



Removal of 132kV Overhead Line and Pylons for B-Line and W-Line

Ecological Management Plan (W18
and W24)

PREPARED FOR



Hong Kong Electric

DATE

03 July 2024

REFERENCE

0643361



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Environmental Permit No. EP-642/2024
Removal or 132kV Overhead Line and Pylons for
B-Line and W-Line
Certification and Verification


Reference Document/Plan

Document/Plan to be Certified/ Verified:	Ecological Management Plan (W18 and W24)
Date of Report:	3 July 2024

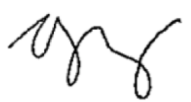
Reference EP Condition

Environmental Permit Condition:	2.7 and 2.8
<p>2.7 Before commencement of the removal work within Pok Fu Lam Country Park and Aberdeen Country Park, the Permit Holder shall, in consultation with the Agriculture, Fisheries and Conservation Department, conduct pre-construction site visits/surveys to review the extent of works and verify the ecological baseline information collected within Pok Fu Lam Country Park and Aberdeen Country Park. Subject to the findings of the site visits/surveys, the Permit Holder shall review and update the ecological preventive and mitigation measures proposed in the Project Profile (Register No. PP-660/2023); and no later than one month before commencement of the respective removal work within country park, submit 3 hard copies and 1 electronic copy of an Ecological Management Plan (EMP), certified by the ecologist appointed under Condition 2.2 above, and verified by the IEC, to the Director for approval. The EMP shall include but not limited to the following information or measures related to the pylon removal works within country park:</p> <ul style="list-style-type: none">(a) ecological surveys/review method and findings;(b) the extent of works areas which shall be as minimal as practicable;(c) protective measures, such as temporary protective fencing, temporary metal cage and soft protective nets, for the flora of conservation importance found within the works areas;(d) measures to deal with any active bird nest found on the pylon; and(e) any other ecological preventive and mitigation measures to be adopted. <p>2.8 The EMP submitted under Condition 2.7 of this Permit shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, and by whom, when, where and what requirement. All mitigation measures recommended and requirements specified in the EMP and the implementation schedule shall be fully implemented.</p>	

Certification by Qualified Ecologist

I hereby certify that the above referenced document /plan complies with the above referenced conditions of EP-642/2024.	
	Date: <u>3 July 2024</u>
Mr Mike Pang _____ Qualified Ecologist	

Verification by Independent Environmental Checker

I hereby verify that the above referenced document /plan complies with the above referenced conditions of EP-642/2024.	
	Date: <u>12 July 2024</u>
Ms Liz Lo _____ Independent Environmental Checker	

SIGNATURE PAGE

Removal of 132kV Overhead Line and Pylons for B-Line and W-Line

Ecological Management Plan (W18 and W24)

0643361



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1. INTRODUCTION

1.1 BACKGROUND

The B-Line (from Tin Wan Praya Road to Bowen Road with total length of approximately 5.3km) and W-Line (from Tin Wan Praya Road to Deep Water Bay Road with total length of approximately 5km) have been in services for more than 40 years and aged at various extent depending on the locations of the pylons and localised climatic conditions. It is no longer in use. HK Electric is proposing to remove the 132kV overhead line (OHL) and pylons of B-Line from Tin Wan Praya Road to Bowen Road and W-Line from Tin Wan Praya Road to Deep Water Bay Road. The overall alignments of B-Line and W-Line are shown in **Figure 1.1**.

The proposed removal works will be carried out for the B-Line and W-Line including:

- Removal of OHL earth wire and conductor; and
- Dismantling of pylons (totally 26 pylons (B2 – B27) for B-Line and 25 pylons (W2 – W26) for W-Line), including dismantling of the associated gantry towers, steel compounds and fencing at B2, B27, W2 and W26.

As a large portion of the Project is located within the Pok Fu Lam Country Park, Aberdeen Country Park and Site of Special Scientific Interest (SSSI) of Pok Fu Lam Reservoir Catchment Area and Nam Fung Road Woodland, i.e. B5 to B8, B9 to B22, W9 to W15, and W17 to W24 (see **Figure 1.1**), the Project is classified as a Designated Project (DP) by virtue of Item Q.1, Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) and does not fall into any exception works under Item Q.1. An environmental permit (EP) is required for construction of the Project.

A Project Profile (PP-660/2023) was prepared in support of the Application for permission to apply directly (DIR) for an EP for the Project under the provisions of Section 5(11) of the EIAO. The application was submitted to EPD in November 2023 with DIR permission (DIR-299/2023) and EP (EP-642/2024) granted by EPD on 28 December 2023 and 29 January 2024 respectively.

In accordance with the EP Conditions 2.7 and 2.8, pre-construction site visits/ surveys are required to be conducted to verify the validity and practicality of the proposed works areas before the commencement of the dismantle works. An Ecological Management Plan (EMP) is required to be submitted, no later than one month before commencement of the respective removal work within country park, to EPD for approval.

EP Condition 2.7:

"Before commencement of the removal work within Pok Fu Lam Country Park and Aberdeen Country Park, the Permit Holder shall, in consultation with the Agriculture, Fisheries and Conservation Department, conduct pre-construction site visits/surveys to review the extent of works and verify the ecological baseline information collected within Pok Fu Lam Country Park and Aberdeen Country Park. Subject to the findings of the site visits/surveys, the Permit Holder shall review and update the ecological preventive and mitigation measures proposed in the Project Profile (Register No. PP-660/2023); and no later than one month before commencement of the respective removal work within country park, submit 3 hard copies and 1 electronic copy of an Ecological Management Plan (EMP), certified by the ecologist appointed under Condition 2.2 above, and verified

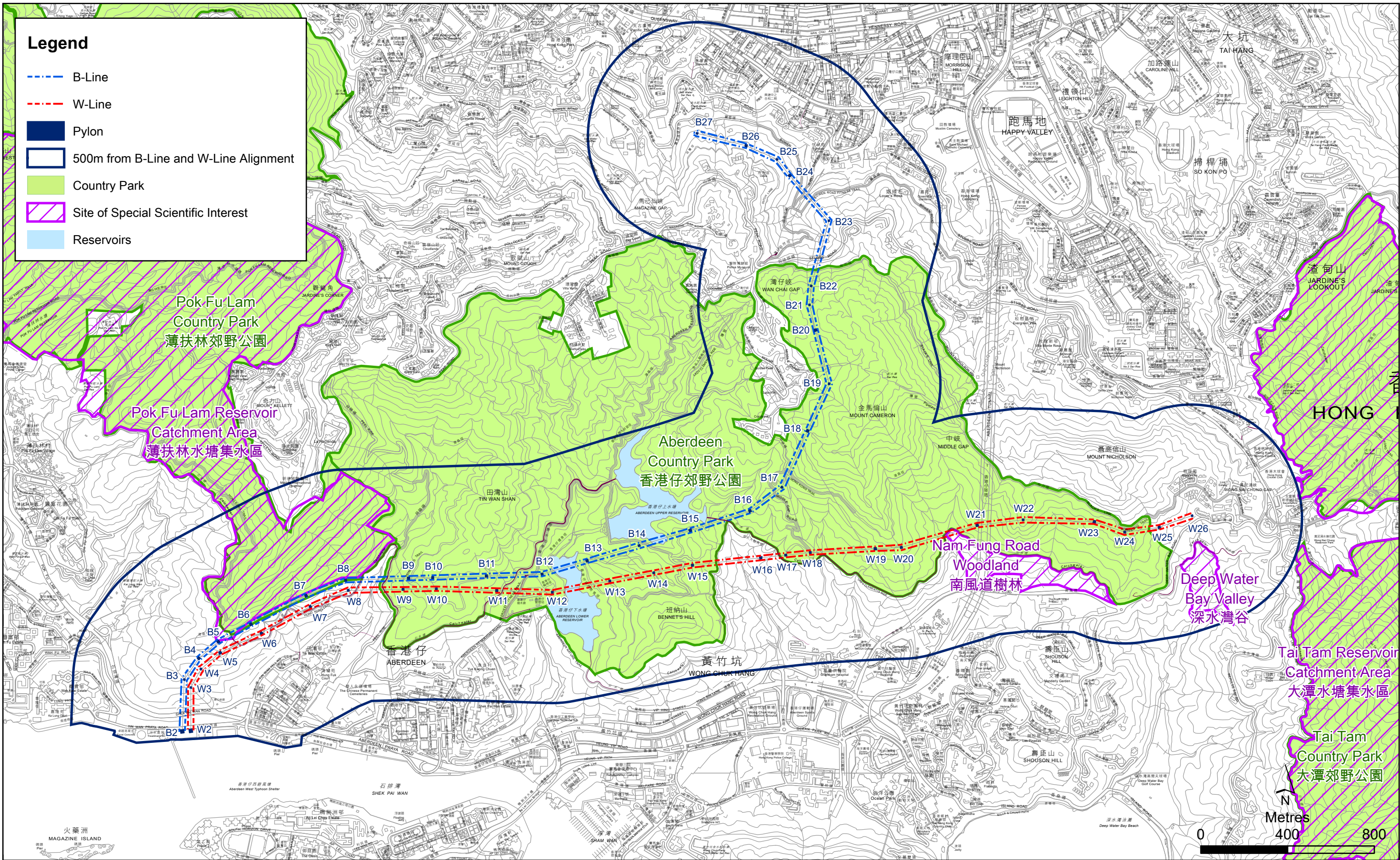


Figure 1.1

The Overall Alignment of B&W-Lines



by the IEC, to the Director for approval. The EMP shall include but not limited to the following information or measures related to the pylon removal works within country park:

- (a) ecological surveys/review method and findings;*
- (b) the extent of works areas which shall be as minimal as practicable;*
- (c) protective measures, such as temporary protective fencing, temporary metal cage and soft protective nets, for the flora of conservation importance found within the works areas;*
- (d) measures to deal with any active bird nest found on the pylon; and*
- (e) any other ecological preventive and mitigation measures to be adopted.”*

EP Condition 2.8:

“The EMP submitted under Condition 2.7 of this Permit shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, and by whom, when, where and what requirement. All mitigation measures recommended and requirements specified in the EMP and the implementation schedule shall be fully implemented.”

1.2 OBJECTIVE AND SCOPE OF THE PLAN

Pre-construction ecological site visit/ survey within the proposed works areas of W18 and W24 was conducted on 9 May 2024 in accordance with the Survey Methodology Paper (Pre-construction) submitted to EPD and AFCD on 15 April 2024. The objective of the Ecological Management Plan (EMP) is to review the extent of works and verify the ecological baseline information collected within the Pok Fu Lam Country Park and Aberdeen Country Park. Subject to the findings of the site visit/survey, the ecological preventive and mitigation measures proposed in the PP have been reviewed and updated as necessary. Information listed in EP Condition 2.7 (see **Section 1.1**) has been included in this EMP.

2. PRE-CONSTRUCTION SURVEYS METHODOLOGY

Pre-construction ecological and tree surveys were carried out within the proposed works areas of W18 and W24 on 9 May 2024 before the dismantle works of each batch of pylons. **Table 2.1** provides a summary of the pre-construction surveys, with focus on vegetation (flora of conservation importance), active bird nest and tree within the proposed works areas and access path connecting to the pylons which is potentially to be affected by the works. Details of the survey methods are provided in **Section 2.1**. The results and of the pre-construction survey and the review of protective measures are given in **Sections 3** and **4**.

TABLE 2.1 SUMMARY OF THE PRE-CONSTRUCTION SURVEYS

Survey Type	Methodology
Vegetation (flora of conservation importance)	Vegetation survey within the proposed works areas and access path connecting to the pylons which is potentially to be affected by the works, with particular focus on flora of conservation importance
Avifauna (Active bird nest)	Active searching within the proposed works areas and access path connecting to the pylons which is potentially to be affected by the works, with particular focus on active bird nest

2.1 ECOLOGICAL SURVEY

2.1.1 VEGETATION

Pre-construction survey was carried out within the proposed works areas of W18 and W24 and access path connecting to the pylons (**Figures 2.1.1** to **2.1.2**). Subject to the up-to-date site conditions, the works areas may be fine-tuned with the aim to minimise direct impacts on the woodland habitat and shrubland/grassland habitats (i.e. with minimum level of vegetation clearance) and flora species of conservation importance. Should any new flora species of conservation importance be identified during the pre-construction vegetation survey, avoidance and/or, if not practicable, similar means of protective measures should be applied to minimise potential damage on the plant(s).

2.1.2 AVIFAUNA (ACTIVE BIRD NEST)

Avifauna survey has been conducted with attention given to presence of any active bird nests on the pylons (W18 and W24), trees and access path connecting to the pylons to be potentially affected. Observations have been made using binoculars (at least 8x) and photographic records have been taken, if possible. In case any active bird nest record on the pylon during the pre-construction phase, the dismantle works would be temporarily suspended considering that bird nests or egg are protected under Cap. 170 *Wild Animals Protection Ordinance*. The record of active bird nest would be reported to AFCD and the procedure of the pylon dismantle works would be further discussed and agreed with AFCD.

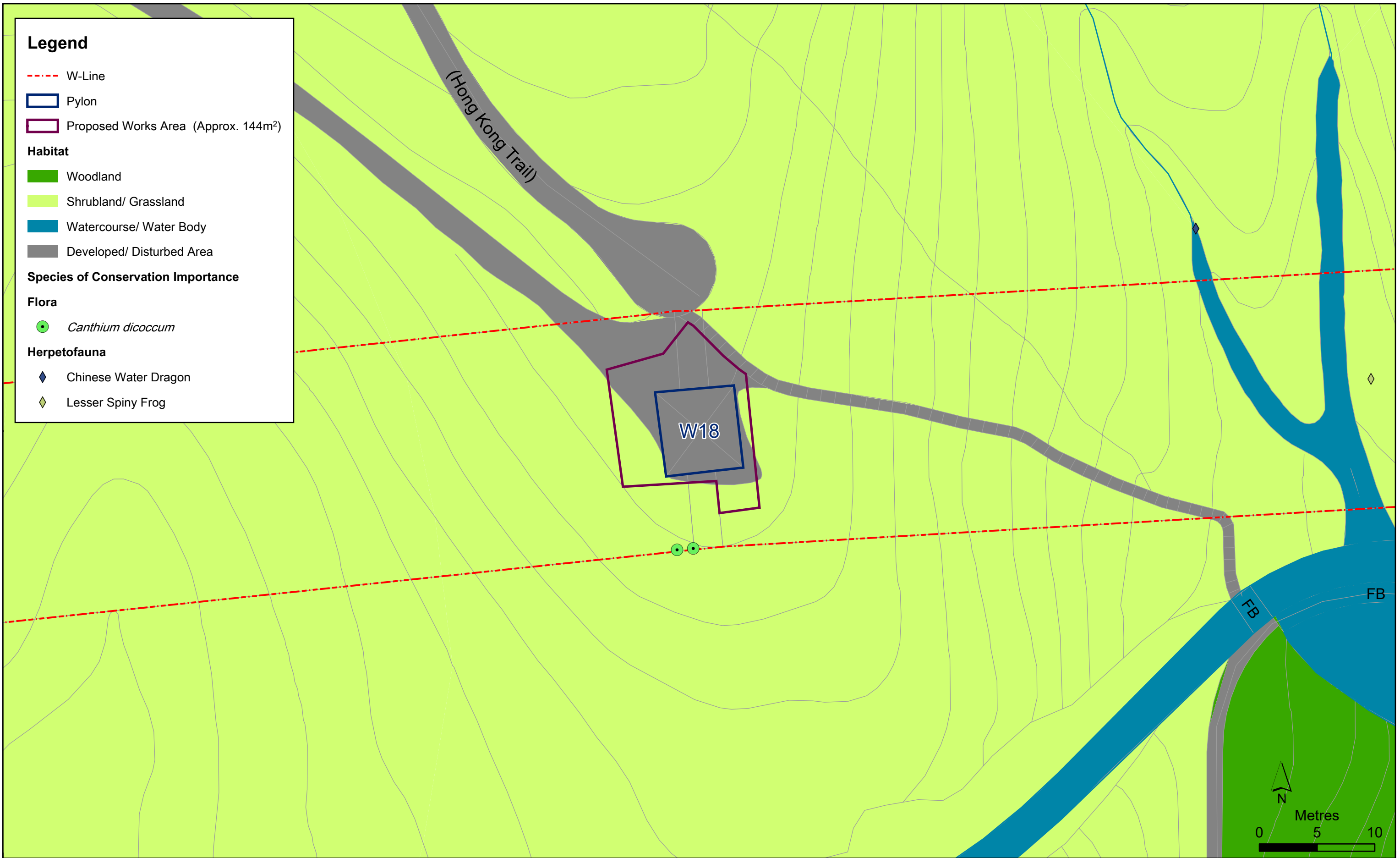


Figure 2.1.1

Zoom-in Habitat Map for Pylon W18



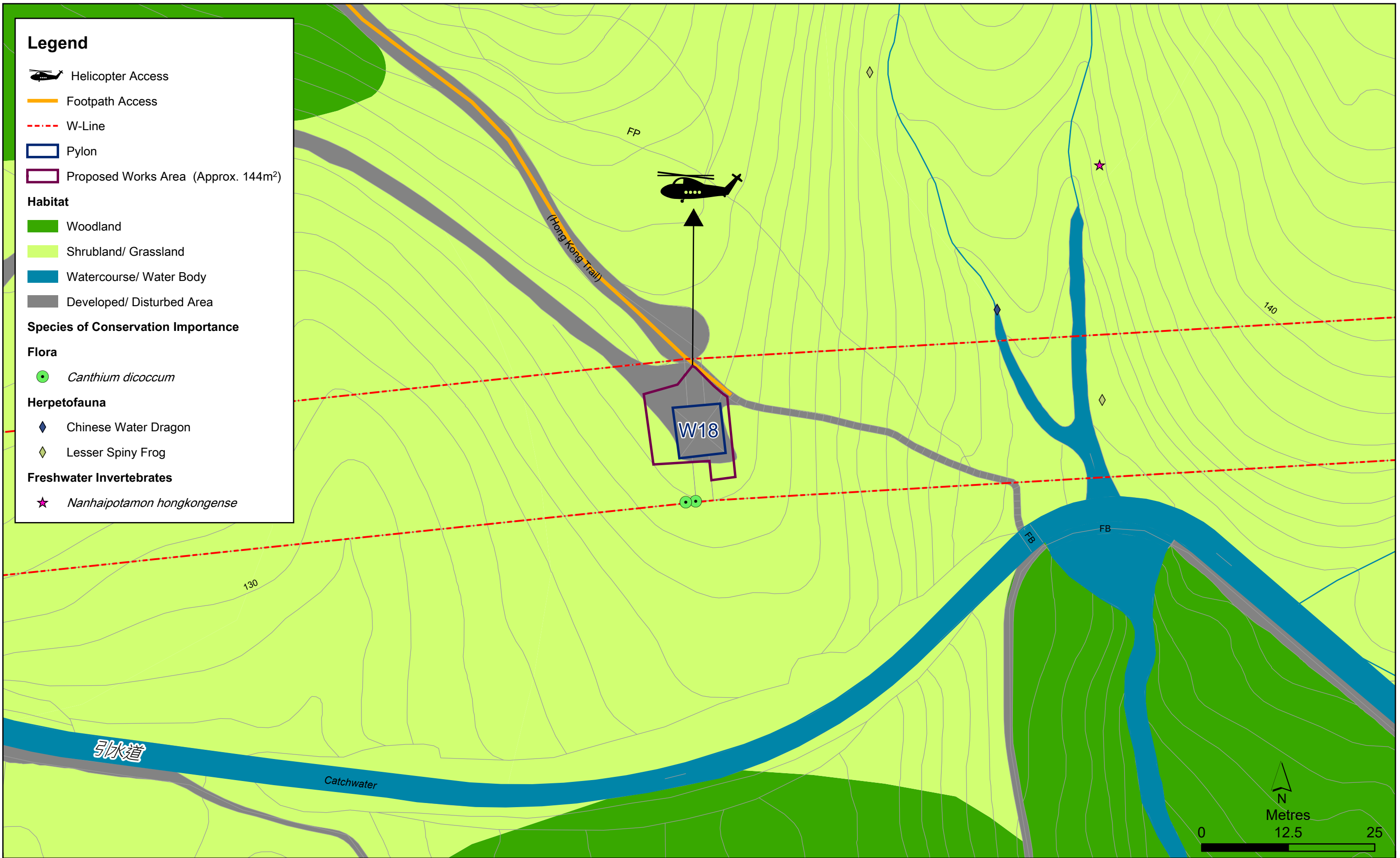
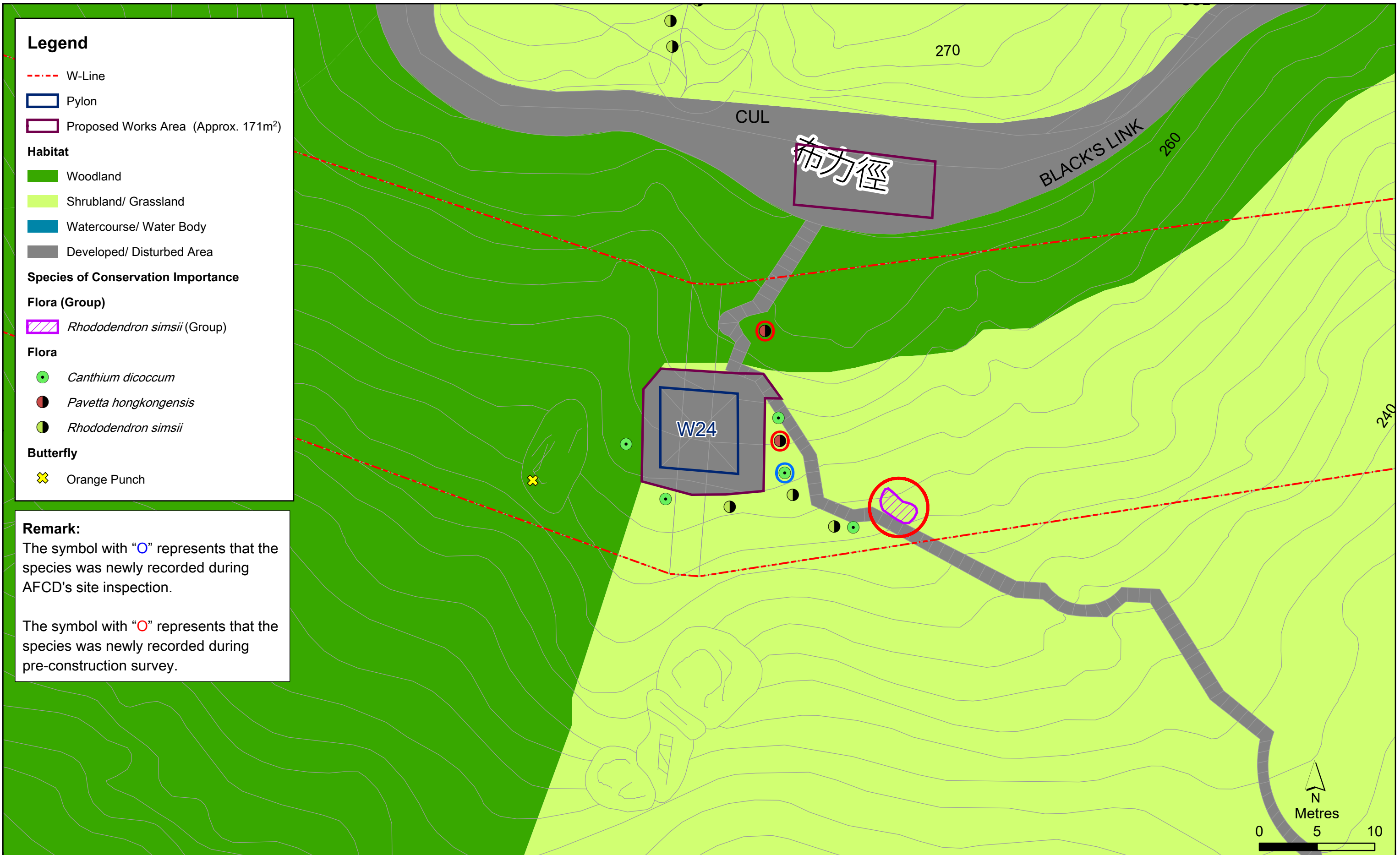
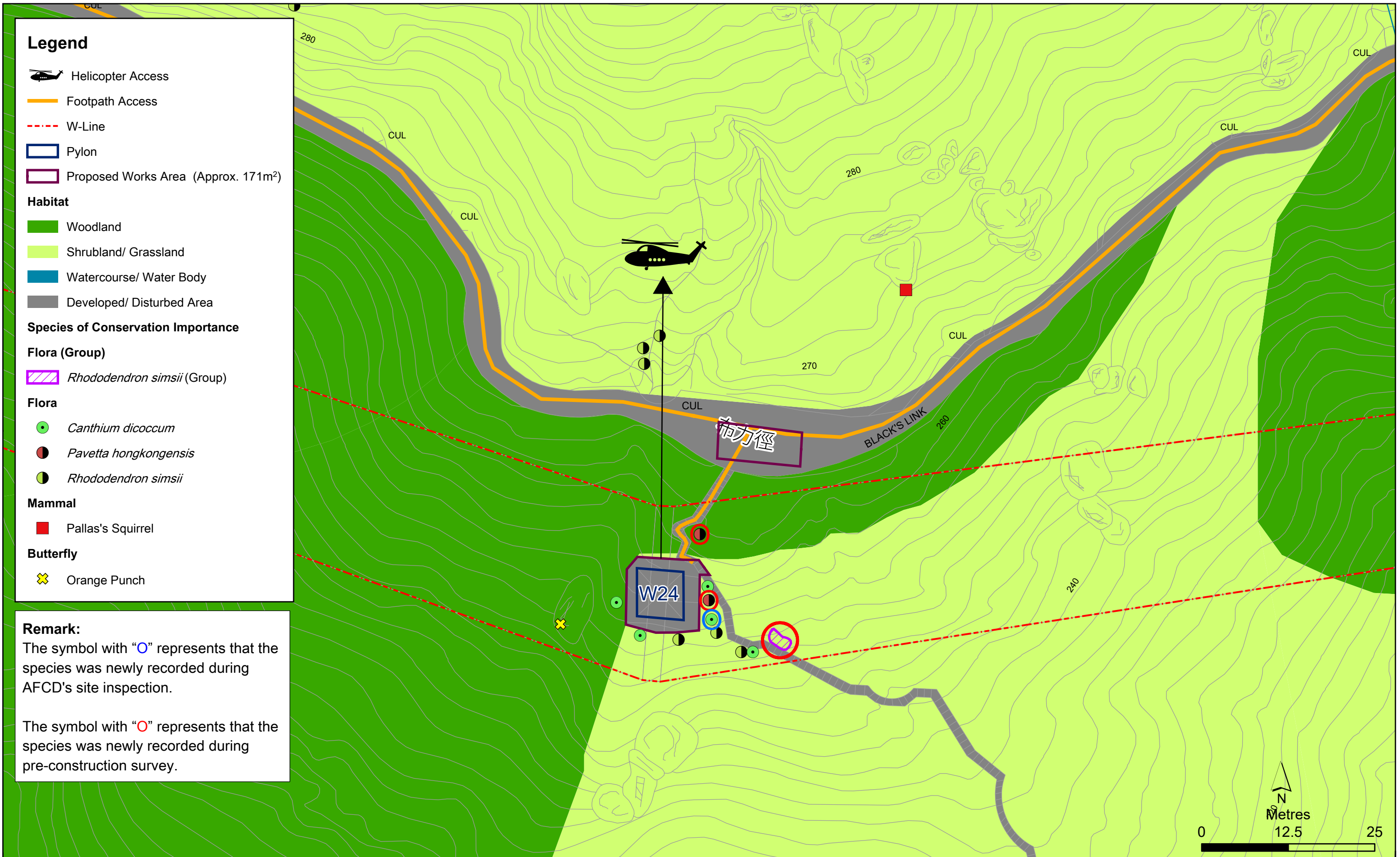


Figure 2.1.1a

Zoom-in Habitat Map for Pylon W18







3. RESULTS OF THE PRE-CONSTRUCTION SURVEY AND EXTENT OF PROPOSED WORKS AREAS

3.1 ECOLOGICAL SURVEY

During the pre-construction survey, active/ abandoned bird nest was not recorded within the proposed works areas or surrounding habitat of W18 and W24.

Based on the survey records, flora species of conservation importance, namely *Canthium dicoccum*, *Pavetta hongkongensis* and *Rhododendron simsii* were all recorded outside the proposed work areas at W18 and W24 (**Figures 2.1.1 to 2.1.2**), and thus they are not subject to any direct impact from the dismantling works. There will be no flora species conservation importance that may have conflict with the dismantling works, protection measures for flora species of conservation importance for W18 and W24 is considered unnecessary.

3.2 EXTENT OF PROPOSED WORKS AREAS

The equipment and removal of materials will be delivered to the proposed works area via existing vehicular roads by crane lorry and/or footpaths manually. For those areas which are not accessible via existing vehicular roads and/or footpaths, it will be transported by helicopter, such that construction of new access route and associated vegetation clearance are not required.

The removed concrete (previously used for the pylon stabilisation) generated during the pylon dismantlement will be disposed of at an appropriate waste reception facility and the dismantled materials including wire, conductor and steel will be recycled. The dismantled parts and materials would first be transported by manual handling or EV trolley, and then by crane lorry or helicopter to a nearby vehicular access, and subsequently transported off-site by lorry.

Further to the up-to-date site conditions, the works extents proposed in PP are reviewed and considered remain valid in achieving as minimal as practicable in terms of the works extents and ecological impacts, therefore, fine-tuning/ adjustment of the boundary of the proposed works areas are not required. A summary of survey result and extent of proposed works areas are presented in **Table 3.1**.

TABLE 3.1 SUMMARY OF SURVEY RESULT AND EXTENT OF PROPOSED WORKS AREAS

No. of Pylon	Approx. Size (m ²)	Survey Result
W18	144m ²	No flora species of conservation importance will be affected. No change in the extent of works area.
W24	171m ²	A total of one <i>Canthium dicoccum</i> , two <i>Pavetta hongkongensis</i> and a group of <i>Rhododendron simsii</i> were newly recorded outside the proposed works area. No flora species of conservation importance will be affected. No change in the extent of works area.

Note:

No active/ abandoned bird nest of conservation importance was recorded in proposed works areas of W18 and W24.

4. REVIEW OF PROTECTIVE MEASURES

As mentioned in **Section 3.1**, there is no flora species of conservation importance was identified within the proposed works areas at W18 and W24. There will be no flora species conservation importance that may have conflict with the dismantling works. All the flora species of conservation importance including *Canthium dicoccum*, *Pavetta hongkongensis* and *Rhododendron simsii* recorded outside the proposed works area at W18 and W24 will be retained. Flora species of conservation importance recorded along the main access path (i.e. *Pavetta hongkongensis* at W24) was located inside woodland where will not be encroached by any works, potential impacts on these species are not anticipated. However, safety and environmental awareness briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to the pylon and pay extra attention when using the access. No additional protective measure for flora species of conservation importance is considered necessary.

The boundary of the works area will be clearly marked by temporary fence where possible, and soft PVC tape at area where space is limited, before and during the proposed works to avoid impacts on the flora species of conservation importance recorded nearby (**Appendix A**). The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks.

HK Electric will prepare a site audit checklist and conduct weekly site audit at the active works areas during the dismantle works to ensure proposed good site practices are in place and effective.

Considering there was no active/ abandoned bird nest within the proposed works areas or surrounding habitats of W18 and W24, therefore, no additional ecological preventive and mitigation measures is required.

During planning stage, Project Proponent exerted great efforts to optimise the removal procedures and to minimise impact on vegetation, trees and habitats at any stage of the Project. The proposed works areas at W18 and W24 are confirmed to be still valid and practical.

5. IMPLEMENTATION SCHEDULE

Under EP condition 2.1, an Independent Environmental Checker (IEC) will be employed by the Permit Holder before commencement of construction of the Project. The IEC will audit the implementation of all mitigation measures recommended in the PP and required under the EP and to confirm full compliance of the mitigation measures through a monthly audit report.

An implementation schedule is presented in **Table 5.1** to clearly list out the mitigation measures to be implemented as specified in the PP and EP, and by whom, when, where and what requirement. All mitigation measures recommended and requirements specified in the EMP and the implementation schedule will be fully implemented.

TABLE 5.1 IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES DURING REMOVAL OF OVERHEAD LINE AND PYLONS (W18 AND W24)

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
EP condition 2.10(b)	<u>Avoidance and minimisation on potential environmental impacts</u> <ul style="list-style-type: none"> The flora species of conservation importance identified in close vicinity of the works areas will be retained in situ and protected during the works. 	Avoid or minimize potential environmental impacts during the construction stage of the Project	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.10(b)
S5.1.5 of PP	<u>Avoidance encroachment onto natural habitats within the country parks and SSSI</u> <ul style="list-style-type: none"> To avoid any unnecessary encroachment of the Project onto natural habitats within the country parks and SSSI and use minimal space as the works areas. 	Avoid direct impact to natural habitats within the country parks and SSSI	Contractor	Natural habitats within the country parks and SSSI	Pre-construction phase	EP condition 2.7(b)
EP condition 2.9 & S5.1.5 of PP	<u>Avoidance of use of mechanical equipment</u> <ul style="list-style-type: none"> To use of electrical hand-held breaker and other hand tools will be used for the pylon foundation removal instead of the mechanical equipment such as excavators. 	Further minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Proposed works areas	Construction phase	EP condition 2.9
EP condition 2.7 & S5.1.5 of PP	<u>To conduct pre-construction site visits/surveys</u> <ul style="list-style-type: none"> Additional site visit(s) will be conducted at the pre-construction phase to review the validity and practicality of the proposed works areas. Propose protective measure for the flora of conservation importance newly identified from pre-construction survey. 	Minimise direct impacts on the woodland habitat (i.e. with minimum level of vegetation clearance), tree pruning and tree felling.	Contractor	Proposed works areas	Pre-construction phase	EP condition 2.7
S5.1.5 of PP and S4 of the EMP	<u>Site Inspection</u> <ul style="list-style-type: none"> During the dismantle works, HK Electric will prepare a site audit checklist and conduct weekly site audit at the active works areas to ensure the proposed good site practices / protective measures are in place and effective. During the dismantle works, monthly site visit by a HK Electric's representative will be conducted at the active works areas to ensure the appropriate and successful implementation of the measures. 	Minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.7
EP condition 2.7 and 2.10(b), S5.1.5 of PP and S4 of this EMP	<u>Protection on nearby habitats, active bird nest and flora species of conservation importance</u> <ul style="list-style-type: none"> All the flora species of conservation importance including <i>Canthium dicoccum</i>, <i>Pavetta hongkongensis</i> and <i>Rhododendron simsii</i> recorded outside the proposed works area at W18 and W24 will be retained. Safety and environmental awareness briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to W24 and pay extra attention when using the access to avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats and especially those within the Country Park. The contractors will be required to provide proofs of dismantled materials dumping (i.e. waste disposal ticket issued by landfill office and recycling receipt). Measures will be provided to deal with any active bird nest found on the pylon (if any). 	Minimise direct impacts on habitats, active bird nest and flora species of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	EP conditions 2.7 & 2.10(b)

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
	<ul style="list-style-type: none"> • Upon completion of the dismantling activities, the affected habitats including woodland, shrubland/ grassland and developed area/disturbed area will be reinstated by planting native trees and vegetation. • The boundary of the works area will be clearly marked by temporary fence where possible and soft PVC tape at area where space is limited. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks, particularly to any identified flora of conservation importance nearby. • Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas. • Good site practice should be enforced. Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed. 					



APPENDIX A

MEASURES TO DEMARCATATE BOUNDARY
OF PROPOSED WORKS AREA BEFORE
AND DURING THE PROPOSED WORKS



Temporary Fence

When area is available, temporary fence will be used to mark proposed works area.



PVC Tape

When area is limited, PVC tape will be used to mark proposed works area.



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