WW
Original Size A3	Date APR 2023	Date APR 2023	Date APR 2023	Date APR 2023

Drawing Number FIGURE 6.1
圖 6.1

Revision A

FIGU

User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: \\watkins.com\Project\CN\CNHK\Project\5219098_Townland_YPR LPH\20.00 Project Deliverables\20.10 Report\OR004 Project Profile for DIR\Rev_2\Figures\Working\Figure 6.1 Proposed Screening or Barriers.dwg

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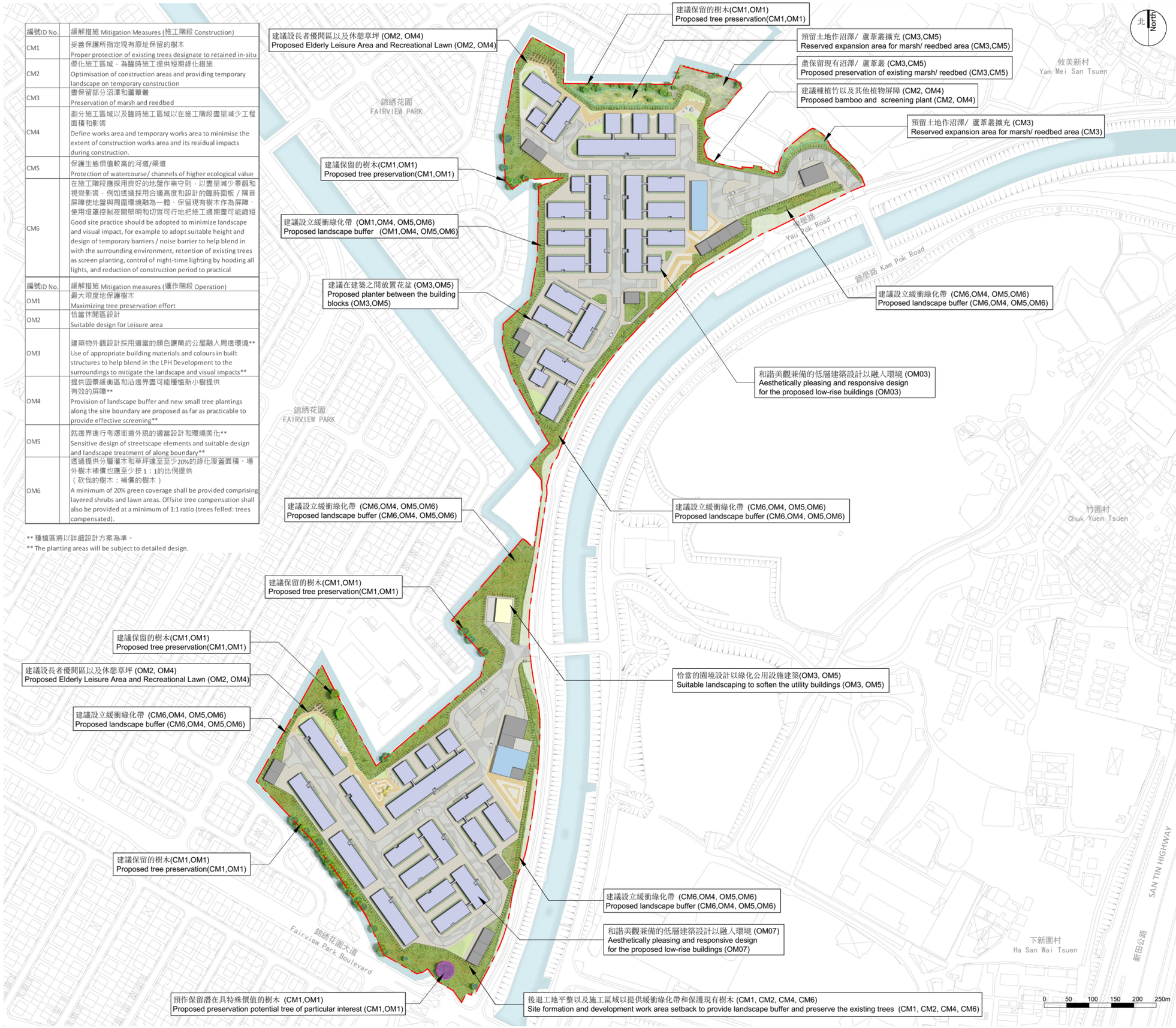
編號ID No.	緩解措施 Mitigation Measures (施工階段 Construction)
CM1	妥善保護所指定現有原址保留的樹木 Proper protection of existing trees designate to retained in-situ
CM2	優化施工區域，為臨時施工提供短期綠化措施 Optimisation of construction areas and providing temporary landscape on temporary construction
CM3	盡保留部分沼澤和蘆葦叢 Preservation of marsh and reedbed
CM4	劃分施工區域以及臨時施工區域以在施工階段盡量減少工程面積和影響 Define works area and temporary works area to minimise the extent of construction works area and its residual impacts during construction.
CM5	保護生態價值較高的河道/渠道 Protection of watercourse/ channels of higher ecological value
CM6	在施工階段應採用良好的地盤作業守則，以盡量減少景觀和視覺影響，例如透過採用合適高度和設計的臨時圍板 / 隔音屏障使地盤與周圍環境融為一體、保留現有樹木作為屏障、使用遮罩控制夜間照明和切實可行地把施工週期盡可能縮短 Good site practice should be adopted to minimize landscape and visual impact, for example to adopt suitable height and design of temporary barriers / noise barrier to help blend in with the surrounding environment, retention of existing trees as screen planting, control of night-time lighting by hooding all lights, and reduction of construction period to practical

編號ID No.	緩解措施 Mitigation measures (運作階段 Operation)
OM1	最大限度地保護樹木 Maximizing tree preservation effort
OM2	恰當休閒區設計 Suitable design for Leisure area
OM3	建築物外觀設計採用適當的顏色讓簡約公屋融入周邊環境** Use of appropriate building materials and colours in built structures to help blend in the LPH Development to the surroundings to mitigate the landscape and visual impacts**
OM4	提供園景緩衝區和沿邊界盡可能種植新小樹提供有效的屏障** Provision of landscape buffer and new small tree plantings along the site boundary are proposed as far as practicable to provide effective screening**
OM5	就邊界進行考慮街道外貌的適當設計和環境美化** Sensitive design of streetscape elements and suitable design and landscape treatment of along boundary**
OM6	透過提供分層灌木和草坪達至至少20%的綠化覆蓋面積，場外樹木補償也應至少按 1：1的比例提供（砍伐的樹木：補償的樹木） A minimum of 20% green coverage shall be provided comprising layered shrubs and lawn areas. Offsite tree compensation shall also be provided at a minimum of 1:1 ratio (trees felled: trees compensated).

** 種植區將以詳細設計方案為準。
** The planting areas will be subject to detailed design.



圖例 Legend

- 發展項目邊界 Application Site Boundary
- 現有高度 Existing Levels
- 預計高度 Proposed Levels
- 預作行人出入口 Proposed Pedestrian Access
- 預作行車出入口 Proposed Vehicular Access
- 預作住宅建築物 Proposed Domestic Blocks
- 預作非住宅建築物 (社區設施) Proposed Non-Domestic Blocks (Community Facilities)
- 預作非住宅建築物 (機電房) Proposed Non-Domestic Blocks (E&M / Plant Rooms)
- 預作污水處理設施 Proposed Sewage Pumping Station
- 預作保留的樹木 Existing Tree to Be Retained
- 預作保留潛在具特殊價值的樹木 (T239) Potential Tree of Particular Interest (T239)
- 預作緩衝用途灌木叢 Proposed Buffer Layered Shrub Planting
- 預作草坪 Proposed Lawn
- 預作行車路(緊急車輛通道) Proposed EVA Paving
- 預作行人路 Proposed Pedestrian Footpath
- 預作特色鋪地 Proposed Feature Paving
- 預作座椅 Proposed Seating (Fixed)
- 現有沼澤/ 蘆葦叢 Existing Marsh/Reedbed Area
- 預留土地作沼澤/ 蘆葦叢擴充 Reserved Extension Area for Marsh/ Reedbed Area
- 現有綠化人造斜坡 Existing Engineered Slope Greening

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	JT	CJF	JBC

Drawing Status: -
Suitability: -

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Client
建築署
Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title
PROPOSED LANDSCAPE AND VISUAL MITIGATION MEASURES
建議的景觀與視覺影響緩解措施

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	CJF	JT	CJF	JBC
Original Size	Date	Date	Date	Date
A3	APR 2023	APR 2023	APR 2023	APR 2023

Drawing Number: FIGURE 6.2 圖6.2
Revision: A

Millimetres 0 10 100

User name: Wong, Rachel Date:Wednesday, March 22, 2023 11:15:19 AM
Filename: Drawing1.dwg

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Millimetres 100 0 10

Palm Springs
加州花園

Fairview Park
錦綉花園

Yau Mei San Tsuen
攸美新村

Chuk Yuen Tsuen
竹園村

Ha San Wai
下新圍

Man Yuen Chuen
文苑村

Yau Pok Road 攸樂路

Ngau Tam Mei Drainage Channel 牛潭尾排水道

Kam Pok Road 錦樂路

Fairview Park Boulevard 錦綉花園大道

San Tin Highway

AM4 NM5 C2 C3 NM4 AM3 W2 AM1 W1 NM3 NM2 NM1 AM2 C1 W3

0 50 100 150 200 250 m

LEGEND 圖例:

- PROJECT SITE 項目地點
- 500m ASSESSMENT AREA FOR AIR QUALITY AND WATER QUALITY 500米空氣質素及水質評估範圍
- 300m ASSESSMENT AREA FOR NOISE 300米噪音評估範圍
- PROPOSED AIR QUALITY MONITORING STATIONS 擬議空氣質素監察站
- PROPOSED NOISE MONITORING STATIONS 擬議噪音監察站
- PROPOSED WATER QUALITY MONITORING STATIONS 擬議水質監察站

Rev.	Date	Description	By	Chk'd	App'd
A	APR 2023	FIRST ISSUE	RW	WKC	WW

Drawing Status: —
Suitability: —

ATKINS
Member of the SNC-Lavalin Group

Client
建築署
Architectural Services Department

Project Title
LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸樂路簡約公屋

Drawing Title
PROPOSED LOCATION OF CONSTRUCTION PHASE AIR QUALITY, NOISE AND WATER QUALITY MONITORING STATIONS
施工階段擬議空氣質素、噪音及水質監察站位置

Scale	Designed	Drawn	Checked	Authorised
AS SHOWN	RW	RW	WKC	WW
Original Size: A3	Date: APR 2023	Date: APR 2023	Date: APR 2023	Date: APR 2023

Drawing Number: FIGURE 6.3 圖 6.3
Revision: A

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Filename: \\wsatkins.com\Project\CN\CNHKA\Project\5219098_Townland_YPR LPH\20.00 Project Deliverables\20.10 Report\OR004 Project Profile for DIR\Rev_2\Figures\Working\Figure 6.3 Monitoring Stations.dwg

Appendices

Appendix 1.1
Master Layout Plan for the Proposed Development

NOTES:
注釋:

1. FOR REFERENCE ONLY.
   僅供參考

LEGENDS:
圖例:

- PROJECT SITE 項目場地
- LANDSCAPE BUFFER AREA 園景緩衝區
- DO — DOMESTIC BLOCK 住宅大樓
- AM — AMENITY BLOCK 多用途社區大樓
- RCP — REFUSE COLLECTION POINT 垃圾收集站
- BS — BUILDING SERVICES BLOCK 屋宇裝備大樓
- PT — PUBLIC TERMINUS 公共運輸服務總站
- P — CYCLE PARKING 單車泊車位

no.	date	description
REVISION		

drawn	E LAM	04/2023
checked	T CHEUNG	04/2023

approved

Chief Architect . . . . . .

Senior Architect . . . . . .

Project Architect . . . . . .
signed date

contract no.

file no.

project no.

contract

drawing title

LIGHT PUBLIC HOUSING AT YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

drawing no.	scale
AB2/8800/SK007d	1:3000 (A3)

office

ARCHITECTURAL BRANCH

ARCHITECTURAL SERVICES DEPARTMENT

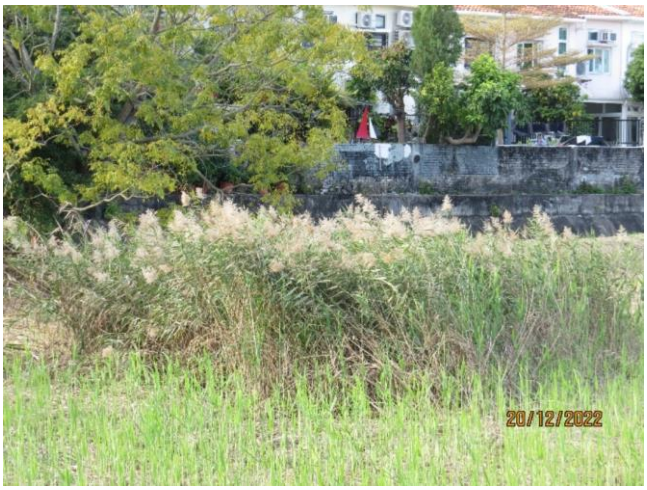
A3 420 x 297

Appendix 4.1
Representative Photos of Habitats within Project Site and 500m Study Area

Habitats within Project Site

Grassland/ Shrubland

Seasonally Wet Grassland



Reed

Watercourse

Abandoned Irrigation Ditch (Almost Invisible)

Developed Area

Habitats within Study Area

Grassland/ Shrubland

Grassland

Pond

Marsh

Reed

Agricultural Land

Drainage Channel

Plantation

Waste Ground

Developed Area

Appendix 4.2
Species Recorded During Reconnaissance Survey (December 2022)

Appendix 4.2A - Plant Species Recorded during Reconnaissance Survey (Dec 2022)
附錄4.2A - 生態勘測期間記錄的植物物種 (2022年12月)

Scientific Name 學名	Chinese Name 中文名	Growth Form[1] 生長形態	Origin[2] 生態資料[2]	Conservation and Protection Status[2] 保育和保護現狀[2]	Project Site 項目場地[3,4]						Study Area 500米研究範圍[3, 4]									
					GS	RE	SWG	AID	WC	DA	DA	GS	WG	PO	GR	PL	RE	MA	AL	DC
Acacia confusa	台灣相思	Tree	Exotic 外來	-							++					++				
Albizia lebbeck	大葉合歡	Tree	Exotic 外來	-							+									
Alocasia macrorrhizos	海芋	Herb	Native 本地	-	+					+										
Alternanthera philoxeroides	空心莧	Herb	Exotic 外來	-														++		
Alternanthera sessilis	蝦鉗菜	Herb	Native 本地	-				+				+								++
Archontophoenix alexandrae	假檳榔	Tree	Exotic 外來	-							++									
Asparagus cochinchinensis	天門冬	Climber/Shrub	Native 本地	-							+									
Bambusa sp.	竹屬	Bamboo	-	-						+										
Basella alba	潺菜	Climber	Exotic 外來	-															+	
Bauhinia variegata	宮粉羊蹄甲	Tree	Exotic 外來	-							+									
Bauhinia x blakeana	洋紫荊	Tree	Native 本地	-							++									
Bidens alba	白花鬼針草	Herb	Exotic 外來	-	++		++	++	++	+++		+++	+++	+++	+++	++			+++	+++
Bombax ceiba	木棉	Tree	Exotic 外來	-						+	+									
Bougainvillea spectabilis	簕杜鵑	Climber/Shrub	Exotic 外來	-							+++									
Brachiaria mutica	巴拉草	Herb	Exotic 外來	-	++	++	+++	++									++	+++		
Carica papaya	番木瓜	Tree	Exotic 外來	-															++	
Celosia argentea	青葙	Herb	Native 本地	-						+		+								
Celtis sinensis	朴	Tree	Native 本地	-					+	+	++									
Cinnamomum burmannii	陰香	Tree	Native 本地	-							+					++				
Cinnamomum camphora	樟	Tree	Native 本地	-						+	++									
Codiaeum variegatum	變葉木	Shrub	Exotic 外來	-							+++									
Cordyline fruticosa	朱蕉	Shrub	Exotic 外來	-							++									
Delonix regia	鳳凰木	Tree	Exotic 外來	-							++									
Dimocarpus longan	龍眼	Tree	Exotic 外來	-						+						+			++	
Dracaena draco	龍血樹	Tree	Exotic 外來	-							++									
Duranta erecta	假連翹	Climber/Shrub	Exotic 外來	-							+++									
Dypsis lutescens	散尾葵	Shrub	Exotic 外來	-							++									
Carmona microphylla	福建茶	Shrub	Exotic 外來	-							++									
Elephantopus scaber	地膽草	Herb	Native 本地	-															+	
Euphorbia hirta	大飛揚草	Herb	Exotic 外來	-							++									
Excoecaria cochinchinensis	紅背桂	Shrub	Exotic 外來	-							+++									
Ficus elastica	印度榕	Tree	Exotic 外來	-							+									
Ficus hispida	對葉榕	Shrub/Tree	Native 本地	-									+	+						
Ficus microcarpa	細葉榕	Tree	Native 本地	-							++					+++				+
Ficus rumphii	心葉榕	Tree	Exotic 外來	-						+										
Ficus subpisocarpa	筆管榕	Tree	Native 本地	-																+
Hibiscus rosa-sinensis	大紅花	Shrub	Exotic 外來	-							++									
Hibiscus tiliaceus	黃槿	Tree	Native 本地	-							+									
Hyophorbe lagenicaulis	酒瓶椰子	Tree	Exotic 外來	-							++									
Imperata cylindrica var. major	絲茅	Herb	Native 本地	-	+++		++	+					+		+++					
Ipomoea aquatica	通菜	Herb	Exotic 外來	-		+	+	+									+	++		
Ipomoea batatas	番薯	Herb	Exotic 外來	-															+	
Ipomoea cairica	五爪金龍	Herb	Exotic 外來	-							+++		+++		+++		++	++		

Appendix 4.2A - Plant Species Recorded during Reconnaissance Survey (Dec 2022)
附錄4.2A - 生態勘測期間記錄的植物物種 (2022年12月)

Scientific Name 學名	Chinese Name 中文名	Growth Form[1] 生長形態	Origin[2] 生態資料[2]	Conservation and Protection Status[2] 保育和保護現狀[2]	Project Site 項目場地[3,4]						Study Area 500米研究範圍[3, 4]									
					GS	RE	SWG	AID	WC	DA	DA	GS	WG	PO	GR	PL	RE	MA	AL	DC
Ixora chinensis	龍船花	Shrub	Native 本地	-							+++									
Kyllinga polyphylla	香根水蜈蚣	Herb	Exotic 外來	-															+	
Lactuca sativa	生菜	Herb	Exotic 外來	-															++	
Lagerstroemia speciosa	大花紫薇	Tree	Exotic 外來	-							+++									
Lantana montevidensis	鋪地臭金鳳	Shrub	Exotic 外來	-							+++									
Leucaena leucocephala	銀合歡	Shrub/Tree	Exotic 外來	-	++				++	++			+++	++	+++					
Ligustrum sinense	山指甲	Shrub/Tree	Exotic 外來	-							++									
Litchi chinensis	荔枝	Tree	Exotic 外來	-															+	
Livistona chinensis	蒲葵	Tree	Exotic 外來	-							++									
Macaranga tanarius var. tomentosa	血桐	Tree	Native 本地	-	++					++		+	++	++	++	+				
Melaleuca cajuputi subsp. cumingiana	白千層	Tree	Exotic 外來	-							++									
Melia azedarach	苦楝	Tree	Exotic 外來	-	+					+			++	+	+					
Melinis repens	紅毛草	Herb	Exotic 外來	-							+++									
Mikania micrantha	薇甘菊	Climber/Herb	Exotic 外來	-	+	+	+		+			++			++		+	++		
Morus alba	桑	Shrub/Tree	Native 本地	-	+					++					+					
Musa x paradisiaca	大蕉	Herb	Exotic 外來	-															++	
Neyraudia reynaudiana	類蘆	Herb	Native 本地	-					++		+++									
Osmanthus fragrans	桂花	Shrub/Tree	Exotic 外來	-							++									
Paederia scandens	雞矢藤	Herb	Native 本地	-							++									
Panicum brevifolium	短葉黍	Herb	Native 本地	-												+++				
Panicum maximum	大黍	Herb	Exotic 外來	-								+++	+++	+++						+++
Panicum repens	鋪地黍	Herb	Native 本地	-														++		
Passiflora foetida	龍珠果	Climber	Exotic 外來	-									++		++					+
Philydrum lanuginosum	田薑	Herb	Native 本地	-			+													
Phoenix roebelenii	日本葵	Tree	Exotic 外來	-							++									
Phragmites australis	蘆葦	Herb	Native 本地	-		+++											+++	+		
Phyllanthus tenellus	纖梗葉下珠	Herb	Native 本地	-						+										
Podocarpus macrophyllus	羅漢松	Tree	Native 本地	-							++									
Prunus campanulata	鐘花櫻桃	Tree	Exotic 外來	-							+									
Pteris vittata	蜈蚣草	Herb	Native 本地	-							+									
Pueraria lobata var. montana	葛麻姆	Climber	Native 本地	-									+							
Rhus succedanea	野漆樹	Shrub/Tree	Native 本地	-						+										
Salix babylonica	垂柳	Tree	Exotic 外來	-							+									
Sapium sebiferum	烏桕	Tree	Native 本地	-						+										
Schefflera arboricola	鵝掌藤	Climber/Shrub	Exotic 外來	-							+++									
Solanum americanum	少花龍葵	Herb	Exotic 外來	-															+++	
Spathodea campanulata	火焰木	Tree	Exotic 外來	-							+									
Tecoma stans	黃鐘花	Shrub	Exotic 外來	-							+									
Terminalia mantaly	小葉欖仁	Tree	Exotic 外來	-							+++									
Wedelia trilobata	三裂葉蟛蜞菊	Herb	Exotic 外來	-	+++					+++	++		++							

Notes注釋:

1. Growth form follows AFCD (2012) 生長形態參考 AFCD (2012)

2. Origin and Status refer to 生態資料及保育現狀參考:

a. AFCD (2003) - Agriculture, Fisheries and Conservation Department (AFCD). 2003. Rare and Precious Plants of Hong Kong. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong. 234pp.

b. AFCD (2007) - Flora of Hong Kong Vol. 1. Edited by Hong Kong Herbarium, Agriculture, Fisheries and Conservation Department & South China Botanical Garden, Chinese Academy of Sciences.

c. AFCD (2008) - Flora of Hong Kong Vol. 2. Edited by Hong Kong Herbarium, Agriculture, Fisheries and Conservation Department & South China Botanical Garden, Chinese Academy of Sciences.

d. AFCD (2009) - Flora of Hong Kong Vol. 3. Edited by Hong Kong Herbarium, Agriculture, Fisheries and Conservation Department & South China Botanical Garden, Chinese Academy of Sciences.

e. AFCD (2011) - Flora of Hong Kong Vol. 4. Edited by Hong Kong Herbarium, Agriculture, Fisheries and Conservation Department & South China Botanical Garden, Chinese Academy of Sciences.

f. AFCD (2012) - Check List of Hong Kong Plants. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong.

g. Barretto *et al* . (2011) - Barretto, G. D. A., Cribb, P. J., & Gale, S. (2011). The wild orchids of Hong Kong. Natural History Publications (Borneo) Sdn. Bhd.; Kadoorie Farm and Botanic Garden (KFBG).

h. Cap. 96 = Forests and Countryside Ordinance , including the associated Chapter 96A Forestry Regulation; 香港法例第96章《林區及郊區條例》．包括第96章附例《林務規例》；

i. Cap. 586 = Protection of Endangered Species of Animal and Plants Ordinance; 香港法例第586章《保護瀕危動植物物種條例》；

j. Corlett et al. (2000) - Corlett, R.T., Xing, F.W., Ng, S.-C., Chau, L.K.C. & Wong, L.M.Y., 2000. Hong Kong Vascular Plants. Memoirs of the Hong Kong Natural History Society, No. 23. 1-157

k.IUCN (2022). - International Union for Conservation of Nature (IUCN). 2022. IUCN物种红色名录(2022)。

l. Qin *et al.* (2017) (TSLCHP: Threatened Species List of China's Higher Plants) - Qin, H. N., Yang, Y., Dong, S. Y., He, Q. (2017). Threatened Species List of China's Higher Plants. Biodiversity Science, 25(7), 696-744..

3. Habitats: GS = Grassland/ Shrubland, RE = Reed, SWG = Seasoanlly Wet Grassland, WC = Watercourse, DA = Developed Area, WG = Waste Ground, PO = Pond, GR = Grassland, PL = Plantation, MA = Marsh, AL = Agricultural Land, and DC = Drainage Channel.
生境：GS = 草地/灌木叢．RE = 蘆葦床．SWG = 季節性濕草地．WC = 水道．DA = 已開發地區．WG = 荒地．PO = 池塘．GR = 草地．PL =植林．MA = 沼澤．AL = 農地．DC = 排水河道。

4. Key for abundance: + = Scarce, ++ = Occasional, +++ = Frequent, ++++= Abundant.
植被豐度: + = 稀少, ++ = 偶爾, +++ = 經常, ++++= 大量.

Appendix 4.2B - Bird Species Recorded During Reconnaisance Survey (December 2022)
附錄4.2B - 生態勘測期間記錄的鳥類物種 (2022年12月)

Common and Chinese Name 英文及中文名	Scientific Name 學名	Conservation and Protection Status[1] 保育和保護現狀[1]	Status in Hong Kong[2] 在香港的地區分佈[2]	Project Site[3] 項目場地[3]		Study Area[3] 500米研究範圍[3]							
				GS	DA	PO	DC	MA	PL	DA	GR	GS	RE
Northern Shoveler 琵嘴鴨	***Anas clypeata***	**RC**	**Abundant winter visitor. Found in Deep Bay area 大量冬候鳥。分布於后海灣一帶**				**65**						
Eurasian Teal 綠翅鴨	***Anas crecca***	**RC**	**Common winter visitor. Found in Deep Bay area, Shuen Wan, Tai Lam Chung Reservoir, Victoria Harbour, Urban Park 常見冬候鳥。過往記錄地點包括后海灣一帶、船灣、大欖涌水塘、維多利亞港、市區的公園等**				**20**						
Black-crowned Night Heron 夜鷺	*Nycticorax nycticorax*	-	Common resident and winter visitor. Widely distributed in Hong Kong. 常見留鳥及遷徙鳥。廣泛分布於香港				1						
Chinese Pond Heron 池鷺	***Ardeola bacchus***	**PRC (RC)**	**Common resident. Widely distributed in Hong Kong. 常見留鳥。廣泛分布於香港**	**1**			**1**						
Grey Heron 蒼鷺	***Ardea cinerea***	**PRC**	**Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar. 常見冬候鳥。過往記錄地點包括后海灣一帶、沙頭角海、九龍公園、鶴咀等。**			**2**	**2**						
Great Egret 大白鷺	***Ardea alba***	**PRC (RC)**	**Common resident and winter visitor. Widely distributed in Hong Kong. 常見留鳥、遷徙鳥及冬候鳥。廣泛分布於香港。**				**4**						
Little Egret 小白鷺	***Egretta garzetta***	**PRC (RC)**	**Common resident. Widely distributed in coastal area throughout Hong Kong. 常見留鳥、遷徙鳥及冬候鳥。廣泛分布於香港的海岸**	**5**			**2**						
Common Greenshank 青腳鷸	***Tringa nebularia***	**RC**	**Abundant passage migrant and winter visitor. Found in Deep Bay area. 常見春季過境遷徙鳥。過往記錄地點包括后海灣一帶**			**2**							
Green Sandpiper 白腰草鷸	*Tringa ochropus*	-	Uncommon passage migrant and winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin etc. 常見遷徙鳥及冬候鳥。過往記錄地點包括后海灣一帶、船灣、塱原、錦田等				1						
Rock Dove 原鴿	*Columba livia*	-	Common resident. Widely distributed in urban area throughout Hong Kong. 局部地區常見留鳥。廣泛分布於香港的市區。							20			
Spotted Dove 珠頸斑鳩	*Spilopelia chinensis*	-	Abundant resident. Widely distributed in Hong Kong。 十分常見的留鳥。廣泛分布於香港						2	18			
Greater Coucal 褐翅鴉鵑	***Centropus sinensis***	**RLCV(UV)**	**Common resident. Widely distributed in Hong Kong. 常見留鳥。廣泛分布於香港。**									**1**	
Common Kingfisher 普通翠鳥	*Alcedo atthis*	-	Common passage migrant and winter visitor. Widely distributed in wetland habitat throughout Hong Kong. 常見過境遷徙鳥及冬候鳥。廣泛分布於香港的濕地。				1						
Collared Crow 白頸鴉	***Corvus torquatus***	**LC; IUCN(NT)**	**Uncommon resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, etc. 局部地區常見留鳥。過往記錄地點包括內后海灣一帶、南涌、企嶺下、大尾督、薄扶林、赤鱲角、船灣、林村等。**				**1**						
Red-whiskered Bulbul 紅耳鵯	*Pycnonotus jocosus*	-	Abundant resident. Widely distributed in Hong Kong. 十分常見的留鳥。廣泛分布於香港。						4	5			
Chinese Bulbul 白頭鵯	*Pycnonotus sinensis*	-	Abundant resident. Widely distributed in Hong Kong. 十分常見的留鳥。廣泛分布於香港。					2	3				
Yellow-bellied Prinia 黃腹鷦鶯	*Prinia flaviventris*	-	Common resident. Widely distributed in Hong Kong. 常見留鳥。廣泛分布於香港。	1									1
Plain Prinia 純色鷦鶯	*Prinia inornata*	-	Common resident. Widely distributed in grassland throughout Hong Kong. 局部地區常見留鳥。廣泛分布於香港的草叢。					1			1		1
Common Tailorbird 長尾縫葉鶯	*Orthotomus sutorius*	-	Common resident. Widely distributed in Hong Kong. 常見留鳥。廣泛分布於香港。							2			
Crested Myna 八哥	*Acridotheres cristatellus*	-	Common resident. Widely distributed in Hong Kong. 大量留鳥。廣泛分布於香港。	5	3						5		
Black-collared Starling 黑領椋鳥	*Gracupica nigricollis*	-	Common resident. Widely distributed in Hong Kong. 常見留鳥。廣泛分布於香港。	3									
Oriental Magpie-Robin 鵲鴝	*Copsychus saularis*	-	Abundant resident. Widely distributed in Hong Kong. 大量留鳥。廣泛分布於香港。							4			
Daurian Redstart 北紅尾鴝	*Phoenicurus auroreus*	-	Common winter visitor. Widely distributed in Hong Kong. 常見冬候鳥。廣泛分布於香港。		2								
Stejneger's Stonechat 黑喉石鵲	*Saxicola stejnegeri*	-	Common passage migrant and winter visitor. Widely distributed in open cultivated fields throughout Hong Kong. 常見過境遷徙鳥及冬候鳥。廣泛分布於香港的開闊田野。	1									
Fork-tailed Sunbird 叉尾太陽鳥	*Aethopyga christinae*	-	Common resident. Widely distributed in Hong Kong. 常見留鳥及冬候鳥。廣泛分布於香港。							1			
Scaly-breasted Munia 斑文鳥	*Lonchura punctulata*	-	Common resident. Widely distributed in Hong Kong. 常見留鳥及冬候鳥。廣泛分布於香港。	4								5	
Grey Wagtail 灰鶺鴒	*Motacilla cinerea*	-	Common passage migrant and winter visitor. Widely distributed in hill streams throughout Hong Kong. 常見過境遷徙鳥及冬候鳥。廣泛分布於香港的山澗。				1						
White Wagtail 白鶺鴒	*Motacilla alba*	-	Common passage migrant and winter visitor. Widely distributed in Hong Kong. 留鳥．常見過境遷徙鳥及冬候鳥。廣泛分布於香港。	3		3	2						
Richard's Pipit 理氏鵐	*Anthus richardi*	-	Common passage migrant and winter visitor. Widely distributed in Hong Kong. 留鳥．常見過境遷徙鳥及冬候鳥。廣泛分布於香港。	4								1	
Black Swan	*Cygnus atratus*	-	-	10	5	4							
Mute Swan 疣鼻天鵝	*Cygnus olor*	-	-			2							

**** Species considered as of conservation importance in this study are indicated in bold type.*** *本研究中被認為具有保護重要性的物種以粗體表示。*

Notes 注釋:

1. Conservation and protection status refers to:
   a. Fellowes *et al.* (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern; PGC = Potential Global Concern, GC = Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
   Fellowes et al. (2002): LC = 本地關注; PRC = 潛在的區域關注; RC = 區域關注; PGC = 潛在全球關注; GC = 全球關注。括弧中的字母表示評估是基於繁殖和/或棲息地地的限制，而不是一般情況。
   b. Red List of China's Vertebrates (RLCV) (Jiang *et al.* 2016): NT = Near Threatened.
   中國脊椎動物紅色名錄（RLCV）(Jiang et al. 2016)： NT = 近危。
   c. IUCN Red List: The International Union for Conservation of Nature Red List of Threatened Species. NT = Near Threatened.
   IUCN物种红色名录：NT = 近危。
2. Status in Hong Kong follows AFCD (2023). https://bih.gov.hk/tc/species-database/index.html
   香港的地區分佈根據漁護署的香港生物多樣性 資訊中心。（網址：https://bih.gov.hk/tc/species-database/index.html）
3. Habitats: GS = Grassland/ Shrubland, DA = Developed Area, PO = Pond, DC = Drainage Channel, MA = Marsh, PL = Plantation, RE = Reed.
   生境：GS = 草地/灌木叢，DA = 已開發地區，PO = 池塘，DC = 排水河道, MA = 沼澤，PL =植林，RE = 蘆葦床。

Appendix 4.3
Species of Conservation Importance Recorded within Project Site and 500m Study Area from Previous Study and Reconnaissance Survey

Appendix 4.3 Species of Conservation Importance Recorded within Project Site and Study Area

Species	Conservation and Protection Status[1]	Status and Distribution in Hong Kong[2]	PS		SA		
			Previous Studies	Current Survey[3]	Previous Studies		Current Survey[3]
					NTMDC	Other Areas	
Mammals							
Small Asian Mongoose *Herpestes javanicus*	RLCV(UV); Cap. 170	Fairly widely distributed in countryside areas in the New Territories	✓				
Japanese Pipistrelle *Pipistrellus abramus*	Cap. 170	Very Common. Widely distributed throughout Hong Kong.	✓				
Birds							
Northern Shoveler *Anas clypeata*	RC	Abundant winter visitor. Found in Deep Bay area.			✓		NTMDC
Northern Pintail *Anas acuta*	RC	Abundant winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin.			✓		
Eurasian Teal *Anas crecca*	RC	Common winter visitor. Found in Deep Bay, Shuen Wan, Tai Lam Chung Reservoir, urban Park.			✓		NTMDC
Little Grebe *Tachybaptus ruficollis*	LC	Common resident. Found in Deep Bay area.			✓	✓	
Eurasian Spoonbill . *Platalea leucorodia*	LC	Scarce winter visitor. Found in Deep Bay area.			✓		
Black-faced Spoonbill *Platalea minor*	PGC, IUCN(EN)	Common winter visitor. Found in Deep Bay area.			✓	✓	
Black-crowned Night Heron *Nycticorax nycticorax*	(LC)	Common resident and winter visitor. Widely distributed in Hong Kong.	✓		✓	✓	
Chinese Pond Heron *Ardeola bacchus*	PRC (RC)	Common resident. Widely distributed in Hong Kong.	✓	GS	✓	✓	NTMDC
Eastern Cattle Egret *Bubulcus coromandus*	(LC)	Resident and common passage migrant. Widely distributed in Hong Kong.	✓		✓	✓	
Grey Heron *Ardea cinerea*	PRC	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	✓		✓	✓	PO, NTMDC

Species	Conservation and Protection Status[1]	Status and Distribution in Hong Kong[2]	PS		SA		
			Previous Studies	Current Survey[3]	Previous Studies		Current Survey[3]
					NTMDC	Other Areas	
Purple Heron *Ardea purpurea*	RC	Uncommon passage migrant. Found in Deep Bay area.				✓	
Great Egret *Ardea alba*	PRC (RC)	Common resident and winter visitor. Widely distributed in Hong Kong.			✓	✓	NTMDC
Intermediate Egret *Egretta intermedia*	RC	Common passage migrant. Found in Deep Bay area, Tai Long Wan, Tai O, Cape D'Aguilar.			✓		
Little Egret *Egretta garzetta*	PRC (RC)	Common resident. Widely distributed in coastal area throughout Hong Kong.		GS	✓	✓	NTMDC
Great Cormorant *Phalacrocorax carbo*	PRC	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.			✓	✓	
Black-winged Kite *Elanus caeruleus*	LC	Occasional visitor. Found in Ha Tsuen, Deep Bay area.				✓	
Black-winged Stilt *Himantopus himantopus*	RC	Common passage migrant. Found in Deep Bay area, Long Valley, Kam Tin.			✓		
Pied Avocet *Recurvirostra avosetta*	RC	Abundant winter visitor. Found in Deep Bay area.			✓		
Long-toed Stint *Calidris subminuta*	LC	Uncommon passage migrant. Found in Long Valley, Ma Tso Lung, Tsim Bei Tsui, Kam Tin, Pui O, Shuen Wan.				✓	
Red-necked Stint *Calidris ruficollis*	LC	Abundant spring passage migrant. Found in Deep Bay area.				✓	
Greater Painted-snipe *Rostratula benghalensis*	LC	Passage migrant and winter visitor. Found in Ha Tsuen, Lok Ma Chau, Kam Tin, Long Valley, Hong Kong Wetland Park.				✓	
Pintail/ Swinhoe's Snipe *Callinago stenura/ G. megala*	LC for Swinhoe's Snipe	Pintail Snipe: Common passage migrant. Found in Long Valley, Ha Tsuen. Swinhoe's Snipe: Uncommon passage migrant. Found in Long Valley.	✓			✓	
Common Redshank *Tringa totanus*	RC	Common passage migrant. Found in Deep Bay area.			✓	✓	

Species	Conservation and Protection Status[1]	Status and Distribution in Hong Kong[2]	PS		SA		
			Previous Studies	Current Survey[3]	Previous Studies		Current Survey[3]
					NTMDC	Other Areas	
Marsh Sandpiper *Tringa stagnatilis*	RC	Common winter visitor and passage migrant. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Sai Kung.			✓		
Wood Sandpiper *Tringa glareola*	LC	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong	✓		✓	✓	
Spotted Redshank *Tringa erythropus*	RC	Abundant in winter and spring. Found in Deep Bay area.			✓		
Common Greenshank *Tringa nebularia*	RC	Abundant passage migrant and winter visitor. Found in Deep Bay area.			✓		PO
Greater Coucal *Centropus sinensis*	RLCV(UV)	Common resident. Widely distributed in Hong Kong.	✓			✓	GS
Collared Crow *Corvus torquatus*	LC; IUCN(NT)	Uncommon resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Lam Tsuen.			✓	✓	NTMDC
Zitting Cisticola *Cisticola juncidis*	LC	Common passage migrant and winter visitor. Widely distributed in grassland throughout Hong Kong.	✓			✓	
Golden-headed Cisticola *Cisticola exilis*	LC	Scarce winter visitor. Widely distributed in grassland throughout Hong Kong.				✓	
Red-billed Starling *Spodiopsar sericeus*	GC	Common winter visitor. Widely distributed in Hong Kong	✓			✓	
White-cheeked Starling *Spodiopsar cineraceus*	PRC	Common winter visitor. Found in Deep Bay area, Kam Tin, Long Valley.				✓	
Daurian Starling *Agropsar sturninus*	LC	Scarce passage migrant. Found in Mai Po, Long Valley, Kam Tin, Lam Tsuen, Tolo Harbour area, Kowloon Park, Mui Wo, etc.				✓	
Pallas's Grasshopper Warbler *Locustella certhiola*	LC	Common autumn passage migrant. Found in wetland areas throughout Hong Kong.				✓	

Species	Conservation and Protection Status[1]	Status and Distribution in Hong Kong[2]	PS		SA		
			Previous Studies	Current Survey[3]	Previous Studies		Current Survey[3]
					NTMDC	Other Areas	
Red-throated Pipit *Anthus cervinus*	LC	Common passage migrant and winter visitor. Widely distributed in dry agricultural areas throughout Hong Kong.				✓	
Chinese Grosbeak *Eophona migratoria*	LC	Uncommon winter visitor. Found in Kam Tin, Nam Chung, Shek Kong, Deep Bay area. Ho Chung, Lam Tsuen, Kowloon Park.				✓	
Reptiles							
Chinese Cobra *Naja atra*	PRC; IUCN(VU)	Common and widely distributed in Hong Kong.	✓				
Butterflies							
Danaid Eggfly *Hypolimnas misippus*	LC	Uncommon				✓	
Swallowtail *Papilio xuthus*	-	Rare				✓	
Plain Hedge Blue *Celastrina lavendularis*	LC	Very Rare				✓	
Dragonflies							
Ruby Darter *Rhodothemis rufa*	LC	Widely distributed in ponds and marshes with dense floating plants.				✓	
Scarlet Basker *Urothemis signata signata*	LC	Common in areas with abandoned fishponds throughout Hong Kong.				✓	
Coastal Glider *Macrodiplax cora*	LC	Frequents marshes and ponds with dense vegetation, especially adjacent to coastal areas				✓	

Notes:

1. Conservation and protection status refers to:
   a. Fellowes *et al.* (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
   b. Red List of China's Vertebrates (RLCV) (Jiang *et al.* 2016): VU=Vulnerable.
   c. Cap. 170 = Wild Animals Protection Ordinance. All wild bats and birds in Hong Kong are protected under Cap. 170.
2. Status in Hong Kong follows AFCD's Hong Kong biodiversity Information Hub. (available at: HKBIH - Species Database)
3. Habitats: GS = Grassland/ Shrubland, RE = Reed, SWG = Seasoanlly Wet Grassland, WC = Watercourse, DA = Developed Area, WG = Waste Ground, PO = Pond, GR = Grassland, PL = Plantation, MA = Marsh, AL = Agricultural Land, and DC = Drainage Channel.

Appendix 5.1

Operational Phase Noise Mitigation Measures Extracted from the Approved EIA (AEIAR-182/2014)

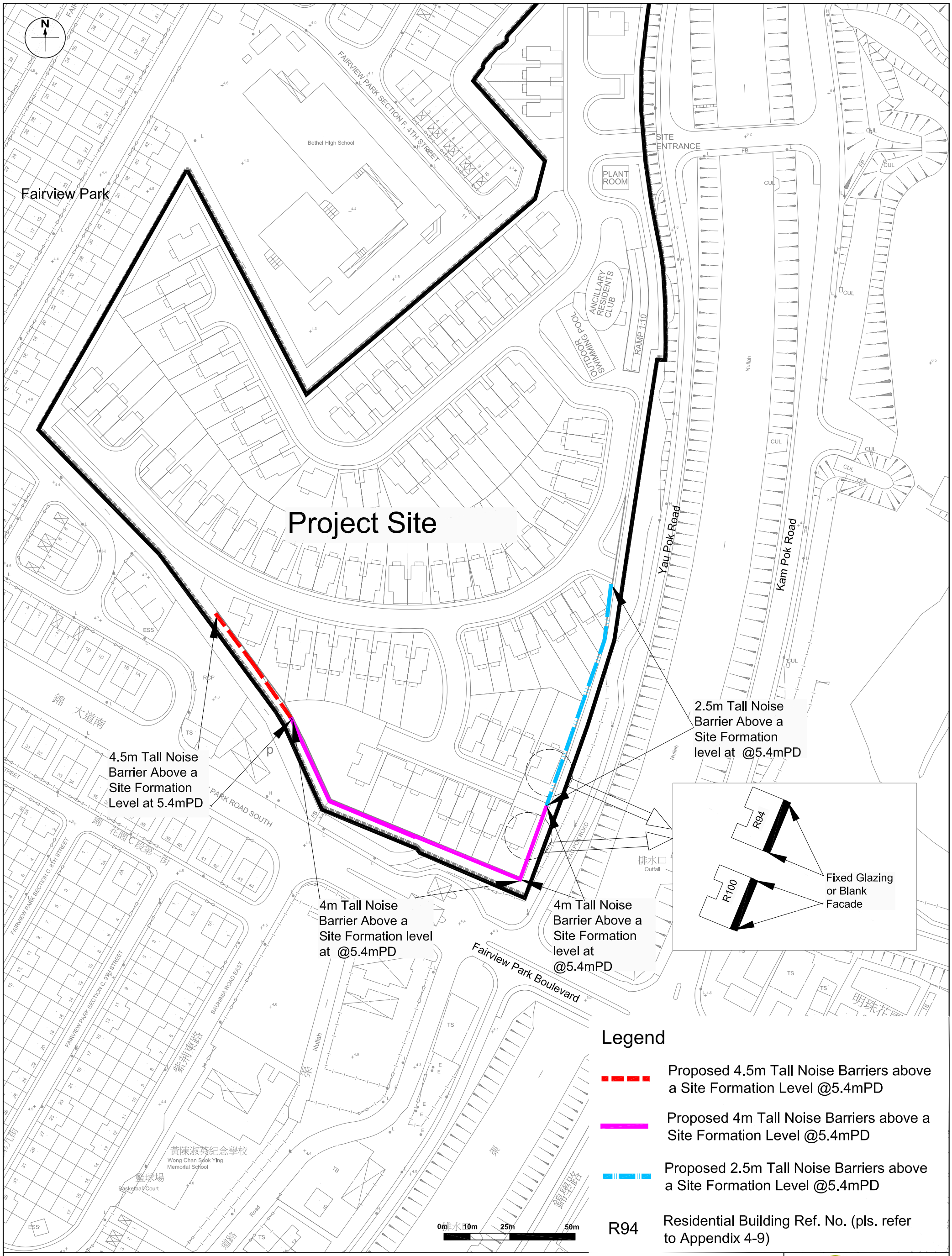


Figure: 4-7	ENVIRON
Title: Summary of Proposed Noise Mitigation Meausres at the time of Operation of this Project	Drawn by: HN Checked by: TC
Project: EIA for Proposed Residential and Passive Recreation Development within "Recreation" (REC) Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T.	Rev.: 1.5 Date: Oct., 2013

Appendix 5.2

Reviewed Aerial Photos

Aerial Photograph 2016
航攝照片2016

Aerial Photograph 2018
航攝照片2018

Aerial Photograph 2020
航攝照片2020

Aerial Photograph 2022
航攝照片2022

LEGEND 圖例:

Project Site 項目地點

Rev.	Date	Description	By	Chk'd	App'd

Drawing Status: -

Suitability: -

ATKINS
Member of the SNC-Lavalin Group

Client

建築署
Architectural Services Department

Project Title

LIGHT PUBLIC HOUSING AT
YAU POK ROAD, YUEN LONG
元朗攸壆路簡約公屋

Drawing Title

Reviewed Aerial Photos
已檢閱的航攝照片

Scale	Designed	Drawn	Checked	Authorised
Original Size A3	HP	HP	VL	WW
	Date MAR 2023	Date MAR 2023	Date MAR 2023	Date MAR 2023

Drawing Number: Appendix 5.2
附錄 5.2

Revision: A

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