



Removal of 132kV Overhead Line and Pylons for P-Line

Ecological Management
Plan (P1 to P6)

5 May 2022

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Environmental Permit No. EP-603/2022
Removal or 132kV Overhead Line and Pylons for P-Line
Certification and Verification


Reference Document/Plan

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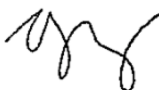
Reference EP Condition

Environmental Permit Condition:	2.6 and 2.7
<p>2.6 Before commencement of the removal work within Tai Tam 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 the Tai Tam 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-636/2021); and no later than one month before commencement of the respective removal work within country park, submit three hard copies and one electronic copy of an Ecological Management Plan (EMP), certified by qualified ecologist 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 structures, temporary platform temporary protective metal cage and protective nets, for the flora of conservation importance identified within and in the vicinity of the works areas;(d) temporary fence around the works areas to prevent amphibian species of conservation importance (if any) from returning to the works areas (where necessary);(e) translocation proposal for amphibian species of conservation importance found within works areas (if any); and(f) any other ecological preventive and mitigation measures to be adopted. <p>2.7 The EMP submitted under Condition 2.6 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-603/2022.	
	Date: <u>5 May 2022</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-603/2022.	
	Date: <u>13 May 2022</u>
Ms Liz Lo Independent Environmental Checker	

Signature Page

5 May 2022

Removal of 132kV Overhead Line and Pylons for P-Line

Ecological Management Plan (P1 to P6)



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1. INTRODUCTION

1.1 Background

The P-Line (Parker Line from Deep Water Bay Road to Tai Tam Road with total length of 4.7km) has been in services for more than 40 years and aged at various extent depending on the locations of the pylons and localised climatic conditions. The P-line is no longer in use. Hong Kong Electric (HKE) is proposing to remove the 132kV overhead line (OHL) and pylons of P-Line from Deep Water Bay Road to Tai Tam Road. The overall alignment of P-Line is shown in **Figure 1.1**.

Substantial maintenance had been carried out in order to preserve the OHL system intact. HK Electric had maintained the existing transmission network such that the P-Line could be dismantled not only to eliminate the risks to the surrounding areas but also to resume the original aesthetics view. The dismantle works will be conducted in stages by separating 24 pylons in 4 batches. Each batch will contain 5 to 9 pylons (i.e. P1-P6, P6-14, P14-P20 and P20-P24).

As a large portion of the OHL and Pylons is within Tai Tam Country Park, and Tai Tam Reservoir Catchment Area Site of Special Scientific Interest (SSSI), i.e. P1 to P19, 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-636/2021) 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 2021 with DIR permission (DIR-287/2021) and EP (EP-603/2022) granted by EPD on 20 December 2021 and 14 January 2022 respectively.

In accordance with the EP Conditions 2.6 and 2.7, 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 2.6:

“Before commencement of the removal work within Tai Tam Country Park, the Permit Holder shall, in consultation with the Agricultural, Fisheries and Conservation Department, conduct pre-construction site visits/surveys to review the extent of works and verify the ecological baseline information collected within the Tai Tam 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; and no later than one month before commencement of the respective removal work within country park, submit three hard copies and one electronic copy of an Ecological Management Plan (EMP), certified by qualified ecologist 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:

- (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 structures, temporary platform temporary protective metal cage and protective nets, for the flora of conservation importance identified within and in the vicinity of the works areas;*
- (d) temporary fence around the works areas to prevent amphibian species of conservation importance (if any) from returning to the works areas (where necessary);*
- (e) translocation proposal for amphibian species of conservation importance found within works areas (if any); and*

(f) *any other ecological preventive and mitigation measures to be adopted.*”

EP Condition 2.7:

“The EMP submitted under Condition 2.6 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 P1 to P6 was conducted on 17 February 2022 in accordance with the Survey Methodology Paper (Pre-construction) submitted to EPD and AFCD on 14 February 2022. The objective of the Ecological Management Plan (EMP) is to review the extent of works and verify the ecological baseline information collected within the Tai Tam 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 2.6 (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 P1 to P6 on 17 February 2022 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), amphibian of conservation importance, active bird nest within the proposed works areas. 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, with particular focus on flora of conservation importance
Amphibian of conservation importance	Active searching within the proposed works areas; including day and night surveys
Avifauna (Active bird nest)	Active searching within the proposed works areas, 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 P1 to P6 (**Figures 2.1.1** to **2.1.6**). 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 (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 Amphibian

Should any amphibian species of conservation importance be found within the works areas, capture and translocation would be conducted to move amphibian species of conservation importance from the works areas to suitable recipient sites (e.g. a similar habitat still within the country parks but away from the works area). A detailed translocation proposal would be submitted to AFCD to agree on the detailed translocation procedures.

Amphibian surveys (including day and night-time surveys) have been carried out. Amphibian surveys have been conducted through direct observation and active searching in all habitat types along the survey transects and in potential hiding places such as among leaf litter, inside holes, under stones and logs within the proposed works areas. Auditory detection of species-specific calls has also been used to survey frogs and toads.

2.1.3 Avifauna (Active bird Nest)

Avifauna survey has been conducted with attention given to presence of any active bird nests on the pylons and trees 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.

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 and amphibian of conservation importance were not recorded within the proposed works areas of P1 to P6, but *Paramesotriton hongkongensis* was recorded at a natural stream immediately adjacent to the footpath connecting to P5 (**Figure 2.1.5a**) during AFCD's site inspection.

Based on the survey records, flora species of conservation importance, namely *Artocarpus hypargyreus*, *Canthium dicoccum*, *Gnetum luofuense* and *Enkianthus quinqueflorus*, were recorded outside the proposed work areas at P1, P2, P3, P4, P5 and P6 (**Figures 2.1.1 to 2.1.6**), and thus they are not subject to any direct impact from the dismantling works. *Gnetum luofuense* within the proposed works areas at P1, P3 and P6 will be the only flora species conservation importance that may have conflict with the dismantling works. Photos of the recorded species of conservation importance are provided in **Annexes A1, A3 and A6** respectively. *Artocarpus hypargyreus* was recorded immediately adjacent to the proposed work area at P2.

Three individuals of *Gnetum luofuense*, *Rhododendron spp* and *Enkianthus quinqueflorus* reported in PP at P3 and P4 were not recorded during pre-construction survey (**Figures 2.1.3 to 2.1.4**).

3.2 Extent of Proposed Works Areas

The equipment and removal of materials will be delivered to the Project site 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 valid in achieving as minimal as practicable in terms of the works extents and ecological impacts, therefore, fine-tuning/ adjustment 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
P1	429 m ²	A new record of <i>Gnetum luofuense</i> was recorded slightly entangling on the fence. No change in the extent of works area.
P2	146 m ²	No flora species of conservation importance will be affected. <i>Gnetum luofuense</i> was newly recorded outside the proposed works area. <i>Artocarpus hypargyreus</i> was recorded immediately adjacent to the proposed work area. No change in the extent of works area.
P3	150 m ²	<i>Gnetum luofuense</i> was newly recorded outside the proposed works area. An individual of <i>Gnetum luofuense</i> reported in PP was still found within the proposed works area, which may have conflict with the dismantling works (Annex A3), protective measure for this individual will be discussed in Section 4 . Two individuals of <i>Gnetum luofuense</i> and <i>Rhododendron spp</i> . reported in PP were not recorded during the pre-construction survey.

No. of Pylon	Approx. Size (m ²)	Survey Result
		No change in the extent of works area.
P4	82 m ²	No flora species of conservation importance will be affected. <i>Enkianthus quinqueflorus</i> was newly recorded outside the proposed works area. An individual of <i>Enkianthus quinqueflorus</i> reported in PP was not recorded during the pre-construction survey. No change in the extent of works area.
P5	92 m ²	No flora species of conservation importance will be affected. <i>Enkianthus quinqueflorus</i> was newly recorded outside the proposed works area. No change in the extent of works area. <i>Paramesotriton hongkongensis</i> was newly recorded at a natural stream immediately adjacent to the footpath connecting to P5 during AFCD's site inspection.
P6	192 m ²	An individual of <i>Gnetum luofuense</i> reported in PP was still found within the proposed works area, which may have conflict with the dismantling works (Annex A6), protective measure for this individual will be discussed in Section 4 . No change in the extent of works area.

Note:

No active/abandoned bird nest and amphibian of conservation importance were recorded in proposed works areas of P1 to P6.

4. REVIEW OF PROTECTIVE MEASURES

As mentioned in **Section 3.1**, *Gnetum luofuense* was identified within the proposed works areas at P1, P3 and P6 that may have conflict with the dismantling works. Protective measures would also be required at P2 and P5 due to *Artocarpus hypargyreus* and *Paramesotriton hongkongensis* identified near the proposed works areas.

As the *Gnetum luofuense* at P1 was found not entangling the fence tightly, it is proposed to gently disentangle it from the fence and put the disentangled part on adjacent unaffected vegetated area outside the works area which will not be affected by the dismantling work.

Artocarpus hypargyreus recorded immediately adjacent to the proposed work area at P2 will be preserved in-situ and it is confirmed with the contractor that there will be no direct conflict with the dismantling work as assessed during planning the P-line removal procedure. Considering it is closely located to the proposed work area of P2, a protective fencing with 1.5m-2m will be erected around the dripline of the tree to avoid potential impact under the Project subject to site condition and steep slope (**Annex A2**). The protective fencing will be removed upon completion of works. It is not feasible to setup equipment/platform to enclose the tree with temporary protective net which is ~9m tall. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the *Artocarpus hypargyreus* during dismantling works.

The *Gnetum luofuense*, found at P3 and P6, are climbing on shrub and tree. Erecting a protective metal cage for the shrub and tree would be large and extensive, an extensive footing would also be required to support the cage. This would further disturb the adjacent vegetated area and result in additional vegetation loss. Moreover, large equipment would be required to bring into the site for erection / installation of the extensive metal cage. Transportation of large equipment to the site would possibly damage the vegetation alongside the footpath (which is not expected for the original arrangements). Given the *Gnetum luofuense* at P3 and P6 were located at the fringe of proposed works areas, soft protective nets and fencing (**Annexes A4, A7 and A8**) with warning sign in sharp colour with the intention to alert the workers to be aware of the species will be provided in order to avoid the species being damaged during the removal works. The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants. A temporary fencing will be erected for the shrub and dripline of the branches entangled by *Gnetum luofuense*.

As *Paramesotriton hongkongensis* was recorded at the natural stream immediately adjacent to the footpath connecting to P5 during AFCD's site inspection, temporary fencing with soft PVC tape/net and warning sign in sharp colour is proposed to be erected along the footpath to P5 in order to limit the activities by the workers and alert worker's awareness to protect the natural stream (**Annex A5**). The Contractor will ensure the temporary fencing will not entangle any animal. A gap of at least 50cm at the bottom of the fencing will be arranged and allowed for the animals freely move across the fenced footpath. Temporary fencing will be setup and removed on each working day, and it will not be left on-site overnight and during non-working hours. Briefing to workers will be provided to avoid pollution to the natural stream adjacent to the footpath.

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 / protective measures are in place and effective.

A summary of the protective measures is presented in **Table 4.1** and illustrated in **Annex A**.

Table 4.1 Summary of Protective Measures

No. of Pylon	Species	Protective Measures
P1	<i>Gnetum luofuense</i>	<i>Gnetum luofuense</i> will be gently disentangled out of the fence before dismantling work. Removal of fence is part of the dismantling work as assessed in the approved PP. The disentangled part will be put on adjacent unaffected vegetated area outside the works area which will not be affected by the dismantling work. (Annex A1).
P2	<i>Artocarpus hypargyreus</i>	A protective fencing with 1.5m-2m will be erected around the dripline of the tree to avoid potential impact under the Project subject to site condition and steep slope (Annex A2). It is not feasible to setup equipment/platform to enclose the tree with temporary protective net which is ~9m tall (Annexes A2 and A9). The Contractor will ensure that the top parts of pylon segments will not have direct contact with the <i>Artocarpus hypargyreus</i> during dismantling works.
P3	<i>Gnetum luofuense</i>	Temporary protective fencing will be erected for the shrub (<i>Acacia confusa</i>) which entangled by <i>Gnetum luofuense</i> in order to set up a protection zone. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant. The shrub entangled by <i>Gnetum luofuense</i> will also be covered/surrounded by soft protective net as appropriate to alert workers' awareness. The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants. (Annexes A3 and A4).
P5	<i>Paramesotriton hongkongensis</i> (at a natural stream immediately adjacent to the footpath connecting to P5)	Temporary fencing with soft PVC tape/net and warning sign in sharp colour will be erected along the footpath to P5 in order to limit the activities by the workers and alert workers' awareness to protect the natural stream (Annex A5). The Contractor will ensure the temporary fencing will not entangle any animal. A gap of at least 50cm at the bottom of the fencing will be arranged and allowed for the animals freely move across the fenced footpath. Temporary fencing will be setup and removed on each working day, and it will not be left on-site overnight and during non-working hours. Briefing to workers will be provided to avoid pollution to the natural stream adjacent to the footpath.
P6	<i>Gnetum luofuense</i>	The branches of <i>Acacia confusa</i> at P6 which are entangled by <i>Gnetum luofuense</i> will be well covered/surrounded by soft protective net as appropriate to alert workers' awareness. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant. The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants. A protective fencing with 1.5m-2m will erected around the dripline of the branches entangled by <i>Gnetum luofuense</i> to avoid potential impact from the Project (Annexes A6, A7 and A9).

Considering the absence of amphibian of conservation importance within the proposed works areas, translocation proposal and temporary fence around the proposed works areas to prevent amphibian species of conservation importance from returning to the works areas are considered not necessary. No active/abandoned bird nest and fauna species of conservation importance were recorded within the proposed works areas during the survey, 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. With the adoption of above protective measures, the proposed works areas at P1 to P6 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 4.2** to clearly list out the mitigation measures to be implemented as specified in the PP, EP and **Section 4**, 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 4.2 Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons (P1 to P6)

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 2.9	<p><u>Avoidance and minimisation on potential environmental impacts</u></p> <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 2.9
S5.1.5 of PP	<p><u>Avoidance encroachment onto natural habitats within the country parks and SSSI</u></p> <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	N/A
EP condition 2.8 & S5.1.5 of PP	<p><u>Avoidance of use of mechanical equipment</u></p> <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 2.8
EP condition 2.6 & S5.1.5 of PP	<p><u>To conduct pre-construction site visits/surveys</u></p> <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. Additional ecological survey with focus to amphibian species of conservation importance will be conducted at pre-construction phase by qualified ecologist. To prepare detailed translocation proposal for capture and translocation works if any amphibian species of conservation importance be found within the works area. 	<p>Minimise direct impacts on the woodland habitat (i.e. with minimum level of vegetation clearance), tree pruning and tree felling</p> <p>Minimise direct impacts on amphibian species of conservation importance</p>	Contractor	Proposed works areas	Pre-construction phase (Pre-construction site visits/surveys for P1-6 completed on 18 th February 2022, protective measure for newly identified flora of conservation importance and translocation proposal are not required based on the survey findings.)	N/A

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						
S4 of the EMP	<p><u>Site Inspection</u></p> <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. 	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	N/A
S5.1.5 of PP and Table 4.1 of this EMP	<p><u>Protection on flora species of conservation importance</u></p> <ul style="list-style-type: none"> For <i>Gnetum luofuense</i> at P1, it will be gently disentangled out of the fence before dismantling. The disentangled part will be put on adjacent unaffected vegetated area outside the works area which will not be affected by the dismantling work. For <i>Artocarpus hypargyreus</i> at P2, a protective fencing with 1.5m-2m will be erected around the dripline of the tree to avoid potential impact under the Project subject to steep slope. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the <i>Artocarpus hypargyreus</i> during dismantling works. For the <i>Gnetum luofuense</i> at P3 and P6, a soft protective net with warning sign in sharp colour and fencing will be built around the identified plant with the aim to avoid damage during the dismantling works. 	Minimise direct impacts on floral of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	N/A
EP condition 2.5, S5.1.5 of PP and Table 4.1 of this EMP	<p><u>Protection on nearby habitats and flora of conservation importance</u></p> <ul style="list-style-type: none"> 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; Safety briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to pylons and pay extra attention when using the accesses. Temporary fencing with soft PVC tape/net will be erected along the footpath to P5 in order to limit the activities by the workers and alert workers' awareness to protect the natural 	Protect habitats and flora of conservation importance nearby the works area	Contractor	Proposed works areas	Construction phase	N/A

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						
	<p>stream. The Contractor will ensure the temporary fencing will not entangle any animal. A gap of at least 50cm at the bottom of the fencing will be arranged and allowed for the animals freely move across the fenced footpath. Temporary fencing will be setup and removed on each working day, and it will not be left on-site overnight and during non-working hours. Briefing to workers will be provided to avoid pollution to the natural stream adjacent to footpath.</p> <ul style="list-style-type: none"> • 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); • 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 • Upon completion of the pylon footing removal works, the resulting pits will then be backfilled with soil up to formation level. The works areas will then be reinstated with native plant species. 					

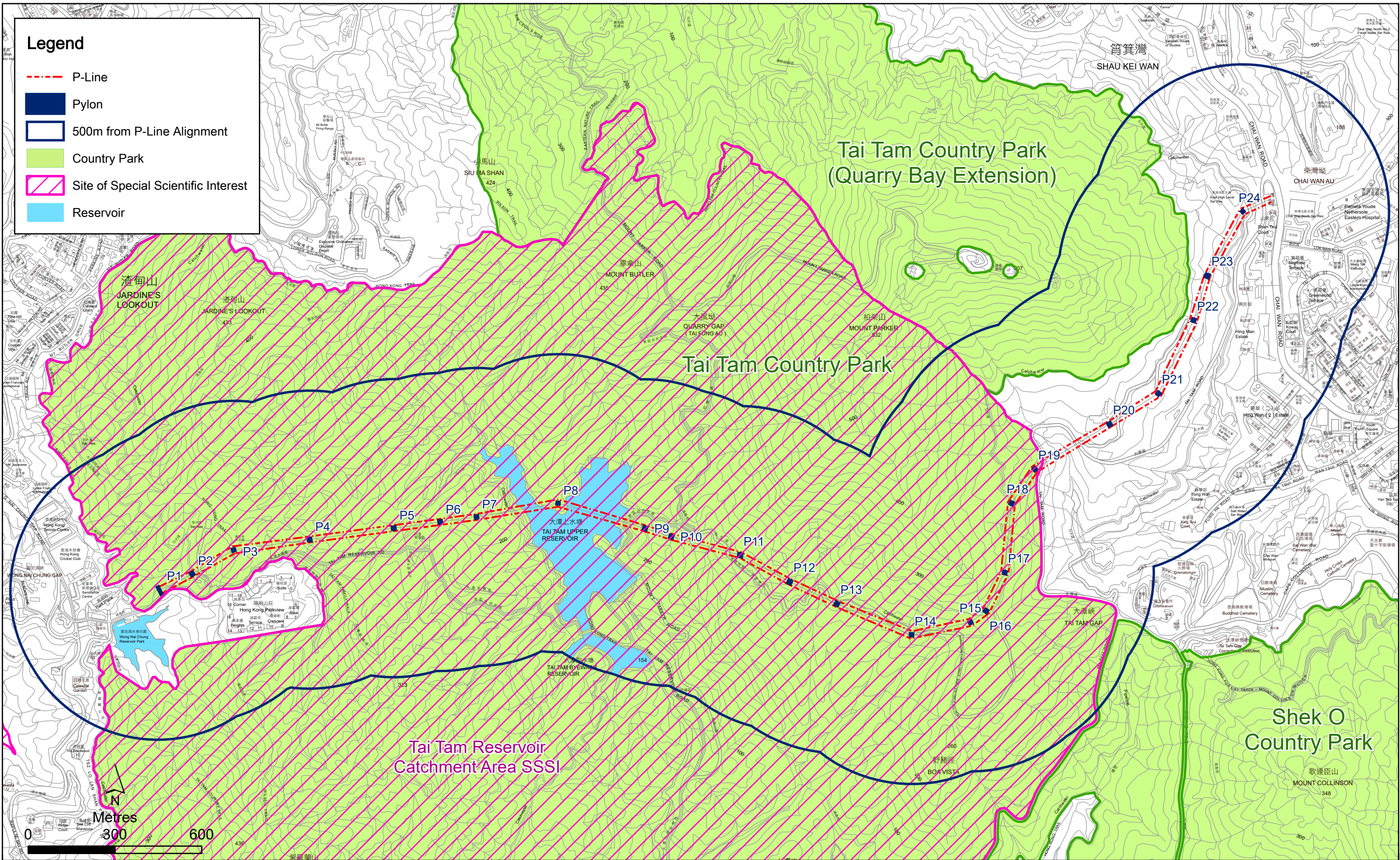


Figure 1.1

Removal of 132kV Overhead Line and Pylons for P-Line

File: T:\GIS\CONTRACT\0585151\mxd\Pre-con_Survey_Plan\0585151_P-Line_Alignment.mxd
 Date: 11/1/2022

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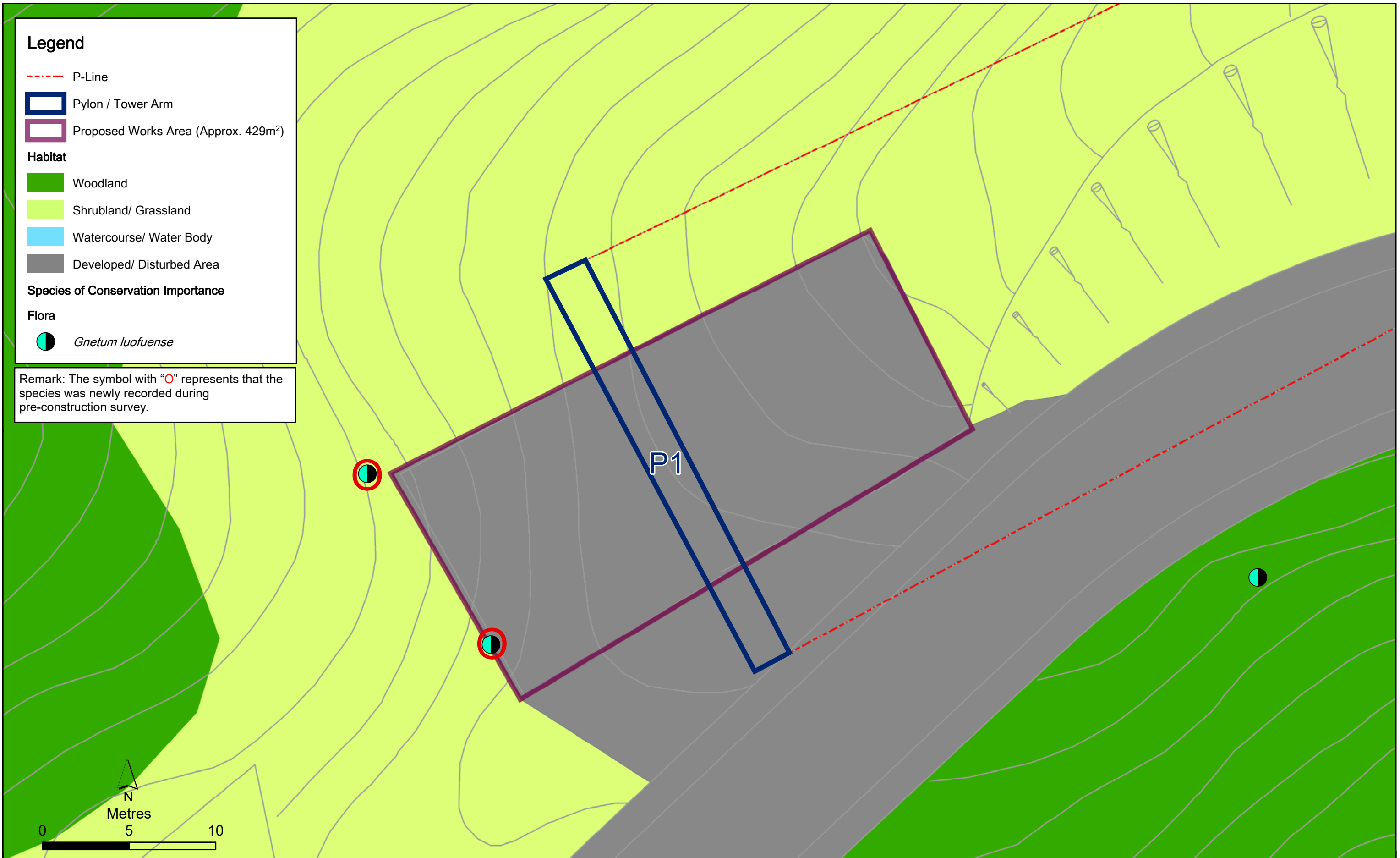


Figure 2.1.1

Zoom-in Habitat Map for Pylon P1



Figure 2.1.1a

Zoom-out Habitat Map for Pylon P1

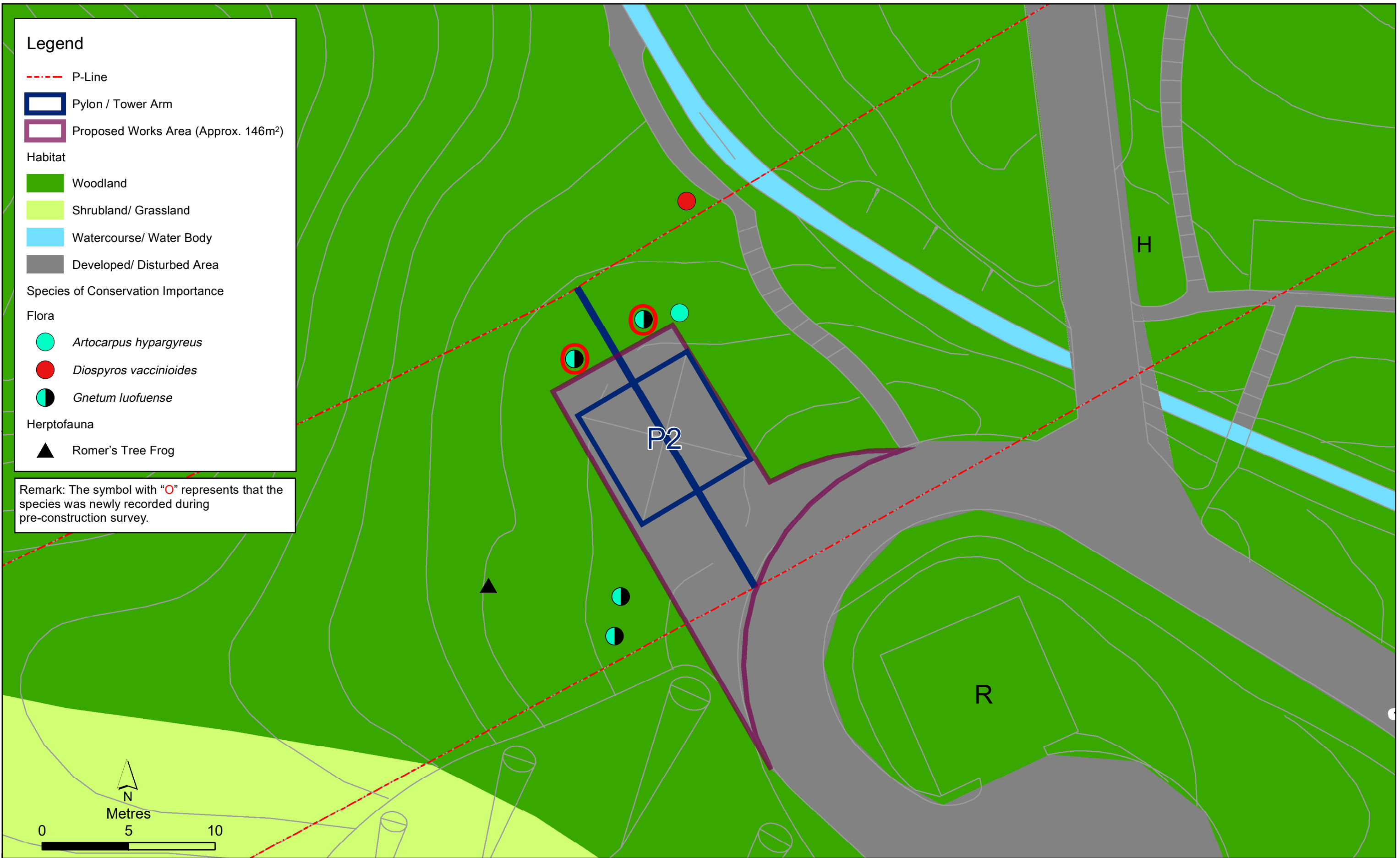


Figure 2.1.2

Zoom-in Habitat Map for Pylon P2

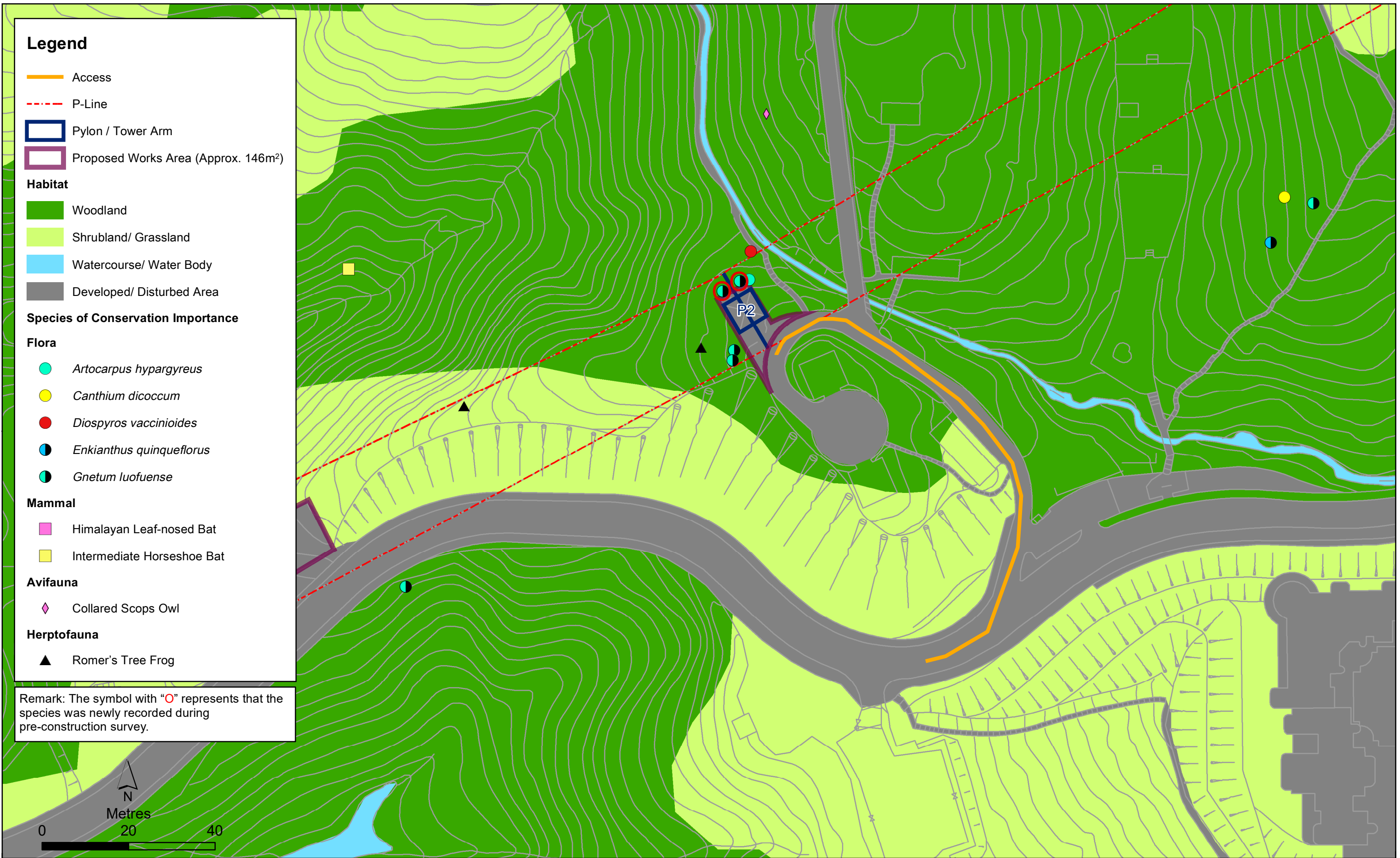
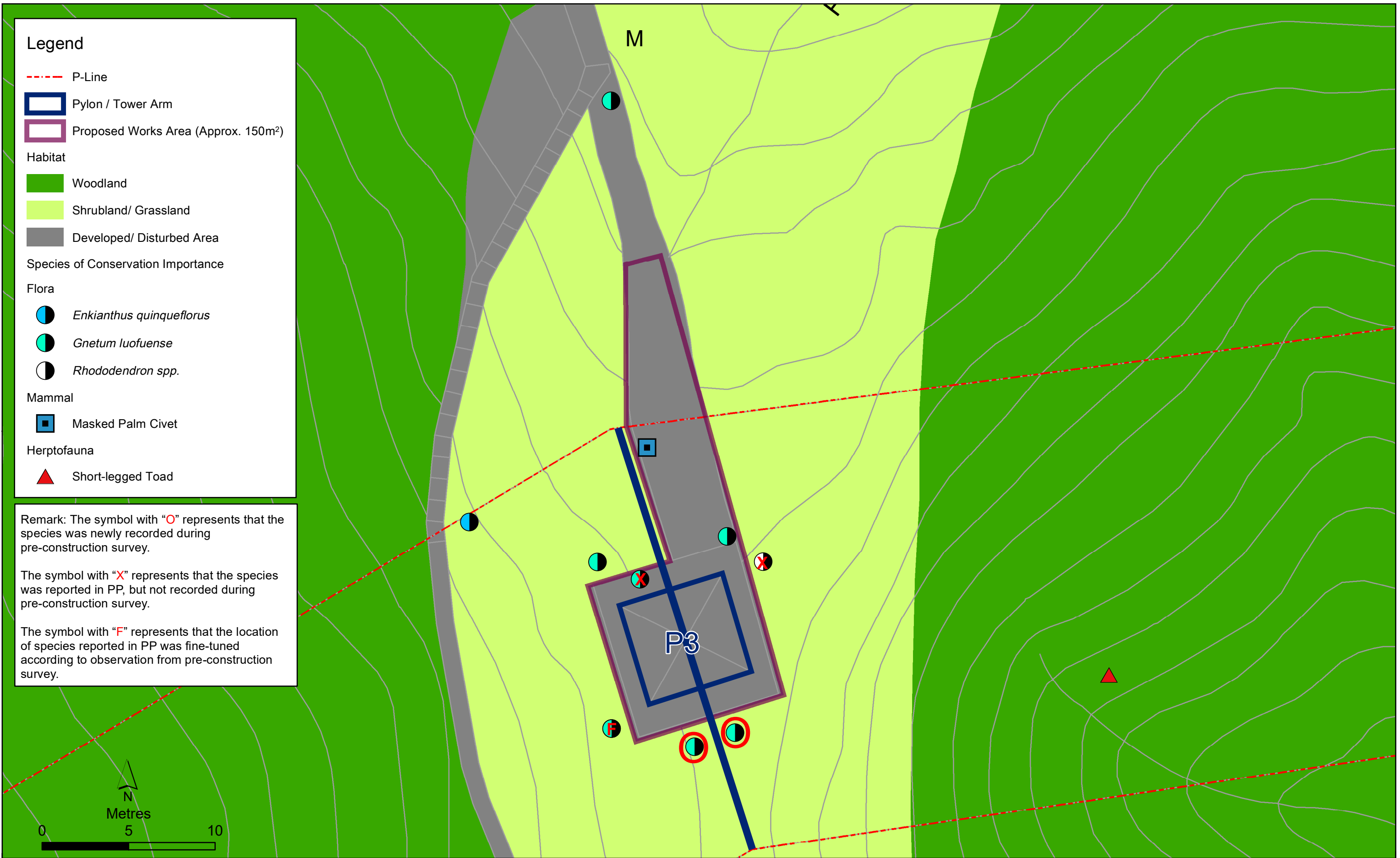


Figure 2.1.2a

Zoom-out Habitat Map for Pylon P2



Legend

- - - P-Line
- Pylon / Tower Arm
- Proposed Works Area (Approx. 150m²)

Habitat

- Woodland
- Shrubland/ Grassland
- Developed/ Disturbed Area

Species of Conservation Importance

Flora

- Enkianthus quinqueflorus*
- Gnetum luofuense*
- Rhododendron spp.*

Mammal

- Masked Palm Civet

Herptofauna

- Short-legged Toad

Remark: The symbol with "O" represents that the species was newly recorded during pre-construction survey.

The symbol with "X" represents that the species was reported in PP, but not recorded during pre-construction survey.

The symbol with "F" represents that the location of species reported in PP was fine-tuned according to observation from pre-construction survey.

Figure 2.1.3

Zoom-in Habitat Map for Pylon P3

File: T:\GIS\CONTRACT\0585151\mxd\Pre-con_Survey_Plan\0585151_Habitat_Map_P3.mxd
Date: 2/3/2022

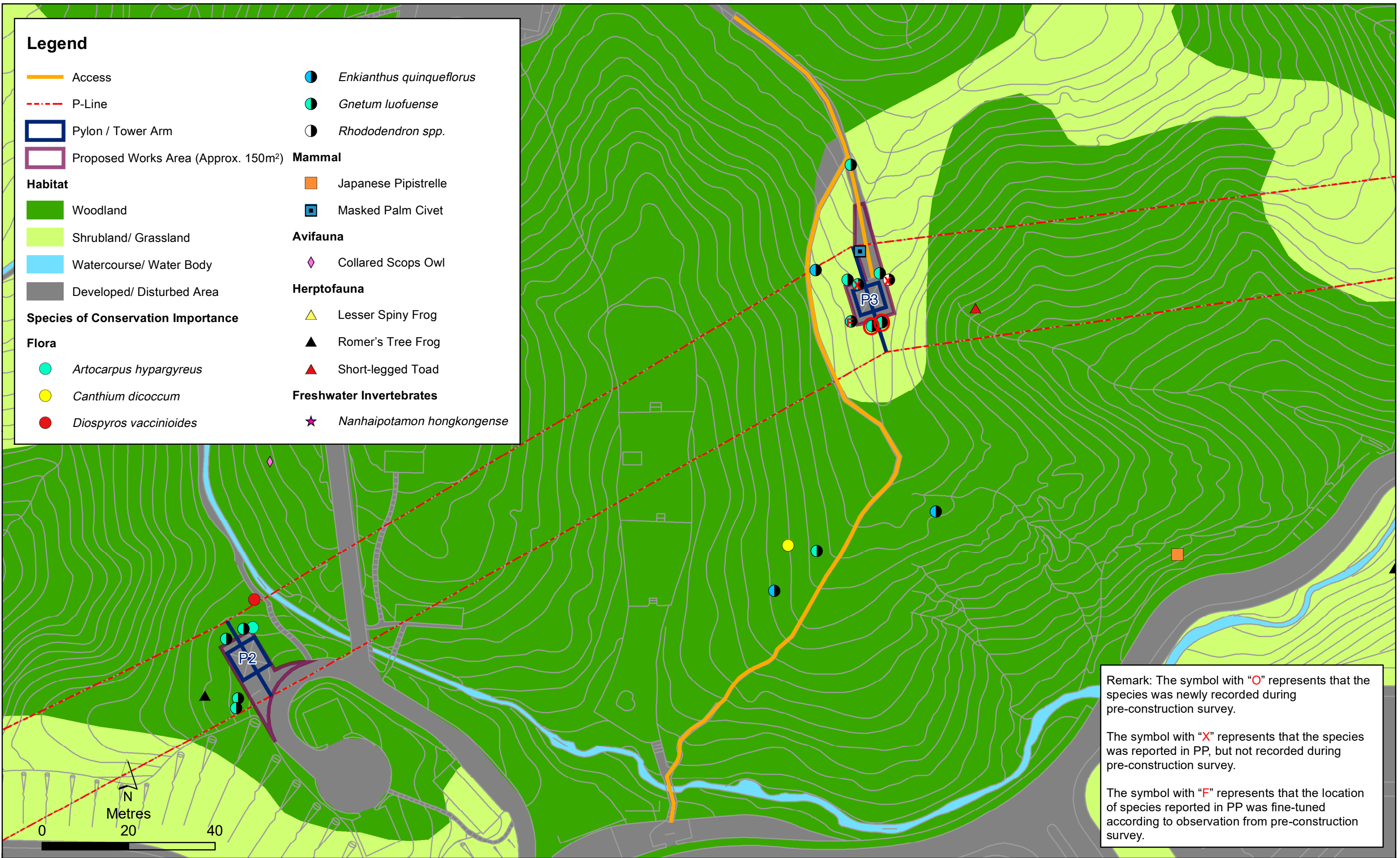


Figure 2.1.3a

Zoom-out Habitat Map for Pylon P3



Figure 2.1.4

Zoom-in Habitat Map for Pylon P4



Figure 2.1.4a

Zoom-out Habitat Map for Pylon P4

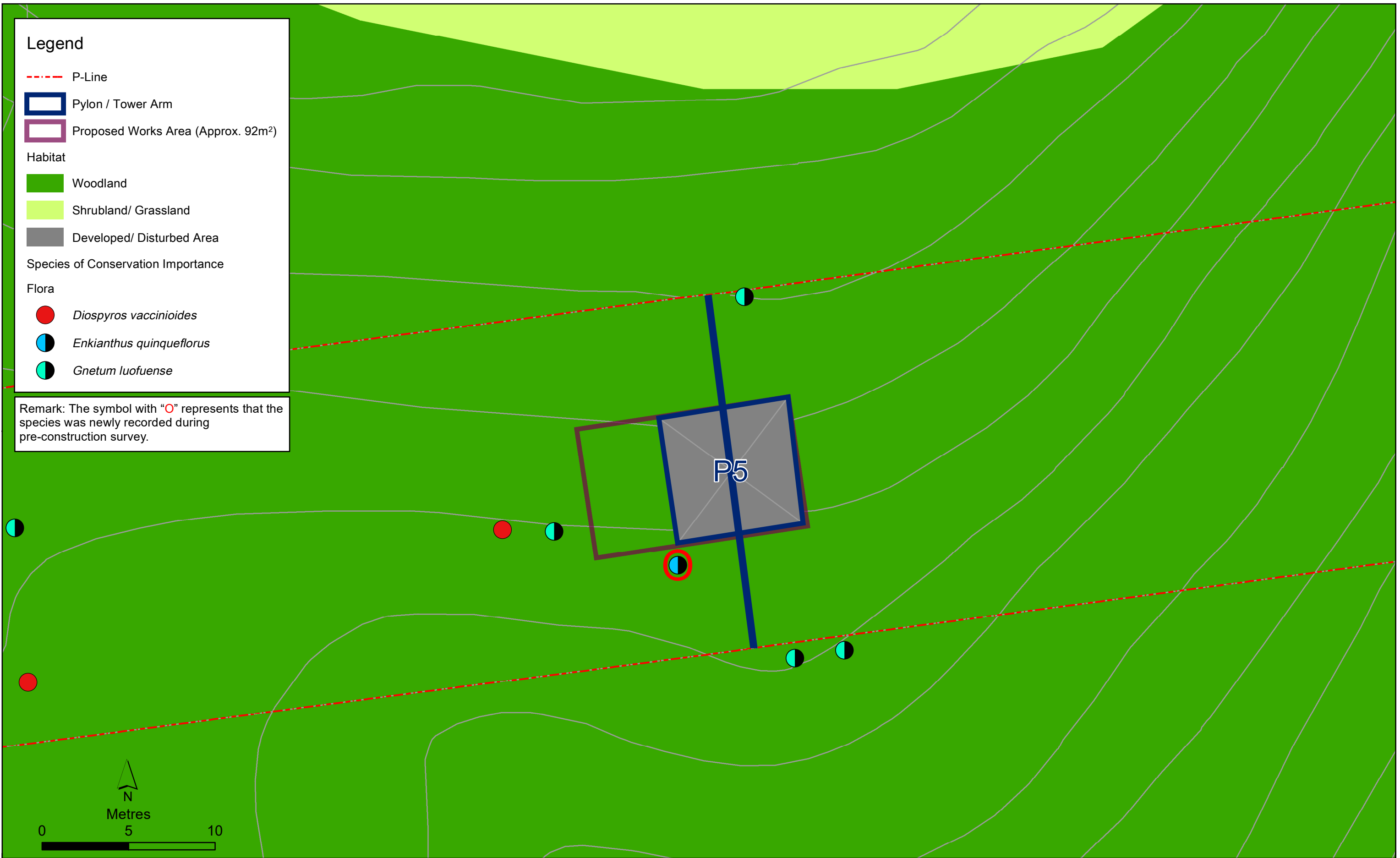


Figure 2.1.5

Zoom-in Habitat Map for Pylon P5

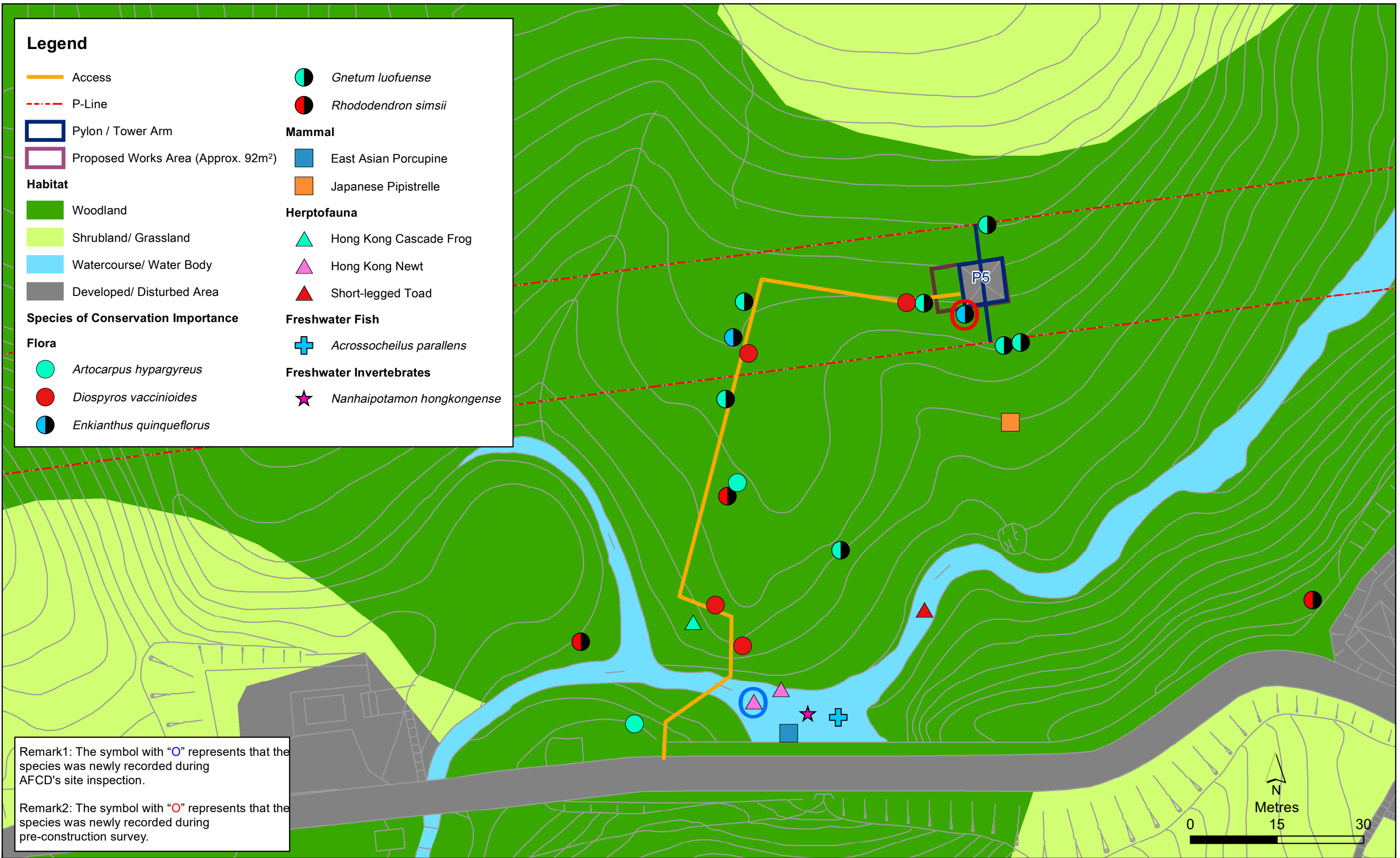


Figure 2.1.5a

Zoom-out Habitat Map for Pylon P5

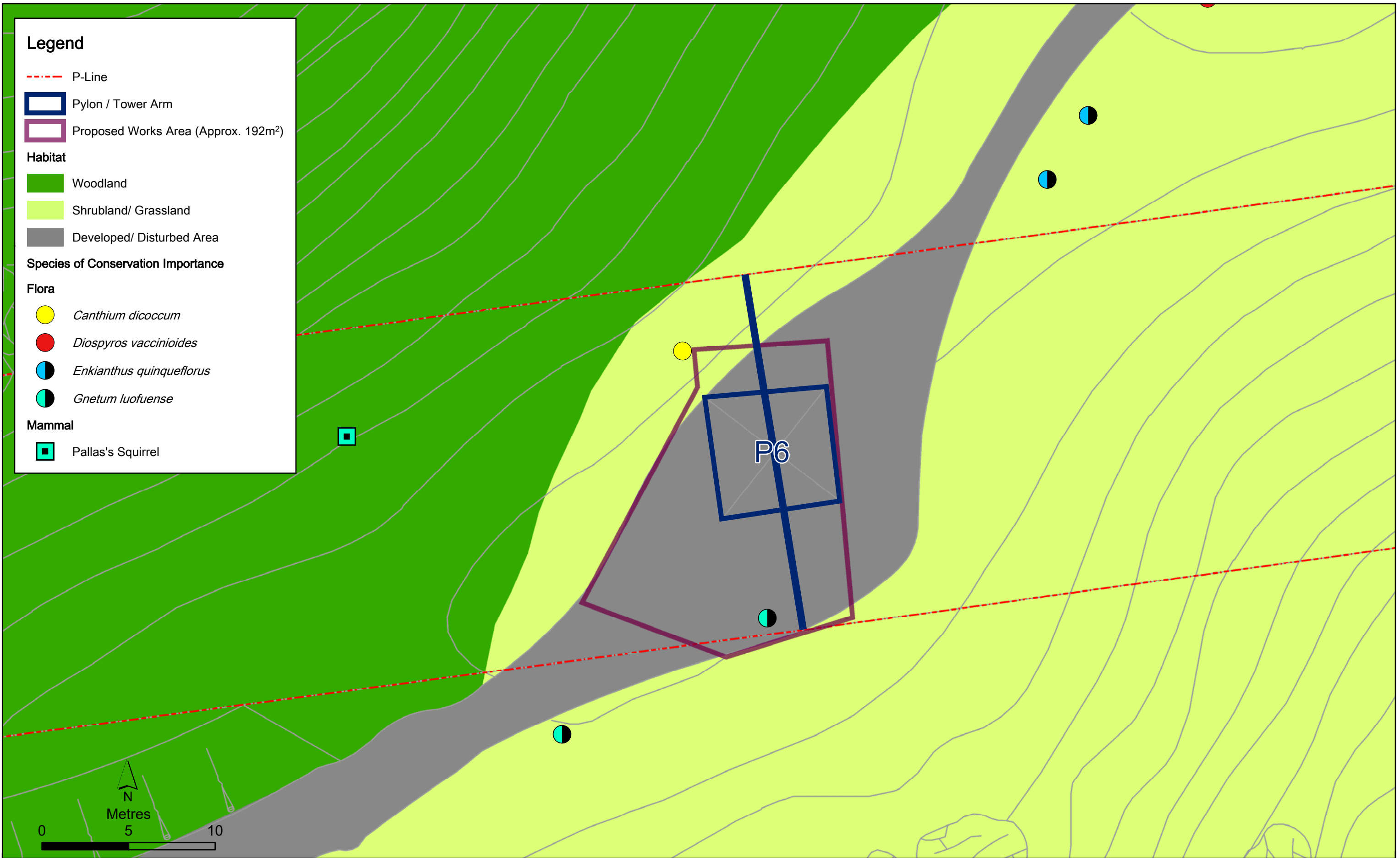


Figure 2.1.6

Zoom-in Habitat Map for Pylon P6

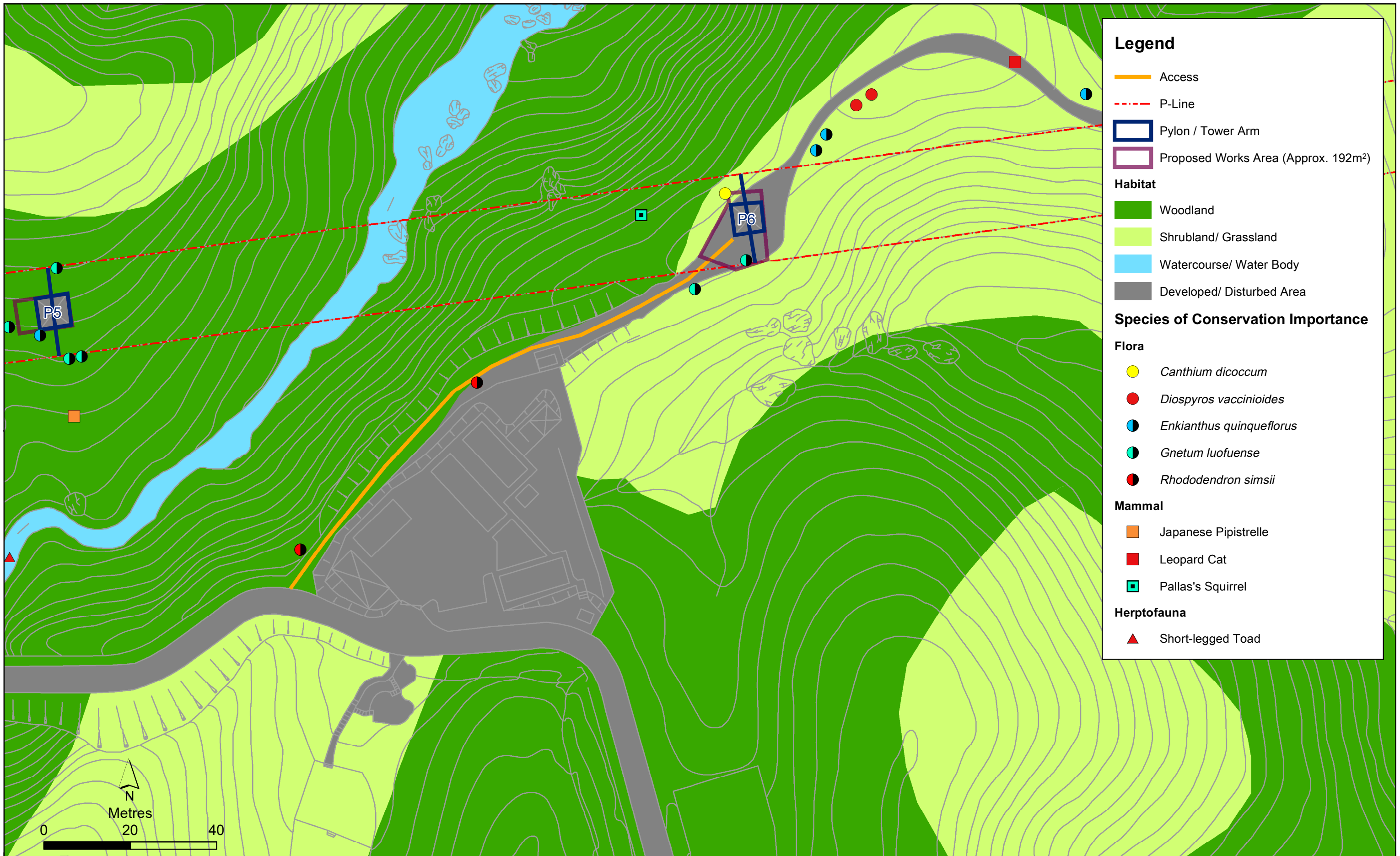


Figure 2.1.6a

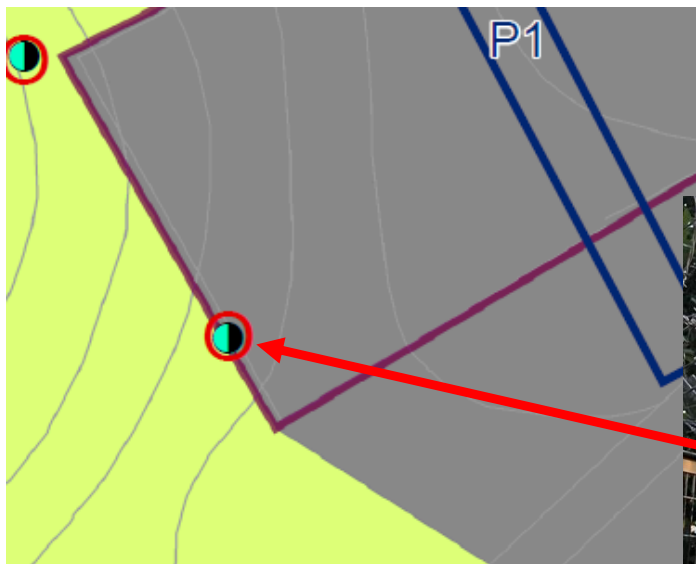
Zoom-out Habitat Map for Pylon P6

File: T:\GIS\CONTRACT\0585151\mxd\Pre-con_Survey_Plan\Access\0585151_Habitat_Map_P6_with_Access.mxd
 Date: 20/4/2022

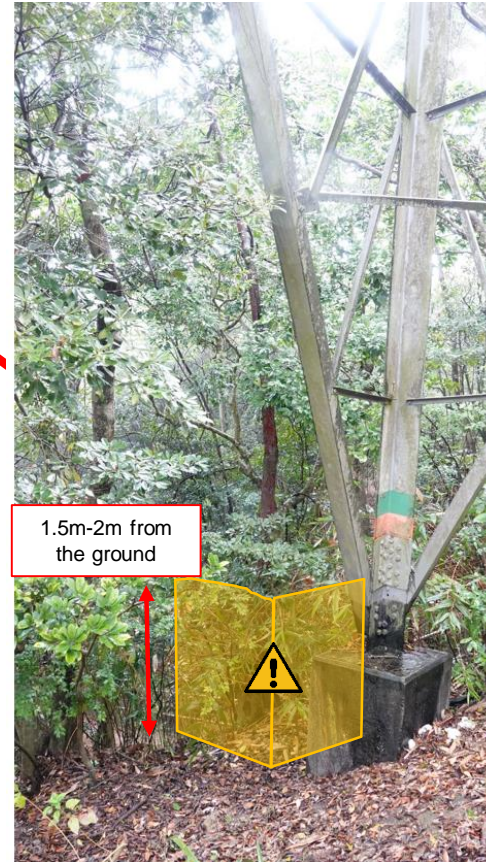
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ANNEX A PHOTOGRAPHIC RECORDS AND DETAILED DESIGNS OF PROTECTIVE MEASURES



Gnetum luofuense recorded within the proposed work area at P1 (slightly entangling on fencing)

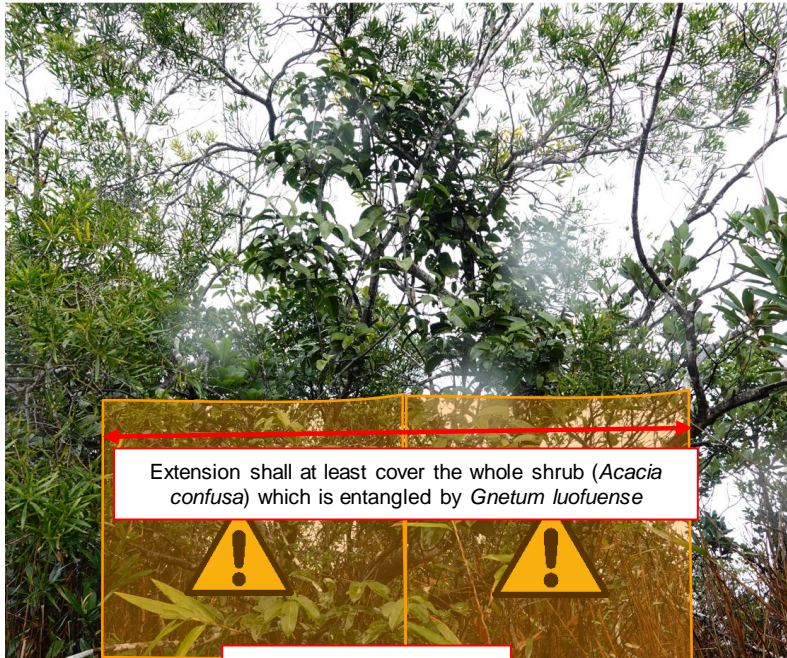


A protective fencing with 1.5m-2m will be erected around the dripline of the tree subject to site condition and the steep slope. It is not feasible to setup equipment/platform to enclose the tree with temporary protective net which is 9m tall.

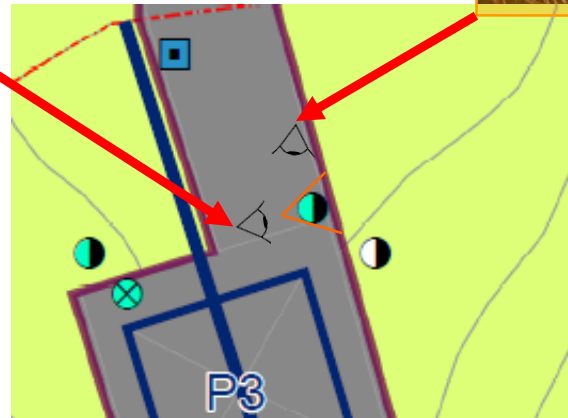
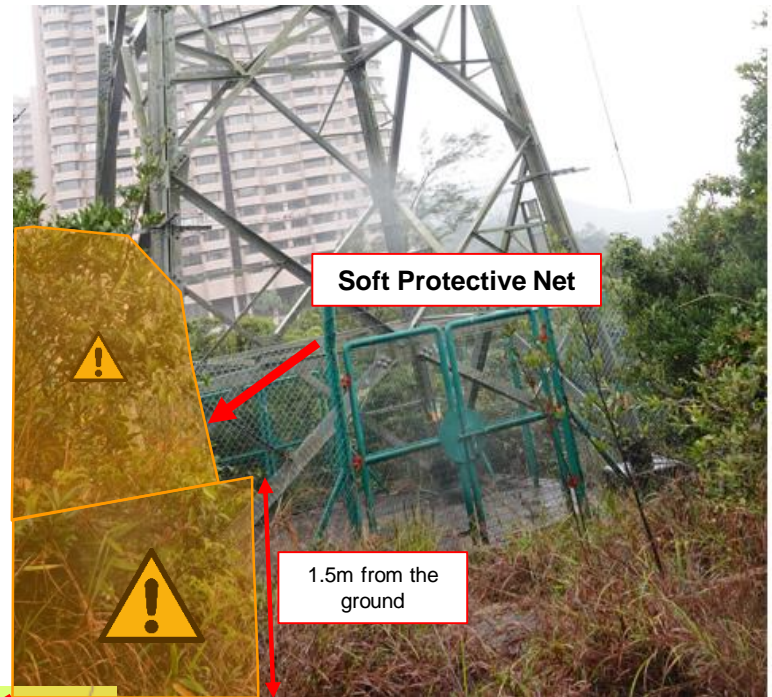
Artocarpus hypargyreus was recorded immediately adjacent to the proposed work area.



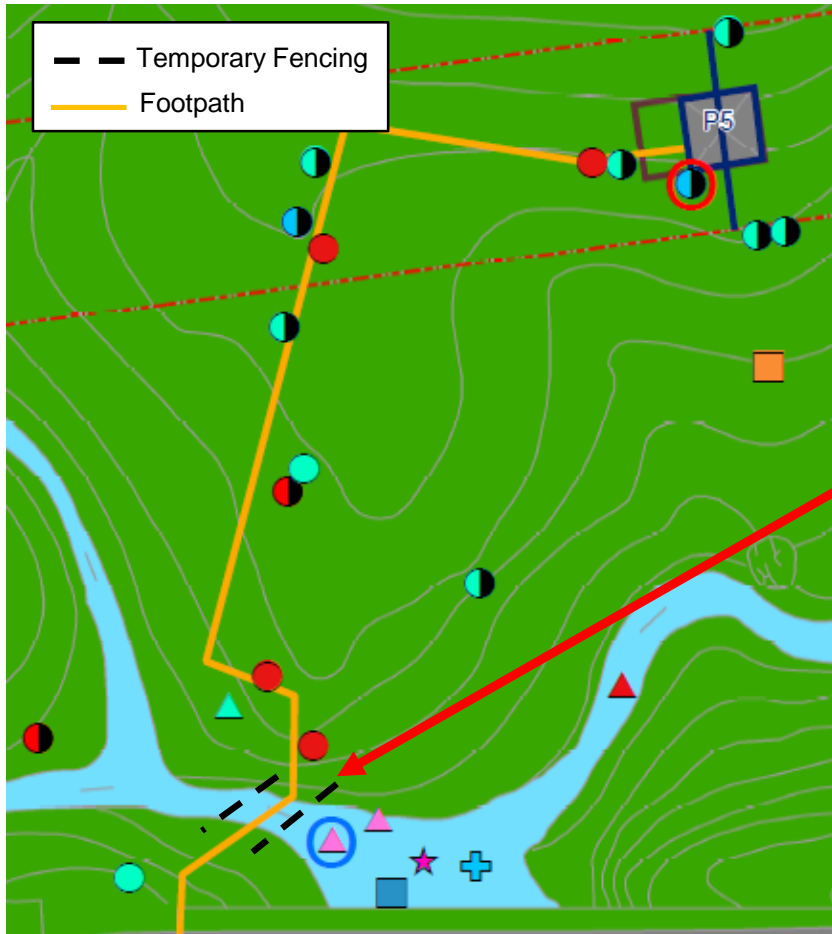
Gnetum luofuense recorded within the proposed work area at P3 (entangling on shrub)



Temporary protective fencing

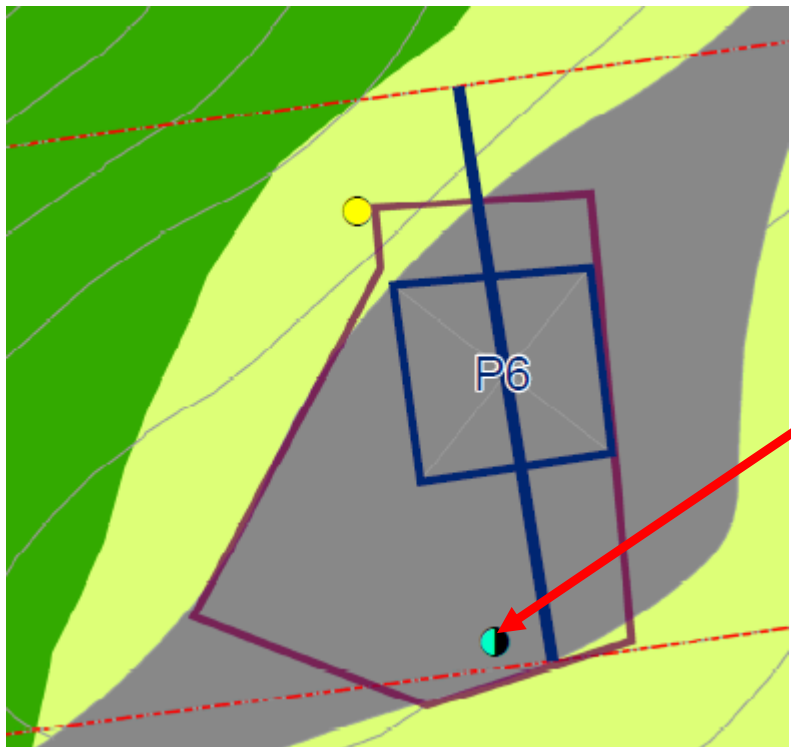


Temporary protective fencing will be erected as indicated. The shrub entangled by *Gnetum luofuense* (shaded area) will be covered/surrounded by soft protective net with warning sign in sharp colour as appropriate to alert workers' awareness. The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants.

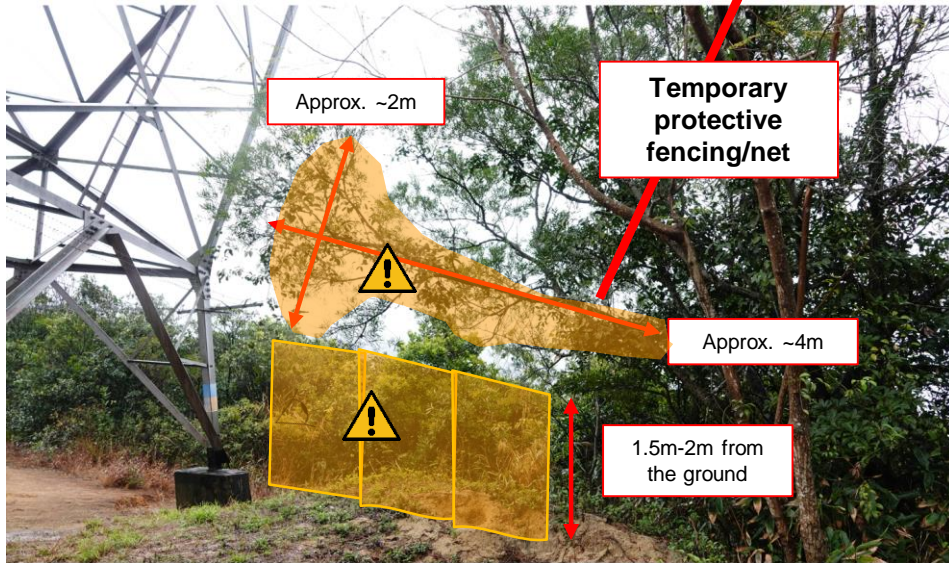
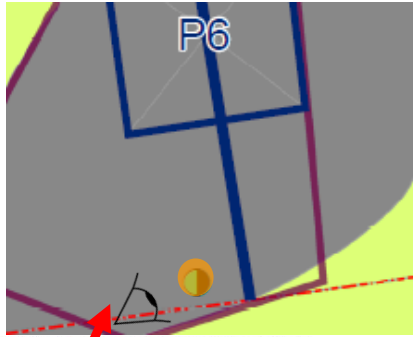


Temporary fencing with soft PVC tape/net and warning sign in sharp colour will be erected along the footpath to P5 to protect natural stream. A gap of at least 50cm at the bottom of the fencing will be arranged and allowed for the animals freely move across the fenced footpath. Temporary fencing will be setup and removed on each working day, and it will not be left on-site overnight and during non-working hours.

Paramesotriton hongkongensis was newly recorded at a natural stream immediately adjacent to the footpath connecting to P5.



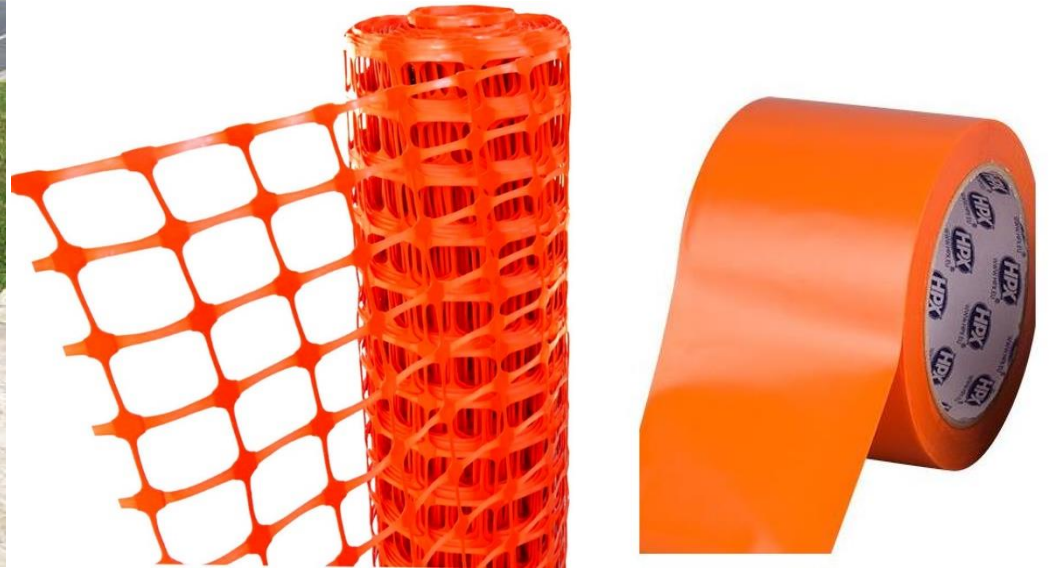
Gnetum luofuense recorded within the proposed work area at P6 (entangling on tree HKE-P6-007)



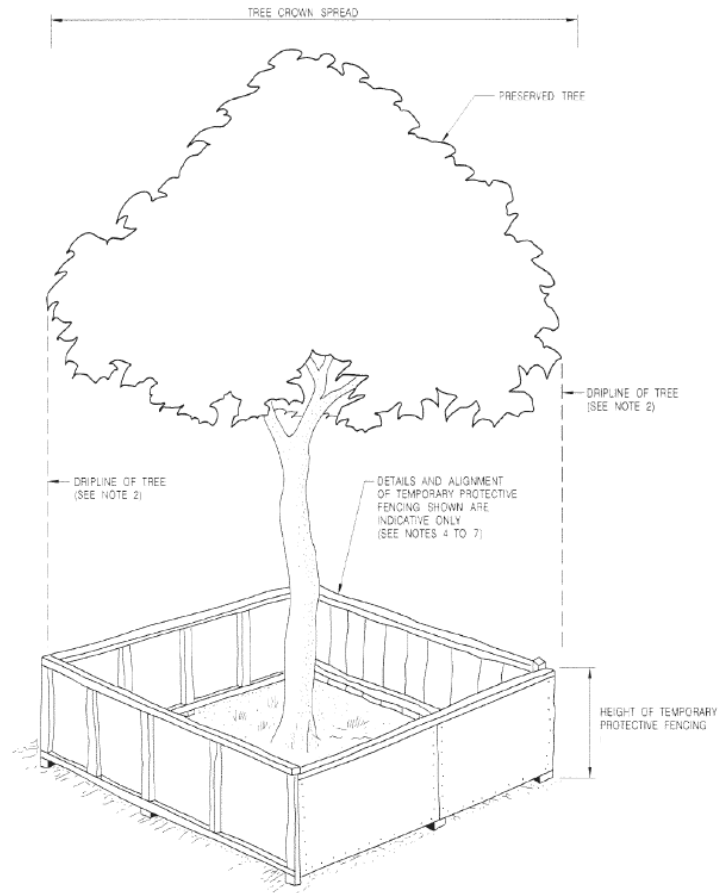
The branches of *Acacia confusa* entangled by *Gnetum luofuense* (shaded area) will be well covered/surrounded by soft protective net with warning sign in sharp colour as appropriate to alert workers' awareness. The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants.

A protective fencing with 1.5m-2m will be erected around the dripline of the entangled branches.

As indicated, only the branches entangled by *Gnetum luofuense* will be covered with soft protective net shown in **Annex A8**



Similar Type of Temporary protective net/fencing that will be provided at P2, P3 and P6



Temporary protective fencing with 1.5m-2m will be erected around the dripline of the tree. The Contractor will maintain the protective measures in good condition during the dismantle work.