



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

Ecological Management  
Plan (P7 to P14)

22 September 2022

Project No.: 0585151

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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**

Document/Plan to be Certified/ Verified:	Ecological Management Plan (P7 to P14)
Date of Report:	22 September 2022

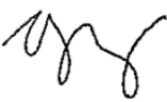
**Reference EP Condition**

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"><li>(a) ecological surveys/review method and findings;</li><li>(b) the extent of works areas which shall be as minimal as practicable;</li><li>(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;</li><li>(d) temporary fence around the works areas to prevent amphibian species of conservation importance (if any) from returning to the works areas (where necessary);</li><li>(e) translocation proposal for amphibian species of conservation importance found within works areas (if any); and</li><li>(f) any other ecological preventive and mitigation measures to be adopted.</li></ul> <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 <del>document</del> /plan complies with the above referenced conditions of EP-603/2022.	
	Date: <u>22 September 2022</u>
Mr Mike Pang Qualified Ecologist	

**Verification by Independent Environmental Checker**

I hereby verify that the above referenced <del>document</del> /plan complies with the above referenced conditions of EP-603/2022.	
	Date: <u>22 September 2022</u>
Ms Liz Lo Independent Environmental Checker	

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## Signature Page

22 September 2022

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

Ecological Management Plan (P7 to P14)



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Terence Fong  
Partner

ERM-Hong Kong, Limited  
2509, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom  
Kowloon

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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 P7 to P14 was conducted on 26 and 28 April 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.



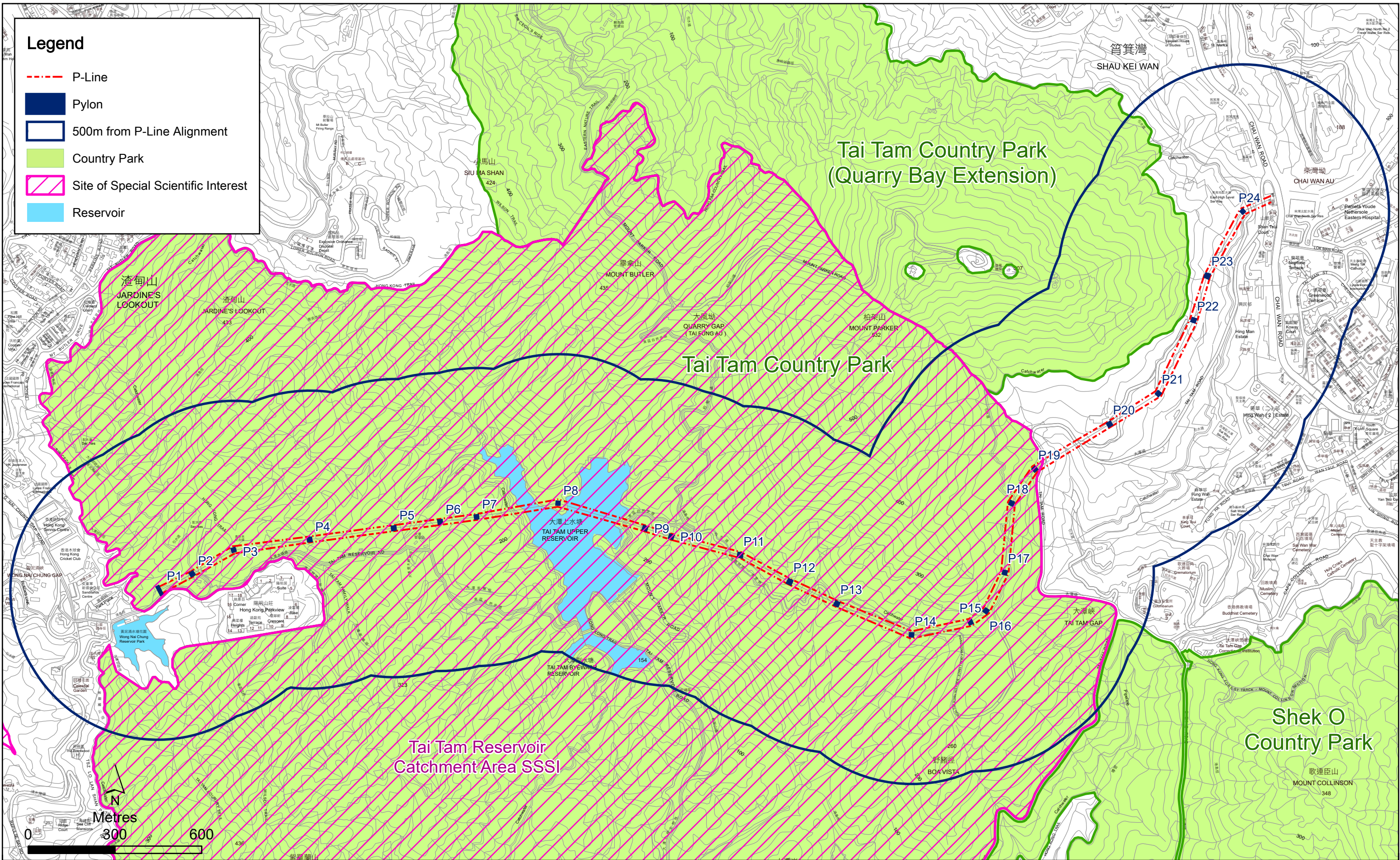


Figure 1.1

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

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## 2. PRE-CONSTRUCTION SURVEYS METHODOLOGY

Pre-construction ecological and tree surveys were carried out within the proposed works areas of P7 to P12 on 26 April 2022 and that of P13 to P14 on 28 April 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 P7 to P14 (**Figures 2.1.1** to **2.1.8**). 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 P7 to P14, but calls of Romer's Tree Frog and Short-legged Toad were heard from the natural stream near P14, where is surrounded by dense shrubs (**Figure 2.1.8**). The downstream of the natural stream connecting to the channelized watercourse flowing with limited water.

Based on the survey records, amphibian species of conservation importance, which include Romer's Tree Frog and Short-legged Toad, and flora species of conservation importance, namely *Canthium dicoccum*, *Diospyros vaccinioides*, *Enkianthus quinqueflorus*, *Gnetum luofuense* and *Rhododendron simsii* were recorded outside the proposed work areas at P7, P8, P9, P10, P11, P12, P13 and P14 (**Figures 2.1.1 to 2.1.8**), and thus they are not subject to any direct impact from the dismantling works. *Gnetum luofuense* and *Rhododendron simsii* identified within the proposed works areas at P7, P9, P11 and P13 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 A1-5** respectively.

Three individuals of *Gnetum luofuense* and *Rhododendron simsii* reported in PP at P7, P9 and P13 were not recorded during the pre-construction surveys (**Figures 2.1.1, 2.1.3 and 2.1.7**).

#### 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.

One pylon (i.e. P13) would require use of vehicular roads/footpaths. 4 pylons (i.e. P7, P9, P10 and P14) would require use of both vehicular roads/footpaths and helicopter transportation for equipment and removal of materials. The vehicular roads/footpaths to be used are shown in **Figures 2.1.1a, 2.1.3a, 2.1.4a and 2.1.8a**. 3 pylons (i.e. P8, P11 and P12) would require use of helicopter transportation. The use of helicopter are shown in **Figure 2.1.1a - 2.1.6a and 2.1.8a**.

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 <sup>2</sup> )	Survey Result
P7	164 m <sup>2</sup>	Two new records of <i>Gnetum luofuense</i> were found within the proposed works area, which may have conflict with the dismantling works ( <b>Annex A1</b> ). One was entangling on the branches of trees HKE-P7-003, while another record was found entangling on tree HKE-P7-001. Protective measure for this individual will be discussed in <b>Section 4</b> .

No. of Pylon	Approx. Size (m <sup>2</sup> )	Survey Result
		<p><i>Diospyros vaccinioides</i>, <i>Gnetum luofuense</i> and <i>Rhododendron simsii</i> were newly recorded outside the proposed works area.</p> <p>Two new records of <i>Gnetum luofuense</i>, two new records of <i>Diospyros vaccinioides</i> and one new record of <i>Canthium dicoccum</i> were newly recorded by AFCD outside the proposed works area.</p> <p>No change in the extent of works area.</p>
P8	115 m <sup>2</sup>	No flora species of conservation importance will be affected. <i>Gnetum luofuense</i> was newly recorded outside the proposed works area. No change in the extent of works area.
P9	172 m <sup>2</sup>	<p>One new record of <i>Gnetum luofuense</i> was found within the proposed works area, which may have conflict with the dismantling works (<b>Annex A2</b>). They were climbing on the shrub (<i>Polyspora axillaris</i>). Protective measure for this individual will be discussed in <b>Section 4</b>.</p> <p><i>Gnetum luofuense</i> and <i>Diospyros vaccinioides</i> were also newly recorded outside the proposed works area. An individual of <i>Rhododendron</i> spp. reported in PP was not recorded during the pre-construction survey.</p> <p>Three new records of <i>Gnetum luofuense</i>, two new records of <i>Diospyros vaccinioides</i> and one new record of <i>Enkianthus quinqueflorus</i> were newly recorded by AFCD outside the proposed works area.</p> <p>No change in the extent of works area.</p>
P10	138 m <sup>2</sup>	No flora species of conservation importance will be affected. No change in the extent of works area.
P11	139 m <sup>2</sup>	<p>Two new records of <i>Gnetum luofuense</i> and <i>Rhododendron simsii</i> were found within the proposed works area. A total of two <i>Gnetum luofuense</i> and two <i>Rhododendron simsii</i> were recorded within the proposed works area and may have conflict with the dismantling works (<b>Annex A3</b> and <b>A4</b>). Protective measure for this individual will be discussed in <b>Section 4</b>.</p> <p><i>Gnetum luofuense</i> and <i>Diospyros vaccinioides</i> were also newly recorded outside the proposed works area.</p> <p>Two new records of <i>Gnetum luofuense</i>, two new records of <i>Diospyros vaccinioides</i> were newly recorded by AFCD outside the proposed works area.</p> <p>No change in the extent of works area.</p>
P12	562 m <sup>2</sup>	No flora species of conservation importance will be affected. <i>Gnetum luofuense</i> was newly recorded outside the proposed works area. No change in the extent of works area.
P13	111 m <sup>2</sup>	<p>Two new records of <i>Gnetum luofuense</i> were found within the proposed works area, which may have conflict with the dismantling works (<b>Annex A5</b>). Protective measure for this individual will be discussed in <b>Section 4</b>.</p> <p><i>Gnetum luofuense</i> and <i>Diospyros vaccinioides</i> were also newly recorded outside the proposed works area.</p> <p>An individual of <i>Gnetum luofuense</i> reported in PP was not recorded during the pre-construction survey.</p> <p>No change in the extent of works area.</p>
P14	76 m <sup>2</sup>	No flora species of conservation importance will be affected. <i>Gnetum luofuense</i> , Romer's Tree Frog and Short-lagged Toad were newly recorded outside the proposed works area. No change in the extent of works area.

**Note:**

No active/ abandoned bird nest of conservation importance were recorded in proposed works areas of P7 to P14.

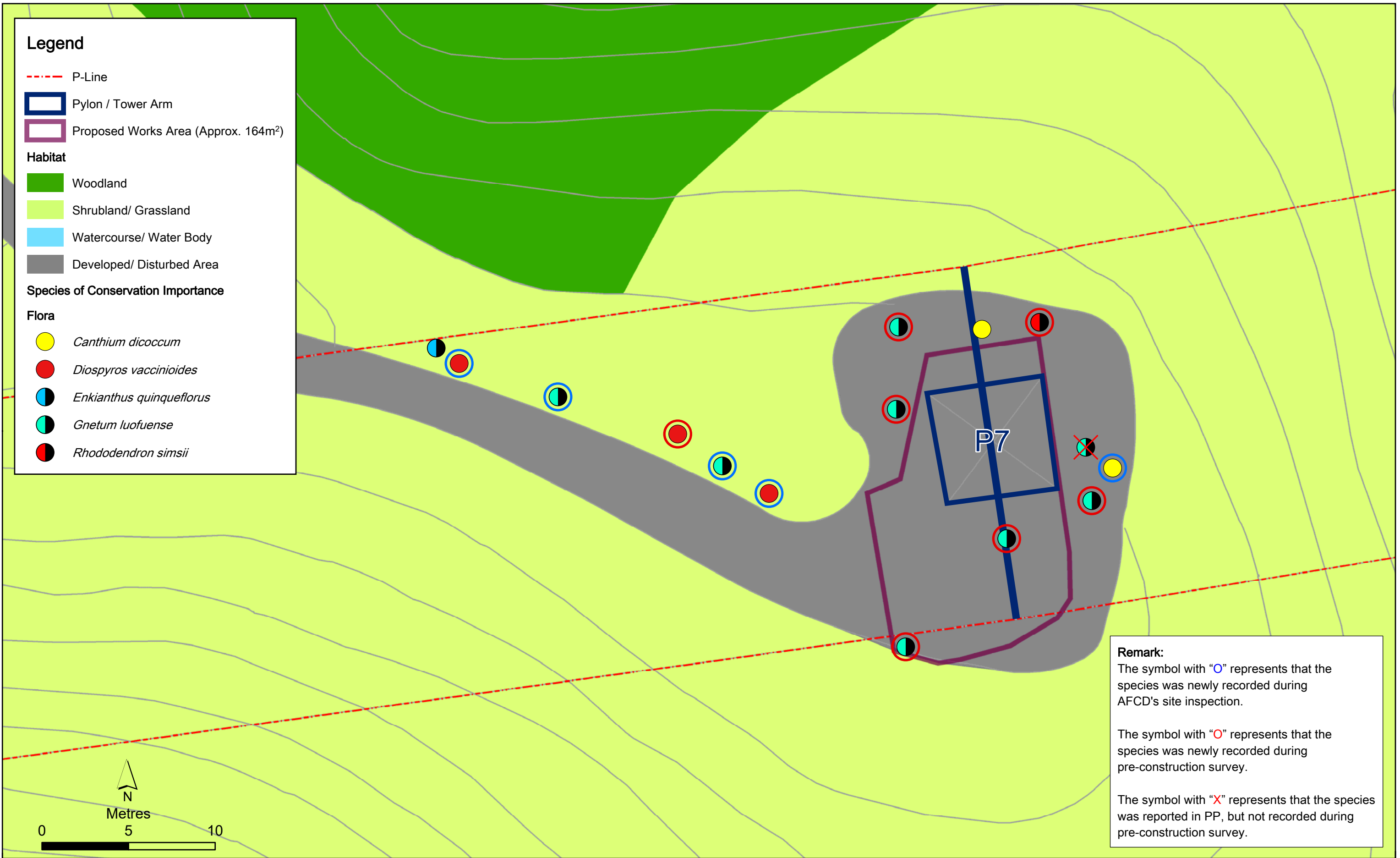


Figure 2.1.1

Zoom-in Habitat Map for Pylon P7



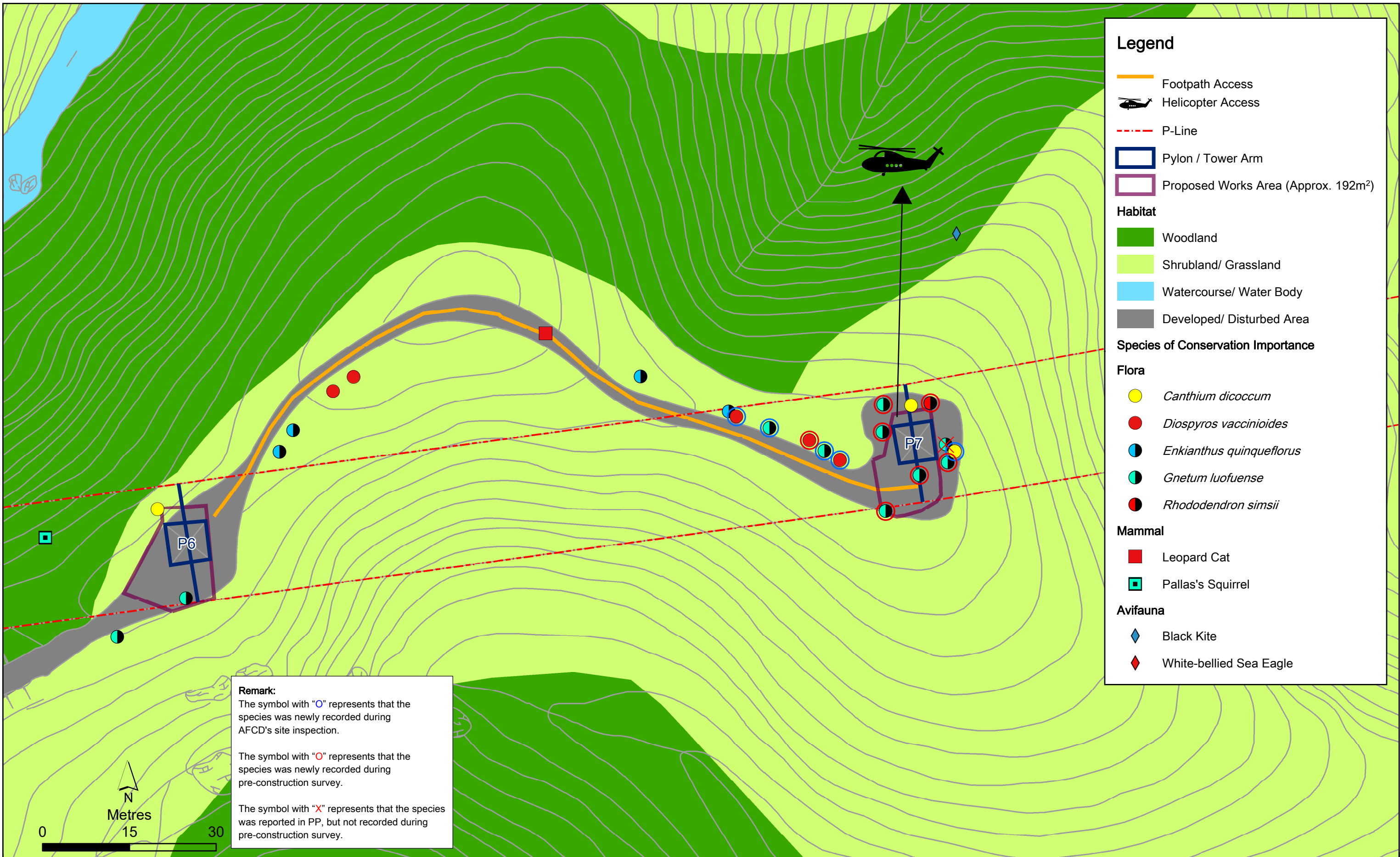


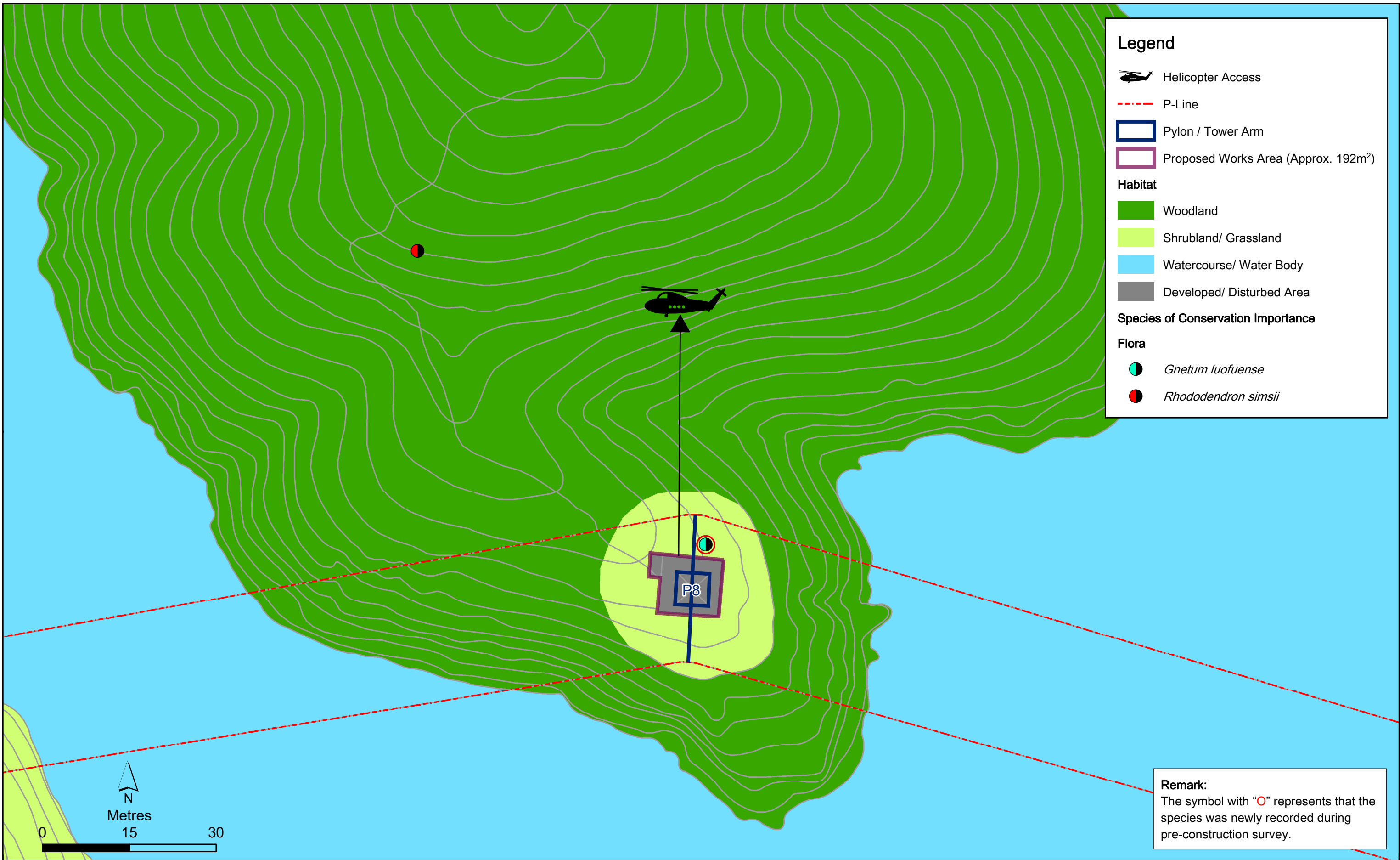
Figure 2.1.1a

Zoom-out Habitat Map for Pylon P7







Figure 2.1.2





Zoom-in Habitat Map for Pylon P8



**Legend**



-  Helicopter Access
-  P-Line
-  Pylon / Tower Arm
-  Proposed Works Area (Approx. 192m<sup>2</sup>)

**Habitat**

-  Woodland
-  Shrubland/ Grassland
-  Watercourse/ Water Body
-  Developed/ Disturbed Area

**Species of Conservation Importance**

**Flora**

-  *Gnetum luofuense*
-  *Rhododendron simsii*

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

Figure 2.1.2a

Zoom-out Habitat Map for Pylon P8

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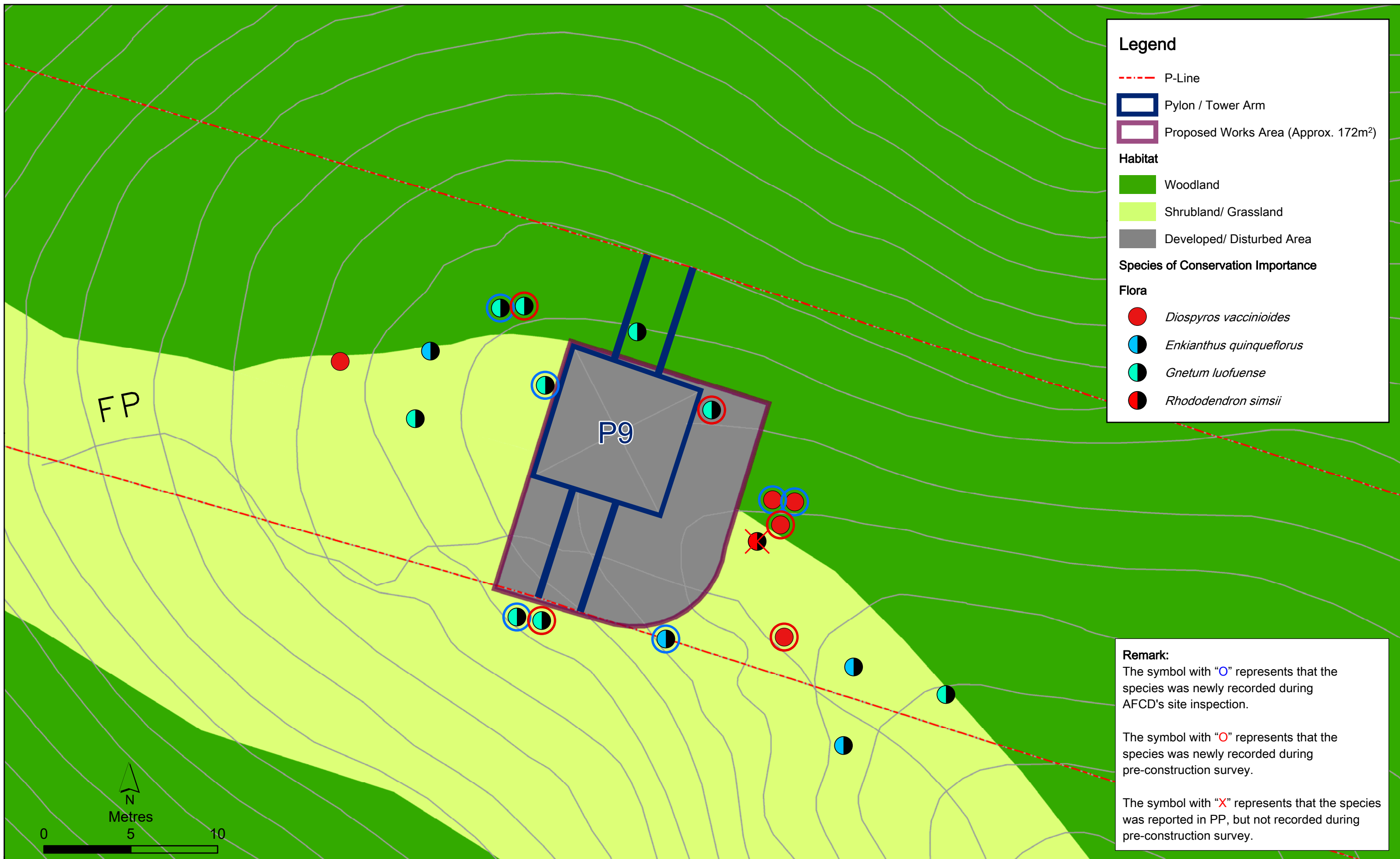


Figure 2.1.3

Zoom-in Habitat Map for Pylon P9

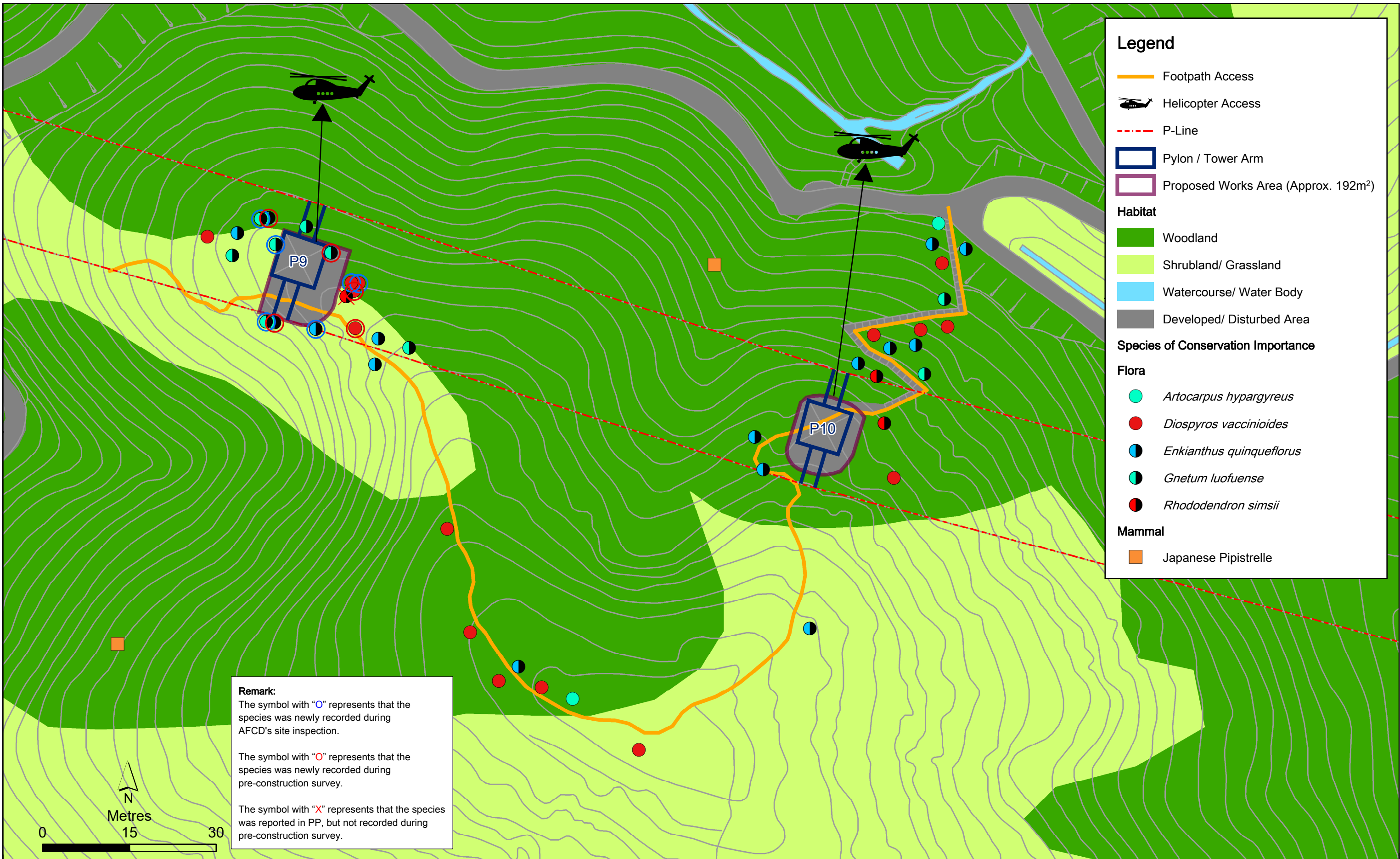


Figure 2.1.3a

Zoom-out Habitat Map for Pylon P9



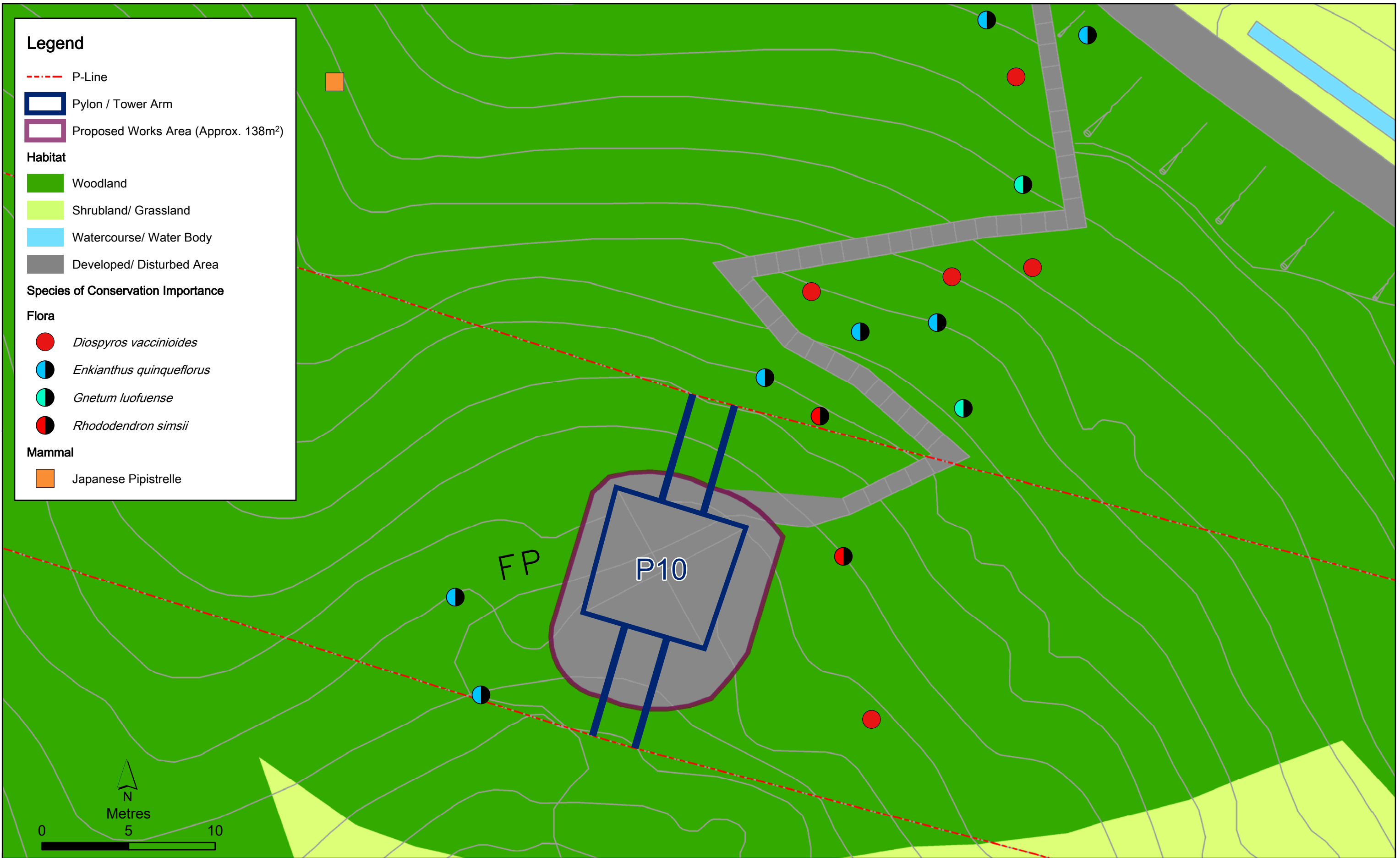


Figure 2.1.4

Zoom-in Habitat Map for Pylon P10

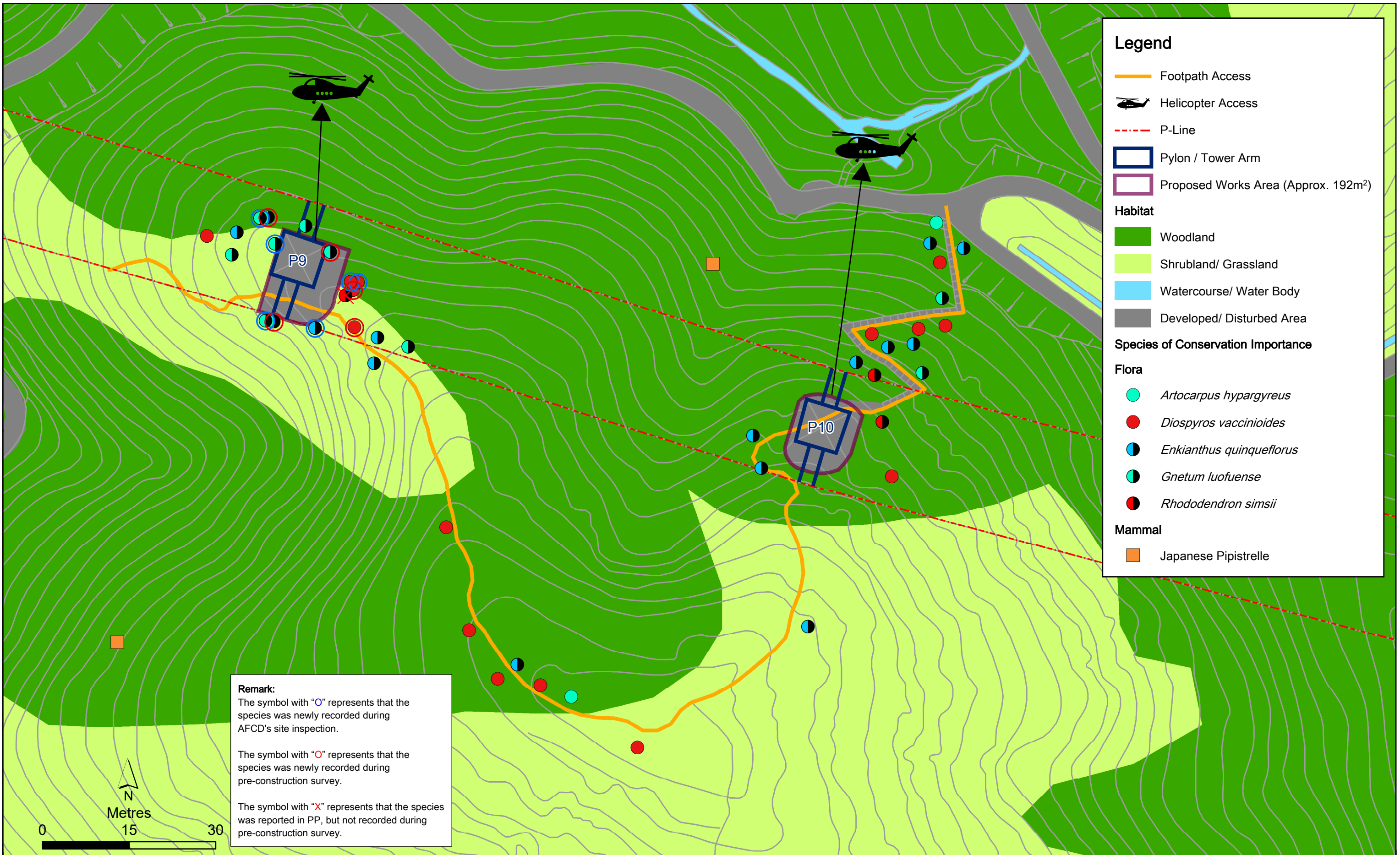


Figure 2.1.4a

Zoom-out Habitat Map for Pylon P10



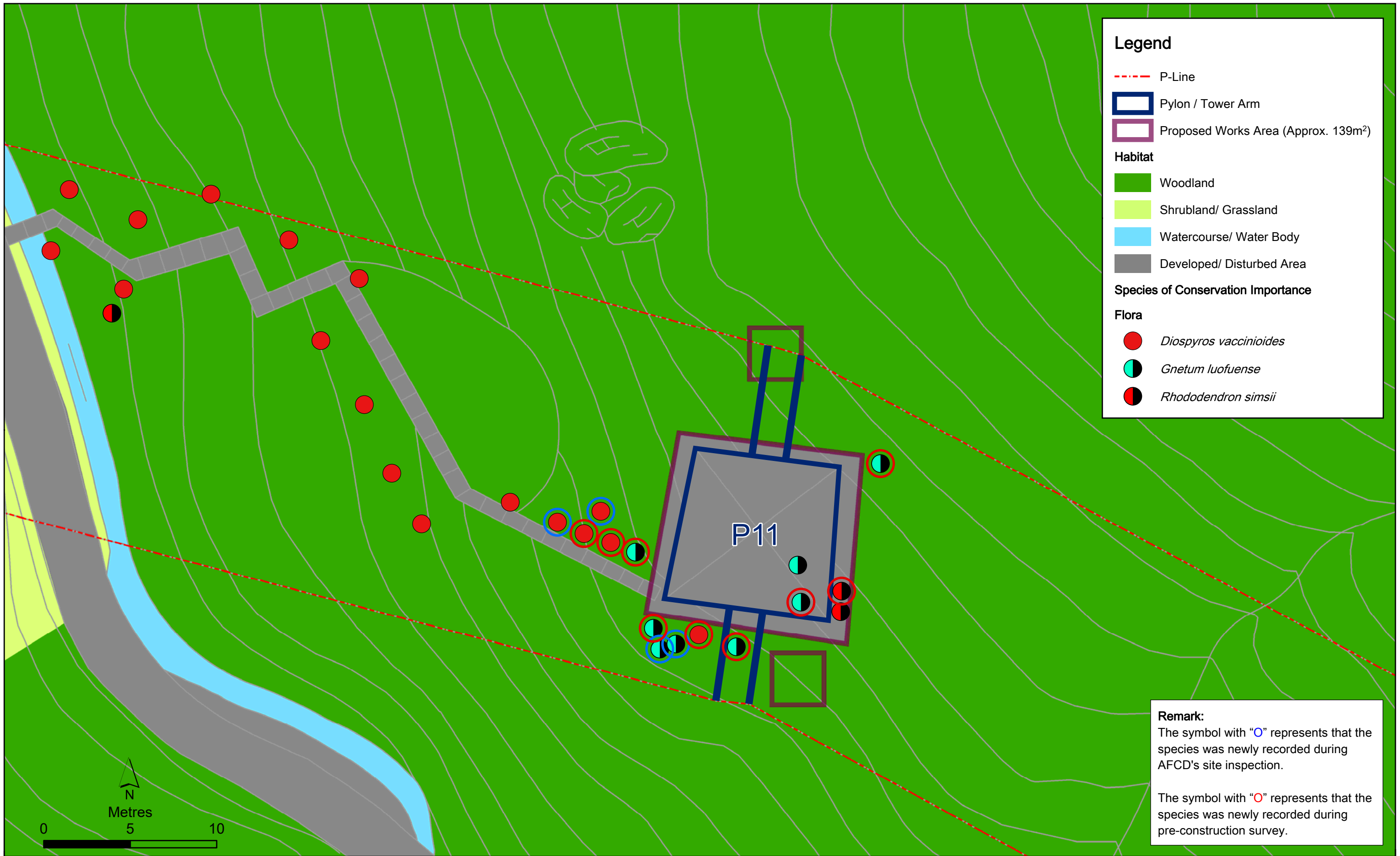


Figure 2.1.5

Zoom-in Habitat Map for Pylon P11

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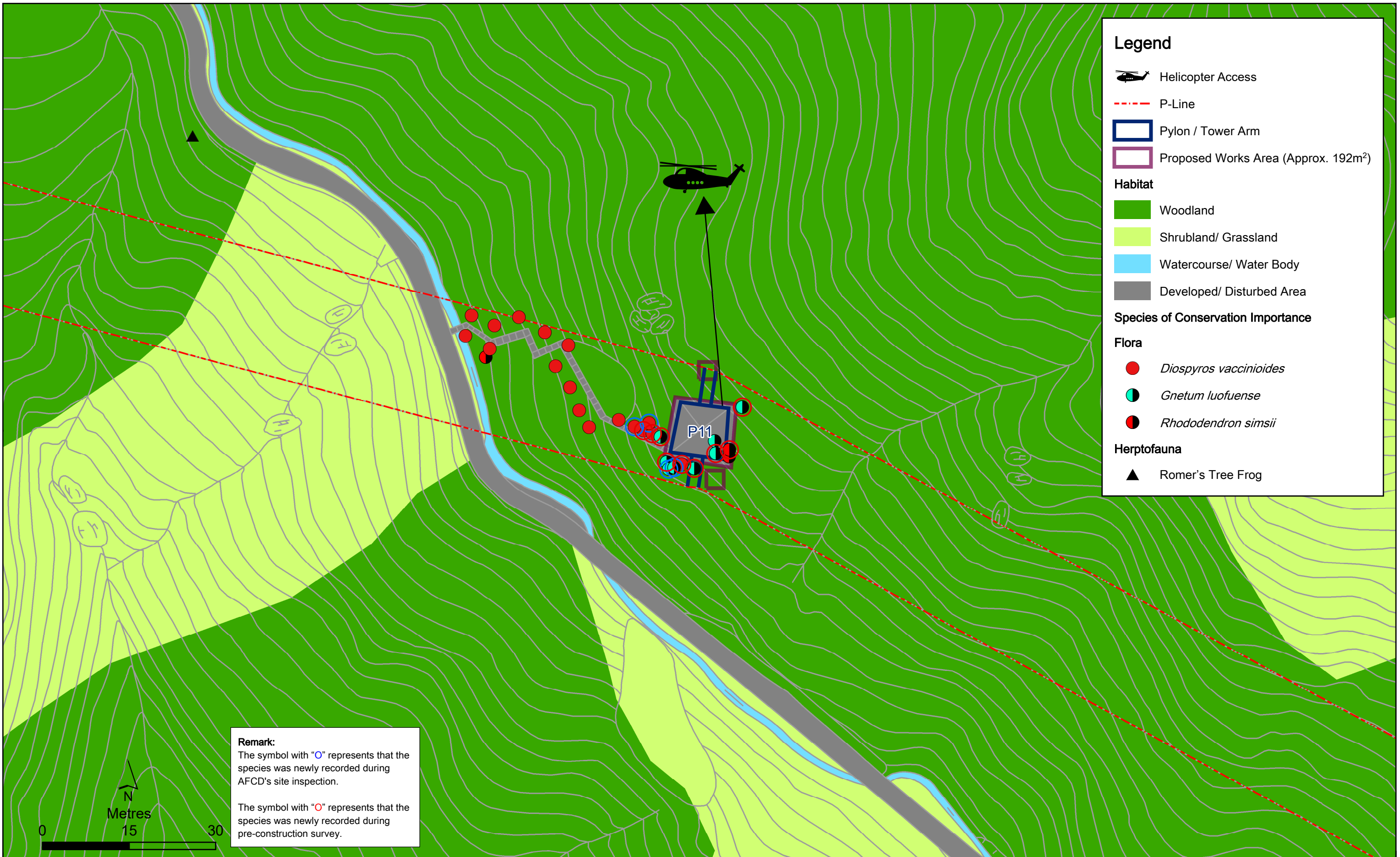


Figure 2.1.5a

Zoom-out Habitat Map for Pylon P11

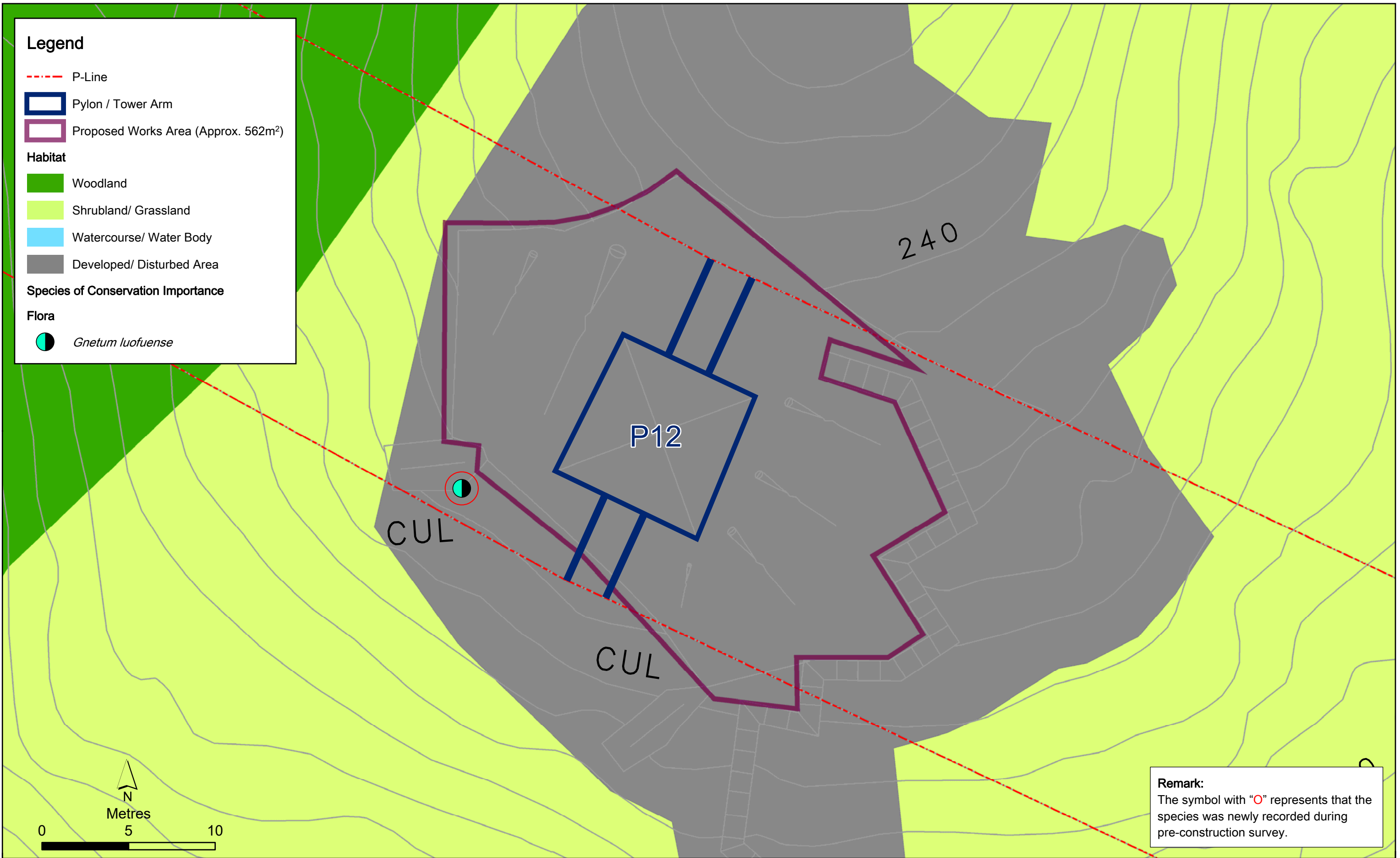


Figure 2.1.6

Zoom-in Habitat Map for Pylon P12

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

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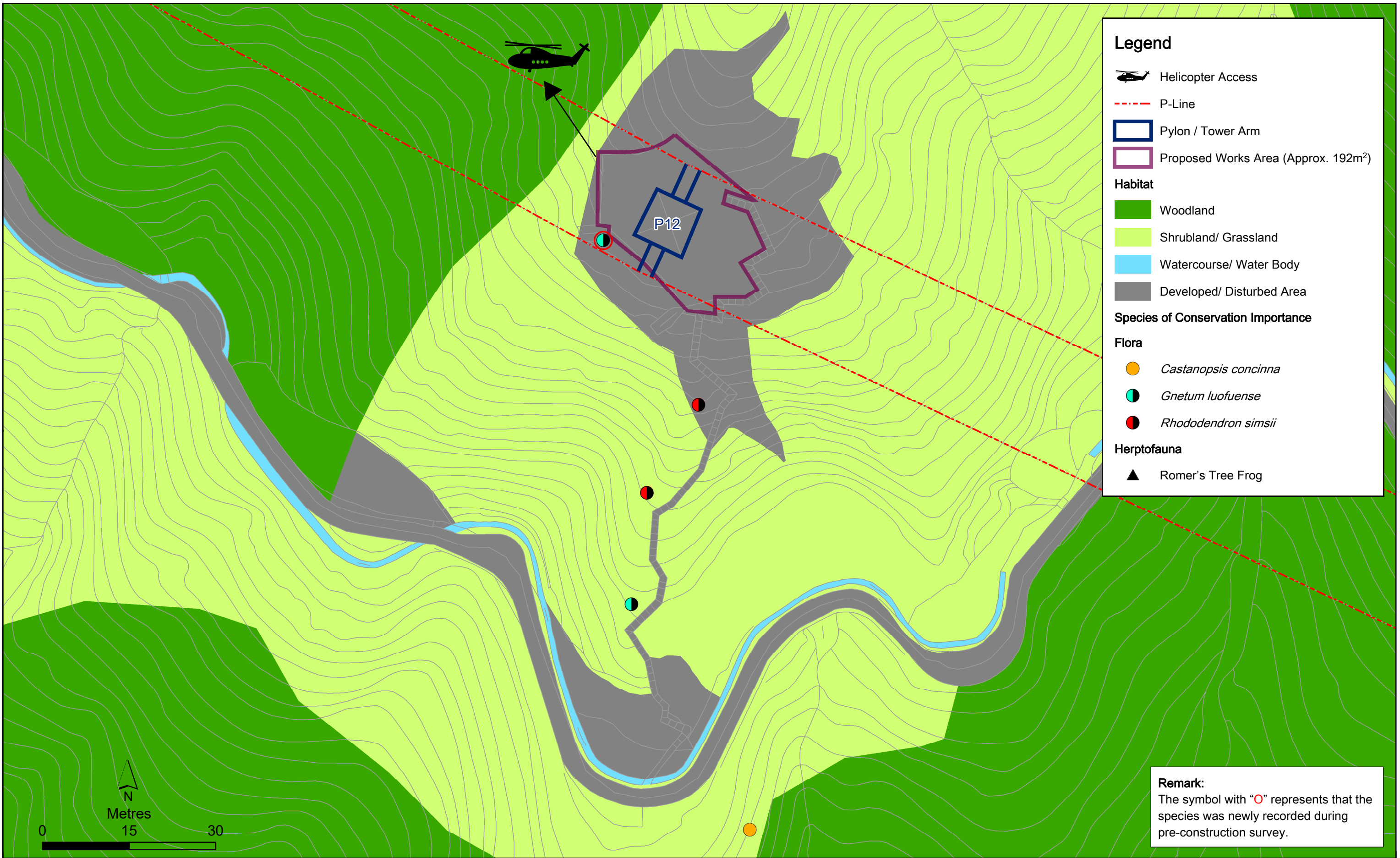


Figure 2.1.6a

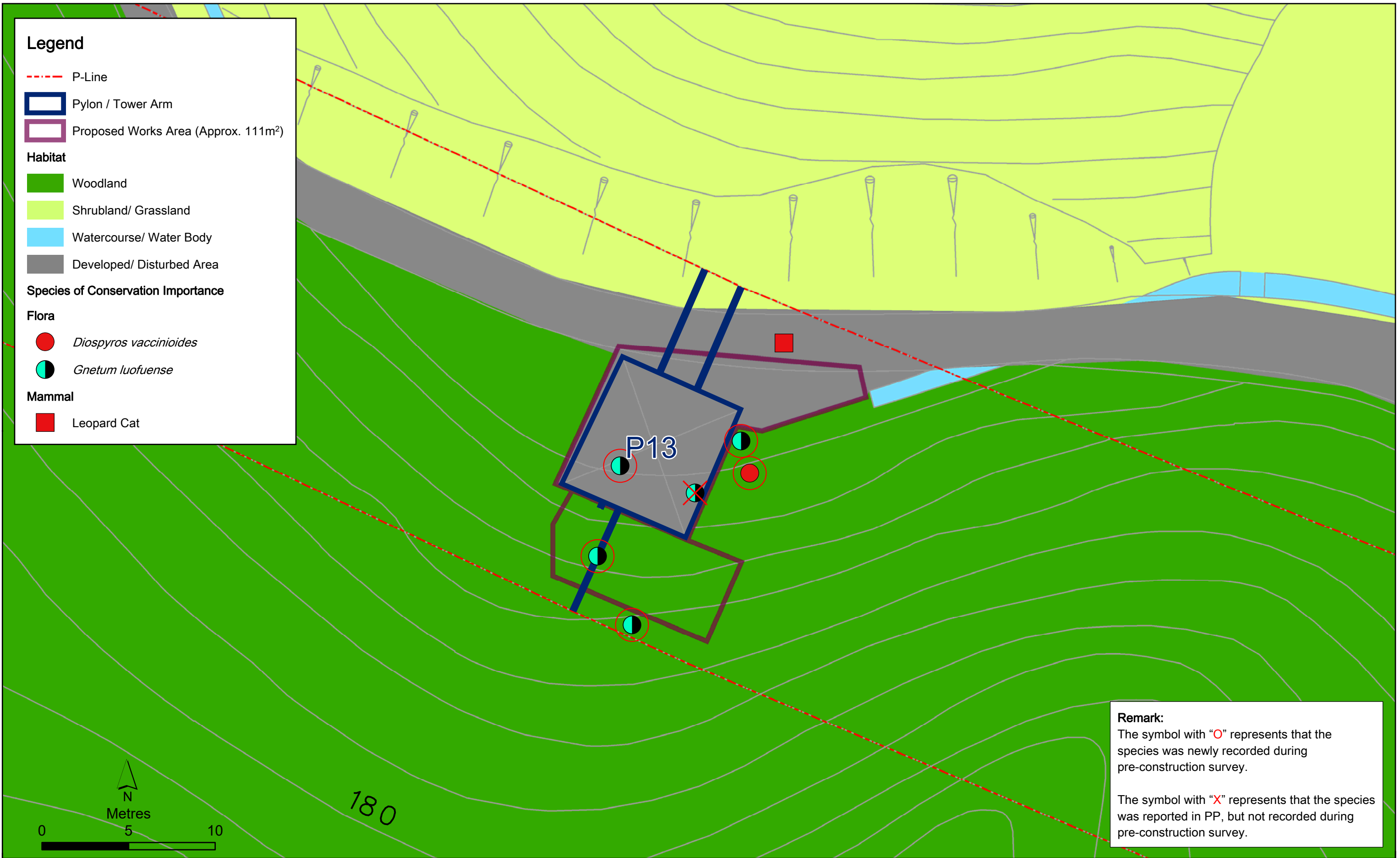
Zoom-out Habitat Map for Pylon P12

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 Date: 26/8/2022

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

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**Legend**

- - - P-Line
- Pylon / Tower Arm
- Proposed Works Area (Approx. 111m<sup>2</sup>)
- Habitat**
- Woodland
- Shrubland/ Grassland
- Watercourse/ Water Body
- Developed/ Disturbed Area
- Species of Conservation Importance**
- Flora**
- *Diospyros vaccinioides*
- *Gnetum luofuense*
- Mammal**
- Leopard Cat

**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.

Figure 2.1.7

Zoom-in Habitat Map for Pylon P13

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 Date: 13/5/2022



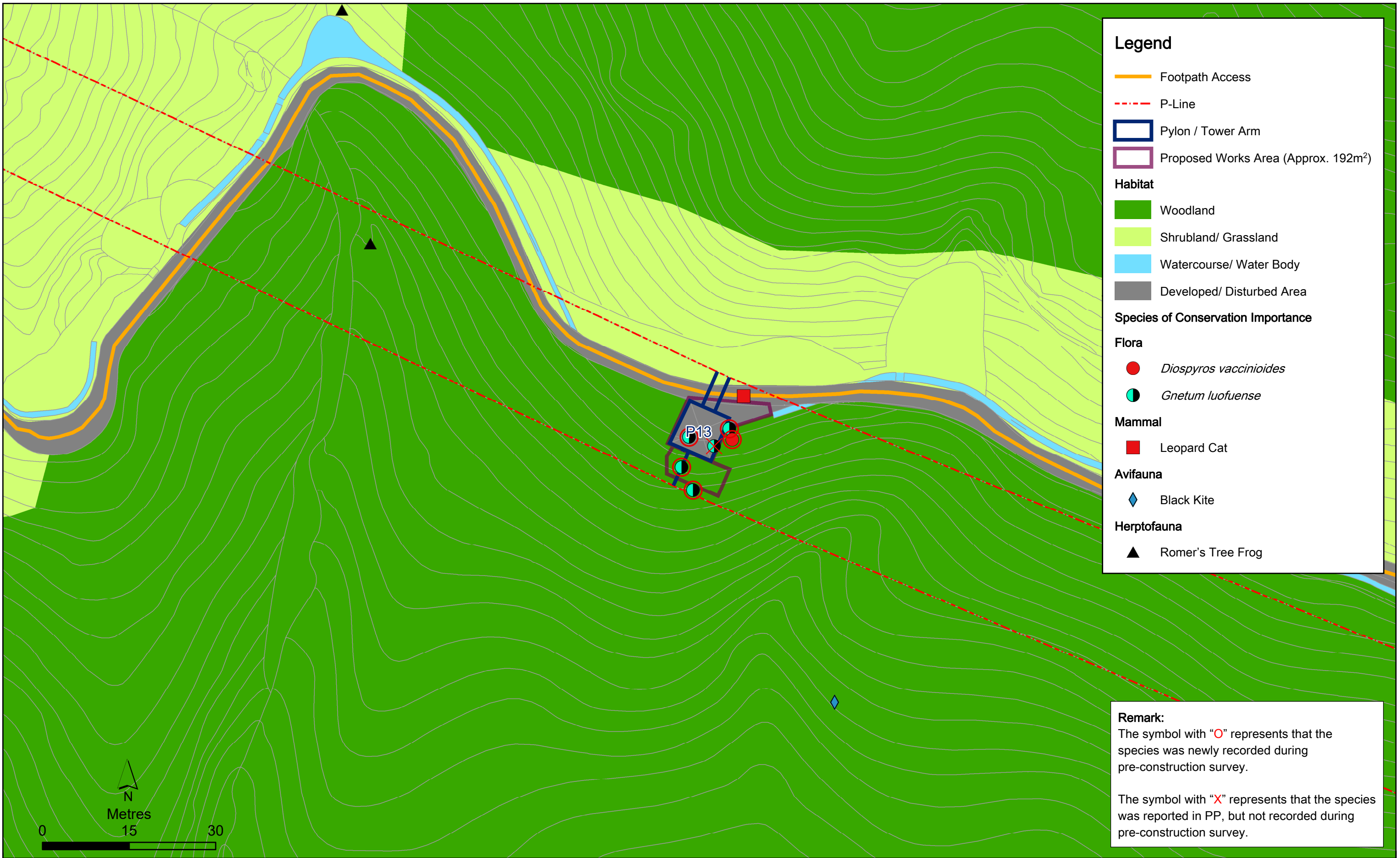


Figure 2.1.7a

Zoom-out Habitat Map for Pylon P13

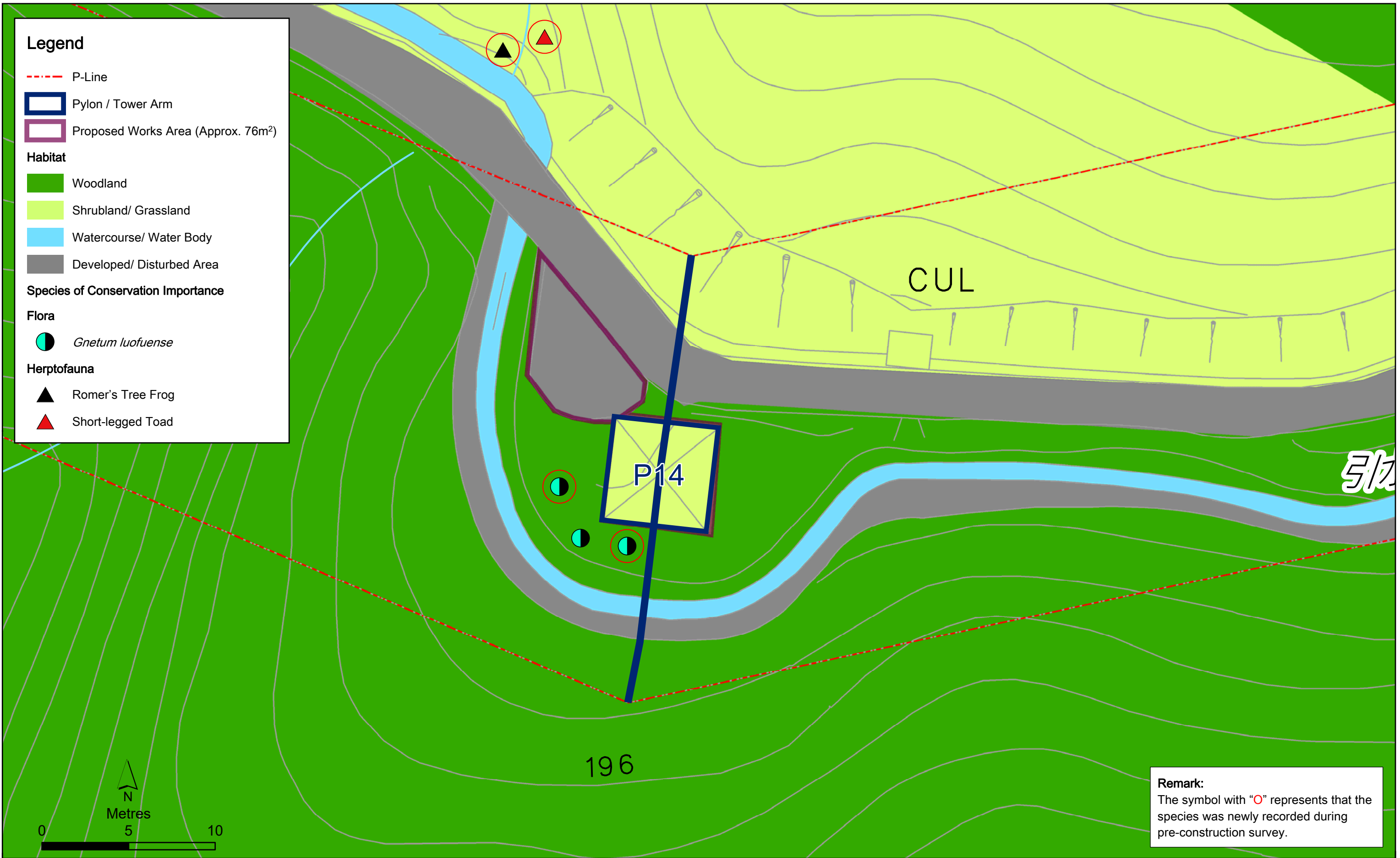


Figure 2.1.8

Zoom-in Habitat Map for Pylon P14



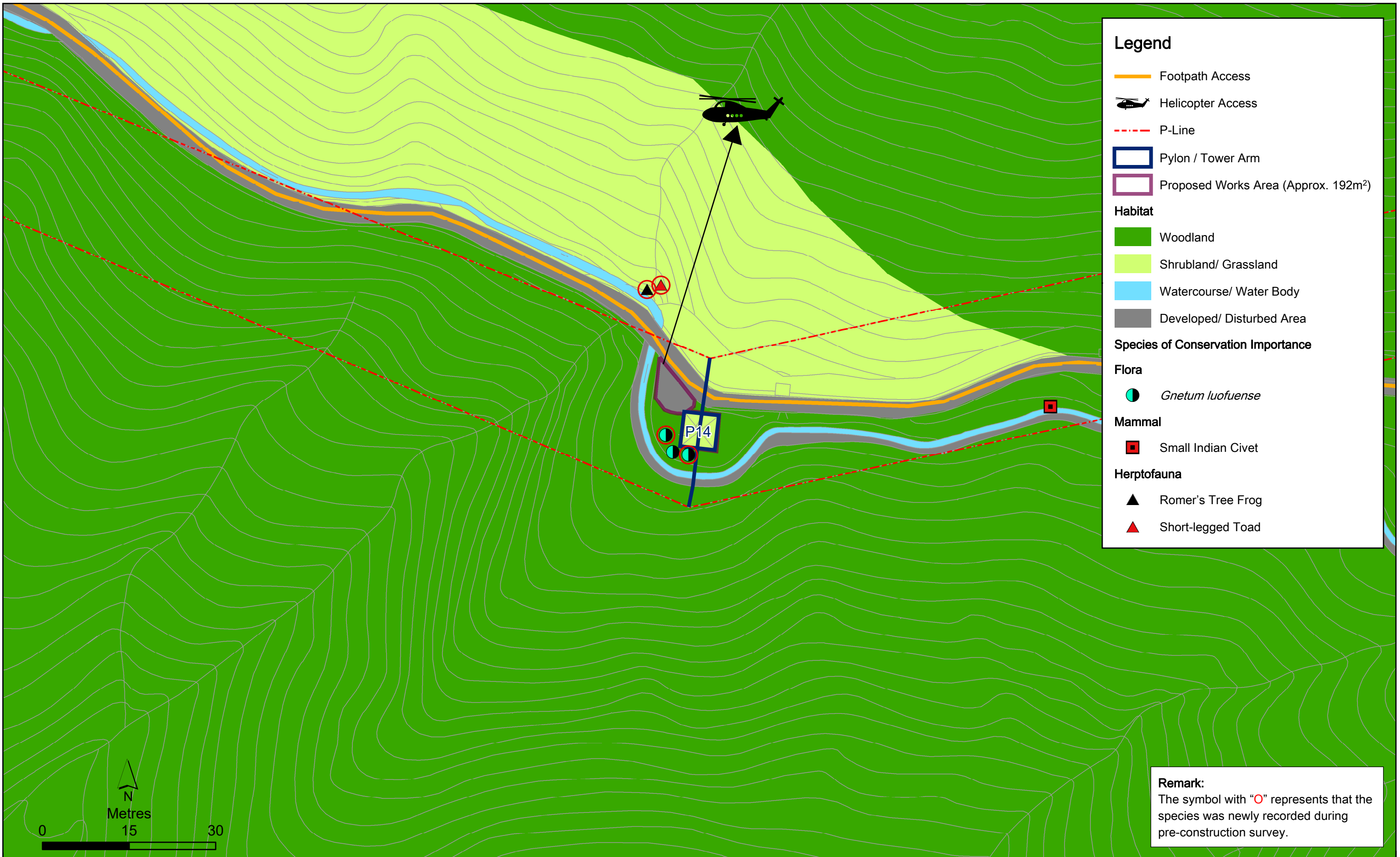


Figure 2.1.8a

Zoom-out Habitat Map for Pylon P14

## 4. REVIEW OF PROTECTIVE MEASURES

As mentioned in **Section 3.1**, *Gnetum luofuense* and *Rhododendron simsii* were identified within the proposed works areas at P7, P9, P11 and P13 that may have conflict with the dismantling works. Associated Protective measures would be provided to the species to avoid it being impacted during dismantling works.

The *Gnetum luofuense*, found at P7, P9, P11 and P13, are climbing on shrub and tree or on the ground. Erecting a protective metal cage for the shrub and tree locating within vegetated area 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 further damage the vegetation alongside the footpath (which is not expected for the original arrangements). Given the aforementioned constraints and irregular shape of the *Gnetum luofuense*, appropriate protective measures including soft protective net, temporary fencing, temporary metal cage and temporary platform were proposed for each species to be protected depending on site conditions. All the set up measures will be provided with warning sign in sharp colour with the intention to alert the workers to be aware of the species in order to avoid the species being damaged during the removal works (**Annexes A6-1** and **A6-2**). The deployment and removal of the soft protective net will be conducted with extra care to prevent any potential damage of the plants.

The *Rhododendron simsii* was recorded at P11 located at the fringe of proposed works areas will be also provided with protective measure. Temporary metal cage will be erected around the dripline of the shrub to avoid potential impact under the Project (**Annex A10**). The temporary metal cage will be removed upon completion of works. The Contractor will ensure that the parts of pylon segments will not have direct contact with the identified *Rhododendron simsii*.

Safety and environmental awareness 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 as some of flora species of conservation importance were found alongside the paths connecting to pylons, in particular P7, P10, P11.

Calls of Romer's Tree Frog and Short-legged Toad were heard from the natural stream near P14. Given that the pylon dismantling works will be scheduled out of wet season (i.e. April - October) and the natural stream is separated by a concrete channel and walk trail from P14, as such indirect impact to these two species is considered to be insignificant. In order to further avoid the impact, temporary fence with a height of 0.5m will be erected around the proposed works area at P13 and P14 to prevent amphibian species of conservation importance (if any) from returning to the works areas (**Annex A14**).

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 and fauna species of conservation importance recorded nearby (**Annex A15**). 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 / 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
P7	<i>Gnetum luofuense</i>	Temporary protective fencing (1.5m above ground) and metal cage (1.5m above ground) will be erected around the drip line of trees (HKE-P7-001) and (HKE-P7-003), respectively. The entangled branches above 1.5m of the ground will be covered by soft protective net. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant ( <b>Annexes A7 and A8</b> ).
P9	<i>Gnetum luofuense</i>	Temporary protective fencing with 1.5m height will be provided to the shrub ( <i>Polyspora axillaris</i> ) at P9. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant ( <b>Annex A9</b> ).
P11	<i>Rhododendron simsii</i>	Temporary metal cages will be erected around the dripline of the <i>Rhododendron simsii</i> to avoid potential impact under the Project. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant ( <b>Annex A10</b> ).
	<i>Gnetum luofuense</i>	Temporary metal cages will be erected around the <i>Gnetum luofuense</i> <i>Gnetum luofuense</i> or the dripline of shrub which is entangled by <i>Gnetum luofuense</i> to avoid potential impact under the Project. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant ( <b>Annex A11</b> ).
P13	<i>Gnetum luofuense</i>	Due to site constraints, <i>Gnetum luofuense</i> at the upper part of the shrub ( <i>Litsea rotundifolia</i> var. <i>oblongifolia</i> ) located within woodland area will be well covered by soft protective net. While temporary platform will be built for the <i>Polyspora axillaris</i> entangled by <i>Gnetum luofuense</i> under the pylon to avoid trampling/damage/disturbance by works. The identified individual will be marked by warning sign during decommission work to ensure workers are aware of the concerned plant ( <b>Annex A12</b> ).
P13 and P14	Amphibian species of conservation importance (i.e. Romer's Tree Frog and Short-legged Toad)	The pylon dismantling works will be scheduled outside of wet season (April to October). Temporary fence will be erected around the proposed works areas at P13 and P14 to prevent amphibian species of conservation importance (if any) from returning to the works areas ( <b>Annex A14</b> ).

Considering the absence of amphibian of conservation importance within the proposed works areas, translocation proposal is 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 P7 to P14 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, 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 5.1 Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons (P7 to P14)**

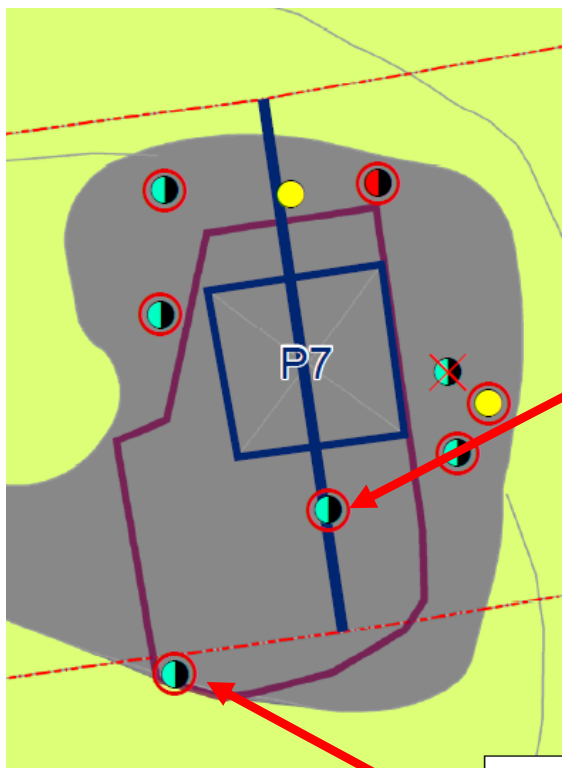
Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
<b>Ecological Mitigation Measures</b>						
EP condition 2.9	<p><u>Avoidance and minimisation on potential environmental impacts</u></p> <ul style="list-style-type: none"> <li>The flora species of conservation importance identified in close vicinity of the works areas will be retained in situ and protected during the works.</li> </ul>	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"> <li>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</li> </ul>	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 2.6(b)
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"> <li>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</li> </ul>	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"> <li>Additional site visit(s) will be conducted at the pre-construction phase to review the validity and practicality of the proposed works areas.</li> <li>Propose protective measure such as temporary protective structures, temporary platform temporary protective metal cage and protective nets for the flora of conservation importance newly identified from pre-construction survey.</li> <li>Additional ecological survey with focus to amphibian species of conservation importance will be conducted at pre-construction phase by qualified ecologist.</li> <li>To prepare detailed translocation proposal for capture and translocation works if any amphibian species of conservation importance be found within the works area.</li> </ul>	<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	EP condition 2.6

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
<b>Ecological Mitigation Measures</b>						
S5.1.5 of PP and S4 of the EMP	<u>Site Inspection</u> <ul style="list-style-type: none"> <li>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.</li> </ul>	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 2.6
S5.1.5 of PP and Table 4.1 of this EMP	<u>Protection on flora species of conservation importance</u> <ul style="list-style-type: none"> <li>For the <i>Gnetum luofuense</i> at P7, P9, P11 and P13, soft protective net, temporary fencing, temporary metal cage and temporary platform with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works.</li> <li>For <i>Rhododendron</i> spp. at P11, temporary metal cage will be erected around the dripline of the species to avoid potential impact under the Project. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the <i>Rhododendron</i> spp. during dismantling works.</li> </ul>	Minimise direct impacts on floral of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	EP condition 2.6(c)
EP condition 2.9(a) and S5.1.5 of PP	<u>Protection on natural watercourses and other potentially importance habitats for amphibians and freshwater fish</u> <ul style="list-style-type: none"> <li>Proposed pylon dismantling works at P13 &amp; P14 located in the close vicinity to watercourses will be scheduled outside wet season (April – October)</li> </ul>	Minimise indirect impact to <u>natural watercourses and other potentially importance habitats for amphibians and freshwater fish</u>	Contractor	P13&P14	Construction phase	EP condition 2.9(a)
EP condition 2.6, EP condition 2.9, S5.1.5 of PP and Table 4.1 of this EMP	<u>Protection on nearby habitats amphibian and flora of conservation importance</u> <ul style="list-style-type: none"> <li>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 and fauna species of conservation importance recorded nearby. 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;</li> <li>Safety briefing to workers will be provided to alert their awareness on species of conservation importance along the</li> </ul>	Protect habitats and flora of conservation importance nearby the works area	Contractor	Proposed works areas	Construction phase	EP condition 2.6 and 2.9

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
<b>Ecological Mitigation Measures</b>						
	<p>access road to pylons and pay extra attention when using the accesses 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);</p> <ul style="list-style-type: none"> <li>• Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas</li> <li>• 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</li> <li>• 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.</li> <li>• During the dismantle works, temporary fence with a height of 0.5m will be erected around the proposed works area at P13 &amp; P14 to prevent amphibian species of conservation importance (if any) from returning to the works areas.</li> </ul>					

## ANNEX A PHOTOGRAPHIC RECORDS AND DETAILED DESIGNS OF PROTECTIVE MEASURE





*Gnetum luofuense* recorded within the proposed work area at P7 (entangling on HKE-P7-003)



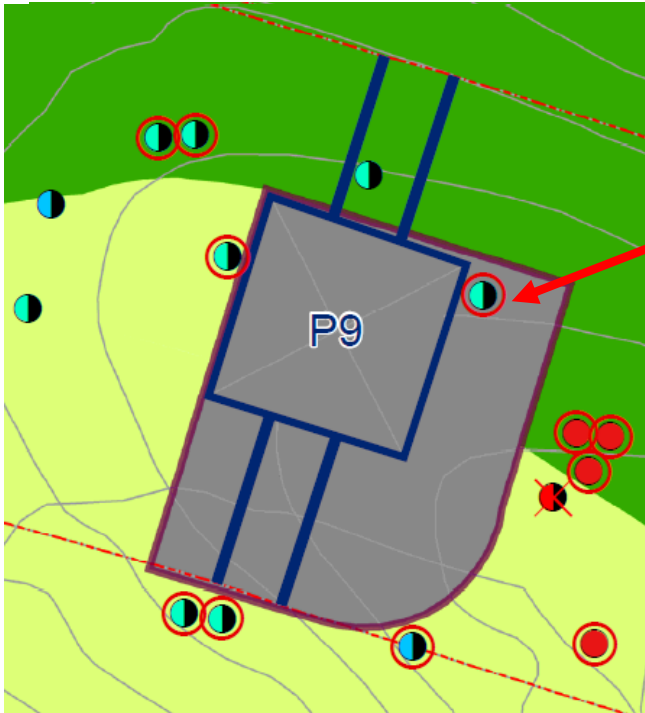
*Gnetum luofuense* recorded within the proposed work area at P7 (entangling on HKE-P7-003)



*Gnetum luofuense* recorded within the proposed work area at P7

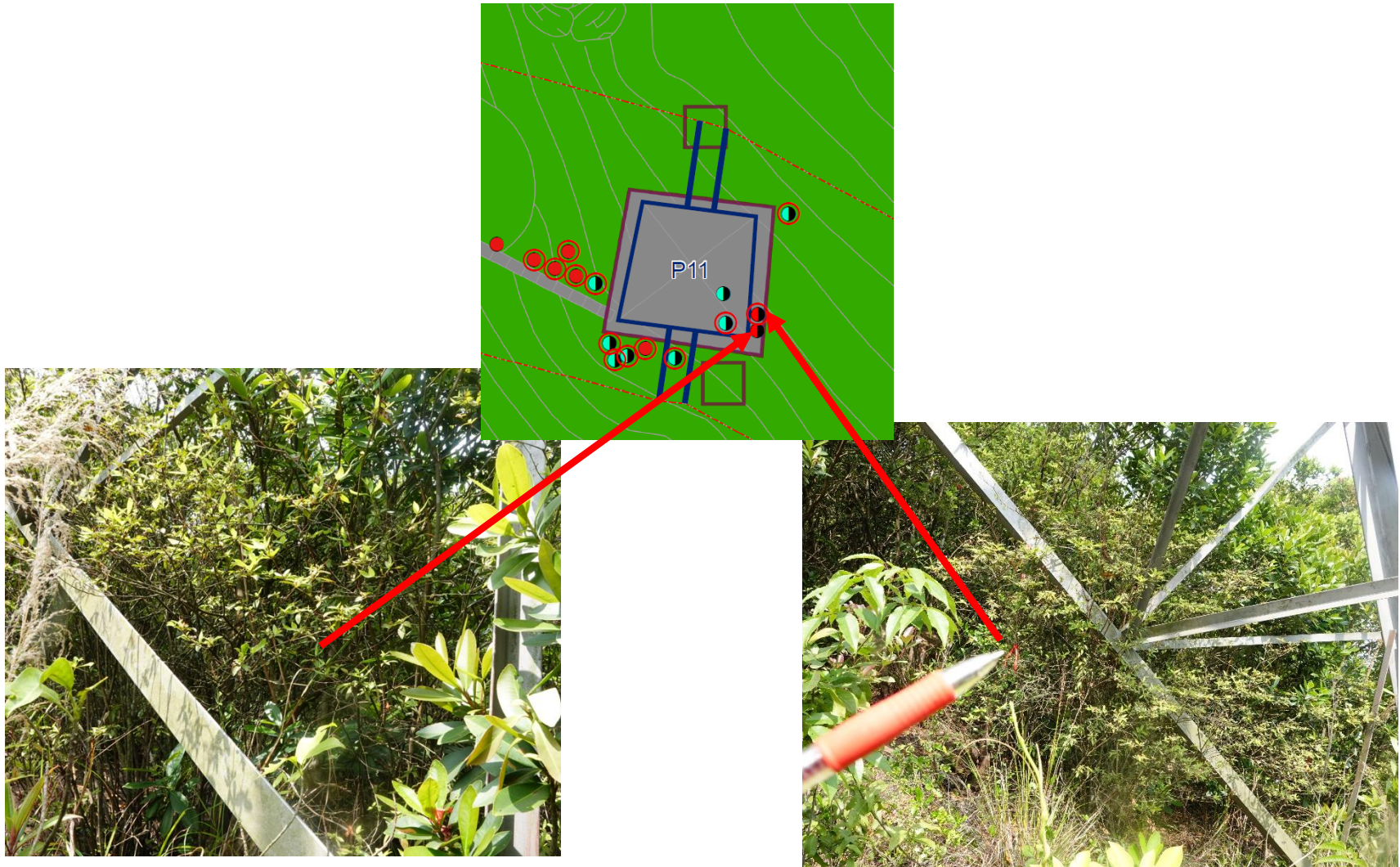


*Gnetum luofuense* recorded within the proposed work area at P7 (entangling on HKE-P7-001)



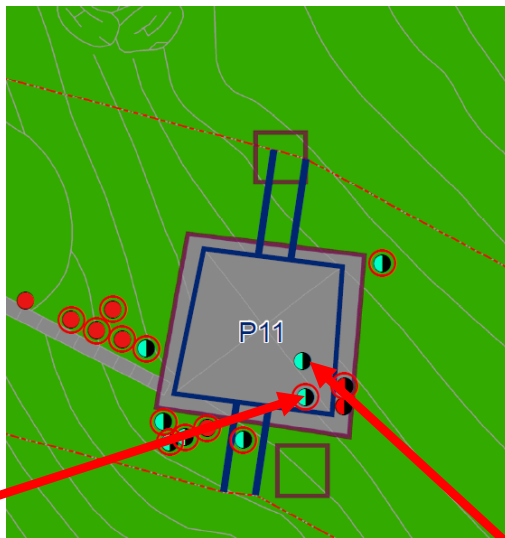
*Gnetum luofuense* recorded inside the tree crown of the shrub (*Polyspora axillaris*) at P9





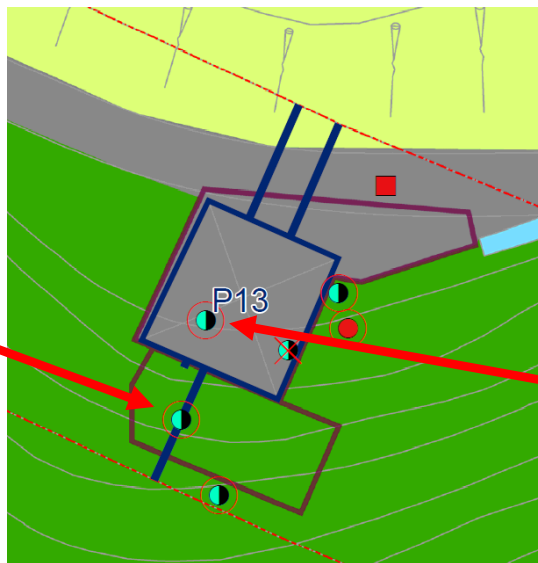
*Rhododendron simsii* recorded within the proposed work area at P11





*Gnetum luofuense* recorded within the proposed work area at P11





*Gnetum luofuense* recorded entangling on the *Litsea rotundifolia* var. *oblongifolia* within the proposed work area at P13

*Gnetum luofuense* recorded entangling on the shrub (*Polyspora axillaris*) at P13



**Soft protective net**

The soft protective net with warning sign in sharp colour will be used to cover the species that may be potentially affected by the dismantle works. The soft net allows to cover irregular shape of flora species and species growing off the ground, in particular for the climber *Gnetum luofuense*. The net with warning sign aims to alert workers that the presence of the species.



**Temporary protective fencing  
(Bamboo/steel + Soft protective net)**

Temporary protective fencing is made use of soft protective net with Bamboo/steel surrounded in order to provide a more robust structure for protection purpose. When area is available, it will be used for the shrubs/tree entangled by *Gnetum luofuense* at the **edge** of proposed work area .



**Soft protective net**

As indicated, the shrubs/tree entangled by *Gnetum luofuense* will be covered with soft protective net.





**Temporary Metal Cage**

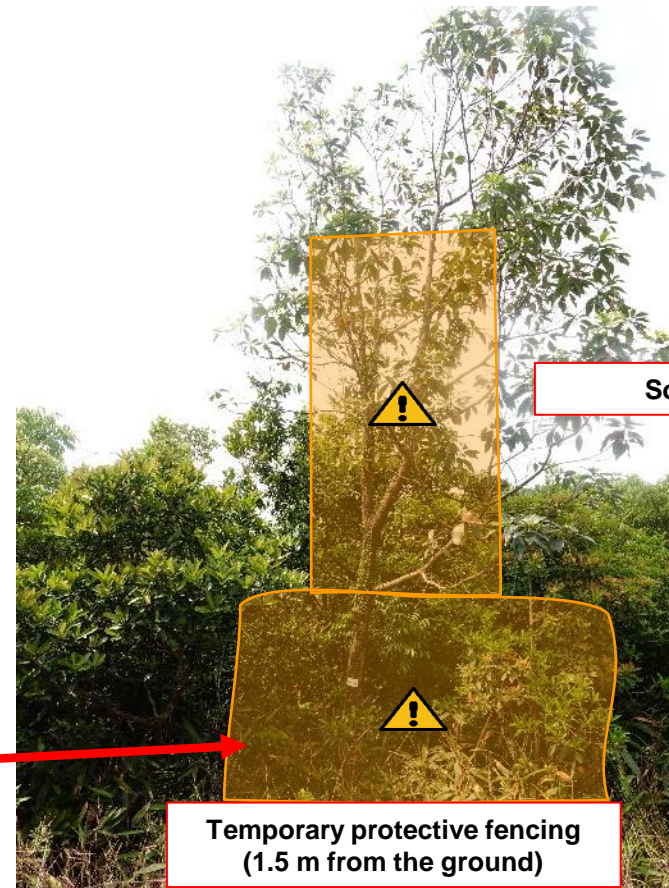
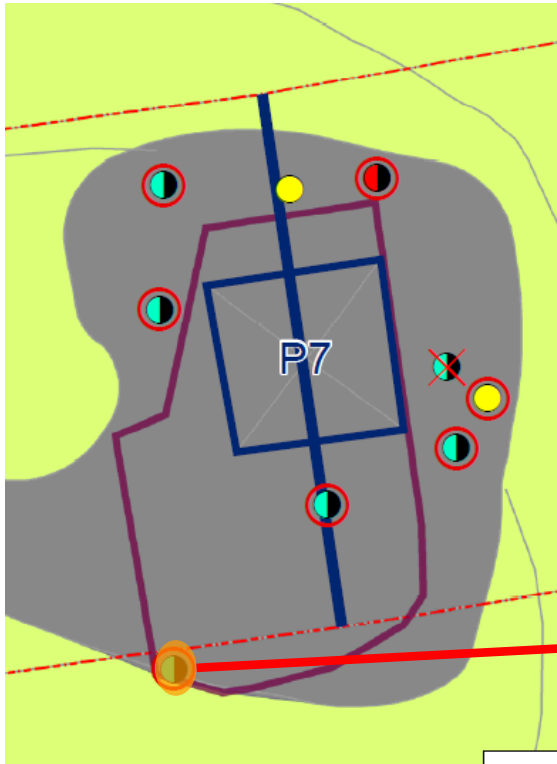
When area is available, temporary metal cage will be built around the identified plant with the aim to avoid damage during the dismantling works.



**Temporary Platform**

Temporary platform will be built to avoid trampling/ damage/ disturbance by works. It will be applied for the relatively tall shrub/tree underneath the pylons, which is entangled by *Gnetum luofuense*

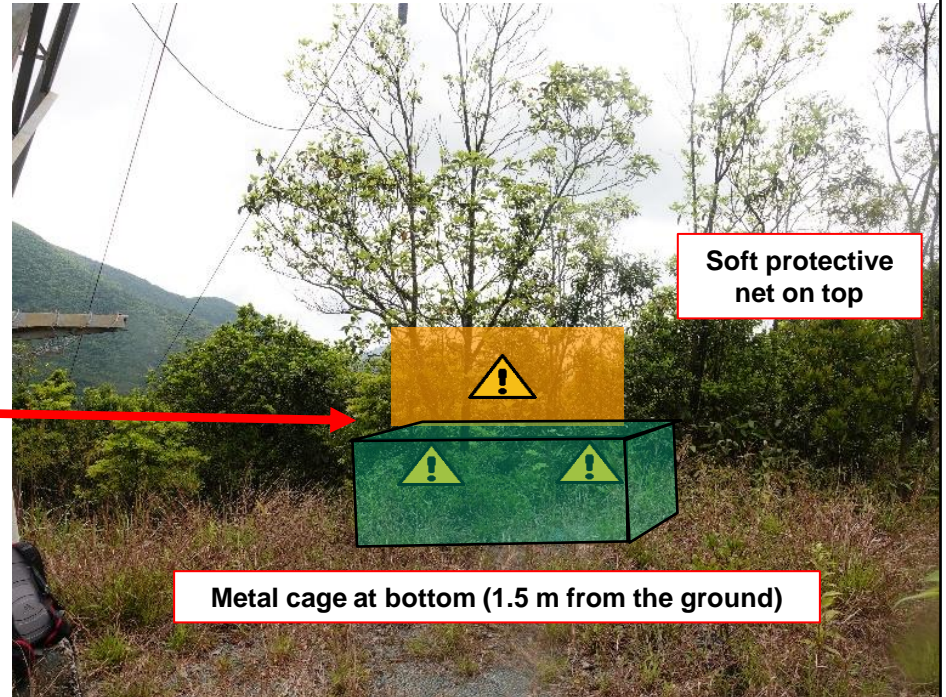
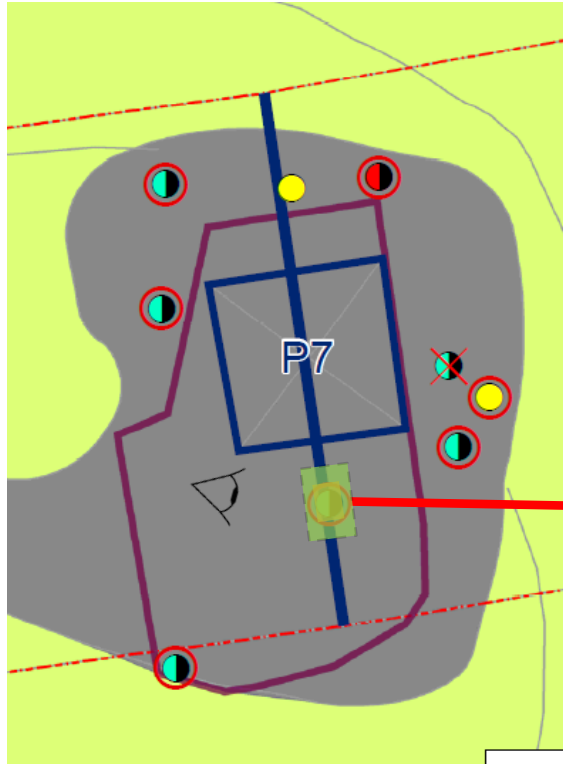




Soft protective net

Temporary protective fencing  
(1.5 m from the ground)

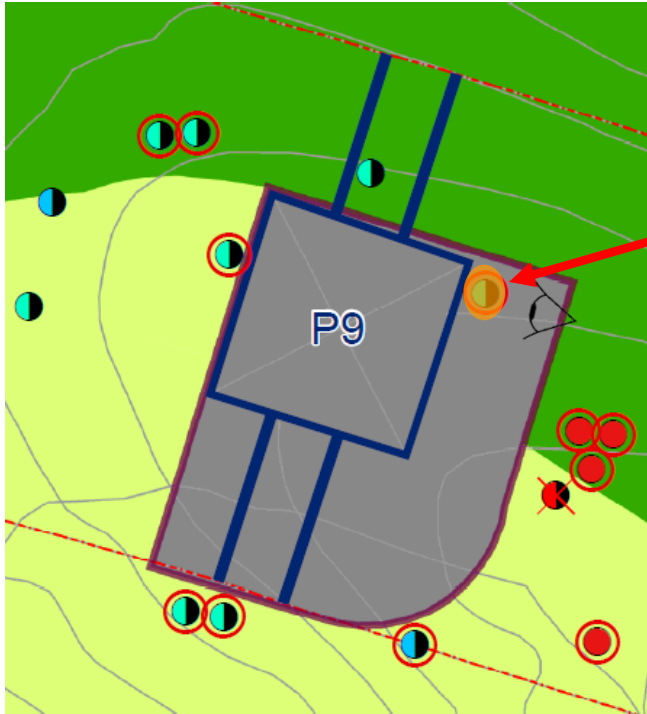
As the species is located at edge of proposed work area, temporary protective fencing (1.5m above ground) will be erected around the drip line of tree which entangled by *Gnetum luofuense*. The entangled branches above 1.5m of the ground will be covered by soft protective net.



Soft protective net on top

Metal cage at bottom (1.5 m from the ground)

Metal cage (1.5m above ground) will be erected around the drip line of tree (HKE-P7-003) which entangled by *Gnetum luofuense*. The entangled branches above 1.5m of the ground will be covered by soft protective net.



Temporary protective fencing will be provided to the shrub (*Polyspora axillaris*) locating at edge of proposed work area of P9. As the *Gnetum luofuense* is only found inside the tree crown, soft protective net is considered unnecessary.





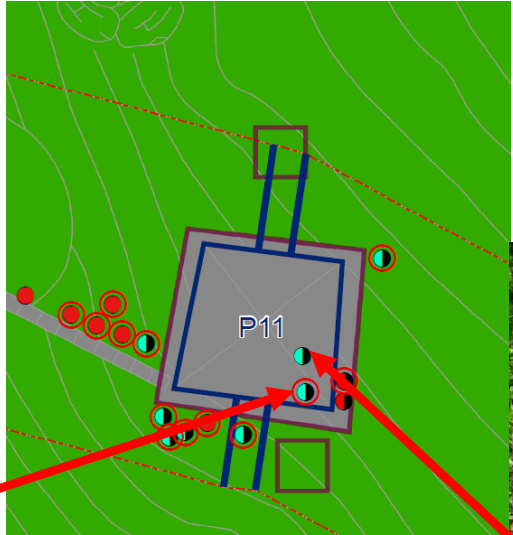
Temporary  
Metal Cage



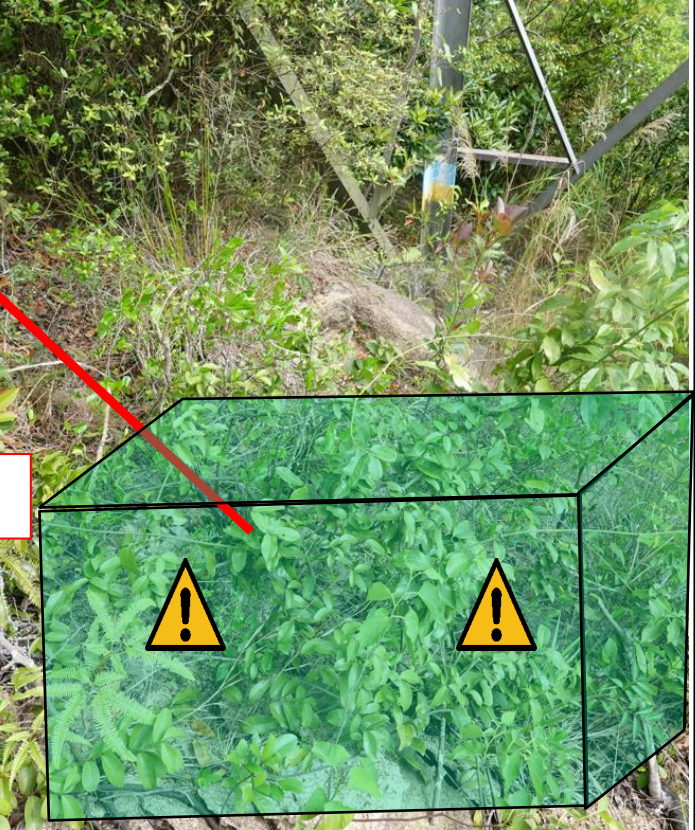
*Rhododendron simsii* (shaded area) will be well covered by metal cage at P11



Temporary Metal Cage

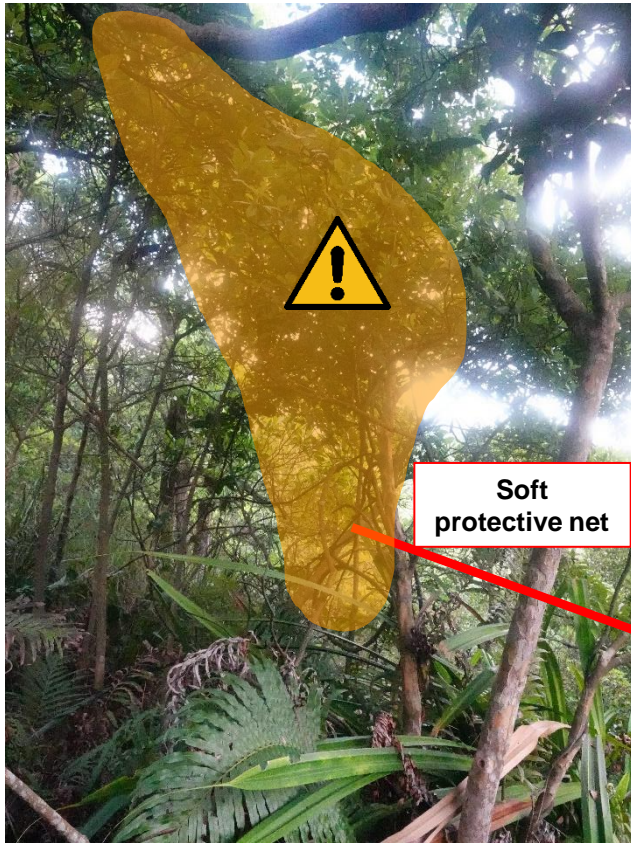


Temporary Metal Cage

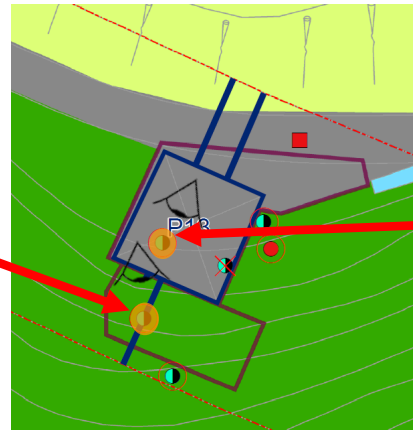


*Gnetum luofuense* (shaded area) will be well covered by temporary metal cage considering the individual is small in size





**Soft protective net**

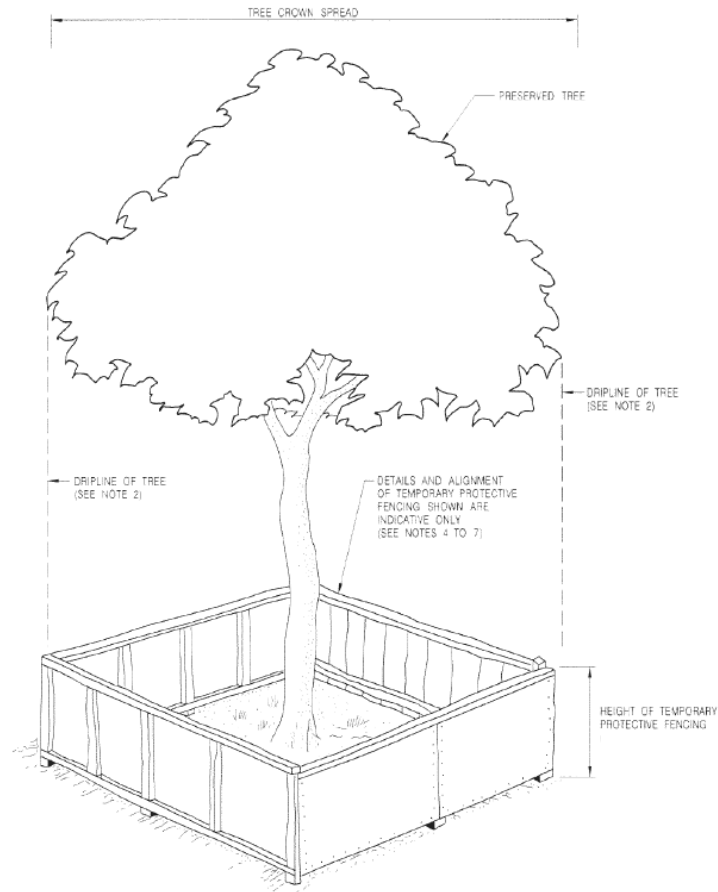


**Temporary platform to cover whole shrub**

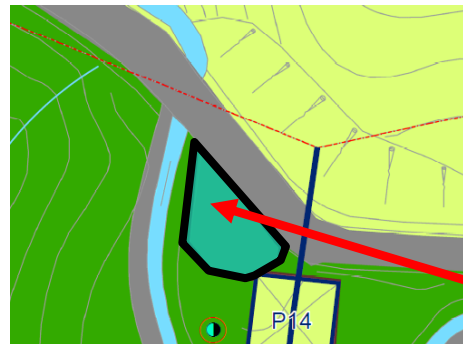
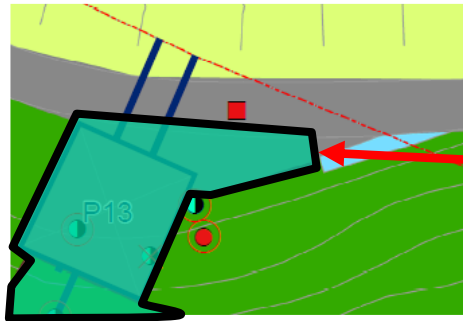
Due to site constraints, *Gnetum luofuense* (shaded area) at the upper part of the shrub (*Litsea rotundifolia* var. *oblongifolia*) will be well covered by soft protective net

Temporary platform will be built for the *Polyspora axillaris* entangled by *Gnetum luofuense* to avoid trampling/ damage/ disturbance by works.

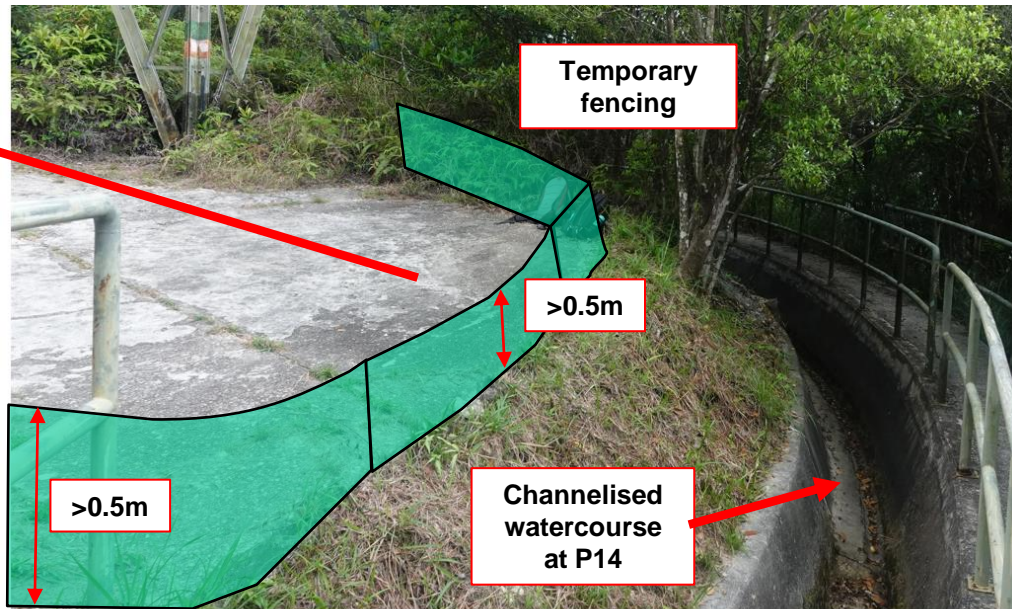




Temporary protective fencing or metal cage with 1.5m-2m, depending on the height of identified species, will be erected around the dripline of the tree/shrub. The Contractor will maintain the protective measures in good condition during the dismantle work.



Channelised watercourse at P13



Example of Temporary fencing

The temporary fencing should have at least 0.5m in height and no hole for animal to pass.



**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.