



BEMROSE
WILDLIFE MANAGEMENT SERVICES

Site: Lockyer Energy Project, Ranger Road, Adare, 4343

Date of service: 07,08,09,10,13,14,15,16,17/09. 2021

2021

Fauna Management and Consultancy
Onsite fauna and habitat management compliance.
Arche Energy Pty Ltd.
Post-clearance report.



Dean Bemrose.

Bemrose Wildlife Management Services.

September. 2021

Arche Energy Pty Ltd.

(Lot191 CP CSH2361)

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1.0

SCOPE OF WORKS

Bemrose Wildlife Management Services (Queensland Government Rehabilitation Permit number WA0021286) was engaged by the site Contractor –Arche Energy Pty Ltd to conduct the onsite fauna management and habitat compliance (onsite fauna management phase, specifically the Fauna/Koala Spotter scope of works service at the authorised developmental site, specifically pertaining to the Lockyer Energy Project. All pertinent documentation enabling fauna consultancy and habitat management compliance for this site has been witnessed and approved. Strong positive communication has facilitated a program that was successful and resulted in no injuries to fauna. Minor displacement of fauna did occur with one adolescent male Brush-tailed Possum being captured and relocated into the EPZ at the rear of the site (Ironbark Forest). This area for relocation was suitable as habitat trees (analogue floristic and structural diversity) were observed within a short distance of the capture site. Upon release the Possum was observed to climb a tree with hollows uninjured.

No EVNT fauna was observed during any daily pre-clearance site inspections or during the mobilisation of vegetation clearance on any one day. Focused pre-clearance searches for Koala did occur on each of the days of clearance. No activity levels were observed. Forage, shelter, home trees, food trees and home range potentials are existent within the EPZ for remnant Koala populations. Connectivity levels (fauna corridors) are existent within the greater area and offer viable immigration and emigration potential for fauna generalists in addition to Koala.

All terrestrial based termitaria were searched, checked and cleared for Special Least Concern Short-beaked Echidna (no Echidna observed). It is known to be the breeding season for Echidna, therefore strong observations did occur whilst vegetation management is mobilised. Small Avian breeding places were not encountered constructed within the grassed area/s that could support nesting potentials. Lower canopy to upper canopy searches of floristic assets did occur during the entirety of the program. No active Avian stick nests were observed during the program duration.

One active and critically essential high risk breeding place – Wedge-tailed eagle was observed along the fringing extension to the TPZ at the rear of the site. Activity levels around this site by Wedge-tailed eagles has increased recently, resulting in direct observations of one chick. This is highly significant. As the tree was not directly within the scope of works footprint previous assessment/s and onsite assessment regulated that the nest is to remain and is not to be impacted. Ongoing observations will occur throughout the construction phase of the general project. Along the exclusion zone, along the rear perimeter of the authorised clearance zone, all vegetation assets were flagged with pink

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tape to itemise the trees that were not to be impacted. This zone is approximately 6 meters wide and has a no impact work zone application.

Essential Environmental Protection Zones when established provide ongoing refugia opportunities for the endemic fauna. This area was monitored and supervised to ensure no access or impact occurred. No unauthorised impact or machinery incursion into any one EPZ occurred during the program.

During this specific program, Red Deer – Buck and Doe – were observed intermittently (predominantly during the early morning hours) traversing the site in a direction towards the EPZ and neighbouring property to establish day camps (area directly South of the established two offset areas). A feral pest management mechanism has been installed within the general Environmental Management Program. Established information suggested the presence of feral dogs, cats or uncontrolled domestic dogs was possible, however, during operational vegetation and fauna management works no direct observations occurred. Anecdotal spoor evidence indicated that Canine species do have an abundance level, however an unknown level. Predation via Canid species and feline species can present a very real threat to the stabilisation of ecosystems. The establishment of the EPZ's is critical to the survival of endemic populations of Amphibians, Aves, Macropods, Mammals and Reptiles. Control measures for this site precluded the instalment of fencing along the Northern, Eastern, Western boundaries to allow safe egress, as instructed in the pre-clearance fauna management assessment. This mechanism was successful. Listed as a mechanism to aide on the control of feral predators within the site boundary does allow for the establishment of a Cat and Dog eradication program. This will be based on the Site Environmental Managers assessment. It is noted that adjacent active Farms may utilise working dogs, therefore the methodology of eradication needs to be critically evaluated (firearms, baiting mechanisms) to ensure no 'farm dogs' are impacted.

Revegetation planning mechanisms have been established via Litoria Consulting that are inclusive of control measures to ensure any observation of fauna (amphibian – specialist handling techniques to be used) is managed correctly. The efficacy of this program will aim to re-establish endemic floristic species planted out at a structural density in accordance with best practice guidelines. When established, the vegetation assets (ground, shrub, understory, lower to upper canopy) will enhance the environ, specifically habitat features of significance, when mature will offer scansorial fauna refugia. Performance outcomes during this phase as listed in the Litoria program (table 5) indicate a strong commitment in managing the site in order to minimise weed incursions into the revegetation sites. Adaptation of fauna individuals or assemblages established within the greater envelope (site and revegetation areas) of the site is highly probable.

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Open dispersal egress pathways were established during the fauna management program to allow safe pathways for smaller more robust herpeto-fauna species to egress off site on their own volition.

In aligning with the vegetation management and fauna management program, a time schedule of no vegetation clearance did occur primarily to reduce stressors to fauna inhabiting the scope of works site.

A Vegetation Management Plan and Fauna Management Plan was activated for this scope of works site. This document outlined the vegetation asset removal/retain process in addition to critical notes regarding fauna assemblage and individual species actions. It is the responsibility of the Fauna and habitat management company to assess the action and implementation plan and construct suitable ecological management actions. Onsite supervision of vegetation asset clearance works inclusive of retaining salvageable habitat assets to install into the ecological Protection Zones and Tree Protection Zones is a fundamental role.

Sequential clearance did occur towards the established EPZ in order to avail this area for continued survivorship. Salvageable habitat assets (tree hollows etc) were not in abundance, therefore minimal salvageable habitat hollows were offset into the EPZ.

It is noted that the general floristic attributes associated within this scope of works site do not appear to have phyto-morphological hollow bearing assets. This is possible due to the structure of the larger vegetation assets (*Acacia*, *Corymbia*, *Melaleuca*, *Eucalyptus*) not being of a suitable age to develop these potential breeding places. As a direct result of minimal potential habitat features and potential breeding places, the correlation to arboreal fauna being located onsite was observed to be minor. Any vegetation stockpiles were monitored and searched, especially if they were lying fallow for a period greater than 24 hours. All assets to temporarily store fauna were activated to ensure minimal myopathy events. Veterinarian contact sources have been activated for this program.

Vegetation in zone 1 has dominant canopy floristic variances of *Corymbia* (Iron Bark species) and *Eucalyptus* (Spotted Gum). The understory is dominated by *Acacia* species. Very low volumes of invasive weed species were observed throughout the site proper. Zone 2 is indicative of minor works along the fire maintenance line and zone 3 is primarily focused on the forward perimeter of the site (Fords Road). Critical positive information relayed is that hyper vigilante vegetation clearance protocols have been enacted that will directly result in only selective clearance within the boundaries. Indicated by the VMP is two separate polygons of habitat retention in addition to low level ephemeral swamp areas located SSW area of the site. Critical information and supporting documents have been forwarded to Bemrose Wildlife Management Services. At no time during the vegetation clearance program were the TPZ polygons impacted.

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Koala active searches were maintained during the duration of vegetation management works. Observations during the inspection service to that of the actual clearance program correlated to the presumption of minimal emigration of fauna accessing the site.

Observations were correct in that the bulk of the vegetation assets did not contain hollows. Comprehensive check and clear protocols were activated to ensure all trees as inspected for hollows. No fauna became entrapped within any area of the site requiring rescuing with a standing order regarding trenching activated to ensure on open trenches are left open post working hours to ensure no fauna becoming entrapped. Bemrose Wildlife will be on call to navigate any incidental fauna activities throughout the Civil program.

Activation of stipulated regulations required fauna friendly fencing to be installed. The efficacy of this style of fencing did assist in the minimal emigration into the scope of works site. The connectivity and integrity of the fencing was maintained during all days of fauna management service. Sequential clearance as scheduled did allow the vegetation clearance program to progress in a general Northerly direction into the EPZ offset areas.

The fire maintenance line is relatively cleared of vegetation (buffer zone 10m wide) and was not impacted. Vehicle access was available along the perimeters via established vehicular tracks

The proposed methodology of vegetation management activated a 30t excavator to conduct the clearance. Check and clear protocols were activated to assess stockpiles as necessary. No fauna was captured or observed to displace away from vegetation stockpiles. It is evident that a strong general strategy has been activated for this scope of works site to ensure maximum productivity with a robust Fauna and habitat management and welfare program being activated.

This phase of habitat and fauna management was supervised and managed by Bemrose Wildlife Management Services to comprehensively maintain the fauna and habitat integrity and assets within the scope of works site. Translocation sites activated were successful as relocation points with pre-determined values incorporating habitat features of ecological significance.

Anticipated fauna species to be potentially encountered were Ring-tailed Possum, S.E Qld Bearded Dragon, S.E Qld Water Dragon, S.E. Qld Coastal or Carpet Python, Common Green Tree snake. The listed robust species were not observed.

It is a positive mechanism within this framework that a site specific retain/remove program has been enacted in order to preserve as many vegetation assets as possible and maintaining a floristic diversity for the immediate environ.

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Fauna load reduction mechanisms were not implemented to manage and enhance potential fauna survivorship. Sedentary and potential vagile species were availed egress points into analogue habitat features. Macro and micro habitats were assessed for vagile fauna that may be encountered during the fauna management program. Native tussocks of grass were observed throughout the site and around the basal regions of the trees. Wren, Manakin and Finch species were observed throughout the scope of works site. It is anticipated, specifically as the floristic variances and proximity to the greater EPZ will afford continued survivorship and breeding place potentials.

Australasian Bee-eaters were audible (not observed to be active around embankments to indicate breeding chambers). All embankment structures were assessed to determine activity presence of earthen breeding tunnels and chambers.

Primarily, the age of the scheduled selective clearance of NJKHT's is not phyto-morphologically at an age whereby hollows should have developed. Therefore, in theory restricting the observations and breeding places of arboreal mammals.

Hollows generally form when a suitable tree reaches an age of 80 years. This is highly dependent on the species of tree. Ironbark species, utilising field experience and knowledge do not develop hollow bearing natural assets as frequently as – for example – Scribbly Gum species. This is due to the greater density of the Ironbark wood. Arboreal termitaria, however, is active within this site. It is known via research models and infield experience morphologically Ironbark species have deep furrows (trench like vertical indentations of the bark) that enable termite species to mobiles relatively low impacts to survivorship as the furrows provide direct cover from predation with minimal sunlight penetration. Excavations to arboreal Termitaria via Greater Kingfisher species (Kookaburra) is frequently observed. These excavations can be inhabited by Brush-tail Possum and or Lace Monitors. General site instalments regarding hollow bearing natural asset when one is removed at least one habitat box applicable to the gauge of the removed habitat hollow should be installed. Salvageable hollows can be re-installed in adherence with a translocation strategy.

Uninhibited line of sight potentials from the basal areas of scheduled trees to the upper canopy stratum levels was common throughout the site. Techniques that were utilised during this phase involved standard Bemrose Wildlife protocols for observing arboreal fauna. Basal searches of the selective areas were carried out to determine Koala presence in conjunction with 360° basal to upper canopy Koala searches. No Koala anecdotal evidence (Koala climbing evidence and scat trace) was observed. No physical observations of Koala occurred at any stage of the program, inclusive of the pre-clearance inspections carried out the day before. Dique et al and S.P.O.T fauna management mechanisms were adopted for this project.

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Prior to the compliance offered regarding fauna and habitat management of the selective trees, site instructions were relayed via representatives of Arche Energy to categorically confirm the proposed program and to affirm via Bemrose Wildlife a concise action and implementation fauna and habitat management program.

Concise actions were afforded by the pro-active involvement of all parties to enact a program that was geared towards the safe outcome of fauna and a no injuries or deaths to any fauna within the scope of works site.

No Avian breeding places were observed – active or inactive. No arboreal termitaria was observed to have excavated breeding chamber/resting/sheltering access points. No EVNT fauna was observed. No Special Least concern fauna – Echidna or Platypus was observed. Within this scope of works site, no riparian zones or encroachment into creek systems did occur. No earthen embankments are to be affected during the scope of works that would affect potential breeding chambers constructed by Striated Pardalote.

Check and clear protocols were enacted to observe any fauna or habitat features of significance.

A strong commitment was maintained by all parties concerned and associates to enhance and preserve the environmental attributes on all sites when possible. This is a strong pro-active involvement to preserving and conserving critical Australian habitat. A proactive engagement by the shire of the Lockyer Valley is noted for the greater engagement and welfare of fauna and potential refugia ecological habitat features.

Strong positive communication between the Scope of works delegate/s, and Bemrose Wildlife has occurred to develop a suitable mitigation strategy.

It is widely accepted that this strategy is suitable and approved via the Dept of D.E.S.

No anecdotal climbing indicators were observed on any of the potential Non-juvenile Koala Habitat Trees. High vigilance regarding Koala observations were enforced by Bemrose Wildlife and activated on this site.

No RAMSAR wetland sites or any alternate trigger documents or places of significance was detected or observed throughout the scope of works site. No Special Least Concern fauna reliant on wetlands were observed, or audible call indicators recorded. Under this legislative document all pertinent clients were advised of the obligations under this scope of works.

Under the Queensland state legislative pieces inclusive of the *Animal Care and Protection Act 2001 (ACP Act)*, *Nature Conservation Act (NC Act)* and subordinate legislation, *Biosecurity Act 2014*, *Environmental Protection Act 1994 (EP Act)*, *Planning Act 2016 (Koala*

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Conservation) and the Vegetation Management Act 1999 (VM Act) (essential habitat) has been assessed as per protocols and in addition to pertinent data that has been forwarded to assess. The Code of Practice – Care of Sick, Injured or Orphaned Protected Animals in Queensland is acknowledged via the Department of Environment and Heritage Protection 2013a.

Active diurnal check and clear grid and linear transects were activated during the fauna and habitat onsite compliance phase.

Protocols adopted by the fauna management and consultancy program adhered to by Bemrose Wildlife has developed a site VMP/FMP that did allow vegetation assets within the greater framework of the design plan to retain biodiversity values via understorey and canopy movement opportunities with the strong potential for protection from potential elevated risk posed by predatorial fauna.

Fauna aggregation of risk and distribution was not significantly affected within the greater system/s post vegetation removal. Allogenic succession is a potential within the scope of works general Civil program, however, the potential affects have been significantly reduced via the retention of habitat values.

Translocation of terrestrial based refugia into these zones did create a terrestrial based ecosystem value.

Vagile fauna - Possums, Crows etc were encountered within the scope of works site. No significant level of arboreal termitaria was encountered. No Varanid species was observed at any location of the site (Goannas can and do utilise arboreal fauna as breeding and resting locations).

There is a strong commitment by the contracted fauna consultant- Bemrose Wildlife, consultancy recommendations and stipulations via the Shire, Government, principal contractor in optimising the potential for habitat enrichment and retention. Specifically, the implementation and action and implementation plan in installing functional and salvageable naturally occurring habitat hollows that are located within the scope of works envelope and translocated into suitable analogue areas. Any salvageable and suitable organic refugia that could serve as potential habitat values was translocated into the EPZ with the common goal of retaining any habitat value suitable. This action provides the opportunity in reducing potential intra-specific and or inter-specific fauna competition. This implementation does allow the opportunity for breeding places of low and high ecological feature significance to occur.

Potential EVNT fauna assemblages or individual species now have a greater potential in maintaining the biodiversity values for the immediate environ primarily with the assistance

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of the management and mitigation planning in effect. The transects that were adhered to as per Bemrose Wildlife and local government stipulations during the fauna and habitat walk through was beneficial in ascertaining the habitat values. The potential for micro bat colonies was registered, however no microbats were observed. No EWP was engaged for this program.

The area within the scope of works site was heavily grassed and was a suitable habitat for Bandicoots. The established EPZ does afford suitable habitat values for the continued survivorship of Bandicoot.

This post-clearance fauna and habitat report will be filed with the client to subsequently forward to the applicable delegate/s in order to fulfill the fauna management compliance (fauna and habitat onsite fauna management service).

The area of proposed vegetation clearance was traversed via the senior Koala Spotter/Fauna consultant (Bemrose Wildlife) to categorically observe the clearance lines that were installed under the strict governance of the State Governmental overlays in correlation with the strict D.E.S (Koala Team assessment of document and Koala protection policy frameworks). No changes to the structure and floristic composition did occur.

Non-Juvenile Koala Habitat Trees were located within the scheduled vegetation management areas. Standard FSC control mechanisms are enforced for this project and were always be managed with an onsite presence during the phase of vegetation removal. Comprehensive toolbox meetings were activated for this project to ensure complete transparency and continuity.

All pertinent Governmental authorities have been communicated with as per the enforced stipulations. The program has been scrutinised and is categorised as within areas of the bioregion that is essential and within a core Koala area mapping zone.

All precautionary principles of fauna/EVNT management were observed and enforced during this phase.

Comprehensive check and clear grid transect inspections did occur on the days of service, activating the fulfilment of the fauna and habitat clearance compliance at the scope of works site known as the Lockyer Energy Project. No clearance other than that certified did occur during the onsite works program. Toolbox pre-clearance talks did occur to inform those onsite pertinent to the program of the program implementation.

The level of vegetation removal was confined to the actual property and has been assessed. This action is for the delineation and categorical transparency of vegetation to be removed

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and is acknowledged by Bemrose Wildlife Management Services and is in accordance with the specified due diligence compliance framework stipulated by the governing authority.

No levels of floristic or structural variations or levels of high ecological significance was observed. Potential Koala home and food trees are existent on the property in general, however no indicators of recent active utilisation of the native and endemic floristic varieties was observed.

All levels of due diligence were afforded by the site owner. Onsite inspections of the site involved observations of habitat trees and the terrestrial stratum levels.

Plant machinery operators were authorised to slow fell habitat assets onsite. Vegetation was lowered in the direction stipulated by the fauna consultant and design plan in order to afford maximum safe egress pathways for fauna that is deemed not be required to be captured. Habitat retention during this phase was maximised when feasible allowing a continued endemic ecological population dynamic.

2.0

PROJECT DESCRIPTION

Floristic variances within the scope of works are inclusive of non-juvenile Koala habitat trees. The site is a progressive site that is to be terraformed for an expansion of assets for energy functionality and economic progression. Primarily to aide in the greater expansion of assets to accommodate general population and residential catchment growth for the Shire and general region.

General structure and floristic ecological significance within the corridors was not determined to be of a high ecological or floristic level, therefore selective vegetation removal was permitted under the direction and supervision of a fauna consultant. No alterations to the initial planning did occur from a fauna management perspective. Prior to works progressing on any one day, the site was traversed to establish fauna movements and activity within the delineated zones. It was noted that during this general phase maximum opportunities for fauna to naturally or with assistance egress of site into the remnant vegetation unperturbed or affected can occur. Additional relocation points that are deemed safe and do have suitable analogue refugia has been sourced.

The terrestrial stratum level was consistent with a disturbed and remnant S.E.Qld RE with a very low level fragmented stratum level.

An unobstructed line of sight was afforded along all transects of the site. Observations of herpeto-fauna, terrestrial Avian species and terrestrial mammals was the focus of the fauna

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and habitat management program. A low to medium load of vegetative felled leaf and debris, which is natural for this class of Regional Ecosystem was also present. Minor terrestrial based refugia is present on the site and was checked and searched accordingly when the works are authorised. Minor shrubbery – or low-level vegetation is present on site, dominated by *Acacia* regrowth.

All stratum levels of flora within the site was managed according to the regulations. Control mechanisms for the site in determining the vegetation clearance zones were activated under the appropriate D.A. The onsite management inspection and onsite protocols that were activated was to conduct a walk through to categorically determine the vegetation assets that are approved to be managed.

All vegetation removal works were monitored and supervised by a suitably qualified and experienced Koala Spotter – Bemrose Wildlife Management Services. All actions and instructions will be adhered to corresponding to the stipulations.

Mitigation measures are activated as per regulations. Anecdotal evidence indicating Possum and Glider inhabitation was of a low value. No Dray structures were observed. Vegetation on site that can be conducive for dray construction will be checked and cleared.

3.0

FAUNA AND HABITAT PROJECT DESCRIPTION

The immediate site offered viability for Koala inhabitation in correlation with the alternate areas especially with the proximity to strong analogue habitat. At this time of year, Koala/s are known to be dispersing and travelling significant distances in search of breeding partners. The positive outcome for this project is the greater conservation of significant ecological assets within the permanent preservation of the 41.5 hectare of Koala habitat which is covered by a permanent covenant (Covenant B in Lot191 on CSH2361). This covenant area was clearly identified by flagging tape and signs at all times, and no damage occurred to vegetation within the Covenant Area during the clearing of vegetation on other parts of the property. The Koala-proof fence was in place along the entire Southern boundary of the lot before commencement of clearing, as was the wildlife friendly fence along the western, northern and eastern boundaries of the lot.

The greater region is renown to have robust remnant Koala populations extending to historical records decades old. There is a divergence of Koala food and home trees within the greater site. At no time of the fauna management program were Koalas observed onsite or transitioning through the site. It is noted that critically, there is a medium connectivity of highly suitable refugia for Koalas within adjacent regional ecosystems.

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No current, recent historical anecdotal Koala evidence was observed during the immediate pre-daily works inspections of the site. The habitat that was present on the site does potentially conform with accessible Koala habitat or connectivity corridors. As a precautionary principle, relevant and con-current observational management techniques actioned were 360° Basal to Canopy (inclusive of Canopy over-lapping) the remaining grids predominately contained narrow gauge individual NJKHTs. Koala focused searches, with the aim of locating Koala, Koala scat and or evidence of climbing scratches did occur during the scheduled clearance. Grid and randomized transect search techniques were additionally utilized inclusive of Dique et al Koala search methodologies and S.P.O.T mechanisms. Non-Juvenile Koala Habitat trees on this site have been assessed and approved for removal via State and Shire regulations and compliance systems. As no scheduled or listed species of higher significance were observed correspondingly no specific FMP or SMP documents were constructed.

No terrestrial based Masked-Lapwing (Avian species) was identified during the pre-clearance phase to have nesting terrestrial structures. If a nest was located mitigation translocation into the green zone would be a probable outcome in maintaining the incubation and survivorship of the eggs. No alternate ground nesting Avian species – Quail – were observed.

No Echidna or Pardalote or Migratory Avian species were observed. Solid/not excavated arboreal termitaria was observed, field experience indicates the probability of encountering arboreal mammals or herpeto-fauna that commonly utilise or excavate arboreal termitaria should remain at a low-medium probability level. All termitaria assets were checked and cleared.

No fauna derived habitat burrows were identified. A static watch and observe technique was activated to determine activity or active presence during the clearance phase. No breeding chamber activity was recorded. No alternate breeding sites were identified. No herpeto-fauna was identified – inclusive of sedentary or highly transient species was observed at any location during the transects. Action and Implementation plans are in effect to capture and relocate fauna. The proposed clearance methodology does allow maximum line of sight to successfully manage the objective. No Antechinus hides or alternate endemic or native small mammal hides, or nests were observed.

Minor observations of Common Garden skinks were observed, relocating into habitat garden areas not scheduled for vegetation clearance, therefore considered safe. No commonly encountered S.E. Qld Bearded Dragon, S.E Qld Water Dragon or S.E Qld Blue-tongue species were observed. A potential to observe the species is possible and managed accordingly. Staff managing this site are hyper-vigilant and pro-fauna preservation. Therefore, the commitment in preserving habitat and fauna is very high with this company.

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It is determined that the bulk of the vegetation was at an age whereby phyto-morphologically, the potential for suitable hollow bearing natural assets was correspondingly a low volume. This assumption was proven during the pre-clearance program. Inhabitation by Glider, Phascogale, Possum, Micro-bat, Herpeto-fauna and or Psittaciformes (Parrot species) is possible, however observations did not occur.

The site works offer a relatively positive outcome, in that a minimal level of significance regarding habitat values of low to high ecological significance are to be interfered with. No significant shrubbery or herbaceous stratum levels were observed at any location. The general site dimensions were minor in comparison with larger broadscale clearance sites throughout S.E.QLD. Therefore, maximum control mechanisms were managed successfully.

4.0

LEGISLATIVE FRAMEWORK

This report acknowledges the principles and values regarding the Koala-sensitive Design Guideline. A guide to Koala-sensitive design measures for planning and development activities prepared by: Koala Conservation Unit, Department of Environment and Heritage Protection © State of Queensland (Department of Environment and Heritage Protection) 2012. All Koala based guidelines and Policy frameworks were adhered to, inclusive of counts pertaining to Non-Juvenile Koala Habitat Trees that were required to be removed.

Acknowledgement is accepted, pertaining to the Queensland Animal Care and Protection Act 2001 which provides legislative protection to animals generally, and the relevant Legislature: Queensland Nature Conservation Act 1992, the Queensland Vegetation Management Act 1999, and the Federal Environmental Protection and Biodiversity Conservation Act 1999, inclusive of the legislature piece: Nature Conservation (Koala) Conservation Plan 2017 were referred to.

5.0

KOALA SPOTTER SCOPE OF WORKS

A Non-Juvenile Koala Habitat Tree is an individual tree that is greater than 300mm diameter at 1.3 meters above ground level and 4 meters above ground level. This was activated regardless of if the tree is singular or bifurcated. Minor continuous over-lapping potential NJKHT canopy cover was located within a grid transect.

Koala/s do potentially inhabit this site, as potential habitat trees and home trees are potentially existent. Koala Doe's and Bucks during the month of the scope of works vegetation clearance if observed should be forming semi-independence. Spring is a known

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breeding behavioural activity for Koala within South-east Queensland, correspondingly, due to the risk of Doe and joey and mobilised Koala searching for mates, extended 'no entry Koala zones may have been activated, however not activated during this program. Protocol checks and clear implementation was enforced, if required, to ascertain the observable condition of the animal. Should any trace of Chlamydia or Koala retro virus be observed immediate Koala management capture and Veterinarian support be activated.

If a Koala is demonstrating facets of myopathy in general, actions to re-mobilise the plant machinery to an area that is a suitable distance away from the Koala will also be activated if the site area allows this protocol. Contact points for Koala rescue and Veterinarian support has been sourced if required. No activations occurred during this program.

It is a fundamental role of the Koala Spotter to maintain and traverse linear transects where vegetation removal is scheduled and to stay onsite until vegetation checks had been completed by an accredited Fauna/Koala Spotter. These actions are to determine and enact fauna mitigation strategies to maximise fauna survivorship whilst minimizing potential myopathy concerns. Habitat retention and assessment is a component of this program in order to maximise potential fauna habitat.

The role of the Fauna/Koala manager (Spotter) for this site, requires onsite management, controlled under the general VMP for the site for observable fauna, anecdotal evidence, analogue habitat assessment and correlated consultancy and direction about the potential on-site fauna that may be encountered and the subsequent fauna management. Fauna management actions are comprehensively scheduled in direct correlation to fauna species observed and habitat anecdotal evidence acquired.

No Koala observations in observance of the regulatory legal protection offered by the Queensland government and Commonwealth government were recorded within this scope of works site. No anecdotal evidence to indicate present activity was observed on any vegetation, specifically on any NJKHT. Techniques utilised to investigate Koala presence entailed a 360° basal to upper canopy of all NJKHT's and scat search around the basal regions and drip line of the canopies. Over-hanging canopy searches did occur to ensure no Koala activity. Continual Koala searches did occur during vegetation transect clearance.

No significant native trees, specifically pertaining to Non-juvenile Koala Habitat trees (*Angophora*, *Corymbia*, *Eucalyptus*, *Melaleuca*) were in abundant flower or seed. The scheduled trees did not indicate any Koala activity.

This report pertains to the activities that were conducted lawfully at the aforementioned scope of works site, specifically the onsite pre-clearance fauna and habitat phase and the subsequent vegetation management program that has been activated, where fauna management is required for compliance and to supervise vegetation removal (not delineate

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where clearance lines have been established prior to works commencing) as approved within the Developmental Approval phase issued by the governing Council and approved by the QPWS and DES. A Koala Spotter /Fauna Consultant with over 15 years of experience monitored this site.

Comprehensive check and clear protocols were enacted to ensure all potential hollows are lowered safely and with maximum control mechanisms activated. No EVNT colonial breeders, inclusive of micro-bat, arboreal mammal (Glider species), nor any Avian species was observed within any NJKHT's.

6.0

GENERAL SITE OBSERVATIONS – FAUNA AND HABITAT

The site offers minor RE (Regional Ecosystem) vegetation communities observed throughout S.E.Qld. Vegetation species assets are evident and were checked and cleared for fauna inclusive of terrestrial Herpeto-fauna and small mammal species. Flora onsite is established and mature, however were not in flower, reducing the probability of encountering nectivore dependent fauna. When in flower provide an energy source for endemic and native fauna throughout this ecosystem.

No Avian species were observed egressing from the transects and transitioning into alternate habitat values.

No amphibian species were observed throughout the site. Precautionary principle checks and clear protocols were activated and focused within all areas of site. Relocation points were sourced within the immediate R.E.

Ephemeral water bodies can pool and run-off attributing to potential assemblages of small to medium amphibians within the classed EVNT ranges and scheduled classes of abundance. No acid frogs, Wallum frogs or tusked frog species were observed via visual searches nor was audible resonance heard. It is not anticipated that EVNT amphibians will be impacted by this phase of operations.

Maximum precautionary human safety was observed on-site as the potential for observing potentially venomous snakes is evident. Specifically, Eastern Brown, Red-Bellied Black, Yellow-faced Whip and was possible. During the broader program inclusive of the inspection, any potential ground hollow and sedge/tussock grass clumping was checked and cleared. Extreme caution and precautionary fauna management principles were also enacted in order to maximise human and animal safety. All areas were subsequently probed utilizing specialized PPE.

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The area did not appear at the time of fauna management to contain a significant active biodiversity level to be critically significant or halt the minor works from progressing.

7.0

CONCLUSIONS

Information pertaining to the site and the pro-active influence of the site owners, governing authorities Arche Energy has activated for the greater conservation and protection of fauna that inhabits the general scope of works footprint. Entailed within the information was the commitment to habitat preservation and protection where feasible. No EVNT fauna, no breeding places of ecological significance, no levels of high concern to suspend the site was observed.

Working positive communication relationships have been activated on this site.

Strong observational techniques were activated to ensure the health and behavioural parameters of fauna management will be adhered to when felling was scheduled.

The aim of the on-site fauna management was to minimize any event that would potentially injure or displace mammals, herpeto-fauna or Avian species. For this to be achieved a pre-clearance toolbox talk was activated for all those involved with this process to be fully aware of the protocols and actions that were required to be achieved for a successful program to occur. Actions such as a high level of positive communication is necessary.

Concise actions were afforded on this site due to the interaction of all those on site and the methodology enacted; subsequently the vegetation clearance schedule was managed by an experienced, fauna value conscience operator.

All on-site management guidelines and protocols have been enacted to ensure minimal myopathy events, whilst ensuring the highest level of survivorship potential for all fauna potentially inhabiting the site on the days of the scope of works and for the immediate habitat values of the site. It should be noted that all care and due diligence regarding the habitat values and immediate fauna ethical values has been observed by all staff on ground allowing a highly vigilant and successful fauna management program.

At all times of the vegetation clearance program a strong level of positive communication will be maintained by the Contractor, onsite Fauna Manager and the Vegetation felling crews in order to maintain the integrity of the site and potential habitat retention possibilities.

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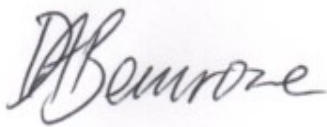
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Slow and controlled tree felling techniques and specialist management were authorized to be utilised by the vegetation clearance contractor under the direction of Arche Energy and Bemrose Wildlife Management Services to successfully lower potential habitat trees on site. All protocols have been adhered to by in order to satisfy the approval requirements. Arche Energy has engaged a registered Rehabilitation permit holder to complete this program and to provide certification. The management and instructions given by Bemrose Wildlife Management Services and Arche Energy were adhered to during the fauna management program along the designated and approved sections of the scope of works site for a successful fauna management program.

Kind regards,

Dean Bemrose.



Diplomawildernessreservesandwildlifemanagement.

Senior Koala Spotter and Fauna Consultant.

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DISCLAIMER

This report has been prepared by Dean Bemrose Trading as Bemrose Wildlife Management Services in accordance with the terms and conditions as detailed in the quotation and agreed to by both parties upon offer and acceptance of an order for services as per that quotation.

The survey results are accurate at the time that the onsite compliance scope of works was completed. However, no responsibility or liability is taken for any actions or works occurring at the site post the completion of the on-site compliance survey or fauna consultancy scope of works. The information as detailed in the report is for the sole use of the contracted parties and not for reproduction, reliance or supply to any other party without express consent of Bemrose Wildlife Management Services.

To the extent that it can be shown that the survey results and report was not accurate at the time of the on-site survey, this company's liability shall be strictly restricted to re-performance of the on-site survey and supply of an update report. Should you have any queries regarding this report or require additional copies please contact Dean Bemrose at Bemrose Wildlife Management Services.



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TPZ line demarcation was installed prior to any vegetation removal program.



Tree Protection signs (TPZ) that were installed throughout the scope of works site to delineate no entry zones. Installation of signage was successful. No breaches into TPZ's did occur.



Established TPZ

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A buffer zone was created to allow works to proceed without impinging upon the TPZ.



Overview of the scope of works envelope.