To Amend the Notes of the “Comprehensive Development to include Wetland Restoration Area” Zone for a Proposed Comprehensive Development at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Ecological Impact Assessment

Profit Point Enterprises Limited

Revision: 0

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Contents

Tables

Figures

Appendices

1 INTRODUCTION

1.1 Background

1.1.1 This application is made under section 12A of the Town Planning Ordinance, to rezone the Application Site on the approved Mai Po and Fairview Park Outline Zoning Plan ("OZP") No. S/YL-MP/8. The rezoning application aims to increase the plot ratio ("PR") from 0.4 (i.e. maximum permissible PR on the OZP) to 1.3, with a maximum building height ("BH") adjusted to not more than 10-storeys and not exceeding +42mPD by amending the Notes of the current "Other Specified Uses (Comprehensive Development to include Wetland Restoration Area)" ("OU(CDWRA)") zone.

1.1.2 The Applicant, Profit Point Enterprises Limited, proposes to increase the development intensity, and revise the layout and form of the housing developments in the Application Site, in response to the drastic changes in the development site context and planning circumstances of the area.

1.1.3 The Application Site is located at Wo Shang Wai, Yuen Long. It is generally bounded by Castle Peak Road – Mai Po and San Tin Highway to the east, fishponds to the north, residential developments, namely Royal Palms and Palm Springs to the south, and Wo Shang Wai Village to the southeast.

1.1.4 The EcoIA presented here in support of the S.12A planning application of a revised residential scheme is based on the findings of ecological surveys conducted between April 2024 – March 2025, together with review of 12-months EM&A reports (December 2023 – November 2024). The assessment is derived from the results of literature review and ecological surveys conducted within the Application Site and within 500m of its boundary.

1.2 Key Relevant Amendment under Current Application

1.2.1 No changes are proposed at the implemented WRA and at the interface (boundary) between the residential portion and the WRA.

1.2.2 Proposed changes in layout of the internal road, landscaping, community facilities and are not anticipated to have any impact on the WRA and the wetlands in the Wetland Conservation Area (WCA), as these are all at the ground level and will be screened off with the perimeter wall and buffer planting.

1.2.3 Key amendments in the proposed Master Layout Plan (MLP) which might have potential implication to the findings of the approved Ecological Impact Assessment (EIA) mainly involve those proposed at the houses immediately facing the WRA and the stepped building design. These comprise:

- Detached/semi-detached houses abutting the WRA increase from 2-storey (+16.80mPD) to 3-storey (+21mPD)
- From 3-storey houses in the residential portion, to stepped design of 6 to 8-storeys just outside 50m setback from the WRA boundary, then to 8 to mainly 10-storeys (+35mPD to +42mPD) in the central and southern locations of the site, and mainly 6-storeys buildings (+28mPD) along the southern site boundary that are closest to the surrounding residential developments
- Increase in Estimated Total Population, from 2210 to 9998

2 LEGISLATION AND STANDARDS

2.1.1 Environmental legislation, guidelines, standards and references listed below have been referred during the preparation of this EcoIA.

- Environmental Impact Assessment Ordinance (EIAO) (Cap. 499)
- Country Parks Ordinance (Cap. 208)
- Forests and Countryside Ordinance (Cap. 96)
- Wild Animals Protection Ordinance (Cap. 170)
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)
- Town Planning Ordinance (Cap. 131)
- EIAO Technical Memorandum (EIAO-TM) Annex 8 – Criteria for Evaluating Ecological Impact
- EIAO-TM Annex 16 – Guidelines for Ecological Assessment
- EIAO Guidance Note (GN) No.3 – Flexibility and Enforceability of Mitigation Measures Proposed in an Environmental Impact Assessment Report (GN 3/2010)
- EIAO GN 6/2010 – Some Observations on Ecological Assessment from the Environmental Impact Assessment Ordinance Perspective
- EIAO GN 7/2023 – Ecological Baseline Survey for Ecological Assessment
- EIAO GN 10/2023 – Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys
- The International Union for Conservation of Nature (IUCN) Red List of Threatened Species.

3 BASELINE CONDITIONS

3.1 Application Site and Assessment Area

3.1.1 The Assessment Area (AA) for this EcoIA includes all areas within 500m distance from the boundary of the Application Site. The Application in this assessment refers to the area within the Site Boundary, whereas AA refers to the area within the 500m radius but excluding the Application Site.

3.1.2 Currently, the Application Site comprises mainly the completed Wetland Restoration Area (WRA) under approved EIA (AEIAR-120/2008) and the residential component where site formation works have been in progress. The residential portion includes paved haul road, regularly managed grassy with unwanted plant species (mainly *Leucaena leucocephala)*, temporary internal drainage channel, with retained trees scattered within the site.

3.2 Recognized Sites of Conservation Importance

Mai Po Inner Deep Bay Ramsar Site

3.2.1 The Mai Po Inner Deep Bay Ramsar Site is of particular significance for migratory waterbirds including a number of globally threatened species and was recognized as such in 1995 through the designation as a Ramsar Site. The core area of the Ramsar Site comprises Mai Po Nature Reserve and much of the intertidal mudflats, which are protected further by being included in the Mai Po Marshes and Inner Deep Bay Sites of Special Scientific Interest (SSSIs). The Ramsar Site lie to the west about 70-80m from the closest point of the implemented WRA (**Figure 1**) and it is separated from the Application Site by Palm Springs. The nearest 10-storey within the Application Site will be approximately 360m away from the Ramsar Site.

Wetland Conservation Area (WCA)

3.2.2 Wetlands mainly the fishponds continuous and adjoining to the Deep Bay Area are designated under TPB PG-No.12C, as the Wetland Conservation Area (WCA) with the planning intention of protecting the integrity of the Deep Bay wetland ecosystem. Any development within the WCA should comply with the principle of “No-Net-Loss in Wetland”. New development within the WCA would not be allowed unless it is required to support the conservation of the ecological value of the area or the development is an essential infrastructural project with overriding public interest. Any such development should be supported by an ecological impact assessment to demonstrate that the development would not result in a net loss in wetland function and negative disturbance impact. The Application Site is not within the WCA and only abuts the WCA.

Wetland Buffer Area (WBA)

3.2.3 The Wetland Buffer Area (WBA) is also designated under TPB PG-No. 12C to include a buffer of about 500m on the landward side of the WCA. Developments within the WBA are required to demonstrate that ecological impacts on the WCA will be minimized and any negative ecological impacts will be fully mitigated through positive measures. “No-net-loss in wetland” principle also applies to WBA. Residential developments which seek to replace existing open storage areas and/or include pond restoration projects may be given sympathetic consideration by the Board subject to satisfactory ecological and other impact assessments. The Application Site lies within the WBA.

Site of Special Scientific Interest (SSSI)

3.2.4 The Mai Po Village SSSI contains 5.3 ha of fung shui woodland located to the east of Mai Po Village. This site was designated an SSSI in 1979 on the basis of an egretry containing several hundred pairs of Little Egret, Cattle Egret and Chinese Pond Heron. Egrets no longer breed within the boundaries of the SSSI. The Mai Po Village Egretry in recent years has been recorded opposite to this SSSI, at the intercept of Tam Kon Chau Road and Castle Peak Road.

Egretries

3.2.5 Two active egretries lie within potential foraging distance of breeding egrets (Young 1993), including Mai Po Village egretry (approximately 620m from the Application Site) and Mai Po Lung egretry (approximately 1.3km from the Application Site).

Sam Po Shue Wetland Conservation Park (SPS WCP)

3.2.6 SPS WCP is located north of the Application Site and falls within 500m AA. SPS WCP is first Park to be developed under the WCPs System proposed under the Northern Metropolis Development Strategy. The Park shall be approximately 338ha, covering fishponds and wetlands in the Lok Ma Chau, SPS and Mai Po areas. The SPS WCP shall serve multiple functions: 1) enhance the ecological quality and biodiversity of the Northern Metropolis; 2) compensate for ecological and fisheries impacts arising from development of San Tin Technopole, to achieve no-net-loss in ecological function; 3) provide quality outdoor eco-education and recreation facilities for public enjoyment; and 4) introduce ecologically friendly and modernized aquaculture in the Park. The Park will be developed in phases, with development of Phase 1 of the park to commence in 2026/27 the earliest for completion in 2031. The development of the entire park is scheduled for completion by 2039 to align with the estimated time for full operation of San Tin Technopole.

4 Literature Review

4.1 Approved Environmental Impact Assessment Report (AEIAR-120/2008)

4.1.1 The WRA was proposed in AEIAR-120/2008 as mitigation to compensate for the loss of wetland habitats in accordance with "No-net-loss in Wetland" principle under Town Planning Board Guideline 12B (TPB PG-No. 12B). Implementation of the WRA followed the approved Wetland Restoration and Creation Scheme (WRCS). The wetland area was consolidated into a single unit and located immediately adjacent to the Wetland Conservation Area (WCA), which reduced fragmentation of wetland habitat and maximised ecological connectivity with existing wetland habitats in the WCA. The WRA also serves to buffer the WCA from potential impacts created by the residential component of the Project.

Table 1 Total Number of Species and Number of Species of Conservation Importance recorded within the Project Area (April 2005 – June 2006)

No. of Species / Fauna Group	Mammals	Birds*	Amphibians	Reptiles	Butterflies	Odonates
Number of Species of Conservation Importance	2^	14 (19)	0	0	1	1
Total Number of Species recorded	5	49	5	1#	21	18

Notes: The Project Area included the residential component and the WRA.

* Number in parentheses indicates the number of wetland-dependent or wetland-associated species

Considered to be escaped individual

^ Not considered as species of conservation importance in AEIAR-120/2008

Mammals

4.1.2 A total of five mammal species were recorded within the Project Area. One bat species, Japanese Pipistrelle, which is considered to be Very Common (AFCD 2020) in Hong Kong, was recorded during night-time surveys. All bat species are protected in Hong Kong under Cap. 170; however, no bat roosts were present within the Project Area. Four small mammal species were recorded by trapping; Musk Shrew, House Mouse, Ryukyu Mouse and Brown Rat. These are common and widespread in Hong Kong, especially in anthropogenic habitats except for Ryukyu Mouse, which is assessed as Rare (AFCD 2020) due to restricted distribution in Hong Kong but has been recorded nearby from Mai Po Nature Reserve. None of them were considered as species of conservation importance in AEIAR-120/2008, based on the low occurrence and low number of individuals recorded.

Birds

4.1.3 A total of 49 bird species were recorded within the Project Area. Of these, 14 species are of conservation importance: Black-crowned Night Heron (0.2 mean per survey; 4 = maximum number recorded), Chinese Pond Heron (1.3; 4), Eastern Cattle Egret (1.3; 14), Grey Heron (0.1; 2), Great Egret (Y = species recorded outside the transect surveys), Little Egret (5.5; 48), Great Cormorant (0.5; 5), Black Kite (1.2; 5), Little Ringed Plover (0.1; 1), Oriental Pratincole (Y), Pacific Swift (Y), Zitting Cisticola (0.1; 1), Red-billed Starling (0.9; 15) and White-shouldered Starling (0.1; 2). Black-crowned Night Heron, Chinese Pond Heron, Eastern Cattle Egret, Great Egret and Little Egret are common in Hong Kong, with winter, migrant and breeding populations (HKBWS 2021). Grey Heron is common mainly in the Deep Bay area, with highest numbers in winter. Great Cormorant is an abundant winter visitor, mainly in the Deep Bay area. Black Kite is common and widespread in Hong Kong, with increased numbers in winter. Little Ringed Plover is common and present all year in lowland areas near water. Oriental Pratincole is a passage migrant, common in spring and uncommon in autumn, to lowland areas of New Territories. Pacific Swift is uncommon spring passage migrant and summer visitor. Zitting Cisticola is common passage migrant and winter visitor to grassy and reedmarsh areas. Red-billed Starling is an abundant winter visitor to open-country areas, mainly in the northwest New Territories. White-shouldered

Starling is a locally common passage migrant and breeding species, and uncommon winter visitor to open-country and village edge habitats mainly in the northwest New Territories.

Herpetofauna

4.1.4 Five amphibian species were recorded within the Project Area; Asian Common Toad, Ornate Pigmy Frog, Paddy Frog, Günther's Frog and Brown Tree Frog. All are common and widespread in Hong Kong. None are species of conservation importance.

4.1.5 One reptile was recorded within the Project Area, Chinese Striped Terrapin which is not considered to be native to Hong Kong and was therefore considered to be an escape.

Butterflies

4.1.6 A total of 21 butterfly species were recorded within the Project Area. All are Common in Hong Kong (AFCD 2020), except Common Jay, Yellow Orange Tip and Danaid Egg-fly which are Uncommon. Only Danaid Egg-fly is of Local Concern (Fellowes *et al.* 2002).

Odonates

4.1.7 A total of 18 odonate species were recorded within the Project Area. All are common and widespread species in Hong Kong (AFCD 2020). Only Scarlet Basker is of Local Concern (Fellowes *et al.* 2002).

4.2 Recent 12-months EM&A Reports (December 2023 – November 2024) – Ecology

4.2.1 Mott MacDonald Hong Kong Ltd. ("MMHK") has been commissioned to conduct Environmental Monitoring and Audit (EM&A) for both pre-construction and construction phases of the Proposed Comprehensive Development. A summary of EM&A requirements for ecology is presented in **Table 2** below.

Table 2 Summary of EM&A Requirements – Ecology

Parameters	Locations	Frequencies
Birds	Within the Project Area and Assessment Area of 500m	Weekly
Dragonflies & Butterflies	Within the Project Area and Assessment Area of 500m	Once per month (Mar, Sep-Nov); Twice per month (Apr-Aug)
Herpetofauna	Within the Project Area and Assessment Area of 500m	Daytime: Once per month (Apr-Nov); Night-time: Once per month (Mar-Aug)
Water quality of WRA	WRA	In situ: Monthly Laboratory Testing: Every six months (end of wet season and end of dry season)
Site Inspection	Within the Project Area and Assessment Area of 500m	Weekly

4.2.2 The EM&A monitoring findings indicated that the WRA, has induced ecological gain within the Project Area). The total number of mammals, birds, amphibians, reptiles, butterflies and odonates species and those of conservation importance recorded within Assessment Area (excluding Application Site) and WRA, for the 12 months between December 2023 to November 2024 are summarised in **Table 3** and **Table 4** respectively below. Comparing **Table 4** with **Table 1**, all fauna group have been recorded increase in total number of species and species of conservation importance, utilising the WRA; except mammal, which is less detectable due to the low occurrence and the trapping conducted in EIA study is not required for the EM&A monitoring. Comparing **Table 4** with **Table 3**, higher number of species in herpetofauna, butterflies and odonates have been recorded within the WRA managed for wildlife, than the fishpond areas.

Table 3 Total Number of Species and Number of Species of Conservation Importance recorded within Study Area (excluding Application Site) between December 2023 – November 2024

Fauna Group	Species of Conservation Importance	Total no. of species recorded
Mammals	1	1
Birds*	31 (40)	80
Amphibians	0	3
Reptiles	0	2
Butterflies	1	14
Odonates	0	18

* Number in parentheses indicates the number of species of conservation importance and/or wetland-dependent.

Table 4 Total Number of Species and Number of Species of Conservation Importance recorded within WRA between December 2023 – November 2024

Fauna Group	Species of Conservation Importance	Total no. of species recorded
Mammals	3	4
Birds*	28 (36)	75
Amphibians	1	7
Reptiles	3	6
Butterflies	3	26
Odonates	1	31

* Number in parentheses indicates the number of species of conservation importance and/or wetland-dependent.

4.2.3 Three target species, Chinese Pond Heron, Eastern Cattle Egret and Little Egret, have been monitored monthly. Mean number and occurrence of the target species within WRA recorded between December 2023 – November 2024, are summarized in **Table 5** below. Except Chinese Pond Heron, other two target species have been recorded in lower number than the baseline value. However, the baseline information (April 2005 – June 2006) in the approved EIA has been twenty years ago. The target levels should be reviewed and agreed with EPD and AFCD, in the corresponding EP submission.

Table 5 Monthly Mean Number and Occurrence of Target Species recorded within WRA between December 2023 – November 2024

Species	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Annual Mean
Chinese Pond Heron	1.8 (3)	1.4 (4)	2.8 (3)	1.3 (3)	1.6 (5)	1.0 (3)	1.5 (4)	2.0 (4)	3.0 (4)	2.0 (4)	3.4 (5)	1.8 (4)	2.0
Eastern Cattle Egret	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.3 (1)	0.2 (1)	0 (0)	<0.1
Little Egret	1.0 (3)	2.0 (5)	2.3 (4)	0.8 (2)	2.2 (5)	1.5 (4)	1.3 (4)	1.2 (4)	1.3 (2)	1.0 (3)	1.4 (4)	1.0 (4)	1.4

* Number in parentheses indicates the occurrence, i.e. the number of surveys recorded within the reporting month.

4.3 Recent 12-months bi-annual EM&A Reports (November 2023 – April 2024 and May 2024 – October 2024) – Ecology

4.3.1 Mott MacDonald Hong Kong Ltd. (“MMHK”) has been commissioned undertake the Environmental Team (ET) services to carry out Environmental Monitoring and Audit (EM&A) for both pre-construction and construction phases of the Proposed Comprehensive Development. According to the EP Condition 4.6, the EM&A results on ecological aspects during the construction phase should be reported to the EIA Subcommittee of the Advisory Council on the Environment (ACE), EPD and Agriculture, Fisheries and Conservation Department (AFCD) on a biannual basis.

4.3.2 The two bi-annual EM&A reports documented surveys and management conducted in the Survey Area and WRA from 1 November 2023 to 30 April 2024 and from 1 May 2024 to 31 October 2024 respectively, which were based on ecological surveys and advice on management undertaken and provided by the appointed Non-Government Organisation (Eco-Institute) during the reporting periods.

4.3.3 The total number of mammals, birds, amphibians, reptiles, butterflies and odonates species and those bird species of conservation importance recorded within Assessment Area (excluding Application Site) and WRA, for the 12 months between November 2023 to October 2024 are summarised in **Table 6** and **Table 7** respectively below.

Table 6 Total Number of Species recorded within Survey Area (excluding WRA) and WRA between November 2023 – April 2024

Fauna Group	Survey Area (excluding WRA)	WRA
Mammals	1	4 (3)
Birds*	68 (35)	69 (28)
Amphibians	2	3
Reptiles	1	2
Butterflies	9	21 (1)
Odonates	10	18

* Number in parentheses indicates the number of species of conservation importance and/or wetland-dependent.

Table 7 Total Number of Species recorded within Survey Area (excluding WRA) and WRA between May 2024 – October 2024

Fauna Group	Survey Area (excluding WRA)	WRA
Mammals	1	1 (1)
Birds*	58 (28)	57 (27)
Amphibians	3	7
Reptiles	2	6
Butterflies	16	26
Odonates	13	26 (3)

* Number in parentheses indicates the number of species of conservation importance and/or wetland-dependent.

5 Ecological Surveys

5.1.1 12-month ecological surveys conducted are summarised in the table below. Survey transects and flightline vantage points are presented in **Figure 2**.

Table 8 Ecological Survey Programme

Survey Group	2024									2025		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Habitat and Flora		✓						✓				
Bird Transect Survey	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
Flightline Survey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mammal	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*	✓*
Herpetofauna	✓*	✓*	✓*	✓*	✓*	✓*	✓*					✓*
Odonates and Butterflies	✓	✓	✓	✓	✓	✓	✓	✓				✓
Aquatic Fauna	✓*		✓*		✓*		✓*					
Fireflies (Night-time)	✓	✓	✓			✓	✓	✓	✓			
* Both daytime and night-time surveys have been conducted.												

Habitat and Flora

5.1.2 Habitat within the Application Site and Assessment Area was preliminarily identified by reference to recent aerial photographs and confirmed the existing habitat types by ground-truthing.

5.1.3 Floral survey was conducted once in wet season and once in dry season during the survey period. General characteristics of the floral community present in each habitat were noted for use in habitat descriptions.

Bird Transect Survey

5.1.4 Bird transect surveys were conducted monthly within the Application Site and Assessment Area. The surveys started during the early morning, at the period of peak bird activity, and all birds seen or heard were recorded. Night-time surveys were conducted in parallel with herpetofauna surveys, started shortly after sunset (i.e. dusk).

Wet Season Flightline Survey

5.1.5 Wet season flightline surveys were conducted monthly between April 2024 and October 2024. A vantage point (see **Figure 2**) was located at the middle of the Application Site, where is slightly elevated, allowing overview of fishponds to the north. Another vantage point was located near the Mai Po Village Egretry, at the Tam Kon Chau Road.

5.1.6 The species, number of individuals, location of flightlines, time of observation and (relative) height above ground were recorded. Surveys commenced 15 minutes before sunrise to cover the period of maximum egret activity and lasted for two hours. Flightlines were marked onto a map.

Dry Season Flightline Survey

5.1.7 Dry season flightline surveys were conducted monthly between November 2024 and March 2025. A vantage point (see **Figure 2**) was located at the middle of the Application Site, where is slightly elevated, allowing overview of fishponds to the north. Another vantage point was located near the Mai Po Village Egretry, at the Tam Kon Chau Road.

5.1.8 The species, number of individuals, location of flightlines, time of observation and (relative) height above ground were recorded. Surveys commenced 15 minutes before sunrise to cover the period of maximum egret activity and lasted for two hours. Flightlines were marked onto a map.

Mammals

5.1.9 Monthly transect surveys were conducted along with herpetofauna daytime and night-time surveys. In addition to any observations of mammals, evidence of mammal activity (footprints, scats, burrows or food remains) was searched at suitable locations. Night-time survey started shortly after sunset (i.e. dusk) and hand-held bat detector was used.

Herpetofauna

5.1.10 Herpetofauna surveys were conducted monthly between April and October 2024 both during the day and at night. The transects followed were the same as for terrestrial fauna survey. During the surveys all individuals seen foraging or basking in the open were recorded and appropriate microhabitats and potential refugia were inspected for more cryptic species. Hand or head torches were used as necessary during night-time surveys. Amphibians were also recorded by identification of advertising calls.

Odonates and Butterflies

5.1.11 Odonates and Butterflies surveys were conducted monthly between April and November 2024 and March 2025 along the same transect, with species mainly detected by direct observation. All species observed were identified to species level and quantified.

Aquatic fauna

5.1.12 Aquatic fauna surveys were conducted within the Application Site twice (one in daytime and one in night-time) every two months between April 2024 and November 2024. Aquatic fauna was identified by direct observation and active searching by nets as appropriate. Any nocturnal species found during night-time surveys were recorded.

Fireflies

5.1.13 Firefly surveys were conducted monthly from April to June 2024 and September to December 2024, following the survey transect for terrestrial fauna. The night-time surveys started shortly after sunset (i.e. dusk), covering the active periods of crepuscular and nocturnal species. During the surveys, any adult firefly observed were identified to the species level, where possible.

6 SURVEY FINDINGS

6.1 Habitats and Vegetation

6.1.1 The Application Site was categorized into five habitat types, grassland, bare ground, drainage channel and seasonal marsh within the development site, and mitigation wetland (i.e. the completed WRA), which have been modified and are under regular management. The Assessment Area was categorized into eleven habitat types, including agricultural land, drainage channel/ditch, fishpond, pond/open water, reedbed, marsh, *Leucaena* woodland, secondary woodland, plantation, managed grassland, developed area. Habitat map is presented in **Figure 3**. No flora species of conservation importance was recorded in the Application Site and 500m Assessment Area.

Table 9 Area of habitats in the Application Site and 500m Assessment Area

Habitat	Application Site (including the completed WRA)	500m Assessment Area (excluding the Application Site)
Mitigation Wetland	4.74	-
Fishpond	-	59.83
Pond/Open Water	-	4.67
Marsh	-	1.22
Seasonal Marsh	0.86	-
Drainage Channel/Ditch	0.19	4.24
Reedbed	-	10.84
Agricultural Land	-	0.20
Managed Grassland	-	0.59
Leucaena Woodland	-	2.24
Grassland	6.89	-
Secondary Woodland	-	0.77
Plantation	-	7.61
Bare Ground	8.06	-
Developed Area	-	90.11
Total	**20.74**	**182.32**

6.2 Faunal Survey Findings

Bird Transect Survey

6.2.1 Total of 77 bird species have been recorded within the Assessment Area (excluding the Application Site); 35 of these are species of conservation importance.

6.2.2 Total of 42 bird species have been recorded within the Application Site (including the WRA), 13 of these are species of conservation importance.

Wet Season Flightline Survey

6.2.3 Across the seven surveys in the wet season, a total of 1041 individuals of six species (Chinese Pond Heron, Eastern Cattle Egret, Grey Heron, Great Egret, Little Egret and Great Cormorant) were recorded within a total of 14 survey hours. These were subsequently ascribed to individual flightlines over or near the Application Site. The flight paths that were used by very small proportion of the birds were not considered to be significant and were excluded from further analysis.

6.2.4 9 flightlines were identified from the analysis (see **Figure 4**). Only one flightline (Flightlines No. 5) was defined as major flightlines (defined here as being used by over 15% of total individuals). The other 6 flightlines were defined as minor flightlines. Flightlines No.5, located to the west of the Application Site, had the highest usage with 400 individual birds (38.42% of total individuals).

Table 10 Summary of wet season flightline data showing number of birds using individual flightlines

Flightline No.	Total no. of Birds	Mean no. of birds per survey hour	%	Mean no. of birds by species per survey hour #					
				CPH	CE	GH	GE	LE	GC
1	155	11.07	14.89	2.36	0.29	0.07	2.71	5.64	
2	123	8.79	11.82	2.50	0.21	0.07	0.14	5.50	0.36
3	105	7.50	10.09	0.64	0.29	0.07	0.57	2.21	3.71
4	63	4.50	6.05	0.29			0.07	0.57	3.57
5*	400	28.57	38.42			0.07	3.36	0.07	25.07
6	65	4.64	6.24	0.36			1.93	1.86	0.50
7	34	2.43	3.27	0.07		0.07	0.64	1.36	0.29
8	19	1.36	1.83	0.57			0.71	0.07	
9	77	5.5	7.40	0.79		0.07	0.14	0.93	3.57
Grand Total	**1041**	**74.36**	**100%**	**7.57**	**0.79**	**0.43**	**10.29**	**18.21**	**37.07**

Notes:
(1) * Indicates the major flightlines.
(2) # CPH = Chinese Pond Heron; CE = Eastern Cattle Egret; GH = Grey Heron; GE = Great Egret; LE = Little Egret; GC = Great Cormorant.

Table 11 Summary of wet season flightline data showing number and percentage of birds using individual flightlines in each height category

Flightline No.	Relative Height						Grand Total	Overall % (Flightline usage)
	0 – 1X	≥1-2X	≥2-3X	≥3-4X	≥4-5X	≥5-6X		
	Approximate Height							
	0-10m	≥10-20m	≥20-30m	≥30-40m	≥40-50m	≥50-60m		
1		71	65	13	6		155	14.89%
2		65	34	17	7		123	11.82%
3		16	36	47	3	3	105	10.09%
4		1	3	54	5		63	6.05%
5*		14	295	91			400	38.42%
6		30	32	3			65	6.24%
7		14	12	5	1	2	34	3.27%
8		7	2	10			19	1.83%
9		7	68	1	1		77	7.40%
Grand Total		**225**	**547**	**241**	**10**	**23**	**1041**	**100.00%**
Overall % (Height)	**0.00%**	**21.61%**	**52.55%**	**23.15%**	**2.21%**	**0.48%**	**100.00%**	**N/A**

Notes:
(1) * indicates the major flightlines.
(2) Relative Height 1X = 10m temporary noise barrier along the perimeter of Application Site.

6.2.5 Major flightlines comprised birds travelled across wetland habitats adjacent to but outside the Application Site. Flightline No.3 was the only minor flightline across the residential portion of the Application Site (see **Figure 4**). Only approximately 7 bird individuals per survey hour were recorded utilizing the Flightline No. 3 at height of 40m or below. The number of potentially impacted individuals are anticipated to be insignificant as the surveys have been conducted during the peak activity of the day.

Dry Season Flightline Survey

6.2.6 Across the five surveys in the dry season, a total of 1870 individuals of six species (Black-faced Spoonbill, Chinese Pond Heron, Grey Heron, Great Egret, Little Egret and Great Cormorant) were recorded within a total of 10 survey hours. These were subsequently ascribed to individual flightlines over or near the Application Site. The flight paths that were used by very small

proportion of the birds were not considered to be significant and were excluded from further analysis.

6.2.7 Seven flightlines were identified from the analysis (see **Figure 5**). Two flightline (Flightline No. 1 and 4) were defined as major flightline (defined here as being used by over 15% of total individuals). The other 5 flightlines were defined as minor flightlines. Flightline No.4 located to the north of the Application Site, had the highest usage with 1012 individual birds (54.12% of total individuals).

Table 12 Summary of dry season flightline data showing number of birds using individual flightlines

Flightline No.	Total no. of Birds	Mean no. of birds per survey hour	%	Mean no. of birds by species per survey hour #					
				BFS	CPH	GH	GE	LE	GC
1*	288	28.8	15.40%	0.4	0.4	0.4	2.4	1.2	24
2	183	18.3	9.79%		0.5		0.4	1.1	16.3
3	66	6.6	3.53%		0.2		0.2	0.6	5.6
4*	1012	101.2	54.12%	0.3	0.7	0.6	7.4	8.8	83.4
5	65	6.5	3.48%				0.5	2.3	3.7
6	103	10.3	5.51%				0.9	0.5	8.9
7	153	15.3	8.18%	1.8	0.5	0.2	0.9	1.6	10.3
Grand Total	**1870**	**187**	**100.00%**	**2.5**	**2.3**	**1.2**	**12.7**	**16.1**	**152.2**

Notes:
(1) * Indicates the major flightlines.
(2) # BFS = Black-faced Spoonbill; CPH = Chinese Pond Heron; GH = Grey Heron; GE = Great Egret; LE = Little Egret; GC = Great Cormorant.

Table 13 Summary of dry season flightline data showing number and percentage of birds using individual flightlines in each height category

Flightline No.	Relative Height						Grand Total	Overall % (Flightline usage)
	0 – 1X	≥1-2X	≥2-3X	≥3-4X	≥4-5X	≥5-6X		
	Approximate Height							
	0-10m	≥10-20m	≥20-30m	≥30-40m	≥40-50m	≥50-60m		
1*		84	182	22			288	15.40%
2			2	121	60		183	9.79%
3		14	12	40			66	3.53%
4*		201	783	28			1012	54.12%
5		9	24	32			65	3.48%
6		60	32	11			103	5.51%
7		91	62				153	8.18%
Grand Total		**459**	**1097**	**254**	**60**		**1870**	**100.00**
Overall % (Height)	**0.00%**	**24.55%**	**58.66%**	**13.58%**	**3.21%**	**0.00%**	**100.00%**	**N/A**

Notes:
(1) * indicates the major flightline.
(2) Relative Height 1X = 10m temporary noise barrier along the perimeter of Application Site.

6.2.8 Major flightlines comprised birds travelled across wetland habitats adjacent to but outside the Application Site. Flightline No. 2 was the only minor flightline across the residential portion of the Application Site (see **Figure 5**). Only approximately 12 bird individuals per survey hour were recorded utilizing the Flightline No. 2 at height of 40m or below. The number of potentially impacted individuals are anticipated to be insignificant as the surveys have been conducted during the peak activity of the day.

Mammals

6.2.9 Short-nosed Fruit Bat and Japanese Pipistrelle have been recorded both within the Assessment Area and the Application Site. Both are species of conservation importance and are protected under Cap.170 in Hong Kong.

Herpetofauna

6.2.10 Within the Assessment Area (excluding the Application Site), a total of 5 amphibian species and 4 reptile species were recorded. None of these is species of conservation importance.

6.2.11 Within the Application Site (including WRA), a total of 5 amphibian species and 4 reptile species were recorded. None of these is species of conservation importance.

Odonates and Butterflies

6.2.12 A total of 28 odonate species was recorded within the Assessment Area (excluding the Application Site). Two species of conservation importance were recorded within the AA, namely Coastal Glider and Ruby Darter, both considered to be Local Concern (Fellowes *et al.* 2002).

6.2.13 Within the Application Site (including WRA), a total of 22 odonate species was recorded. None of these is species of conservation importance.

6.2.14 A total of 32 butterfly species have been recorded within the Assessment Area (excluding the Application Site). One species of conservation importance was recorded within the AA, namely Common Awl, which is considered to be Local Concern (Fellowes *et al.* 2002)

6.2.15 Within the Application Site (including WRA), a total of 15 butterfly species was recorded. None of these is species of conservation importance.

Aquatic fauna

6.2.16 Exotic fish including Snakehead Murrel was observed in the drainage channels. Larvae and exuviae of a total of 10 odonate species were also observed. None of these is species of conservation importance.

Fireflies

6.2.17 Only one species *Pyrocoelia analis*, was recorded within the Assessment Area, with very low abundance. This is a commonly seen species in agricultural land and fishpond area in Hong Kong.

6.2.18 Special attention to Mai Po Bent-winged Firefly during the surveys, this species of conservation importance was not recorded.

Species of Conservation Importance

6.2.19 Faunal species of conservation importance recorded during the 12-month surveys are summarized in **Table 14** below.

Table 14 Faunal Species of Conservation Importance

Species	Conservation and Protection Status[1]	Local Distribution[2]	Status in HK[2]
Mammals			
Japanese Pipistrelle	Cap.170	Widespread	Very Common
Short-nosed Fruit Bat	Cap.170	Widespread	Very Common
Birds			
Northern Shoveler	RC	Localized	Uncommon
Tufted Duck	LC	Localized	Abundant
Eurasian Coot	RC	Localized	Uncommon
Little Grebe	LC	Localized	Common
Great Crested Grebe	RC	Localized	Common

Species	Conservation and Protection Status[1]	Local Distribution[2]	Status in HK[2]
Black-winged Stilt	RC	Localized	Common
Little Ringed Plover	(LC)	Localized	Common
Temminck's Stint	LC	Localized	Uncommon
Common Redshank	RC	Localized	Abundant
Wood Sandpiper	LC	Localized	Common
Common Greenshank	RC	Localized	Abundant
Greater Coucal	CSMPS(II)	Widespread	Common
Oriental Stork	GC; RLCV(EN); IUCN(EN); CSMPS(I); CITES(I)	Localized	Rare
Great Cormorant	PRC	Localized	Common
Yellow Bittern	(LC)	Localized	Uncommon
Cinnamon Bittern	LC	Localized	Uncommon
Black-crowned Night Heron	(LC)	Widespread	Common
Chinese Pond Heron	PRC (RC)	Widespread	Common
Eastern Cattle Egret	(LC)	Widespread	Common
Grey Heron	PRC	Localized	Common
Purple Heron	RC	Localized	Uncommon
Great Egret	PRC (RC)	Localized	Common
Intermediate Egret	RC	Localized	Uncommon
Little Egret	PRC (RC)	Widespread	Common
Black Kite	(RC); CSMPS(II); CITES(II); Cap.586	Widespread	Common
White-throated Kingfisher	(LC); CSMPS(II)	Localized	Common
Pied Kingfisher	(LC)	Localized	Uncommon
Black-naped Oriole	LC	Widespread	Uncommon
Collared Crow	LC; IUCN(VU)	Localized	Common
Zitting Cisticola	LC	Widespread	Common
Red-billed Starling	GC	Localized	Abundant
White-cheeked Starling	PRC	Localized	Uncommon
White-shouldered Starling	(LC)	Localized	Common
Bluethroat	LC; CITES(III); CSMPS(II)	Localized	Uncommon
Red-throated Pipit	LC	Localized	Common
Odonates			
Coastal Glider	LC	Localized	Common
Ruby Darter	LC	Widespread	Common
Butterflies			
Common Awl	LC	Localized	Very Rare

1. Conservation and protection status refers to Fellowes et al. (2002), RLCV (Jiang et al. 2016), China State Major Protection Status, IUCN (2024), CITES (2024), Cap.170 and Cap.586.

a. Conservation status by Fellowes et al. (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern; PGC = Potential Global Concern. Letters in parentheses indicate assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.

b. Conservation Status by Red List of China's Vertebrates (RLCV) (Jiang et al. 2016): NT = Near Threatened; EN = Endangered.

c. Conservation status by IUCN (2024): NT = Near Threatened; EN = Endangered; VU = Vulnerable; CR = Critically Endangered.

d. Protection status by China State Major Protection Status (CSMPS): II = Class II Protected Species in China.

e. Protection status by CITES (2024): I = Listed in Appendix I; II = Listed in Appendix II

f. All wild birds in Hong Kong are protected under Cap. 170 Wild Animals Protection Ordinance.

g. Cap.586 Protection of Endangered Species of Animals and Plants Ordinance.

2. Distribution and rarity refer to AFCD (2024a), Chan et al. (2011), Tam et al. (2011). Distribution and status of bird species refers to The Avifauna of Hong Kong, (G.J.Carey, Editor), HKBWS (2023).

7 EVALUATION OF HABITATS

7.1 Habitats within the Application Site

Table 15 Ecological evaluation of mitigation wetland within the Application Site

Criteria	Mitigation Wetland
Naturalness	Artificially created wetland under management and monitoring as approved EIA mitigation measures to mitigate the wetland loss and to provide suitable habitats for wildlife
Size	4.74ha, approximately one fourth of the Application Site. Loss of 0.69ha seasonal marsh and 4ha freshwater marsh/reedbed are fully compensated according to approved EIA report (AEIAR-120/2008)
Diversity	Moderate diversity of fauna
Rarity	12 bird species of conservation importance Greater Coucal, Yellow Bittern, Black-crowned Night Heron, Chinese Pond Heron, Eastern Cattle Egret, Grey Heron, Purple Heron, Great Egret, Little Egret, White-throated Kingfisher, Pied Kingfisher, Zitting Cisticola 3 mammal species of conservation importance Japanese Pipistrelle, Short-nosed Fruit Bat, Leopard Cat (scat)
Re-creatability	Could be recreated.
Fragmentation	Not fragmented.
Ecological linkage	Ecological linkage to WCA and Deep Bay
Potential value	Value could be enhanced by suitable management
Nursery/ breeding ground	Potentially breeding ground for some waterbirds, amphibian, reptile and odonates
Age	More than ten years. Construction works completed in November 2010 and established by October 2012.
Abundance/ Richness of wildlife	Moderate abundance of wildlife
Ecological value	**MODERATE TO HIGH**

Table 16 Ecological evaluation of seasonal marsh within the Application Site

Criteria	Seasonal Marsh
Naturalness	Two small patches. The low-lying area at the western portion has yet to be bulldozed but invaded by *Leucaena leucocephala*. The small area at the eastern portion was formerly the area of open storages. Rainwater retained at the elevation difference due to the disposal of inert C&D material from Express Rail Link (XRL).
Size	0.86ha
Diversity	Low
Rarity	Common species
Re-creatability	Easily re-creatable.
Fragmentation	N/A
Ecological linkage	Limited ecological linkage
Potential value	N/A
Nursery/ breeding ground	Potentially breeding ground for some amphibian, reptile and odonates
Age	Few decades
Abundance/ Richness of wildlife	Low
Ecological value	**LOW**

Table 17 Ecological evaluation of drainage channel within the Application Site

Criteria	Drainage Channel
Naturalness	Concreted, temporary drainage channel for the development site.
Size	0.19ha

Criteria	Drainage Channel
Diversity	Low
Rarity	Common species
Re-creatability	Easily re-creatable.
Fragmentation	N/A
Ecological linkage	Limited ecological linkage
Potential value	N/A
Nursery/ breeding ground	Potentially breeding ground for some amphibian, reptile and odonates
Age	Few decades
Abundance/ Richness of wildlife	Low
Ecological value	**LOW**

Table 18 Ecological evaluation of grassland within the Application Site

Criteria	Grassland
Naturalness	Semi-natural succession. Under management including grass-cutting and removal of weedy *Leucaena leucocephala*.
Size	6.89ha
Diversity	Low
Rarity	Common species
Re-creatability	Easily re-creatable.
Fragmentation	N/A
Ecological linkage	Limited ecological linkage
Potential value	N/A
Nursery/ breeding ground	Nil.
Age	Few decades
Abundance/ Richness of wildlife	Low
Ecological value	**LOW**

Table 19 Ecological evaluation of bare ground within the Application Site

Criteria	Bare Ground
Naturalness	Paved vehicular access. Disposal of inert C&D materials from XRL. Site formation works in progress.
Size	8.06ha
Diversity	Low
Rarity	Common species
Re-creatability	Easily re-creatable.
Fragmentation	N/A
Ecological linkage	Limited ecological linkage
Potential value	N/A
Nursery/ breeding ground	Nil.
Age	Few decades
Abundance/ Richness of wildlife	Low
Ecological value	**LOW**

7.2 Habitats within 500m Assessment Area (excluding the Application Site)

Table 20 Ecological evaluation of fishpond within the Assessment Area

Criteria	Fishpond
Naturalness	Man-made wetland habitat
Size	59.83ha, relatively large
Diversity	Limited floral diversity. Moderate diversity of avifauna species.

Criteria	Fishpond
Rarity	35 bird species of conservation importance 2 mammal species of conservation importance 1 odonate species of conservation importance
Re-creatability	Readily re-creatable
Fragmentation	Not fragmented.
Ecological linkage	Highly connected with Deep Bay ecosystem
Potential value	High
Nursery/ breeding ground	Wetland-dependent bird species utilising fishpond habitat, such as Little Grebe and White-breasted Waterhen have been recorded breeding.
Age	Long established for decades.
Abundance/ Richness of wildlife	Abundant for wetland-dependent species.
Ecological value	**MODERATE TO HIGH**

Table 21 Ecological evaluation of pond/open water within the Assessment Area

Criteria	Pond/Open water
Naturalness	Man-made, derived from abandoned fishponds
Size	4.67ha
Diversity	Low to moderate
Rarity	Conservation Area for the ponds within Palm Springs, however low usage by species of conservation importance, such as Little Egret and Chinese Pond Heron.
Re-creatability	Readily re-creatable
Fragmentation	Fragmented by developed area.
Ecological linkage	Limited linkage for the ponds within Palm Springs; Pond/open water to the west of Palm Springs are connected with Deep Bay wetlands.
Potential value	Limited for ponds within Palm Springs
Nursery/ breeding ground	Wetland-dependent bird species utilising pond habitat, such as White-breasted Waterhen have been recorded breeding.
Age	Few decades after abandonment
Abundance/ Richness of wildlife	Low to moderate
Ecological value	**MODERATE**

Table 22 Ecological evaluation of marsh within the Assessment Area

Criteria	Marsh
Naturalness	Naturally derived from abandoned fishpond, overgrown with wetland plants
Size	1.22ha
Diversity	Low diversity
Rarity	Low 1 odonate species of conservation importance
Re-creatability	Readily re-creatable
Fragmentation	Located at the fringe of continuous fishponds area, abutting village development.
Ecological linkage	Limited as much less favourable than adjacent wetland
Potential value	Could be enhanced with vegetation management or resumed into pond habitat.
Nursery/ breeding ground	Nil.
Age	at least 20 years since abandonment.
Abundance/ Richness of wildlife	Low abundance
Ecological value	**LOW TO MODERATE**

Table 23 Ecological evaluation of drainage channel/ditch within the Assessment Area

Criteria	Drainage Channel/Ditch
Naturalness	Man-made
Size	4.22ha, small in Hong Kong context.
Diversity	Low to moderate
Rarity	Species of conservation importance was not recorded.
Re-creatability	Readily re-creatable.
Fragmentation	Not fragmented within the fishpond area.
Ecological linkage	Linked with wetland habitats
Potential value	Could be enhanced with vegetation management.
Nursery/ breeding ground	Nil.
Age	Long established with fishponds
Abundance/ Richness of wildlife	Low to moderate
Ecological value	**LOW TO MODERATE**

Table 24 Ecological evaluation of reedbed within the Assessment Area

Criteria	Reedbed
Naturalness	Semi-natural, derived from abandoned fishponds.
Size	10.84ha
Diversity	Low floral diversity, dominated by reed; Low to moderate diversity of fauna
Rarity	Low to moderate
Re-creatability	Readily re-creatable
Fragmentation	Not fragmented.
Ecological linkage	Connected with Deep Bay wetlands.
Potential value	Could be enhanced with proper vegetation management.
Nursery/ breeding ground	Nil.
Age	Few decades after abandonment
Abundance/ Richness of wildlife	Low to moderate.
Ecological value	**MODERATE**

Table 25 Ecological evaluation of agricultural land within the Assessment Area

Criteria	Agricultural Land
Naturalness	Man-made
Size	0.2ha, very small patches scattered within the Assessment Area.
Diversity	Very Low
Rarity	N/A
Re-creatability	Re-creatable
Fragmentation	Fragmented by surrounding developed area
Ecological linkage	Limited to adjacent hillslope habitat
Potential value	Low
Nursery/ breeding ground	Nil.
Age	Within past few years
Abundance/ Richness of wildlife	Very Low
Ecological value	**VERY LOW**

Table 26 Ecological evaluation of managed grassland within the Assessment Area

Criteria	Managed Grassland
Naturalness	Man-made
Size	0.59ha, very small.
Diversity	Very low
Rarity	N/A

Re-creatability	Re-creatable
Fragmentation	Fragmented
Ecological linkage	Limited
Potential value	Very low
Nursery/ breeding ground	Nil.
Age	Past few decades.
Abundance/ Richness of wildlife	Very low
Ecological value	**VERY LOW**

Table 27 Ecological evaluation of *Leucaena* woodland within the Assessment Area

Criteria	***Leucaena* Woodland**
Naturalness	Semi-natural, derived from wasteland, overgrown with *Leucaena leucocephala*
Size	2.24ha
Diversity	Low
Rarity	N/A
Re-creatability	Re-creatable
Fragmentation	Fragmented
Ecological linkage	Limited
Potential value	Very low, unless entirely replaced with native species through management
Nursery/ breeding ground	Nil.
Age	Past few decades.
Abundance/ Richness of wildlife	Very Low
Ecological value	**VERY LOW**

Table 28 Ecological evaluation of secondary woodland within the Assessment Area

Criteria	**Secondary Woodland**
Naturalness	Semi-natural woodland habitat, derived from *Fung Shui* woodland
Size	0.77ha, small.
Diversity	Moderate floral diversity. Faunal diversity lower than in woodlands elsewhere in Hong Kong, due to relative isolation of this patch.
Rarity	Secondary woodland is common in Hong Kong but Fung Shui woods and egretries are rare.
Re-creatability	Could be recreated in long-term if suitable resources are available. Fung shui wood would be difficult to recreate. Recolonisation by egrets would be difficult to achieve.
Fragmentation	Not fragmented within the Assessment Area, but this single block is isolated from similar habitats.
Ecological linkage	Some ecological linkage to Deep Bay via foraging egrets. Otherwise, poor linkage due to presence of villages and major road.
Potential value	Value could be enhanced by suitable management, especially if the number of breeding egrets could be increased.
Nursery/ breeding ground	Previously egretry record.
Age	Fairly old due to *fung shui* functions.
Abundance/ Richness of wildlife	Moderate abundance of wildlife, but lower than in other woodland areas.
Ecological value	**MODERATE**

Table 29 Ecological evaluation of plantation within the Assessment Area

Criteria	**Plantation**
Naturalness	Manmade habitat, mainly roadside planting.
Size	Medium within AA.
Diversity	Low to moderate.
Rarity	Species of conservation importance was not recorded.

Criteria	Plantation
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented by developed areas.
Ecological linkage	Not connected to the fishpond areas.
Potential value	Potential ardeid roost for mature trees relatively closer to the wetland habitats.
Nursery/ breeding ground	Nil.
Age	Several decades
Abundance/ Richness of wildlife	Low to moderate
Ecological value	**LOW TO MODERATE**

Table 30 Ecological evaluation of developed area within the Assessment Area

Criteria	Developed Area
Naturalness	Man-made
Size	Relatively large
Diversity	Low to moderate
Rarity	Low
Re-creatability	Re-creatable
Fragmentation	N/A
Ecological linkage	Abutting Deep Bay wetland areas.
Potential value	N/A
Nursery/ breeding ground	Nil.
Age	Several decades.
Abundance/ Richness of wildlife	Low
Ecological value	**VERY LOW**

8 POTENTIAL ECOLOGICAL IMPACTS

8.1 Identification of Potential Ecological Impacts

8.1.1 The proposed changes to the project involve only the residential portion of the Application Site. However, since the WRA is designed as a mitigation measure for three target bird species, increased disturbance to the WRA which renders the site less suitable for these species could have a significant adverse impact to the WRA. Therefore, any proposed changes at the interface or to predicted disturbance levels with the WRA are evaluated.

8.1.2 Revised MLP of the residential portion were reviewed and potential ecological impacts in the absence of mitigation measures were identified and quantified where appropriate. Ecological impacts were categorized as follows:

- Direct Impact to the WRA
- Direct Impact to Fauna Species of Conservation Importance
- Indirect Impact to the WRA
- Indirect Impact to Fauna Species of Conservation Importance
- Impact to Bird Flightlines
- Impact of Bird Collision
- Indirect Impact to the WCA and proposed SPS WCP

8.1.3 The potential to reduce adverse ecological impacts by design changes following the principle of Avoidance elucidated in EIAO TM Annex 8 was considered with respect to (a) their technical feasibility and (b) their necessity, given the extent of the predicted impacts.

8.1.4 Mitigation measures in the approved EIA report will be listed out. Additional measures for minimization and compensation of remaining ecological impacts during the project detailed design and construction stage are also described. Predicted unavoidable residual impacts, assuming implementation of all proposed mitigation measures were detailed and quantified wherever possible.

8.2 Potential Direct Impact to the WRA

8.2.1 Since there are no changes proposed to the WRA or at the boundary between the residential area and WRA, no additional direct impact to the ecological function and area of the WRA is anticipated.

8.3 Potential Direct Impact to Fauna Species of Conservation Importance

8.3.1 Since no changes are proposed to the WRA, no additional impact is anticipated to the fauna species of conservation importance within the WRA.

8.3.2 The WRA has also been implemented as buffer area between the residential development and the WCA; no additional direct impact is anticipated to the fauna species of conservation importance in the WCA.

8.4 Potential Indirect Impact to the WRA

8.4.1 An increase in building height may result in higher visibility of human activities at the boundary and within the WRA. According to the approved EcoIA, all of the three target bird species are considered to be species which are prone to human disturbance. Potential indirect impact to the WRA might result from human activities at the residential area of the site are primarily noise and visual disturbance.

8.4.2 Based on literature review and ecological surveys, there is no significant ecological light-sensitive receiver within the WRA and fishponds to the north abutting the Application Site, i.e. significant population of fireflies and ardeid night roosts. Leopard Cat is primarily nocturnal but also active in daytime. Only scats have been recorded within the WRA. WRA has provided suitable habitat and foraging opportunities for this mammal species. Its occurrence is more likely prone to the presence of human or feral dogs. Light/glare impact to this species is not anticipated. Black-crowned Night Heron is widely distributed in Hong Kong, with numerous records of foraging in urban setting. Light/glare impact to this species is not anticipated. Greater Painted-snipe is primarily crepuscular and nocturnal while hides in dense vegetation during daytime. Light/glare impact to this species is not anticipated due to their preference on microhabitats, i.e. dense aquatic vegetation. Many-banded Krait is nocturnal species often found near water sources. This species primarily eats other snakes but also consume rodents and frogs. WRA has provided suitable habitat and foraging opportunities for this reptile species. Light/glare impact to this species is not anticipated as they are moving at ground level or in water, where will be entirely screened by the vegetation. For most of the amphibians and reptiles (herpetofauna) being nocturnal, is due to effect of temperature and humidity on their anatomy, instead of light. As no lighting will be directly shining towards the wetland or onto these fauna individuals, no potential impact is anticipated. Unlike commercial centres, the proposed residential buildings will not have extensive exterior lighting or reflective coverings. For a single light source straightly pointing at the target area, light intensity decreases as the square of the distance increases. If a light source has an intensity of 100 lux at a distance of 1 meter, then at a distance of 2 meters, the intensity would be 25 lux ($100 / 2^2 = 25$). For a living room generally need 150 lux, from ceiling to floor around 3m in height; from a 30m distance, the light intensity is already less than 1 lux. All measures in the approved EIA are retained. Night-time light disturbance will be minimised by limiting the amount of lighting in the construction site, and by situating this away from the WCA fishponds. The lighting units will be directional and hooded where appropriate to minimize unnecessary light spill. Therefore, light impact to the WRA is anticipated to be insignificant.

8.4.3 The total number of residential units abutting the WRA remains unchanged as 37 in the revised MLP. Increased from 2-storey houses in the approved S16 scheme (A/YL-MP/344), to 3-storey detached/semi-detached houses are proposed in this location. All measures to screen the WRA from the residential proportion of the project included in the approved EIA are retained. Orientation of these 3-storeys abutting the WRA, is such that all will face towards the residential area, eliminating the need for public access next to the WRA. As human activity will be greatest at the front of the buildings, the potential sources of impacts to waterbirds (including noise and night-time lighting) will be concentrated away from the WRA and impacts to waterbirds will be minimised.

8.4.4 As accepted in the approved EIA report, the WRA will act as buffer area between the WCA, and the construction works for residential areas. The potential disturbance impact to the WRA during construction phase of residential portion is less substantial to the disturbance impact to the WCA. However, in the revised MLP, the proposed buildings (6-storey, 8-storey and 10-storeys) have been considered carefully the alignment and orientation. As shown in **Figure 7**, all have been located with at least 50m setback from the WRA, to offset the potential additional disturbance impact to the implemented WRA. As stated in the approved EIA report, other methods to reduce potential sources of disturbance will continue to be employed, including good site practice within the construction site, selection of quiet equipment to minimise noise disturbance, minimisation of night-time lighting and location of this away from the wetlands and prevention of dogs from accessing the construction site.

8.4.5 Most of the wildlife utilising the WRA, will be at ground level or lower. The habitat design of the WRA has been considered the minimization of disturbance impact from residential portion, that reedbed are established along the southern boundary of all four cells within the WRA. Reedbed, with its dense vegetation, is particularly effective of providing cover for disturbance-sensitive species. Hence, 3m hoarding during construction phase and 2m solid wall during operation, are considered effective measures to screen off the potential disturbance from residential portion to the WRA.

Table 31 Potential Indirect Impact to WRA

Criteria	WRA
Habitat Quality	Moderate to High man-made wetland
Species	During 12-month ecological surveys, 42 bird species with 13 species of conservation importance have been recorded. 5 amphibian species, 4 reptile species, 22 odonate species and 15 butterfly species.
Size/Abundance	4.74ha, approximately one fourth of the Application Site.
Duration	Construction phase disturbance would be temporary, operational phase would be permanent but minor.
Reversibility	Would be largely reversed during the operational phase as most of the source of noise disturbance will be removed.
Magnitude	The magnitude would be large during construction, especially during piling for the high-rise buildings. Operational impacts would be of lower magnitude.
Overall Impact Severity	Impacts to WRA of **Moderate to High** Severity during construction of the residential area. However, as in approved EIA report, the WRA itself is the buffer between the WCA and the construction works of residential area. During operation impacts would be **Low to Moderate** Severity because of lower magnitude and smaller area of impact (**Figure 6b** & **6c**).

8.4.6 Therefore, the potential additional disturbance impact to the WRA is considered insignificant. For those disturbance-sensitive species, the potential indirect impact has been evaluated in **Section 8.5** below.

8.5 Potential Indirect Impact to Fauna Species of Conservation Importance

8.5.1 Making reference to the approved EIA Report of San Tin/Lok Ma Chau Development Node, ≤35mPD has been considered as low-rise buildings. High-rise buildings under this Application only refer to the 10-storeys, which have been located further away from the WCA. Figure 7 illustrated the distance between these blocks and the WCA.

8.5.2 Within the exclusion zones (EZ) and reduced density zones (RDZ) of the species under consideration lies an area of fishponds that have been exposed to anthropogenic disturbances for decades, including fishpond operation and adjacent village development (**Figure 6a** and **Figure 6b).** There will be no direct impact from this Project to those fishponds to the north of the Project Site; hence, it is anticipated wildlife utilisation will remain in place where wetland habitats are available; waterbirds have been recorded in these ponds close to the villages. In addition, there is anticipated enhancement in habitat quality after the implementation of SPS WCP.

8.5.3 Considering the current Application alone, there will be increase in disturbance during construction of high-rise buildings (only those 10-storeys in this Application). One of the additional measures, the 10-storeys have been located further away from the WRA, as well as the WCA (also the proposed SPS WCP); also, those at the eastern portion of Project Site have been considered at less ecologically sensitive area (i.e. farthest away from Deep Bay) and located at least 80m away from the fishponds.

8.5.4 Disturbance sensitive bird species of conservation importance recorded during 12-month surveys, have been summarized based on the disturbance distance estimate methodology originally generated to assess construction phase disturbance impacts of the Lok Ma Chau Spur Line.

8.5.5 Within the RDZ, 50% of the disturbance sensitive bird are predicted to be excluded. From the 12-month surveys, total of 27 bird species of conservation importance have been recorded; approximately 40 bird individuals were recorded per survey while 21 out of 27 species have been recorded less than 1 bird per survey. The five most abundant species recorded within the RDZ are Tufted Duck (mean number to be excluded= 17.58; number of surveys recorded= 3), Little

Grebe (3.54; 11), Great Cormorant (7.83; 5), Chinese Pond Heron (2.25; 11) and Little Egret (2.92; 11).

8.5.6 Within the EZ, where all relevant species are excluded, total of 16 bird species of conservation importance have been recorded; less than 20 bird individuals were recorded per survey while 10 out of 16 species have been recorded less than 1 bird per survey. The five most abundant species recorded within the EZ are Tufted Duck (6.00; 2), Little Grebe (2.67; 8), Chinese Pond Heron (2.00; 8), Little Egret (1.58; 8) and Pied Kingfisher (1.17; 6).

8.5.7 When comparing the predicted number of individuals displaced for these species with the mean number per month in Deep Bay reported by Hong Kong Bird Watching Society (HKBWS) (Winter Count in Oct 2022-Mar 2023), in which 2037 Tufted Duck, 420 Little Grebe, 6269 Great Cormorant, 414 Chinese Pond Heron, 1039 Little Egret and 25 Pied Kingfisher were recorded, the potentially impacted number of individuals are low or very low. The two fishponds fall within predicted Exclusion Zone (EZ) are inactive. Disturbance-sensitive waterbirds foraging in the adjacent fishponds may temporarily visit these inactive ponds due to flushing. For Tufted Duck, the potentially impacted number of individuals are approximately 1% of Deep Bay population; however, this species generally occurs in large flocks. It was only recorded in two occasions, which fall within the predicted Exclusion Zone. For Little Grebe, as presented in **Appendix C**, the maximum distance is only half of the maximum predicted zones during construction phase (**Figure 6a**); the potentially impacted number of individuals would be less than 1% of Deep Bay population. For Pied Kingfisher, as presented in **Appendix C**, the maximum distance is only one-fourth of the maximum predicted zones during construction phase (**Figure 6a**); this species utilising the fishponds is therefore anticipated to be unimpacted. Hence, the disturbance impacts to these species of conservation importance from this Project are anticipated to be minimal. Therefore, potential additional impacts due to the increase in building height is anticipated to be insignificant.

8.5.8 Other than the disturbance-sensitive bird species, non-avian species of conservation importance utilising the wetland habitats, will be near water, at ground level or lower. It is anticipated there is no additional impact from the increase in building height and population density, as their presence is more prone to habitat preference and foraging opportunities. Leopard Cat, which was not recorded in the EIA study, when the Application Site was partly degraded wetland disturbed by sporadic open storage and container vehicles, is now recorded utilising the WRA where feral dogs and most of human disturbance are excluded. Japanese Pipistrelle and Short-nosed Fruit Bat have been recorded widely distributed within the 500m Assessment Area, where they are actually foraging around residential lighting, fishpond operational light and roadside lighting. For amphibians and reptiles, as long as the wetland habitats are not fragmented, both breeding and foraging activities will remain connected across the WRA and the WCA. For butterflies, the presence is more prone to presence of suitable host plant. For odonates, the presence is more prone to suitable waterbodies.

8.5.9 **Figure 6d** and **6e** have been supplemented to illustrate the maximum predicted extent of potential disturbance impacts under approved scheme of A/YL-MP/344, in the absence of mitigation measures. Comparing **Figure 6a** with **Figure 6d**, the potential increase in maximum predicted extent during the construction phase is only due to the proposed 10-storeys buildings; however, the potentially impacted wildlife is assessed to be minimal as above. As summarized in **Section 4**, the number of species of conservation importance (**Table 4**), especially avifauna, has been doubled within the WRA when compared to the number recorded within the entire Application Site during EIA surveys (**Table 1**). The number of species (and of conservation importance) including amphibians, reptiles, butterflies and odonates are higher in WRA than fishponds (**Table 6** and **Table 7**). For avifauna species of conservation importance, the number utilizing the WRA which is closer to the developed area (**Table 6** and **Table 7**), are similar to the active fishponds within the predicted RDZ, where daily on-site human disturbance occurs; The increase in wildlife utilization within the WRA suggests that those disturbance-sensitive species are more prone to on-site human disturbance than off-site disturbance. The minor disturbance impact during the construction phase is well compensated by the ecological gain within the implemented WRA.

8.5.10 Comparing **Figure 6b** with **Figure 6e**, the maximum predicted extent is almost the same. As the potential additional impact is anticipated to be insignificant, the approved mitigation measures during construction phase and operation phase are considered sufficient to minimize the disturbance impacts. Hence, no change is proposed to the design or operation of the WRA. Nonetheless, additional mitigation measures have been proposed in **Section 8.9**, to further minimize potential disturbance.

8.5.11 A 3m site hoarding will be placed between the WRA and the construction works for residential areas so that a visual barrier is maintained between the construction work and wetland habitats. Other methods to reduce sources of disturbance will be employed, including good site practice within the construction site, selection of quiet equipment to minimise noise disturbance, minimisation of night-time lighting and location of lighting away from the wetlands, and prevention of feral dogs from accessing the construction site. Implementation of the ecological mitigation measures stated, will continue to be checked as part of the EM&A procedures during the construction period. No additional disturbance impact is anticipated to the fauna species of conservation importance in the WRA.

Table 32 Potential Indirect Impact to Fauna Species of Conservation Importance

Criteria	Fauna Species of Conservation Importance
Habitat Quality	Moderate to High fishpond habitats
Species	Total of 27 bird species of conservation importance, potentially displaced by 50% within the RDZ; total of 16 bird species of conservation importance, potentially excluded from the EZ. Mammal: Japanese Pipistrelle, Short-nosed Fruit Bat, Leopard Cat Odonate: Coastal Glider, Ruby Darter Butterfly: Common Awl
Size/Abundance	Most abundant species recorded utilizing the wetland habitats within predicted RDZ and EZ, including Tufted Duck, Little Grebe, Great Cormorant, Chinese Pond Heron, Little Egret and Pied Kingfisher, are very low in number when comparing with the mean number per month in entire Deep Bay reported by HKBWS.
Duration	Temporary impacts would be greatest during the construction phase, especially that of the high-rise housing, but there would be some ongoing impact during operation.
Reversibility	Would be largely reversed during the operational phase as most of the source of noise disturbance will be removed.
Magnitude	The magnitude would be large during construction, especially during piling for the high-rise buildings. Operational impacts would be of lower magnitude.
Overall Impact Severity	In absence of mitigation measures, impacts to wetland habitats and their fauna of **Moderate to High** Severity during construction of the residential area but the number of affected individuals would be small. During operation impacts would be reduced to **Moderate** Severity because of lower magnitude and smaller area of impact.

8.6 Potential Impact to Bird Flightline

8.6.1 During the wet season flightline surveys (**Table 10**, **Table 11** & **Figure 4**), approximately 8 bird individuals per survey hour were recorded flying above the Application Site (flightline no. 3). The number of bird individuals utilising this flightline is very minor when compared to the Deep Bay population. The highest proposed building is 10-storey (+42mPD) which is about 35m in height. Only approximately 4 bird individuals per survey hour were recorded flying across the Application Site at 30m or below.

8.6.2 During the dry season flightline surveys (**Table 12**, **Table 13** & **Figure 5**), approximately 18 bird individuals (mainly Great Cormorant) per survey hour were recorded flying above the Application Site (flightline no.2). However, as shown in **Table 12**, most of the Great Cormorant (approximately 108 individuals per survey hour) were recorded flying across the fishponds to the north of the Application Site (flightline no.1 and flightline no.4). Furthermore, during the survey, the majority of Great Cormorant was observed flying close to the Shen Zhen River, from Mai Po, across Lin

Barn Tsuen fishponds, towards the north; hence, the flightline is outside the 500m Assessment Area. This observation matches with Figure 2.3 of the Strategic Feasibility Study on the Development of Wetland Conservation Parks System under the Northern Metropolis Development Strategy (AFCD 2024), major flightline across the WCPS system. Impedance of Great Cormorant flightlines is therefore not expected.

8.6.3 Therefore, potential impacts to flightlines as a whole are not considered to be significant.

8.7 Potential Bird Collision Impact with Buildings

8.7.1 With reference to the revised MLP, the stepped design has been considered the orientation. High-rise buildings (only the 10-storeys, +42mPD) are all proposed in the middle and the eastern portion of the Application, as far away from the wetland habitat as possible (see **Figure 7)**.

8.7.2 Collisions also occur in daytime, though the causes are generally related to the nature of the building exterior (glass being the prime culprit), and the key risk factors are transparency and reflectivity. Building façades that constitute transparent glass may appear not to present an obstacle to flight and birds may strike windows as they attempt to access potential perches, plants, food and water sources or other lures seen through the glass. Design features such as glass walls around planted atria and windows installed perpendicularly at building corners are potentially dangerous, as birds may perceive these as an unobstructed flight path.

8.7.3 The bird species occurring within the Assessment Area routinely travel around extensive low-rise residential areas including Fairview Park, Palm Springs, Royal Palms and villages. The mitigation measures to avoid bird collisions (i.e. visually unobtrusive and non-reflective building materials etc.) in the approved EcoIA apply here. The current proposed development within the Application Site would not have extensive reflective surfaces. Therefore, the potential impact of bird collision with any buildings is not anticipated.

8.8 Potential Indirect Impact to the WCA and SPS WCP

8.8.1 No change is proposed to the design or operation of the WRA with reference to the Wetland Restoration Plan (WPR) in the approved EIA. Access will only be required to facilitate monitoring and management. Monitoring activities will be undertaken at an appropriate time of the day to minimize the disturbance to bird activity. Routine management works (e.g. grass-cutting) will be conducted on a monthly basis to avoid the need for large scale and/or intensive vegetation management. The WRA will be secured to prevent unauthorised human access and exclude dogs from the site as far as possible. The WRA will continue to function as a buffer between the residential development and the fishponds in the WCA.

8.8.2 The mitigation measures to avoid night-time lighting and glare in the approved EcoIA apply here. The proposed residential buildings will not have extensive exterior lighting or glass or reflective coverings. Night-time light disturbance will be minimised by limiting the amount of lighting in the construction site, and by situating this away from the WCA fishponds. The lighting units will be directional and hooded where appropriate to minimize unnecessary light spill. As mentioned in S.8.5.3, the proposed 10-storeys have been located further away from the WCA (also the proposed SPS WCP); also, those at the eastern portion of Project Site have been considered at less ecologically sensitive area (i.e. farthest away from Deep Bay) and located at least 80m away from the fishponds. With reference to noise impact assessment, there will be no adverse impacts due to the increase in building height during construction; while in operation, the domestic noise at distant is anticipated to be insignificant. Human activities and traffic will be restricted within the residential portion, at lower level would be entirely screened off by the buffer planting and perimeter wall while at high level would be minimized by the distance (and the setback). Hence, no additional impact is predicted to the wetland habitats in the WCA.

8.8.3 The proposed SPS WCP within the 500m AA, have already been assessed, as these wetland habitats are all in the WCA. As discussed in Section 8.5, the disturbance impacts to the bird species of conservation importance from this Project are anticipated to be minimal. The first phase of SPS WCP is suggested to start with fishponds in the northern part, which is close to Lok Ma

Chau, approximately 2km from this Project Site. The Government expects to commence the construction works of the first phase in 2026/2027 the earliest for completion in 2031. The current Application are expected to completion by 2031. Cumulative impacts from construction works of SPS WCP and construction of this Project, are therefore not anticipated.

8.8.4 During operation, the disturbance impact is anticipated to be minimal while the wildlife utilisation is expected to increase with enhancement in habitat quality.

8.9 Additional Mitigation Measures

8.9.1 Although the WRA has been accepted to act as buffer between the WCA and construction works of residential portion and the potential disturbance impact during construction phase is less substantial, the proposed MLP has considered to further minimize the potential additional impact due to the increase in building height, by setback of at least 50m between the WRA and the 6-storey, 8-storey and 10-storeys buildings (see **Figure 7**).

8.9.2 As presented in **Figure 6a**, only two inactive fishponds (no. 51 and 52) fall within the predicted maximum exclusion zone during the construction phase of proposed 8-storey and 10-storey buildings at the eastern portion of the Application Site. These 8-storey and 10-storey buildings have been considered carefully, to locate in a less ecologically sensitive area, i.e. the farthest away from Deep Bay. The foundation works shall avoid use of percussive piling. The construction programme for foundation activities involving bore piling for Tower C2-1, will be scheduled between mid-March to mid-November only, in order to minimise the duration of this work during the dry season, when disturbance-sensitive waterbirds are present in the greatest numbers. Construction activities will be prohibited between the hours of 7pm and 7am.

8.9.3 As presented in **Figure 6c**, the nearest 10-storey buildings have been located at least 80m away from the WCA and the fishponds, such that the predicted maximum exclusion zone will no longer include the fishponds during the operation. Hence, the potential disturbance impact on the proposed SPS WCP is anticipated to be minor.

8.9.4 To further minimize the potential disturbance impact on the WRA, it is proposed the construction works of 3-storey houses abutting the WRA will be commenced first, as in the approved EIA report. The completed houses will become physical barriers between the WRA, and the remaining construction works. The buildings could adopt the design of canopies to dampen reflections (subject to detailed design), to minimize risk of bird collision and glare disturbance, maintaining native trees and shrubs, minimize direct disturbance from humans by restricting access to the WRA, and reduce unnecessary light-spill through shielding and targeted lighting.

8.9.5 At the interface between the WRA and the 3-storey houses, it is proposed increase in 2.5m width of buffer planting (standard trees as proposed in the Landscape Master Plan) within the residential area. During operation, there will be a total of 7.5m width of buffer planting plus a 2m solid wall, to screen off the disturbance from residential area.

8.10 Residual Impact

8.10.1 **Table 33** summarized the details of potential impacts of the development without mitigation, proposed mitigation measures to reduce the significance of those impacts (where required) and significance of impact after those mitigation measures have been instigated, including the extract from the approved EIA report and this assessment.

Table 33 Summary of Potential Ecological Impacts before and after adoption of Mitigation Measures

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Direct Loss of Habitats in Application Site						
Loss of Grassland Habitats	Loss of habitat of Low Significance due to low value of habitat and low abundance of species of conservation importance.	No mitigation required because impacts of low significance but design of WRA includes 0.33 ha of grassland habitats on bunds which will provide habitat for grassland species.	Impact of Low Significance.	No additional impact.	Remains valid.	No adverse impact.
Loss of Seasonal Marsh and Freshwater Marsh/Reedbed	Impacts to habitat of Low to Moderate Significance due to small size, ephemeral nature and high fragmentation of habitat. Impacts to species utilising the habitat of Low to Moderate Significance, mostly due to impacts to moderately diverse dragonfly fauna.	Loss of wetland habitats to be compensated by provision of 4.74 ha of wetland in the WRA (total area of seasonal marsh and freshwater marsh/reedbed currently 4.69 ha). This will include 1.12 ha of reedbed to compensate for reedbed loss on site, as well as a variety of other habitats (open water, short grass, trees and shrubs).	Loss of wetland area fully compensated, therefore No Significant Impact from wetland loss. No Significant Impacts to species using seasonal marsh and freshwater marsh/reedbed. Temporary wetland loss during construction of WRA of Low Significance but unavoidable and temporary. Management of WRA for wildlife presents opportunity to enhance value of Application Site for wildlife by habitat improvement, especially through provision of mature reedbed habitat.	The compensatory wetland has been implemented. No additional impact.	Remains valid.	No adverse impact.
Loss of Drainage Channels/ Ditches	Impacts of Low Significance due to low existing value of the ditches on site, and minimal impact to riparian trees used by roosting waterbirds.	Any loss of habitats for dragonflies and other fauna will be mitigated by provision of wetland habitats in WRA.	Impacts of Low Significance. Wetland habitat to be provided in WRA.	No additional impact.	Remains valid.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Direct Impacts to Species of Conservation Importance						
Impacts to Vegetation	No Significant Impact because no species of conservation importance present in the Application Site.	No mitigation required because no significant impacts predicted.	No Significant Impact.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Mammals	No Significant Impact because no species of conservation importance present in the Application Site.	No mitigation required because no significant impacts predicted.	No Significant Impact.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Roosting Waterbirds	Impacts to waterbirds roosting at the northern edge of the Application Site of Low Significance due to small numbers of birds present and existence of other suitable roosting sites.	Trees and tall shrubs included in design for WRA to provide roosting sites for waterbirds.	No Residual Impact because loss of trees fully compensated by tree planting in WRA.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Foraging Ardeids	Impacts from loss of foraging habitat of Low to Moderate Significance due to the relatively small number of individuals involved, the suboptimal quality of the habitat and the presence of other suitable foraging locations nearby.	Habitat suitable for foraging ardeids will be compensated in WRA.	No net loss of habitat, therefore No Residual Impact during operation phase. Unavoidable Low Impact during construction phase but this will be temporary, restricted to the first year of construction.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Other Bird Species	Impacts to other bird species of conservation importance (Black Kite, Oriental Pratincole, Little Ringed Plover, Pacific Swift, Zitting Cisticola, Red-billed Starling and White-shouldered Starling) of Low Significance because the Application Site does not provide habitat for locally-important populations of any of these species.	Impacts to these species considered to be of Low Significance due to low numbers of individuals present, therefore further mitigation measures not required. Design of the WRA will, however, provide habitat for these species which will compensate for habitat loss on site.	Impacts of Low Significance during construction of the WRA but No Significant Impacts to these bird species after construction completed.	No additional impact.	Remains valid.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Impacts to Herpetofauna	No Significant Impact because no species of conservation importance present in the Application Site.	None required but WRA will compensate for any habitat loss.	No Significant Impact.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Scarlet Basker	Impacts of Low Significance because of very small numbers present in Application Site and current status of the species in Hong Kong.	Mitigation not required because impacts of Low Significance, but design of WRP should provide suitable habitat to compensate for any habitat loss.	Residual impacts of Very Low Significance.	No additional impact.	Remains valid.	No adverse impact.
Impacts to Danaid Egg-fly	No Significant Impact because no evidence that the species breeds within the Application Site.	Mitigation not required but inclusion of larval food plant (Portulaca oleracea) in landscape planting will enhance value of Application Site for the species.	No Significant Impact, planting of larval food plant may provide net ecological benefit.	No additional impact.	Remains valid.	No adverse impact.
Indirect Impacts to Habitats in Assessment Area (excluding Application Site)						
Disturbance Impacts to Adjacent Fishponds	Impacts of disturbance to waterbirds in nearby fishponds of Moderate to High Significance due to the importance of these ponds to waterbirds and their proximity to the northern edge of the Application Site.	Site layout designed to prevent human disturbance at northern boundary and greatest human impacts furthest from wetlands. No public access to WRA and rest of Application Site to be screened from fishponds by landscape planting.	Operation phase impacts outside Application Site of Very Low Significance because presence of WRA will distance human activity from fishpond areas. Operation phase disturbance impacts to WRA of Low Significance.	Potentially additional impact due to the increase in building height and density.	The completed WRA will continue to be the buffer as approved. The 6-/8-/10-storeys buildings have been located with 50m setback from the WRA.	No adverse impact

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
		Barriers during construction phase to block noise and visual disturbance to fishponds. Timing of work in WRA during wet season at the start of construction period; after completion WRA will provide buffer from rest of construction work.	Impacts during construction of WRA of Low Significance but temporary. Other construction phase impacts of Very Low Significance.		Remains valid.	
Indirect Impacts to Off-site Drainage Channels	Impacts from pollution of watercourses downstream of the Application Site are considered to be of Moderate Significance. Changes in surface runoff of Low Significance because magnitude small in comparison to existing flow in the channel.	Good site practice during construction phase to avoid pollution of watercourses. Connection to trunk sewer during Operation phase to prevent discharge into watercourses and Deep Bay.	Pollution risks during construction and operation phase avoided, therefore No Significant Impact. Changes in surface runoff of Low Significance because magnitude small in comparison to existing flow in the channel.	No additional impact.	Remains valid.	No adverse impact.
Indirect Impacts to Other Habitats in Assessment Area	No Significant Impacts to other habitats because these are small and/or show no ecological linkage to the Application Site.	No mitigation measures necessary.	No Significant Impacts.	No additional impact.	Remains valid.	No adverse impact.
Pollution Impacts to Watercourses and Deep Bay	Impacts to watercourses downstream of the Application Site are considered to be of Moderate Significance. Pollution impacts to Deep Bay generally of Low Significance due to the small size of the Application Site relative to the size of the bay, but serious pollution events (especially chemical pollution) into the bay would be of Moderate to High Significance.	Good site practice during construction phase to avoid pollution of watercourses and Deep Bay. Connection to trunk sewer during Operation phase to prevent discharge into watercourses and Deep Bay.	Pollution risks during construction and operation phase avoided, therefore No Significant Impact.	No additional impact.	Remains valid.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Impacts from Habitat Fragmentation	No Significant Impacts because Application Site is on the edge of the wetland ecosystem and does not form a link between other habitats in the area.	Wetland habitats present in Application Site will be incorporated into single WRA, integrated with wetland habitats outside Application Site.	No Significant Impacts outside Application Site.	No additional impact.	Remains valid.	No adverse impact.
Cumulative Impacts of Wetland Loss	Overall impacts would be of High Significance if Deep Bay ecosystem was compromised. Contribution from the Application Site would be of Low Significance.	Loss of 4.69 ha of wetland habitats in Application Site mitigated by provision of 4.74 ha of wetland in WRA.	Loss of wetland habitat fully compensated, so No Residual Impact. Potentially a small net ecological gain due to protection of wetland habitats in WRA.	No additional impact.	Remains valid. Documented ecological gain, based on the monitoring results of implemented WRA from EM&A reports, comparing with the baseline in EIA.	No adverse impact.
Indirect Impacts to Species of Conservation Importance						
Indirect Impacts to Vegetation	No impacts to species of conservation importance because none present in Assessment Area. Impacts of Low Significance to other vegetation during construction phase due to dust deposition.	Measures to control dust emissions during construction phase.	Impacts to vegetation outside Application Site of Very Low Significance.	No additional impact.	Remains valid.	No adverse impact.
Indirect Impacts to Mammals	No Significant Impact because no species of conservation importance recorded in Assessment Area, and low-density mammal populations present.	No mitigation necessary.	No Significant Impacts.	No additional impact.	Remains valid.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Disturbance to Waterbirds of Conservation Importance	Construction-phase disturbance of Moderate to High Significance due to the importance of fishponds to waterbirds and their proximity to the northern edge of the Application Site. Post-construction disturbance impacts of Moderate Significance if human activity is present close to fishpond areas.	Site layout designed to prevent human disturbance at northern boundary and greatest human impacts furthest from wetlands. No public access to WRA and rest of the Application Site to be screened from fishponds by landscape planting. Removal of current potential disturbance from container storage adjacent to fishponds.	Operation phase impacts outside Application Site of Very Low Significance because presence of WRA will distance human activity from fishpond areas. Operation phase disturbance impacts to WRA of Low Significance. Impacts during construction of WRA of Low Significance but temporary. Other construction phase impacts of Low Significance.	Insignificant potentially additional impact due to the increase in building height and density.	Remains valid. The completed WRA will continue to be the buffer as approved. The 6-/8-/10-storeys buildings have been located with 50m setback from the WRA. Scheduling the foundation works for the nearest building (C2-1) from the WCA, between mid-March to mid-November only, to avoid the period when the number of disturbance-sensitive species is the greatest. Construction activities between the hours of 7pm and 7am will be prohibited. There are increase in building heights under current Application. Both low-rise (6-storey and 8-storey) and high-rise (10-storey) have been considered carefully the alignment and orientation. Proposed increase the buffer planting within residential portion from 2.5m to 5m for further screening effect.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
		Barriers during construction phase to block noise and visual disturbance to fishponds. Timing of work in WRA during wet season at the start of construction period; after completion WRA will provide buffer from rest of construction work.		No additional potential impact.	Remains valid. The completed WRA will continue to be the buffer as approved.	No adverse impact
Impacts to Mai Po Village Egretry	Impacts to Mai Po Village egretry of Low to Moderate Significance. Flight paths would be impacted by development in the north of the Application Site, in which case impacts would be of Low to Moderate Significance. Noise disturbance at egretry during construction considered to be of Low Significance.	Loss of wetland foraging habitat to be compensated by provision of equal area of suitable habitat in WRA. Impacts to flight paths to be minimised by location of residential area on southern side of Application Site and by MLP design involving building heights of 2.5/3 storeys and 4 storeys. Noise disturbance to be minimised by adoption of appropriate site management techniques.	No Significant Impact from loss of habitat in operation phase, but unavoidable Low Impact during construction of WRA. Low Impact to flight paths. Very Low Impact to egretry due to noise disturbance during construction phase.	No additional potential impact.	Remains valid. There are increase in building heights under current Application. Both low-rise (6-storey and 8-storey) and high-rise (10-storey) have been considered carefully the alignment and orientation. No impedance to any major flightlines. No additional impact is anticipated.	No adverse impact.
Impacts to Other Egretries	Impacts of Not Significant at the Mai Po Lung egretry, as there is no evidence that these birds forage in the Application Site or fly over to reach other foraging sites. No Significant Impact from noise disturbance.	Loss of wetland foraging habitat to be compensated by provision of equal area of suitable habitat in WRA.	No Impacts to Mai Po Lung egretry. Impacts to Tam Kon Chau due to habitat loss of Low Significance during construction of WRA, but No Net Impact during operation phase.	No additional potential impact.	Remains valid.	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
	Impacts to Tam Kon Chau Egretry of Low Significance because some birds may forage within the Application Site and a few birds fly low over the north of the Application Site. Noise disturbance considered to be of Low Significance.	Impacts to flight paths to be minimised by location of residential area on southern side of Application Site and by MLP design involving building heights of 2.5/3 storeys and 4 storeys. Noise disturbance to be minimised by adoption of appropriate site management techniques.	Low Impact to flight paths from Tam Kon Chau. Very Low Impact to Tam Kon Chau due to noise disturbance during construction phase.	Tam Kon Chau Egretry has been abandoned since 2008.	N/A	N/A
Impacts to Bird Flight Paths	Impacts of Low Significance for development in the south of the Application Site. Impacts of Moderate Significance in the northern or northwestern part of the Application Site, particularly along Flight paths 1, 2, 4 and 5.	Layout of the Application Site will restrict residential development to southern part of Application Site, with tallest buildings closest to existing residential estates. Building heights will be 2.5/3 storeys and 4 storeys and will therefore not be significantly higher than in surrounding residential estates.	Operation phase impacts of Very Low Significance because location and height of buildings will not obstruct existing flight paths.	Potentially additional impact due to the increase in building height and density.	Remains valid. There are increase in building heights under current Application. Both low-rise (6-storey and 8-storey) and high-rise (10-storey) have been considered carefully the alignment and orientation. Based on the survey findings, there is no impedance to any major flightlines. No additional impact is anticipated.	No adverse impact.
Impacts to Other Fauna	Only species of conservation importance recorded were Scarlet Basker and Danaid Egg-fly, with only single individuals recorded of each. Overall No Significant Impact to herpetofauna, dragonflies, butterflies or aquatic invertebrates.	No mitigation measures required.	No Significant Impacts.	No additional impact.	Remains valid.	No adverse impact.
Direct Impact to WRA	N/A	N/A	N/A	No additional impact.	N/A	No adverse impact.

Description of Potential Impact	Significance of Impact without Mitigation	Approved Mitigation Measures	Significance of Impact after Adoption of Mitigation Measures	Additional Potential Impact	Additional mitigation measures proposed under current Application, for any additional potential impact(s)	Residual Impact
Indirect Impact to WRA	N/A	N/A	N/A	Insignificant potentially additional impact due to the increase in building height and density.	The completed WRA will continue to be the buffer as approved. The 6-/8-/10-storeys buildings have been located with 50m setback from the WRA. Scheduling the foundation works for the nearest building (C2-1) from the WCA, between mid-March to mid-November only, to avoid the period when the number of disturbance-sensitive species is the greatest. Construction activities between the hours of 7pm and 7am will be prohibited. There are increase in building heights under current Application. Both low-rise (6-storey and 8-storey) and high-rise (10-storey) have been considered carefully the alignment and orientation. Proposed increase the buffer planting within residential portion from 2.5m to 5m for further screening effect.	No adverse impact.

9 PROPOSED EXTRA ECOLOGICAL MERITS

9.1.1 As mentioned in the Planning Statement Section 8.5.3, the following ecological merits are explored to be incorporated in the proposed development.

9.1.2 For purpose of public awareness and education, wildlife viewing points are proposed within the residential portion. Proposed viewing points at ground level will be adjoining the WRA with vegetation screening while proposed viewing points at roof-top of the buildings allow larger picture of the wetlands. These viewing points would only be allowed under registration entry via the property management in order to avoid excessive disturbance.

9.1.3 Passive recreation within the residential portion will be introduced by landscape gardens and ponds with recreational walk. Native vegetation, fruit trees and flowering plants will be considered where appropriate, for example a butterfly garden. These ponds/gardens will also provide microhabitats with some ecological linkage to the adjacent wetlands.

10 CONCLUSION

10.1.1 Since the proposed amendments include increase in building height and number of units, potential additional disturbance impact is expected to the implemented WRA and wetland habitats in the WCA and the proposed SPS WCP.

10.1.2 Based on the desktop review of EM&A monitoring data and 12-months ecological surveys, with reference to the approved EIA Report of San Tin/Lok Ma Chau Development Node, the potential additional impact due to increase in building height and number of units, have been evaluated with prediction on maximum Exclusion Zone and Zone of Reduced Density of disturbance-sensitive bird species. During construction, maximum exclusion zone covering fishponds within the WCA, have been largely avoided by careful consideration of the 10-storey buildings location. During operation, there will no exclusion zone covering any fishponds within the WCA, i.e. the future SPS WCP.

10.1.3 Those 2-storey houses abutting the WRA in the approved S16 scheme (A/YL-MP/344), are proposed increase to 3-storey detached/semi-detached houses. The buffer planting between the implemented WRA and the residential area will be completed prior to the operational phase of the Project. Compared to the previous approved scheme, the buffer planting within the residential portion has been proposed to increase from 2.5m to 5m width. The WRA design also considered the potential impact, hence the microhabitat closer to the residential portion has been planted with continuous reed.

10.1.4 The low-rise buildings (6-storey and 8-storey) and high-rise buildings (10-storey) have been considered carefully the alignment and orientation. The high-rise buildings have been located further away from the WCA, where is less ecologically sensitive. Making reference to the approved EIA Report of San Tin/Lok Ma Chau Development Node, estimation of bird species of conservation importance to be potentially impacted within predicted maximum RDZ and EZ, have been summarized. When comparing the predicted number of individuals displaced for these species with the mean number per month in Deep Bay reported by HKBWS the disturbance impacts to these species of conservation importance from this Project are anticipated to be minimal. The approved mitigation measures during construction phase and operation phase are considered sufficient to minimize the disturbance impacts.

10.1.5 No major flightlines in latest surveys is over the residential portion of the proposed development. Only one minor flightline is recorded. No impedance of flightline is expected. No additional flightline impact is predicted.

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Appendix

Appendix A

Fauna Species recorded in EM&A reports between December 2023 – November 2024

All survey findings summarised in Appendix A are retrieved from EM&A reports by Mott MacDonald Hong Kong Ltd.

Table A1 Mammal Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Japanese Pipistrelle	*Pipistrellus abraums*	Cap. 170	Widely distributed throughout Hong Kong.
No. of species of conservation importance			**1**
Total no. of species recorded			**1**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Cap. 170 = Wild Animals Protection Ordinance.
2. Distribution and rarity follow the data of HKBIH (AFCD, 2024).

Table A2 Mammal Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Short-nosed Fruit Bat	*Cynopterus sphinx*	RLCV (NT); Cap. 170	Very widely distributed in urban and countryside areas throughout Hong Kong.
Japanese Pipistrelle	*Pipistrellus abraums*	Cap. 170	Widely distributed throughout Hong Kong.
Leopard Cat	*Prionailurus bengalensis*	RLCV (VU); CSMPS (I); CITES (II); Cap. 170; Cap. 586	Widely distributed in countryside areas throughout Hong Kong, except for Lantau Island.
Eurasian Wild Pig	*Sus scrofa*	-	Very widely distributed in countryside areas throughout Hong Kong.
No. of species of conservation importance			**3**
Total no. of species recorded			**4**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016): NT = Near-threatened; VU = Vulnerable.
   b. Protection status by CITES (2024): II = Listed in Appendix II of CITES.
   c. Protection status by CSMPS (CSIS, 2019): I = Class I Protected Species in China.
   d. Cap. 170 = Wild Animals Protection Ordinance.
   e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
2. Distribution and rarity follow the data of HKBIH (AFCD, 2024).

Table A3 Bird Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Northern Shoveler	***Spatula clypeata***	**RC**	**Abundant winter visitor to the intertidal areas of Deep Bay typically present October to April.**
Tufted Duck	***Aythya fuligula***	**LC**	**Abundant winter visitor.**
House Swift	*Apus nipalensis*	-	Locally abundant resident and passage migrant, mainly in spring. Much lower numbers now occur on migration compared with the 1980s and 1990s.
Greater Coucal	*Centropus sinensis*	CSMPS(II)	Widespread and common resident typically present in mangroves and shrub dominated closed and open-canopy habitats, usually in lowland areas.
Asian Koel	*Eudynamys scolopaceus*	-	Very common resident, with increased numbers in autumn suggesting the presence of passage migrants.
Large Hawk-cuckoo	*Hierococcyx sparverioides*	-	Common summer visitor.
Indian Cuckoo	*Cuculus Micropterus*	-	Breeding summer visitor, which is locally common but less widespread than in the past.
Eurasian Collared Dove	*Streptopelia decaocto*	-	A locally common breeding resident in the northwest New Territories with scattered records elsewhere. First recorded in 1999 and placed on Category IIB in 2007, it is slowly increasing in numbers and range.
Red Turtle Dove	*Streptopelia tranquebarica*	-	A common passage migrant, especially in autumn, and scarce winter visitor, mainly to the Deep Bay area, with occasional summer records. Numbers appear to have increased in recent years and summer records have become more frequent, but there is no evidence that breeding has occurred.
Spotted Dove	*Spilopelia chinensis*	-	Common and conspicuous resident in all anthropogenic habitats.
Eastern Water Rail	***Rallus indicus***	-	**Scarce winter visitor to freshwater or brackish marsh.**
Common Moorhen	***Gallinula chloropus***	-	**Scarce to uncommon winter visitor, scarce at other times, in vegetated wetland habitats of the northern New Territories, though appears to be in decline due to urbanisation and more intensive management of commercial fishponds.**
White-breasted Waterhen	***Amaurornis phoenicurus***	-	**Common resident in a variety of freshwater and brackish wetland habitats, though numbers are declining probably due to urbanisation of the New Territories.**
Little Grebe	***Tachybaptus ruficollis***	**LC**	**Common in open freshwater wetlands in the northwest New Territories, though declining in marginal areas probably due to increased human disturbance and draining of wetlands.**
Black-winged Stilt	***Himantopus Himantopus***	**RC**	**Common to abundant in freshwater marsh, brackish Gei Wai and commercial fishponds. Has increased greatly since winter 2005/06 and small numbers now breed in most years.**
Little Ringed Plover	***Charadrius dubius***	**(LC)**	**Present all year. Primarily an autumn passage migrant and winter visitor to fresh and brackish water wetlands but breeds in small numbers in ephemeral freshwater wetland habitat.**
Common Snipe	***Gallinago gallinago***	-	**Common passage migrant and winter visitor to vegetated freshwater wetlands, most numerous in autumn.**
Common Sandpiper	***Actitis hypoleucos***	-	**Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.**
Green Sandpiper	***Tringa ochropus***	-	**Uncommon passage migrant and winter visitor, rare in summer; occurs in a wide variety of freshwater wetlands.**
Marsh Sandpiper	***Tringa stagnatilis***	**RC**	**Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.**
Wood Sandpiper	***Tringa glareola***	**LC**	**Common migrant and winter visitor to freshwater wetlands, with some evidence of a decline in numbers.**
Spotted Redshank	***Tringa erythropus***	**RC**	**Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.**

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Whiskered Tern	***Chlidonias hybrida***	**-**	**Common passage migrant, scarce in winter; occurs mainly in fishpond and freshwater wetland areas, but also in inshore and occasionally, offshore waters.**
White-winged Tern	***Chlidonias leucopterus***	**-**	**Passage migrant, common in spring and scarce in autumn; mostly seen over fishponds or freshwater marsh in the Deep Bay area but also occasionally in coastal waters. Numbers have possibly declined since the 1990s.**
Great Cormorant	***Phalacrocorax carbo***	**PRC**	**Abundant winter visitor to Deep Bay area and both inshore and offshore waters.**
Yellow Bittern	***Ixobrychus sinensis***	**(LC)**	**Common summer visitor and passage migrant to wetland areas primarily in the Deep Bay area, scarce in winter. Numbers of breeding birds and passage migrants have substantially decreased.**
Black-crowned Night Heron	***Nycticorax nycticorax***	**(LC)**	**Abundant passage migrant and winter visitor and uncommon breeding species. Occurs in variety of wetland habitats throughout Hong Kong.**
Chinese Pond Heron	***Ardeola bacchus***	**PRC (RC)**	**Common at a variety of freshwater and brackish wetlands across Hong Kong throughout the year; both migratory and resident populations occur.**
Eastern Cattle Egret	***Bubulcus ibis***	**(LC)**	**Present all year in vegetated fresh and brackish water wetland areas; highest numbers in the wet season, after breeding and during autumn migration.**
Grey Heron	***Ardea cinerea***	**PRC**	**Abundant winter visitor; scarce in summer. Has bred. Frequents wetlands throughout Hong Kong but concentrated in Deep Bay area.**
Great Egret	***Ardea alba***	**PRC (RC)**	**Present all year in larger and more open brackish and freshwater wetlands. Most numerous in late autumn and least in April. Migrants pass through mainly in autumn, and a large breeding population has established in Deep Bay in recent years.**
Intermediate Egret	***Ardea intermedia***	**RC**	**Common on passage but scarce at other times of year mainly in freshwater wetland areas. Appears to have increased in numbers over past 60 years.**
Little Egret	***Egretta garzetta***	**PRC (RC)**	**Present all year in a wide variety of fresh and non-freshwater wetland habitats. An influx of birds occurs in the winter months.**
Black-winged Kite	*Elanus caeruleus*	LC; CSMPS(II); CITES(II); Cap.586	Common passage migrant in autumn, scarce at other times; occurs in open country habitats mainly in the northwest New Territories.
Crester Goshawk	*Accipiter trivirgatus*	CITES(II); CSMPS(II); Cap.586	Common resident in forest areas, but also hunts in open country.
Besra	*Accipiter virgatus*	CSMPS(II); CITES(II); Cap.586	Present all year. Numbers highest in autumn when passage migrants occur in diverse wooded areas and lowest in summer when it breeds in closed-canopy shrubland.
Black Kite	*Milvus migrans*	(RC); CSMPS(II); CITES(II); Cap.586	Present all year throughout Hong Kong, numbers lowest in summer and highest during autumn migration.
Eastern Buzzard	*Buteo japonicus*	CSMPS(II); CITES(II); Cap.586	Common autumn passage migrant and winter visitor, scarce in spring. Occurs in widespread areas of Hong Kong in most non-urban habitats.
White-throated Kingfisher	***Halcyon smyrnensis***	**(LC); CSMPS(II)**	**Present all year with numbers highest in the second half. Much declined, particularly in the breeding season. Occurs mainly in Deep Bay wetlands in the winter, but in mixed shrubland and farmland habitats in the breeding season.**
Common Kingfisher	***Alcedo atthis***	**-**	**Common in autumn and winter, scarce in spring and summer; frequents a wide variety of lowland, largely freshwater wetlands, though also forages at the coast. The migrant population is probably much declined.**
Pied Kingfisher	***Ceryle rudis***	**(LC)**	**Locally uncommon resident, mainly in freshwater and brackish wetland. In decline.**

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Peregrine Falcon	*Falco peregrinus*	(LC); CSMPS(II); CITES(I); Cap.586	Present all year, with the resident subspecies peregrinator breeding and birds from northerly breeding populations present in winter.
Long-tailed Shrike	*Lanius schach*	LC	Formerly a widespread and fairly common breeding species with occasional winter records. Last proven to breed in 2003 and now a scarce passage migrant and rare winter visitor.
Black-naped Oriole	*Oriolus chinensis*	-	Occurs year-round in open broadleaf woodland or forest-edge areas, most abundant during autumn passage.
Hair-crested Drongo	*Dicrurus hottentottus*	-	Common summer visitor, larger numbers on passage especially autumn, and regular in winter in low numbers. Occurs in open country areas with scattered trees or artificial perches.
Black Drongo	*Dicrurus macrocercus*	-	Common breeding resident in open-canopy shrubland and open-country with sufficient perches and nest sites.
Azure-winged Magpie	*Cyanopica cyanus*	-	Locally common breeding resident in the Deep Bay area centred around Mai Po.
Collared Crow	***Corvus torquatus***	**LC; IUCN(VU)**	**Locally common resident.**
Large-billed Crow	*Corvus macrorhynchos*	-	Largely resident, occurs throughout Hong Kong.
Japanese Tit	*Parus minor*	-	Abundant resident in diverse wooded and lightly-wooded habitats.
Chinese Bulbul	*Pycnonotus sinensis*	-	Abundant resident in nearly all habitats; HK's most widespread bird. Also occurs as a passage migrant and winter visitor.
Red-whiskered Bulbul	*Pycnonotus jocosus*	-	Abundant or common resident in nearly all habitats; Hong Kong's second most widespread bird.
Barn Swallow	*Hirundo rustica*	-	Widespread and common.
Pallas's Leaf Warbler	*Phylloscopus proregulus*	-	Uncommon to common winter visitor and passage migrant to wooded areas.
Dusky Warbler	*Phylloscopus fusccatus*	-	Common passage migrant and winter visitor to open country areas with shrubs.
Yellow-bellied Prinia	*Prinia flaviventris*	-	Common resident in grassland, reed marsh and rank or herbaceous vegetation, and thus highest densities occur in the northwest New Territories.
Plain Prinia	*Prinia inornate*	-	Locally common resident in grassy habitat mainly in the northwest New Territories.
Common Tailorbird	*Orthotomus sutorius*	-	Common widespread resident in diverse habitats of forest, shrubby grassland and landscaped urban areas.
Swinhoe's White-eye	*Zosterops simplex*	-	Widespread abundant resident.
Masked Laughingthrush	*Pterorhinus perspicllatus*	-	A common resident of anthropogenic and disturbed habitats throughout Hong Kong.
Crested Myna	*Acridotheres cristatellus*	-	Abundant and widespread resident in diverse lowland habitats.
Common Myna	*Acridotheres tristis*	-	Locally common resident population considered to derive from ex-captive birds.
Red-billed Starling	*Spodiopsar sericeus*	GC	Abundant winter visitor to open country areas though the range appears to be reducing. A few breeding records in village houses and an urban park.
White-cheeked Starling	*Spodiopsar cineraceus*	PRC	Locally common but declining winter visitor, with recent breeding records.
Black-collared Starling	*Gracupica nigricollis*	-	Common, widespread resident of lowland open-country , village and urban habitats.
White-shouldered Starling	*Sturnia sinensis*	(LC)	Locally common passage migrant and breeding species and an uncommon winter visitor to open country habitat mainly in the northwest New Territories.
Chinese Blackbird	*Turdus mandarinus*	-	Common migrant and winter visitor, scarce but increasing breeding species in northwest New Territories.
Grey-backed Thrush	*Turdus hortulorum*	-	Common winter visitor and uncommon passage migrant to diverse wooded areas.
Oriental Magpie Robin	*Copsychus saularis*	-	Abundant, widespread resident over a wide range of habitats.
Red-throated Flycatcher	*Ficedula albicilla*	-	Common passage migrant and winter visitor to open country or lightly-wooded habitats.

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Daurian Redstart	*Phoenicurus auroreus*	-	Common winter visitor to lightly wooded areas.
Amur Stonechat	*Saxicola stejnegeri*	-	Common passage migrant and winter visitor to open country areas.
Eurasian Tree Sparrow	*Passer montanus*	-	An abundant resident, commensal with humans and found in all lowland anthropogenic habitats, especially in active farmland, around fishponds and in city parks.
Scaly-breasted Munia	*Lonchura punctulate*	-	Locally common resident in open country grassland, farmland, wetland and waste ground. Largely restricted to the lowland northern New Territories.
White-rumped Munia	*Lonchura striata*	-	Common in lightly wooded urban fringe and village edge habitats, largely resident but aggregations occur in seeding grassland and rice fields.
Eastern Yellow Wagtail	*Motacilla tschutschensis*	-	Common passage migrant and winter visitor.
White Wagtail	*Motacilla alba*	-	Common passage migrant and winter visitor
Olive-backed Pipit	*Anthus hodgsoni*	-	Common winter visitor and passage migrant to wooded, semi-wooded and open-country habitats with wooded areas nearby.
Little Bunting	*Emberiza pusilla*	-	Uncommon from November to April with weak passage in autumn and spring.
Black-faced Bunting	*Emberiza spodocephala*	-	Common passage migrant and winter visitor to a diverse range of vegetated often damp open-country areas. Generally, the commonest and most widespread bunting in Hong Kong. Numbers have declined however, especially in spring.
No. of species of conservation importance			**31**
No. of species of conservation importance and/or wetland-dependent			**40**
Total no. of species recorded			**80**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): GC = Global Concern; 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. Conservation status by IUCN (2024): VU = Vulnerable.
   c. Protection status by CITES (2024): I = Listed in Appendix I of CITES; II = Listed in Appendix II of CITES.
   d. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
   e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
2. Status in Hong Kong follows the data of the latest version of The Avifauna of Hong Kong (HKBWS, 2024).
3. Species considered as of wetland-dependent in this study are indicated in bold type.

Table A4 Bird Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Savanna Nightjar	*Caprimulgus affinis*	-	Locally common resident in grassland and open country, with some seasonal movements.
Greater Coucal	*Centropus sinensis*	CSMPS(II)	Widespread and common resident typically present in mangroves and shrub dominated closed and open-canopy habitats, usually in lowland areas.
Asian Koel	*Eudynamys scolopaceus*	-	Very common resident, with increased numbers in autumn suggesting the presence of passage migrants.
Plaintive Cuckoo	*Cacomantis merulinus*	-	Locally fairly common summer visitor, scarce passage migrant and winter visitor, with some individuals likely to be resident. Occurs in lowland rural areas of mixed habitats, often in agricultural areas.
Large Hawk-cuckoo	*Hierococcyx sparverioides*	-	Common summer visitor
Indian Cuckoo	*Cuculus Micropterus*	-	Breeding summer visitor, which is locally common but less widespread than in the past.
Eurasian Collared Dove	*Streptopelia decaocto*	-	A locally common breeding resident in the northwest New Territories with scattered records elsewhere. First recorded in 1999 and placed on Category IIB in 2007, it is slowly increasing in numbers and range.
Red Turtle Dove	*Streptopelia tranquebarica*	-	A common passage migrant, especially in autumn, and scarce winter visitor, mainly to the Deep Bay area, with occasional summer records. Numbers appear to have increased in recent years and summer records have become more frequent, but there is no evidence that breeding has occurred.
Spotted Dove	*Spilopelia chinensis*	-	Common and conspicuous resident in all anthropogenic habitats.
Common Moorhen	***Gallinula chloropus***	**-**	**Scarce to uncommon winter visitor, scarce at other times, in vegetated wetland habitats of the northern New Territories, though appears to be in decline due to urbanisation and more intensive management of commercial fishponds.**
White-breasted Waterhen	***Amaurornis phoenicurus***	**-**	**Common resident in a variety of freshwater and brackish wetland habitats, though numbers are declining probably due to urbanisation of the New Territories.**
Little Grebe	***Tachybaptus ruficollis***	**LC**	**Common in open freshwater wetlands in the northwest New Territories, though declining in marginal areas probably due to increased human disturbance and draining of wetlands.**
Black-winged Stilt	***Himantopus Himantopus***	**RC**	**Common to abundant in freshwater marsh, brackish Gei Wai and commercial fishponds. Has increased greatly since winter 2005/06 and small numbers now breed in most years.**
Greater Painted-snipe	***Rostratula benghalensis***	**LC**	**Present all year in areas of freshwater marsh and wet agriculture; numbers in winter are higher due to presence of migrants from the north.**
Pintail/Swinhoe's Snipe	***Gallinago stenura / megala***	**LC for Swinhoe's Snipe**	**-**
Common Snipe	***Gallinago gallinago***	**-**	**Common passage migrant and winter visitor to vegetated freshwater wetlands, most numerous in autumn.**

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Common Sandpiper	***Actitis hypoleucos***	**-**	**Scarce passage migrant, slightly more numerous in spring, and rare summer visitor; much declined. Occurs in vegetated freshwater wetlands.**
Green Sandpiper	***Tringa ochropus***	**-**	**Uncommon passage migrant and winter visitor, rare in summer; occurs in a wide variety of freshwater wetlands.**
Wood Sandpiper	***Tringa glareola***	**LC**	**Common migrant and winter visitor to freshwater wetlands, with some evidence of a decline in numbers.**
Common Greenshank	***Tringa nebularia***	**RC**	**Abundant passage migrant and common winter visitor to Deep Bay area, with scattered records elsewhere.**
Whiskered Tern	***Chlidonias hybrida***	**-**	**Common passage migrant, scarce in winter; occurs mainly in fishpond and freshwater wetland areas, but also in inshore and occasionally, offshore waters.**
Great Cormorant	***Phalacrocorax carbo***	**PRC**	**Abundant winter visitor to Deep Bay area and both inshore and offshore waters.**
Yellow Bittern	***Ixobrychus sinensis***	**(LC)**	**Common summer visitor and passage migrant to wetland areas primarily in the Deep Bay area, scarce in winter. Numbers of breeding birds and passage migrants have substantially decreased.**
Black-crowned Night Heron	***Nycticorax nycticorax***	**(LC)**	**Abundant passage migrant and winter visitor and uncommon breeding species. Occurs in variety of wetland habitats throughout Hong Kong.**
Chinese Pond Heron	***Ardeola bacchus***	**PRC (RC)**	**Common at a variety of freshwater and brackish wetlands across Hong Kong throughout the year; both migratory and resident populations occur.**
Eastern Cattle Egret	***Bubulcus ibis***	**(LC)**	**Present all year in vegetated fresh and brackish water wetland areas; highest numbers in the wet season, after breeding and during autumn migration.**
Grey Heron	***Ardea cinerea***	**PRC**	**Abundant winter visitor; scarce in summer. Has bred. Frequents wetlands throughout HK but concentrated in Deep Bay area.**
Purple Heron	***Ardea purpurea***	**RC**	**Present all year in vegetated wetlands almost exclusively in the Deep Bay area. Most numerous during autumn passage. Peak counts have decreased since the early 1980s.**
Great Egret	***Ardea alba***	**PRC (RC)**	**Present all year in larger and more open brackish and freshwater wetlands. Most numerous in late autumn and least in April. Migrants pass through mainly in autumn, and a large breeding population has established in Deep Bay in recent years.**
Intermediate Egret	***Ardea intermedia***	**RC**	**Common on passage but scarce at other times of year mainly in freshwater wetland areas. Appears to have increased in numbers over past 60 years.**
Little Egret	***Egretta garzetta***	**PRC (RC)**	**Present all year in a wide variety of fresh and non-freshwater wetland habitats. An influx of birds occurs in the winter months.**
Black-winged Kite	*Elanus caeruleus*	LC; CSMPS(II); CITES(II); Cap.586	Common passage migrant in autumn, scarce at other times; occurs in open country habitats mainly in the northwest New Territories.
Crester Goshawk	*Accipiter trivirgatus*	CITES(II); CSMPS(II); Cap.586	Common resident in forest areas, but also hunts in open country.
Besra	*Accipiter virgatus*	CSMPS(II); CITES(II); Cap.586	Present all year. Numbers highest in autumn when passage migrants occur in diverse wooded areas and lowest in summer when it breeds in closed-canopy shrubland.

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Eastern Marsh Harrier	***Circus spilonotus***	**LC; CSMPS(II); CITES(II); Cap.586**	**Common winter visitor and passage migrant, most numerous in autumn. Mainly occurs in Deep Bay area wetlands.**
Black Kite	*Milvus migrans*	(RC); CSMPS(II); CITES(II); Cap.586	Present all year throughout Hong Kong, numbers lowest in summer and highest during autumn migration.
Eastern Buzzard	*Buteo japonicus*	CSMPS(II); CITES(II); Cap.586	Common autumn passage migrant and winter visitor, scarce in spring. Occurs in widespread areas of Hong Kong in most non-urban habitats.
White-throated Kingfisher	***Halcyon smyrnensis***	**(LC); CSMPS(II)**	**Present all year with numbers highest in the second half. Much declined, particularly in the breeding season. Occurs mainly in Deep Bay wetlands in the winter, but in mixed shrubland and farmland habitats in the breeding season.**
Common Kingfisher	***Alcedo atthis***	-	**Common in autumn and winter, scarce in spring and summer; frequents a wide variety of lowland, largely freshwater wetlands, though also forages at the coast. The migrant population is probably much declined.**
Pied Kingfisher	***Ceryle rudis***	**(LC)**	**Locally uncommon resident, mainly in freshwater and brackish wetland. In decline.**
Common Kestrel	*Falco tinnunculus*	CSMPS(II); CITES(II); Cap.586	Common passage migrant in autumn, uncommon winter visitor, scarce passage migrant in spring and very rare in summer; occurs in open country areas.
Long-tailed Shrike	*Lanius schach*	-	Occurs year-round in open broadleaf woodland or forest-edge areas, most abundant during autumn passage.
Hair-crested Drongo	*Dicrurus hottentottus*	-	Common summer visitor, larger numbers on passage especially autumn, and regular in winter in low numbers. Occurs in open country areas with scattered trees or artificial perches.
Black Drongo	*Dicrurus macrocercus*	-	Common breeding resident in open-canopy shrubland and open-country with sufficient perches and nest sites.
Red-billed Blue Magpie	*Urocissa erythrorynchа*	-	Common resident, particularly in shrubland, forest edge, large parks and the urban fringe.
Collared Crow	***Corvus torquatus***	**LC; IUCN(VU)**	**Locally common resident.**
Large-billed Crow	*Corvus macrorhynchos*	-	Largely resident, occurs throughout Hong Kong.
Japanese Tit	*Parus minor*	-	Abundant resident in diverse wooded and lightly-wooded habitats.
Chinese Bulbul	*Pycnonotus sinensis*	-	Abundant resident in nearly all habitats; Hong Kong's most widespread bird. Also occurs as a passage migrant and winter visitor.
Red-whiskered Bulbul	*Pycnonotus jocosus*	-	Abundant or common resident in nearly all habitats; Hong Kong's second most widespread bird.
Barn Swallow	*Hirundo rustica*	-	Widespread and common.
Yellow-browed Warbler	*Phylloscopus inornatus*	-	Common and widespread winter visitor and passage migrant.
Dusky Warbler	*Phylloscopus fusccatus*	-	Common passage migrant and winter visitor to open country areas with shrubs.

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Oriental Reed Warbler	***Acrocephalus orientalis***	**-**	**Passage migrant, common in autumn, uncommon in spring, and scarce to rare in winter and summer. Mainly occurs in reed marsh and tall grass associated with wetlands.**
Yellow-bellied Prinia	*Prinia flaviventris*	-	Common resident in grassland, reed marsh and rank or herbaceous vegetation, and thus highest densities occur in the northwest New Territories.
Plain Prinia	*Prinia inornate*	-	Locally common resident in grassy habitat mainly in the northwest New Territories.
Common Tailorbird	*Orthotomus sutorius*	-	Common widespread resident in diverse habitats of forest, shrubby grassland and landscaped urban areas.
Swinhoe's White-eye	*Zosterops simplex*	-	Widespread abundant resident.
Masked Laughingthrush	*Pterorhinus perspicllatus*	-	A common resident of anthropogenic and disturbed habitats throughout Hong Kong.
Crested Myna	*Acridotheres cristatellus*	-	Abundant and widespread resident in diverse lowland habitats.
Common Myna	*Acridotheres tristis*	-	Locally common resident population considered to derive from ex-captive birds.
Black-collared Starling	*Gracupica nigricollis*	-	Common, widespread resident of lowland open-country , village and urban habitats.
Chinese Blackbird	*Turdus mandarinus*	-	Common migrant and winter visitor, scarce but increasing breeding species in northwest New Territories.
Grey-backed Thrush	*Turdus hortulorum*	-	Common winter visitor and uncommon passage migrant to diverse wooded areas.
Oriental Magpie Robin	*Copsychus saularis*	-	Abundant, widespread resident over a wide range of habitats.
Siberian Rubythroat	*Calliope calliope*	CSMPS(II)	Common winter visitor and passage migrant to open- and closed-canopy shrubland, reed marsh, mangrove edge and open country areas with shrubs.
Red-throated Flycatcher	*Ficedula albicilla*	-	Common passage migrant and winter visitor to open country or lightly-wooded habitats.
Daurian Redstart	*Phoenicurus auroreus*	-	Common winter visitor to lightly wooded areas.
Amur Stonechat	*Saxicola stejnegeri*	-	Common passage migrant and winter visitor to open country areas.
Fork-tailed Sunbird	*Aethopyga christinae*	-	Abundant resident species in diverse wooded habitats.
Scaly-breasted Munia	*Lonchura punctulate*	-	Locally common resident in open country grassland, farmland, wetland and waste ground. Largely restricted to the lowland northern New Territories.
Eastern Yellow Wagtail	*Motacilla tschutschensis*	-	Common passage migrant and winter visitor.
White Wagtail	*Motacilla alba*	-	Common passage migrant and winter visitor

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Olive-backed Pipit	*Anthus hodgsoni*	-	Common winter visitor and passage migrant to wooded, semi-wooded and open-country habitats with wooded areas nearby.
Little Bunting	*Emberiza pusilla*	-	Uncommon from November to April with weak passage in autumn and spring.
No. of species of conservation importance			**28**
No. of species of conservation importance and/or wetland-dependent			**36**
Total no. of species recorded			**75**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by 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. Conservation status by IUCN (2024): VU = Vulnerable.
   c. Protection status by CITES (2024): II = Listed in Appendix II of CITES.
   d. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
   e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
2. Status in Hong Kong follows the data of the latest version of The Avifauna of Hong Kong (HKBWS, 2024).
3. Species considered as of wetland-dependent in this study are indicated in bold type.

Table A5 Amphibian Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Asian Common Toad	*Duttaphrynus melanostictus*	-	Widely distributed in Hong Kong.
Asiatic Painted Frog	*Kaloula pulchra*	-	Widely distributed in Hong Kong.
Brown Tree Frog	*Polypedates megacephalus*	-	Widely distributed throughout Hong Kong.
No. of species of conservation importance			**0**
Total no. of species recorded			**3**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A6 Amphibian Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Asian Common Toad	*Duttaphrynus melanostictus*	-	Widely distributed in Hong Kong.
Asiatic Painted Frog	*Kaloula pulchra*	-	Widely distributed in Hong Kong.
Ornate Pigmy Frog	*Microhyla fissipes*	-	Widely distributed in Hong Kong.
Paddy Frog	*Fejervarya multistriata*	-	Widely distributed throughout Hong Kong.
Chinese Bullfrog	*Hoplobatrachus chinensis*	PRC; RLCV (EN); CSMPS (II)	Widely distributed in Hong Kong.
Günther's Frog	*Sylvirana guentheri*	-	Widely distributed throughout Hong Kong.
Brown Tree Frog	*Polypedates megacephalus*	-	Widely distributed throughout Hong Kong.
No. of species of conservation importance			**1**
Total no. of species recorded			**7**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): PRC = Potential Regional Concern.
   b. Conservation status by Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016): EN = Endangered; NT = Near-threatened.
   c. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A7 Reptile Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Bowring's Gecko	*Hemidactylus bowringii*	-	Distributed throughout Hong Kong.
Checkered Keelback	*Fowlea flavipunctata*	-	Widely distributed in streams in the New Territories and Lantau Island.
No. of species of conservation importance			**0**
Total no. of species recorded			**2**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A8 Reptile Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Long-tailed Skink	*Eutropis longicaudata*	-	Widely distributed throughout Hong Kong.
Four-clawed Gecko	*Gehyra mutilata*	RLCV (VU)	Widely distributed throughout Hong Kong.
Bowring's Gecko	*Hemidactylus bowringii*	-	Distributed throughout Hong Kong.
Common Rat Snake	*Ptyas mucosus*	PRC; RLCV (EN); CITES (II); Cap. 586	Widely distributed throughout Hong Kong.
Many-banded Krait	*Bungarus multicinctus*	PRC; RLCV (VU); IUCN (VU)	Common and widely distributed in Hong Kong.
Checkered Keelback	*Fowlea flavipunctata*	-	Widely distributed in streams in the New Territories and Lantau Island.
No. of species of conservation importance			**3**
Total no. of species recorded			**6**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): PRC = Potential Regional Concern.
   b. Conservation status by IUCN (2024): VU = Vulnerable.
   c. Conservation status by Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016): EN = Endangered; VU = Vulnerable.
   d. Protection status by CITES (2024): II = Listed in Appendix II of CITES.
   e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A9 Odonate Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Wandering Midget	*Agriocnemis pygmaea*	-	Widely distributed in marshes, abandoned paddy fields and weedy pond margins throughout Hong Kong.
Orange-tailed Sprite	*Ceriagrion auranticum*	-	Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters.
Common Bluetail	*Ischnura senegalensis*	-	Widely distributed in all wetland habitats except fast flowing rivers throughout Hong Kong.
Common Flangetail	*Ictinogomphus pertinax*	-	Widely distributed in ponds and still water throughout Hong Kong.
Asian Pintail	*Acisoma panorpoides*	-	Widely distributed in marshes and weedy ponds throughout Hong Kong.
Asian Amberwing	*Brachythemis contaminata*	-	Widely distributed in weedy ponds and sluggish streams.
Crimson Darter	*Crocothemis servilia*	-	Widely distributed in cultivated areas, ponds and marshes throughout the New Territories.
Coastal Glider	*Macrodiplax cora*	LC	Frequents marshes and ponds with dense vegetation, especially adjacent to coastal areas.
Russet Percher	*Neurothemis fulvia*	-	Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong.
Pied Percher	*Neurothemis tullia*	-	Favours marshes and abandoned rice paddies. Widely distributed throughout Hong Kong.
Green Skimmer	*Orthetrum sabina*	-	Widely distributed in all wetland habitats throughout Hong Kong.
Wandering Glider	*Pantala flavescens*	-	Widely distributed all over Hong Kong.
Pied Skimmer	*Pseudothemis zonata*	-	Widely distributed in woodlands adjacent to reservoirs, sluggish streams, ponds, tanks and marshes throughout Hong Kong.
Variegated Flutterer	*Rhyothemis variegata*	-	Widely distributed in marshes, ponds and tanks throughout Hong Kong.
No. of species of conservation importance			**1**
Total no. of species recorded			**14**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): LC = Local Concern.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A10 Odonate Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Orange-tailed Midget	*Agriocnemis femina*	-	Widely distributed in disused paddy fields, marshes, ditches and weedy ponds margins.
Wandering Midget	*Agriocnemis pygmaea*	-	Widely distributed in marshes, abandoned paddy fields and weedy pond margins throughout Hong Kong.
Orange-tailed Sprite	*Ceriagrion auranticum*	-	Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters.
Common Bluetail	*Ischnura senegalensis*	-	Widely distributed in all wetland habitats except fast flowing rivers throughout Hong Kong.
Blue Sprite	*Pseudagrion microcephalum*	LC	Found in lowland streams and ponds; often perches on aquatic plants just above the water surface. Population scattered all over Hong Kong and established in Hong Kong Wetland Park.
Orange-faced Sprite	*Pseudagrion rubriceps*	-	Widely distributed in ponds and weedy margins of slow flowing streams.
Yellow Featherlegs	*Copera marginipes*	-	Widely distributed in lowland streams, ditches, and weedy margins of pond throughout Hong Kong.
Pale-spotted Emperor	*Anax guttatus*	-	Widely distributed in ponds and sluggish streams throughout Hong Kong.

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Common Flangetail	*Ictinogomphus pertinax*	-	Widely distributed in ponds and still water throughout Hong Kong.
Asian Pintail	*Acisoma panorpoides*	-	Widely distributed in marshes and weedy ponds throughout Hong Kong.
Blue Dasher	*Brachydiplax chalybea*	-	Widely distributed in marshes and weedy ponds throughout Hong Kong
Asian Amberwing	*Brachythemis contaminata*	-	Widely distributed in weedy ponds and sluggish streams.
Crimson Darter	*Crocothemis servilia*	-	Widely distributed in cultivated areas, ponds and marshes throughout the New Territories.
Blue Percher	*Diplacodes trivialis*	-	Widespread, especially in late summer, when it can be found almost everywhere in Hong Kong.
Forest Chaser	*Lyriothemis elegantissima*	-	Frequents marshes beside woodlands. Widespread throughout Hong Kong.
Russet Percher	*Neurothemis fulvia*	-	Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong.
Pied Percher	*Neurothemis tullia*	-	Favours marshes and abandoned rice paddies. Widely distributed throughout Hong Kong.
Red-faced Skimmer	*Orthetrum chrysis*	-	Widely distributed in pools and marshy areas adjacent to flowing streams throughout Hong Kong.
Green Skimmer	*Orthetrum sabina*	-	Widely distributed in all wetland habitats throughout Hong Kong.
Wandering Glider	*Pantala flavescens*	-	Widely distributed all over Hong Kong.
Pied Skimmer	*Pseudothemis zonata*	-	Widely distributed in woodlands adjacent to reservoirs, sluggish streams, ponds, tanks and marshes throughout Hong Kong.
Ruby Darter	*Rhodothemis rufa*	LC	Widely distributed in ponds and marshes with dense floating plants.
Variegated Flutterer	*Rhyothemis variegata*	-	Widely distributed in marshes, ponds and tanks throughout Hong Kong.
Evening Skimmer	*Tholymis tillarga*	-	Widely distributed in marshes, weedy ponds and tanks throughout Hong Kong.
Saddlebag Glider	*Tramea virginia*	-	Widely distributed in trees adjacent to ponds and lakes throughout Hong Kong.
Scarlet Basker	*Urothemis signata*	LC	Common in areas with abandoned fishponds throughout Hong Kong.
No. of species of conservation importance			**3**
Total no. of species recorded			**26**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): LC = Local Concern.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table A11 Butterfly Species Recorded within Survey Area (excluding WRA)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Common Straight Swift	*Parnara guttata*	-	Common
Pale Grass Blue	*Zizeeria maha*	-	Very Common
Common Hedge Blue	*Acytolepis puspa*	-	Common
Common Evening Brown	*Melanitis leda*	-	Uncommon
Dark-brand Bush Brown	*Mycalesis mineus*	-	Very Common
Common Palmfly	*Elymnias hypermnestra*	-	Common
Blue-spotted Crow	*Euploea midamus*	-	Very Common
Rustic	*Cupha erymanthis*	-	Very Common
Great Egg-fly	*Hypolimnas bolina*	-	Very Common
Common Sailer	*Neptis hylas*	-	Very Common
Common Mormon	*Papilio polytes*	-	Very Common
Spangle	*Papilio protenor*	-	Very Common
Lime Butterfly	*Papilio demoleus*	-	Uncommon
Tailed Jay	*Graphium agamemnon*	-	Common
Lemon Emigrant	*Catopsilia pomona*	-	Very Common
Common Grass Yellow	*Eurema hecabe*	-	Very Common
Red-base Jezebel	*Delias pasithoe*	-	Very Common
No. of species of conservation importance		**0**	
Total no. of species recorded		**18**	

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
2. Status in Hong Kong follows Pun (2024).

Table A12 Butterfly Species Recorded within WRA

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Common Awl	*Hasora badra*	LC	Rare
Chinese Dart	*Potanthus confucius*	-	Common
Common Straight Swift	*Parnara guttata*	-	Common
Rare Swift	*Parnara ganga*	-	Uncommon
Paintbrush Swift	*Baoris farri*	-	Rare
Silver Streak Blue	*Iraota timoleon*	-	Uncommon
Tailless Line Blue	*Prosotas dubiosa*	-	Uncommon
Pale Grass Blue	*Zizeeria maha*	-	Very Common

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Lesser Grass Blue	*Zizina otis*	-	Common
Common Hedge Blue	*Acytolepis puspa*	-	Common
Common Evening Brown	*Melanitis leda*	-	Uncommon
Dark Evening Brown	*Melanitis phedima*	-	Common
Dark-brand Bush Brown	*Mycalesis mineus*	-	Very Common
Common Palmfly	*Elymnias hypermnestra*	-	Common
Plain Tiger	*Danaus chrysippus*	-	Uncommon
Blue-spotted Crow	*Euploea midamus*	-	Very Common
Great Egg-fly	*Hypolimnas bolina*	-	Very Common
Common Mapwing	*Cyrestis thyodamas*	-	Common
Angled Castor	*Ariadne ariadne*	-	Common
Common Archduke	*Lexias pardalis*	-	Uncommon
Common Sailer	*Neptis hylas*	-	Very Common
Common Mormon	*Papilio polytes*	-	Very Common
Paris Peacock	*Papilio paris*	-	Very Common
Common Bluebottle	*Graphium sarpedon*	-	Very Common
Tailed Jay	*Graphium agamemnon*	-	Common
Lemon Emigrant	*Catopsilia pomona*	-	Very Common
Common Grass Yellow	*Eurema hecabe*	-	Very Common
Three-spot Grass Yellow	*Eurema blanda*	-	Common
Red-base Jezebel	*Delias pasithoe*	-	Very Common
No. of species of conservation importance		**1**	
Total no. of species recorded		**31**	

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): LC = Local Concern.
2. Status in Hong Kong follows Pun (2024).

Appendix B

Fauna Species recorded during 12-month ecological surveys (April 2024 – March 2025)

Table B1 Mammal Species Recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Japanese Pipistrelle	*Pipistrellus abraums*	Cap. 170	Widely distributed throughout Hong Kong.	✓	✓
Short-nosed Fruit Bat	*Cynopterus sphinx*	IUCN(LC); Cap.170	Widely distributed throughout Hong Kong.	✓	✓
No. of species of conservation importance				**2**	**2**
Total no. of species recorded				**2**	**2**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Cap. 170 = Wild Animals Protection Ordinance.
   b. IUCN (2024): LC = Least Concern
2. Distribution and rarity follow the data of HKBIH (AFCD, 2024).

Table B2 Maximum Count of Bird Species Recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Application Site[3]					500m Assessment Area										
			SM	BG	Gr	DC	WRA	F	Po	M	DC	Rb	Ag	MG	LW	W	PI	DA
Northern Shoveler	***Spatula clypeata***	RC						2										
Tufted Duck	***Aythya fuligula***	LC						255										
House Swift	*Apus nipalensis*	-					3	50	3					4				2
Greater Coucal	*Centropus sinensis*	CSMPS(II)		1	1		2	3	1			2	1					
Asian Koel	*Eudynamys scolopaceus*	-						2				1			1			3
Eurasian Collared Dove	*Streptopelia decaocto*	-						8				5						
Spotted Dove	*Spilopelia chinensis*	-		3	4		5	6				6		5	2			12
Common Moorhen	***Gallinula chloropus***	-						5	1			1						
Eurasian Coot	***Fulica atra***	RC						6										
White-breasted Waterhen	***Amaurornis phoenicurus***	-	1				2	3	1	1	1	1						
Little Grebe	***Tachybaptus ruficollis***	LC						9	1									
Great Crested Grebe	***Podiceps cristatus***	RC						1										
Black-winged Stilt	***Himantopus himantopus***	RC						6			2	2						
Little Ringed Plover	***Charadrius dubius***	(LC)						4										
Temminck's Stint	***Calidris temminckii***	LC						2										
Common Sandpiper	***Actitis hypoleucos***	-	1			1	1	2			1	1						
Green Sandpiper	***Tringa ochropus***	-						1										
Common Redshank	***Tringa totanus***	RC						5										
Wood Sandpiper	***Tringa glareola***	LC						1										
Common Greenshank	***Tringa nebularia***	RC						1			1							
Oriental Stork	***Ciconia boyciana***	GC; RLCV(EN); IUCN(EN); CSMPS(I); CITES(I)						8										
Great Cormorant	***Phalacrocorax carbo***	PRC						54	3			7						
Yellow Bittern	***Ixobrychus sinensis***	(LC)					4	2	1			2						
Cinnamon Bittern	***Ixobrychus cinnamomeus***	LC						1										
Black-crowned Night Heron	***Nycticorax nycticorax***	(LC)					2	4	2		1	3						
Chinese Pond Heron	***Ardeola bacchus***	PRC (RC)	1				3	4	1	1	2	4				2		
Eastern Cattle Egret	***Bubulcus ibis***	(LC)			1		1	3										
Grey Heron	***Ardea cinerea***	PRC					1	3				2						
Purple Heron	***Ardea purpurea***	RC					1	1				1						
Great Egret	***Ardea alba***	PRC (RC)					1	37	1		1	1						
Intermediate Egret	***Ardea intermedia***	RC						1										
Little Egret	***Egretta garzetta***	PRC (RC)					2	23	2		1	3				2		
Black Kite	*Milvus migrans*	(RC); CSMPS(II); CITES(II); Cap.586						1				1				1	1	1

Common Name	Scientific Name	Conservation & Protection Status[1]	Application Site[3]					500m Assessment Area										
			SM	BG	Gr	DC	WRA	F	Po	M	DC	Rb	Ag	MG	LW	W	PI	DA
White-throated Kingfisher	***Halcyon smyrnensis***	(LC); CSMPS(II)					1	2	1			1						1
Common Kingfisher	***Alcedo atthis***	-				1	1	2	1		1	1						
Pied Kingfisher	***Ceryle rudis***	(LC)					1	2	1		1	1						
Black-naped Oriole	*Oriolus chinensis*	LC						1										
Black Drongo	*Dicrurus macrocercus*	-					1	3				2						2
Long-tailed Shrike	*Lanius schach*	-	1		1		1	1	1		1	1	1					
Azure-winged Magpie	*Cyanopica cyanus*	-						2				4						10
Red-billed Blue Magpie	*Urocissa erythroryncha*	-						2										3
Oriental Magpie	*Pica serica*	-						1										1
Collared Crow	***Corvus torquatus***	LC; IUCN(VU)						2				2						
Large-billed Crow	*Corvus macrorhynchos*	-						2				1				1	1	
Japanese Tit	*Parus minor*	-					2	3				2				1	1	2
Chinese Bulbul	*Pycnonotus sinensis*	-	2		3		4	6				3					4	8
Red-whiskered Bulbul	*Pycnonotus jocosus*	-	2		3		4	5				4					5	8
Barn Swallow	*Hirundo rustica*	-				3	6	20				7						24
Yellow-browed Warbler	*Phylloscopus inornatus*	-					1	1				2						
Pallas's Leaf Warbler	*Phylloscopus proregulus*	-						1										
Dusky Warbler	*Phylloscopus fuscatus*	-	1				2	2			1	2						
Oriental Reed Warbler	***Acrocephalus orientalis***	-						1				1						
Black-browed Reed Warbler	***Acrocephalus bistrigiceps***	-						2				1						
Zitting Cisticola	*Cisticola juncidis*	LC					1	1										
Yellow-bellied Prinia	*Prinia flaviventris*	-	1		1		1	2			1	4						
Plain Prinia	*Prinia inornata*	-					1	2			1	2						
Common Tailorbird	*Orthotomus sutorius*	-					1	1			2				1		1	1
Swinhoe's White-eye	*Zosterops simplex*	-					3	4			3				3		1	3
Masked Laughingthrush	*Pterorhinus perspicillatus*	-					6	4			5	5			6			4
Crested Myna	*Acridotheres cristatellus*	-		3	6		10	20			4	8			5			6
Common Myna	*Acridotheres tristis*	-					4	6			4	4			4			2
Red-billed Starling	*Spodiopsar sericeus*	GC						4										
White-cheeked Starling	*Spodiopsar cineraceus*	PRC						2										
Black-collared Starling	*Gracupica nigricollis*	-			4		8	12		2		6			6			5
White-shouldered Starling	*Sturnia sinensis*	(LC)						4				5						
Oriental Magpie Robin	*Copsychus saularis*	-		1	1	1	3	2	2	1	2		2		2			4
Bluethroat	*Luscinia svecica*	LC; CITES(III); CSMPS(II)						1										
Daurian Redstart	*Phoenicurus auroreus*	-			1		1	1	1				1					
Amur Stonechat	*Saxicola stejnegeri*	-			1		1	2	1			2						

Common Name	Scientific Name	Conservation & Protection Status[1]	Application Site[3]					500m Assessment Area										
			SM	BG	Gr	DC	WRA	F	Po	M	DC	Rb	Ag	MG	LW	W	PI	DA
Eurasian Tree Sparrow	*Passer montanus*	-			10		8	14			12	7			10			30
Scaly-breasted Munia	*Lonchura punctulata*	-	4		6		10	15			5							
Eastern Yellow Wagtail	*Motacilla tschutschensis*	-				1	1	2			1							
White Wagtail	*Motacilla alba*	-				1	1	2	1		1							1
Richard's Pipit	*Anthus richardi*	-						1					1					
Olive-backed Pipit	*Anthus hodgsoni*	-					3	4					2	4	4			6
Red-throated Pipit	*Anthus cervinus*	LC						1					1					
Black-faced Bunting	*Emberiza spodocephala*	-					1	2				2						
No. of species of conservation importance			**1**	**1**	**2**	**0**	**12**	**35**	**10**	**2**	**7**	**15**	**2**	**0**	**0**	**3**	**1**	**2**
No. of species of conservation importance and/or wetland-dependent			**1**	**0**	**2**	**0**	**15**	**42**	**13**	**2**	**10**	**20**	**2**	**0**	**0**	**2**	**1**	**2**
Total no. of species recorded			**9**	**4**	**14**	**6**	**42**	**77**	**19**	**4**	**24**	**43**	**7**	**3**	**11**	**5**	**7**	**23**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by 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. Conservation status by IUCN (2024): VU = Vulnerable.
   c. Protection status by CITES (2024): II = Listed in Appendix II of CITES.
   d. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
   e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
2. Species considered as of wetland-dependent in this study are indicated in bold type.
3. Habitat Type: SM = Seasonal Marsh; BG = Bare Ground; Gr = Grassland; DC = Drainage; WRA = Wetland Restoration Area; F = Fishpond; Po = Pond/Open Water; M = Marsh; Rb = Reedbed; Ag = Agricultural Land; MG = Managed Grassland; LW = *Leucaena* Woodland; W = Woodland; PI = Plantation; DA = Developed Area.

Table B3 Herpetofauna Species Recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Amphibians					
Asiatic Painted Frog	*Kaloula pulchra*	-	Widely distributed in Hong Kong.		✓
Ornate Pigmy Frog	*Microhyla fissipes*	-	Widely distributed in Hong Kong.	✓	✓
Marbled Pigmy Frog	*Microhyla pulchra*	-	Widely distributed in Hong Kong.	✓	✓
Paddy Frog	*Fejervarya multistriata*	-	Widely distributed in Hong Kong.	✓	
Günther's Frog	*Sylvirana guentheri*		Widely distributed in Hong Kong.	✓	✓
Brown Tree Frog	*Polypedates megacephalus*	-	Widely distributed in Hong Kong.	✓	✓
Reptiles					
Chinese Gecko	*Gekko chinensis*	-	Widespread	✓	✓
Bowring's Gecko	*Hemidactylus bowringii*	-	Widespread	✓	✓
Checkered Keelback	*Fowlea flavipunctata*		Localised	✓	✓
Red-necked Keelback	*Rhabdophis helleri*	-	Widespread	✓	
Taiwan Kukri Snake	*Oligodon formosanus*	-	Widely distributed throughout Hong Kong.		✓
No. of species of conservation importance				**0**	**0**
Total no. of species recorded				**9**	**9**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table B4 Odonate species recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Orange-tailed Midget	*Agriocnemis femina*	-	Widely distributed in disused paddy fields, marshes, ditches and weedy ponds margins.	✓	✓
Wandering Midget	*Agriocnemis pygmaea*	-	Widely distributed in marshes, abandoned paddy fields and weedy pond margins throughout Hong Kong.	✓	✓
Orange-tailed Sprite	*Ceriagrion auranticum*	-	Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters.		✓
Common Bluetail	*Ischnura senegalensis*	-	Widely distributed in all wetland habitats except fast flowing rivers throughout Hong Kong.	✓	✓
Orange-faced Sprite	*Pseudagrion rubriceps*	-	Widely distributed in ponds and weedy margins of slow flowing streams.	✓	✓
Yellow Featherlegs	*Copera marginipes*	-	Widely distributed in lowland streams, ditches, and weedy margins of pond throughout Hong Kong.	✓	✓
Pale-spotted Emperor	*Anax guttatus*	-	Widely distributed in ponds and sluggish streams throughout Hong Kong.	✓	✓
Common Flangetail	*Ictinogomphus pertinax*	-	Widely distributed in ponds and still water throughout Hong Kong.	✓	✓
Asian Pintail	*Acisoma panorpoides*	-	Widely distributed in marshes and weedy ponds throughout Hong Kong.	✓	✓
Blue Dasher	*Brachydiplax chalybea*	-	Widely distributed in marshes and weedy ponds throughout Hong Kong	✓	✓
Asian Amberwing	*Brachythemis contaminata*	-	Widely distributed in weedy ponds and sluggish streams.	✓	✓
Crimson Darter	*Crocothemis servilia*	-	Widely distributed in cultivated areas, ponds and marshes throughout the New Territories.	✓	✓
Blue Percher	*Diplacodes trivialis*	-	Widespread, especially in late summer, when it can be found almost everywhere in Hong Kong.	✓	✓
Forest Chaser	*Lyriothemis elegantissima*	-	Frequents marshes beside woodlands. Widespread throughout Hong Kong.	✓	✓
Coastal Glider	*Macrodiplax cora*	LC	Frequents marshes and ponds with dense vegetation, especially adjacent to coastal areas.		✓
Russet Percher	*Neurothemis fulvia*	-	Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong.	✓	✓
Pied Percher	*Neurothemis tullia*	-	Favours marshes and abandoned rice paddies. Widely distributed throughout Hong Kong.	✓	✓
Red-faced Skimmer	*Orthetrum chrysis*	-	Widely distributed in pools and marshy areas adjacent to flowing streams throughout Hong Kong.	✓	✓
Green Skimmer	*Orthetrum sabina*	-	Widely distributed in all wetland habitats throughout Hong Kong.	✓	✓
Wandering Glider	*Pantala flavescens*	-	Widely distributed all over Hong Kong.	✓	✓
Pied Skimmer	*Pseudothemis zonata*	-	Widely distributed in woodlands adjacent to reservoirs, sluggish streams, ponds, tanks and marshes throughout Hong Kong.	✓	✓
Ruby Darter	*Rhodothemis rufa*	LC	Widely distributed in ponds and marshes with dense floating plants.		✓
Variegated Flutterer	*Rhyothemis variegata*	-	Widely distributed in marshes, ponds and tanks throughout Hong Kong.	✓	✓
Evening Skimmer	*Tholymis tillarga*	-	Widely distributed in marshes, weedy ponds and tanks throughout Hong Kong.	✓	✓
Saddlebag Glider	*Tramea virginia*	-	Widely distributed in trees adjacent to ponds and lakes throughout Hong Kong.	✓	✓

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Crimson Dropwing	Trithemis aurora	-	Found in marshes, ponds, streams, andor even ornamental ponds in urban areas. Widely distributed throughout Hong Kong		✓
Indigo Dropwing	*Trithemis festiva*	-	Favours sluggish sections of streams with a strong current or the small rock pools inof mountain streams. Widespread in Hong Kong		✓
Dingy Dusk-darter	*Zyxomma petiolatum*	-	Widely distributed in thick undergrowth, tree foliage and shady spots near water courses throughout Hong Kong.		✓
No. of species of conservation importance				**0**	**2**
Total no. of species recorded				**26**	**28**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
   a. Conservation status by Fellowes *et al*. (2002): LC = Local Concern.
2. Status in Hong Kong follows the data of HKBIH (AFCD, 2024).

Table B5 Butterfly species recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Common Awl	*Hasora badra*	LC	Rare		✓
Chinese Dart	*Potanthus confucius*	-	Common	✓	
Common Straight Swift	*Parnara guttata*	-	Common	✓	✓
Rare Swift	*Parnara ganga*	-	Uncommon		✓
Formosan Swift	*Borbo cinnara*	-	Very Common	✓	✓
Chocolate Royal	*Remelana jangala*		Common	✓	✓
Green Flash	*Artipe eryx*		Uncommon		✓
Silver Streak Blue	*Iraota timoleon*	-	Uncommon	✓	✓
Tailless Line Blue	*Prosotas dubiosa*	-	Uncommon	✓	✓
Pale Grass Blue	*Zizeeria maha*	-	Very Common	✓	✓
Lesser Grass Blue	*Zizina otis*	-	Common	✓	✓
Common Hedge Blue	*Acytolepis puspa*	-	Common	✓	✓
Common Evening Brown	*Melanitis leda*	-	Uncommon		✓
Dark Evening Brown	*Melanitis phedima*	-	Common	✓	✓
Dark-brand Bush Brown	*Mycalesis mineus*	-	Very Common	✓	✓
Common Palmfly	*Elymnias hypermnestra*	-	Common	✓	✓
Plain Tiger	*Danaus chrysippus*	-	Uncommon		✓
Blue-spotted Crow	*Euploea midamus*	-	Very Common	✓	✓
Great Egg-fly	*Hypolimnas bolina*	-	Very Common	✓	✓
Common Mapwing	*Cyrestis thyodamas*	-	Common		✓
Angled Castor	*Ariadne ariadne*	-	Common	✓	✓
Common Archduke	*Lexias pardalis*	-	Uncommon	✓	
Common Sailer	*Neptis hylas*	-	Very Common	✓	✓
Common Mormon	*Papilio polytes*	-	Very Common	✓	✓
Paris Peacock	*Papilio paris*	-	Very Common	✓	✓
Swallowtail	*Papilio xuthus*	-	Uncommon		✓
Common Bluebottle	*Graphium sarpedon*	-	Very Common	✓	
Tailed Jay	*Graphium agamemnon*	-	Common	✓	✓
Lemon Emigrant	*Catopsilia pomona*	-	Very Common	✓	✓
Common Grass Yellow	*Eurema hecabe*	-	Very Common	✓	✓
Three-spot Grass Yellow	*Eurema blanda*	-	Common		✓
Red-base Jezebel	*Delias pasithoe*	-	Very Common	✓	✓
Common Gull	*Cepora nerissa*	-	Common	✓	✓
Indian Cabbage White	*Pieris canidia*	-	Very Common	✓	✓
Great Orange Tip	*Hebomoia glaucippe*	-	Common		✓
No. of species of conservation importance				**0**	**1**
Total no. of species recorded				**26**	**32**

Notes:

1. Conservation and protection status refers to Fellowes *et al*. (2002), IUCN (2024), Red List of China's Vertebrates (RLCV) (Jiang *et al*., 2016), CSIS (2019), CITES (2024), Cap. 170 and Cap. 586.
    a. Conservation status by Fellowes *et al*. (2002): LC = Local Concern.
2. Status in Hong Kong follows Pun (2024).

Table B6 Aquatic Fauna Species recorded within the drainage channel of Application Site

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]
Aquatic Invertebrate			
Blood Worm	*Chironomidae sp.*	-	-
Backswimmer	*Enithares sp.*	-	-
Common Bluetail (Larvae)	*Ischnura senegalensis*	-	Abundant
Yellow Featherlegs (Larvae)	*Copera marginipes*	-	Abundant
Pale-spotted Emperor (Larvae)	*Anax guttatus*	-	Common
Russet Percher (Larvae)	*Neurothemis fulvia*	-	Common
Red-faced Skimmer (Larvae)	*Orthetrum chrysis*	-	Abundant
Common Blue Skimmer (Larvae)	*Orthetrum glaucum*	-	Abundant
Wandering Glider (Larvae)	*Pantala flavescens*	-	Abundant
Saddlebag Glider (Larvae)	*Tramea virginia*	-	Abundant
Crimson Dropwing (Larvae)	*Trithemis aurora*	-	Abundant
Indigo Dropwing (Larvae)	*Trithemis festiva*	-	Abundant
Fish			
Snakehead Murrel	*Channa striata*	-	Exotic
Mosquito Fish	*Gambusia affinis*	-	Exotic

Table B7 Firefly Species recorded during 12-month ecological surveys (April 2024 – March 2025)

Common Name	Scientific Name	Conservation & Protection Status[1]	Status in Hong Kong[2]	Application Site	500m Assessment Area
Rimmed Window Firefly	*Pyrocoelia analis*	-	Widespread	✓	✓

Appendix C

Predicted disturbance impacts on Bird Species of Conservation Importance

Common Name	Conservation and Protection Status	Status in HK (inferred)	RDZ	EZ	Estimated number of birds to be potentially displaced	Maximum Distance of Reduced Density		Maximum Distance of Exclusion		Sensitivity to Disturbance
			mean (/12)*50%	mean (/12)		Construction Phase	Operation Phase	Construction Phase	Operation Phase	
Northern Shoveler	RC	Abundant	0.17	0.00	0.17	300	200	-	-	Moderate
Tufted Duck	LC	Abundant	17.58	6.00	23.58	300	200	100	100	Moderate
Eurasian Coot	RC	Uncommon	0.54	0.00	0.54	50	20	-	-	Low
Little Grebe	LC	Common	3.54	2.67	6.21	200	50	100	20	Moderate
Great Crested Grebe	RC	Common	0.17	0.00	0.17	50	20	-	-	Low
Black-winged Stilt	RC	Common	0.25	0.00	0.25	100	50	-	-	Moderate
Little Ringed Plover	(LC)	Common	0.17	0.00	0.17	200	30	-	-	Low - Moderate
Temminck's Stint	LC	Uncommon	0.08	0.00	0.08	100	50	-	-	Moderate
Common Redshank	RC	Abundant	0.21	0.00	0.21	100	50	-	-	Moderate
Wood Sandpiper	LC	Common	0.08	0.00	0.08	100	50	-	-	Moderate
Common Greenshank	RC	Abundant	0.08	0.00	0.08	100	50	-	-	Moderate
Great Cormorant	PRC	Abundant	7.83	0.42	8.25	400	150	200	100	High
Yellow Bittern	(LC)	Common	0.25	0.75	1.00	50	20	50	20	Low
Black-crowned Night Heron	(LC)	Abundant	0.46	0.75	1.21	100	30	50	20	Low
Chinese Pond Heron	PRC (RC)	Common	2.25	2.00	4.25	300	30	100	20	Low - Moderate
Grey Heron	PRC	Abundant	0.58	0.58	1.17	300	200	100	100	High
Purple Heron	RC	Uncommon	0.04	0.08	0.12	300	200	-	-	High
Great Egret	PRC (RC)	Abundant	1.63	1.00	2.63	400	200	200	100	High
Intermediate Egret	RC	Common	0.00	0.17	0.17	300	30	300	30	Low - Moderate
Little Egret	PRC (RC)	Abundant	2.92	1.58	4.50	400	100	100	20	Moderate - High
Black Kite	(RC); CSMPS(II); CITES(II); Cap.586	Abundant	0.04	0.25	0.29	100	30	50	20	Low
White-throated Kingfisher	(LC); CSMPS(II)	Uncommon	0.25	0.08	0.33	100	20	-	-	Low
Pied Kingfisher	(LC)	Uncommon	0.33	1.17	1.50	100	20	50	20	Low
Collared Crow	LC; IUCN(VU)	Common	0.08	0.17	0.25	200	100	100	50	Moderate
Zitting Cisticola	LC	Common	0.00	0.33	0.33	50	20	50	20	Low
Red-billed Starling	GC	Abundant	0.21	0.00	0.21	200	100	-	-	Moderate
White-cheeked Starling	PRC	Common	0.08	0.17	0.25	200	100	-	-	Moderate
White-shouldered Starling	(LC)	Common	0.46	0.00	0.46	200	100	100	50	Moderate
Bluethroat	LC; CITES(III); CSMPS(II)	Uncommon	0.04	0.00	0.04	50	20	-	-	Low
Red-throated Pipit	LC	Common	0.00	0.08	0.08	50	20	50	20	Low
Eastern Cattle Egret	(LC)	Common	0.04	0.08	0.12	100	30	50	20	Low - Moderate

Appendix D

Representative Photographs of Habitats within the Application Site and Assessment Area

Application Site

Mitigation Wetland (the implemented WRA)

Seasonal Marsh

Drainage Channel

Grassland

Bare Ground

Assessment Area

Fishpond

Pond/Open Water

Marsh

Drainage Channel/Ditch

Reedbed

Agricultural Land

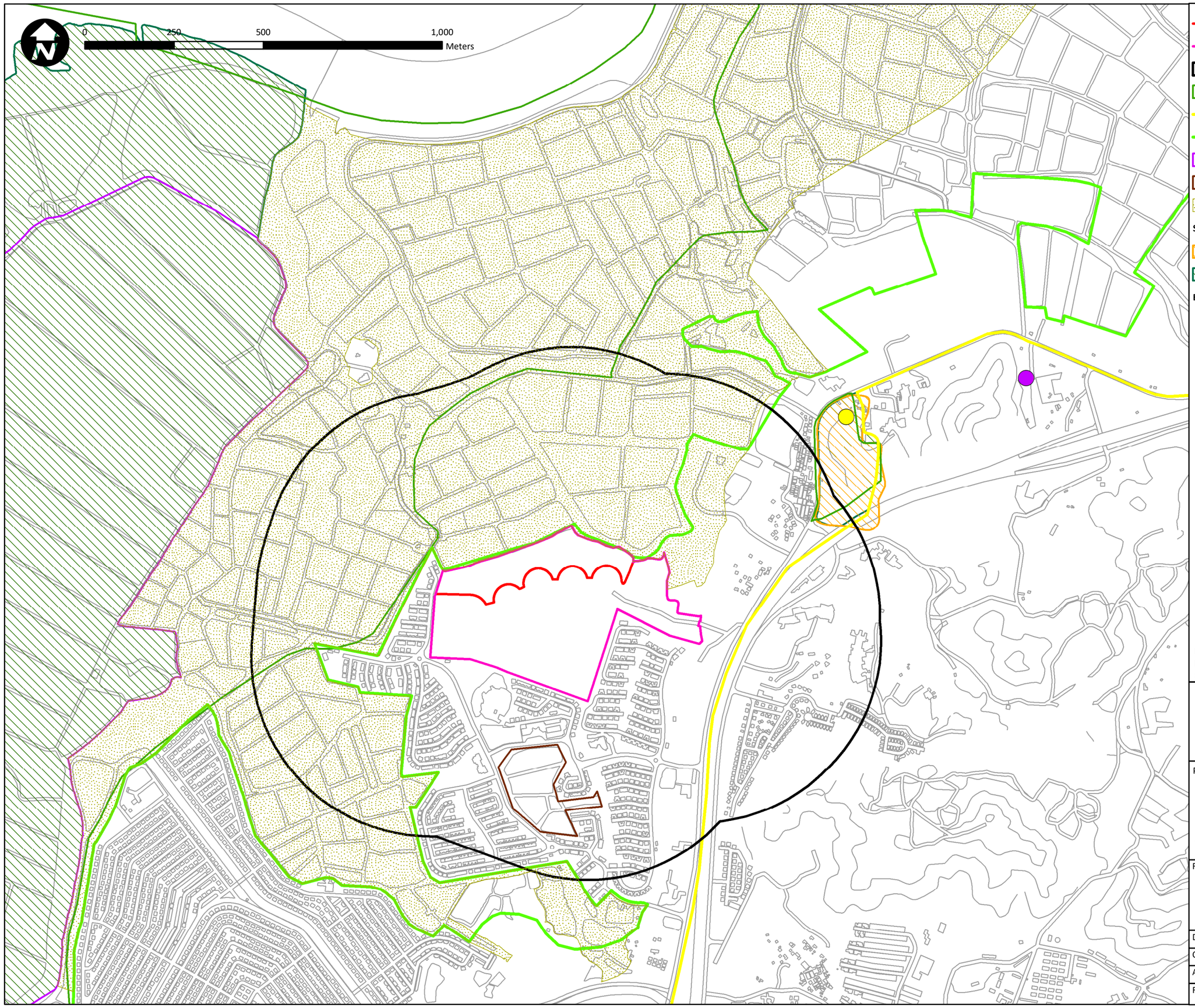
Managed Grassland

***Leucaena* Woodland**

Secondary Woodland

Plantation

Developed Area



Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

ecology biodiversity landscape aec
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Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Site of Conservation Importance

Drawn by:	PC	Scale:	1:10,000 on A3
Checked By:	MM	Date:	16 Jul 2025
Approved by:	MM		
Figure Number:	Figure 1	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250715\Fig1_Recognised Sites of Conservation Importance_20250715.mxd

0 250 500 1,000 Meters

Wetland Restoration Area
Application Site
500m Assessment Area
Survey Transect
Observation Point

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Survey Transect and Vantage Point

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	2 Apr 2025
Approved by:	MM		
Figure Number:	Figure 2	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250402\Fig2_Survey Transects_20250402.mxd

0 250 500 1,000 Meters

Application Site
Wetland Restoration Area
500m Assessment Area

Habitat

- Mitigation Wetland
- Fishpond
- Pond/Open Water
- Marsh
- Seasonal Marsh
- Drainage Channel / Ditch
- Reedbed
- Agricultural Land
- Managed Grassland
- *Leucaena* Woodland
- Grassland
- Secondary Woodland
- Plantation
- Bare Ground
- Developed Area

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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Member of the Aurecon Group

Project Title:

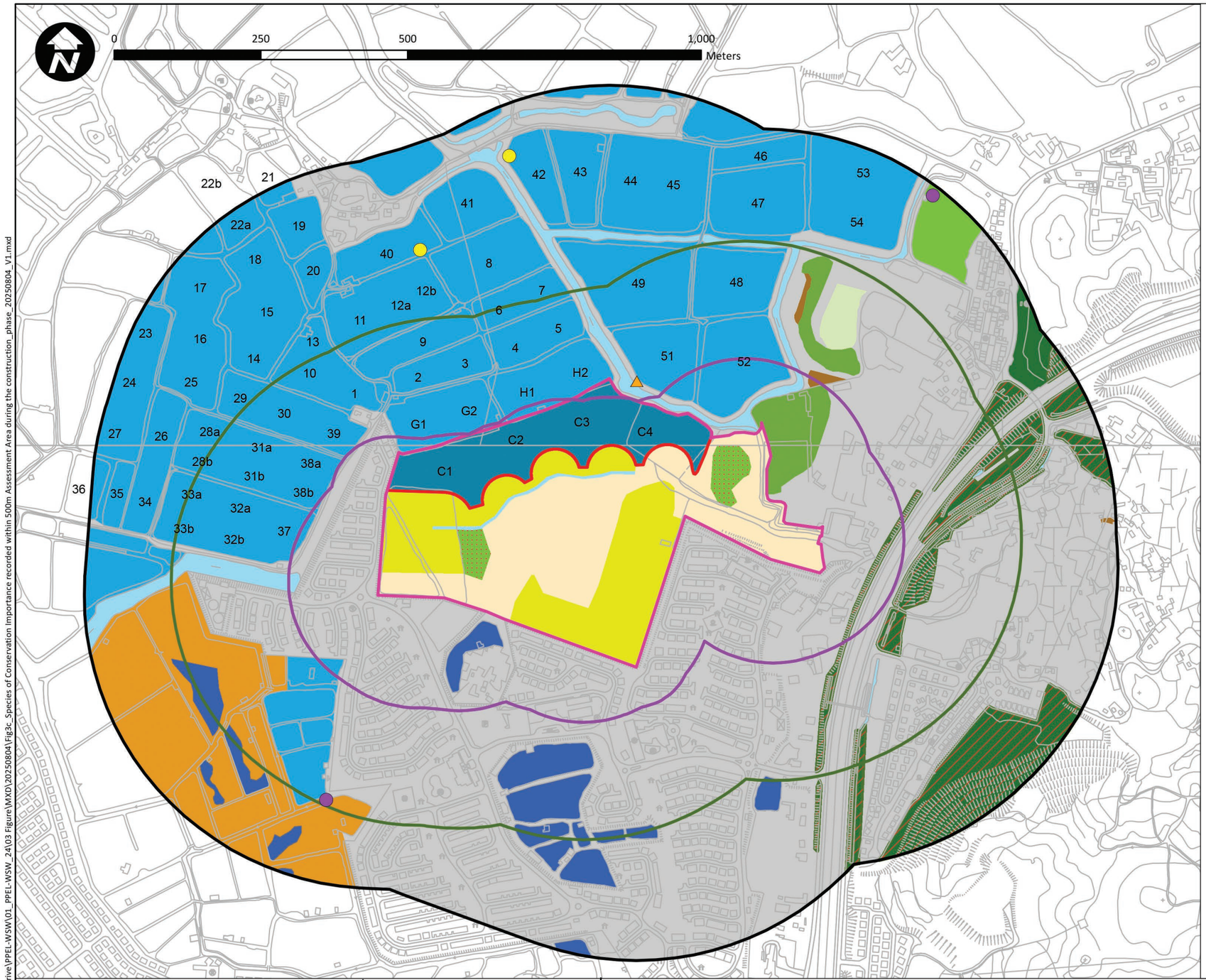
To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Habitat Map

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	11 Jun 2025
Approved by:	MM		
Figure Number:	Figure 3a	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250523\Fig3a_Habitat_20250611.mxd



Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_2A\03 Figure\MXD\20250804\Fig3c_Species of Conservation Importance recorded within 500m Assessment Area during the construction_phase_20250804_V1.mxd

Species of Conservation Importance

Bird

A1	Northern Shoveler
A2	Tufted Duck
A3	Greater Coucal
A4	Eurasian Coot
A5	Little Grebe
A6	Great Crested Grebe
A7	Black-winged Stilt
A8	Little Ringed Plover
A9	Temminck's Stint
A10	Common Redshank
A11	Wood Sandpiper
A12	Common Greenshank
A13	Oriental Stork
A14	Great Cormorant
A15	Yellow Bittern
A16	Cinnamon Bittern
A17	Black-crowned Night Heron
A18	Chinese Pond Heron
A19	Eastern Cattle Egret
A20	Grey Heron
A21	Purple Heron
A22	Great Egret
A23	Intermediate Egret
A24	Little Egret
A25	Black Kite
A26	White-throated Kingfisher
A27	Pied Kingfisher
A28	Black-naped Oriole
A29	Collared Crow
A30	Zitting Cisticola
A31	Red-billed Starling
A32	White-cheeked Starling
A33	White-shouldered Starling
A34	Bluethroat
A35	Red-throated Pipit

Mammal

M1	Short-nosed Fruit Bat (In Flight)
M2	Japanese Pipistrelle (In Flight)

Butterfly

- Common Awl

Odonate

- Ruby Darter
- Coastal Glider

- Application Site
- Wetland Restoration Area
- Exclusion Zone (0-100m for low-rise & 0-200m for high-rise)
- Zone of Reduced Density (100-200m for low-rise & 200-400m for high-rise)
- 500m Assessment Area

Habitat

- Mitigation Wetland
- Fishpond
- Pond/Open Water
- Marsh
- Seasonal Marsh
- Drainage Channel / Ditch
- Reedbed
- Agricultural Land
- Managed Grassland
- *Leucaena* Woodland
- Grassland
- Secondary Woodland
- Plantation
- Bare Ground
- Developed Area

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

Exclusion Zone

Fishpond: A2, A5, A14, A18, A20, A22, A24, A25, A27, A29, A30; M1, M2

Seasonal Marsh: A18

Bare Ground: A3; M1; M2

Grassland: A3; A19

WRA: A3, A15, A17, A18, A19, A20, A21, A22, A24, A26, A27, A30; M1, M2

Zone of Reduced Density

Fishpond: A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A14, A15, A16, A17, A18, A20, A22, A23, A24, A25, A26, A27, A29, A30, A31, A33, A35, M1, M2

Reedbed: A3, A7, A14, A15, A17, A18, A20, A21, A22, A24, A25, A26, A27, A29, A33

Undisturbed Zone

Fishpond: A1, A2, A3, A5, A7, A13, A14, A17, A18, A20, A21, A22, A24, A25, A26, A27, A28, A29, A31, A33, M1, M2

Pond: A3, A5, A14, A15, A17, A18, A22, A24, A26, A27

Drainage Channel/Ditch: A7, A12, A17, A18, A22, A24, A27

Reedbed: A3, A7, A14, A15, A17, A18, A20, A21, A22, A24, A25, A26, A27, A29, A33

Agricultural Land: A3, A35

Secondary Woodland: A18, A24, A25

Plantation: A25

Development Area: A25, A26; M1, M2

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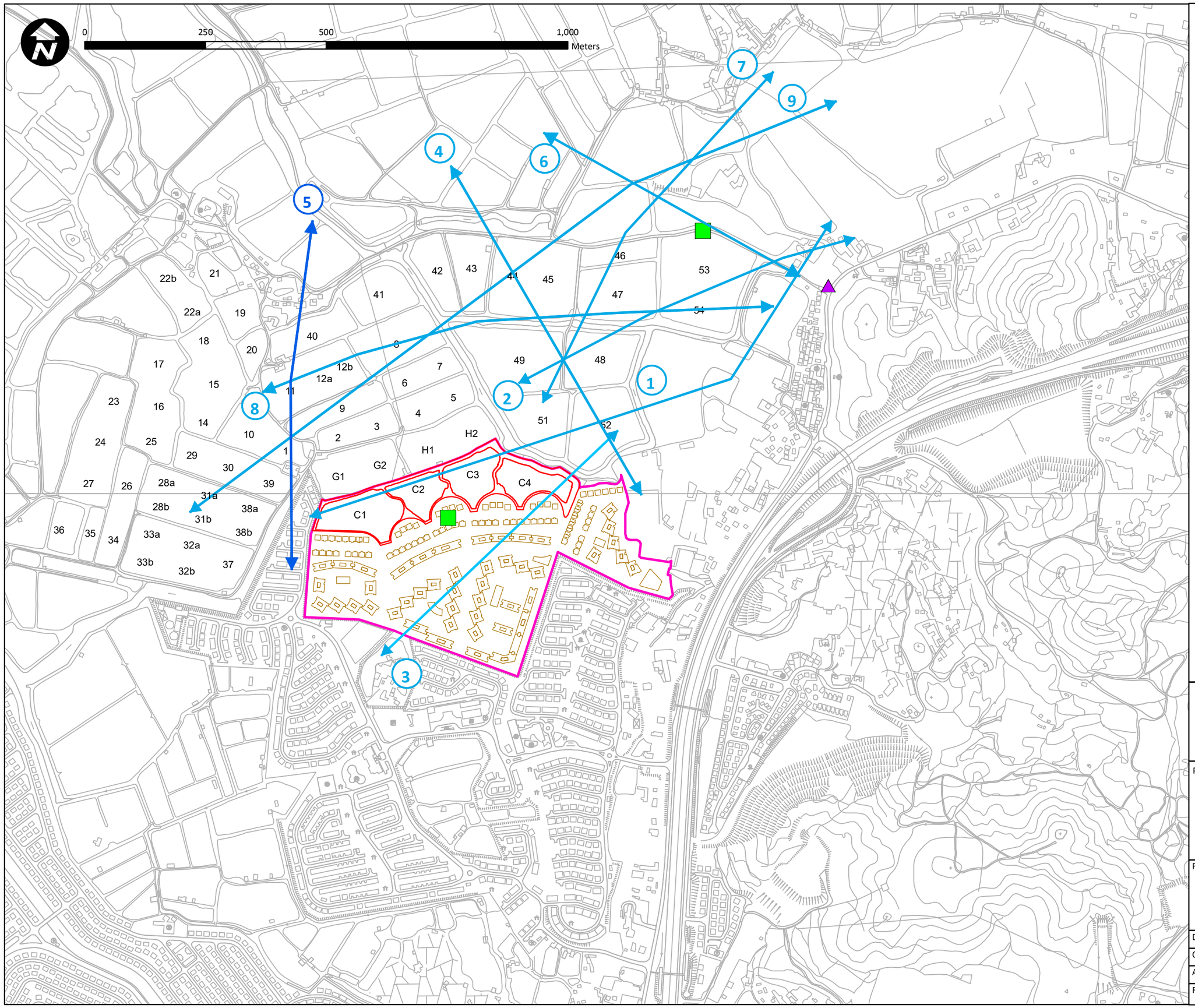
Project Title:

To Amend the Notes of the "Comprehensive Development to include Wetland Restoration Area" Zone for a Proposed Comprehensive Development at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Species of Conservation Importance recorded within 500m Assessment Area

Drawn by:	PC	Scale:	1:7,500 on A3
Checked By:	MM	Date:	4 Aug 2025
Approved by:	MM		
Figure Number:	Figure 3b	Revision:	0



Project Area
Wetland Restoration Area
MLP
Egretry Location
Observation Point
Major Flightline
Minor Flightline

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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Project Title:

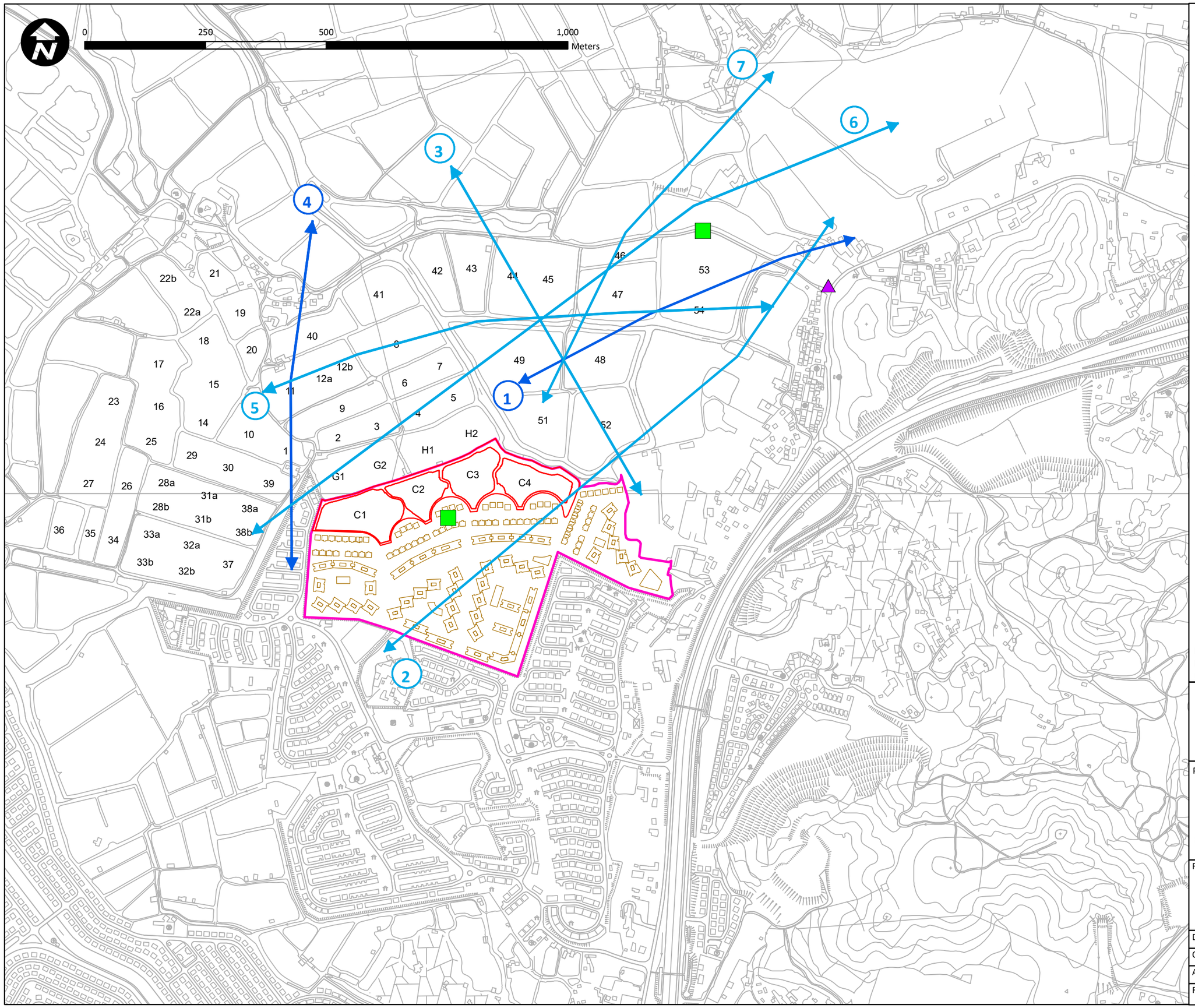
To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Flightline in Wet Season (2024)

Drawn by:	NT	Scale:	1:7,400 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	PJL		
Figure Number:	Figure 4	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig4_Wet Season Flight line_20250611.mxd



Project Area
Wetland Restoration Area
MLP
Egretry Location
Observation Point
Major Flightline
Minor Flightline

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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landscape
aec
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Project Title:

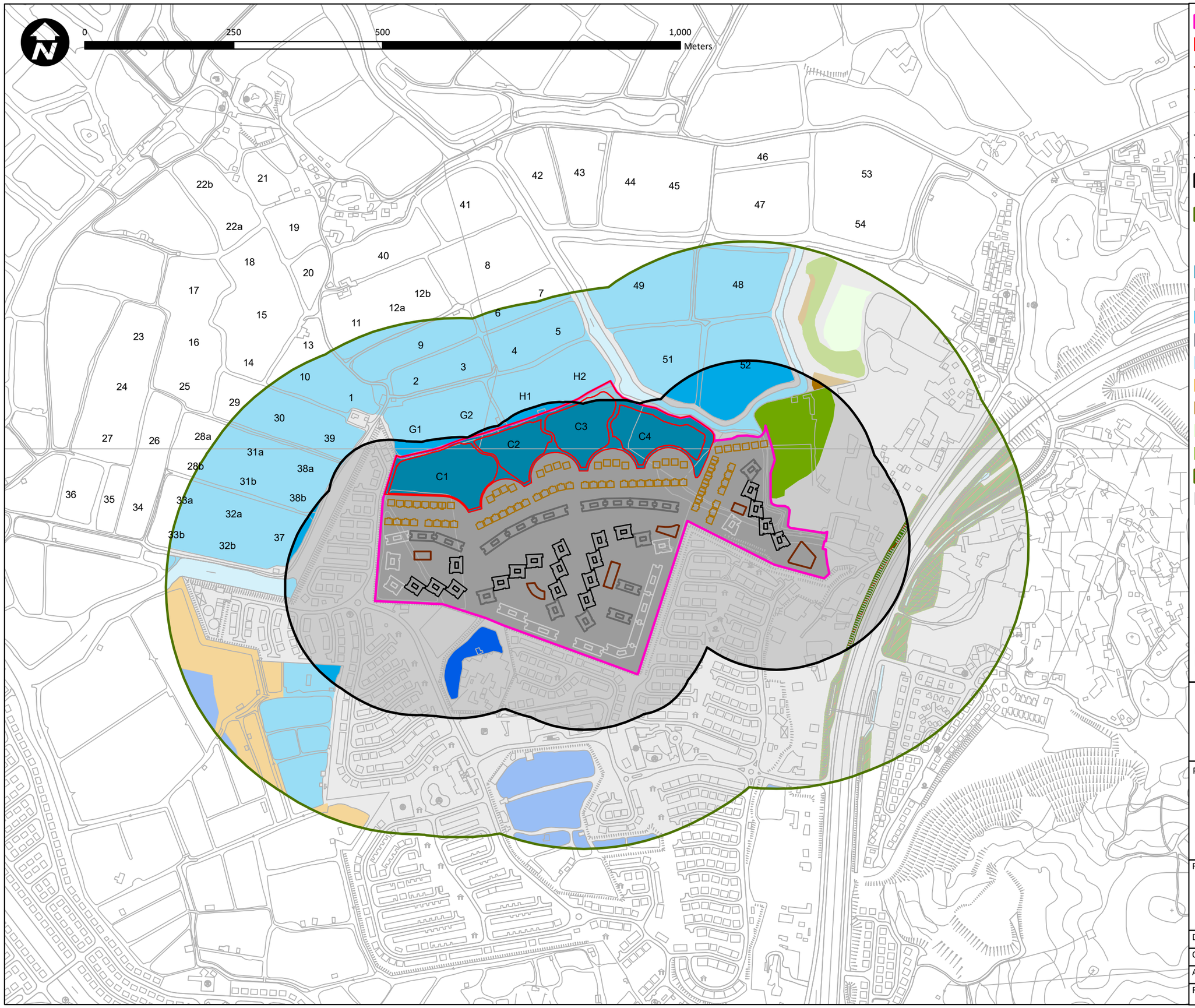
To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Flightline in Dry Season (2024)

Drawn by:	NT	Scale:	1:7,400 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	PJL		
Figure Number:	Figure 5	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig5_Dry Season Flight line_20250618.mxd



Project Area

Wetland Restoration Area

2-4 storey associated facilities

3-storey buildings

6-storey buildings

8-storey buildings

10-storey buildings

Exclusion Zone
(0-100m for low-rise & 0-200m for high-rise)

Zone of Reduced Density
(100-200m for low-rise & 200-400m for high-rise)

Habitat

Mitigation Wetland

Development Site

Fishpond

Pond/Open Water

Drainage Channel / Ditch

Reedbed

Agricultural Land

Managed Grassland

Leucaena Woodland

Plantation

Developed Area

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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biodiversity
landscape
aec
Member of the Aurecon Group

Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Maximum exclusion zone and zone of reduced density due to the disturbance impacts during the construction phase

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	MM		
Figure Number:	Figure 6a		Revision: 0

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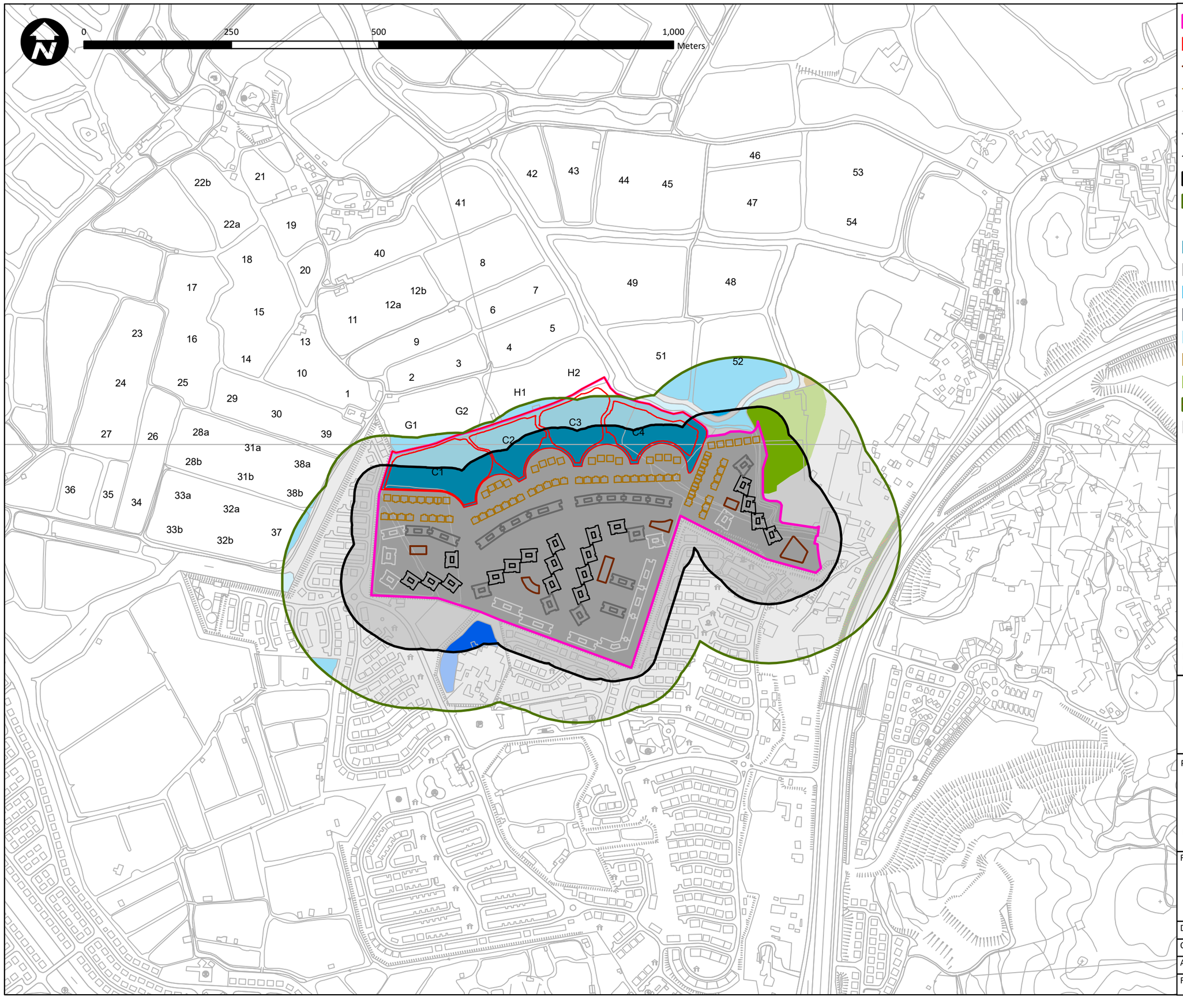

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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biodiversity
landscape
aec
Member of the Aurecon Group

Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Maximum exclusion zone and zone of reduced density
due to disturbance impacts during the operational phase

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	MM		
Figure Number:	Figure 6b	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig6b_disturbance impacts during the operational phase_20250618.mxd

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

ecology
biodiversity
landscape
aec
Member of the Aurecon Group

Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Maximum exclusion zone and zone of reduced density
due to disturbance impacts during the operational phase
(extent from 10-storey buildings)

Drawn by:	PC	Scale:	1:5,996 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	MM		
Figure Number:	Figure 6c	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig6c_disturbance impacts during the operational phase_20250618.mxd

0 250 500 1,000 Meters

Project Area
Wetland Restoration Area
MLP of approved S16 application no. A/YL-MP/344
Exclusion Zone (0-100m)
Zone of Reduced Density (100-200m)

Habitat

Mitigation Wetland
Development Site
Fishpond
Pond/Open Water
Drainage Channel / Ditch
Reedbed
Agricultural Land
Managed Grassland
Leucaena Woodland
Plantation
Developed Area

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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Project Title:

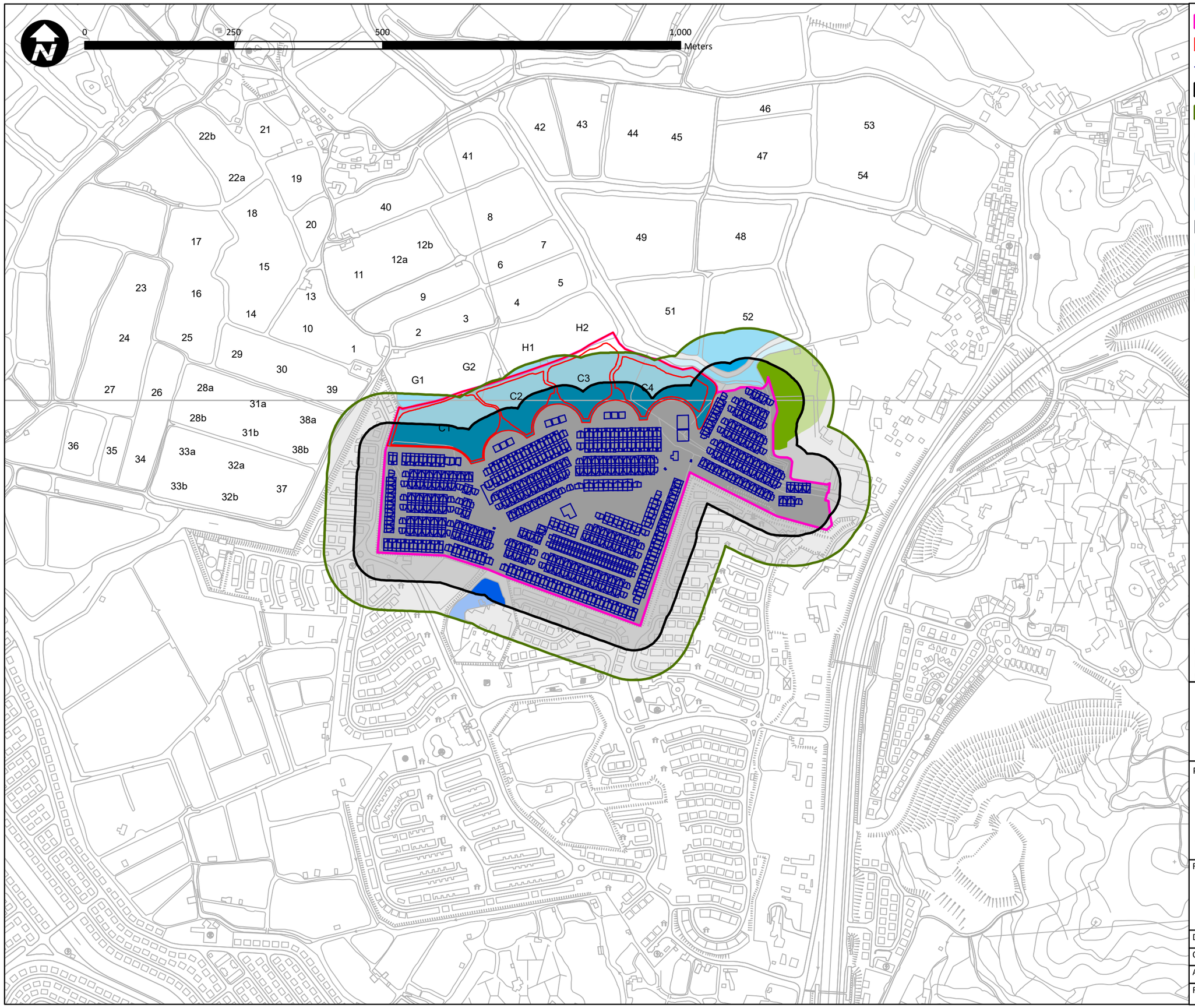
To Amend the Notes of the "Comprehensive Development to include Wetland Restoration Area" Zone for a Proposed Comprehensive Development at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Maximum exclusion zone and zone of reduced density due to the disturbance impacts during the construction phase of Approved S16 application no. A/YL-MP/344

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	22 Jul 2025
Approved by:	MM		
Figure Number:	Figure 6d	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig6d_Maximum exclusio



Project Area

Wetland Restoration Area

MLP of approved S16 application no. A/YL-MP/344

Exclusion Zone (0-50m)

Zone of Reduced Density (50-100m)

Habitat

Mitigation Wetland

Development Site

Fishpond

Pond/Open Water

Drainage Channel / Ditch

Leucaena Woodland

Developed Area

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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biodiversity
landscape
aec
Member of the Aurecon Group

Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:
Maximum exclusion zone and zone of reduced density
due to the disturbance impacts during the
operation phase of Approved S16
application no. A/YL-MP/344

Drawn by:	PC	Scale:	1:6,000 on A3
Checked By:	MM	Date:	22 Jul 2025
Approved by:	MM		
Figure Number:	Figure 6e	Revision:	0

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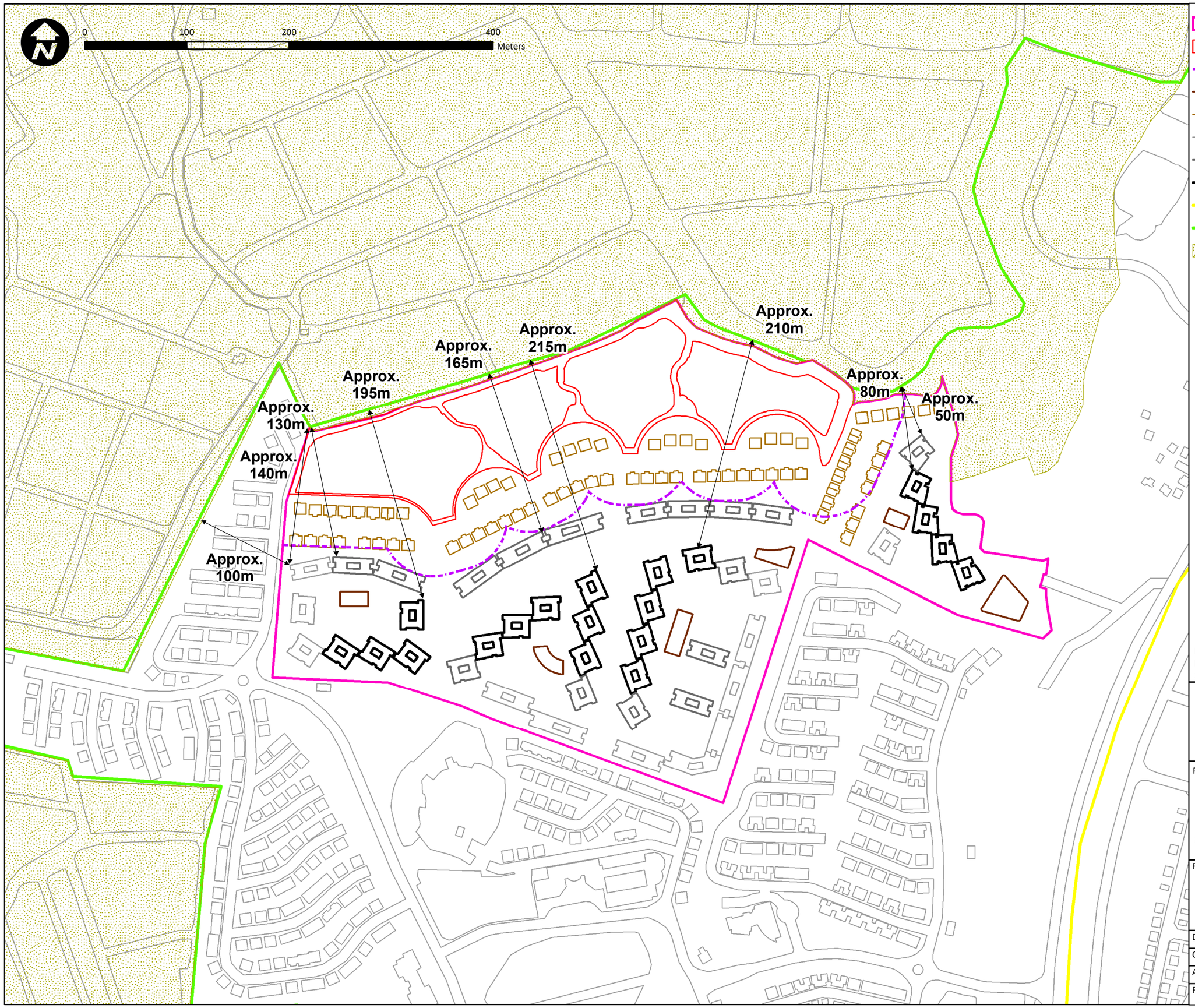

Notes.
Pond number follows the figure in EM&A Reports.
C1 to C4 represents Cell 1 to Cell 4 of WRA

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Member of the Aurecon Group

Project Title:

To Amend the Notes of the
"Comprehensive Development to include
Wetland Restoration Area" Zone for a
Proposed Comprehensive Development
at Wo Shang Wai, Yuen Long, Lots 77 and 50 S.A in DD101

Figure Title:

Nearest distance between the 6-/8-/10-storeys
buildings and the WCA

Drawn by:	PC	Scale:	1:3,500 on A3
Checked By:	MM	Date:	18 Jun 2025
Approved by:	MM		
Figure Number:	Figure 7	Revision:	0

Document Path: C:\Users\Peter.Chan\OneDrive - Aurecon Group\Y Drive\PPEL-WSW\01_PPEL-WSW_24\03 Figure\MXD\20250618\Fig7_Distance between building and boundary_20250618.mxd