

OFFSET MANAGEMENT PLAN

Lockyer Energy Project

.....
November 2022
.....



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DECLARATION OF ACCURACY

EPBC number - 2017/7994.

Project name - Lockyer Energy Project.

Proponent /approval holder - Capital Partners Australia Pty Limited.

ACN or ABN - ACN: 152 374 895.

The proposed/approved action - To develop a natural gas-fired power generation plant, 2.5 km north of Gatton, Queensland.

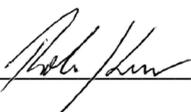
Location of the action - Ranger Road, Adare (Lot 191 on CSH2361)

Date of preparation of the management plan - 22 November 2022 (Version 2.0)

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

I declare that the information within this Offset Management Plan is true and has been prepared in accordance with the Environmental Management Plan Guidelines and the conservation advice for koalas.

Signed



Full name (please print) Robert Kerr

Position (please print) Director

Organisation Capital Partners Australia Pty Limited.
A.C.N. 152 374 895

Date 22 / Nov / 2022



490 Providing false or misleading information in response to a condition on an approval or permit

(1) A person is guilty of an offence if:

- (a) the person is the holder of an environmental authority; and
- (b) a condition attached to the environmental authority requires the person to provide information; and
- (c) the person provides information in response (or purportedly in response) to the requirement; and
- (d) the person is reckless as to whether the information is false or misleading in a material particular.

Note: The fault element in paragraph (1)(d) can be demonstrated by proof of knowledge. See subsection 5.4(4) of the *Criminal Code*.

(2) The offence is punishable on conviction by:

- (a) imprisonment for a term not more than 2 years, a fine not more than 120 penalty units, or both, if it is proved the person knew the information was false or misleading; or
- (b) imprisonment for a term not more than 1 year, a fine not more than 60 penalty units, or both, if it is proved the person was reckless as to whether the information was false or misleading.

Note: Subsection 4B(3) of the *Crimes Act 1914* lets a court fine a body corporate up to 5 times the maximum amount the court could fine a person under this subsection.

491 Providing false or misleading information to authorised officer etc.

(1) A person is guilty of an offence if the person:

- (a) provides information or a document to another person (the **recipient**); and
- (b) knows the recipient is:
 - (i) an authorised officer; or
 - (ii) the Minister; or
 - (iii) an employee or officer in the Department; or
 - (iv) a commissioner; performing a duty or carrying out a function under this Act or the regulations; and
- (c) knows the information or document is false or misleading in a material particular.

(2) The offence is punishable on conviction by imprisonment for a term not more than 1 year, a fine not more than 60 penalty units, or both.

Note: Subsection 4B(3) of the *Crimes Act 1914* lets a court fine a body corporate up to 5 times the maximum amount the court could fine a person under this subsection.

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1 INTRODUCTION

The following Offset Management Plan (OMP) has been prepared by Litoria Consulting on behalf of Lockyer Energy Management Pty Ltd for the offset requirements as set out in *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) referral 2017/7994 for the construction of a natural gas-fired power generation plant.

The development is to be constructed on land described as Ranger Road, Adare (Lot 191 on CSH2361). As part of the EPBC approval, vegetation, including remnant and regrowth areas, is to be retained as an offset described as Offset Area A (remnant) and Offset Area B (regrowth). Figure 1 shows an aerial photo of the site and the offset areas. The offset will permanently secure 41.52 hectares of koala habitat.

The purpose of the OMP is to set out a management strategy, management and monitoring actions and performance criteria to assist in achieving compliance with the EPBC Act approval (EPBC referral 2017/7994, approval decision date 29 January 2018).

In carrying out their activities on site, all contractors must ensure that all reasonable and practicable measures are taken to prevent or minimise the likelihood of environmental harm being caused. The OMP provides contractors with guidance for their relevant activities and ensures that all works are managed to prevent and to minimise any adverse effects on the environment, particularly on the Koala and Grey-headed Flying-fox and their respective habitats. This will be achieved by identifying and reducing environmental risks, providing appropriate training for all contractors, and promoting environmental awareness.

The OMP covers all environmental aspects associated with the offset works. Monitoring and reporting requirements, corrective actions and key responsibilities are also outlined.

The OMP covers management procedures across key environmental themes that will be the focus of management:

- Habitat rehabilitation and regeneration;
- Weed management;
- Feral, domestic animal and livestock;
- Fire management;
- Koala habitat management;
- Erosion management;
- Boundary fence management;
- Air quality management;
- Noise management; and,
- Waste management.

This OMP aims to ensure that the information contained within this management plan is consistent with all conditions as set out in Section 2. Where the OMP imposes a higher standard of environmental performance than the standard required under the conditions of this approval, the contractor or registered operator must follow the requirements as set out in the OMP.

Offset Management Plan
Lockyer Energy Project

To the extent of any inconsistency between the OMP and any condition(s) of this approval, other than where the inconsistency is of a type authorised under condition General 6 of the approval conditions, or any law of the State or Commonwealth in force at the relevant time, the OMP is invalid.

If the of this approval, the higher standard stated in the OMP must be adhered to. OMP imposes a higher standard of environmental performance than the standard required under the conditions.

The OMP has been prepared in accordance with the requirements of the following technical guidelines and legislation:

- EPBC Act referral guidelines for the vulnerable Koala (Department of the Environment 2014);
- EPBC Act Administrative guidelines on significance for the Grey-Headed Flying-Fox (Department of the Environment and Heritage 2003);
- National Recovery Plan for the Grey-headed Flying-fox '*Pteropus poliocephalus*', (Department of Agriculture Water and the Environment 2021);
- EPBC Act Environmental offsets policy, (Department of Sustainability Environment Water Population and Communities 2012);
- Guide to determining terrestrial habitat quality. A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy. Version 1.2. (State of Queensland 2017);
- Queensland Environmental Offsets Act 2014; and,
- Queensland Environmental Offsets Regulation 2014.

The OMP has been prepared in accordance with the relevant approval and the Australian Government's Environmental Management Plan Guidelines (Commonwealth of Australia 2014) and conservation advice for Koalas. The OMP follows the guidelines as set out in the Australian Government's Environmental Management Plan Guidelines, and also follows the general principles for the preparation of an environmental management plan, such as:

- Be balanced, objective and concise;
- State any limitations that apply, or should apply, to the use of the information in the environmental management plan;
- Identify any matter in relation to which there is a significant lack of relevant information or a significant degree of uncertainty;
- Include adaptive management strategies for managing uncertainty;
- Be written in a way that is easily understood by other parties;
- Clearly present how conclusions about risks have been reached;
- Ensure that the person taking the action takes full responsibility for the content and commitments contained in the plan.

The OMP is divided into the following sections:

- Conditions of approval;
- Project description;
- Environmental management roles and responsibilities;
- Environmental training;
- Emergency contacts and procedures;

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- Potential environmental impacts and risks;
- Offset background;
- Offset strategy;
- Management actions and performance criteria;
- Monitoring, auditing and reporting;
- Adaptive management and OMP review; and,
- Glossary of terms

As a condition of approval, the OMP is to be published on the approval holder's website and is made available prior to the commencement of works.

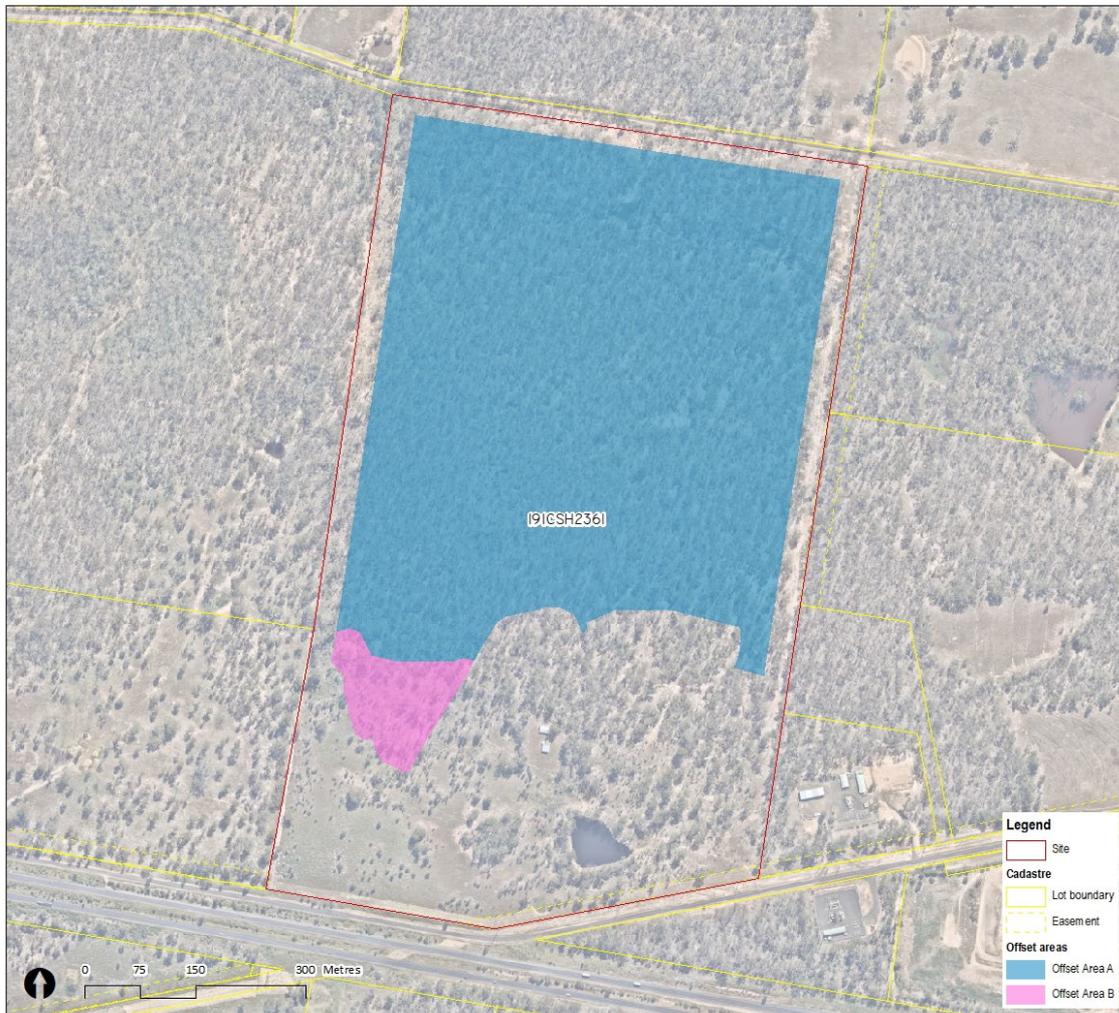


Figure 1. Offset areas (Image date: 15 April 2020) (Nearmap 2020).

2 CONDITIONS OF APPROVAL

Table 1 outlines the relevant conditions of the Planning and Environment Court decision (No. 2606 of 2010) and the Federal EPBC Act approval (2017/7994, approval decision date 29 January 2018), along with the sections of this OMP that address each of the conditions. Copies of the approvals are attached in Appendix 1 and 2.

Table 1: EPBC Approval Act conditions.

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|---------------|---|----------------|---|
| MCU 10 | Clearing of vegetation shall only occur within areas identified on Vegetation Clearing Plan 4122282- L007 prepared by GHD and dated 28 May 2010 and in accordance with the requirements of the Department of Environmental Resource Management as a referral agency. | Section 10 | The Management Actions and Performance Criteria section addresses restrictions on vegetation clearing. |
| MCU 15 | Within Area B as defined by the Department of Environmental Resource Management approval map RARP2009/009249, the developer shall provide wildlife friendly fencing that allows the movement of macropods, Koalas and Gliders. This fencing must also be designed to reduce possible injury to native wildlife. Within the balance of the lot, the applicant must utilise wildlife friendly fencing that is designed to minimise possible injury to native wildlife. | Section 10 | The Management Actions and Performance Criteria section addresses Offset Area fencing requirements. |
| MCU 16 | Except where amended by conditions of this approval all rehabilitation and landscaping works are to be undertaken in accordance with: <ul style="list-style-type: none"> A. Westlink Power Project Landscape Management and Revegetation Plan Rev 0 prepared by GHD and dated 23 February 2010. B. Westlink Power Project Draft Landscape Specification Rev 0 prepared by GHD and dated 23 February 2010. C. Westlink Power Project Visual Impact Rev 0 and Landscape Assessment prepared by GHD and dated 31 August 2009. D. Westlink Power Project Visual Impact and Landscape Assessment Addendum prepared by GHD and dated February 2010. Vegetation Clearing Plan 41-22282-L007 prepared by GHD and dated 28 May 2010. | Section 10 | The Management Actions and Performance Criteria section addresses rehabilitation and landscaping works. |
| MCU 34 | All stormwater management and drainage infrastructure shall be designed by an RPEQ generally in accordance with: | Section 10 | The Management Actions and Performance Criteria section |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|---------------------|--|----------------|--|
| | <ul style="list-style-type: none"> A. A. Westlink Power Project Stormwater Management Plan Rev 0 prepared by GHD and dated 23 February 2010; B. Gatton Shire Council Planning Scheme; C. Queensland Urban Drainage Manual; and D. Any other detail or documentation required to be included in the Operational Works application by conditions of this approval. | | addresses stormwater management. |
| MCU 35 | Stormwater drainage structures shall be designed so that there is 'no worsening' of runoff beyond that which occurs on the existing undeveloped site. | Section 10 | The Management Actions and Performance Criteria section addresses stormwater drainage structures. |
| MCU 37 | All devices shall be installed on the development site and responsibility for maintenance shall rest with the relevant site manager. Details of required operation and maintenance procedures shall be supplied for future Council reference if required. | | |
| MCU 39 | Ponding of stormwater must not occur on the subject land, adjoining allotments or road reserve unless specifically conditioned as part of this development approval or the subsequent approval for Operational Works. | Section 10 | The Management Actions and Performance Criteria section addresses ponding of stormwater. |
| MCU 40 | Erosion and sediment control measures shall be provided generally in accordance with Westlink Power Project Erosion Management Plan Rev 0 prepared by GHD and dated 23 February 2010. | Section 10 | The Management Actions and Performance Criteria section addresses erosion and sediment control. |
| MCU 42 | All unlined open drains on the site and along Fords Road adjacent to the site shall be stabilised with vegetation upon completion in accordance with Table 9.05.3 of QUDM. | Section 10 | The Management Actions and Performance Criteria section addresses open drain stabilisation. |
| MCU DERM 2.1 | Clearing of assessable native vegetation is limited to Area A as shown on the attached Referral Agency Response (Vegetation) Plan that has the reference RARP2009/009249 | Section 10 | The Management Actions and Performance Criteria section addresses restrictions on vegetation clearing. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|---------------------------|---|--------------------------|---|
| MCU DERM 2.3 | <p>No clearing as a result of the Material Change of Use is to occur within the area shown as Area B on the attached Referral Agency Response (Vegetation) Plan that has the reference RARP2009/009249, unless the clearing is—</p> <ul style="list-style-type: none"> • By fire under the Fire and Service Rescue Service Act 1990 to reduce hazardous fuel loads or an activity under the Fire Service and Rescue Act 1990, section 53, 68 or 69; or, • Where it is necessary to remove or reduce the imminent risk that the vegetation poses to serious personal injury or damage to property; or, • To establish a firebreak to protect the Westlink Power station as shown on site plan titled 'Plan Layout Option 1' prepared by GHD, drawing number 41-2139-SK004 Rev E, dated 3 December 2009 for a maximum width not exceeding 1.5 times the height of the tallest vegetation adjacent to the infrastructure, or 20 metres, whichever is the greater; and, • To give effect to any subsequent development approvals for operational works that is the clearing of native vegetation. | Section 9, Section 10 | The Offset Strategy section and the Management Actions and Performance Criteria sections describe the areas within the project site that are to be used for the Offset Area and also include fire break management. |
| MCU DERM 2.9 | Site briefings for all construction staff must occur prior to any major works and before commencement of works daily to discuss approved clearing processes and provide clear understanding of areas to be protected from construction. | Section 10 | The Offset Area Management section addresses site briefings requirements. |
| MCU DERM General 1 | In carrying out the activity to which this approval relates, all reasonable and practicable measures must be taken to prevent or to minimise the likelihood of environmental harm being caused. | All Sections | Addressed throughout the OMP. |
| MCU DERM General 5 | From commencement of the activity to which this approval relates, a site based management plan that addresses the following matters must be implemented — | All Sections | This OMP is the site-based management plan. It covers all matters listed in this approval condition. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------------------|---|------------------|---|
| | <ul style="list-style-type: none"> (a) environmental commitments – a commitment by the person undertaking the activity to which the approval relates to achieve environmental goals stated in the plan and undertake continuous improvement in the overall environmental performance of the environmentally relevant activity; (b) identification of environmental issues (including all sources or potential sources of environmental harm) and potential impacts of those issues on the environment; (c) control measures for routine operations and all sources of actual or potential environmental harm mentioned in (b) to prevent or minimise the likelihood of environmental harm; (d) contingency plans and emergency procedures for non-routine situations; (e) organisational structure and responsibility; (f) effective communication; (g) monitoring of contaminant releases; (h) conducting environmental impact assessments; (i) staff training; (j) record keeping; (k) periodic review of environmental performance with the terms of the site based management plan and benchmarks against which compliance can be measured; and (l) commitment by the operator to undertake continuous improvement in the overall environmental performance of the environmentally relevant activity. | | |
| <p>MCU DERM General 6</p> | <p>The site based management plan, or any amendments made to it, must not be inconsistent with any condition(s) of this approval if the inconsistency would result in a lower standard</p> | <p>Section 1</p> | <p>The introduction details the requirements for the OMP to meet all approval conditions.</p> |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------------------|--|------------------|--|
| | <p>of environmental performance than is required under the conditions of the approval. Example for condition General 6: A lower standard of environmental performance might include, for example—</p> <ul style="list-style-type: none"> (a) specifying targets for the release of contaminants (incl. air, noise or water) at concentrations higher than those permitted for the contaminant under this approval, or where the concentrations of contaminants are specified under this approval as a range, by specifying concentrations targets for emissions outside that range; or, (b) requiring less frequent monitoring or reporting than required under the conditions of this approval. | | |
| <p>MCU DERM General 7</p> | <p>To the extent of any inconsistency between a site based management plan and any condition(s) of this approval, other than where the inconsistency is of a type authorised under condition General 6, or any law of the State or Commonwealth in force at the relevant time, the site based management plan is invalid.</p> | <p>Section 1</p> | <p>The introduction details the requirements for the CEMP to meet all approval conditions.</p> |
| <p>MCU DERM General 8</p> | <p>To remove any doubt, if a site based management plan imposes a higher standard of environmental performance than the standard required under the conditions of this approval, the registered operator must, under condition General 5, give effect to higher standard stated in the site based management plan. Example for condition General 8: a higher standard of environmental performance requirement might include, for example—</p> <ul style="list-style-type: none"> (a) specifying lower emissions targets for contaminants to air or lower noise emissions than the limits specified for the contaminant under this approval; (b) requiring more frequent monitoring or reporting of emissions than is required under this approval ; or (c) requiring more frequent training for employees undertaking the activity about environmental issues than is required under the conditions of this approval. | <p>Section 1</p> | <p>The introduction details the requirements for the CEMP to meet all approval conditions.</p> |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|----------------------------|---|----------------|---|
| MCU DERM General 21 | All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated — (a) if a statutory instrument or standard made under a law of the State prescribes standards for calibrating the equipment — in accordance with that statutory instrument or standard; or (b) otherwise — according to any relevant AS applicable to the calibration of the equipment. | Section 11 | The Monitoring and Reporting section details all monitoring requirements. |
| MCU DERM 22 | The person undertaking the activity to which this approval relates must keep an appropriate spill kit, personal protective equipment, operator instructions and emergency procedure guides for the management of wastes and chemicals associated with the activity in a place accessible to all employees at the authorised place. | Section 10 | The Management Actions and Performance Criteria section outlines the relevant requirement for chemical storage, asbestos, and spill kits. |
| MCU DERM 23 | The person undertaking the activity to which this approval relates must ensure that all employees undertaking the activity at the authorised place have received training in the use of the spill kit and the handling of chemicals stored at the authorised place. | Section 10 | The Management Actions and Performance Criteria section outlines the relevant requirement for chemical storage, asbestos, and spill kits. |
| MCU DERM 24 | The training mentioned in condition General 23 must be repeated for each employee at the authorised place at intervals of not greater than two (2) years. | Section 5 | Training and record keeping for training is detailed in the Environmental Training section of the OMP. |
| MCU DERM 25 | The person undertaking the activity to which this approval relates must keep a record of the training provided to employees, including — (a) the names of all persons who undertook the training; (b) the date on which the training was provided; and an outline of the training provided. | Section 5 | Training and record keeping for training is detailed in the Environmental Training section of the OMP. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------|---|----------------|--|
| MCU DERM Land 6 | All fuels and chemicals must be stored in an onsite containment system of a type suitable to prevent the spillage of the material and its discharge to the environment. | Section 10 | The Management Actions and Performance Criteria section details all waste, chemical and spill kit management requirements. |
| MCU DERM Land 7 | In all instances, the storage and handling of chemicals and fuels done in accordance with the relevant AS (as amended or substituted by a later standard) shall be taken to be sufficient for compliance with condition Land 6. At this date, see Standards: <ul style="list-style-type: none"> AS1940 – 2004 The storage and handling of flammable and combustible liquids; AS3780 – 2008 The storage and handling of corrosive substances; and AS/NZS 3833:2007 The storage and handling of mixed classes of dangerous goods, in packages and bulk intermediate containers. | Section 10 | The Management Actions and Performance Criteria section details all waste, chemical and spill kit management requirements. |
| MCU DERM Social 1 | The person undertaking the activity to which this approval relates must record the following information for each complaint received about the activity – <ol style="list-style-type: none"> time, date, name and contact details of the complainant; reasons for the complaint; any investigations undertaken by the person undertaking the activity to which this approval relates; conclusions formed by the person undertaking the activity to which this approval relates following the investigation; and any actions taken by the person undertaking the activity to which this approval relates to resolve the complaint(s). | Section 11.2.4 | The Complaint Reporting section details all complaints management and reporting requirements. |
| MCU DERM Waste 4 | Waste generated by the activity to which this approval relates must be stored, pending its lawful disposal to landfill or to a recycling facility, or another place with the written approval of | Section 10 | The Management Actions and Performance Criteria section details |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|-------------------------|---|----------------|--|
| | the administering authority, in a location at the authorised place where it is not visible to a person outside the authorised place. | | all waste, chemical and spill kit management requirements. |
| MCU DERM Waste 6 | Waste must not be buried or burned at the authorised place. | Section 10 | The Management Actions and Performance Criteria section details all waste, chemical and spill kit management requirements. |
| MCU DERM Water 9 | Banks and diversion drains must be of suitable design and capacity to disperse noncontaminated stormwater so as not to cause flooding, or contribute to increased flood potential of the area. | Section 10 | The Management Actions and Performance Criteria section details all erosion and stormwater design considerations. |
| EPBC 1 | The approval holder must not clear vegetation outside of the project site and the approval holder must not clear more than 18.38 hectares of vegetation within the project site. | Section 10 | The Management Actions and Performance Criteria section addresses restrictions on vegetation clearing. |
| EPBC 2 | The approval holder must ensure a pre-clearance survey is undertaken by a suitably qualified person within 24 hours before any clearing of vegetation within the project site, to identify any Koalas present. | Section 10 | The Management Actions and Performance Criteria section addresses fauna management measures to be implemented during clearing. |
| EPBC 5 | The approval holder must, prior to the commencement of the action, legally secure a minimum of 41.58 hectares of koala habitat at the offset site. Within 20 business days of legally securing the offset site, the approval holder must provide the Department with evidence of when the offset site was legally secured, and what mechanism was used to legally secure the offset site. | Section 9.1 | The Legally Securing the Offset Area section addresses requirements for legally securing the Offset Area. |
| EPBC 6 | Prior to the commencement of the action, the approval holder must develop an Offset Management Plan. The Offset Management Plan must incorporate all of the aspects described in Attachment B of these conditions and be implemented until the end date. | OMP document | The OMP meets the requirements of this condition. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|----------------|--|--------------------------|--|
| EPBC 7 | The approval holder must, from the date of approval until the end date, ensure there is no decline in the extent, or habitat quality of baseline condition, at the offset site. | Section 9, Section 10 | The Offset Strategy and Management Actions and Performance Criteria sections address management procedures to protect and manage the Offset Area. |
| EPBC 8 | If, at any time before the end date, the approval holder identifies that the outcomes specified in condition 7 are not being, or unlikely to be achieved, the approval holder must report to the Department in writing within 20 business days of becoming aware. The report must state the cause, the response measures (including timeframes for reporting the success of those measures to the Department) and the actions to prevent further occurrences. | Section 11.2.2 | The Non-conformance Procedure section outlines the requirement for reporting outcomes of condition 7 not being met. |
| EPBC 9 | The approval holder must ensure that management plans are prepared in accordance with the Environmental Management Plan Guidelines. Each management plan must also: <ul style="list-style-type: none"> A. include details on how the management plan is consistent with the Environmental, Management Plan Guidelines and the conservation advice for Koalas. B. provide a statement signed by the approval holder declaring that the information is true and has been prepared in accordance with the Environmental Management Plan Guidelines. | Section 1 | This OMP has been prepared following all guidelines outlined in the Environmental Management Plan Guidelines and the EPBC Act Referral Guidelines for the Vulnerable Koala. A declaration of accuracy has been attached to the OMP. |
| EPBC 10 | The approval holder must publish all management plans on its website prior to commencement of the action. The approval holder may choose to revise a management plan provided the revised management plan is consistent with the requirements listed in either condition 4 (for the Construction Environment Management Plan) or condition 6 (for the Offset Management Plan). The revised management plan must be published on the approval holder's website at least 10 business days before | Section 1, Section 12 | The Introduction and Adaptive Management and OMP Review section addresses requirements for publishing managements plans and for revising management plans. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------|--|----------------|---|
| | being implemented. All management plans must remain on the approval holder's website until the end date. | | |
| EPBC 12 | The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions, including measures taken to implement any management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media. | Section 11.2 | The Reporting section outlines the requirements for inspections, monitoring, auditing, and reporting. |
| EPBC 13 | Within 60 business days of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on its website addressing compliance with each of the conditions, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions must be provided to the Department at the same time as the compliance report is published. The Minister may provide written consent to the approval holder to cease reporting if satisfied additional reports are not warranted. | Section 11.2.1 | The Annual Compliance Reporting section outlines the requirements for annual reporting. |
| EPBC 14 | The approval holder must report any potential or actual contravention of the conditions to the Department in writing within 5 business days of the approval holder becoming aware of the potential or actual contravention. | Section 11.2.2 | The Non-conformance Procedure section outlines the requirements for inspections, monitoring, auditing, and reporting. |
| EPBC Attachment A | Locations and design of koala exclusion fencing to be incorporated into contract documentation and construction schedule to ensure appropriate structures, placement and timing. Replacement of all cattle fencing with wildlife friendly fencing to the site's eastern, western and northern boundaries. Koala exclusion fencing will be installed along the southern | Section 10 | The Management Actions and Performance Criteria section addresses management practices relating to Koala and other fauna fencing. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------|---|------------------------|---|
| | <p>boundary in accordance with Road and Traffic Authority (NSW) Standard Drawing and include the following specifications:</p> <ul style="list-style-type: none"> Galvanised wire 50 mm chain-link fence, with additional 0.5m overhang “floppy top” (outward of road formation); 3 m buffer free of vegetation (excluding grasses) on habitat side of fence. | | |
| EPBC Attachment A | Undertake an environmental induction to all site personnel to outline responsibilities in relation to the Koala. | Section 5 | The Environmental Training section addresses induction requirements for site personnel that are specific to the Offset Area. |
| EPBC Attachment B | Annual monitoring of the offset to assess koala usage of the site, evidence of predators, evidence of plant pathogens or fauna disease, and habitat condition aspects such as extent of weed infestations, eroding land, and presence of water. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | Monitoring of wildlife friendly boundary fencing (including koala exclusion fencing around the project infrastructure and along the southern boundary of the lot) on a 6-monthly basis to identify maintenance requirements, such as trimming regrowth within 3m of koala exclusion fence and repairing fences to assist in excluding predators. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | Monitoring and management of weed infestations to maintain free movement of Koalas and regeneration of food trees. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | Restriction of livestock of a species and number that is incompatible to maintaining or improving koala habitat. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address livestock management requirements. |

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|--------------------------|--|------------------------|---|
| EPBC Attachment B | Should predators, such as wild dogs, be observed on-site, a management program of baiting may be undertaken and assessment of fencing for their future exclusion. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring and treatment of predators. |
| EPBC Attachment B | Monitoring and management of the two small dams located in Offset Area A and the ephemeral creek lines to reduce siltation and control erosion in this area as part of general land management and improvement of the habitat condition for the Koala. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | Controlled fire management to maintain eucalypt species diversity and health, as appropriate to koala habitat, season and ecosystem. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | Offset Area B will include revegetation in accordance with Landscape Management and Revegetation Plan including incorporation of eucalypt species suitable for providing koala food trees and winter/spring foraging habitat for the Grey-headed Flying-fox. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | The Offset Management Plan will include monitoring schedules and recording requirements for habitat conditions, on-site koala usage, evidence of weeds and evidence of threats such as predators and pathogens/disease. Specific performance and management measures and reporting will be included in the plan. | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |
| EPBC Attachment B | The Offset Management Plan will include an auditing schedule that assesses the performance of the monitoring and management strategies in achieving the outcomes. | Section 12 | The Adaptive Management and OMP Review section addresses auditing and performance assessments. |
| EPBC Attachment B | Further details of monitoring, adaptive management/corrective actions, record keeping, publication and reporting procedures will be included in the Offset Management Plan. Offset Area B will also be monitored and | Section 10, Section 11 | The Management Actions and Performance Criteria, and Monitoring and Reporting sections address monitoring requirements. |

Offset Management Plan
Lockyer Energy Project

| Condition | Condition requirement | Plan reference | Demonstration of condition requirements |
|-----------|--|----------------|---|
| | managed in accordance with the Project's Landscape Management and Revegetation Plan with the aim of establishing and improving koala habitat value to a level which is consistent with Offset Area A | | |

3 PROJECT DESCRIPTION

The Lockyer Energy Project is an open cycle gas turbine project located north of Gatton in South East Queensland. The project will draw gas from the Roma to Brisbane Pipeline and supply power to the Energex 110 kV substation immediately adjacent to the project.

The project is a staged development of a natural gas-fired power generation plant proposed by Quinbrook Infrastructure Partners in response to growing demand for electricity. The proposed life of the plant is 30 years, with the following anticipated loads:

- Stage 1 - 200-300 MW;
- Stage 2 - 300-400 MW; and,
- Stage 3 - 300-400 MW.

The activities planned for construction of the power plant include:

- Vegetation clearing and stripping / stockpiling topsoil;
- Installation of temporary and/or permanent erosion and sediment control measures;
- Earthworks to level the development pad;
- Dewatering and filling of two farm dams;
- Construction of stormwater and drainage structures, batters and earth bunds; and,
- Rehabilitation, stabilisation and planting of earth bunds and other areas.

The approved development can be seen in Appendix 3, with a copy of the approved plans contained in Appendix 1 and 2.

In relation to the vegetation clearing to facilitate the project, clearing of 18.38 hectares of habitat critical to Koala within the project site is required. The extent of approved clearing can be seen in Figure 1. As part of the conditions of approval (Appendix 2 and 3), 41.52 hectares of koala habitat have been secured and set aside as a development offset (Offset Area A and Offset Area B in Figure 1). This offset was approved by a delegate of the Minister as part of the EPBC approval for EPBC referral 2017/7994 (approval decision date 29 January 2018), with effect until 30 January 2047. Condition 6 of the EPBC approval requires that the approval holder must develop an Offset Management Plan.

4 ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSIBILITIES

In carrying out their activities on site, all contractors must ensure that all reasonable and practicable measures are taken to prevent or minimise the likelihood of environmental harm being caused.

Positive environmental outcomes are dependent on the clear and unambiguous assignment of accountability and responsibilities of key positions within the organisational structure. The contractor will be ultimately responsible for compliance with the OMP and will oversee the implementation of the OMP with the Site Environmental Manager and sub-contractors.

The OMP is to be implemented by all site personnel and contractors prior to and during the process of construction and is to be administered by the Site Environmental Manager or their agent, the contractor(s) responsible for the removal / clearing of vegetation and relevant construction works, revegetation / landscape contractor and a licensed Fauna Spotter Catcher.

A copy of the OMP, including the Personnel Register, (Appendix 4) is to be maintained on-site for the life of the Offset. The Personnel Register is to be kept updated with any new contact information.

Compliance with the OMP will be overseen by the Site Environmental Manager.

4.1 OVERALL RESPONSIBILITIES

All site personnel are responsible for complying with the OMP. Employees, contractors, sub-contractors and suppliers are required to:

- Take all reasonable steps to seek information on the environmental requirements of the project;
- Undertake all activities in accordance with the OMP and any associated documents;
- Ensure that they are aware of the relevant person in charge of overseeing compliance with the OMP;
- Supervise the environmental performance of each task against the OMP;
- Report any activity which has, will have, or has the potential to cause environmental harm;
- Notify the Site Environmental Manager of any non-compliance with the OMP;
- Complete pre-start checks and inspections of all equipment prior to works and to report any equipment defects;
- Ensure that they undertake any environmental training provided and understand their obligations under the OMP and relevant legislation; and,

- Complete the Personnel Register (Appendix 4) to acknowledge they have read and understood all aspects of the OMP.

The OMP will be included in all site inductions to ensure that employees, contractors, sub-contractors and suppliers are aware of their responsibilities.

4.2 SITE ENVIRONMENTAL MANAGER

The Site Environmental Manager is responsible for compliance with the OMP and any relevant legislation. The Site Environmental Manager is responsible for:

- Maintenance, review and implementation of the OMP;
- Auditing and compliance in accordance with the OMP requirements;
- Assisting project personnel to understand their roles and responsibilities under the OMP;
- Ensuring that adequate training has been provided to all site personnel;
- Carrying out regular inspections of work areas in accordance with OMP and legislative requirements;
- Identifying environmental incidents or issues and implementation of management measures to avoid and minimise environmental harm; and;
- Maintaining environmental records.

Site Environmental Manager contact details can be found in the contacts list (Appendix 5).

5 ENVIRONMENTAL TRAINING

The Site Environmental Manager, or delegate, will provide site personnel and site visitors with suitable environmental training and inductions to ensure they are competent to perform their work in an environmentally acceptable manner. Environmental training will be given as part of the site induction procedure and will be performed prior to site access.

All forms and relevant associated material are to be stored in both a digital and hard copy format for a period of at least ten (10) years.

The person undertaking the activity to which this approval relates must keep a record of the training provided to employees, including:

- Names of all persons who undertook the training;
- Date on which the training was provided; and,
- An outline of the training provided.

The environmental training will ensure the following:

- That all personnel and site visitors are aware of the OMP and related documents;
- That all personnel are aware of their responsibilities;
- That all site personnel have familiarised themselves with the OMP and its procedures;
- That all site personnel have signed a register noting that they have reviewed and will comply with the requirements of the OMP;
- That all contractors shall review and carry out activities in accordance with measures outlined with in the OMP and guide construction including civil works as necessary, in consultation with the Site Environmental Manager.

Refresher environmental training shall be conducted no longer than every two (2) years from previous training.

6 EMERGENCY CONTACTS AND PROCEDURES

In the event of an environmental incident, the priority is to ensure the safety of all site personnel and the neighbouring community. All practical steps shall then be taken to minimise further environmental damage through the implementation of the appropriate contingency and corrective actions.

All environmental incidents must be immediately reported to the Site Environmental Manager. Emergency contact information can be found in the contacts listed in Appendix 5.

7 POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS

The following section sets out the results of a qualitative risk assessment applied to the potential environmental impacts associated with project actions.

Each environmental risk has been given a rating in terms of likelihood (Table 2; qualitative measure of likelihood – how likely is it that this event or incident will occur after control strategies have been put in place) and consequence (Table 3; qualitative measure of consequences rating – what will be the consequences if this event does occur). Likelihood and consequence ratings were then combined using a risk rating matrix (Table 4) to generate a risk rating of low, medium, high or severe. This information was then used to create a qualitative risk assessment (Table 5) for each management task Offset Area Management Measure (Factor), indicating the risk rating prior to implementing the OMP (the inherent risk), and the risk rating following implementation of the OMP (the residual risk).

The qualitative risk assessment (Table 5) must be updated by the Site Environmental Manager at the following times:

- Prior to initial commencement of works;
- Prior to vegetation clearing operations;
- At the completion of vegetation clearing operations;
- As required following non-conformances or other changes to procedures; and,
- Annually, as part of the review and audit procedures.

Table 2: Likelihood risk rating description.

| Descriptor | Description |
|----------------------|--|
| Highly likely | Is expected to occur in most circumstances |
| Likely | Will probably occur during the life of the project |
| Possible | Might occur during the life of the project |
| Unlikely | Could occur, but is considered unlikely or doubtful to occur |
| Rare | May occur, but only in exceptional circumstances |

Table 3: Consequences risk rating description.

| Descriptor | Description |
|-----------------|--|
| Minor | Minor incident of environmental damage that can be reversed |
| Moderate | Isolated but substantial instances of environmental damage that could be reversed with intensive efforts |
| High | Substantial instances of environmental damage that could be reversed with intensive efforts |
| Major | Major loss of environmental amenity and real danger of continuing |
| Critical | Severe widespread loss of environmental amenity and irrecoverable environmental damage |

Table 4: Risk rating matrix.

| | | Consequence | | | | |
|------------|---------------|-------------|----------|--------|--------|----------|
| | | Minor | Moderate | High | Major | Critical |
| Likelihood | Highly likely | Medium | High | High | Severe | Severe |
| | Likely | Low | Medium | High | High | Severe |
| | Possible | Low | Medium | Medium | High | Severe |
| | Unlikely | Low | Low | Medium | High | High |
| | Rare | Low | Low | Low | Medium | High |

Table 5: Environmental risk assessment.

| Item | Management Task | Potential Environmental Impacts | Likelihood ¹ | Consequence ¹ | Inherent Risk | Planned Mitigation | Likelihood ² | Consequence ² | Residual Risk |
|------|--|--|-------------------------|--------------------------|---------------|--|-------------------------|--------------------------|---------------|
| 1 | Vegetation management | Unapproved removal of trees | Unlikely | Major | High | Habitat rehabilitation and regeneration | Rare | Major | Medium |
| 2 | Weed management | Spread of weeds impacting on koala habitat | Likely | Major | High | Weed management | Unlikely | Moderate | Low |
| 3 | Feral animal and livestock management | Injury or mortality to Koala and other fauna | Likely | Major | High | Feral, domestic animal and livestock management | Unlikely | Major | High |
| 4 | Fire Management | Loss of Koala habitat values | Possible | Critical | Severe | Fire management | Unlikely | Critical | High |
| 5 | Erosion and Stormwater | Erosion and loss of topsoil | Likely | High | High | Erosion management | Unlikely | Moderate | Low |
| 6 | Boundary fence management | Injury or mortality to Koala and other fauna | Possible | Major | High | Boundary fence management | Unlikely | Major | High |
| 7 | Noise | Negative impact to the social environment through excess noise and vibration | Possible | Moderate | Medium | Noise management | Unlikely | Moderate | Low |
| 8 | Waste | Environmental harm caused by incorrect storage of waste | Possible | Moderate | Medium | Waste management | Unlikely | Moderate | Low |
| 9 | Extreme weather events | Damage to koala habitat | Possible | Moderate | Medium | Habitat Rehabilitation and Regeneration; Erosion Management | Possible | Moderate | Medium |
| 10 | Development in connected habitat areas | Negative impact on the local Koala population | Possible | Major | High | Not applicable as neighbouring land out of control of offset management | Possible | Major | High |
| 11 | Pathogens | Spread of disease between individuals (fauna and/or flora) | Possible | Major | High | Habitat rehabilitation and regeneration; Feral, domestic animal and livestock management | Unlikely | Moderate | Low |

¹ Indicates the likelihood and consequences of an action prior to planned mitigation measures from OMP implementation.

² Indicates the likelihood and consequences of an action following implementation of planned mitigation measures from the OMP.

8 OFFSET BACKGROUND

The offset area is on a freehold lot currently zoned Rural General under the local government planning scheme (Gatton Planning Scheme). An assessment (Appendix 6; GHD, 2017, Rev 1) of the potential pressures considered likely to contribute to the risk of loss of existing Koalas and koala habitat found considerable risk of loss of the offset area without the offset being in place. Potential future impacts included:

- Continuing grazing activities leading to reduced koala habitat (highly likely);
- Agricultural production leading to loss of koala habitat (highly likely);
- Land clearing of 'least concern' Regional Ecosystem for agricultural and grazing purposes (highly likely);
- Native forestry practices (possible);
- Encroaching residential development increasing threats to the habitat area and to Koalas in connected habitat (highly likely);
- The risk of smaller developments not triggering a requirement for an offset leading to loss of koala habitat (possible);
- Clearing within the offset area, including minor operational works leading to loss of koala habitat (highly likely);
- Development adjacent the offset area may not have a significant impact on Koalas and therefore not require an offset but still have threatening consequence on the offset area (likely);
- A local utility or low impact telecommunication installations (possible);
- Extensive clearing within the 2 km buffer area around the site means that there is increased risk of loss of the offset area (in terms of its carrying capacity and values for Koala) (possible);
- Residential growth outside the urban zoned areas, which can impact the offset area through future zoning changes and planning scheme changes (likely); and,
- Future resource exploration permits could be granted and potentially allow exploration activities on or adjacent the offset area (possible).

8.1 KOALA HABITAT OFFSET AREA

The Offset Area is mapped as containing remnant vegetation consistent with the Queensland Department of Natural Resources and Mines (DNRM) regional ecosystem mapping as least concern RE 12.9-10.2 / 12.9-10.5a (70% / 30%) (Appendix 6; GHD, 2017, Rev 1), which are described as:

- Least concern RE 12.9-10.2:
 - *Corymbia citriodora* subsp. *variegata* +/- *Eucalyptus crebra*; and,
 - Open forest on sedimentary rocks.
- Least concern RE 12.9-10.5a:
 - *Eucalyptus helidonica*, *Corymbia citriodora* subsp. *variegata* open forest +/- *C. trachyphloia* subsp. *trachyphloia*, *Eucalyptus fibrosa* subsp. *fibrosa*, *E.*

taurina, *E. dura*, *E. baileyana*, *C. gummifera*, *Angophora woodsiana* and *Lysicarpus angustifolius*; and,

- Occurs on quartzose sandstone scarps and crests.

Ecological field surveys were undertaken in October 2008, February 2009 and May 2017 (Appendix 6; GHD, 2017, Rev 1). The Offset Area retains a large area of natural woodland that provides mostly high value koala habitat (35.47ha) with a smaller area of medium (3.98ha) and low (2.13ha) value koala habitat (see Table 8 for offset area habitat quality scoring); however, the woodland is relatively consistent in its structure and distribution across the whole Offset Area.

The Offset Area is predominantly 'remnant' eucalypt open forest (Offset Area A), consisting of a Spotted Gum (*Corymbia citriodora* subsp. *variegata*) dominated open forest community with associated *Eucalyptus crebra* and *E. fibrosa* subsp. *fibrosa* to 20 m. Offset Area B consists of Non-remnant scattered mature eucalypts with cleared understorey – Spotted Gum dominated woodland canopy to 16 m height with juvenile eucalypts in the understorey to 7 m height and sparse to mid-dense groundcover of native and exotic grasses and herbs.

The DNRM mapped REs are consistent with the vegetation communities verified in the study area in terms of vegetation structure, landform and geology, and dominant species. The RE 12.9-10.2 is prevalent on the lower to mid-slopes while the RE 12.9-10.5a is located along the ridgeline and upper slopes in the centre of the property.

Disturbances across the Offset Area include past clearing for grazing purposes, selective logging of trees throughout the property, fencing, firebreaks and vehicle access tracks around the property boundary, fencing for livestock, and constructed farm dams. There is also evidence of previous fires, some major gully erosion, and several weed species occurring across the property.

The mapped RE communities within the Offset Area represent potential foraging habitat for the Koala, supporting a mix of preferred food trees including *Corymbia citriodora*, *C. intermedia*, *Eucalyptus crebra*, and *Lophostemon suaveolens*.

Across the whole site, Koalas were confirmed present from eight of the nine SAT locations across the site, with most confirmed sightings found within the Offset Area. Based on the density at which Koala faecal pellets were observed, areas of highest koala habitat utilisation were located in eucalypt woodland on the rocky hillside in the centre of the Offset Area, and along the ephemeral watercourse at the northern extent of the Offset Area (Appendix 6; GHD, 2017, Rev 1).

8.2 KOALA HABITAT VALUE SCORING

Koala habitat across the project site was mapped and scored based on the following standard assessment methods:

- Habitat assessments that refer to the dominant stratum and species, landform, presence and abundance of habitat features, and evidence of disturbance (in

accordance with the Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland (Eyre, Ferguson et al. 2014) and other standard classifications;

- Vegetation assessments with reference to the structural vegetation characteristics from Specht (Specht and Leeper 1970) and Quaternary methods for assessing Regional Ecosystems (Neldner, Wilson et al. 2017);
- Spot Assessment Technique (SAT) (Phillips and Callaghan 2011) as a standard measure of Koala activity or utilisation;
- Koala Habitat Assessment Tool in the EPBC Act referral guidelines for the vulnerable koala (Department of the Environment 2014); and,
- Analysis of GIS mapping of vegetation and habitats and interpretation of aerial photography.

The full methodology for calculating koala habitat values can be found in the Final Preliminary Documentation (EPBC 2017/7994), (Appendix 6; GHD, 2017, Rev 1).

In summary, koala habitat values were mapped with reference to habitat types (see habitat values map in Appendix 7; Flora and Fauna Survey Report; GHD, 2017, Rev 0) and evidence of Koala usage derived from Spot Assessment Technique (SAT) site surveys (Appendix 7; GHD, 2017, Rev 0).

The above method was used to complement the Koala Habitat Assessment Tool in the EPBC Act referral guidelines for the vulnerable Koala (Department of the Environment 2014) due to the limitations in providing differentiation between habitat types on the site in terms of evidence of Koala usage, provision of shelter and forage resources, and safe movement within and between habitats.

Following the Koala Habitat Assessment Tool in the EPBC Act referral guidelines for the vulnerable Koala (Department of the Environment 2014), each of the identified koala habitat areas (no koala habitat, low koala habitat, medium koala habitat, and high koala habitat) within the site were scored for Koala occurrence, vegetation composition, habitat connectivity, key existing threats, and recovery value.

Koala habitat values mapped on the site were as follows:

- No koala habitat value (8.89 ha): Isolated, juvenile koala food trees present and no evidence of utilisation. Includes habitat types of open grazing land and periodically inundated grassland. Koala Habitat Assessment Tool score of 4 (+1, +0, +2, +1, +0), therefore not habitat critical to the survival of the Koala;
- Low koala habitat value (14.37 ha): 1 or less out of 30 trees (<3.33%) had koala pellets beneath them in the SAT assessment. Includes habitat types of open woodland, open grazing land, permanent waterbody and existing firebreak. Koala Habitat Assessment Tool score of 8 (+2, +2, +2, +1, +1), therefore habitat critical to the survival of the Koala;
- Medium koala habitat value (4.15 ha): 2-4 out of 30 trees assessed (3.33% - 12.59%) had koala pellets beneath them in the SAT assessment. Includes habitat type of mixed eucalypt woodland. Koala Habitat Assessment Tool score of 9 (+2, +2, +2, +1, +2), therefore habitat critical to the survival of the Koala; and,
- High koala habitat value (42.72 ha): >4 out of 30 trees assessed (>12.59%) had koala pellets beneath them in the SAT assessment. Includes habitat types of mixed

eucalypt woodland and ephemeral watercourse. Koala Habitat Assessment Tool score of 9 (+2, +2, +2, +1, +2), therefore habitat critical to the survival of the Koala.

Key differences in the scoring of habitat types using the Koala Habitat Assessment Tool were due to lack of evidence of Koala usage and lack of vegetation structure and species diversity in the areas with no koala habitat value, and the unlikely or uncertainty around recovery value of the habitat for no and low koala habitat value areas.

The areas mapped as no, low, medium and high koala habitat values were also considered to provide the same values as foraging habitat for the Grey-headed Flying-fox.

The project will clear approximately 14.87 ha of low, medium and high value habitat, being habitat critical to the survival of the Koala (at a score of 8-9), with the remaining 3.51 ha being no value to Koala (at a score of 4). Therefore, the residual impact to the Koala is approximately 14.87 ha.

Additionally, approximately 9.81 ha of the 18.38 ha (or 53%) of the project footprint will be rehabilitated and/or enhanced as part of the revegetation works. Rehabilitation areas include areas to be revegetated with a mix of locally endemic eucalypt species that will provide foraging habitat for the Grey-headed Flying-fox.

Table 6 provides the koala habitat areas for each habitat value type (no, low, medium, and high value) across the whole site, in addition to the total disturbance within each habitat type. The total area of the whole property is 70.15 ha, with disturbance restricted to 18.38 ha.

Table 6: Koala and Grey-Headed Flying-Fox total habitat area and disturbance area within each habitat description (see Appendix 6 (GHD, 2017, Rev 1) for further information).

| Description | Total area (ha) | Disturbance area (ha) |
|----------------------------|-----------------|-----------------------|
| No habitat value | 8.89 | 3.51 |
| Low habitat value | 14.37 | 7.46 |
| Medium habitat value | 4.15 | 0.17 |
| High habitat value | 42.72 | 7.24 |
| Total | 70.13 | 18.38 |
| Rehabilitation/enhancement | 9.81 | n/a |

Other impacts to Koala individuals, populations and adjacent habitat will be avoided or mitigated as per the measures provided in Appendix 6 (GHD, 2017, Rev 1). Furthermore, it is considered unlikely that the following potential impacts to the Koala will occur because of the project:

- Lead to a long-term decrease in the size of an important population of a species;
- Reduce the area of occupancy of an important population;
- Fragment an existing important population into two or more populations;
- Disrupt the breeding cycle of an important population;
- Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat;

- Introduce disease that may cause the species to decline; and,
- Interfere substantially with the recovery of the species.

8.3 KOALA OFFSET AREA CALCULATION

To calculate the minimum koala habitat offset that would account for the proposed clearing of 18.38ha of vegetation within the project site, an offset assessment was performed. The following provides a summary of the offset assessment methodology and results. The full Environmental Offset Strategy and offset area calculations can be found in Appendix 6 (GHD, 2017, Rev 1).

The offset assessment complies with the EPBC Act Environmental Offsets Policy and was undertaken in accordance with the following guidelines:

- How to use the Offsets assessment guide (Department of the Environment 2012);
- Matters of National Environmental Significance: Significant impact guidelines 1.1 (Department of the Environment 2013);
- EPBC Act Referral Guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) (Department of the Environment 2014); and,
- Guide to determining terrestrial habitat quality. A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (State of Queensland 2017).

Scoring guides were used to rate the habitat quality of the impact and offset areas for input into the Offsets Assessment Guide. The scoring guides used were:

- Site condition scoring guide;
- Site context scoring guide;
- Species stocking rate scoring guide; and,
- Risk of loss likelihood ratings scoring guide.

A summary of the scoring for impact areas is provided below in Table 7 and for offset areas in Table 8, with the corresponding assessment units and areas shown in Appendix 8 (Offset area and assessment units figure; GHD, 2017, Rev 4). In order to provide one habitat quality score for the impact and offset areas for input to the offset assessment guide spreadsheet, scores were weighted according to the area of each habitat type in proportion to the total area to be impacted or offset. While the significant residual impact was determined to be 14.87 ha of habitat critical to the survival of the Koala, the below scoring and calculations were based on an impact area of 18.38 ha to demonstrate that the area of offset provides a greater area than what is required by the Offset Assessment Guide (State of Queensland 2017).

Table 7: Impact area habitat quality scoring (see Appendix 6 (GHD, 2017, Rev 1) for further details).

| Impact assessment unit and habitat value | Area (ha) | Site condition | Site context | Species stocking rate | Combined score | Percent of impact area | Weighted score |
|--|-----------|----------------|--------------|-----------------------|----------------|------------------------|----------------|
| 1; High | 7.24 | 9 | 6.2 | 8 | 7.7 | 39 | 3.0 |
| 2; Medium | 0.17 | 9 | 6.2 | 6 | 7.1 | 1 | 0.1 |
| 4; Low | 7.46 | 5 | 5.0 | 3 | 4.3 | 41 | 1.8 |
| 3; No | 3.51 | 2 | 4.2 | 1 | 2.4 | 19 | 0.5 |
| Total | 18.38 | | | | | | 5.3 |

Table 8: Offset Area habitat quality scoring (see Appendix 6 (GHD, 2017, Rev 1) for further details).

| Impact assessment unit and habitat value | Area (ha) | Site condition | Site context | Species stocking rate | Combined score | Percent of impact area | Weighted score |
|--|-----------|----------------|--------------|-----------------------|----------------|------------------------|----------------|
| Offset Area A | | | | | | | |
| 5; High | 35.47 | 9 | 6.2 | 8 | 7.7 | 85 | 6.6 |
| 6; Medium | 3.98 | 9 | 6.2 | 6 | 7.1 | 10 | 0.7 |
| Offset Area B | | | | | | | |
| 7; Low | 2.13 | 5 | 5.0 | 3 | 4.3 | 5 | 0.2 |
| Total | 41.58 | | | | | 100 | 7.5 |

The Offsets Assessment Guide indicates that the proposed offset site provides a 165% direct offset, based on:

- Total impact area of 18.38 ha with a habitat quality score of 5 (rounded down from 5.3), giving an adjusted quantum of impact of 9.19 ha;
- Legally secured offset site of 41.58 ha (comprising Offset Area A and B) with a current and expected future habitat quality of 8; and,
- An assumption that if the offset site was not legally secured, the risk of loss of the site is 50% (due to potential future clearing should the proposed development not go ahead, based on a likelihood assessment outlined in Appendix 6 (GHD, 2017, Rev 1) but with a maintained habitat quality of 8 (if not cleared).

Descriptions and justification of inputs to the Offset Assessment Guide for the Koala can be found in the Appendix 6 (GHD, 2017, Rev 1). A copy of the offset assessment guide spreadsheet can also be found in Appendix 6 (GHD, 2017, Rev 1).

As per the conditions of approval outlined in Section 2, the proponent must not clear more than 18.38ha of vegetation within the project site, and must legally secure a minimum of 41.58 hectares of koala habitat at the offset site prior to the commencement of the action.

9 OFFSET STRATEGY

As part of the EPBC approval, vegetation, including remnant and regrowth areas, is to be retained as an offset described as Offset Area A (remnant vegetation, ~ 39.3 ha) and Offset Area B (regrowth vegetation, ~ 1.9 ha). The offset area will conserve freehold land containing high value koala habitat, maintaining connectivity with adjacent habitat of a similar regional ecosystem, and an extensive area of potential koala habitat approximately 3 km north of the project site associated with the Lockyer National Park.

The key milestone for the offset is that at five (5) years after the start of the offset, the habitat has been maintained or improved and no increase in threats have occurred. Performance indicators to achieve this are:

- Density and abundance of koala food trees is maintained or increased; and,
- Threats that have been identified have not spread or increased.

Based on the presence of winter / spring forage species within and surrounding the project site, and the proposed revegetation using forage species, no significant impact to Grey-headed Flying-fox was considered likely as a result of the project (Appendix 6; GHD, 2017, Rev 1). Therefore, while the proposed offset strategy does not specifically need to consider or provide an offset for Grey-headed Flying-fox foraging habitat, the provision of an offset for koala habitat will also concurrently provide and protect habitat for the Grey-headed Flying-fox.

The following section outlines the details of the offset strategy, including:

- Legally securing the offset;
- Offset objectives; and,
- Offset management tasks.

9.1 LEGALLY SECURING THE OFFSET AREA

The Offset Area is owned as freehold by the proponent and will be treated as a 'direct offset'. The Offset Area consists of remnant and regrowth areas described as Offset Area A (remnant) and Offset Area B (regrowth) (Figure 1).

To achieve this, a conservation covenant has been placed on the land title in perpetuity in accordance with the *Land Title Act 1994* (Qld) (as per the EPBC Act Environmental Offset Policy). Lockyer Energy Management Pty Ltd will continue to manage the Offset Area for the life of the approval.

9.2 OFFSET OBJECTIVES

The priority objectives for the Offset Area are to:

- Improve or maintain the habitat for Koala; and,
- Manage and monitor the on-site threats to Koala and koala habitat.

The priority objectives are consistent with the following conservation advice for the Koala:

- Priority Management Actions within the Approved Conservation Advice for *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) (Government 2012);
- Recovery objectives of the Recovery plan for the Koala (*Phascolarctos cinereus*) (NSW 2008).

These objectives will be achieved by:

- Rehabilitating and regeneration activities within the Offset Area to improve Koala habitat;
- Ensuring rehabilitated areas are appropriately maintained;
- Erosion management, including control of sedimentation and channelling; and
- Annual monitoring of the offset to assess:
 - Koala usage of the site;
 - Evidence of predators;
 - Evidence of plant pathogens or fauna disease; and,
 - Habitat condition aspects such as extent of weed infestations, eroding land, and presence of water;
- Monitoring of wildlife friendly boundary fencing (including koala exclusion fencing around the project infrastructure and along the southern boundary of the lot) on a 6-monthly basis to identify maintenance requirements, such as trimming regrowth within 3 m of koala exclusion fence and repairing fences to assist in excluding predators;
- Monitoring and management of weed infestations to maintain free movement of Koalas and regeneration of food trees;
- The control, prevention and management of feral and domestic animals:
 - Should predators, such as wild dogs, be observed on-site, a management program of baiting may be undertaken and assessment of fencing for their future exclusion;
 - Restriction of livestock of a species and number that is incompatible to maintaining or improving koala habitat;
- Water monitoring and management of the two small farm dams located in Offset Area A and the ephemeral creek lines to reduce siltation and control erosion as part of general land management and improvement of the habitat condition for the Koala;
- Controlled fire management to maintain eucalypt species diversity and heath, as appropriate to koala habitat, season and ecosystem;
- Revegetation of Offset Area B in accordance with Landscape Management and Revegetation Plan including incorporation of eucalypt species suitable for

providing koala food trees and winter/spring foraging habitat for the Grey-headed Flying-fox.

- Complying with the relevant conditions of the Planning and Environment Court decision (No. 2606 of 2010) and the Federal EPBC Act approval (2017/7994, approval decision date 29 January 2018)

9.3 MANAGEMENT TASKS

The following sections outline the management tasks which are required to ensure that the offset objectives are met. Detailed management actions associated with each of the tasks are outlined in the following section.

9.3.1 HABITAT REHABILITATION AND REGENERATION

The approval holder must ensure there is no decline in the extent, or habitat quality of baseline condition within the Offset Area. While natural regeneration in conjunction with weed management is the preferred approach to managing the Offset Area, some rehabilitation through revegetation and infill planting will be required to facilitate habitat recovery.

Rehabilitation of Offset Area B will include revegetation actions to improve existing degraded areas and introduce grey-headed flying-fox and koala food and shelter trees consistent with the mapped regional ecosystem for that area (RE 12.9-10.2 and/or 12.9-10.5a). All rehabilitation and landscaping works in Offset Area B are to be undertaken in accordance with the updated Landscaping and Revegetation Plan (Appendix 9; Litoria Consulting, 2021, Rev B). Further information can also be found in the Landscape Management and Revegetation Plan (GHD, 2010, Rev 0); Appendix 10), and the Visual Impact and Landscape Assessments (Appendices 11 (GHD, 2009, Rev 0) and 12 (GHD, 2009, Rev B).

Revegetation within Offset Area A is only required where weed removal (Section 9.3.2) leads to large areas (>10m²) of exposed ground.

9.3.2 WEED MANAGEMENT

An active weed management program will be maintained throughout the Offset Area to allow free movement of Koalas and regeneration of koala food trees. The definition of a “weed” for the purposes of management is based on that of an ‘environmental weed,’ namely a species that by virtue of fecundity and growth habit has the potential to establish large infestations that outcompete and/or dominate, and eventually exclude the native vegetation.

The control of weeds is fundamental to maintaining and improving the ecological value of the Offset Area. While a large variety of weeds have been recorded across the project site, the key species to be initially controlled within the offset area are WONS, followed by those classified as Category Two or Three restricted invasive plants of Queensland, then all other weed species. The listing and prioritisation of WONS is a joint initiative of the States, Territories and Australian Government, and their long-term control is of national interest. Flora surveys across the project site identified *Lantana camara*, *Opuntia stricta* and *Opuntia tomentosa* distributed across the project site; all listed as WONS. See Table 9 for a list of weed species identified across the proposed development site.

An integrated approach that uses a variety of control methods gives best results when dealing with Lantana (*Lantana camara*) and Prickly Pear species (*Opuntia spp.*). A range of methods including, herbicides, mechanical removal, fire, biological control, and re-vegetation should be used. It will not be possible to remove Lantana and Prickly Pear from the offset area on a single occasion due the tendency of these species to re-establish within disturbed areas through substantial seedbanks in the soil, and the ability of the Prickly Pear to spread vegetatively via asexual reproduction from stem segments. It is therefore necessary to conduct follow-up weed control for Lantana and Prickly Pear following the initial treatment.

Weeds generally reproduce in exceptional numbers by vegetative propagation and/or setting prodigious numbers of seeds leading to their outcompeting native species. Seeds are spread by localised environmental elements, including birds and other fauna, and by machinery. Most soils contain large numbers of dormant weed seeds that readily germinate when exposed to light and moisture. Bare and disturbed soil, including areas of regeneration, will be readily colonised by weeds and regular maintenance will be required.

The methods outlined in Table 10 are the most common and user-friendly methods of applying appropriate weed management techniques to contain weeds on the property.

Table 9: Weed species identified across the proposed site, including the Offset Area and project works area (GHD, 2017, Rev 1).

| Family | Scientific name | Common name | Status [#] | Density ⁺ | Location |
|---------------|---------------------------------|--------------------|---------------------|----------------------|---------------|
| Amaranthaceae | <i>Gomphrena celosioides</i> | Gomphrena Weed | * | V | Clearing |
| Apocynaceae | <i>Gomphocarpus physocarpus</i> | Balloon Cottonbush | * | V | Clearing |
| Asteraceae | <i>Baccharis halimifolia</i> | Groundsel Bush | *R | V | Clearing |
| Asteraceae | <i>Bidens pilosa</i> | Cobblers Pegs | * | n/a | Not specified |
| Asteraceae | <i>Conyza bonariensis</i> | Flaxleaf Fleabane | * | n/a | Not specified |
| Asteraceae | <i>Cirsium vulgare</i> | Spear Thistle | * | V | Clearing |
| Cactaceae | <i>Opuntia stricta</i> | Prickly Pear | *R | V | Widespread |

| Family | Scientific name | Common name | Status# | Density+ | Location |
|----------------|---|-------------------|---------|----------|---------------|
| Cactaceae | <i>Opuntia tomentosa</i> | Velvety Tree Pear | *R | V | Open forest |
| Malvaceae | <i>Sida cordifolia</i> | Flannel Sida | * | V | Clearing |
| Malvaceae | <i>Sida rhombifolia</i> | Paddy's Lucerne | * | V | Clearing |
| Ochnaceae | <i>Ochna serrulata</i> | Ochna | * | V | Open forest |
| Poaceae | <i>Chloris gayana</i> | Rhodes Grass | * | V | Clearing |
| Poaceae | <i>Megathyrsus maximus var. maximus</i> | Guinea Grass | * | V-S | Clearing |
| Poaceae | <i>Melinis repens</i> | Red Natal Grass | * | S | Widespread |
| Poaceae | <i>Paspalum dilatatum</i> | Dallas Grass | * | n/a | Not specified |
| Poaceae | <i>Sporobolus pyramidalis</i> | Rat's Tail Grass | *R | V | Clearing |
| Plantaginaceae | <i>Plantago lanceolata</i> | Lamb's Tongue | * | n/a | Not specified |
| Verbenaceae | <i>Lantana camara</i> | Lantana | *R | V-S | Widespread |
| Verbenaceae | <i>Lantana montevidensis</i> | Creeping Lantana | *R | V | Ridgeline |
| Verbenaceae | <i>Verbena bonariensis</i> | Purple Verbena | * | V | Clearing |

Status: LC = Least concern under the Queensland NC Act, * = Introduced, R = Restricted invasive species under the Biosecurity Act 2014

+ Density: V = very sparse, S = sparse, M = mid-dense, D = dense, n/a = density onsite unknown

Table 10: Common weed management techniques.

| Method | Details |
|-------------------------|--|
| Complete removal | This technique is used for plants which regrow from bulbs, tubers or other plant parts, such as runners. Remove all plant parts, including roots by hand pulling. Plant parts should be removed from the site and disposed of via landfill or composting. |
| Stem scraping | This method is suitable for treating small shrubs and vines with thin and relatively soft bark tissue, which are actively growing and not stressed. Stem scraping or scrape and paint is perfect for treating vine species, especially Madeira Vine. The aim of this technique is to remove a small portion of the bark. This will allow the herbicide to penetrate into the plant's sapwood travelling to the tubers and effectively destroying the plant. Using the knife, scrape away 100 millimetres to expose the sap wood. Immediately (within 15 seconds) apply the herbicide to the exposed |

| Method | Details |
|--------------------------|--|
| | stem. Failure to apply the herbicide immediately will result in the plant sealing itself off and not all the herbicide to effectively penetrate into it. |
| Cut stump | <p>This method is a quick and effective way of treating small shrubs, large trees, woody plants and vines without aerial tubers. This method allows accurate placement of the herbicide with minimal hazard to the environment and the operator. The intention of this method is to apply the herbicide to the actively growing plant sapwood. The herbicide will move through the plant into its roots and effectively kill it.</p> <p>Using the saw, machete, cane knife or secateurs, cut the plant at least 150mm above the ground. Immediately (within 15 seconds) apply the herbicide to the base of the stump. Failure to apply the herbicide immediately will result in the plant sealing itself off and not allow the herbicide to effectively penetrate into it.</p> |
| Overall wet spray | <p>This technique is suitable for treating grasses, herbs and shrubs up to 6 metres tall and involves spraying individual and small clumps of weeds with diluted herbicide.</p> <p>Avoid spraying on rainy or windy days and make sure the plants are actively growing. Ideal conditions for spraying are immediately after rain and once all the dew has evaporated.</p> <p>In terms of application technique:</p> <ol style="list-style-type: none"> 1. Spray close to the target plants to avoid spray drift onto other valuable (i.e. native) plants. 2. Spray to cover all leaves and stems to the point of visible wetness. 3. Use short sweeping strokes. 4. Start from the far corner of the infestation working away from sprayed areas. 5. Be systematic to avoid spraying the same area twice. |

9.3.3 FERAL, DOMESTIC ANIMAL AND LIVESTOCK MANAGEMENT

Feral and domestic animals

Feral and domestic dogs have been identified as a key threatening process under the EPBC Act and are confirmed as a direct predation risk to Koalas and other native fauna. If pest animals (dogs, foxes, cats, pigs, and other non-native animals) are identified on site, a suitable pest eradication program shall be implemented within the Offset Area.

The control and prevention of all feral and domestic animals within the Offset Area is to be performed in accordance with the relevant legislation (such as the Commonwealth *Biosecurity (Consequential Amendments and Transitional Provisions) Act 2015* and the Queensland *Biosecurity Act 2014*). Additionally, control and prevention methods must include the control of pest animals by legal methods by a suitably qualified pest management contractor and must be undertaken in a humane manner.

Any required hazardous materials, such as 1080 poison baits, must be handled and stored in accordance with the material's safety data sheets and the approved code of practice for the storage and handling of dangerous goods. Annual pest monitoring is to be reported and included in the annual compliance reporting.

Livestock

While the largest threat to Koalas from livestock is through the destruction of koala habitat, anecdotal evidence (Rebgetz 2017) from wildlife carers and wildlife hospital records have indicated that cattle injure or even kill Koalas when they encounter them on the ground. It is therefore important to restrict livestock numbers within the Offset Area to protect Koalas present on-site and to maintain or improve koala habitat.

The NSW Koala Habitat Revegetation Guidelines (Wenger and Taws 2019) suggest the exclusion of livestock from koala habitat revegetation areas due to livestock eating and destroying seedlings. Offset Area B will include revegetation actions to improve existing degraded areas, while both Offset Areas A and B will experience some rehabilitation through natural regeneration, revegetation, and infill planting to facilitate habitat recovery following weed removal. Livestock movements will need to be carefully controlled throughout the Offset Area while any regeneration works are taking place to ensure the regeneration and/or rehabilitation of koala habitat is not negatively impacted.

9.3.4 FIRE MANAGEMENT

Fire is a natural and important ecological process and is essential for maintaining forest health and the regeneration of koala habitat trees. However, high-intensity fires can be fatal to Koalas. Koalas can die directly through burns and smoke inhalation, or indirectly through starvation from temporary loss of food, dehydration, disorientation, or joey separation from their mother.

Carefully applied planned burns using low intensity fires can help to address these issues by reducing fire hazard and restoring appropriate fire frequency to an ecosystem. Planned burns using low intensity fires minimise impacts on Koalas and koala trees by keeping flames relatively low to the ground and avoid canopy scorching.

Table 11 summarises the fire management guidelines recommended for ecological burning of the regional ecosystems within the Offset Area (Queensland Herbarium 2018).

Table 11: Queensland Government fire management guidelines for regional ecosystems observed within the Offset Area.

| Regional Ecosystem | Fire management guidelines |
|--------------------|---|
| 12.9-10.2 | SEASON: Summer to winter. INTENSITY: Low to moderate. INTERVAL: 4-25 years. STRATEGY: Aim for 40-60% mosaic burn. Burn with soil moisture and with a spot ignition strategy so that a patchwork of burnt/unburnt country is achieved. ISSUES: The fire regime should maintain a mosaic of grassy and shrubby understoreys. Control of weeds is a major focus of planned burning in most areas. Careful thought should be given to maintaining ground litter and fallen timber habitats by burning only with |

| Regional Ecosystem | Fire management guidelines |
|--------------------|--|
| | sufficient soil moisture. Burning should aim to produce fine scale mosaics of unburnt areas. Variability in season and fire intensity is important, as well as spot ignition in cooler or moister periods to encourage mosaics. There is evidence that the spiral leaf <i>Macrozamia</i> s (e.g. <i>M. parcifolia</i>) decline in health if fire interval is greater than 6 years. |
| 12.9-10.5a | SEASON: Late summer to winter. INTENSITY: Low to moderate. INTERVAL: 7-25 years. STRATEGY: Aim for a burn mosaic of 40-60% over the burn area. A diversity of season and fire intensity is important, as well as spot ignition in cooler or moister periods to encourage mosaics. Late summer burns assist with maintaining control of fire intensity. ISSUES: Avoid repeated low intensity fires. Fires that are too frequent will eliminate obligate seeding species. Fire frequency should be such as to allow trees to reach maturity and produce viable seed. |

A Bushfire Management Plan (BMP) will be developed prior to the commencement of the project with the aim of protecting the whole project site (Lot 191 CSH2361), including the Offset Area, from high intensity fires and to maintain and enhance the biodiversity values of the Offset Area. Guidance on the creation of a BMP can be found in the Queensland Herbarium (2018) Regional Ecosystem Fire Guidelines (Queensland Herbarium 2018), with further useful information also available in the Hazard Reduction Burn Guidelines for Koala Habitat on the Tweed Coast (Baker 2016).

The BMP will be prepared by a suitably qualified professional including the recommendations as set out in the Queensland Herbarium Regional Ecosystem Fire Guidelines (Queensland Herbarium 2018), and will detail:

- Current vegetation condition and fire risk;
- Locations of current firebreaks and fire control lines;
- Current fuel loads across the project site, including the Offset Area; and,
- Recommended actions and timeframes for maintenance of bushfire risk.

Controlled fire management of the Offset Area is the preferred method to maintaining eucalypt species diversity and health, as appropriate to koala habitat, season, and ecosystem; however, in circumstances where a fire risk professional and a suitably qualified ecologist agree that environmental conditions are not conducive for an ecological burn, grazing can be used to manage fuel load and reduce fire risk. If grazing is used to reduce fuel load within the Offset Area, it is important to use only livestock species and numbers that are compatible to maintaining or improving koala habitat. For example, goats are prodigious browsers and would not be suitable livestock to maintain koala habitat values, particularly in areas of regeneration.

9.3.5 EROSION MANAGEMENT

Erosion has been identified as an important issue within the Offset Area. Erosion will most likely be caused by rainfall and surface runoff. Erosion may have the following impacts:

- Deposition of sediment on neighbouring properties;
- Nuisance impacts on neighbouring properties; and,

- Channelling and deposition within the site.

9.3.6 BOUNDARY FENCE MANAGEMENT

Monitoring of boundary fencing, including koala exclusion fencing, shall be conducted on a six-monthly basis to identify maintenance requirements. This will include trimming regrowth within 3m of the koala exclusion fencing to deter Koala and other animals from climbing over the fence.

9.3.7 WASTE MANAGEMENT

All refuse storage, removal and collection methods must be in accordance with any relevant local government policy or standard or, where no relevant local government policy or standard exists, are to be in accordance with the *Waste Reduction and Recycling Act 2011* (Qld) so as not to cause any unreasonable interference with the amenity to the surrounding area and to provide an acceptable level of amenity for future users of the site.

Solid waste includes vegetation cleared as part of rehabilitation or maintenance works. Cleared 'green waste' is to be managed by the contractor in accordance with the OMP. Other solid waste is to be disposed of at landfill in accordance with Council's local laws and regulations.

Waste management follows the waste hierarchy:

- Avoid;
- Reduce;
- Reuse;
- Recycle;
- Treat; and,
- Dispose.

The following waste storage practices should always also be implemented and adhered to.

Asbestos or Asbestos Containing Material

Where asbestos or asbestos containing material (ACM) is found on site, asbestos shall be managed in accordance with the:

- *Work Health and Safety Act 2011* (Qld) (WHS Act);
- *Work Health and Safety Regulation 2011* (Qld) (WHS Regulation);
- Code of Practice: How to Safely Remove Asbestos (Qld); and,
- Code of Practice: How to Manage and Control Asbestos in the Workplace (Qld).

Where asbestos or ACM is found on the site, a site-specific Asbestos Management Plan should be put in place. The plan must be administered by the principal contractor and include:

Offset Management Plan
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- Identification and signage of the asbestos or ACM;
- Safe work procedures and control measures;
- Incidents or emergency procedures; and,
- Consultation, information and training responsibilities for staff and contractors.

10 MANAGEMENT ACTIONS AND PERFORMANCE CRITERIA

Management actions have been identified for each management task. Management success can be assessed through the establishment of performance measures to monitor the success (or otherwise) of offset management. The performance measures include quantitative measures which can be measured at regular intervals (Refer to Section 11 for monitoring details). All offset activities will be undertaken by a suitably qualified person, with demonstrated experience and expertise in bush regeneration, weed and pest management.

The OMP is to be implemented by all site personnel and contractors and is to be administered by the Site Environmental Manager or their agent, and the contractor(s) responsible for any works within the Offset Area, or works outside of the Offset Area that may impact the habitat values of the Offset Area. In the case of non-conformance with any aspect of the offset management procedures, the Site Environmental Manager is to be notified immediately.

A copy of the OMP, including the Personnel Register (Appendix 4), is to be maintained on-site. The Personnel Register is to be kept updated with any new contact information. The OMP will be included in all site inductions to ensure that employees, contractors, sub-contractors and suppliers are aware of their responsibilities. Site briefings for all relevant staff must occur prior to any works and before commencement of works daily to discuss approved processes and provide clear understanding of areas to be protected from works.

Evidence of management actions and assessment against the relevant performance outcomes will be reported annually within the Annual Compliance Reporting (ACR; see Section 9 of this OMP).

Table 12: Offset management actions and performance criteria.

| Management Task | Management Action | Responsibility | Performance Criteria |
|--|--|-----------------------------|--|
| Habitat rehabilitation and regeneration | <ul style="list-style-type: none"> All rehabilitation activities, including revegetation and weed management, are to be performed by a suitably qualified contractor, with demonstrated experience in bushland rehabilitation. Relevant qualifications include a certificate in Conservation Land Management - Natural Area Restoration or a degree in a related field such as ecology or vegetation management. Contractors must hold applicable licences such as: <ul style="list-style-type: none"> Commercial operator's licence (ground application of herbicides) issued under the Agricultural Chemicals Distribution Control Act 1966; Senior First Aid certificate; White Card i.e. General Safety Induction (Construction Industry); and, Relevant Ecoaccess permits issued by the relevant State department. Undertake baseline mapping of Offset Areas A and B to identify areas within the Offset Area that will require rehabilitation and active management to improve habitat values to be conducted during Stage 1 construction of the project. No clearing of vegetation within the Offset Area. Clearing on the site shall only occur outside of the Offset Area and within areas identified on Vegetation Clearing Plan 4122282-L007 (Appendix 10; GHD, 2010, Rev A). A pre-clearance survey is undertaken by a suitably qualified person within 24 hours before any clearing of vegetation within the project site, to identify any Koalas present. No clearing of vegetation supporting any Koalas shall occur until any present Koalas vacate the vegetation or are relocated by a suitably qualified person. Veterinary care, or assistance from a wildlife refuge, must be sought if any Koalas are found injured within the site. Strict adherence to the Litoria Consulting Landscape and Revegetation Plan (Appendix 9; Litoria Consulting, 2021, Rev B), and the Westlink Landscape and Revegetation Report (Appendix 10; GHD, 2010, Rev 0). Revegetation within the Offset Area are to consist of the following planting densities: <ul style="list-style-type: none"> Canopy planting at 1 tree per 9 square metres; Shrub layer planting at 1 per 3 square metres; and, Groundcover planting at 2 per 1 square metre. All plants used for revegetation must be consistent with the mapped regional ecosystem for that location within the Offset Area (RE 12.9-10.2 and/or 12.9-10.5a). A list of acceptable plants that include suitable food trees for Koala and Grey-headed Flying-fox are included in the Litoria Consulting Landscape and Revegetation Plan (Appendix 9; Litoria Consulting, 2021, Rev B). | Applicant and/or contractor | <ul style="list-style-type: none"> Any required rehabilitation works are to commence within 12 months of weeds being treated in the Offset Area. A 90% survival rate of plants within rehabilitation areas after 12 months of planting. Regeneration areas will display signs of native vegetation growth at rates expected for those species. |
| Weed management | <ul style="list-style-type: none"> All weed technicians on site must be an accredited ACDC licensed operator. Baseline weed mapping of Offset Areas A and B to be conducted during Stage 1 construction of the project, and before any weed control actions are implemented. All Weeds of National Significance (WONS) within the site are to be treated before other weeds. All weed species located on site are to be identified and recorded. When applying weed control methods, due diligence will be used to maintain and preserve surrounding or existing native vegetation and plant communities. Any weed regrowth will be controlled in the ongoing maintenance program. Weekly, fortnightly and monthly (or as required) weed management practices will be applied to suppress and prevent regrowth of weeds species in all areas of the Offset Area so as to maintain or improve habitat values. Follow up weed inspections will be conducted during the growing seasons and chemical eradication will be applied to any perceived weed occurrence. Manual removal of weeds required in areas adjacent to watercourses. | Applicant and/or contractor | <ul style="list-style-type: none"> < 10% declared plant pests within rehabilitation areas. < 10% environmental weeds within rehabilitation areas. All WONS identified on site to be treated within 12 months of the commencement of the action. All Category Two or Three restricted invasive plants of Queensland, and all other weed species, are being effectively controlled and are not increasing in extent. |

| Management Task | Management Action | Responsibility | Performance Criteria |
|--|---|-----------------------------|--|
| Feral, domestic animal and livestock management | <ul style="list-style-type: none"> • Baseline monitoring of pest animals for the Offset Area to be conducted during Stage 1 construction of the project. • Baseline pest monitoring including motion activated cameras and scat analysis to identify evidence of feral pest species. • If identified, develop and implement a pest animal management program specifying techniques (trapping, baiting, shooting). • Annual pest monitoring by a suitably qualified pest management contractor, with evidence of pest animals recorded, including their identification and siting location. • Where there is evidence of pest animals, targeted trapping and baiting programs will be implemented by a suitably qualified pest management contractor. • Where practical, participate cooperatively in pest management planning and implementation with local land managers (government departments, local governments, and utility providers) to ensure effective pest management in the locality of the Offset Area. • Install appropriate signage informing if/when the property is under pest animal control, including any details of poisons such as 1080 that may be located within the project area. • Effective control of animal pathogens. | Applicant and/or contractor | <ul style="list-style-type: none"> • Non-native pest animals will be minimised through ongoing monitoring and management. |
| Fire management | <ul style="list-style-type: none"> • A Bushfire Management Plan (BMP) will be developed prior to the commencement of the project with the aim of protecting the whole project site (Lot 191 CSH2361), including the Offset Area, from high intensity fires and to maintain and enhance the biodiversity values of the Offset Area. • Undertake management actions in accordance with the BMP. | Applicant and/or contractor | <ul style="list-style-type: none"> • The development of a BMP prior to the commencement of the project. • Fuel levels and burning regime within the Offset Area are being maintained in accordance with the BMP. • Vegetation composition within the Offset Area is not negatively affected by fire regime. |
| Erosion management | <ul style="list-style-type: none"> • Annual monitoring of erosion within the Offset Area. • Annual monitoring for stormwater runoff into adjacent properties and the adjacent project works area. • Erosion and stormwater will be managed and monitored in accordance with the Westlink Erosion Management Plan (GHD, 2010, Rev 1; Appendix 13), and the Westlink Stormwater Management Plan (GHD, 2010, Rev B; Appendix 14). • All stormwater management and drainage infrastructure shall be designed by an RPEQ generally in accordance with: <ul style="list-style-type: none"> ○ A. Westlink Power Project Stormwater Management Plan (GHD, 2010, Rev B; Appendix 14); ○ Gatton Shire Council Planning Scheme; and ○ Queensland Urban Drainage Manual. • Stormwater drainage structures designed so that there is 'no worsening' of runoff beyond that which occurs on the existing undeveloped site. • Ponding of stormwater must not occur on the subject land, adjoining allotments or road reserve. • All unlined open drains shall be stabilised with vegetation. • Progressive landscaping of all disturbed and rehabilitation areas will be undertaken in accordance with the Litoria Consulting Landscape and Revegetation Plan (Appendix 9; Litoria Consulting, 2021, Rev B), and the Westlink Landscape and Revegetation Report (Appendix 10; GHD, 2010, Rev O), including: <ul style="list-style-type: none"> ○ Jute matting and hydromulching will be installed in areas supporting batters steeper than 1 on 2 grades; ○ Other areas are to be rehabilitated through a mixture of geofabric protection, mulch, hydromulching and the planting of shrubs and trees as shown in the landscape plan. • Landscaping layout within disturbed and rehabilitation areas will assist in allowing efficient drainage of the site without resulting in high velocity flows being diverted over areas that may be subject to erosion. Responsibility for maintenance shall rest with the relevant site manager. • Details of required operation and maintenance procedures shall be supplied for future Council reference if required. | Applicant and/or contractor | <ul style="list-style-type: none"> • No visible signs of erosion within or at the boundaries of the Offset Area. • Address all complaints regarding erosion and storm water run-off from the Offset Area. • No irreparable collapse or destabilisation of any part of the Offset Area from erosion. • No evidence of erosion or sedimentation of waterways within the Offset Area. |

| Management Task | Management Action | Responsibility | Performance Criteria |
|----------------------------------|---|-----------------------------|--|
| | <ul style="list-style-type: none"> The management of the two small dams located in Offset Area A and the ephemeral creek lines to reduce siltation and control erosion in this area as part of general land management and improvement of the habitat condition for the Koala. | | |
| Boundary fence management | <ul style="list-style-type: none"> The southern boundary fence shall be replaced with koala exclusion fencing that meets the requirements of Road and Traffic Authority (NSW) Standard Drawing (Appendix 15; NSW Roads and Maritime Services, 2017) and includes the following: <ul style="list-style-type: none"> Galvanised wire 50 mm chain-link fence, with additional 0.5m overhang “floppy top” (outward of road formation). Refer to NSW RTA Drawing R0800-31 (Appendix 15); 3 m buffer free of vegetation (excluding grasses) on habitat side of fence; and, A manual gate is to be provided in the location of the permanent driveway. The gate must be at least eight meters wide to allow heavy haulage trucks to enter the site. The eastern, western, and northern boundary fences are to be replaced with, or modified to become, wildlife friendly fencing that allows the movement of macropods, Koalas and gliders. Acceptable options to achieve this include: <ul style="list-style-type: none"> Replacing the barbed wire strands with plain, high tensile wire ensuring there is 300-500mm (0.3-0.5m) gap between the ground level and the bottom strand so that Koalas and macropods can move underneath the fence. Make top strand visible using white strand wire, sections of poly pipe or flagging tape; Replace with a chain wire fence with timber bracing up to 1.2m height max to allow passage for macropods, gliders and Koalas; and, Replace with timber posts and rail fencing. | Applicant and/or contractor | <ul style="list-style-type: none"> Approved fauna friendly fencing is in place along the eastern, western and northern boundaries of the property. An approved koala exclusion fence is in place on the southern boundary of the property. Koala exclusion fencing is clear of vegetation on the habitat side and no holes or gaps are present in the fencing. Fauna friendly fencing is maintained and in good working condition. |
| Waste management | <ul style="list-style-type: none"> All waste should be placed in appropriate disposal containers and areas during works. All waste should be removed from site and disposed of appropriately. Where possible ensure that waste onsite is appropriately covered. Covered bins are provided to collect waste and prevent fauna being attracted to the site. An adequate number of an appropriate type of commercial and bulk waste containers shall be provided at a central location to accommodate all waste produced on the site. All waste collected on the site to be removed not less than once per week. All general and regulated waste records, including transfer station dockets and waste tracking certificates, are to be retained. Waste must be stored, pending its lawful disposal to landfill or to a recycling facility, or another place with the written approval of the administering authority, in a location at the authorised place where it is not visible to a person outside the authorised place. Waste (other than wastewater or sludges in the project area evaporation pond) must be removed from the authorised place within the timeframe specified for the waste as follows: <ul style="list-style-type: none"> If the waste is surplus from the construction of the power station – within three (3) months after the power station is commissioned; or, Otherwise – within three (3) months of the waste being generated. Waste storage areas are to be signed and located away from environmentally sensitive areas. Burning of waste is prohibited. Adequately sized refuse bins will be made available on-site and will have suitable lids to prevent access by animals. The site is to be kept in an orderly and hygienic standard, free of litter and waste. | Applicant and/or contractor | <ul style="list-style-type: none"> Waste management measures are being adhered to. No visible signs of waste on site. |

11 MONITORING AND REPORTING

This section outlines the monitoring and reporting requirements of the Offset Area. These activities ensure work conducted within the Offset Area is compliant with all federal legislative requirements and will ensure identification of all non-compliance issues.

Monitoring results will be used to determine if performance criteria for each management task are being met. Individual performance criteria are designed to ensure the conditions of approval as set out in Section 2, and detailed in Appendix 2 and Appendix 3, are being met. Failure to achieve an individual performance criterion will require the implementation of corrective actions to address the failure.

Monitoring and reporting are to be conducted in accordance with the schedule in Section 11.3.

11.1 MONITORING REQUIREMENTS

To ensure compliance with all aspects of the OMP, environmental monitoring will be performed for each management task. The implementation of the environmental monitoring will be the responsibility of the Site Environmental Manager, or delegate, and will include:

- Coordinating sample collection and documentation;
- Coordination of sample and monitoring equipment;
- Ensuring monitoring frequency is in accordance with all approvals, permits, Australian Standards (AS), and any other industry standards;
- Data management and representation of results;
- Reporting non-compliance or incidents related to monitoring;
- Responsible for the implementing any corrective actions related to non-compliance or monitoring incidences;
- Training of personnel in monitoring procedures, and;
- Arranging specialist consultants to conduct monitoring duties, as required.

All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated in the following way:

- If a statutory instrument or standard made under a law of the State prescribes standards for calibrating the equipment – in accordance with that statutory instrument or standard; or,
- Otherwise – according to any relevant AS applicable to the calibration of the equipment.

In addition to recording monitoring data, the following information will also be recorded:

- Name of recorder(s);

- Date and time of monitoring and/or sampling;
- Location of sampling, including general information such as nearest road, property name, descriptive information, as well as GPS coordinates; and,
- Photographs of monitoring location, as well as surrounding area.

11.1.1 HABITAT REHABILITATION AND REGENERATION

Habitat quality within the Offset Area will be monitored annually, coinciding with the anniversary of the initial habitat quality baseline monitoring used to identify areas within the Offset Area that will require rehabilitation and active management to improve habitat values. Photo-point monitoring, in addition to GPS locational and extent survey techniques, will be utilised for habitat rehabilitation and regeneration monitoring.

The following habitat rehabilitation and regeneration monitoring procedures shall be included in the monitoring program:

- The coordinates of the photo monitoring points will be recorded using a handheld GPS to assist locating the monitoring points when undertaking subsequent monitoring, and permanently marked using star-pickets hammered into the ground. Photo-point monitoring is to occur annually at the same time of year at each rehabilitation or regeneration site.
- Record the time of year, weather conditions, and any other useful data that may assist monitoring and comparison of habitat management against previous years monitoring data.
- For each photo-point image include photographic records, including:
 - GPS coordinates of the photo point;
 - Date, time and photo number;
 - Direction in which the photo was taken (north, east, south and west aspects) across the rehabilitation or regeneration site.
- Annual rehabilitation or regeneration monitoring data will be used to compare changes in habitat quality against previous years monitoring.
- Annual monitoring data shall be used to create up to date mapping to assist ongoing rehabilitation or regeneration management practices.

11.1.2 WEED MANAGEMENT

The presence of weeds within the Offset Area will be monitored annually and will be undertaken at the same time of year as the initial baseline survey to ensure consistency across annual weed monitoring. The following weed monitoring procedures shall be included in the weed monitoring program:

- The location(s) of WONS and Category Two or Three restricted invasive plants of Queensland are to be mapped using GPS waypoint locations for individual plants or clusters. Where a large weed infestation is present, the use of GPS polygons for the extent of the infestation shall be used.

- The identification and general location of all other weeds, other than WONS and Category Two or Three restricted invasive plants of Queensland, shall be recorded and described.
- Record the time of year, weather conditions, and any other useful data that may assist monitoring and comparison of weed management against previous years monitoring data.
- For each data entry (weed location and/or notes) include photographic records, consisting of four photographs (in the order of north, east, south and west aspects) of the surrounding environment, and make notes of weed identification(s), density, and coverage. Also include a photograph of the soil/ground layer to provide information on soil type and condition.
- Annual weed monitoring data will be used to compare changes in weed infestations and densities against previous years monitoring.
- Annual monitoring data shall be used to create up to date mapping to assist ongoing weed management practices.

11.1.3 FERAL, DOMESTIC ANIMAL AND LIVESTOCK MANAGEMENT

The control and prevention of feral and domestic animals within the Offset Area is to be performed in accordance with the relevant legislation (such as the Commonwealth *Biosecurity (Consequential Amendments and Transitional Provisions) Act 2015* and the Queensland *Biosecurity Act 2014*). Control and prevention methods must include the control of pest animals by legal methods by a suitably qualified pest management contractor and must be undertaken in a humane manner.

The following pest animal and livestock monitoring methodology will be implemented:

- Desktop review of pest animal presence captured as part of the ongoing pest animal management program, including mapping locations of pest animal sightings and detections, GPS tracked paths of pest animal trails, and comparison of monitoring data against previous years monitoring results.
- Annual pest monitoring by a suitable qualified contractor, coinciding with the anniversary of the initial pest animal baseline survey.
- Record the time of year, weather conditions, and any other useful data that may assist monitoring and comparison of pest animal management against previous years monitoring data.
- For each data entry (pest animal location and/or notes) include photographic records, consisting of four photographs (in the other of north, east, south and west aspects) of the surrounding environment, and make notes of pest animal identification(s), and if possible other information such as age, condition, and sex.
- Annual pest animal monitoring data will be used to compare changes in pest animal presence against previous years monitoring.
- Annual monitoring data shall be used to create up to date mapping to assist ongoing pest animal management practices.

11.1.4 FIRE MANAGEMENT

Monitoring requirements for fire management will be informed by the BMP and will include regular review of access tracks, fire breaks, fuel loads and outcomes of controlled ecological burns or other management techniques such as the use of livestock. Fire management monitoring will also include surveys of vegetation composition within the Offset Area will be conducted annually to ensure the habitat(s) is not negatively affected by fire regime.

11.1.5 EROSION MANAGEMENT

The presence of erosion, stormwater runoff, and siltation within the Offset Area will be monitored annually and will be undertaken at the same time of year as the initial erosion baseline survey to ensure consistency across annual erosion monitoring. The following erosion monitoring procedures shall be included in the erosion monitoring program:

- The location(s) of erosion, siltation or sedimentation are to be mapped using GPS waypoint locations for areas of erosion within or at the boundaries of the Offset Area. Where large areas are found to be impacted by erosion, the use of GPS polygons or tracks shall be used to mark out the extent of the erosion.
- Record the time of year, weather conditions, and any other useful data that may assist monitoring and comparison of erosion and siltation management against previous years monitoring data.
- For each data entry (e.g. erosion or sedimentation location and/or notes) include photographic records, consisting of four photographs (in the order of north, east, south and west aspects) of the surrounding environment, and make notes of erosion extent and possible direction of erosion/water flow across the property. Also include a photograph of the soil/ground layer to provide information on soil/sediment type and condition.
- Annual erosion, siltation, and sedimentation monitoring data will be used to compare changes in erosion management against previous years monitoring.
- Annual monitoring data shall be used to create up to date mapping to assist ongoing erosion management practices.

Baseline erosion and stormwater flow mapping will need to be conducted prior to any control works to measure the effectiveness of the subsequent erosion and stormwater control program. Erosion and stormwater mapping are then to be conducted annually and reported in the ACR.

11.1.6 BOUNDARY FENCE MANAGEMENT

Monitoring of wildlife friendly boundary fencing, including koala exclusion fencing around the project infrastructure and along the southern boundary of the lot, shall be conducted on a six-monthly basis. This will include:

- Monitoring vegetation regrowth along the habitat side of the koala exclusion fencing, taking note of any vegetation growing within 3m of the koala exclusion fencing.
- Monitoring the condition of koala exclusion and fauna friendly fencing and inspecting any previous repair work to ensure repair works are being conducted in a manner to maintain the integrity of the fences and does not cause risk of injury to wildlife.
- For each data entry (i.e. a repair inspection location, or vegetation regrowth) include photographic records to support the notes. This may be photographs to show the repair work is functional or not to standard, or of vegetation kept clear of the exclusion fencing.

11.1.7 WASTE MANAGEMENT

Monitoring of waste shall be conducted as part of general inspections and recorded if/when issues are observed.

11.2 REPORTING

The Site Environmental Manager is responsible to the maintaining accurate records substantiating all activities associated with, or relevant to, the conditions of approval, including measures taken during the implementation of any management tasks.

Reporting includes:

- Annual compliance reporting;
- Reporting of non-conformance issues;
- Incident reporting;
- Compliant reporting; and,
- Reporting of any necessary corrective actions.

11.2.1 ANNUAL COMPLIANCE REPORTING

The Site Environmental Manager is responsible for preparing annual compliance reports (ACR) under Condition 13 of EPBC 2017/7994 no later than within 60 days of every 12-month anniversary of the commencement of the action.

The ACR must be published on the approval holder's website and include a report of compliance with each of the conditions of approval, including implementation of any management measures as specified in the conditions of approval. The ACR will include:

- Koala habitat quality reporting
- Incident reports of impacts upon Koalas and/or koala habitat;

- A summary report of the management tasks and measurement against any relevant performance criteria;
- Any monitoring and management milestones achieved during the previous 12 months, including:
 - Progress on key management measures;
 - Attainment of performance targets and completion criteria; and,
 - Any adaptive management implementation outcomes.

Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions must be provided to the Department at the same time as the ACR is published.

11.2.1.1 KOALA HABITAT QUALITY MANAGEMENT.

The key milestone for the offset is that at five (5) years after the start of the offset, the habitat has been maintained or improved and no increase in threats have occurred. Performance indicators to achieve this are:

- Density and abundance of koala food trees is maintained or increased; and,
- Threats that have been identified have not spread or increased.

Baseline koala habitat quality assessment will need to be conducted prior to any works within the Offset Area. The baseline assessment will provide an initial benchmark prior to works. Baseline koala habitat quality monitoring will be conducted at the same locations as those used for the Koala Offset Area calculations and will include the establishment of permanent sample sites for repeatable monitoring. The locations for sampling sites shall be selected considering the mapped vegetation units (impact assessment units) as described in Table 8 and shown in Appendix 8 (Offset area and assessment units figure; GHD, 2017, Rev 4). The size of the impact assessment units is used to determine the number of sampling sites within each impact assessment unit. As all three impact assessment units within the Offset Area are between 0 and 50ha in size, at least two samples sites are required for each impact assessment unit.

Habitat quality monitoring assessments will be conducted annually by a suitably qualified environmental scientist or ecologist. The habitat quality monitoring shall be undertaken at the same permanent transect locations as those used for the initial baseline habitat quality assessments within the Offset Area.

As habitat quality scores are used to monitor offset areas over time, it is important that the habitat quality assessment method is applied consistently to allow for meaningful comparison of the scores. The method already used to conduct the Koala Offset Area calculations (Section 9.3; Version 1.2 April 2017) must therefore be used to undertake any subsequent habitat quality assessments.

Monitoring data for the following indicators will be collected annually, including:

- Number of large native trees;
- Tree canopy height for emergent, canopy and sub-canopy;
- Recruitment of woody perennial species (within the ecologically dominant layer);

- Tree canopy cover (%) for emergent, canopy and sub-canopy;
- Native shrub layer cover;
- Coarse woody debris;
- Native plant species richness for trees, shrubs, grasses, and forbs/others;
- Non-native plant cover;
- Native perennial grass cover;
- Organic litter cover;
- Number, size and health of koala feed trees;
- Number, size and health of koala shelter trees;
- Identification of threats (such as dogs) observed on-site, including numbers of culled animals.

Koala usage monitoring will be conducted in addition to the habitat quality monitoring assessments using the Koala rapid assessment method (KRAM; Woosnam-Merchez, Cristescu et al. 2012). Evidence of fauna disease will also be monitored as part of the Koala usage monitoring.

11.2.2 NON-CONFORMANCE PROCEDURE

Non-conformance with the OMP will be immediately reported to the Site Environmental Manager for remedial action. Actions taken shall reflect the magnitude of environmental impact.

For minor non-conformance incidents, the Site Environmental Manager shall specify appropriate remedial actions. An example of a minor incident is the inadequate maintenance of erosion control structures.

For major non-conformance:

- Works will immediately cease;
- The applicable authority will be notified of extent of non-conformance; and,
- Remedial actions to be carried out in consultation with relevant officers and Site Environmental Manager as necessary.

An example of major non-conformance is the removal of vegetation within the Offset Area or injury to wildlife.

If, at any time, monitoring identifies that there has been a decrease in the extent or habitat quality of baseline condition within the Offset Area, the approval holder must report to the Department in writing within 20 business days of becoming aware. The report must state the cause, the response measures (including timeframes for reporting the success of those measures to the Department) and the actions to prevent further occurrences. Additionally, under Condition 14 of EPBC 2017/7994, the Site Environmental Manager, or delegate, must report any potential or actual contravention of the conditions to the Department in writing within 5 business days of the approval holder becoming aware of the potential or actual contravention.

11.2.3 INCIDENT REPORTING

Ongoing monitoring includes the assessment of incidents and hazards identified by site personnel. It is the responsibility of all personnel to report any incidents to the Site Environmental Manager. An environmental incident is any breach of the Offset Area Management Measures detailed in the OMP, or any other unplanned action detrimental to the environment.

All environmental incidents must be recorded using an Incident Reporting Form (Appendix 16) along with any corrective and preventative actions taken to address the environmental incident. The details of the incident are to be recorded by the Site Environmental Manager, or delegate, in the Corrective Actions Register (Appendix 17).

As reports are submitted, it is the Site Environmental Manager's role to ensure that the forms are completed, and management measures are initiated or updated accordingly to reflect the information provided. The OMP is to be updated to reflect any changes or additions to management measures.

If the incident results in a severe impact on Matters of National Environmental Significance the Site Environmental Manager, or delegate, is to provide an incident investigation report to the Commonwealth Department of the Environment within one week of being notified of the incident. Examples of a severe incident include impacts to a species or community listed as a Matter of National Environmental Significance, for example a Koala injury or mortality, or unapproved clearing of critical fauna habitat.

11.2.4 COMPLAINT REPORTING

The Site Environmental Manager will maintain a register of complaints. Complaints relating to environmental aspects will be treated as environmental incidents in terms of investigation and will include a record of any action taken with respect to the complaint.

The person undertaking the activity to which this approval relates must record the following information for each complaint received about the activity:

- Time, date, name and contact details of the complainant;
- Reasons for the complaint;
- Any investigations undertaken by the person undertaking the activity to which this approval relates;
- Conclusions formed by the person undertaking the activity to which this approval relates following the investigation; and,
- Any actions taken by the person undertaking the activity to which this approval relates to resolve the complaint(s)

11.2.5 CORRECTIVE ACTIONS

All corrective actions identified for incidents, complaints and non-conformance audit results are to be recorded in a Corrective Actions Register, administered by the Site Environmental Manager. The register will be monitored weekly by the Site Environmental Manager to ensure that corrective actions listed in the register are completed.

The register is to include the following details:

- Date & location of incident/complaint/non-conformance;
- Details of incident/complaint/non-conformance;
- Actions taken to control the incident/complaint/non-conformance and prevent any future occurrence;
- Date by which the corrective action will be completed (unless ongoing); and,

Appropriate sign-off, indicating that the incident/complaint/non-conformance was investigated and followed up appropriately.

11.3 SCHEDULE

Monitoring and reporting are to take place in accordance with the requirements outlined in the preceding sections. The mandatory monitoring and reporting schedule is outlined in Table 13.

Table 13: Monitoring and reporting schedule.

| Description | Scheduling |
|--|---|
| Baseline monitoring for all relevant management tasks | During stage 1 construction |
| Offset area habitat quality | Annually, coinciding with baseline monitoring anniversary |
| Survival rates of rehabilitation planting | Annually, coinciding with the anniversary of rehabilitation planting |
| Weed survey and assessment | Annually, coinciding with baseline monitoring anniversary |
| WONS treatment | Within 12 months of the commencement of the action |
| Pest animal monitoring | Annually, coinciding with baseline monitoring anniversary |
| Bushfire Management Plan | Prior to commencement of the project |
| Fire management monitoring | Annually, coinciding with baseline monitoring anniversary |
| Erosion within the Offset Area | Annually, coinciding with baseline monitoring anniversary, or as required after heavy rain events, and prior to any control works |

| Description | Scheduling |
|---|---|
| Stormwater runoff into adjacent properties and projects works area | Annually, coinciding with baseline monitoring anniversary, or as required after heavy rain events, and prior to any control works |
| Boundary fence monitoring | Six-monthly basis, or as required after extreme weather events |
| Waste management monitoring | As required, as part of general site inspections |
| Annual compliance reporting | Within 60 days of the 12- month anniversary of the commencement of the action |
| Milestone achievement | Within five years after the commencement of the Offset |

12 ADAPTIVE MANAGEMENT AND OMP REVIEW

The offset management actions respond not only to existing threatening processes and risks, but have also been designed to change over time due to a range of factors both internal and external to the offset site, including climate and weather factors, changing condition of vegetation on site and the reduction of threatening processes over time. Further, it is anticipated that new techniques and management practices may become available over the life of the offset.

The offset shall be managed via a best-practice adaptive environmental management (AEM) approach. The AEM approach not only helps to manage project delivery risk, but also allows for improved techniques and resources to be incorporated into the offset management regime. Adaptive management allows for monitoring of the offset and for best practice environmental management to be implemented as technologies develop over time.

The AEM approach is compatible with, and complementary to, project risk mitigation and management described in *AS ISO 31000:2018 Risk management – Guidelines* (Standards Australia 2018). The AEM process is shown in Figure 2.

The OMP will be reviewed by the project manager as required if any additional activities are to be carried out. Each review period will investigate:

- Potential gaps between the OMP management measures and on-site construction activities;
- Assessment of any incidents or near misses that occurred since the previous review; and,
- Employee and workplace compliance.

Ongoing audit and review of the OMP ensures that risk identification and management measures are constantly assessed, ensuring the efficiency and effectiveness of the OMP.

Adaptive management will be used to incorporate changes in any of the following areas:

- Incorporation of information or advice related to the OMP;
- Updates to conservation advice or new threat abatement plans relevant to the Koala or Grey-headed Flying fox;
- New techniques to monitor vegetation and habitat quality, Koala presence/absence and abundance, or weed presence etc;
- To update management actions where performance criteria are not being met;
- To manage unforeseen disruptions to monitoring and works scheduling such as through inclement weather disruptions; and,
- To refresh the mitigation measures should new threats be identified, or severe weather events such as unplanned fires or floods occur.

Any updates to the OMP that do not result in changes to environmental outcomes or performance criteria can be made without informing the Australian Government Department of Environment and Energy (DoEE). If updates to the OMP do result in

changes to environmental outcomes or performance criteria, the amendments and justification for the changes must be provided to the DoEE.

The revised OMP must be published on the approval holder’s website at least 10 business days before being implemented and must remain on the approval holder’s website until the end date of the project. Any changes to the OMP as a result of the audit and review process must also be published.

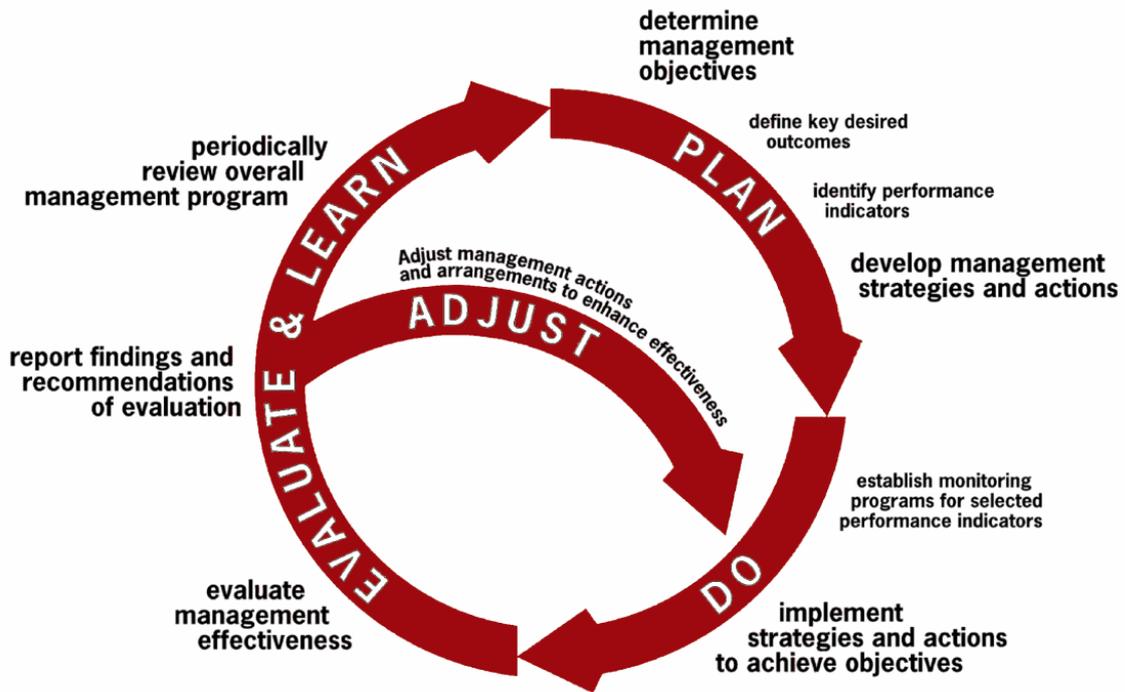


Figure 2: Adaptive management process (CSIRO).

13 GLOSSARY

| Acronym | Description |
|----------|--|
| OMP | Offset Management Plan |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999 (Qld)</i> |
| ACR | Annual Compliance Reporting |
| BMP | Bushfire Management Plan |
| KRAM | Koala rapid assessment method |
| AS | Australian Standard |
| DOEE | Department of Environment and Energy |
| DNRM | Queensland Department of Natural Resources and Mines |

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