

LEGEND

- Precincts 1 - 5 and East-West Corridor Ecological Buffers
- Environmental Management Area (EMA) Boundary (#)
- Precinct Boundary
- Kings Forest Boundary

THREATENED FLORA RECORDS

- Green-leaved rose walnut (*Endiandra muelleri* subsp. *bracteata*) - Endangered (BC Act 2016)
- Southern swamp orchid (*Phaius australis*) - Endangered (BC Act 2016 & EPBC Act 1999)
- Stinking cryptocarya (*Cryptocarya foetida*) - Vulnerable (BC Act 2016 & EPBC Act 1999)
- White laceflower (*Archidendron hendersonii*) - Vulnerable (BC Act 2016)

THREATENED FAUNA RECORDS

Birds

- Black bittern (*Ixobrychus flavicollis*) - Vulnerable (BC Act 2016)
- Glossy-black cockatoo (*Calyptorhynchus lathami*) - Vulnerable (BC Act 2016)
- Grass owl (*Tyto longimembris*) - Vulnerable (BC Act 2016)
- Masked owl (*Tyto novaehollandiae*) - Vulnerable (BC Act 2016)
- Osprey (*Pandion haliaetus*) - Vulnerable (BC Act 2016)

Mammals

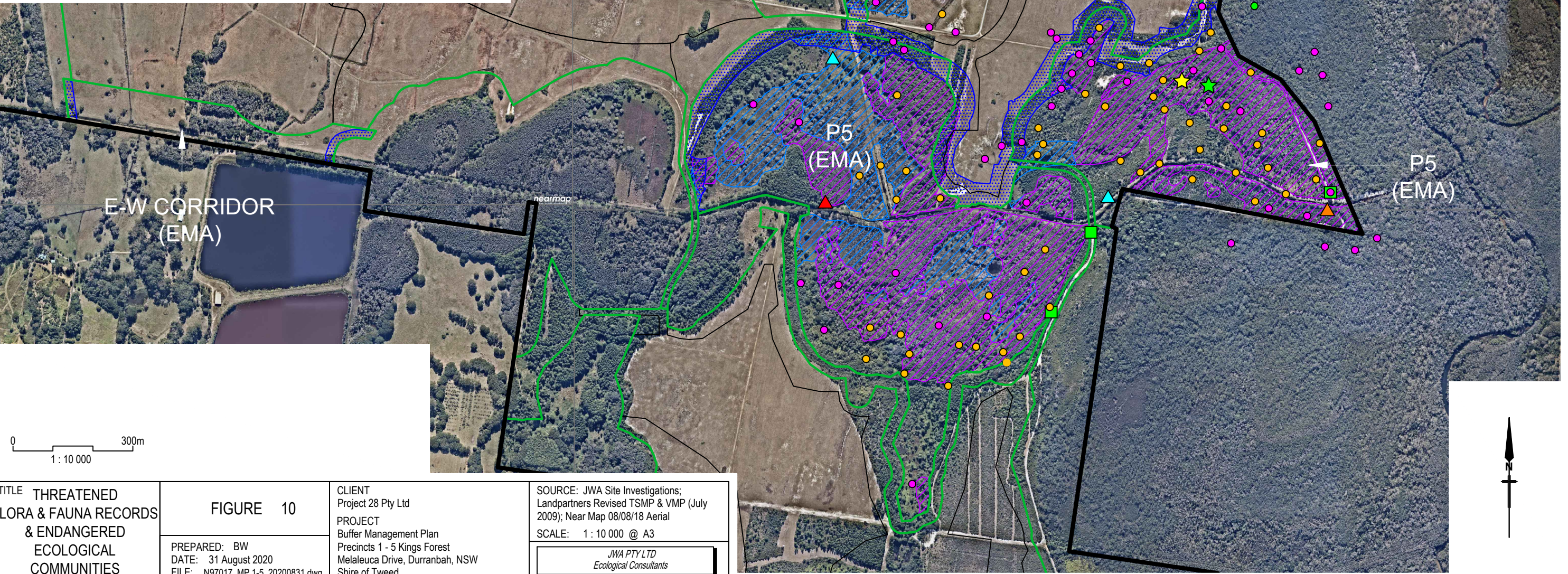
- Grey-headed flying-fox (*Pteropus poliocephalus*) - Vulnerable (BC Act 2016 & EPBC Act 1999)
- Koala (*Phascolarctos cinereus*) - Vulnerable (BC Act 2016 & EPBC Act 1999)

Amphibians

- Wallum froglet (*Crinia tinnula*) - Vulnerable (BC Act 2016)
- Wallum sedge frog (*Litoria olongburensis*) - Vulnerable (BC Act 2016 & EPBC Act 1999)

ENDANGERED ECOLOGICAL COMMUNITIES

- Freshwater wetlands on coastal floodplains of the NSW North Coast
- Swamp sclerophyll forest on coastal floodplains of the NSW North Coast





## 5 MANAGEMENT ZONES

### 5.1 Identification of Management Zones

The Kings Forest site has been divided into nine (9) zones based on the management intent for each area. These management zones are:

- Zone 1 - Construction zone;
- Zone 2 - Retained koala habitat;
- Zone 3 - Retained wallum Sedge Frog (WSF) habitat;
- Zone 4 - Koala compensatory habitat;
- Zone 5 - WSF compensatory habitat;
- Zone 6 - Heath regeneration/revegetation;
- Zone 7 - Littoral rainforest regeneration/revegetation (Precinct 1);
- Zone 8 - Wetland regeneration; and
- Zone 9 - Residual lands e.g. tracks and easements.

**FIGURE 11** shows the location of each of the management zones within Precincts 1 - 5 and how they relate to the Precinct 1 - 5 ecological buffers. A brief description of each management zone and details of the proposed management intent is provided in the sections below. Specific management actions for each zone are addressed in **SECTION 6**. Monitoring and reporting requirements are detailed in **SECTION 7**.




### 5.2 Zone 1 - Construction Zone

The construction zone consists of the development footprint of Precincts 1 - 5. The development footprint also includes the 20 m outer buffer zone adjacent to Precinct 5 which will be utilised for stormwater conveyance and ancillary structures such as fauna exclusion fencing (**FIGURE 11**). Detail design of the outer 20 m buffer zone has yet to be completed. This Precincts 1 - 5 BMP will be amended once detailed design is completed as required by Condition 39 of MP 08\_0194. An indicative cross-section of the Precinct 5 ecological buffer is provided in **PLATE 3**.






The management intent of this zone is:

- To remove all existing vegetation within the Construction Zone (consistent with the conditions of approval) prior to bulk earthworks and disposal of cleared vegetation in an environmentally responsible manner;
- To undertake vegetation removal operations in a manner that provides maximum protection of the health and livelihood of native fauna;
- To limit human impacts on retained and compensatory habitat, threatened flora and fauna species or ecological communities; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

**LEGEND**

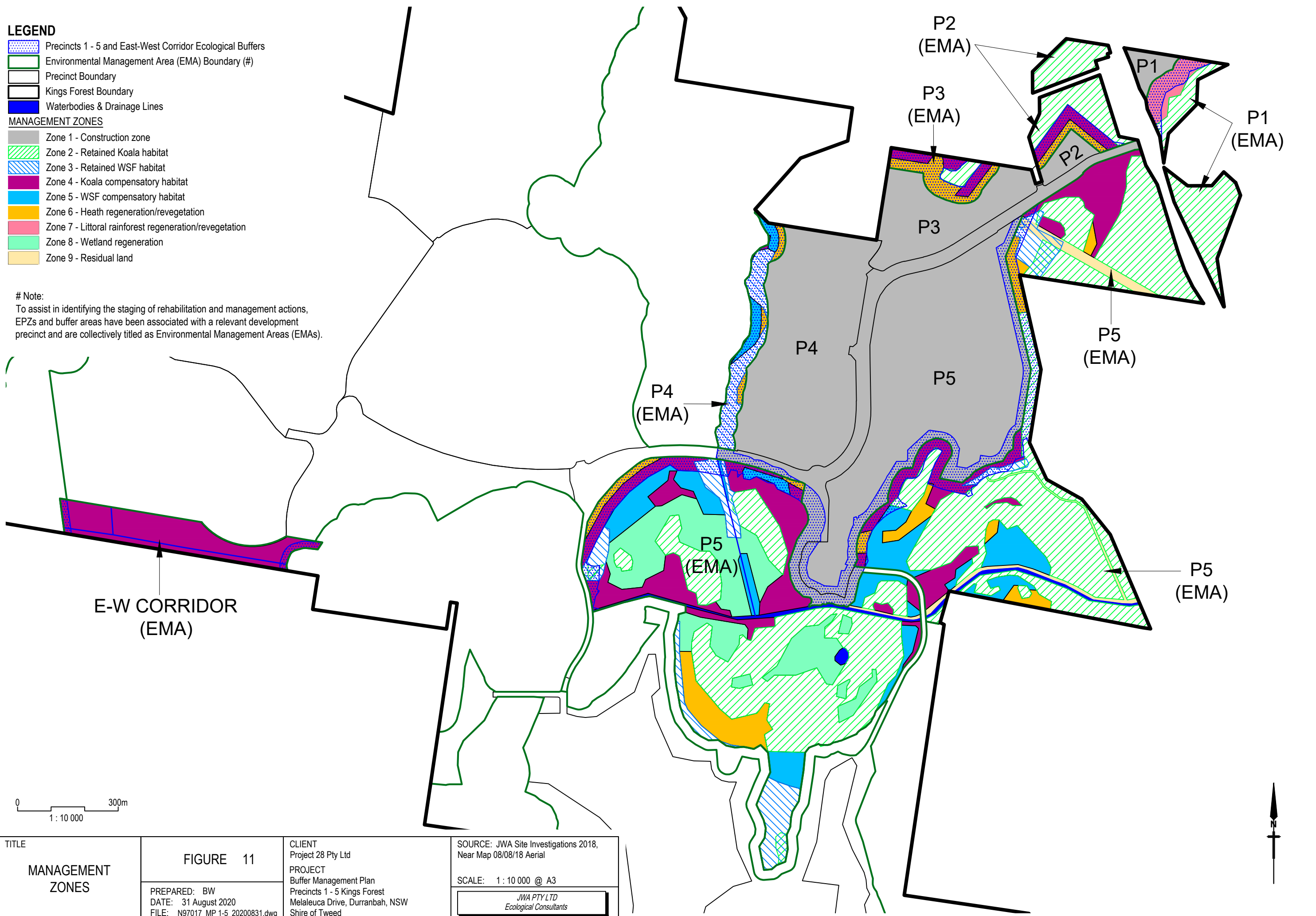
-  Precincts 1 - 5 and East-West Corridor Ecological Buffers
-  Environmental Management Area (EMA) Boundary (#)
-  Precinct Boundary
-  Kings Forest Boundary
-  Waterbodies & Drainage Lines

**MANAGEMENT ZONES**

-  Zone 1 - Construction zone
-  Zone 2 - Retained Koala habitat
-  Zone 3 - Retained WSF habitat
-  Zone 4 - Koala compensatory habitat
-  Zone 5 - WSF compensatory habitat
-  Zone 6 - Heath regeneration/revegetation
-  Zone 7 - Littoral rainforest regeneration/revegetation
-  Zone 8 - Wetland regeneration
-  Zone 9 - Residual land

**# Note:**

To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).



<p>TITLE</p> <p><b>MANAGEMENT ZONES</b></p>	<p><b>FIGURE 11</b></p> <p>PREPARED: BW DATE: 31 August 2020 FILE: N97017_MP 1-5_20200831.dwg</p>	<p>CLIENT Project 28 Pty Ltd</p> <p>PROJECT Buffer Management Plan Precincts 1 - 5 Kings Forest Melaleuca Drive, Durranbah, NSW Shire of Tweed</p>	<p>SOURCE: JWA Site Investigations 2018, Near Map 08/08/18 Aerial</p> <p>SCALE: 1 : 10 000 @ A3</p> <div data-bbox="1047 1959 1359 2011"> <p>JWA PTY LTD Ecological Consultants</p> </div>
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### 5.3 Zone 2 - Retained Koala Habitat

Management Zone 2 consists of existing koala habitat to be retained within the Precincts 1 - 5 EMAs (including relevant ecological buffers) in accordance with the Kings Forest KPOM (JWA 2019) (**FIGURE 11**). The management intent of this zone is:

- To protect, restore (through assisted natural regeneration) and provide for the ongoing maintenance of retained koala habitat;
- To limit human impacts on retained koala habitat; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

### 5.4 Zone 3 - Retained WSF Habitat

Management Zone 3 consists of existing WSF habitat to be retained within the Precincts 1 - 5 EMAs (including relevant ecological buffers) in accordance with the Kings Forest WSFMP (JWA 2020a) (**FIGURE 11**). The management intent of this zone is:

- To protect, restore (through assisted natural regeneration) and provide for ongoing maintenance of retained WSF habitat;
- To limit human impacts on retained WSF habitat;
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable; and
- To ensure the ongoing protection of water quality within retained WSF habitat.

### 5.5 Zone 4 - Koala Compensatory Habitat

Management Zone 4 consists of koala compensatory habitat areas within Precincts 1 - 5 EMAs (including relevant ecological buffers), and the proposed East-West Corridor in accordance with the Kings Forest KPOM (JWA 2019) (**FIGURE 11**). The management intent of this zone is:

- To create additional koala habitat through assisted regeneration and revegetation works;
- To limit human impacts on future koala habitat; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

### 5.6 Zone 5 - WSF Compensatory Habitat

Management Zone 5 consists of WSF compensatory habitat areas within Precincts 1 - 5 EMAs (including relevant ecological buffers) in accordance with the Kings Forest WSFMP (JWA 2020a) (**FIGURE 11**). The management intent of this zone is:

- To create additional WSF habitat through assisted regeneration and revegetation works;
- To limit human impacts on future WSF habitat; and



- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

## 5.7 Zone 6 - Heath Regeneration/Revegetation

Management Zone 6 consists of heath regeneration areas within the Precincts 1 - 5 EMAs (including relevant ecological buffers) in accordance with the Precincts 1 - 5 VWMP (JWA 2020b) (**FIGURE 11**). The management intent of this zone is:

- To protect and provide for ongoing maintenance of retained heath;
- To restore existing heath areas through assisted natural regeneration works;
- Revegetation utilising heath species and including re-use of topsoil (where appropriate) likely to contain a suitable seedbank. A specific methodology for the re-use of topsoil has been prepared for the Kings Forest site and is detailed in Section 6.6 of the Precinct 1 - 5 VWMP (JWA 2020b);
- To limit human impacts on retained and restored heath areas; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

## 5.8 Zone 7 - Littoral Rainforest Regeneration/Revegetation

Management Zone 7 consists of a littoral rainforest regeneration and revegetation area within the Precinct 1 EMAs (including relevant ecological buffers) in accordance with the Precincts 1 - 5 VWMP (JWA 2020b) (**FIGURE 11**). The management intent of this zone is:

- To protect, restore (through assisted natural regeneration) and provide for ongoing maintenance of retained littoral rainforest;
- To create additional littoral rainforest areas through assisted regeneration and revegetation works;
- To limit human impacts on retained and future littoral rainforest areas; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.

## 5.9 Zone 8 - Wetland Regeneration

Management Zone 8 consists of areas of wetland vegetation to be retained and restored within the Precincts 1 - 5 EMAs (including relevant ecological buffers) in accordance with the Precincts 1 - 5 VWMP (JWA 2020b) (**FIGURE 11**). The management intent of this zone is:

- To protect, restore (through assisted natural regeneration) and provide for ongoing maintenance of retained wetlands;
- To limit human impacts on retained wetlands;
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable; and



- To ensure the ongoing protection of water quality within retained wetlands.

## 5.10 Zone 9 - Residual Lands

Management Zone 9 consists of residual lands within the Precincts 1 - 5 EMAs (including relevant ecological buffers). These areas include fire trails throughout EPZs and a power line easement in the northern section of the Precinct 5 EMA (**FIGURE 11**). The management intent of this zone is:

- To maintain the areas in a serviceable condition for their intended purpose; and
- To remove all noxious and environmental weeds in a manner that is environmentally sustainable.



## 6 MANAGEMENT STRATEGIES

### 6.1 Introduction

The following sections detail the management strategies to be implemented within buffers as part of this BMP and include:

- Education of site personnel;
- Construction phase management measures;
- Pre-clearing fauna trapping and fauna spotter catcher;
- Exclusion fencing and other infrastructure;
- Re-use of topsoil;
- Management of retained vegetation;
- Weed management;
- Regeneration and revegetation;
- Transfer of land to public ownership;
- Fire management;
- Feral animal management;
- Bond for environmental restoration and maintenance works;
- Environmental and Community Liaison Officer(s); and
- Adaptive management.

These management strategies are apportioned to pre-construction, construction and operational phases of the development in the Implementation Schedules (**SECTION 8**). The applicable management zones for each specific management strategy is outlined in **TABLE 3**.

**TABLE 3**  
**MANAGEMENT STRATEGIES**

Section	Management Strategy	Applicable Management Zone/s
6.2	Education of site personnel	1
6.3	Construction phase management measures	All
6.4	Pre-clearing fauna trapping and fauna spotter catcher	1
6.5	Exclusion fencing and other infrastructure	All
6.6	Re-use of topsoil	1 and 6
6.7	Management of retained vegetation	2 - 8
6.8	Weed management	All
6.9	Regeneration and revegetation	2 - 8
6.10	Transfer of land to public ownership	2 - 8
6.11	Fire management	All
6.12	Feral animal management	All



Section	Management Strategy	Applicable Management Zone/s
6.13	Bond for environmental restoration and maintenance works	2 - 8
6.14	Environmental and Community Liaison Officer(s)	All
6.15	Adaptive management	All

## 6.2 Education of Site Personnel

A key action to be implemented in accordance with the approved Kings Forest KPoM (JWA 2019, Section 7.2.1) is the development of a construction personnel induction program. The program shall be developed by the Proponent and in addition to koala related issues, should highlight the significance of threatened species and EEC's on the site and include a discussion of the management requirements for native vegetation and fauna, threatened species, feral animals and weeds.

The induction program is to be approved by a suitably qualified person prior to construction commencing and all construction personnel, and any other persons/contractors completing works within or adjacent to Precincts 1 - 5, associated EMAs, and the proposed East-West Corridor, need to complete the induction prior to starting work on the site.

The general induction of all construction personnel will aim to ensure the awareness of environmental-related issues and of responsibilities and procedures in relation thereto, covering such matters as:

- Areas of the site in which significant threatened species (including koalas and wallum sedge frogs) are most likely to be encountered;
- Areas of the site in which significant vegetation will be encountered;
- Threats to threatened species, vegetation and fauna associated with construction activities;
- Requirement to report any incidents, and actions required;
- Requirement to report *any* koala sightings or incidents on or near the site, and actions required;
- Prohibition on construction personnel bringing dogs onto the site;
- Requirement to report any evidence of feral animals, particularly dogs within EMA's (sightings, footprints, droppings);
- Requirements of the Precincts 1 - 5 VWMP and TSMP, particularly protocols for vegetation clearing and measures to protect native vegetation and fauna; and
- Requirements of the Kings Forest KPoM and WSFMP.

Specific detail in relation to education protocols will be located in the Kings Forest Stage 1 Construction and Environment Management Plan (CEMP).



### 6.3 Construction Phase Management Measures

The following vegetation protection strategies will be implemented during the construction phase of the development.

1. All areas to be cleared and retained will be identified on construction plans and in the field prior to the commencement of clearing. No clearing shall occur outside nominated clearing zones.
2. Within the EMA's the following activities will not be permitted:
  - Storage and mixing of materials;
  - Vehicle parking;
  - Liquid disposal;
  - Machinery repairs and/or refuelling;
  - Construction site office or shed;
  - Combustion of any material;
  - Stockpiling of soil, rubble and debris, cleared vegetation and site mulch;
  - Any filling or excavation including trench line, topsoil skimming and/or surface excavation (with the exception of the Precinct 5 outer 20 m zone which will be utilised for stormwater conveyance and ancillary structures such as fauna exclusion fencing); and
  - Unauthorised pesticide, herbicide or chemical applications.
3. All activities in an area adjacent to any retained tree or area are to be carried out in such a manner as to minimise any damage to trees. Trees to be removed will be felled in a direction away from trees to be retained. Where an individual tree to be retained may be impacted by the removal of another tree located at close proximity, the roots of the tree to be disturbed (and the tree to be retained, where required) are to be severed cleanly by a qualified Arborist. All roots are to be exposed first and then cut cleanly with a sharp saw or loppers.
4. Site works shall occur in the following sequence: cutting, shearing of felled vegetation and tub grinding. Where vegetation is cleared or removed, vegetation waste shall be mulched and retained on site for re-use in landscape works. Each area is to be mulched immediately upon completion of clearing and grubbing works. Any vegetation not suitable for mulching (i.e. fertile material from weed species) will not be mulched and will be transported to an appropriate facility.
5. Hollow logs shall not be mulched. If any hollow logs are located on site, they will be relocated to areas proposed for rehabilitation works.
6. Erosion and sedimentation control fencing is to be provided on site in accordance with the Erosion and Sediment Control Plan (G&S 2020c). This will prevent the movement of sediment into ecologically sensitive areas as well prevent the dispersal of weed seeds and vegetative material. All sediment fencing is in place prior to the commencement of construction. Prior to any site preparation operations, the Project Manager (or other suitably qualified personnel) shall undertake an inspection of all sediment fencing. The

erosion and sediment control measures are to be maintained throughout construction and are not to be dismantled until the works on site have been completed and disturbed areas have been covered by mulch to a minimum depth of 100 mm.

7. The applicant is responsible for the restoration of the site and any adjoining affected lands where sediment deposition has occurred as a consequence of construction activity associated with the development for the duration of works and until the site has been stabilised. Such restoration must be completed in a reasonable timeframe.
8. No soil disturbance is to occur within areas of retained vegetation. Soil disturbance within any areas to be landscaped shall be kept to a minimum to avoid weed recruitment. Areas to be landscaped shall be completed under supervision to avoid unnecessary soil disturbance.
9. Weed or potential weed species shall not be planted during landscaping operations. All nursery stock for landscaping purposes shall be weed, pest and disease free and certified as such by the supplier where feasible. The certificates are to be obtained prior to the commencement of any regeneration/revegetation works on site.
10. Clearing operations are to ensure that propagative material from cleared weeds does not spread across the site. The earthworks machinery must not introduce weed material to the site or spread such material throughout the site.
11. Weeds on the subject site will be managed using suitable control measures (i.e. chemical and/or physical control) in accordance with Section 6.8 of the Precincts 1 - 5 VWMP (JWA 2020b).
12. Vehicles shall be restricted to a maximum speed of 50 kph and shall operate only in daylight hours for the duration of the construction phase. Where roads traverse the environmental protection areas vehicles shall be restricted to a maximum speed of 40 kph to minimise the risk of vehicle strike.

## **6.4 Pre-clearing Fauna Trapping and Fauna Spotter Catcher**

### **6.4.1 Background**

The following fauna management measures will generally only be applicable where native vegetation is proposed to be cleared from ecological buffers associated with the Precincts 1 - 5 and the proposed East-West Corridor EMAs (i.e. the Precinct 5 OPZ).

### **6.4.2 Pre-Clearing Fauna Trapping**

The following fauna protection strategies will be implemented prior to commencement of any vegetation clearing works.

1. Prior to clearing operations, a suitably qualified ecologist will inspect the site for habitat trees or other habitat features. Habitat trees are defined as those trees that provide suitable refuge and nesting resources for arboreal and avian fauna. These include hollow-bearing trees and trees with fissures, termitaria, etc. Larger, old growth trees are also considered to be habitat trees as they are likely to provide greater amounts of foraging resources, cover, and a high number of potential tree hollows. Dead



(stag) trees are also regarded as important habitat trees as they provide roosting and nesting resources.

2. Any habitat trees or habitat features identified on site will be identified using flagging tape or similar method and shown on appropriately scaled plans. A pre-clearing report shall be prepared prior to clearing which will detail any relevant observations made on site including the presence of habitat trees.

Subsequent to the site inspection, and immediately prior to commencement of site clearing works, a pre-clearing trapping program will be completed within any areas of relatively intact vegetation to be cleared as follows.

1. The trapping program will target Threatened species, in accordance with Section 8.3 of the Precincts 1 - 5 TSMP (JWA 2020c), as well as any other native ground-dwelling and arboreal species. The program will utilise the following trapping methodologies:
  - Pitfall traps/funnel traps;
  - Small (Type A) Elliott traps - installed both on the ground and on platforms on the trunks of trees;
  - Medium (Type B) Elliott traps - installed both on the ground and on platforms on the trunks of trees;
  - Cage traps; and
  - Active searches.
2. All traps will be baited with the universal mixture of peanut butter, honey and rolled oats. Each precinct will be trapped for a minimum of four (4) nights, and any animals captured will be relocated the same day of capture to suitable areas of retained habitat on or adjacent to the site.

#### ***6.4.3 Provision of Spotter Catcher and Pre-clearing Inspections***

The proponent will appoint a suitably qualified fauna spotter catcher to conduct pre-clearing site inspections and to be present during all clearing activities to rescue and relocate any native fauna species as necessary. The spotter catcher is also to direct the civil works contractor in relation to any fauna issues. The contractor will provide access to equipment that may be required by the spotter-catcher (e.g. cherry picker, chainsaw) as well as qualified operators.

The pre-clearance surveys for will commence no more than one (1) day prior to commencement of bulk earth moving activities within each precinct. Specific requirements for the appointment of spotter catchers and pre-clearing koala surveys are outlined in Section 7.2.2 of the Kings Forest KPoM (JWA 2019). Specific requirements for pre-clearing WSF surveys are outlined in Section 7.2.3 of the Kings Forest WSFMP (JWA 2020a).

#### ***6.4.4 Under Scrubbing***

Immediately after each precinct has been trapped, and the extent of the trapped area clearly identified, the groundcover and midstorey will be cleared utilising a slasher with a mulching head attachment or similar. Any hollow-bearing trees and/or other significant habitat features

identified during the initial site inspection will be retained. All under scrubbing works will be completed with a suitably qualified fauna spotter/catcher in attendance.

#### ***6.4.5 Clearing Non-habitat Trees***

Immediately after under scrubbing of each area is complete, non-habitat trees (i.e. trees other than those identified as habitat trees) will be cleared and stockpiled for mulching. Clearing of non-habitat trees will only occur where their removal will not impact on identified habitat trees (e.g. canopies do not interconnect with habitat trees). All clearing works will be completed with a suitably qualified fauna spotter/catcher in attendance.

#### ***6.4.6 Tree Hollow Inspection and Removal***

After under scrubbing and clearing of non-habitat trees, the following tree hollow inspection and removal protocols will be implemented.

1. An elevated work platform or cherry-picker will be used in conjunction with a chainsaw operator and suitably qualified fauna spotter/catcher to inspect and remove tree hollows as necessary prior to habitat tree felling. This method involves the fauna spotter/catcher inspecting each of the potential habitat features (usually tree hollows, dreys and arboreal termite nests) to determine the presence of arboreal fauna. This process is detailed following the step by step basis below:
  - a. The fauna spotter/catcher (with arborist unless the fauna spotter/catcher is a qualified chainsaw operator) will inspect each visible tree hollow or potential habitat resource (i.e. ringtail possum drey) identified in each tree using the cherry-picker. This is usually carried out by simply looking into tree hollows with the assistance of a small torch, however, burrow and bore-scopes can also be useful for deep tree hollows.
  - b. If fauna is located within a tree hollow, a piece of towel or rag will be firmly placed in the entrance to prevent the wildlife from escaping as in most cases arboreal fauna become aware of the presence of the fauna spotter/catcher and may attempt to flee the nesting/denning tree hollow due to a perceived threat. If an occupied ringtail possum drey is encountered, the fauna spotter/catcher should quietly approach (i.e. avoid contacting other branches) the drey in the cherry-picker bucket and physically capture the possum by placing the entire drey in a catch bag or only the possum if it emerges from the drey. If arboreal fauna are captured, or able to be easily removed from tree hollows, they will be relocated to a suitable retained habitat area/s on or adjacent to the site the same day of capture.
  - c. Once the tree hollow entrance has been secured the arborist or fauna spotter/catcher will cut the entire hollow tree limb off below the cavity where the branch remains solid. In circumstances where a tree hollow continues into the main stem of the tree, a small window will be carefully cut into the tree hollow, allowing the fauna spotter/catcher to plug the tree hollow above and below the window, then the hollow tree limb removed and lowered to the ground in sections.



- d. When the fauna has been safely secured within its tree hollow, the entire limb can then be placed in the cherry-picker bucket or lowered to the ground using ropes depending on the size of the limb.
  - e. This limb will then be placed in a cool, quiet location until translocation to a suitable donor site the same day of capture, when at dusk the tree hollow entrance is re-opened to allow the fauna to emerge of its own accord.
2. Once all tree hollows within the habitat trees have been inspected and cleared, the tree may be removed. All clearing works will be completed with a suitably qualified fauna spotter/catcher in attendance.
3. Where possible, the actual felling of the habitat trees shall be conducted in a manner that will maximize the chances of survival for any fauna remaining within the tree. This shall involve pushing rather than cutting, and cushioning the tree fall with other felled timber and foliage. Following felling, a second inspection of the relevant trees shall be carried out to relocate fauna disturbed by the clearing process or remaining within the felled timber to a suitable location.
4. Any fauna captured on site during clearing works will be relocated/translocated by the spotter catcher to a suitable habitat area/s on or adjacent to the site the same day of capture. Any injured animals requiring treatment or euthanasia shall be immediately removed and taken to an appropriately qualified veterinary surgeon. Any animals requiring support or rehabilitation other than vet assistance will be taken to a qualified wildlife carer or centre.
5. A post clearing Fauna Spotter Report will be provided to the clearing contractor and Council Ecologist within two (2) weeks of completion of clearing activities.

#### ***6.4.7 Fauna Incident Reporting Protocols***

Any threatened species observation or incident during the construction phase will result in an observation/incident report.

Requirements for koala or WSF incident reports are outlined in Section 7.2.6 of the Kings Forest KPOM (JWA 2019) and 7.2.5 of the Kings Forest WSFMP (JWA 2020a) respectively.

For all other threatened species, the report should contain as a minimum, the date, time and location (grid references) and nature of the incident. Where appropriate, cause (or likely cause) of the incident, sex of animal, age (teeth wear or other evidence) and any other information such as presence of ear tags, general condition (evidence of disease, weight, etc.) should be collected. The report should also describe what action has been taken to date, and any proposed measures to address the incident. This information should be forwarded to BCD and/or TSC. All Fauna Incident reports (excluding those related to koalas and WSF) will be included in the Annual Threatened Species Monitoring Report in accordance with Section 8.7.2 of the Precincts 1 - 5 TSMP (JWA 2020c).

## 6.5 Exclusion Fencing and Other Infrastructure

### 6.5.1 Fauna Exclusion Fencing

Exclusion fencing will be utilised where necessary to effectively separate retained vegetation and compensatory habitat from the development and its related threats. Exclusion fencing will be installed in accordance with the requirements of the Kings Forest KPoM (JWA 2019) and WSFMP (JWA 2020a) and will consist of both temporary and/or permanent fencing during construction and permanent fencing during the operational phase.

Detailed specifications for the design of the temporary and permanent exclusion fencing (including associated koala escape mechanism, gates and signage) to be utilised over the entire Kings Forest site are provided in Section 7.3.2 of the Kings Forest KPoM (JWA 2019) and Section 7.6.2 of the Kings Forest WSFMP (JWA 2020a).

Temporary fencing will be utilised during the construction phase of the development of Precincts 1 - 5 and the proposed East-West Corridor to exclude construction activities from retained vegetation and compensatory habitat areas. Temporary fencing will be comprised of 1.5 m high wire mesh held upright by star pickets (**PLATE 4**).



**PLATE 4 - EXAMPLE OF TEMPORARY FENCING**

Permanent koala exclusion fencing will be constructed at the end of the construction phase of the development of each applicable Precinct. In some areas temporary fencing will not be



required as permanent fencing will be installed prior to commencement of construction activities on site.

Where the permanent fencing occurs in buffer zones, the fencing will be located within the 20 m Outer Protection Zone, generally 1 - 4 m to the development side of the boundary between the 30 m Inner Protection Zone and 20 m Outer Protection Zone (dependant on the final design of bio-swales etc.). **PLATE 2** provides a visual guide to the location of permanent fencing.

The indicative location of exclusion fencing in Precincts 1 - 5 and the proposed East-West Corridor is shown in **FIGURE 12**. The final location of exclusion fencing in Precincts 1 - 5 and the proposed East-West Corridor will be subject to detailed design and will be shown on relevant construction plans to be approved by TSC prior to commencement of works.

All exclusion fencing will be in place prior to the commencement of construction in each relevant Precinct. Temporary fencing will only be removed once fencing in the adjacent precinct is erected.

#### ***6.5.2 Access Management***

Where the length of fencing (permanent or temporary) in buffer zones is greater than 100 m, a gate will be provided to allow access for routine rehabilitation work and monitoring. Given the number of gates that may be provided on the entire site, no locks on the gates will be required for the duration of the site development. Secure fastening structures must, however, be provided for each gate. At the completion of the monitoring program locks will be provided to all gates. Keys will be held by TSC and BCD (NPWS) where appropriate. Locked gates may be opened in the event of bushfire to allow fauna to escape.

#### ***6.5.3 Signage***

Temporary signage (during construction phases) will be installed where appropriate in accordance with Section 7.3.6 of the Kings Forest KPoM (JWA 2019). This will include the following types of temporary signage:

- At appropriate and highly visible locations noting the total prohibition of dogs on the site;
- Beside temporary roads/haul routes noting a 50 km/hr speed limit, or 40 km/hr speed limit where roads traverse the environmental protection areas; and
- At approximately 100 m intervals along all fencing stating “Environmental Protection Zone – No Unauthorised Entry”.

Permanent signage will be installed in conjunction with the permanent fencing at intervals of no more than 100 m to be installed during the operational phase in accordance with Section 7.3.6 of the Kings Forest KPoM (JWA 2019). This will include the following types of permanent signage:

- On the fauna exclusion fencing at intervals of no more than 100 m to be installed in conjunction with the permanent fencing, and including:



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- Precincts 1 - 5 and East-West Corridor Ecological Buffers
- Environmental Management Area (EMA) Boundary (#1)
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- Waterbodies & Drainage Lines
- Existing Track to be Maintained

## PROPOSED FENCING PLAN (#2)

- Permanent Koala exclusion fencing
- Acoustic fence with anti-climb panelling
- Temporary Koala exclusion fencing during Stage 1
- Indicative location of temporary Koala exclusion fencing between Precincts to be removed once fencing in adjacent precinct is installed

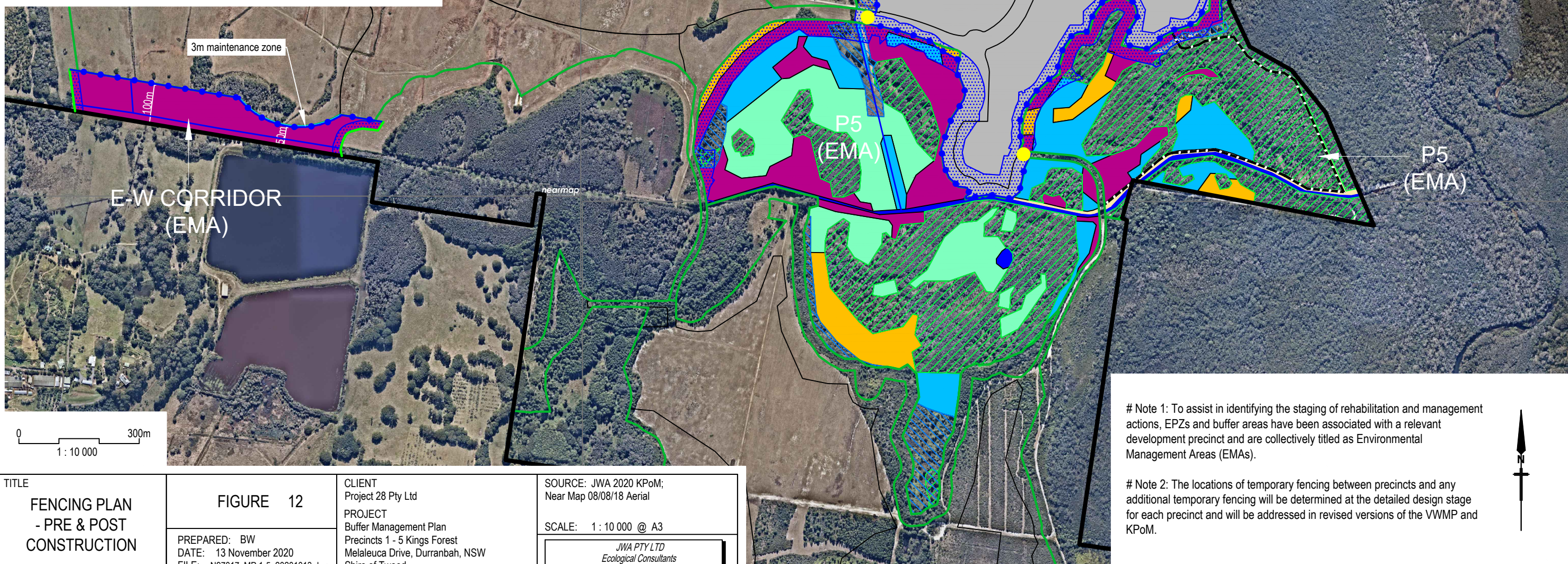
- Indicative underpass location

- Permanent grid

- Temporary grid

## MANAGEMENT ZONES

- Zone 1 - Construction zone
- Zone 2 - Retained Koala habitat
- Zone 3 - Retained WSF habitat
- Zone 4 - Koala compensatory habitat
- Zone 5 - WSF compensatory habitat
- Zone 6 - Heath regeneration/revegetation
- Zone 7 - Littoral rainforest regeneration/revegetation
- Zone 8 - Wetland regeneration
- Zone 9 - Residual land





- notification of conservation area;
- warning of total prohibition of dogs within the conservation area;
- contact details for Friends of the Koala as the primary organization for the rehabilitation of sick and injured koalas on the Tweed Coast;
- contact information for incident reporting;
- In strategic locations within any public open space area and at fauna underpasses advising residents that koalas are active in the area and dogs should be kept on a leash at all times and encourage residents to keep dogs in enclosed yards between the hours of 6 pm and 6 am; and
- General koala warning signs in strategic locations, particularly where roads traverse or abut the environmental protection areas.

#### **6.5.4 Other Infrastructure**

All street lighting will be capped and/or positioned to minimise light spill into retained habitat and habitat rehabilitation areas.

#### **6.5.5 Maintenance Requirements**

Exclusion fencing and associated signage are to be regularly checked and maintenance issues, including vegetation in close proximity to the fencing, addressed as they arise. Fence maintenance will remain the responsibility of the Proponent until ownership of the land is transferred to a third party.

Regular inspections will be completed (at not less than 1 monthly intervals). Any damage to fences or signage will prompt immediate repair, within two (2) working days of the discovery of the damage, by Site or independent contractors as determined by the Site Manager.

### **6.6 Re-use of Topsoil**

Topsoil is an important source of seeds and propagules and handled correctly, the topsoil seedbank can be used to successfully revegetate after disturbances like bulk earthworks. Topsoil within portions of the development footprint and buffers zones is to be re-used in the revegetation of heath areas within EMAs. A specific methodology for the re-use of topsoil has been prepared for the Kings Forest site and is detailed in Section 6.6 of the Precinct 1 - 5 VWMP (JWA 2020b).

### **6.7 Management of Retained Vegetation**

The aim of the management of retained vegetation within Precincts 1 - 5 ecological buffers is the permanent removal of weeds and assisted natural rehabilitation to ensure the protection of EPZs and the Cudgen Nature Reserve.

Retained vegetation within the Precincts 1 - 5 ecological buffers will be protected and maintained in accordance with the following documents where applicable:

- Precincts 1 - 5 VWMP (JWA 2020b) – Section 6.7;
- Kings Forest KPOM (JWA 2019) – Section 7.5; and
- Kings Forest WSFMP (JWA 2020a) – Section 7.7.

The extent of each retained vegetation category relevant to the above management plans is shown in **FIGURE 11**.

Each retained vegetation area will be clearly identified on site with marking pegs prior to commencement of construction in each Precinct in accordance with Section 6.7 of the Precincts 1-5 VWMP (JWA 2020b).

## 6.8 Weed Management

Due to the significant disturbance history, Kings Forest supports a variety of weed species. Disturbance during the construction phase will create an opportunity for weeds to colonise and establish, therefore weeds should be diligently controlled during and after construction. Weeds will be controlled in accordance with the protocols described in Section 6.8 of the Precincts 1 - 5 VWMP (JWA 2020b). No areas are to be left bare after weed control works. Appropriate revegetation techniques in accordance with Section 6.9 of the Precincts 1 - 5 VWMP (JWA 2020b) will be implemented where weed control works result in bare areas or areas of exposed topsoil.

## 6.9 Regeneration and Revegetation

All regeneration/revegetation works (including compensatory koala and WSF habitat creation) to be completed within Precincts 1 - 5 ecological buffers will be in accordance with the following documents where appropriate:

- Precincts 1 - 5 VWMP (JWA 2020b) – Section 6.9;
- Kings Forest KPOM (JWA 2019) – Section 7.6; and
- Kings Forest WSFMP (JWA 2020a) – Section 7.8.

The extent of each regeneration/revegetation category relevant to the above management plans is shown in **FIGURE 13**.

Each rehabilitation area will be clearly identified on site with marking pegs prior to commencement of construction in each Precinct in accordance with Section 6.9.4 of the Precincts 1-5 VWMP (JWA 2020b).

## 6.10 Transfer of Land to Public Ownership

In accordance with the Kings Forest KPOM (JWA 2019) a minimum of 150 ha of the Kings Forest site, contiguous with Cudgen Nature Reserve, is to be transferred to public ownership (in accordance with Concept Plan condition C3). Portions of the Precincts 1 - 5 buffer zones are included within this 150 ha area (**FIGURE 14**). These areas will be protected by Nature Reserve zoning in perpetuity. The remaining EMAs across the site (including the remaining buffers within



**LEGEND**

Precincts 1 - 5 and East-West Corridor Ecological Buffers

Environmental Management Area (EMA) Boundary (#)

Precinct Boundary

Kings Forest Boundary

Waterbodies & Drainage Lines

REHABILITATION AREAS SUBJECT TO VWMP (JWA 2020)

Heath revegetation areas - Dry heath

Heath regeneration areas - Dry heath

Heath regeneration areas - Wet heath

Assisted natural regeneration/revegetation of retained wetland communities

Littoral rainforest revegetation areas

Littoral rainforest regeneration areas

REHABILITATION AREAS SUBJECT TO OTHER MANAGEMENT PLANS

Koala compensatory habitat (refer to JWA KPOM 2020)

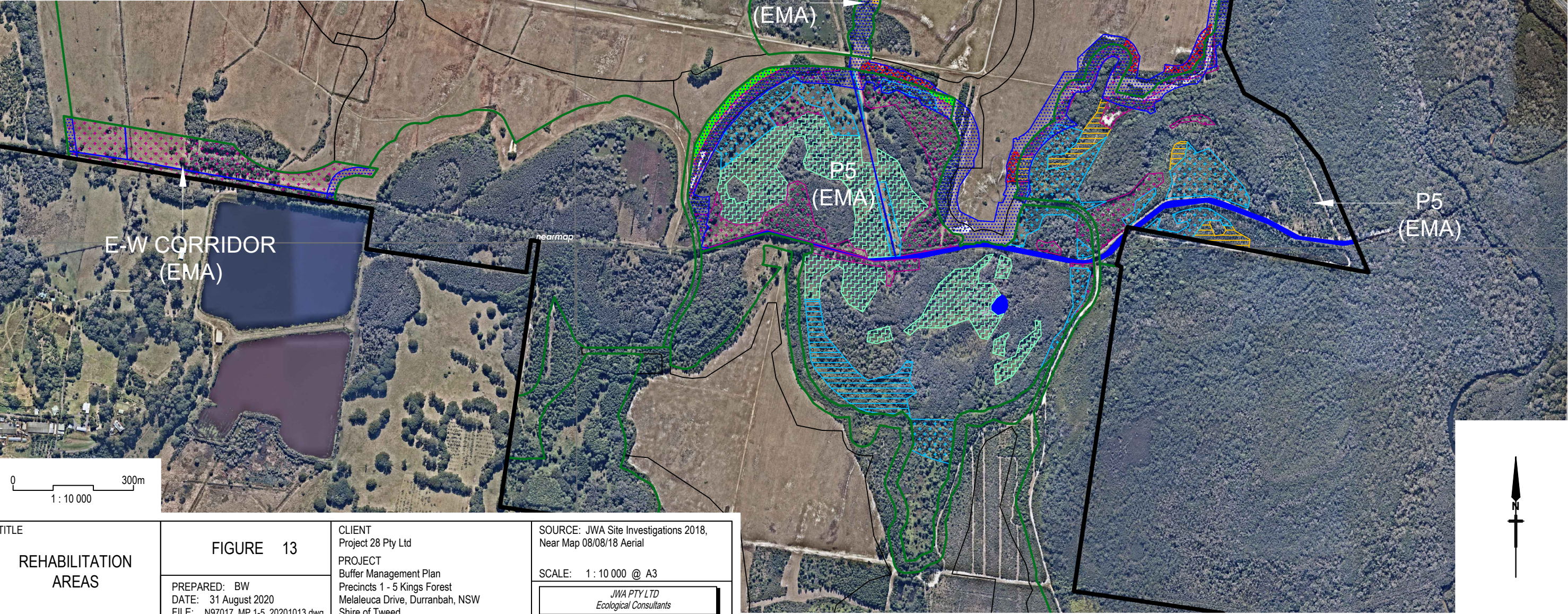
WSF compensatory habitat (refer to JWA WSFMP 2020)

TOPSOIL REUSE AREAS

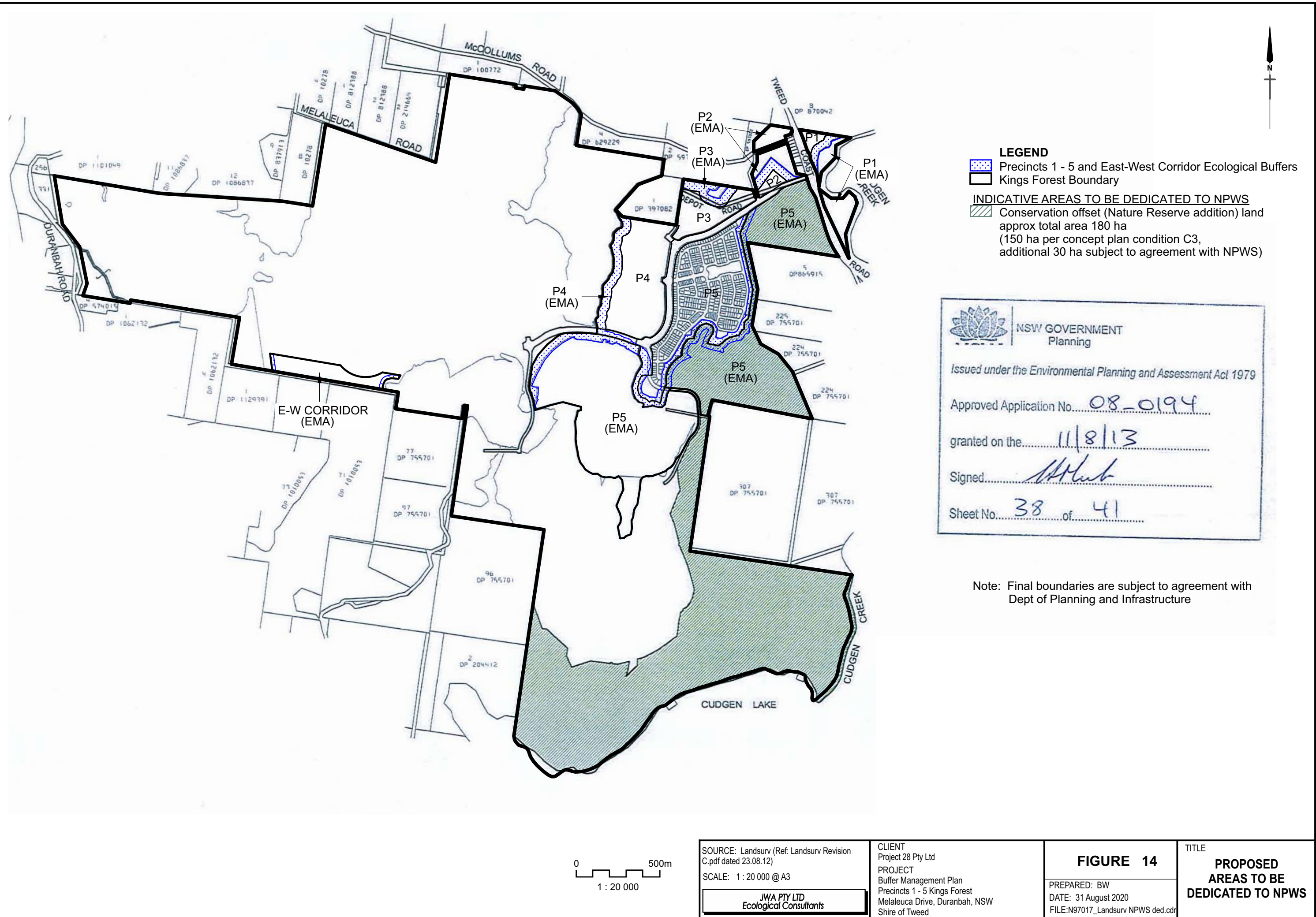
Topsoil source area

Topsoil reuse area

# Note:  
To assist in identifying the staging of rehabilitation and management actions, EPZs and buffer areas have been associated with a relevant development precinct and are collectively titled as Environmental Management Areas (EMAs).







Precincts 1 - 5) may also be transferred to public ownership, subject to agreement with TSC. These areas are known as Potential Council Land (PCL).

Requirements for the transfer of land to public ownership are detailed in Section 7.10 of the Kings Forest KPoM (JWA 2019). The proponent will be responsible for the management of all future BCD land and PCL until such time as an agreement is reached regarding the dedication of the land. The maintenance of land dedicated with each relevant precinct will become the responsibility of the new landowner at the time of dedication.

Prior to the commencement of works in a precinct, a registered surveyor will prepare survey plans and permanently mark the boundaries of the future BCD land and the PCL. These plans will be lodged with the Department on a precinct-by-precinct basis.

In accordance the Kings Forest KPoM (JWA 2019), the proponent will engage a suitably qualified independent environmental consultant, reviewed by TSC and approved by the Secretary to complete an environmental audit for each part of the PCL. The Audit will monitor the effectiveness of the environmental works (repair, enhancement and/or maintenance) and will aim to confirm that the establishment period and any relevant maintenance period criteria have been met. Details for the requirements of the environmental audits is provided in Section 8.6.3 of the Kings Forest KPoM (JWA 2019).

## 6.11 Fire Management

The proponent will be responsible for bushfire management in the conserved bushland and wetland areas of the site, until ownership is transferred. In accordance with Section 7.11 of the Kings Forest KPoM (JWA 2019), Project 28 has engaged with BCD, Council and the Rural Fire Service to amend the Bushfire Management Plan (BushfireSafe 2020), including during preparation of the associated Kings Forest Koala Fire Management Plan (Wildsite 2020), so as to ensure that a co-operative effort to minimise the potential for wildfires and fire frequencies occurs.

Bushfire management actions for the Kings Forest site are detailed in the Kings Forest Stage 1 Bushfire Management Plan (BushfireSafe 2020). The Bushfire Management Plan outlines risk management strategies that aim to protect property and life and to reduce the threat to ecological and environmental assets. A fundamental strategy of the Bushfire Management Plan is to assess and manage fuel loads within the Kings Forest site. The Bushfire Management Plan (BushfireSafe 2020) also incorporates the Kings Forest Koala Fire Management Plan (Wildsite 2020) which details fire management strategies for koala habitat areas on the Kings Forest site. The aim of this plan is to protect and conserve the population and habitat of koalas and other associated biodiversity values in the Kings Forest area through the restoration and maintenance of appropriate fire regimes.

It has previously been noted (**SECTION 4.2**) that continued infestation of native vegetation with Slash pine wildings is occurring over the Kings Forest site. As well as decreasing the diversity and competing with native species, pine invasions can also lead to altered fire regimes. There is often a complete absence of fire where pine plantations occur due to the need to maintain the plantation as an economic resource. However, when fires do occur, they

are of high intensity due to the highly flammable nature of pine trees and accumulated leaf litter (Skull 1995, 1998). The control of Slash pine wildings at the Kings Forest site is therefore a key consideration for the control of any future wildfires.

Adjacent to Kings Forest, the particular area of concern in terms of bushfire threat is the Cudgen Nature Reserve, including the lands currently forming part of the Kings Forest site to be added to the Reserve. The Cudgen Nature Reserve Fire Management Plan should be amended to include these additional areas prior to these areas being transferred to BCD.

## **6.12 Feral Animal Management**

The Kings Forest FAMP (JWA 2020e) details feral animal management measures that will be implemented to ensure predators (such as the Red fox, feral dogs and feral cats) and pest species (such as the Cane toad and Mosquito fish) are controlled in areas of known habitat. Section 8.5 of the Kings Forest FAMP (JWA 2020e) details targeted feral animal control measures to be implemented throughout the Kings Forest site (including within ecological buffers) to control and manage feral animals.

## **6.13 Bond for Environmental Restoration and Maintenance Works**

In accordance with the Kings Forest KPoM (JWA 2019), environmental restoration and maintenance works within the buffer zones may be subject to a bond. Details of the bond requirements are provided in Section 7.6.7 of the Kings Forest KPoM (JWA 2019).

## **6.14 Environmental and Community Liaison Officer(s)**

In accordance with the requirements of the Kings Forest KPoM (JWA 2019), the proponent must engage a Community Liaison Officer and an appropriately qualified Environmental Officer(s) for the duration of works. The Community Liaison Officer is required to consult with potentially affected property owners and the department before and during construction works and shall respond to complaints of an environmental impact nature. The Environmental Officer(s) shall oversee environmental compliance until all conditions have been satisfied. The roles of Community Liaison Officer and Environmental Officer may be undertaken by the same person.

Further details of the requirements for environmental and Community Liaison Officer(s) are provided in Section 7.13.3 of the Kings Forest KPoM (JWA 2019).

## **6.15 Adaptive Management**

### ***6.15.1 Introduction***

Adaptive management is an approach that involves continually monitoring a process to evaluate its effectiveness, and improving the process based on this evaluation. It requires transparent planning systems and implementation strategies, and a strong emphasis on monitoring and reviewing to ensure emerging information is reflected in future planning. The principles of adaptive management have been incorporated into the administration of restoration projects within a variety of governmental authorities and programs (Thom 1997).



The Kings Forest site is a large and complex project with interrelated management plans and conditions and is expected to be carried out over many years. As the project evolves, it has been acknowledged by NSW DPI&E, BCD and TSC that conflicts between management plans may be identified during the management plan approval process. In addition, changes to site conditions and the results of monitoring (i.e. rehabilitation monitoring) may require amendments to the management actions anticipated in this BMP and other environmental management plans.

The following sections outline the adaptive management approaches to be utilised to manage conflicts between management plans and to respond to issues identified during routine monitoring.

#### ***6.15.2 Management Plan Conflicts***

Issues related to conflicts between management plans will be addressed using the following adaptive management approach:

1. Issues of concern will be identified as they are detected during the management plan review and approval process.
2. Approved management plans can only be updated using the adaptive management approach where the inconsistency:
  - results following the approval of an associated management plan, and;
  - is in response to advice from, or acknowledged in writing by TSC or a relevant State agency, and
  - is genuinely minor and/or administrative in nature, and
  - results in no additional environmental impact.

Discretion as to whether approved management plans may be updated using the adaptive management approach (or may require re-satisfaction or a modification of the Project Approval) rests with the NSW DPI&E, in consultation with TSC, BCD and any other relevant agencies.

3. The management plan under review will be amended to acknowledge the issue(s) of concern and how the issue(s) will be addressed through the adaptive management provisions. Updates must be consistent with the rationale, aims, objectives and expected outcomes of the relevant management plan (e.g. the principles of the Koala Plan of Management) and continue to comply with the relevant conditions of the Project Approval and any relevant benchmarks. For example, where proposed offset plantings conflict with other uses an alternative offset site will need to be located elsewhere to satisfy the overall offset commitment.
4. Once the plans commence implementation, the recommended adaptive management issues and the relevant management response should be implemented and included in the annual reporting for the affected management plan.
5. When management plans are updated (which is required for each new stage of the development) any changes made to the plan because of adaptive management are to be included in the updated plan and adaptive management log (**SECTION 6.15.4**). A

copy of all management plans will be kept on the project website, clearly indicating current and archived versions.

#### ***6.15.3 BMP Adaptive Management***

Once the Precincts 1 - 5 BMP commences implementation, it is possible that routine monitoring will identify issues with the strategies outlined in this report, in particular the health and conditions of the plantings, natural regeneration and the status of the weed infestation. Alteration to the design and maintenance of works may be required to ensure the objectives of the BMP are achieved and will be addressed through the adaptive management provisions.

Before the implementation of any adaptive management strategy a brief report is to be provided to Project 28 Pty Ltd and other relevant agencies detailing the proposed management actions and the predicted outcomes. The implementation must be approved by the relevant authority prior to implementation.

When management plans are updated (which is required for each new stage of the development) any changes made to the plan because of adaptive management are to be included in the updated plan and adaptive management log (**SECTION 6.15.4**). A copy of all management plans will be kept on the project website, clearly indicating current and archived versions.

#### ***6.15.4 Adaptive Management Log***

A log of changes to each management plan will be updated monthly and published on the project website. In addition, a copy of the adaptive management log will be included in the Annual Vegetation Monitoring Report (**SECTION 7**). The log shall include (as a minimum), the date, the title of the plan affected, an explanation of the inconsistency and update made, and confirmation that TSC, BCD or any relevant agencies support the amendment.

No issues have been identified to date within this Precincts 1 - 5 BMP during the management plan review. An adaptive management log is provided in **TABLE 4** and will be updated as necessary.

**TABLE 4**  
**ADAPTIVE MANAGEMENT LOG**

Date	Affected Management Plans	Conflict	Description of Issue	Proposed Adaptive Management Response	Confirmation of TSC, BCD or Any Relevant Agencies Support the Amendment	Success of Adaptive Management Response
03/12/20	BMP	Detailed design of Precinct 5 outer 20m Ecological Buffer Zone	Where the 50 m buffer zones occur adjacent to development in Precinct 5, the outer 20 m zone will be utilised for stormwater conveyance and ancillary structures such as fauna exclusion fencing whilst the inner 30 m zone will be utilised for conservation purposes only such as revegetation and assisted regeneration works. Detail design of the Precinct 5 outer 20 m Ecological buffer zone has yet to be completed.	BMP to be amended to include maps and description of treatments (i.e. open space, drainage swales, fauna infrastructure, bushfire APZs etc.) within the Precinct 5 outer 20m Ecological buffer zone once detailed design is completed.		



## 7 MONITORING AND REPORTING

Monitoring to determine the effectiveness of mitigation measures implemented within the buffers will be completed as part of monitoring for the broader EMA's and is detailed within the following Management Plans:

- Precincts 1 - 5 VWMP (JWA 2020b):
  - Section 8.2 - Baseline vegetation monitoring;
  - Section 8.3 - Bush regeneration team monitoring;
  - Section 8.4 - Monitoring of retained vegetation; and
  - Section 8.5 - Rehabilitation monitoring for the following management zones:
    - o Management Zone 6 - Heath regeneration;
    - o Management Zone 7 - Littoral rainforest regeneration/revegetation; and
    - o Management Zone 8 - Wetland regeneration.
- Precincts 1 - 5 TSMP (JWA 2020c):
  - Section 8.3.1 - Baseline threatened flora monitoring;
  - Section 8.3.2 - Annual threatened flora monitoring;
  - Section 8.4.1 - Baseline threatened fauna monitoring; and
  - Section 8.4.2 - Annual threatened fauna monitoring.
- Precincts 1 - 5 FAMP (JWA 2020e) – feral animal monitoring (Section 9).
- Kings Forest KPoM (JWA 2019):
  - Section 8.2 - Koala activity monitoring;
  - Section 8.4 - Compensatory koala habitat monitoring; and
  - Section 8.5 - Koala infrastructure, construction and operational management monitoring.
- Kings Forest WSFMP (JWA 2020a):
  - Section 8.3 - WSF monitoring; and
  - Section 8.5 - Compensatory WSF habitat monitoring.

## 8 IMPLEMENTATION SCHEDULES

### 8.1 Introduction

Specific management actions discussed in **SECTION 6** will be triggered and completed within Precincts 1 - 5 and associated EMAs, and the proposed East-West Corridor on a pre-construction, construction and operational phase basis. The implementation schedules provided in **TABLES 5 - 7** below summarise all pre-construction, construction and operational phase management strategies and identify the associated management actions, timing, responsibilities and performance measures.

In accordance with Project Approval (MP08\_0194) Condition 72, evidence of commencement of implementation of this BMP shall be provided to the Secretary prior to commencement of bulk earthworks.

Performance indicators and targets for the proposed rehabilitation strategy to be achieved during the 'establishment period' and 'maintenance period' of the project (as defined within the Project approval MP08\_0194) are contained in the Precincts 1 - 5 VWMP (JWA 2020b). Corrective actions are also provided that are to be implemented if performance targets are not met.

### 8.2 Development Phases

Management actions outlined in this BMP will be implemented in three (3) phases:

- **Pre-construction Phase** - The pre-construction phase of the development refers to all preliminary works required to be completed prior to commencement of construction e.g. preliminary survey work, baseline monitoring and commencement of compensatory habitat rehabilitation works.
- **Construction Phase** - The construction phase of the development refers to works completed to construct the development and includes clearing vegetation, bulk earthworks and the construction of infrastructure.
- **Operation Phase** - The operational phase of the development will commence postconstruction and after registration of the plan/s of subdivision for each precinct.

Commencement of construction is defined under Concept Plan Approval Condition B7 and Major Project Approval A13 as any physical works including clearing vegetation, the use of heavy duty equipment for the purpose of breaking ground for bulk earthworks, or infrastructure for the proposed project.

**TABLES 5 - 7** detail the specific management actions that will be implemented within each development precinct during the pre-construction phase, construction phase and operational phases respectively.

### 8.3 Roles and Responsibilities

The successful implementation of this BMP requires a number of key personnel to complete various roles. As many of the contractors for the project are yet to be appointed, these will be

specified and list of key contacts for the project contained in revised versions of the BMP (in accordance with Conditions B1 and C2 of the Concept Plan Approval 06\_0318, MOD 6). A summary of key roles/personnel responsible for the management strategies identified in **TABLES 5 - 7** below includes:

**Proponent**

Project 28 Pty Ltd is the Proponent for the works as the approval holder.

**Construction/Site Manager**

The Construction/Site Manager (to be appointed) is a representative of the project team (typically the project engineer) and is responsible for coordinating the project consultants and construction contractor.

**Principal Contractor**

The Principal contractor (to be appointed) is responsible for the management of all activities involved in the construction phase of the development.

**Site Supervisor**

The Site Supervisor is a representative of the Principal Contractor (to be appointed) and responsible for overseeing all pre-clearing, clearing and construction activities are undertaken in accordance with the BMP and subsequent environmental management documentation.

**Ecologist**

For the purposes of this BMP means a qualified ecologist with appropriate training and at least five (5) years of experience in undertaking flora and fauna surveys.

**Fauna Spotter Catcher**

For the purposes of this BMP means a suitably qualified ecologist/fauna handler agreed to by the Department. It is noted that the Fauna Spotter Catcher must hold a relevant scientific license and ethics approvals and a copy of these permits along with their contact details will be passed on to the Site Supervisor. The engaged Fauna Spotter Catcher will be responsible for the management/relocation of native fauna during any clearing activities.

**Bush Regeneration Company**

For the purposes of this BMP means a suitably qualified Bush Regeneration Company that has demonstrable experience in the rehabilitation or revegetation of native vegetation communities in the Tweed region. It is noted that the Bush Regeneration Company must hold the necessary license and approvals. The engaged Bush Regeneration Company will be responsible for rehabilitation and weed management works on the site.

## 8.4 Implementation Table - Pre-construction Phase

**TABLE 5**  
**BUFFER MANAGEMENT STRATEGIES - PRE-CONSTRUCTION PHASE**

Management Strategy	Management Action	Responsibility	Performance Measure
Environmental Officer(s)/Community Liaison Officer	Appointment of Environmental Officer(s)/Community Liaison Officer in accordance with <b>MP08_0194 Condition 70</b> .	Proponent	Environmental Officer(s)/Community Liaison Officer appointed as detailed in <b>SECTION 6.14</b> and Section 7.13.3 of the Kings Forest KPoM (JWA 2019) prior to commencement of bulk earthworks*.
Baseline survey and report	<p>Baseline koala monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Baseline WSF monitoring program to be completed within Precincts 1 - 5 in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Baseline vegetation monitoring program to be completed within Precincts 1 - 5 in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Baseline threatened flora monitoring program to be completed within Precincts 1 - 5 in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Baseline threatened fauna monitoring program to be completed within Precincts 1 - 5 in accordance with <b>MP08_0194 Condition 37</b>.</p>	Qualified Ecologist	<p>Baseline monitoring programs and reports completed prior to the commencement of construction* in accordance with <b>SECTION 7</b> and the following management plans:</p> <ul style="list-style-type: none"> <li>• Kings Forest KPoM (JWA 2019) - Section 8;</li> <li>• Kings Forest WSFMP (JWA 2020a) - Section 8;</li> <li>• Precincts 1 - 5 VWMP (JWA 2020b) - Section 8.2; and</li> <li>• Precincts 1 - 5 TSMP (JWA 2020c): <ul style="list-style-type: none"> <li>- Section 8.3.1 - Baseline threatened flora monitoring;</li> <li>- Section 8.4.1 - Baseline threatened fauna monitoring.</li> </ul> </li> </ul> <p>Reports provided to relevant government agencies.</p>
Education of construction personnel	A construction personnel induction program shall be developed and implemented by the Proponent.	Principal Contractor/ Site Supervisor	A construction personnel induction program development and implemented and an annual report prepared detailing the induction procedure and personnel inducted in accordance with <b>SECTION 6.2</b> and Section 7.2.1 of the Kings Forest KPoM (JWA 2019).
Survey plans and permanent marking of dedication areas	Mark the boundaries of proposed/future dedication areas as required by <b>MP08_0194 Condition 3</b> .	Registered Surveyor	Report prepared prior to commencement of construction* containing survey plans showing the boundaries of the proposed dedication areas in accordance with <b>SECTION 6.10</b> and Section 7.10 of the Kings Forest KPoM (JWA 2019). Permanent pegs placed in the ground. Survey plans lodged with the NSW DPI&E.
Management of retained vegetation/habitat	Areas of retained vegetation to be clearly identified in the field and marked as required.	Suitably Qualified Bush Regeneration Company	Each retained vegetation area will be clearly identified on site with marking pegs prior to commencement of construction in each Precinct in accordance with <b>SECTION 6.7</b> and Section 7.5 of the Kings Forest KPoM (JWA 2019).
	Retained vegetation/habitat managed as required by <b>MP08_0194 Conditions 40 and 41</b> .	Suitably Qualified Bush Regeneration Company	<p>Retained vegetation within the Precincts 1 - 5 ecological buffers will be protected and maintained in accordance with <b>SECTION 6.7</b> and the following documents where applicable:</p> <ul style="list-style-type: none"> <li>• Precincts 1 - 5 VWMP (JWA 2020b) - Section 6.7;</li> <li>• Kings Forest KPoM (JWA 2019) - Section 7.5; and</li> <li>• Kings Forest WSFMP (JWA 2020a) - Section 7.7.</li> </ul>
Weed control	Weeds controlled as required.	Suitably Qualified Bush Regeneration Company	All weeds controlled in accordance with <b>SECTION 6.8</b> and Section 6.8 of the Precincts 1 - 5 VWMP (JWA 2020b).
Rehabilitation and compensatory habitat works	Rehabilitation areas to be clearly identified in the field and marked as required.	Suitably Qualified Bush Regeneration Company	Each rehabilitation area will be clearly identified on site with marking pegs prior to commencement of construction in each Precinct in accordance with <b>SECTION 6.9</b> and Appendix 8 of the Kings Forest KPoM (JWA 2019).
	Rehabilitation works commenced as required by <b>MP08_0194 Condition 40 and 41</b> .	Suitably Qualified Bush Regeneration Company	<p>All regeneration/revegetation works (including compensatory koala and WSF habitat creation) to be commenced in accordance with <b>SECTION 6.9</b> and the following documents where appropriate:</p> <ul style="list-style-type: none"> <li>• Precincts 1 - 5 VWMP (JWA 2020b) - Section 6.9;</li> <li>• Kings Forest KPoM (JWA 2019) - Section 7.6; and</li> </ul>



Management Strategy	Management Action	Responsibility	Performance Measure
			<ul style="list-style-type: none"><li>Kings Forest WSFMP (JWA 2020a) - Section 7.8.</li></ul>
Fire management	Reduction of fire risk.	Proponent (until ownership is transferred)	Fire risk to be managed in accordance with the approved Bushfire Management Plan (BushfireSafe 2020) and associated Kings Forest Koala Fire Management Plan (Wildsite 2020) ( <b>SECTION 6.11</b> ).
Environmental audits	Environmental Audits completed in accordance with <b>MP08_0194 Condition 49</b> .	Proponent / Independent Ecological Consultant	Environmental audits and associated reporting will be completed in accordance with Section 8.6.3 of the Kings Forest KPOM (JWA 2019).
Payment of bond and/or bank guarantee	In accordance with <b>MP08_0194 Condition 50</b> , a bond for the implementation of environmental management, with the exception of koala compensatory habitat, is to be lodged with TSC.	Proponent	Prior to commencement of bulk earth works for each precinct, and every two (2) years thereafter, a cash bond or bank guarantee shall be lodged with TSC to ensure that the relevant environmental management plans for the associated Potential Council Land (PCL) are implemented as detailed in <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPOM (JWA 2019).
	In accordance with <b>MP08_0194 45A (8) a)</b> , an additional bond or bank guarantee must be provided for the implementation of suitable conservation measures should the compensatory koala habitat not be provided in accordance with the requirements of the KPOM.	Proponent	A bond or bank guarantee must be paid to and held by the Secretary from the issue of the first Construction Certificate permitting the clearing of vegetation, until seven (7) years after the Proponent has demonstrated to the Secretary that the compensatory habitat has been provided in accordance with the requirement of the KPOM. Refer to <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPOM (JWA 2019).
Adaptive management	Adaptive Management strategies implemented as required.	Proponent	Adaptive Management Log detailing issues raised and any changes made to this management plan to be updated as monthly and included in the Annual Vegetation Monitoring Report and published on the project website in accordance with <b>SECTION 6.15</b> .

## 8.5 Implementation Table - Construction Phase

**TABLE 6**  
**BUFFER MANAGEMENT STRATEGIES - CONSTRUCTION PHASE**

Management Strategy	Management Action	Responsibility	Performance Measure
Environmental Officer(s)/Community Liaison Officer	Environmental Officer(s)/ Community Liaison Officer to oversee environmental compliance until all conditions have been satisfied as required by <b>MP08_0194 Condition 70</b> .	Environmental Officer(s)/Community Liaison Officer	Duties of the Environmental Officer(s)/ Community Liaison Officer completed in accordance with <b>SECTION 6.14</b> and Section 7.13.3 of the Kings Forest KPoM (JWA 2019).
Pre-clearing fauna trapping and fauna spotter catcher	Pre-clearing fauna trapping program as required.	Ecologist	<p>Prior to commencement of any vegetation clearing works a pre-clearing site inspection will be completed to identify and mark habitat trees or other habitat features within the clearing area in accordance with <b>SECTION 6.4</b>, Section 6.4 of the Precincts 1 - 5 VWMP (JWA 2020b) and Section 7.2 of the Precincts 1 - 5 TSMP (JWA 2020c).</p> <p>Subsequent to the site inspection, and immediately prior to commencement of site clearing works, a pre-clearing trapping program will be completed within any areas of relatively intact vegetation to be cleared in accordance with <b>SECTION 6.4</b>, Section 6.4 of the Precincts 1 - 5 VWMP (JWA 2020b), Section 7.2 of the Precincts 1 - 5 TSMP (JWA 2020c) and Section 7.2 of the Kings Forest WSFMP (JWA 2020a).</p>
	Appointment of fauna spotter catcher as required by <b>MP08_0194 Condition 96</b> .	Proponent	The proponent will appoint a suitably qualified fauna spotter catcher to conduct a pre-clearing site inspections and to be present during all clearing activities to rescue and relocate any native fauna species as necessary in accordance with <b>SECTION 6.4</b> , Section 7.2.2 of the Kings Forest KPoM (JWA 2019) and Section 7.2.3 of the Kings Forest WSFMP (JWA 2020a).
	Pre-clearing inspections as required by <b>EPBC_2012/6328 Condition 18</b> .	Fauna Spotter Catcher	Pre-clearing site inspections will be completed no more than one day prior to commencement of bulk earth moving activities within each precinct in accordance with <b>SECTION 6.4</b> , Section 7.2.2 of the Kings Forest KPoM (JWA 2019) and Section 7.2.3 of the Kings Forest WSFMP (JWA 2020a).
	A spotter catcher will be present during all vegetation clearing works in accordance with <b>MP08_0194 Condition 96</b> .	Principal contractor / Fauna Spotter Catcher	A suitably qualified fauna spotter catcher is to be present during all clearing activities to rescue and relocate any native fauna species as necessary in accordance with <b>SECTION 6.4</b> , Section 7.2.2 of the Kings Forest KPoM (JWA 2019) and Section 7.2.3 of the Kings Forest WSFMP (JWA 2020a).
	Construction phase fauna management procedures to be implemented as required.	Principal contractor / Fauna Spotter Catcher	Construction phase fauna management procedures are to be implemented in accordance with <b>SECTION 6.4</b> .
	Fauna Incident Reporting Protocols as required by <b>MP08_0194 Condition 76</b> .	Principal contractor	Any koala or WSF observation or incident within buffers during the construction phase will result in an observation/incident report in accordance with <b>SECTION 6.4.7</b> , Section 7.2.6 of the Kings Forest KPoM (JWA 2019) and Section 7.2.5 of the Kings Forest WSFMP (JWA 2020a).
Construction Phase Management Measures	All areas of vegetation to be cleared within each Precinct of the development will be clearly identified on construction plans and in the field prior to the commencement of construction.	Principal contractor/Site supervisor/Environmental Officer	All areas of vegetation to be cleared within each Precinct of the development will be clearly identified on construction plans and in the field prior to the commencement of construction in accordance with <b>SECTION 6.3</b> .

Management Strategy	Management Action	Responsibility	Performance Measure
Exclusion fencing and other infrastructure	Fauna exclusion fencing and other infrastructure to be installed and maintained in accordance with <b>MP08_0194 Conditions 46, 64, 121 and 148</b> and <b>EPBC_2012/6328 Conditions 2, 3, and 4</b> .	Principal Contractor/Site Supervisor	All fencing (temporary and permanent) and associated infrastructure to be constructed prior to commencement of bulk earthworks* in accordance with <b>SECTION 6.5</b> and Section 7.3.2 of the Kings Forest KPoM (JWA 2019).  Permanent fencing will replace temporary fencing where applicable at the end of the construction phase of the development of each applicable Precinct in accordance with <b>SECTION 6.5</b> and Section 7.3.2 of the Kings Forest KPoM (JWA 2019).
Re-use of topsoil	Seedbank translocation program to be implemented as required by <b>MP06_0318 - Condition C2</b> .	Principle Contractor / Suitably Qualified Bush Regeneration Company	Seedbank translocation program to be implemented in accordance with <b>SECTION 6.6</b> and Section 6.6 of the Precinct 1 - 5 VWMP (JWA 2020b).
Management of retained vegetation/habitat	Retained vegetation/habitat managed as required.	Suitably Qualified Bush Regeneration Company	Retained vegetation within the Precincts 1 - 5 ecological buffers will be protected and maintained in accordance with <b>SECTION 6.7</b> and the following documents where applicable: <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b) - Section 6.7;</li> <li>Kings Forest KPoM (JWA 2019) - Section 7.5; and</li> <li>Kings Forest WSFMP (JWA 2020a) - Section 7.7.</li> </ul>
Weed control	Weeds controlled as required.	Suitably Qualified Bush Regeneration Company	All weeds controlled in accordance with <b>SECTION 6.8</b> and Section 6.8 of the Precincts 1 - 5 VWMP (JWA 2020b).
Rehabilitation and compensatory habitat works	Rehabilitation works carried out as required.	Suitably Qualified Bush Regeneration Company	All regeneration/revegetation works (including compensatory koala and WSF habitat creation) to be carried out in accordance with <b>SECTION 6.9</b> and the following documents where appropriate: <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b) - Section 6.9;</li> <li>Kings Forest KPoM (JWA 2019) - Section 7.6; and</li> <li>Kings Forest WSFMP (JWA 2020a) - Section 7.8.</li> </ul>
Feral animal management	Feral animals controlled as required by <b>MP08-0194 Condition 44</b> .	Proponent (until ownership is transferred)	Feral animals controlled in accordance with <b>SECTION 6.12</b> and Section 8.5 of the Kings Forest FAMP (JWA 2020e).
Fire management	Reduction of fire risk.	Proponent (until ownership is transferred)	Fire risk to be managed in accordance with the approved Bushfire Management Plan (BushfireSafe 2020) and associated Kings Forest Koala Fire Management Plan (Wildsite 2020) ( <b>SECTION 6.11</b> ).
Monitoring and reporting	<p>Koala monitoring programs to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>WSF monitoring programs to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Retained vegetation monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Rehabilitation monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Threatened flora monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Threatened fauna monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Feral animal monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p>	Qualified Ecologist	<p>Ongoing monitoring programs and reporting completed in accordance with <b>SECTION 7</b> and the following management plans:</p> <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b): <ul style="list-style-type: none"> <li>Section 8.3 - Monitoring of retained vegetation; and</li> <li>Section 8.4 - Rehabilitation monitoring.</li> </ul> </li> <li>Precincts 1 - 5 TSMP (JWA 2020c): <ul style="list-style-type: none"> <li>Section 8.3.2 - Annual threatened flora monitoring; and</li> <li>Section 8.4.2 - Annual threatened fauna monitoring.</li> </ul> </li> <li>Precincts 1 - 5 FAMP (JWA 2020e) - feral animal monitoring (Section 9);</li> <li>Kings Forest KPoM (JWA 2019): <ul style="list-style-type: none"> <li>Section 8.2 - Koala activity monitoring;</li> <li>Section 8.4 - Compensatory koala habitat monitoring; and</li> <li>Section 8.5 - Koala infrastructure, construction and operational management monitoring.</li> </ul> </li> <li>Kings Forest WSFMP (JWA 2020a):</li> </ul>

Management Strategy	Management Action	Responsibility	Performance Measure
			<ul style="list-style-type: none"><li>- Section 8.3 - WSF monitoring; and</li><li>- Section 8.5 - Compensatory WSF habitat monitoring.</li></ul> Reports provided to relevant government agencies.
Environmental audits	Environmental Audits completed in accordance with <b>MP08_0194 Condition 49</b> .	Proponent / Independent Ecological Consultant	Environmental audits and associated reporting will be completed in accordance with Section 8.6.3 of the Kings Forest KPoM (JWA 2019).
Payment of bond and/or bank guarantee	In accordance with <b>MP08_0194 Condition 50</b> , a bond for the implementation of environmental management, with the exception of koala compensatory habitat, is to be lodged with TSC.	Proponent	Prior to commencement of bulk earth works for each precinct, and every two (2) years thereafter, a cash bond or bank guarantee shall be lodged with TSC to ensure that the relevant environmental management plans for the associated Potential Council Land (PCL) are implemented as detailed in <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPoM (JWA 2019).
	In accordance with <b>MP08_0194 Condition 45A (8) a)</b> , an additional bond or bank guarantee must be provided for the implementation of suitable conservation measures should the compensatory koala habitat not be provided in accordance with the requirements of the KPOM.	Proponent	A bond or bank guarantee must be paid to and held by the Secretary from the issue of the first Construction Certificate permitting the clearing of vegetation, until seven (7) years after the Proponent has demonstrated to the Secretary that the compensatory habitat has been provided in accordance with the requirement of the KPOM. Refer to <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPoM (JWA 2019).
Adaptive management	Adaptive Management strategies implemented as required.	Proponent	Adaptive Management Log detailing issues raised and any changes made to this management plan to be updated as monthly and included in the Annual Vegetation Monitoring Report and published on the project website in accordance with <b>SECTION 6.15</b> .
<p><u>Notes:</u></p> <p>* For the purpose of this project, <b>Condition B7</b> (Concept Plan Approval) and <b>Condition A13</b> of the Major Project Approval, commencement is taken to mean any physical works including clearing vegetation, the use of heavy duty equipment for the purpose of breaking ground for bulk earthworks, or infrastructure for the proposed project.</p>			



## 8.6 Implementation Table - Operational Phase

**TABLE 7**  
**BUFFER MANAGEMENT STRATEGIES – OPERATIONAL PHASE**

Management Strategy	Management Action	Responsibility	Performance Measure
Environmental Officer(s)/Community Liaison Officer	Environmental Officer(s)/ Community Liaison Officer to oversee environmental compliance until all conditions have been satisfied as required by <b>MP08_0194 Condition 70</b> .	Environmental Officer(s)/Community Liaison Officer	Duties of the Environmental Officer(s)/Community Liaison Officer completed in accordance with <b>SECTION 6.14</b> and Section 7.13.3 of the Kings Forest KPoM (JWA 2019).
Exclusion fencing and other infrastructure	Fauna exclusion fencing and other infrastructure to be maintained in accordance with <b>MP08_0194 Conditions 46, 64, 121 and 148</b> and <b>EPBC_2012/6328 Conditions 2, 3, and 4</b> .	Principal Contractor/Site Supervisor	All fencing and associated infrastructure to be maintained in accordance with <b>SECTION 6.5</b> and Section 7.3.2 of the Kings Forest KPoM (JWA 2019).
Management of retained vegetation/habitat	Retained vegetation/habitat managed as required.	Suitably Qualified Bush Regeneration Company	Retained vegetation within the Precincts 1 - 5 ecological buffers will be protected and maintained in accordance with <b>SECTION 6.7</b> and the following documents where applicable: <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b) – Section 6.7;</li> <li>Kings Forest KPoM (JWA 2019) – Section 7.5; and</li> <li>Kings Forest WSFMP (JWA 2020a) – Section 7.7.</li> </ul>
Weed control	Weeds controlled as required.	Suitably Qualified Bush Regeneration Company	All weeds controlled in accordance with <b>SECTION 6.8</b> and Section 6.8 of the Precincts 1 - 5 VWMP (JWA 2020b).
Rehabilitation and compensatory habitat works	Rehabilitation works completed as required.	Suitably Qualified Bush Regeneration Company	All regeneration/revegetation works (including compensatory koala and WSF habitat creation) to be completed in accordance with <b>SECTION 6.9</b> and the following documents where appropriate: <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b) – Section 6.8;</li> <li>Kings Forest KPoM (JWA 2019) – Section 7.6; and</li> <li>Kings Forest WSFMP (JWA 2020a) – Section 7.8;</li> </ul>
Feral animal management	Feral animals controlled as required by <b>MP08-0194 Condition 44</b> .	Proponent (until ownership is transferred)	Feral animals controlled in accordance with <b>SECTION 6.12</b> and Section 8.5 of the Kings Forest FAMP (JWA 2020e).
Fire management	Reduction of fire risk.	Proponent (until ownership is transferred)	Fire risk to be managed in accordance with the approved Bushfire Management Plan (BushfireSafe 2020) and associated Kings Forest Koala Fire Management Plan (Wildsite 2020) ( <b>SECTION 6.11</b> ).
Monitoring and Reporting	<p>Koala monitoring programs to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>WSF monitoring programs to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Retained vegetation monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Rehabilitation monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Threatened flora monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p> <p>Threatened fauna monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b>.</p>	Qualified ecologist	Ongoing monitoring programs and reporting completed in accordance with <b>SECTION 7</b> and the following management plans: <ul style="list-style-type: none"> <li>Precincts 1 - 5 VWMP (JWA 2020b): <ul style="list-style-type: none"> <li>Section 8.3 - Monitoring of retained vegetation; and</li> <li>Section 8.4 - Rehabilitation monitoring.</li> </ul> </li> <li>Precincts 1 - 5 TSMP (JWA 2020c): <ul style="list-style-type: none"> <li>Section 8.3.2 - Annual threatened flora monitoring; and</li> <li>Section 8.4.2 - Annual threatened fauna monitoring.</li> </ul> </li> <li>Precincts 1 - 5 FAMP (JWA 2020e) - feral animal monitoring (Section 9);</li> <li>Kings Forest KPoM (JWA 2019): <ul style="list-style-type: none"> <li>Section 8.2 - Koala activity monitoring;</li> <li>Section 8.4 - Compensatory koala habitat monitoring; and</li> <li>Section 8.5 - Koala infrastructure, construction and operational management monitoring.</li> </ul> </li> </ul>

Management Strategy	Management Action	Responsibility	Performance Measure
	Feral animal monitoring program to be completed across the entire site in accordance with <b>MP08_0194 Condition 37</b> .		<ul style="list-style-type: none"><li>• Kings Forest WSFMP (JWA 2020a):<ul style="list-style-type: none"><li>- Section 8.3 - WSF monitoring; and</li><li>- Section 8.5 - Compensatory WSF habitat monitoring.</li></ul></li></ul> Reports provided to relevant government agencies.
Environmental Audits	Environmental Audits completed in accordance with <b>MP08_0194 Condition 49</b> .	Proponent / Independent Ecological Consultant	Environmental audits and associated reporting will be completed in accordance with Section 8.6.3 of the Kings Forest KPOM (JWA 2019).
Payment of bond and/or bank guarantee	In accordance with <b>MP08_0194 Condition 50</b> , a bond for the implementation of environmental management, with the exception of koala compensatory habitat, is to be lodged with TSC.	Proponent	Prior to commencement of bulk earth works for each precinct, and every two (2) years thereafter, a cash bond or bank guarantee shall be lodged with TSC to ensure that the relevant environmental management plans for the associated Potential Council Land (PCL) are implemented as detailed in <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPOM (JWA 2019).
	In accordance with <b>MP08_0194 Condition 45A (8) a)</b> , an additional bond or bank guarantee must be provided for the implementation of suitable conservation measures should the compensatory koala habitat not be provided in accordance with the requirements of the KPOM.	Proponent	A bond or bank guarantee must be paid to and held by the Secretary from the issue of the first Construction Certificate permitting the clearing of vegetation, until seven (7) years after the Proponent has demonstrated to the Secretary that the compensatory habitat has been provided in accordance with the requirement of the KPOM. Refer to <b>SECTION 6.13</b> and Section 7.6.7 the Kings Forest KPOM (JWA 2019).
Adaptive management	Adaptive Management strategies implemented as required.	Proponent	Adaptive Management Log detailing issues raised and any changes made to this management plan to be updated as monthly and included in the Annual Vegetation Monitoring Report and published on the project website in accordance with <b>SECTION 6.15</b> .

## 9 INDICATIVE COSTINGS

Indicative costings<sup>1</sup> for all works to be completed with the Precincts 1 - 5 buffers during the establishment phase and maintenance phase are detailed within additional Management Plans as follows:

- Installation and maintenance of koala infrastructure, koala compensatory habitat works and koala monitoring and reporting requirements (where relevant) - Section 10 of the Kings Forest KPoM (JWA 2019);
- Wallum sedge frog compensatory habitat works and koala monitoring and reporting requirements (where relevant) - Section 10 of the Kings Forest WSFMP (JWA 2020a);
- Management and monitoring of retained vegetation, revegetation and compensatory habitat areas (where relevant) - Section 10 of the Precincts 1 - 5 VWMP (JWA 2020b); and
- Feral animal management (where relevant) - Section 8 of the FAMP (JWA 2020e).

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<sup>1</sup> Proposed to be funded from the proponents ongoing cash flow during the development



## REFERENCES

- BushfireSafe (2020) *Bushfire Management Plan for Proposed Residential/Commercial Development Kings Forest Stage 1*. Report prepared for Project 28 Pty Ltd.
- Callaghan J., de Jong C. and Mitchell D. (2005) *Kings Forest Ecological Assessment*. Report prepared for Tweed Shire Council by the Australian Koala Foundation.
- Gilbert and Sutherland (G&S) (2020a) *Summary of Management Plans*. Kings Forest New South Wales. Report prepared for Project 28 Pty Ltd.
- Gilbert and Sutherland (G&S) (2020b) *Overall Water Management Plan, Kings Forest New South Wales*. Report prepared for Project 28.
- Gilbert and Sutherland (G&S) (2020c) *Erosion and Sediment Control Plan Kings Forest New South Wales*. Report prepared for Project 28.
- JWA (2009) *Buffer Management Plan, Kings Forest*. Report prepared for Project 28 Pty Ltd.
- JWA (2019) *Koala Plan of Management, Kings Forest (Volume 1 and 2)*. Report prepared for Project 28 Pty Ltd.
- JWA (2020a) *Wallum Sedge Frog Management Plan, Kings Forest*. Report prepared for Project 28 Pty Ltd.
- JWA (2020b) *Kings Forest Precincts 1 - 5 Vegetation and Weed Management Plan*. Report prepared for Project 28 Pty Ltd.
- JWA (2020c) *Kings Forest Precincts 1 - 5 Threatened Species Management Plan*. Report prepared for Project 28 Pty Ltd.
- JWA (2020d) *Kings Forest Flora and Fauna Monitoring Report*. Report prepared for Project 28 Pty Ltd.
- JWA (2020e) *Kings Forest Feral Animal Management Plan*. Report prepared for Project 28 Pty Ltd.
- Kingston M.B., Turnbull J.W. and Hall P.W. (2004) *Tweed Vegetation Management Strategy. Volumes 1, 2 and 3 - Strategy Plan*. Report prepared for Tweed Shire Council by Ecograph.
- Mortons Urban Solutions (MUS) (2020) *Kings Forest Construction Environmental Management Plan*. Report prepared for Project 28 Pty Ltd.
- Skull S. (1995) *Plants of the Melaleuca woodlands*. James Cook University of North Queensland, Townsville.

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Thom R.M. (1997) System-development matrix for adaptive management of coastal ecosystem restoration projects. *Ecological Engineering* **8**:219-232.

Warren J. (2000) *Species Impact Statement for the Proposed Kings Forest Development*. Report prepared for Narui Gold Coast by James Warren and Associates Pty Ltd.

Wildsite Ecological Services (2020) *Kings Forest Koala Fire Management Plan*. Report prepared for Project 28 Pty Ltd by Wildsite Ecological Services.

## APPENDIX 1 - COMPLIANCE WITH RELEVANT APPROVAL CONDITIONS

CONDITION	SECTION OF BMP
<p><b>Concept Plan Approval - Condition B3</b></p> <p><i>Heathland is to be provided with long-term protection and allowed to naturally regenerate on the site.</i></p> <p><i>The heathland to be protected is to be that contained within the 50m ecological buffer in the locations depicted as 'Heath to be Naturally Regenerated' in Figure 12 of the Buffer Management Plan for Precinct 1 &amp; 5 titled 'Revised Heath Regeneration and Revegetation Areas' drawn by James Warren and Associates and dated 20 August 2012 and Figure 9 of the Buffer Management Plan for Precincts 2-4 &amp; 6-14 titled 'Revised Heath Regeneration and Revegetation Areas' drawn by James Warren and Associates and dated 20 August 2012. The heathland in these locations is to be protected and regenerated for the full 50m width of the ecological buffer.</i></p>	<p>All Rehabilitation/Regeneration works to be carried out within Precincts 1 - 5 ecological buffers will be completed in accordance with the following documents where appropriate:</p> <ul style="list-style-type: none"> <li>• Kings Forest Precincts 1 - 5 VWMP (JWA 2020b);</li> <li>• Kings Forest KPoM (JWA 2019); and</li> <li>• Kings Forest WSFMP (JWA 2020a).</li> </ul>
<p><b>Concept Plan Approval - Condition C2</b></p> <p><i>Buffer Management Plan</i></p> <p><i>Each Buffer Management Plan update is to detail bushfire protection measures, access control, signage and fencing.</i></p>	<p>This Precincts 1 - 5 BMP provides details of:</p> <ul style="list-style-type: none"> <li>• Bushfire protection measures (<b>SECTION 6.11</b>);</li> <li>• Access control (<b>SECTION 6.5</b>); and</li> <li>• Signage and fencing to protect vegetation during the pre-construction, construction, and operational phases (<b>SECTION 6.5</b>).</li> </ul>
<p><b>Major Project Approval - Condition 39</b></p> <p><i>1) All Environmental Management Plans shall be revised to address management actions to be undertaken throughout the life of the project as relevant to the development precincts that the plan covers. This includes a detailed set of agreed establishment and maintenance phase performance completion criteria, ongoing monitoring and an annual maintenance schedule of works following the initial establishment period.</i></p> <p><i>2). Performance criteria for all management plans are reviewed to ensure they are specific to each precinct and action, measurable, achievable, relevant and timely.</i></p>	<p>1) All Environmental Management Plans have been updated as required.</p> <p>2) Refer Precincts 1 - 5 VWMP (JWA 2020b)</p>



CONDITION	SECTION OF BMP
<p>3) The implementation schedule of all Environmental Management Plans shall be revised to include the following details as relevant to the precincts that the plan covers:</p> <ul style="list-style-type: none"> <li>a. Actions that are specific to the precinct for which they are addressing</li> <li>b. Specific map references to identify locations of works for all actions</li> <li>c. Total areas to be planted (m2)</li> <li>d. Planting density (per m2)</li> <li>e. Number of permanent signs to be erected and maintained</li> <li>f. Total areas for weed management activities (m2)</li> <li>g. Length of any fencing (temporary and permanent)</li> <li>h. Total areas for heath regeneration and revegetation (m2)</li> <li>i. Locations and areas (m2) of proposed threatened species habitat</li> <li>j. Timing and frequency of actions</li> <li>k. Monitoring requirements (frequency) that are specific to the action.</li> </ul>	<p>3)</p> <ul style="list-style-type: none"> <li>a. The work plans and schedules in <b>SECTIONS 6 and 7</b> identifies actions related to Precincts 1 - 5.</li> <li>b. Locations applicable to the actions within this BMP are shown in <b>FIGURE 11</b>.</li> <li>c. Refer Precincts 1 - 5 VWMP (JWA 2020b)</li> <li>d. Refer Precincts 1 - 5 VWMP (JWA 2020b)</li> <li>e. Refer Precincts 1 - 5 VWMP (JWA 2020b)</li> <li>f. Refer Precincts 1 - 5 VWMP (JWA 2020b).</li> <li>g. Refer to the Kings Forest KPoM (JWA 2019).</li> <li>h. Refer Precincts 1 - 5 VWMP (JWA 2020b)</li> <li>i. Not applicable to this BMP.</li> <li>j. timing and frequency of actions are detailed in <b>SECTION 8</b>.</li> <li>k. Refer Precincts 1 - 5 VWMP (JWA 2020b)</li> </ul>
<p><b>Major Project Approval - Condition 41</b></p> <p>1) Figures 10 and 10A to 10L shall be revised as necessary to ensure that spatial overlap of heath revegetation, Koala food tree planting and Wallum Sedge Frog compensatory habitat is minimised.</p> <p>2) Tree plantings are to be minimised in areas that are identified as naturally regenerating.</p> <p>3) The final Buffer Management Plans shall be prepared in consultation with Council and submitted to the Secretary for approval within 6 months of the date of determination of the application (No. 2012/2328) made under sections 130(1) and 133 of the Commonwealth Environment Protection and Biodiversity Conservation Act or prior to issue of any construction certificate, whichever occurs first.</p>	<p>1) Rehabilitation/Regeneration works on the site have been revised in order to reduce spatial overlap of heath revegetation/ regeneration areas with koala food tree plantings and wallum sedge frog created habitat as far as practical. Rehabilitation/Regeneration works on the site are detailed in <b>SECTION 6.9</b> and the following documents:</p> <ul style="list-style-type: none"> <li>• Kings Forest Precincts 1 - 5 VWMP (JWA 2020b);</li> <li>• Kings Forest KPoM (JWA 2019); and</li> </ul>

CONDITION	SECTION OF BMP
	<ul style="list-style-type: none"><li>• Kings Forest WSFMP (JWA 2020a).</li></ul> <p>2) Rehabilitation/Regeneration works on the site have been revised following detailed site investigations as part of the preparation of the Kings Forest KPoM (JWA 2019). Tree plantings have been avoided where possible within areas that were identified as containing a significant level of naturally regeneration. Rehabilitation/Regeneration works on the site are detailed in <b>SECTION 6.9</b> and the following documents:</p> <ul style="list-style-type: none"><li>• Kings Forest Precincts 1 - 5 VWMP (JWA 2020b);</li><li>• Kings Forest KPoM (JWA 2019); and</li><li>• Kings Forest WSFMP (JWA 2020a).</li></ul> <p>3) The BMP has been prepared in consultation with TSC.</p>

## APPENDIX 2 - ADDITIONAL KINGS FOREST MANAGEMENT PLANS AND THEIR RELATIONSHIP TO THE PRECINCT 1 - 5 BMP

Management Plan	Relationship to the Precincts 1 - 5 BMP
Kings Forest Koala Plan of Management (JWA 2019)	<p>The aim of the Kings Forest KPoM is to protect and conserve the koala population in the Kings Forest area to ensure its ongoing survival through appropriate management of project impacts. The objectives are:</p> <ul style="list-style-type: none"> <li>• To ensure that the proposed development does not remove significant areas of habitat known, or likely to be important for the local koala population;</li> <li>• To ensure that movement corridors for the local koala population are maintained and/or improved;</li> <li>• To protect individual koalas from injury or other adverse impacts during the development phase;</li> <li>• To embellish the habitat values of the site, including the creation of koala habitat as part of a comprehensive offset strategy;</li> <li>• To protect, restore and provide for ongoing maintenance of existing koala habitat;</li> <li>• To ensure that changes in the local environment resulting from the proposed development (e.g. additional traffic, introduction of dogs) do not significantly impact on the local koala population;</li> <li>• To ensure that koalas continue to utilise habitat at Kings Forest;</li> <li>• To ensure appropriate monitoring and management programs are undertaken;</li> <li>• To raise awareness and promote community ownership of environmental management (including the conservation of the local koala population);</li> <li>• Compliance with relevant conditions; and</li> <li>• Further revision of the KPoM as appropriate.</li> </ul>



Management Plan	Relationship to the Precincts 1 - 5 BMP
Kings Forest Wallum Sedge Frog Management Plan (JWA 2020a)	<p>The aim of the Kings Forest WSFMP is to protect and conserve the WSF population in the Kings Forest area to ensure the ongoing survival of the population through appropriate management of project impacts. The objectives are:</p> <ul style="list-style-type: none"> <li>• To ensure that the proposed development does not remove areas of habitat outside of approved clearing areas;</li> <li>• To ensure that movement corridors for the local WSF population are maintained and/or improved;</li> <li>• To protect WSF from injury or other adverse impacts associated with the construction phase of the development through the implementation of appropriate management actions;</li> <li>• To improve the habitat values of the site, including the creation of WSF habitat as part of a comprehensive and staged offset strategy;</li> <li>• To protect WSF from injury or other adverse impacts associated with the operational (post-construction) phase of the development through the implementation of appropriate management actions;</li> <li>• To ensure that WSF continue to utilise habitat at Kings Forest by way of providing for effective monitoring of performance in relation to the provisions of this WSFMP;</li> <li>• To raise awareness and promote community ownership of environmental management (including the conservation of the local WSF population);</li> <li>• Compliance with relevant conditions; and</li> <li>• Revision of the WSFMP as appropriate.</li> </ul>
Kings Forest Precincts 1 - 5 Vegetation and Weed Management Plan (JWA 2020b)	The VWMP is intended to assist Project 28 in managing existing native vegetation and other environmentally sensitive areas within the Precincts 1 - 5 and associated EMA's, and the proposed East-West Corridor on the Kings Forest site before, during and after development. The aim of this

Management Plan	Relationship to the Precincts 1 - 5 BMP
	<p>VWMP is to develop a comprehensive and integrated approach to guide the immediate and long-term management of retained and compensatory native vegetation within EMA's and to ensure its protection and enhancement. Specific objectives of this VWMP are to:</p> <ul style="list-style-type: none"> <li>• Protect the environmentally significant site values of areas associated with Precincts 1 - 5 from bulk earthworks and construction activities;</li> <li>• Remove vegetation from the development footprint in a controlled and an environmentally sustainable way;</li> <li>• Provide permanent protection for the environmentally significant values within EMAs associated with Precincts 1 - 5 and the proposed East-West Corridor (i.e. threatened flora and fauna species, endangered ecological communities, and wetlands);</li> <li>• Manage noxious and environmental weeds in an environmentally sustainable manner and prevent the further spread of weeds resulting from the development of Precincts 1 - 5;</li> <li>• Utilise assisted natural regeneration where appropriate;</li> <li>• Restore, enhance and manage the retained and protected vegetation including providing guidelines for the revegetation of EMAs and the Cudgen Nature Reserve where required; and</li> <li>• Monitor the condition of retained and rehabilitated vegetation to assess if the project completion criteria have been met and report where appropriate.</li> </ul>
Kings Forest Precincts 1 - 5 Threatened Species Management Plan (JWA 2020c)	<p>The TSMP has been prepared to address the management of other threatened species and their habitat/s occurring in in EMAs within Precincts 1 - 5. The TSMP contains the following objectives:</p> <ul style="list-style-type: none"> <li>• weed control measures specific to areas containing listed threatened flora and fauna;</li> <li>• guidelines for the control of human and animal access to areas containing threatened species;</li> <li>• strategies for the embellishment of threatened species habitat through revegetation works and/or the creation of compensatory habitat areas where required.</li> </ul>

Management Plan	Relationship to the Precincts 1 - 5 BMP
Kings Forest Flora and Fauna Monitoring Report (JWA 2020d)	The Kings Forest Flora and Fauna Monitoring Report summarises all flora and fauna monitoring requirements of the development including the Koala monitoring program.
Kings Forest Feral Animal Management Plan (JWA 2020e)	<p>The aim of the FAMP is to develop a comprehensive and integrated approach to guide the immediate and long-term management of feral animals within EMAs associated with the development of the Kings Forest site and to ensure the protection of native fauna species, with a primary focus on threatened species. Specific objectives of the FAMP are to:</p> <ul style="list-style-type: none"> <li>• Review relevant literature on feral animal control;</li> <li>• Identify feral animals which have been recorded at the site;</li> <li>• Prioritise species considered to warrant priority management;</li> <li>• Examine control and/or eradication methods for 'high priority' feral animals; and</li> <li>• Recommend long-term control methods, including monitoring and reporting.</li> </ul>
Kings Forest Stage 1 Bushfire Management Plan (BushfireSafe 2020)	A fundamental strategy of the Kings Forest Stage 1 Bushfire Management Plan is to assess and manage fuel loads within the Kings Forest site. The risk of high intensity fires will be reduced through controlled low intensity burns or mechanical means if and where appropriate. High-intensity hazard reduction burns and wildfires that result in crown scorch or crown fires should be avoided.
Kings Forest Koala Fire Management Plan (Wildsite 2020)	The Kings Forest Koala Fire Management Plan details fire management strategies for koala habitat areas on the Kings Forest site. The aim of this plan is to protect and conserve the population and habitat of koalas and other associated biodiversity values in the Kings Forest area through the restoration and maintenance of appropriate fire regimes.
Construction Environmental Management Plan (MUS 2020)	The Construction Environmental Management Plan provides details sufficient to understand and avoid, mitigate and remedy all potential environmental impacts of the project during construction.
Kings Forest Summary of Management Plans (G&S 2020a)	The Kings Forest SOMP has been prepared to summarise all of the management requirements of the various management plans.